Automotive Austria

Automotive Austria

One Hundred Years of Official
Austrian Vehicle Industry Representation

Imprint

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Commemorative Volume in Celebration of One Hundred Years of Official Austrian Vehicle Industry Representation

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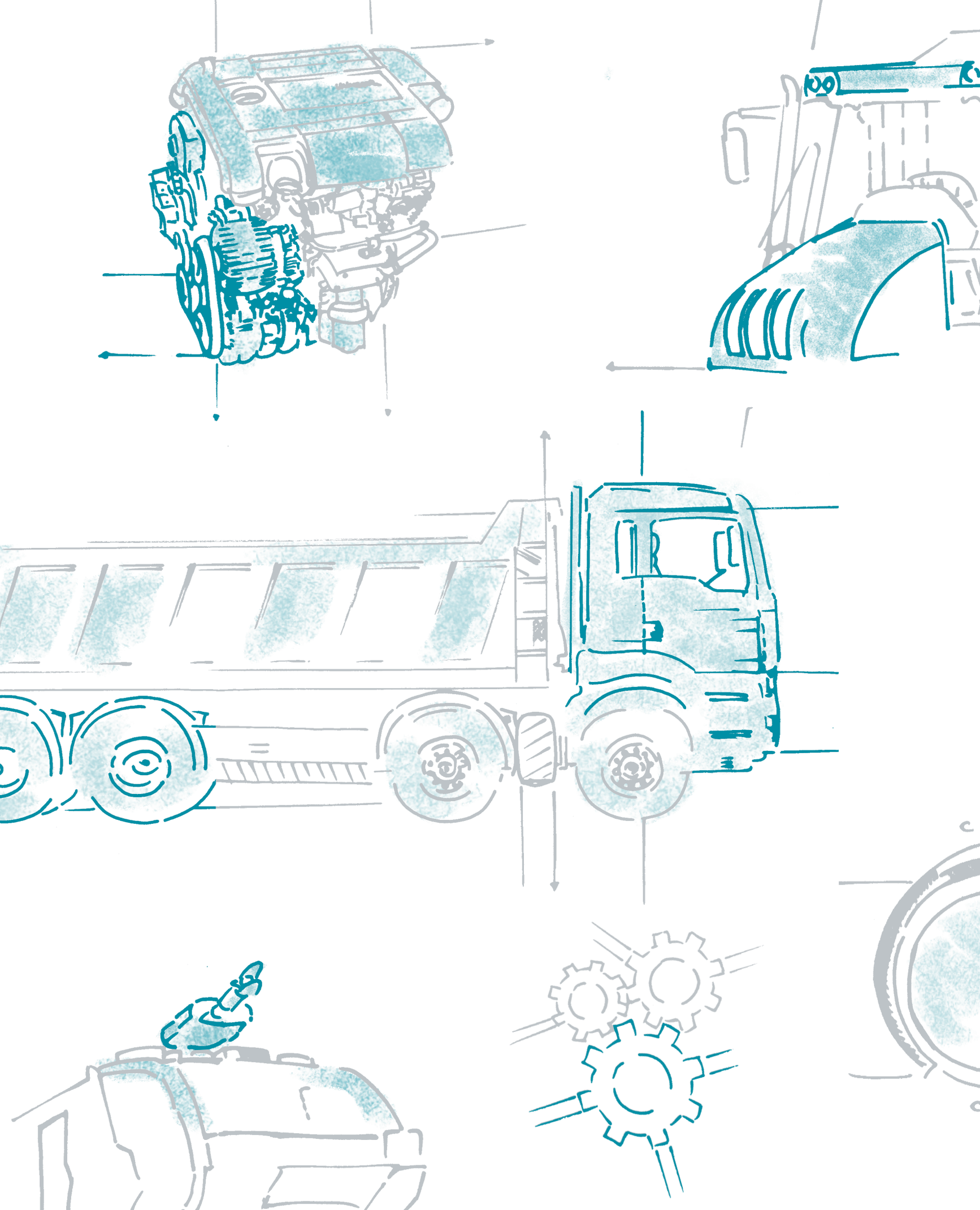
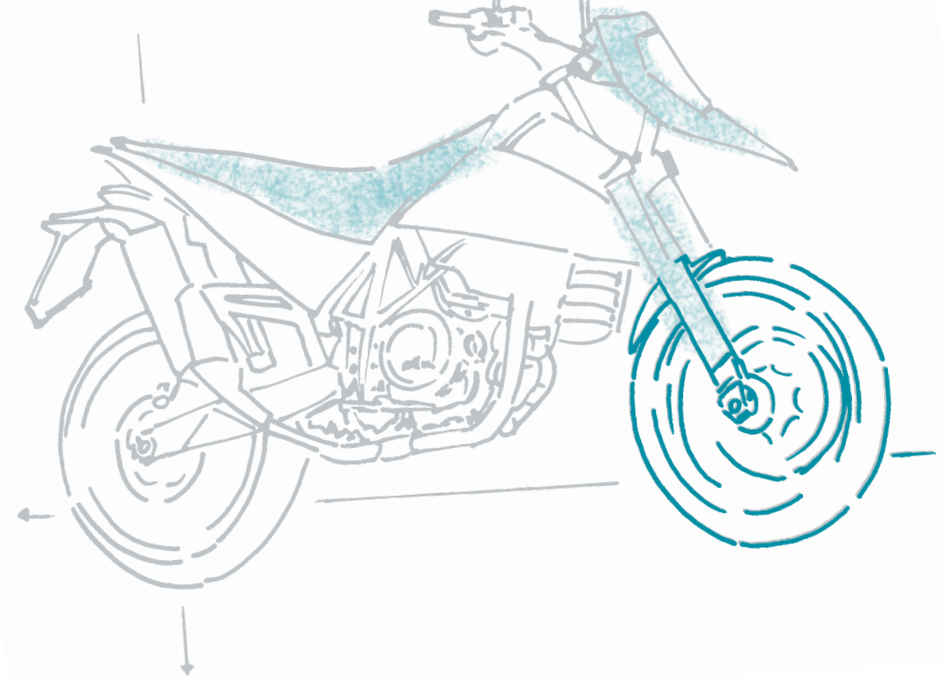
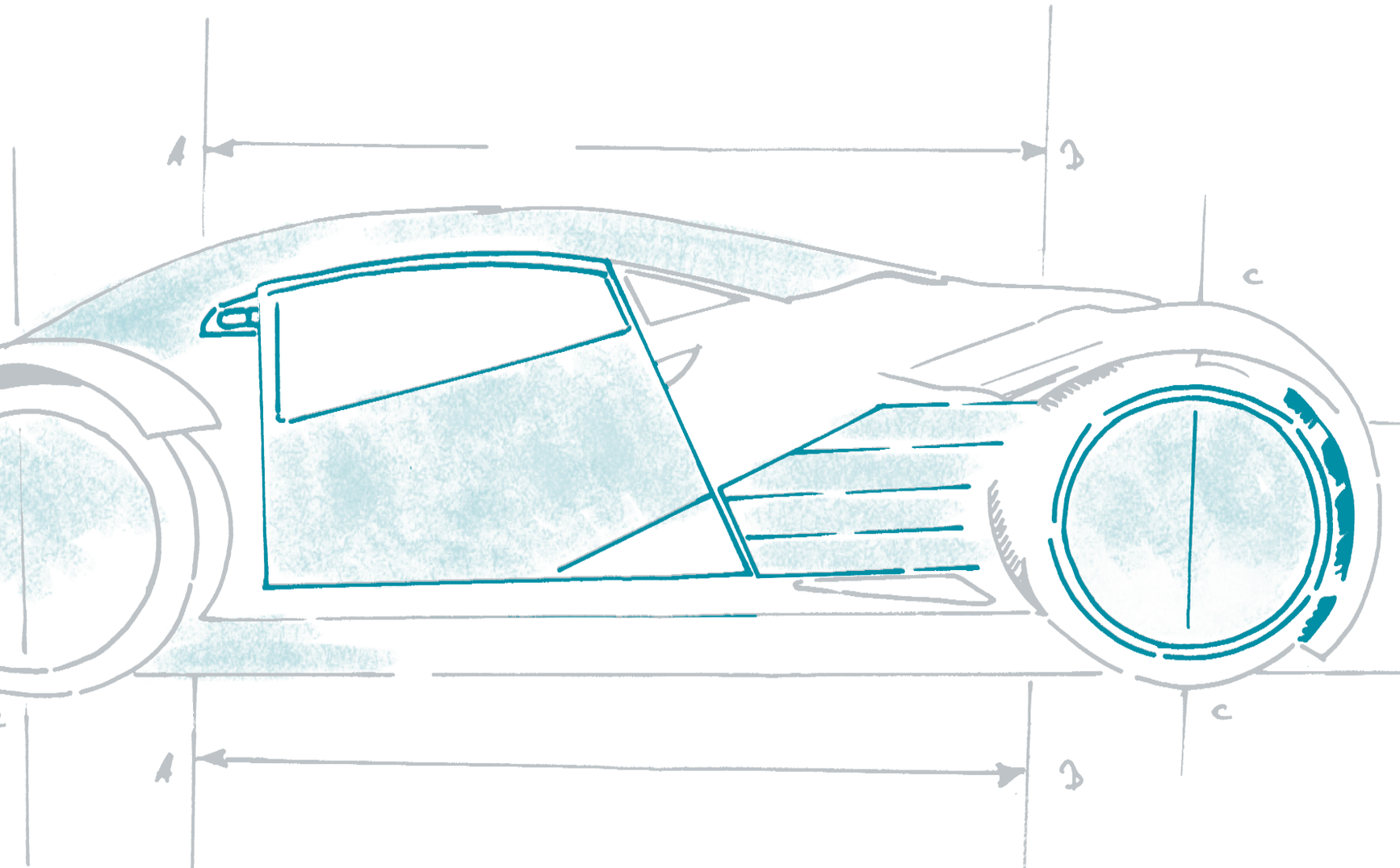




Forewords



A Century of Safeguarding the Interests of Member Companies

Bruno Krainz

The fascination with mobility is probably as old as humankind itself. Is it any wonder that humans have sought to improve mobility since time immemorial?

It is left to ingenious engineers, entrepreneurs in the truest sense of the word, to contribute with their inventions and innovations to achieving this age-old dream of mankind.

Austria is one of the countries whose excellent educational system, both academic and vocational, creates superb conditions for allowing space for these developments and innovations.

It should come as no surprise that the first gasoline-powered vehicle was created in Austria, the "Marcus-Wagen." A whole new industry was about to take off. The businesspeople involved recognized early on that they would have to coordinate their activities. The vehicles had to be standardized to satisfy the fledgling traffic regulations. In their attempts to export, the companies had to make their way through a veritable jungle of trade barriers.

The Association of the Austrian Vehicle Industry was formed at this time with the stated purpose of representing the interests of the vehicle industry in all relevant areas.

Over all these years of it doing so, requirements have naturally changed and become more complex. After World War II, Austria put the social partnership system in place, opening up the broad field of representation of employer interests, particularly in collective bargaining rounds.

The vehicle industry had to start almost from scratch in the post-World War II era, just as many other industries did. Passenger vehicle business was quite limited, but the output of utility and two-wheel vehicles grew steadily. The automotive supplier sector also developed positively.

Industry in general became increasingly globalized and the vehicles sector naturally also felt the effects of this change. Internationalization and division of labor required constant structural adaptation, causing old companies to disappear and new ones to arise.

Austria developed into a popular production location. Social tranquility, strike time measurable in seconds, and the partnership of its various social interest groups gave Austria a reputation among international companies of being a country one could trust. The social partnership system produced tangible successes. As representatives of their member companies and co-responsible for this success, the industrial associations remained true to their original purpose of safeguarding the interests of the companies.

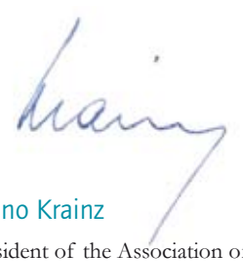
These industrial associations are set up as corporations under public law and directly financed by their members. This is one reason they meet their representational obligations so efficiently.

Today, the Association of the Austrian Vehicle Industry represents 180 companies with over 35,000 employees. The vehicle industry is one of Austria's three largest industrial sectors. Despite this impressive growth, the Association itself has managed to keep its organizational structure lean. It continues to have the lowest membership dues of all industrial associations within the Federal Economic Chamber in Austria. The available resources are carefully and frugally allocated. Part of them go to cover current operating expenses and part go to a foundation that helps promote research and development by awarding prizes to young engineers for outstanding master's theses and dissertations.

All this is possible because the Association is an autonomous entity within the Austrian Federal Economic Chamber and has the latitude it needs to give its members the best possible representation.

We are therefore carefully following the efforts of other parts of the overall organization of the Federal Economic Chamber to bring about structural reforms to improve performance. One of our contributions to this discussion is our demand for improved member services at reduced costs.

In the future, we expect to be able to continue our optimum representation of the interests of our member companies. That is our obligation. And we are prepared to fulfill it.



Bruno Krainz

President of the Association of the Austrian Vehicle Industry
CEO of MAN Nutzfahrzeuge Österreich AG

Lively International Demand for Automotive Products "Made in Austria"

Prof. Dr. Bernd Gottschalk

The Association of the Austrian Vehicle Industry can look back on a long history as one of a group of institutions in the automotive industry that has helped to shape the fate of the sector from the outset. It is therefore a great honor for me to congratulate the Association on this major anniversary. I do so as President of the International Organization of Motor Vehicle Manufacturers (OICA), but also – with your permission – in my capacity as long-time President of the German Association of the Automotive Industry (VDA). Finally, the invention of the automobile is associated primarily with three names that forged additional strong bonds between our associations and industries: the Germans Gottlieb Daimler and Carl Benz and the Austrian Siegfried Marcus. Another of Austria's most famous automotive pioneers was Ferdinand Porsche, who also put his indelible mark on the German vehicle industry.
The Austrian auto industry recognized early on that its potential for domestic growth was limited and that it had to shift to global markets and prove itself there. That explains why Austrian companies became champions in the triple virtues of expertise, innovation and quality. This formula for success succeeded brilliantly, as the industry's 87 percent direct export ratio shows. Automotive products "Made in Austria" satisfy customers around the world. The prime export destinations are the European Union and the United States. With its superb engineering expertise, the Austrian vehicle industry is considered a worldwide leader in the sector's development. In this capacity, it contributes significantly to Austrian economic growth as an employer, exporter, and generator of sales. The vehicle industry accounts for 11 percent of the national industrial output and 12.5 percent of total Austrian exports.

The long-standing presence of a number of international, especially German, automotive groups attests to the excellent conditions Austria offers as a business location. Manufacturers such as BMW and MAN have plants in the country and DaimlerChrysler and Saab have production agreements for the complete manufacture of various vehicles in Austrian plants. Austria is also home to about 80 international suppliers. All of them appreciate Austria's international orientation as a business location. The industry's ability to network at national level and across borders is another of the Austrians' great strengths. One example, aside from the country's three automotive clusters, is the collaboration of the Association of the Austrian Vehicle Industry with the foreign trade offices of the Austrian Federal Economic Chamber to promote cooperation among car manufacturers and suppliers. Bundling common interests and forming clusters is a modern and effective way of improving an industry's efficiency and international competitiveness and strengthening domestic businesses locations. With their orientation to Eastern Europe in general and to Slovenia and Hungary in particular, Austrian-based companies skillfully draw advantages from the favorable geographic location of the country and utilize the opportunities of EU enlargement to attain growth.

The Association of the Austrian Vehicle Industry actively supports these activities of the Austrian automotive sector by launching initiatives and new ideas and acting as moderator, information source, promoter and leader. This organization forms a bridge to other industrial sectors, to the political realm, the scientific community, and

the public. It represents the industry in international bodies and organizations. It has been a full member of the International Organization of Motor Vehicle Manufacturers (OICA) since 1924. That is just five years after the organization was established in Paris in 1919, making the Association one of the oldest member organizations of OICA. We at OICA respect our colleagues from the Association of the Austrian Vehicle Industry as strong and dedicated advocates of the auto industry in the international arena.

I warmly congratulate the Association of the Austrian Vehicle Industry on its 100th anniversary on behalf of the entire OICA – all member associations, the council, the bodies and the secretariat in Paris – and also in the name of VDA. I thank everyone responsible for their superb collaboration and hope to continue it in the future.

My warmest congratulations on the occasion of this anniversary!

Prof. Dr. Bernd Gottschalk

President of the International Organization of Motor Vehicle Manufacturers
(Organisation Internationale des Constructeurs d'Automobiles, OICA)
President of the German Association of the Automotive Industry (VDA)

Austria – A Center of the Automotive Industry

Federal President Dr. Heinz Fischer

I take great pride in congratulating the Austrian Vehicle Industry Association on its 100th anniversary of foundation.

Numerous segments of Austria's manufacturing sector are taking on an increasingly important responsibility in our society. This particularly applies to Austria's automotive industry, which is marked by a highly skilled workforce and excellent export rates. The ecological challenge of protecting the environment and the world's climate is a task that the automotive industry is confronted with, directly and on a daily basis, in every planning process and also when developing or designing new vehicles.

We are very well aware of the challenge that international competition poses to the Austrian automotive industry. When I look back on the Association's 100 years of history, however, I rest assured that the industry's inventiveness and awareness of its own pioneering role will guide the future development for both the benefit of mankind and the environment.

Future generations will be grateful for every single innovation that contributes to this end.

The Austrian automotive industry's social responsibility also extends towards its function as the employer of a 35,000-strong workforce. Training employees of all age categories and skill levels is yet another of the industry's pivotal tasks and a special challenge considering the heavy pressure for innovation that the entire sector faces.

Mastering these tasks requires enormous skill and an acute sense of social responsibility, both of which I am sure are available in abundance.

In this spirit, I should once again like to congratulate the Austrian Vehicle Industry Association on its 100th anniversary of its foundation and wish all industry employees a bright and prosperous future.

Dr. Heinz Fischer

Federal President of the Republic of Austria

Key Industry for Austrian Transport Policy

Federal Minister Werner Faymann

The vehicle industry is constantly researching, developing and investing in new products. It has a key role in Austrian transport policy making. One part of that role involves continuously improving active and passive vehicle safety, exhaust and noise emissions, and driving comfort. Another entails increasing the transport capacities, optimizing traffic flows by means of telematics and providing logistics to match.

The vehicle industry's 35,000 employees, including 2,000 apprentices, provide over 360,000 jobs in associated industries at over 700 networked companies. Investments of €7.4 billion over the past 25 years, sales of €93.5 billion, including downstream sectors, make for an impressive picture.

Ninety-eight percent of the vehicles produced in Austria are exported. A total of 2.15 million engines and transmissions, 230,500 cars, and 22,700 trucks and buses roll off Austria's assembly lines each year.

The Association of the Austrian Vehicle Industry has successfully accompanied the Austrian automotive sector for 100 years and stands today as a reliable partner of policymakers and legislators.

The Association of the Austrian Vehicle Industry officially represents the interests of one of Austria's most significant industries and is a major element in a well-functioning transport policy regime. As such, it has been vested with a number of powers under law. Along with its general right to be consulted on laws and ordinances, the Association serves as a valuable analyst and advisor for my ministry in the Advisory Council on Motor Vehicles and the Advisory Council on Traffic Safety.

Given this solid record of achievement, I look forward to this collaboration in the future. My wish for the Association of the Austrian Vehicle Industry is that it continues to provide valuable ideas, which have been and will continue to be an important contribution to the transport policies of our country.

Werner Faymann

Federal Minister for Transport, Innovation and Technology

The Vehicle Industry – An Austrian Success Story

Federal Minister Dr. Martin Bartenstein

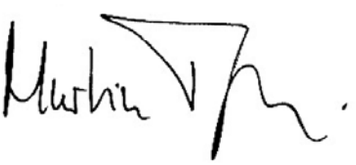
Austria's vehicle industry is known for its ingenious inventors, brilliant designers and visionary entrepreneurs. The first gasoline-powered motor vehicle, front-wheel drive, and four-wheel drive all have their roots in Austria, as do aerodynamic research and the invention of the crumple zone.

Today, Austria can rightly call itself a center of the automotive industry. More than €21.5 billion in sales and investments in excess of €7.4 billion over the last 25 years are a clear and impressive testament to the success of the organizations representing the interests of the 700 companies in the automotive sector.

Although Austria is known and respected as a country of suppliers, the number of vehicles rolling off Austrian assembly lines is steadily increasing year by year. On average it produces seventeen times more passenger vehicles, trucks and buses today than in 1980. Austria currently has an output of 400,000 premium quality vehicles a year. The member companies of the Association of the Austrian Vehicle Industry recently estimated the value of this output to be €12.5 billion. Products "Made in Austria" also have a sterling reputation internationally and are in demand in the private and municipal sectors on all continents. The British Army is just one of many customers that relies on Austrian vehicles.

The vehicle industry exports 87 percent of its output worldwide, contributing greatly to the record level of exports in Austria. Besides production of complete vehicles and OEM parts, the industry also markets its engineering and prototyping services. This sector and the industries upstream and downstream from it generate a total of €93.5 billion in revenues each year (services included). Last but certainly not least, especially for me as Federal Minister of Labor, the vehicle industry provides about 360,000 jobs directly and indirectly.

Our country has positioned itself at the top of the international automotive industry through its powers of innovation. This excellent ranking of the Austrian vehicle industry is also attributable to the strong association that safeguards the interests of member companies far beyond our national borders at European level and worldwide, while also paying due attention to sound social policies. I congratulate the Association of the Austrian Vehicle Industry on its 100th anniversary and am confident it will continue to be a reliable partner for me and my ministry in the future for safeguarding the interests of the Austrian economy.



Dr. Martin Bartenstein

Federal Minister of Economics and Labor

A Century of Successfully Representing the Vehicle Industry

Dr. Christoph Leitl

When associations that represent the interests of their members celebrate anniversaries, they usually focus on their past accomplishments for the business location and for their members. The Austrian Federal Economic Chamber did just that in 2006 on its 60th anniversary. The Chamber has achieved a great deal since its founding in 1946. As an active representative of employer interests and a co-shaper of policy, it has helped to lay the foundation for Austria as a strong and modern business location.

The 100th anniversary of Austrian vehicle industry representation is both a time for the Association to look back on its many accomplishments and a time for it to look ahead to what the future may hold. The motivation for establishing both of these representational organizations was the same in both cases: to bundle resources and solve common problems. The list of the people on the committee advocating the establishment of the Association of the Austrian Vehicle Industry back in 1907 reads like a *Who's Who* of the automotive industry at the time. A sense of new beginnings, a spirit of exploration and economic prosperity were probably the forces impelling this step.

The forces driving the further development of an industrial association are unchanged all these years later. And the results are impressive. Today, the vehicle industry is the third-largest industrial sector represented within the Austrian Federal Economic Chamber. As co-negotiators of collective bargaining agreements for the Austrian industrial metal sector (white and blue collar staff), the automotive enterprises in this model sector have contributed much to prosperity and a peaceful society over the years. Moreover, throughout all these years, the automotive industry has been a significant and reliable employer and its association has acted as a service organization, a conveyor of knowledge, and a promoter of the economy.

In 2007, the vehicle industry is one of the premier economic sectors in Austria. The figures clearly underscore its importance: sales in excess of €12.5 billion, 180 businesses with 35,000 employees including 2,000 apprentices, plus more than 360,000 employees in sectors upstream and downstream of the industry. The Austrian vehicle industry has increased its output eight-fold since 1980 and has achieved output growth of around 40 percent since 2004. The vehicle industry provides opportunities for companies large and small. It is the myriad of small and medium sized automotive enterprises that form the backbone of Austria as an automotive nation and as a dynamic business location.

The vehicle industry is also a classic example of positive globalization. A car is seldom wholly manufactured in its country of origin. The components come from everywhere and Austria provides a substantial portion of them. This fact is evident from the export figures. With an export ratio of 87 percent and a total export figure of €11 billion, the Austrian vehicle industry has had a big part in improving our balance of trade.

I am proud to say that the Austrian vehicle industry is a highly flexible and competent sector that offers innovation, flexibility, excellent engineering and top expertise in a highly competitive market. These traits are crucial to the future of the industry. Technology and trends change constantly, and only those who help to shape them will remain in step with the times. That is why I am confident that the number of vehicles "Made in Austria" will continue to grow.

In this spirit, my hearty congratulations to this fine organization on its 100th anniversary.

Sincerely,

Dr. Christoph Leitl

President

Austrian Federal Economic Chamber

The Vehicle Industry – One of Austria's Most Important Industrial Sectors

Dr. Veit Sorger

It is with the greatest pleasure that I congratulate the Association of the Austrian Vehicle Industry on this impressive anniversary. A century of effective industry representation is a milestone that has to be celebrated.

I am particularly pleased that the Association of Austrian Automobile Industrialists originated at my own organization's headquarters, *Haus der Industrie* on Schwarzenbergplatz. Even back then business leaders recognized the importance of a strong association to represent the interests of a strong industrial sector. The business associations that existed at that time are in many cases the legitimate predecessors of the current associations in the Austrian Federal Economic Chamber. The Association of the Austrian Vehicle Industry is yet another example of individual businesspeople joining forces to safeguard their business interests and creating an institution of national economic importance in the process.

The number of motor vehicles and factories started growing in the early 20th century, favored by the extraordinary boom in industry in general and in auto manufacturing in particular. Banks became interested in this industrial sector and started to finance factories. Filled with this spirit of new beginnings, companies began calling for a joint association that would allow them to help shape the conditions of their industry into the future. The initial discussions on the new organization took place at *Haus der Industrie* …

Today, the vehicle industry is one of the leading industrial sectors, with sales exceeding €12 billion and the highest volume of exports of any industry. The automotive sector provides over 360,000 jobs in Austria directly or indirectly. One in eight jobs are provided by economic sectors upstream and downstream from the industry. There are 700 businesses in Austria working in and for the domestic vehicle and supplier industry and a total of €7.4 billion has been invested in research and development over the past 25 years.

Austria produces about 350,000 motor vehicles a year and exports over 98 percent of them. In addition, approximately 2.15 million engines and transmissions are manufactured in Austria. That is one engine or transmission for every four Austrians.

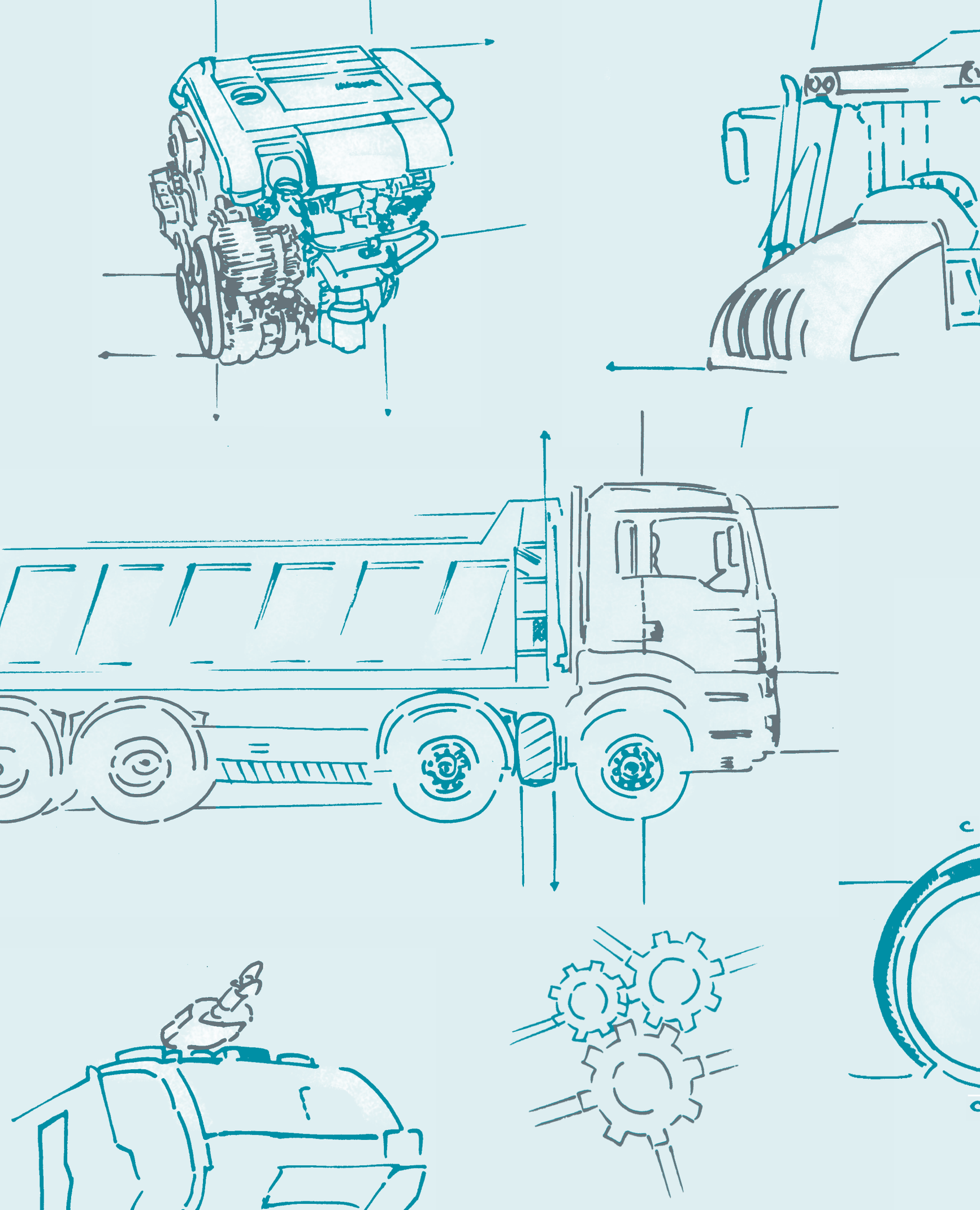
These are impressive figures. As President of the Federation of Austrian Industry, I would like to express my deep regard for this industrial sector. The priority we give to the automotive sector is also shown by our integration of the Association of Automobile Importers, as an instrument of foreign manufacturers, within our Fed-

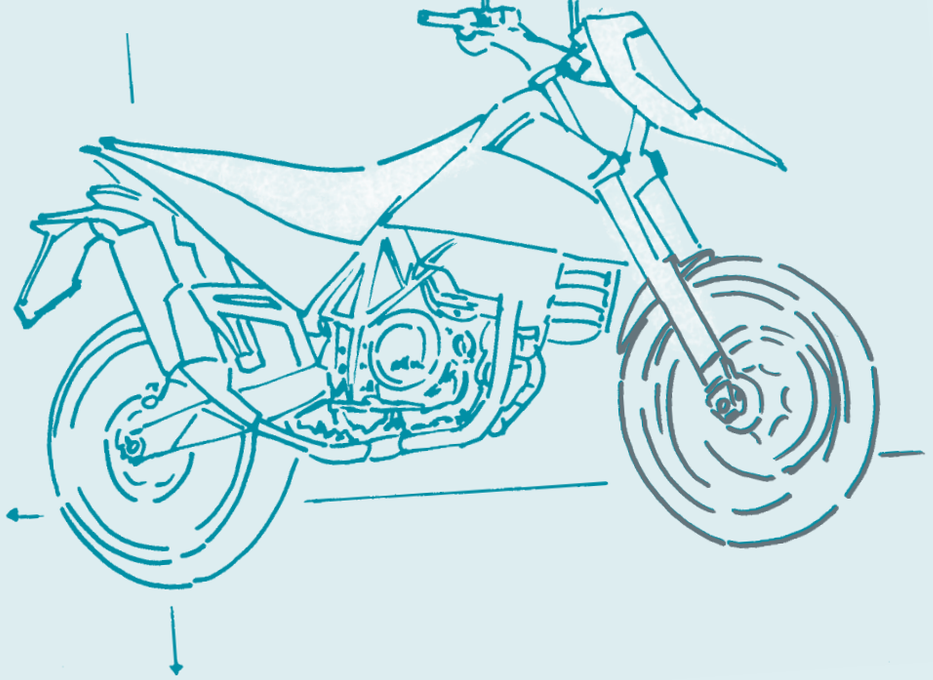
eration for the past fifteen years. This organization works together closely with the Association of the Austrian Vehicle Industry to safeguard common interests. Numerous initiatives such as the "Austria as an Automotive Nation" project or joint appearances at tradeshows attest to this collaboration.

I heartily congratulate the Association of the Austrian Vehicle Industry once again on this major anniversary and wish it continued success on behalf of this strong industrial sector in Austria.

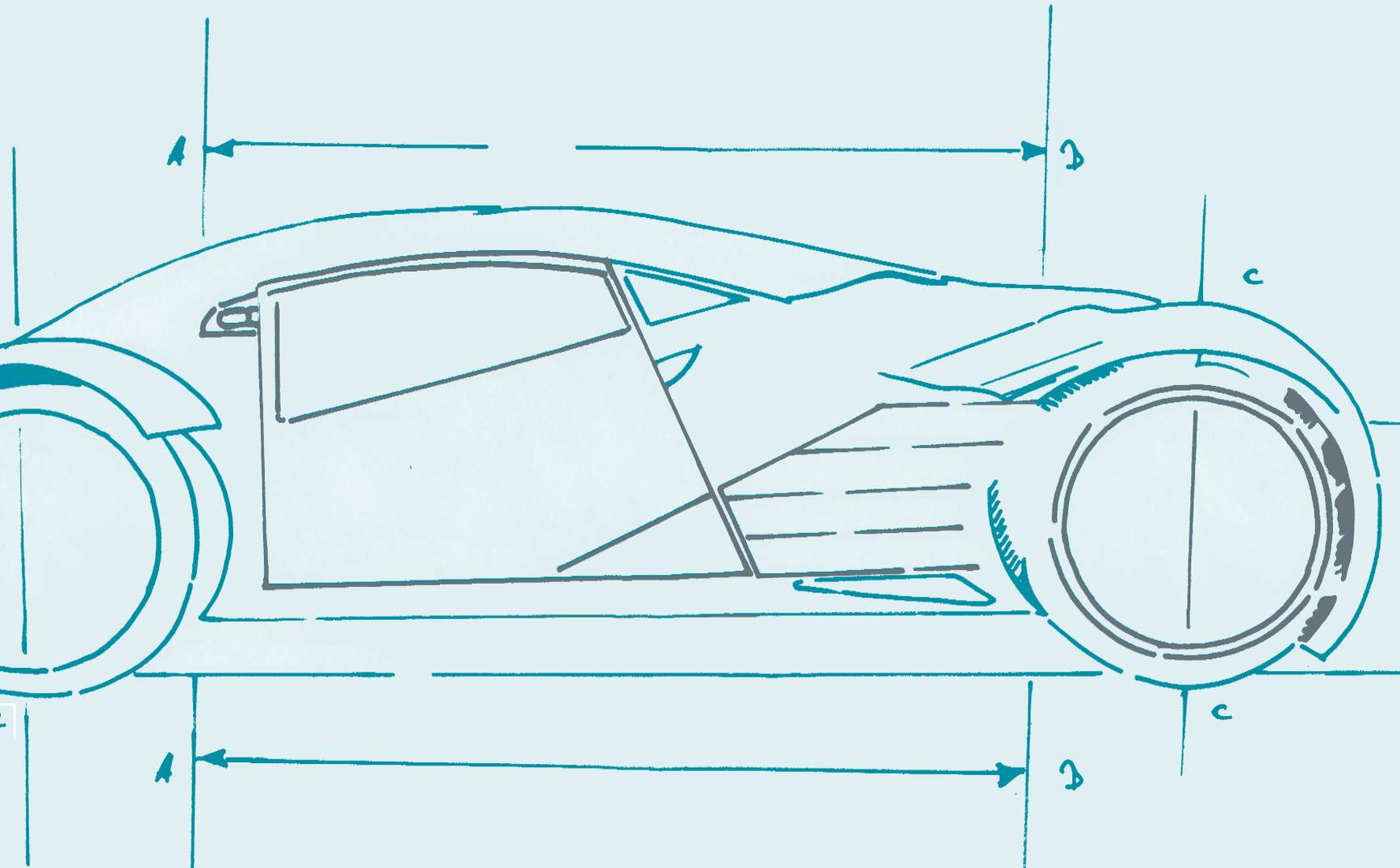
Dr. Veit Sorger

President of the Federation of Austrian Industry





One Hundred Years of Industry Representation



One Hundred Years of Official Austrian Vehicle Industry Representation

Alois Mosser und Gerhard Bruner

Establishment and the Growth of the Industry

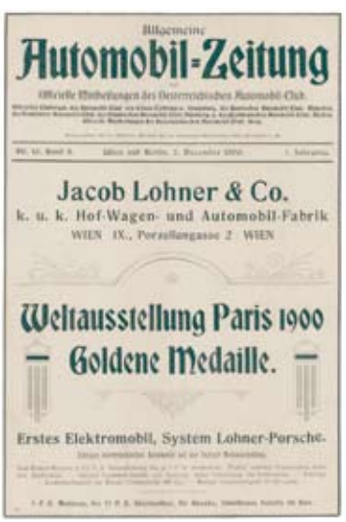


Figure 1, left:
"Allgemeine Automobil-Zeitung. Officielle Mittheilungen des Oesterreichischen Automobil-Club." Cover of issue 48 from the first year of publication (1900)

Figure 2, center:
"Third International Automobile Exhibition Vienna 1903," poster by Julius Klinger

Figure 3, right:
"PATRIA," Patria bicycle factory, poster ca. 1905

As one of the most fascinating inventions of the modern age, the automobile has lost none of its power to excite and inspire in the over one hundred years since the world saw its first motorcar. It is a constant object of discussion and negotiation in politics and business, shapes the general conditions of our industrial societies and is a key determining factor in the lives of countless individuals. For many, it is the most important symbol of prosperity.

➤ 1885:
THE MOTORCAR IS BORN. ◄

The birth of the automobile, the self-propelled motorcar, came a few years after the basic inventions of Siegfried Marcus, Gottlieb Daimler, Wilhelm Maybach and Carl Friedrich Benz. The first prototypes were presented in 1885 and 1886. *Daimler-Motoren-Gesellschaft,* the Daimler motor company, was established in 1890, and the earliest

Figure 4: "Marcus-Wagen 2." Built according to the plans of Siegfried Marcus and fitted with a Marcus engine (1888). Commemorative stamp celebrating the 75th anniversary of ÖAMTC in 1971

Figure 5: "Dürkopp's Diana," poster ca. 1905

automobiles that were manufactured in France were also based on Daimler's designs. In 1895, the world market was dominated by three companies: Benz in Germany, and Panhard & Levassor and Peugeot in France.

Virtually at the same time, people who were interested in motor vehicles and their use for very different reasons began to form associations and national clubs in the leading industrial countries. The oldest such group was founded in 1890 in Monaco[1]. In Austria, Graf Gustav Pötting, Ludwig Lohner and Hugo Fischer von Röslerstamm took the initiative in the autumn of 1897, and the constituent assembly of their association was held on February 6 of the following year. *Oesterreichischer Automobil-Club,* the Austrian Automobile Club, soon began with a wide range of activities and distributed the bulletin *Offizielle Mitteilungen* to its members every week.[2] *Deutscher Automobil-Club,* the German Automobile Club, was founded one year later, in 1899.[3]

It did not take long for "automobile fever" to sweep the continent. The motorcar stood for progress and modernity, exclusivity and a new public image. Julius Klinger, the master of "functional poster design," created a poster for the Third International Automobile Exhibition in Vienna in 1903 that lent the motorcar an irrational and even demonic aura that was as seductive as it was secretive.[4] This hit the sense of self-esteem of the first automobile owners, who came from the nobility and the wealthy bourgeoisie, on the mark. Increasingly daring tours and races gave drivers an opportunity to test their mettle against like-minded adventurers, whereby the binding element of shared social status was soon supplemented by national pride.

The automobile as a new means of transportation came to symbolize a society on the move. People were discovering an entirely new degree of mobility, also thanks to the bicycle. As the rapidly changing style of the period's advertising posters shows, automakers soon set their sights not only on well-to-do customers in the upper tiers of society, but also on the average citizen seeking to enjoy a greater degree of freedom and autonomy. While the "Patria" poster was designed to appeal to higher social classes with its imitation of classical forms, "Dürkopp's Diana" symbolized a new sense of independence and freedom with its image of a cosmopolitan and self-assured woman.

The clubs began to stage events of their own, and also served as the highest sporting authorities. And just as they had the same aims, they were faced with the same problems. The Austrian Automobile Club's review of its first ten years of activity in its 1907 accountability report is telling. "The automobile and our club have not had an easy time in Austria," noted the author, who added that the club's "painstaking work" may soon be for naught because the impending liability and tax laws and the proposed adoption of stricter traffic regulations could destroy all the progress that had been made. The report also noted, however, that "the automobile has become an established part of public life that cannot be ignored and that will not be constrained or subjugated no matter what attempts are made."[5]

The clubs in all countries were also charged with reducing the general level of resistance among the population against the rise of motoring. But they saw only limited success as long as the automobile remained an unattainable luxury item and a conspicuous status symbol.

➤ THE AUTOMOBILE COMES TO SYMBOLIZE A SOCIETY ON THE MOVE. ◄

The national clubs began coordinating their efforts across state borders early on. In 1908, the Austrian Automobile Club exchanged "border maps" with Germany, the Netherlands and a number of Swiss cantons, and similar exchanges would soon take place with Belgium, France and Italy.[6]

In spite of these difficulties, interest in motoring grew rapidly, and increasing sales boosted the automobile industry. Even though Vienna played a key role in this process as the imperial seat and the seat of government, the capitals of the crown lands and areas with a high concentration of industrial operations were also a key

Figure 6, left:
"Seventh International Automobile Exhibition Vienna 1907," advertisement in AAZ no. 8 (1907)

Figure 7, right:
"The Vienna Automobile Exhibition," title picture of the report "Opening of the Automobile Exhibition" in AAZ no. 9 (1907)

source of growing demand. The first survey conducted in Styria showed that the greatest number of motorcars was in use in and around the city of Graz, and in the industrial zone in Upper Styria.[7] The importance of these regional centers is also reflected in the fact that the first driving regulations for motorized vehicles were enacted by provincial and municipal lawmakers.[8]

The automakers soon sought to set up free associations to better represent their interests. *Verein Deutscher Motorfahrzeug-Industrieller,* the Association of German Motor Vehicle Industrialists, was established in 1901,[9] and the Austrian vehicle industry formed *Verband österreichischer Automobil-Industrieller,* the Association of Austrian Automobile Industrialists, in 1907.[10]

The free industrial associations in Austria were often the predecessors of today's industry associations.[11] It was not unusual for organizations originally formed to represent the business interests of individual enterprises to become important economic institutions that were used by the federal government to enforce regulations in their assigned areas of responsibility.[12] The varied history of the blossoming motor vehicle industry after 1900 is a prime example.[13]

The establishment of the Austrian association in 1907 was the result of the extraordinarily positive development of business for industry in general in this year, and also the rapid growth in automobile production in particular. At this time, there were approximately 2,300 motorcars in use in Austria (in the kingdoms and countries represented in the state councils, in other words not including the Hungarian half of the empire), more than half of them in Vienna and Lower Austria. The number of imported automobiles reached a record high of 519 in this year alone, equivalent to nearly one-fifth of all motorcars in operation. The number of factories increased from ten to fourteen, and the established companies paid massive dividends.[14] The fact that Austrian manufacturers sought to come closer together at this time instead of seeing the best opportunities in free competition and independence is worth examining more closely.

➤ Ninety percent of all motor vehicles in Austria are foreign models in 1907. ◄

The first external impetus for consolidation within the industry came in 1907 during the discussions at the first Austrian automobile day in Vienna and the seventh international automobile exhibition, which was held at the same location.[15] These events clearly demonstrated the state of the Austrian vehicle industry to the companies in attendance. Austrian products were the equal of any foreign motorcar in terms of performance, reliability and safety, and often offered better quality in terms of features. And while the plant managers reported full capacity utilization for 1907, the statistics of the Ministry of Trade showed that domestic demand could only be satisfied with the help of imports, primarily from France, Germany and Italy; ninety percent of all vehicles in the country were of foreign origin.[16] And thus, all companies asked themselves the same question: How can we use the growing enthusiasm and acceptance for automobiles to facilitate the spread of Austrian products

Figure 8: Statutes of the Association of Austrian Automobile Industrialists, 1907

in accordance with their technical quality, and what innovations are necessary in the industry to provide the quantities demanded by the market?

These problems were also the topic of discussion between Wilhelm Strauß, Karl Gräf and Ludwig Lohner at the international industrial exhibition, where they were displaying their products.[17] The shared nature of the dilemma was quickly recognized, as was the complexity of the problems that needed to be solved, and the decision was made to conduct further talks in a larger group. Such a group came together to exchange information on March 5 in the offices of the Austro-Hungarian Export Association in the House of Industry building on Schwarzenbergplatz in Vienna's third district. In accordance with the unanimous opinion that concerted action was the only way to effectively strengthen the Austrian motor vehicle industry, a committee was elected to draw up statutes for an association that would represent the industry's interests.

This advocates' committee was composed of Eduard Lanner, president of the board of directors of Johann Puch, Erste steiermärkische Fahrradfabriks-Aktiengesellschaft in Graz; Wilhelm Strauß, director of Österreichische Daimler-Motoren-Ges.m.b.H. in Wiener Neustadt; Erhard Köbel, proxy of Nesselsdorfer Wagenbau-Fabriks-Gesellschaft in Vienna; Karl Gräf, member of the board of directors of Wiener Automobilfabrik AG, formerly Gräf & Stift, in Vienna; Ludwig Urban jun., member of the board of directors of Schrauben- und Schmiedewarenfabriks-AG Brevillier & Co. and A. Urban & Söhne in Vienna; Adolf Bittner, director of M. Bittner & Co. in Vienna, and Arnold Ritter von Nartowsky, representative of Schiessl & Co. in Vienna.[18]

➤ The constituent assembly of the Association of Austrian Automobile Industrialists elects its first executive board on April 15, 1907. ◄

The constituent assembly on April 15 approved the statutes presented by the committee[19] and unanimously elected the advocates' committee as the first governing board: Eduard Lanner was appointed chairman, Wilhelm Strauß deputy chairman and Arnold von Nartowsky treasurer and secretary.[20] The notice of association formation was submitted to the Lower Austrian administration in Vienna on April 25, and the formation of the association was approved by the authorities on May 2 after the examination of the statutes.[21] The Association of Austrian Automobile Industrialists began its work.

While the primary objective of the association was the promotion of the common interests of the Austrian motor vehicle industry, the concrete efforts had to be organized into specific areas of activity. The various objectives being pursued by the association also had to be prioritized, and agreement reached among the members as to what strategies were to be employed to reach these objectives. The second paragraph of the statutes, "Object of the Association," outlines the five areas of activity and provides a good overview of the association's work:[22]

- Internal association work: The promotion of good personal relations between the members is named as a means "to strengthen the automobile industry."
- Public relations work: The association's public relations work was to improve the image and reputation of the Austrian automobile industry.
- Sales management: Influence was to be taken on the application of correct principles in devising of sales policies.
- Association strategy: This area of activity was the core of the interest representation work. The association was to address the federal government and its lawmaking bodies, where it was to foster the "consideration" of the needs and interests of the motor vehicle industry "in all aspects of law and traffic."
- Elevate the working class: This area focused on the realization of measures targeted at "elevating and improving the education of the working class."

The statutes then outline ways and means to achieve these objectives: "The association will strive to achieve these objectives by holding meetings and by submitting petitions and reports to government authorities and other bodies."

THIRTY-ONE COMPANIES JOIN THE ASSOCIATION ON THE DAY OF ITS CONSTITUENT ASSEMBLY.

Before going further into the association's activities, it is interesting to consider what companies filled its ranks. The association statutes expressly stipulate that any Austrian company "that manufactures automobiles, automobile parts, automobile accessories or automobile fuel in Austria or that sells relevant Austrian products as a monopoly" was eligible for membership (section 3 of the statutes). Thirty-one companies filed their formal membership declarations on the day of the constituent assembly, of which eight were automobile manufacturers proper, twenty-one in the "auxiliary industries," and two dealers.[23] This composition already hints at the structural problems of the newly founded association.

Because it focused its greatest efforts on solving industry-specific sales problems, which will be discussed in more detail below, the Association of Automobile Industrialists originally also accepted dealers as members. The fundamental conflicts in the interests of automobile dealers and manufacturers led to the foundation of *Verband österreichischer Automobilhändler,* the Association of Austrian Automobile Dealers, on November 19, 1908,[24] only eighteen months after the automaking industry formed its association. In Hungary, an association of Hungarian automobile dealers and industrialists was formed in the same year, but was not subject to serious conflicts of interests because of the country's poorly developed motor vehicle industry.[25]

In line with its membership structure, another central aim of the association was strengthening the companies that manufactured parts and accessories for the automobile industry, as they could only meet a fraction of the total demand.[26]

The large volume of goods, especially high-quality goods, imported from abroad made it very difficult for domestic manufacturers to charge adequate prices for their products. The major automakers felt that the most viable approach would not be vertical expansion, in other words manufacturing all needed parts themselves, but the establishment of a specialized auxiliary industry with a high level of technical expertise and quality. However, the progress made here was seen as insufficient for many years because it failed to keep up with the rapid

Figure 9, left: "Fiat in the Imperial House," advertisement in AAZ no. 51 (1909)

Figure 10, right: "Emperor Franz Josef I's Personal Carriage from Gräf & Stift," advertisement in AAZ no. 48 (1912)

technical advances being made in the automaking industry as a whole.[27] The report on the state of the domestic automobile industry drafted by the Lower Austrian Chamber of Commerce and the Ministry of Trade notes that ancillary goods and accessories were still being imported in large quantities "because the domestic companies cannot manufacture them in the required quality."[28] In the same year, Laurin & Klement AG's general director Klement proposed that more progress could be achieved by strengthening the financial ties between the parts supply industry and the automobile industry. The automakers would provide the capital needed for setting up new workshops and companies, and would also buy the products that these companies manufactured. In return, the net profits could be shared.[29] In spite of the fact that this plan was received with enthusiasm in the association, it was not realized. The promotion of an independent automobile parts supply industry continued, and a vertical integration of companies as was typical in most industries in this period was rejected.

➤ The Association of Austrian Auxiliary Industries is founded in 1912. ➤

The dire need for a solution to this problem required considerably more intensive efforts than were possible within the Association of the Austrian Automobile Industrialists. For this reason, the decision was made to split the association; *Verband der österreichischen Hilfs-Industrien,* the Association of Austrian Auxiliary Industries, was formed as a consequence in 1912. This association of auxiliary industries, whose first chairman was director Waller from Brevillier & Co. und A. Urban & Söhne, united companies from the iron making industry, machine and vehicle body manufacturers and companies that produced manufacturing materials, individual automobile parts and other equipment, as well as gasoline and lubricant manufacturers.[30] In total, twenty-five of the thirty-nine members of the Association of Automobile Industrialists left and joined the new association. But a joint committee was formed to facilitate the coordination of the associations' activities, as both organizations felt that this was necessary.

The original concept of a central institution to represent the interests of all industries involved in the manufacture of automobiles had to be abandoned as a result of specialization and internal conflicts of interest. However, the automobile industrialists' association maintained extensive contacts and cooperated frequently at various levels with its related industries in the following years, and often assumed the role of a central association.

When examining the concrete activities of the association more closely, one also has to take into account the various stages of development in the Austrian automobile industry. When the association was founded, the industry's primary goal was to make itself better known in Austria. The poor position on the domestic market

mentioned above is surprising in light of the fact that the value of the motorcars exported from Austria was fifty-six percent of the total imports.[31] One of the reasons for this is certainly the low tariffs imposed on foreign cars. Another is the fact that nearly all automobile owners at the time were aristocrats, high-level public officials or major industrialists, and social prestige more or less demanded owning a foreign automobile. As motor sport considerations began to influence purchasing decisions more and domestic automakers began offering "custom-tailored" vehicles, in which the entire body, interior, the location of the driver's seat, the instruments and the operating levers were built in accordance with the customer's wishes, Austrian makes began to gain prestige and acceptance.

Another difficulty that the Austrian automakers had to overcome is especially significant. The most important buyer of motor vehicles in these years was the public sector. Omnibuses, electrical buses running off of overhead contact lines, trucks for the fire departments and postal service, taxicabs and other vehicles were put into service in steadily increasing numbers. But the federal, provincial and municipal governments obtained the vehicles that they needed primarily from foreign manufacturers.[32]

"THE AUTOMOBILE IS NO LONGER JUST A LUXURY VEHICLE FOR THE RICH, BUT IS CONTINUALLY ESTABLISHING ITSELF IN NEW AREAS OF DAY-TO-DAY BUSINESS AND PUBLIC SERVICE."

These conditions made it clear where the association had to concentrate its resources in the first years. Internally, the association worked to get the automaking companies to procure the raw materials, semi-finished goods and accessories that they needed from Austrian manufacturers whenever possible. Externally, it appealed to the public in general and especially to the federal government and all self-governing bodies to only buy Austrian vehicles. Changes were already seen in the tenor of reporting on the Austrian vehicle industry in the local and foreign press in 1907. The automobile journal *Allgemeine Automobil-Zeitung (AAZ)* of the Austrian Automobile Club wrote the following about the formation of the association: "The Austrian automobile industry is strengthening visibly. Capital is not as scarce as it once was, the banks are developing an interest in the automobile industry and are beginning to finance the factories. As the vigor of the Austrian automobile industry grows, a representative association has become a necessity."[33]

At the suggestion of American consul general Rublee in Vienna, the American journal *Motor* ran a piece discussing Austria as a market for American cars in the middle of the year. The article contained interesting highlights on the conditions in the Austrian automobile industry. "Automobile culture is finally beginning to burgeon in Austria. The automobile is no longer just a luxury vehicle for the rich, but is continually establishing itself in new areas of day-to-day business and public service."

The author also noted that Vienna had a long and fine tradition in arts and crafts: "Especially the Viennese motorcar builders are famous for the aesthetic quality and elegance of their work, which has become a model for the whole world. Austrians are difficult to please in this regard, and for this reason it is advisable to have the motorcar bodies made by Viennese craftsmen in the traditional Viennese style." The article criticizes, however, that no suitable support whatsoever had been provided for the industry until very recently.[34]

A few months later, an article on the same subject ran in a different American magazine, *Horseless Age*. After reporting on the good orders level in 1907 and the high volume of car imports in Austria, the author discussed the particularities of the Austrian market: "The special wishes and demands of the Austrian market can above all be summed up in one word: quality." Referring to the vehicles being offered by dealers in Vienna, he noted that "no other nation in Europe has as many high-class and expensive motorcars as Austria."[35] While perhaps somewhat exaggerated, this reflected the social status of the automobile buyers as described above.

Of the concrete criticisms expressed in the foreign media, which caused quite a stir in Austria, one was especially noteworthy: The author of the article in *Horseless Age* from above stated that the Austrian mechanic could

not be considered to be the equal of his American or British counterpart. In general, truly skilled workers were rare in Austria, and this was one of the reasons that it was proving so difficult to establish an independent automobile industry.[36]

What at first glance appears to be a typical example of the failure to understand the conditions in Austria may in reality be at least partly justified. Consider the fact that the Austrian automakers felt it necessary to create and spread organizations to "elevate and educate the working class," and included this as one of their main objectives in the statutes of their industry association, as mentioned above.[37]

It is also telling that this aim was stricken from the statutes in 1912. By then, the local automobile industry had a sufficient supply of personnel that was specially trained in the working techniques of the industry, as is also confirmed by other sources. The Vienna Chamber of Commerce had already noted in 1910 that "a greater number of specially trained workers was already available," which helped to improve the quality of the manufactured goods.

So, the local and foreign press commented widely on the formation of a representative association for the Austrian automakers. Through targeted measures, the association also succeeded in making the promotion of the domestic automobile industry a high-profile and frequently debated issue in Austrian industrial policy within a relatively short time. A memorandum that was submitted to the Ministry of the Interior in the spring of 1908 was a complete success. A subsequent ministerial decree instructed the provincial governments to undertake suitable measures to ensure that only vehicles manufactured entirely in Austria were purchased for public use. Corresponding certificates of origin were to be obtained from the suppliers.[38]

The *AAZ* columnist who reported on this decree expressed his surprise at the fact that the ministry was so late in recognizing "its primary duty to do all in its power to foster Austrian industry," and concluded by saying: "The government should have recognized long ago that the Austrian automobile industry has for a number of years manufactured vehicles that can absolutely hold their own against vehicles from other countries. Our automobile industry would probably have become competitive much earlier if the government had lent it the support that it has failed to provide until recently."[39]

➤ The Association of Automobile Industrialists increases its efforts to promote the sale of "motorcars manufactured exclusively in Austria." ➤

The 1909 yearbook that was written by the association's secretary Arnold Nartowsky, *Die österreichische Automobil-Industrie und deren Hilfsquellen, The Austrian Automobile Industry and its Auxiliary Industries,* served the same purpose. According to Nartowsky, the primary motivation behind the book was to counter the "poignant uncertainty regarding the scope and importance of this fledgling Austrian industry" as could be seen in all relevant sectors of the Austrian economy. But the true mission of this strategic publication in his mind was to appeal to various government offices to "fix in writing" what the term "automobile industry and auxiliary industries" covered. In addition, the publication was intended to demonstrate to "other groups of wealthy buyers" the strength of the domestic automobile industry. The "many thousand" free copies of the yearbook that were distributed espoused the motto "Only Austrian products," but spoke out against any boycotting of foreign goods. Also worth mentioning is the fervent appeal to the domestic automakers "to procure the needed raw materials, semi-finished goods and accessories from the manufacturers listed in these directories whenever possible."[40]

This publication, which not only presented the individual Austrian manufacturers and their products with pertinent technical details but also fulfilled a general need for information by giving an overview of the laws and regulations in force in Austria and abroad, details of sporting events and much more, was well received and certainly fulfilled the expectations that its publisher had for it as a strategic "propaganda instrument."

In spite of the fact that the association's initiatives found support in the responsible government offices, as was already seen in 1908, the Vienna Chamber of Commerce noted in its annual report for 1910 that "the pertinent ordinances are not always handled as intended." One example is the fact that products from domestic manufacturers that simply assembled parts obtained from other countries were considered Austrian goods. The report also noted that "erroneous rumors" being spread by dealers were having a negative effect. [41]

According to estimates of the Vienna Chamber of Commerce, motor vehicle imports still equaled domestic production in 1911. The appearance of the first American cars on the Austrian market was seen as the harbinger of the even fiercer competition that was soon to come, as these products were often poorer in quality, but could be had for an unbeatable price.[42] In response, the automobile industry's association stepped up its efforts to bring all responsible bodies and authorities to "only purchase vehicles actually manufactured in Austria."[43] In spite of this, imports continued to increase until the outbreak of World War I.[44]

The yearbook *The Austrian Automobile Industry and its Auxiliary Industries* demonstrates the strength of the domestic motor vehicle.

The association's efforts were met with increasing dealer resistance, however. When *Bund österreichischer Industrieller,* the Austrian Industrialists' Federation, was called into the Ministry of Trade in 1911 at the request of the association to attain more strict compliance with the "supply decree" and suggested that operating licenses only be granted to "automobile lines" when they obligated themselves to drive only Austrian makes,[45] the Association of Austrian Automobile Dealers responded with protests.[46] In its statement, it expressed its commitment to promoting domestic industry, but decisively rejected the tying of licenses to the use of domestic makes. As was seen in official practice, this approach was not adopted.[47]

The conflicting interests of dealers and manufacturers stood in the way of a common approach to managing sales. The lack of any cartel and delivery agreements made a coordinated approach seem desirable, and the Association of Automobile Industrialists attempted to initiate negotiations in the autumn of 1909.[48] These were abandoned in 1911, after two years of unfruitful debate, because the representatives of foreign makes did not agree to the "General Terms of Delivery and Sale of the Association of Austrian Automobile Industrialists," including the penalties to be paid in the event of contract violation.[49]

The solidarity of the manufacturers in the association resulted in good payment terms. As early as 1909, the Vienna Chamber of Commerce noted that a down payment normally had to be made when a motorcar was ordered, and the rest of the price paid upon delivery. Loans were "seldom granted by the top-rate factories."[50] Royals were even required to pay for motorcars as everyone else, and diverged from their normal practice of paying all accumulated debts at the end of the year in these cases.

The increasingly common "road tests" became not only important for the technical advancement of automaking, but also for furthering the association's goals. They allowed domestic manufacturers to demonstrate the quality of their products in direct comparison with foreign makes. Such events were normally organized by the association.[51]

The appearance of the automobile on Austria's roads as a means of transport raised a large number of questions that were handled differently or in conflicting manners depending on how the automobiles were involved in traffic. In the beginning, there were no statutory regulations or even customary rules for any legal, tax or traffic-related issues. The association was involved in the discussion of the planned automobile tax in the summer of its first year of existence, on the side of the ultimately victorious opponents to the tax. In the debate on the introduction of a liability law in the next year, some provisions were made more liberal at the behest of the association, which feared decreasing sales otherwise. How little the overall economic importance of the automobile and the specific problems associated with this means of transport were understood is evidenced

by the fact that parliament essentially debated these issues along the traditional lines of agriculturists versus industrialists.

The association also played a part in the adoption of the new tariff in 1909 that required the payment of six percent of a vehicle's selling value. As this rate was still considered insufficient – the Austrian tariff was the lowest of all industrialized countries – the association's efforts continued to focus on customs regulations.[52]

It proved very difficult to enact appropriate laws for motor vehicle traffic. While the dangers were in part overlooked in the beginning on the one hand, many of the rules for traditional means of transport were simply applied to the automobile and motorcycle on the other. The first speed limits were often based on the speed of a horse.

➤ THE REPRESENTATIVES OF SIXTEEN EUROPEAN STATES MEET IN PARIS IN 1909 TO DRAW UP BASIC PROVISIONS FOR CROSS-BORDER TRAFFIC. ◄

As mentioned above, the first traffic regulations were enacted around 1900. Provinces and cities with rapidly growing numbers of vehicles began adopting laws to govern both public and private traffic.[53] But as the rate of growth of motorized vehicle traffic differed greatly in the individual regions, the need for universally valid, nationwide traffic laws was not recognized for many years. The conditions in Switzerland, where traffic policy was the responsibility of the cantons, showed what regulatory chaos this could bring. In Graubünden, automobile traffic was prohibited outright in 1900, and remained so until 1925, after ten public referenda.[54]

It is no surprise, however, that national governments began negotiating international agreements to regulate automobile traffic very early on. Cross-border traffic had to be protected by a treaty that was recognized under international law. To this end, representatives of sixteen European states, including Austria-Hungary, met in Paris from October 5 to 11, 1909, to work out the basic provisions. These pertained to the registration of motor vehicles and their drivers, the issue of international driving permits, the use of license plates, requirements for warning equipment, special decrees pertaining to the operation of motorized vehicles, traffic regulations (approaching and passing vehicles) and also the placing of signs on public roads. This agreement was ratified by Austria-Hungary, Germany, France, Great Britain, Spain, Italy, Monaco, Bulgaria and Russia in 1910.[55]

The implementation of the Paris agreement was often overtaken by the rapid growth of motor vehicle traffic in the individual countries. Even in France, where a commission was set up to draft national regulations in 1909, a *"Code de la Route"* was not enacted until 1921.[56]

Interest Representation and the Industry Association during World War I

The political turmoil in 1912 brought a growing number of automobile orders from the War Ministry and boosted sales and net profits in 1913.[57] But the outbreak of the Great War in 1914 would soon confront the industry with demands that far exceeded the resources at the manufacturers' disposal in terms of production capacity, logistics and technical product refinement and for which the necessary basis had to be created in an extremely short time. The motor vehicle industry became one of the largest and most important sectors of the Austrian economy in these years. We can only guess at the enormous scope of the problems and tasks that had to be mastered by the Association of Automobile Industrialists under these conditions because no reliable records are available.

Figure 11: "Subsidized type Büssing," subsidized by the Imperial and Royal Military Administration, advertisement in AAZ no. 24 (1912)

In principle, the free industry associations played a considerably more significant role than simple interest representation in the war, during which nearly all of Austrian industry was under the authority of the military administration.[58] This was especially true for sectors that were most directly part of the armament industry, as was the case for the automobile industry. The companies had to completely reorganize themselves, especially in terms of structure and production, in an extremely short time. In this, the associations not only collected the wishes, needs and complaints of its member companies and forwarded them to the military administration, they also consulted with their members on the wishes and requirements of the military and found ways to fulfill these demands. The government recognized the importance of these organizations and strengthened the legal position of the most important associations under public law. The Association of Austrian Automobile Industrialists was made an official industry association, and was assigned complete responsibility for the planning and implementation of all measures necessary for supplying the military with the engines, motor vehicles and aircraft that it required.

The most important task at the outbreak of the war was the series manufacture of specific vehicle types optimized for different wartime uses. This required the division of the necessary work between the individual companies. The concentration of all resources to meet the military's needs also limited the production of passenger vehicles for private use. In spite of the fact that coming under the authority of the military administration meant that the companies had an abundance of orders and were guaranteed sufficient power supply, assistance in procuring the necessary raw materials and parts, an ample pool of workers and prompt payments, the companies were faced with nearly impossible challenges as the war wore on and the economic resources of the country were exhausted.

Towards the end of the war, production costs rose so rapidly that the prices of comparable products in 1918 were two to three times what they had been in 1914. And in spite of the obligations laid out in its purchase orders, the government was increasingly late with its payments. At the end of the war, the automobile industry was owed millions for deliveries going as far back as 1917.

> The Association of Austrian Automobile Industrialists is assigned the function of an industry association in World War I.

It also became increasingly difficult to obtain the necessary raw materials and parts. Even though the Austrian auxilliary automobile industry had strengthened considerably before 1914, it had only been able to meet two-fifths of domestic demand at the onset of the war.[59] Enormous efforts were required to transform the isolation from foreign markets that resulted from the conflict into economic independence, to which end the association launched an initiative to strengthen the auxiliary industries. The auxiliary aircraft industries were incorporated

into the association of the auxiliary automobile industries, which had been founded in 1912, and various subdepartments were created to better manage and promote specific special areas. These were the foundries, the factories for manufacturing materials, instruments, accessories, vehicle bodies, tools and machine tools, replacement tires, fuels and lubricants, and the specific auxiliary aircraft industries.[60] Thanks to these efforts, the domestic automobile industry was "able to operate almost exclusively with domestic input materials."[61]

Another problem was the increasingly acute shortage of qualified personnel. The workers assigned by the military administration possessed only a fraction of the required technical skills, and had to be trained as quickly as possible. Women were also recruited as time went on and made up one-seventh of the total workforce by the end of the war.[62]

A SHORTAGE OF TECHNICAL WORKERS AND DIFFICULTIES IN OBTAINING RAW AND ANCILLARY MATERIALS INCREASINGLY HAMPER MANUFACTURING DURING WORLD WAR I.

To fully understand the problems of this time, one has to consider that the automobile industry was probably the fastest-growing of all sectors during the war. The capital invested in the industry amounted to 200 million crowns in 1918, roughly five times what was invested in 1914, the number of workers had increased from 5,000 to 15,000, and sales from between 30 and 35 million crowns to 700 to 800 million crowns. The Chamber of Commerce also noted that 25,000 workers would have been needed to fully utilize the installed capacity.[63]

The results show how massive the efforts of the Association of Austrian Automobile Industrialists were: The supply agreement negotiated between the War Ministry and the association that came into effect in September 1914 was fulfilled without significant compromises until the military and political collapse of the country.

In light of the growing importance of the Austrian motor vehicle industry during the war, the question of the role that this sector would play in the coming peacetime economy was raised early on and discussed in professional circles starting in the autumn of 1916. The "discussion evenings" proposed and organized by the Austrian Automobile Club were kicked off on November 21, 1916, with reports and consultations on the topic of "The Austrian Automobile Industry after the War. Preparatory Measures," in which representatives of the War and Trade Ministries, representatives of the free industry associations and many industrialists participated.[64] Karl Gräf, a member of the association's governing board since its foundation and, as the oldest committee member, chairman during the war, responded to an inquiry into the opinion of the automobile manufacturers by saying that all of the numerous problems that had been voiced had already been the topic of internal discussions in the association and that "important decisions have already been made, some of which must remain secret." For this reason, he could not say more at that time.[65]

Taking these statements and other statements of this nature made elsewhere into consideration, it becomes clear that the association saw the main problem in transitioning from wartime to peacetime production in achieving this changeover without sacrificing capacity or sales. Expert opinions, suggestions for structural improvements and public information work were completed to this end.

Interest Representation during the First Republic

Restructuring and Rebuilding

While thoughts about the future peacetime economy were long based on the assumption that the Austrian automobile industry would have access to a domestic market of the same size as before the war, the breakup of the Danube monarchy brought an entirely different and much harsher reality. Just under two-thirds of the sector's total capacity, namely eight of fourteen automobile industry factories,[66] were now situated in the Republic of Austria, which made the automaking industry disproportionately important for the new country's economy while at the same time making its continued existence dependent on finding a successful solution to the sales problem. The Austrian motor vehicle industry, which had only been able to meet about half of the domestic demand before the war, turned into an export industry overnight, and was forced to sell ninety percent of its production output abroad if it utilized all of its available manufacturing capacity.[67]

In this difficult time of restructuring and the fight to secure an existence, the Association of Austrian Automobile Industrialists again proved to be a viable platform for internal opinion-forming, and a partner for representing the industry's interests vis-à-vis the government agencies responsible for economic issues. When the companies in the vehicle industry were threatened with insolvency in the years immediately after the war because extensive wartime deliveries still had not been paid for and the payments that were made were of significantly lower real value because of inflation, the association entered into negotiations with the Ministry of Finance to arrange lines of credit with the banks that held interests in the affected industrial enterprises.[68]

The Austrian automobile industry especially suffered from shortages of certain raw and ancillary materials and a lack of special tools. *Verband der österreichischen Automobil- und Flugzeug-Hilfsindustriellen,* the Association of Austrian Auxiliary Automobile and Aircraft Industrialists, which was founded in 1918, maintained close ties with the Association of Automobile Industrialists and was called its "requisites office." Because of its intensive contacts with the Ministry of Trade, it was a valuable economic-policy instrument for the new government.

The number of members in the vehicle industry association was also indicative of its growing importance: while it consisted of twenty-seven companies before the integration of the aircraft industry, it now counted fifty-five members.[69] The man behind all of these efforts was Dr. Georg Hanel, who had recently been appointed secretary general of the Association of Austrian Automobile Industrialists, in June 1918, and who held this post until the forced dissolution of the association in 1938.[70]

When considering the focuses of the association's work in this period, one must take the extraordinary conditions of the post-war years into account, as they usually forced the companies to implement radical organizational, financial and output-related changes. In addition to the financial difficulties that confronted the companies, as mentioned above, and worries about the procurement of raw materials of sufficient quality and in sufficient quantities, there were still no solutions to the questions of the utilization of the existing capacities, the selection of the proper product assortment, and also how to sell the manufactured products. Buzzwords like "concentration of automobile production," "mass-produced goods instead of quality goods" and "the standard model is the way of the future" engaged the public for many years,[71] but were also the subject of objective analyses and broad discussions within the association.

➤ The Austrian motor vehicle industry turns into an export industry overnight after World War I and must sell ninety percent of its output abroad. ◄

Figure 12: "Passenger car" from Oesterreichische Waffenfabriks-Gesellschaft, advertisement in AAZ no. 6 (1922)

The fact that the industry was able to lay the groundwork for an "Austrian way," in other words an optimal solution using the available resources and development potential, demonstrates sound knowledge and a sober assessment of the prevailing political and economic realities. The association rejected a total focus on mass production and the exclusive manufacture of standard models, and also rejected the concentration of companies out of sheer principle when there was no tangible benefit to doing so. This does not mean that the advantages of the production of larger series and a reduction in the number of vehicle types were not recognized, or that the companies insisted on an economically detrimental level of independence. The prevailing attitude among the member companies on these issues shows that they correctly assessed not only their own know-how, but also the sales markets that would be important in the future. The confirmation that Austria would only be able to successfully compete with the large-scale manufacturers in America, France and Italy by offering high-quality products was not long in coming. And the growing importance of exports to the former countries of the monarchy, their efforts to attain self-sufficiency notwithstanding, made it necessary to offer a product range that met the different demands of the target markets.

The importance of automaking as one of Austria's key export industries brought commensurate and tireless efforts to secure favorable trade and tariff agreements, for which the association collected and prepared pertinent materials.[72] It submitted countless relevant petitions and reports to the responsible offices at the Chamber of Commerce and the Ministry of Trade and Transport and in this way exerted a decisive influence on the negotiation of customs types, tariffs and delivery quotas. The complexity of these economic policy issues was not limited to bilateral relations, but usually had multinational consequences, as the following example illustrates.

In response to an enquiry from the Vienna Chamber of Commerce on December 17, 1930, as to why the Association of Automobile Industrialists sought and saw put through the termination of the valuation agreement with Czechoslovakia, Hanel responded that its Czechoslovakian counterpart had set the prices for the valuation of the automobiles so low that this resulted in increased competition for the Austrian automobile industry, and that this also resulted in difficulties with other countries that demanded the same preferential treatment. New agreements could not yet be made because Czechoslovakia was waiting for the results of its current negotiations with France, which was itself making its position dependent on its negotiations with Germany.[73]

Another very important role of the association, as in earlier years, was that of a forum for the balancing of internal interests. This included the formulation of common positions, decisions on the provision of assistance to member companies, and in this period above all the allocation of the export delivery quotas.

➤ THE BALANCING OF INTERNAL AND EXTERNAL INTERESTS DOMINATES THE ASSOCIATION'S WORK BETWEEN THE WORLD WARS. ◄

Efforts to find a balance between conflicting interests with other associations were also important. This included suggestions to the automobile dealers, who felt that the tariffs demanded by the domestic manufacturers were too high, as to how sales and earnings could be increased under the existing import regulations.[74] As was to be expected, there were serious disputes between the two parties when it came to customs issues, and both employed all means at their disposal to push their views and demands through with the Chamber of Commerce and the Ministry of Trade.[75]

At the same time, manufacturers and dealers fought together for contemporary traffic laws. The *Kraftfahrgesetz*,[76] the Motoring Law, that was adopted in 1929 and the *Straßenpolizeigesetz*,[77] the Traffic Police Law, that was adopted at the same time introduced important standards and, being valid nationwide, ended the provincial autonomy in these matters that had been criticized for years, and that had resulted in very different levies on drivers throughout the country and to vastly different regional traffic laws. The urgency of this issue resulted from the signing of the Paris Convention on Motor Traffic in 1926, which was ratified by Austria in 1930 and went into force in 1931.

The automakers' association also enjoyed the support of the automobile dealers in its efforts to reduce automobile taxes, but were not able to achieve the tax cuts that they sought. Two economic phenomena that shaped the 1920s are particularly relevant here: inflation at the beginning of the decade, and the economic crisis that began to crystallize at the end of the decade.[78]

There is no doubt that inflation and the subsequent measures to stabilize the currency had a major influence on the finances and output of the companies in the sector. But it is difficult to spell out the exact effects. It can safely be assumed that the devaluation of the currency after the war, which reached catastrophic proportions in the autumn of 1922, substantially weakened the motor vehicle industry. But were the effects equally dire for all companies?

The currency reform was based on legal degrees on the transition to accounting in schillings in 1924 and the creation of a "golden balance sheet" in 1925.[79] The lawmaker enacted these measures to allow companies that were required to prepare a balance sheet to revalue their assets and liabilities, in other words to depart from the principle of balance sheet continuity. It is reasonable to assume that the managers applied values that were in the best interests of their companies, both to eliminate the inflation-based distortions and to create an optimal basis for future growth.

➤ MANUFACTURERS AND DEALERS JOIN FORCES TO PUSH FOR MODERN TRAFFIC LAWS. ◀

The economic journal *Oesterreichischer Volkswirt* published and commented on the golden balance sheets of important industrial companies, including motor vehicle manufacturers, in an annex.[80] The valuations in the golden balance sheets (in schillings) were also compared with those of the last year before the war, 1913, (in gold crowns) to show the inflation-based changes in the companies' respective financial positions.[81] Taken together, the four major Austrian automobile manufacturers (Steyr-Werke AG, Gräf & Stift, Austro-Fiat and Daimler Motoren AG) and the motorcycle and bicycle manufacturer Puchwerke-AG showed only a minor loss of equity, though equity development was in reality very different for each company. While Gräf & Stift reported thirty-eight percent more equity in 1925 than in 1913 and Steyr twenty-five percent more, Daimler Motoren AG lost half of its assets, and Puchwerke-AG eighty-five percent. Debt levels increased in general, indicating decreasing liquidity. Before the war, the total payment obligations of these five companies exceeded their current assets by sixteen percent, and by twenty percent in 1925. Profitability was also on the decline, as increasing sales went hand in hand with steadily rising costs. The economic conditions were also reflected in the stock price of the five companies, which were thirty-seven percent lower than in 1913 on average.[82]

These and other assets and earnings figures from golden balance sheets do provide a basis for general statements in spite of the varying conditions in the sector. The capital inflows during the war and during the inflationary period allowed capacity increases to be made in certain phases (but only inadequate technical advances), and the production system and the liquid assets that were needed over the long term successively lost their value. Taxes and dividends were often more than the company's real profits. On the positive side, the devaluation of the currency was equivalent to a duty refund when imported goods were exported after processing; the loss of this advantage as a result of the currency reform made Austrian products noticeably less competitive. The increasing level of domestic vehicle sales that came with the strengthening of the Austrian economy gradually compensated for this to a certain extent. The number of passenger cars in Austria grew by seventy-two percent from 6,400 to 11,000 between 1920 and 1925; the number of trucks increased by 117 percent from 2,838 to 6,150, and the number of motorcycles by 214 percent from 2,214 to 6,963. The total output of the domestic motor vehicle industry in the year of the currency reform was roughly 5,500 cars and trucks and 3,500 motorcycles, whereby the installed capacities were not fully utilized.[83]

The restoration of stable currency conditions was without a doubt the most important measure for kick-starting economic growth. Many feared that the reform and introduction of the schilling would trigger widespread

➤ THE AUSTRIAN MOTOR VEHICLE INDUSTRY PRODUCES APPROXIMATELY 5,500 CARS AND TRUCKS AND 3,500 MOTORCYCLES IN 1924. ◀

crises throughout the economy. In reality, such effects were isolated and only brief in duration, and the economy was already expanding by the second half of the 1920s. The growth in the number of motor vehicles in use also reflected this trend; motorcars became especially common in urban and industrial areas, and were spreading to more levels of society. A survey in 1929 showed that half of all registered automobiles in Austria were in Vienna. The total number of motorcars had more than doubled since 1924, and the number of inhabitants per car had fallen from 442 to 200. Austria had more motor vehicles per capita than Czechoslovakia, Hungary, Romania, Yugoslavia and Poland, but fewer than Switzerland, Germany, and – barely – Italy.[84]

Number of motor vehicles in Austria as of June 30, 1929

Province	Cars	Trucks	Total	Inhabitants per vehicle
Vienna	9,768	6,903	16,671	111
Lower Austria	3,385	2,664	6,049	252
Upper Austria	1,345	928	2,273	399
Salzburg	926	361	1,287	181
Styria	1,715	1,249	2,964	342
Carinthia	905	504	1,409	279
Tyrol	959	594	1,553	213
Vorarlberg	546	372	918	160
Burgenland	242	160	402	735
Austria				
Middle of 1929	19,791	13,735	33,526	200
End of 1928	16,783	12,221	29,004	231
End of 1927	14,145	9,672	23,817	280
End of 1926	12,252	7,835	20,087	331
End of 1925	11,058	6,256	17,314	382
End of 1924	9,771	5,115	14,886	442

Source: Federal Bureau of Statistics, pub. Statistische Nachrichten VII (1929), p. 267.

The world economic crisis that hit Austria in 1930 and 1931 cut into motor vehicle sales and meant unused capacities, a growing number of unemployed workers and a desperate fight for market share in the Austrian automobile industry.

The year 1930 saw only half as many vehicles produced and exported as in 1929, and also saw half of the workforce laid off. Output fell from around 9,000 cars and trucks to roughly 4,000, and exports from 2,845 units to 1,473. The number of jobs decreased from roughly 12,000 to 6,000.[85] The depression was most severe in the winter months from 1933 to 1934, during which the number of jobs in the automobile industry was only one fourth of what it had been on monthly average in 1929.[86]

During this period, one of the major focuses of the association's work was on finding ways for the companies to successfully cope with the inflation and the economic crisis. Presentations were given, discussions held among the members and extensive surveys and calculations completed to obtain the information needed to make headway against the negative trend. While these efforts focused specifically on the automobile sector, they were also important in that they shed light on the relationships in the broader economy, for example in the 24-page opinion released on the hotly debated topic of a possible tariff union with Germany in 1931.

One of the most notable elements of the association's communication activities in this period was its extensive publishing work. This included works initiated and brought out by the association itself, such as the 1925 motoring handbook *Handbuch für das Kraftfahrwesen in Österreich,* which offered an overview of the current traffic laws, the latest motor vehicle statistics, a directory of automobile companies in Austria and abroad, technical instructions for the operation and repair of automobiles and motorcycles, and a description of Austria's automobile factories, to name just a few key sections of the 336-page book. Motor vehicle statistics were compiled for Austria in collaboration with the Chamber of Commerce and the Ministry of Trade. Equally impressive were the annual reports on the economic situation in the Austrian automobile industry that were published in relevant journals and in the reports of the Vienna Chamber of Commerce, and that served as source material for further publications by the Ministry of Trade and Transport.

Österreicher kauft inländische Automobile!

WARUM?

OSTERREICH besitzt eine hoch leistungsfähige inländische Automobil-Industrie.
Der österreichische Automobil hat seine Ebenbürtigkeit mit den hochwertigsten Erzeugnissen der Auslandsindustrie auf zahllosen Konkurrenzen im In- und Auslande bewiesen.
Hiefür spricht auch der alljährlich zunehmende Export unserer Automobil-Industrie.
Der österreichische Wagen, aus den natürlichen österreichischen Verhältnissen entstanden, eignet sich hinsichtlich Leistungsfähigkeit und Ausstattung in besonderer Weise für den Verkehr auf den österreichischen Straßen.
Die heimischen Fabriken stehen mit den Käufern ihrer Wagen in besonders engem Kontakt und sind in der Lage, die Bedürfnisse des heimischen Publikums in jeder Hinsicht zu befriedigen. Die Nähe der Erzeugungsstätte und die unmittelbare Verbindungsmöglichkeit mit der Fabrik bieten dem Automobilisten die verschiedensten Vorteile.
Der Kauf eines österreichischen Wagens schafft Arbeit für Industrie, Handel und Gewerbe in Österreich, was gerade in den gegenwärtigen Zeiten forderbarer Arbeitslosigkeit für die gesamte Volkswirtschaft von besonderer Bedeutung ist.
Die Anschaffung eines ausländischen Wagens aber vermehrt das Passivum unserer Handelsbilanz, welches die schwerste Gefahr für unsere Staats- und Volkswirtschaft bildet. Hiebei ist zu bedenken, daß Österreich ohnehin den größten Teil der erforderlichen Nahrungsmittel, Brennstoffe und sonstigen Rohmaterialien aus dem Auslande bezieht, so daß wir unter allen Umständen darauf bedacht sein müssen, die Einfuhr auf das unbedingt Notwendigste einzuschränken, zu welchem aber Automobile, die im Inlande in genügender Menge, Qualität und in entsprechender Preislage geliefert werden können, zweifellos nicht gezählt werden können.

Wir bitten Sie, vor der Anschaffung eines Wagens das Vorstehende reiflich zu überlegen; wir zweifeln nicht, daß Sie dann den Österreichischen Wagen wählen werden.

VERBAND ÖSTERREICHISCHER AUTOMOBIL-INDUSTRIELLER.

Figure 13: "Austrian buys a locally manufactured automobile! Why?", flyer from the Association of Austrian Automobile Industrialists, ca. 1930

Activities during the Corporate State until Dissolution

The incorporation of the Association of Austrian Automobile Industrialists into the newly created *Bund der österreichischen Industriellen,* the Federation of Austrian Industrialists in 1934,[87] resulted primarily in organizational changes, but had little effect on the association's actual activities. As the umbrella organization for the professional representation of industrial and mining enterprises in Austria needed to be broken down into regional and above all industry-specific units that were capable of effective action in order to fulfill its responsibilities. The decree of January 31, 1935,[88] defined a structure of provincial associations, trade associations and industry-specific sub-associations. *Verband der Automobilindustrie,* the Association of the Automobile Industry, as the association was now called, acted as an industry-specific sub-association of *Fachverband der Eisen-, Metall- und Elektroindustrie,* the Association of the Iron, Metal and Electrical Industry, which was directed by chairman Paul Götzl from Steyr-Daimler-Puch AG.[89]

The official focus of the new organization was on the trade associations. It soon became apparent that these were limited in their ability to act effectively, however, because of their usually heterogeneous sector structure. For this reason, the federal regulations governing this system allowed the trade associations to entrust their sub-associations "with the execution of the duties arising within their areas of responsibility and action."[90] This was in any event necessary in the case of the Association of the Iron, Metal and Electrical Industry, and the Association of the Automobile Industry was charged with "the representation of the professional interests" of its member companies and "participation in the negotiation of collective bargaining agreements." It was also responsible for the acceptance and expulsion of members and for setting and collecting membership dues.[91] One function that was somewhat vague arose from the assignment of responsibilities that were previously handled by the Chamber of Commerce, provided that these affected "only interests of the industry."[92] It was certainly beneficial for the position of the Association of the Automobile Industry that the chairman of its parent trade association, Paul Götzl, was an automaker himself.

THE ASSOCIATION EXPANDS ITS PUBLIC RELATIONS WORK.

Overall, the responsibilities of the association changed little, and the tasks that it was entrusted with matched those that it had already completed as a free association before. It also stayed at the same address, an external sign of this functional continuity. For publishing activities, the association now had access to the "official outlet" of the Federation of Austrian Industrialists, the weekly newspaper *Die Industrie.* The situation reports of the Austrian motor vehicle industry and internal association notices were printed here.

The concrete activities of the association in the years that it was part of the federation focused on intense efforts to regain the position that the industry had held in the Austrian economy before the crisis. The prevailing and frequently espoused opinion among dealers that the Austrian automobile industry had no future and that

Figure 14: "Steyr Babies" (Steyr 50/55) leaving the city of Steyr, photo 1936

its liquidation would do more good than harm to the economy[93] was energetically refuted. The government, however, never seriously considered ending the production of motor vehicles in Austria, as their high quality was undisputed locally and internationally and the industry and auxiliary industries employed seven to eight thousand workers.[94] The restructuring package presented by the association included new regulations for the import of automobiles, a reduction in gasoline tax, a motor vehicle tax exemption for newly registered automobiles, tax exemption for replacement purchases, a reduction in liability insurance premiums and the elimination of the limits on truck traffic enacted to the benefit of the Federal Railways.[95]

➤ THE ASSOCIATION INTRODUCES A BROAD SET OF MEASURES TO RESTRUCTURE THE AUSTRIAN VEHICLE INDUSTRY. ◄

If one takes the level of domestic sales in units as a measure of the industry's health, the lowest point was passed in 1934. Sales were up by one-fourth in this year, and one-third in the following year. Domestic sales even doubled in 1936, after which they stagnated again.[96]

In examining the causes for this development, it is important to note that the upswing in the industry was not only the product of a gradually strengthening domestic economy, but also of a number of interventions by the government that were initiated by the association. These especially included the tightening of import regulations for automobiles in April 1934, and the elimination of the motor vehicle tax on May 1, 1935. These measures brought a large increase in the number of new vehicles registered, from 4,431 in 1933 to 10,655 in 1936, including an increase in passenger cars from 1,433 to 4,464.

The particularly sharp increase in 1936 can above all be attributed to the small car introduced by Steyr-Daimler-Puch AG in the spring. Of the 3,652 new domestically manufactured passenger cars registered in 1936, 3,586 came from Steyr plants. Of these, 3,467 were small cars. The increase in truck business was described as "modest," while motorcycle sales increased by fifty percent over 1935.[97]

Austria's foreign trade in vehicles in these years exhibited a basic trend in spite of structural changes. Between the two wars, Germany was Austria's largest trading partner for "motor vehicles and engines for such vehicles." Nearly half of Austria's imports in 1936 came from Germany, and over one third of its exports went to Germany. The remaining imports came above all from western Europe and the USA, while the export markets for Austrian vehicles were situated in eastern central and south eastern Europe.[98]

The number of motor vehicles in use continued to increase throughout the 1930s in spite of various noticeable setbacks. Small cars and motorcycles attracted new buyer groups, as evidenced by the continued spread of motor vehicles after the economic crisis. Like before, the greatest growth and highest number of automobiles were seen in major urban and industrial areas.

Number of inhabitants per vehicle from 1932 to 1936

THE INCREASING PREVALENCE OF MOTOR VEHICLES BRINGS A GENERAL UPSWING IN THE 1930S.

End of September					
Provinces	**1932**	**1933**	**1934**	**1935**	**1936**
Vienna	55	55	54	49	46
Lower Austria	66	64	63	59	56
Upper Austria	94	91	89	81	75
Salzburg	66	68	73	64	57
Styria	91	88	90	85	78
Carinthia	110	108	112	106	98
Tyrol	80	79	88	81	72
Vorarlberg	57	57	62	52	51
Burgenland	189	178	182	169	153

End of September					
Capitals	**1932**	**1933**	**1934**	**1935**	**1936**
Linz	57	56	55	51	48
Salzburg (city)	32	33	34	37	33
Graz	55	55	52	48	45
Klagenfurt	38	36	36	33	31
Innsbruck	40	40	44	41	36
Bregenz	49	51	61	39	38
Eisenstadt	27	25	29	35	31
Austria	72	71	71	66	61

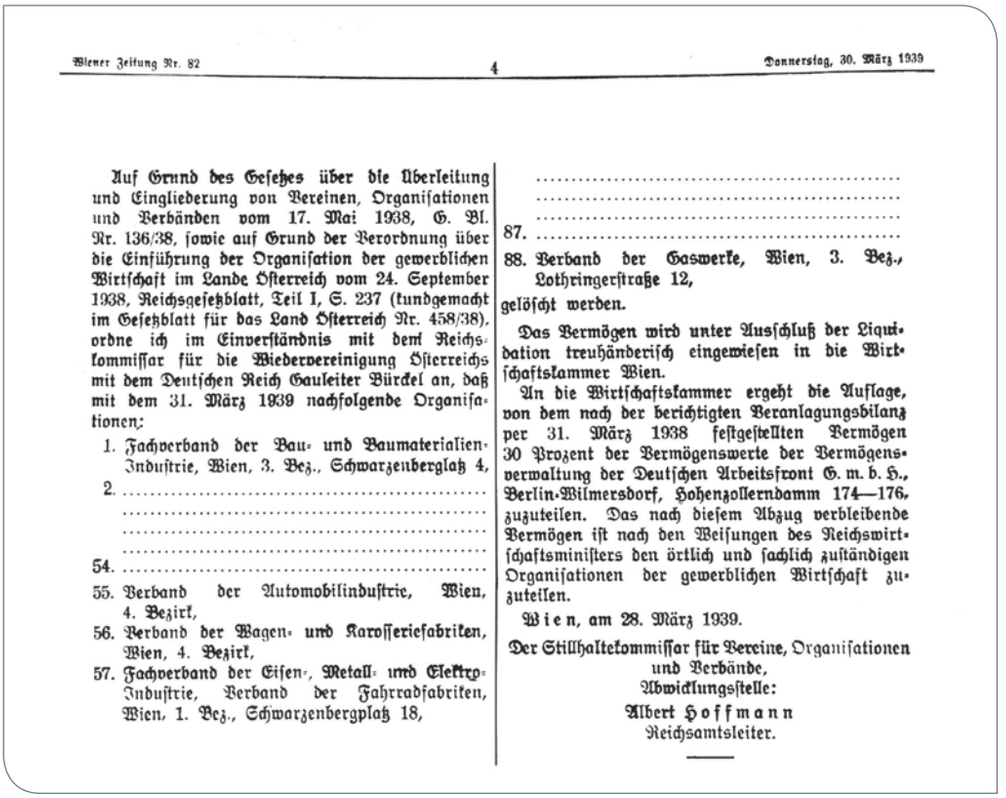
Source: Vienna Chamber of Workers and Employees, pub., Wirtschaftsstatistisches Jahrbuch 1936, Vienna 1936, table 245a., p. 387; 1937, Vienna 1937, table 255a., p. 492.

Another effect of the steady increase in the total number of vehicles was that the motor vehicle laws from 1929 and 1930 were soon seen as outdated, and an amendment was passed to rectify this in 1937.[99] In addition to the international conventions, "bilateral agreements" were also concluded whenever necessary and were not affected by the new law.[100]

Many problems were still awaiting a solution when Austria lost its political independence, and with it all ability to make its own decisions on economic issues, in March 1938. As part of the decree on the "transition and incorporation of associations, organizations and federations" issued by the German Reich on March 28, eighty-eight industry associations and economic representative bodies were ordered to dissolve effective March 31, 1939. Number fifty-five on the list was the Association of Automobile Industrialists.[101]

THE ASSOCIATION OF AUTOMOBILE INDUSTRIALISTS IS DISSOLVED IN 1939.

"Transition and incorporation" meant not only the surrender of all association assets and the new assignment of responsibilities, but also far-reaching changes in the ownership structures of the industrial enterprises and the setting of new production targets.[102] The new rulers deemed the Austrian automobile industry to be worth



Wiener Zeitung Nr. 82 — 4 — Donnerstag, 30. März 1939

Auf Grund des Gesetzes über die Überleitung und Eingliederung von Vereinen, Organisationen und Verbänden vom 17. Mai 1938, G. Bl. Nr. 136/38, sowie auf Grund der Verordnung über die Einführung der Organisation der gewerblichen Wirtschaft im Lande Österreich vom 24. September 1938, Reichsgesetzblatt, Teil I, S. 237 (kundgemacht im Gesetzblatt für das Land Österreich Nr. 458/38), ordne ich im Einverständnis mit dem Reichskommissar für die Wiedervereinigung Österreichs mit dem Deutschen Reich Gauleiter Bürckel an, daß mit dem 31. März 1939 nachfolgende Organisationen:

1. Fachverband der Bau- und Baumaterialien-Industrie, Wien, 3. Bez., Schwarzenbergplatz 4,
2. .....
.....
.....
.....
54. .....
55. Verband der Automobilindustrie, Wien, 4. Bezirk,
56. Verband der Wagen- und Karosseriefabriken, Wien, 4. Bezirk,
57. Fachverband der Eisen-, Metall- und Elektro-Industrie, Verband der Fahrradfabriken, Wien, 1. Bez., Schwarzenbergplatz 18,
.....
.....
.....
87. .....
88. Verband der Gaswerke, Wien, 3. Bez., Lothringerstraße 12,

gelöscht werden.

Das Vermögen wird unter Ausschluß der Liquidation treuhänderisch eingewiesen in die Wirtschaftskammer Wien.

An die Wirtschaftskammer ergeht die Auflage, von dem nach der berichtigten Veranlagungsbilanz per 31. März 1938 festgestellten Vermögen 30 Prozent der Vermögenswerte der Vermögensverwaltung der Deutschen Arbeitsfront G. m. b. H., Berlin-Wilmersdorf, Hohenzollerndamm 174—176, zuzuteilen. Das nach diesem Abzug verbleibende Vermögen ist nach den Weisungen des Reichswirtschaftsministers den örtlich und sachlich zuständigen Organisationen der gewerblichen Wirtschaft zuzuteilen.

Wien, am 28. März 1939.

Der Stillhaltekommissar für Vereine, Organisationen und Verbände,
Abwicklungsstelle:
Albert Hoffmann
Reichsamtsleiter.

Figure 15: "Transition and incorporation" as part of the "reunification of Austria with the German Reich": no. 55: "Association of the Automobile Industry," March 1939, in Wiener Zeitung, March 30, 1939

preserving, but demanded a higher degree of concentration and the standardization of the manufacturing programs. Energetic efforts to "harmonize" production and to adapt the structure to the German model were undertaken immediately, but were only moderately successful. All automobile companies in Austria that were registered in 1938 maintained their legal independence until the end of the war.[103] Manufacturing had to be adapted to the wartime demands, and business with civilian vehicles came to an effective end in 1941.[104] Allied bombings in the middle of 1943 marked the beginning of the end of the war. Manufacturing facilities were relocated in an attempt to maintain the production of automobiles, aircraft and other materials that were needed for the war, but these efforts ultimately failed. The enormous combat damage was further exacerbated by dismantling and confiscation after the cessation of hostilities. Half of the asset losses suffered by Steyr-Daimler-Puch AG can be attributed to direct war damage and half to confiscations after the war.[105]

Industry Representation during the Second Republic

Reorganization and Restructuring

In light of the enormous extent of material damage and general disorientation that National Socialism and World War II left in their wake, many people at this time felt that Austria was at the darkest point in its entire history. The generation after World War I assessed its political and social situation similarly. But conditions in April 1945 could not be equated with those in October 1918, because the nation was not facing its inevitable end, but certain renewal. This readiness to start over was the only resource that Austria had in sufficient supply for its rebuilding, but was probably the most important.

A few days after the end of the war, before the general recognition of the provisional government, transitional laws were enacted to bring an end to the numbing lack of orientation and legal certainty.[106] The existing *Gau* (district) chambers of commerce were transformed into chambers for trade, commerce, industry, and financial services by means of the *Handelskammer-Überleitungsgesetz,* the Commercial Chamber Transition Law.[107] Each chamber was divided into four sections in which the trade organizations such as "industry groups" and "guilds" were combined.[108] Some industries also attempted to set up interest representation organizations similar to those that were in place before the war.

▶ The Association of the Vehicle Industry feverishly begins its work again in July 1945. ◀

The activity of a *Wirtschaftsgruppe Fahrzeugindustrie,* a Sector Group for the Vehicle Industry, is documented from April to the end of June 1945. This organization operated from the offices of the former district chamber of commerce in the House of Industry building on Schwarzenbergplatz in Vienna's third district. Starting in July, *Verband der Fahrzeugindustrie,* the Association of the Vehicle Industry, began working feverishly from the same address and would send its thirtieth memorandum to the companies in the vehicle industry by August of that year.[109] The association moved to new offices at Engelsberggasse 4 in the third district together with the other industry associations in July 1945 because the House of Industry building on Schwarzenbergplatz was occupied by the Allied Council.

The 1946 *Handelskammergesetz,*[110] the Commercial Chamber Law, created *Bundeskammer der gewerblichen Wirtschaft,* the Federal Commercial Chambers, as the umbrella organization for all chambers of commerce.[111]

At the beginning of 1947, the previously independent industry associations were incorporated into the federal chambers. A Trade Association Ordinance[112] governed the formal structure of the system, whereby a *Fachverband der Eisen- und Metallverarbeitenden Industrie,* an Association of the Iron and Metalworking Industry, was created that included the companies of the automobile industry.[113] The abundance and wide variety of the problems that had to be solved in the industries that were combined into the respective associations made it necessary to amend the Trade Association Ordinance a year later.[114] The interests of the motor vehicle industry, which had been so important for the Austrian economy in the past, were to be represented by a separate organization. *Fachverband der Fahrzeugindustrie Österreichs,* the Association of the Austrian Vehicle Industry, the seventeenth association in the industry section of the Federal Commercial Chambers, not only included manufacturers of motor vehicles, but also the manufacturers of bicycles, vehicle bodies and trailers, which had been organized in two separate associations before 1938. The association also included the companies in the "baby carriage industry," the "other vehicles and aircraft manufacturing industry," and the "motor vehicle internal combustion

engine manufacturing industry."[115] This concluded the legal proceedings for the renewal of a separate representative body for the vehicle industry, whereby the legal provisions were in effect simply a formal recognition of the conditions in the industry at the time, and did not create a new structure per se. The use of the name *Fachverband der Fahrzeugindustrie Österreichs* is documented from the beginning of 1948.[116]

At the end of the war, Austria's automobile manufacturers were faced with the question of if and under what conditions economically viable production would be possible in the future. The existing plants, which had been significantly expanded and converted for the exclusive manufacture of war materials to meet Germany's armament needs, were clearly a poor basis for peacetime production – the manufacture of civilian vehicles had been stopped during the war. A disproportionate level of war damage, dismantling and confiscation combined with material shortages made the situation all the more difficult.[117]

War damage, dismantling and confiscation coupled with material shortages make operations difficult for the Austrian vehicle industry after the war.

It was clear to the government and to all economic experts and manufacturers that the decision that had to be made would lay the groundwork for the medium- and long-term structural and product policy. Because of the urgency of the situation, fundamental considerations had to make way for "first aid measures." Repairs were begun on the existing vehicles, most of which were in horrible condition. At the end of 1946, approximately one-third of the reduced Austrian vehicle pool was not roadworthy.[118] This dictated the second urgent task, namely the replenishment of vehicles. All plants began with the manufacture of trucks and tractor units to meet the needs of Austrian business. The extreme difficulties that the vehicle industry faced are reflected in the fact that production only reached ten percent of that of 1937 in the first year after the war, while the average for industry as a whole was between twenty and twenty-five percent.[119]

In working to solve these problems, the companies often wavered between joining forces with others and going it alone. Under these conditions, the association's tradition of openly discussing the issues at hand between members was very valuable; all involved parties tried to clarify their positions, and then to find a solution that was tenable for all.[120]

The first result of these talks was the formation of a kind of consortium that included all motor vehicle manufacturers, which among other things gave birth to a production agreement between Austro-Fiat, Saurer and Gräf & Stift in 1946. The companies wanted to develop a five-ton truck with a diesel engine together and present it at the Autumn Fair in Vienna in the same year. The schedule was too ambitious, however, and the joint project was never realized. As the economy recovered, the market chances improved for all of the individual companies, and they took long-term industry considerations less and less into account in making their strategy decisions.

Even though structural policies were decided individually by each company at this point, the trade association was still an important forum for tackling industry-wide problems. In addition to the determination of the vehicle types to be manufactured, the success potential for Austrian passenger car production was discussed for many years. Even though these talks did not have a positive outcome, this can be attributed less to the oft-cited "egotism" of the individual companies and more to the interplay of various economic, political and even psychological factors.

While Steyr included passenger car manufacture as the third focus of its product planning after the war, material shortages and above all the lack of suitable machines, which could neither be built in Austria nor procured from elsewhere at the time, made it impossible to begin the production of such vehicles.[121] The economic hardships experienced after the war also led most to see passenger cars not as a necessary consumer good, but as a luxury article. In addition, the booming worldwide demand for commodities of all kinds made it seem practical

Figure 16: Josef Gräf, Walter Hitzinger (Saurer) and Hans Lidmansky (ÖAF), from left to right, with a model of the planned joint type "Wien," photo after 1946

to invest additional resources into the production of various raw materials, whereby Austria could employ the large companies it had established during its annexation and could thereby secure a large number of jobs.

The Americans' intentions for the use of the funds from the European Recovery Program that were provided to Austria also went in this direction. Warnings that Austria could not hold its own against foreign competition as a producer of commodities over the long term because of its limited supply of raw materials and the suggestion that the country should therefore invest more in the manufacture of consumer goods went unheard at the time.[122] Industry adapted to the distorted demand structures that resulted from the consequences of the war.

The Association of the Austrian Vehicle Industry assumed its official duties during this phase of rebuilding and restructuring in the Austrian vehicle industry. On January 17, 1949, the executive committee of the Federal Economic Chambers appointed the trade association's eleven-member association board. Paul Götzl was selected as the chairman, and Josef Gräf and Ignaz Wollmersdorfer as deputy chairmen.[123]

➤ JANUARY 17, 1949: THE ASSOCIATION OF THE AUSTRIAN VEHICLE INDUSTRY OFFICIALLY BEGINS ITS WORK. ◄

The individual responsibilities of the association were based on its legally defined duty to represent the interests of its industry, and were laid out in more detail for the first time in the general rules of procedure that were adopted by the Assembly of the Federal Chambers of Commerce in 1951. Even though the guidelines that were defined then still apply today, the focus of the association's activities has changed over the years.

The law defines an "autonomous area of activity" for the industry associations covering the representation of the professional interests of their respective members, including the conclusion of collective bargaining agreements to govern working conditions and wages. In addition, the associations are responsible for duties in an "assigned area of activity" that essentially entail involvement in economic administration in a form to

be defined more precisely in each case.[124] The industry associations are also permitted to voluntarily engage in activities that are related to their interest representation duties.

While an industry association is authorized to "submit applications and to issue expert opinions and statements where these are related to the interests of its members" in connection with all economic and socio-political issues in its autonomous area of activity, its assigned area of activity is not strictly limited. In the first years after the war, most of the association's work occurred in the latter arena. When the Allied Control Agreement laid the legal groundwork for government management of the economy in June 1946, the government set up control offices with the central responsibility of drafting a production and goods distribution plan. This work was assigned to the industry associations, because their sector-specific knowledge was the best guarantee for the optimal management of the economy.[125]

THE INDUSTRY ASSOCIATIONS ARE ENTRUSTED WITH THE CREATION OF MANUFACTURING AND GOODS DISTRIBUTION PLANS.

The extent of the problems that had to be solved was often greater than could be handled by the available work capacity. The vehicle industry was in a particularly difficult position because the existing transport and traffic resources were not nearly enough to supply the general population and the production companies. The very different number of vehicles available in the different regions also caused difficulties. Because of the low production output and the fact that imports were limited for foreign exchange reasons, the concrete needs and urgency had to be assessed carefully in each case before a vehicle was allocated; even bicycles could not be purchased without an acquisition permit.

As mentioned above, product planning was also the responsibility of the association. Product allocation negotiations had to be held in order to ensure a range of goods that corresponded to the demand and to prevent harmful competition between the member companies. Such negotiations were especially important for the manufacture of trucks and buses.

Starting in 1950, the members of the association's board were elected for a five-year term. The first constituent assembly of an elected association board of the Association of the Austrian Vehicle Industry took place on September 6 of that year; chairman Paul Götzl and deputy chairmen Josef Gräf and Ignaz Wollmersdorfer were all elected to continue their duties.[126]

The fact that the association's agendas were handled together with those of the Association of the Machine, Steel and Ironware Industry in a single office also had an effect. The secretary general of both associations was Ernst Max Hauschka. While the shared general management was beneficial in the post-war years because of the frequent overlapping of the interests of both associations, it became a hindrance later as the growth of the economy called for industry-specific policies.

At the committee meeting on November 4, 1954, where the reorganization of the industry association was on the agenda, chairman Götzl complained that the undue amount of routine work made it impossible to actively represent the industry's interests. He stressed that it was the duty of the trade association to "exercise its rights and to garner the respect that it deserves in accordance with its importance in the overall Austrian economy."[127] Instead of simply reacting to developments, the association was to lay the groundwork for targeted action by more closely monitoring the attitudes in the government ministries and the federal chamber towards problems that were important for the association. A separate association office was set up for this purpose; Hauschka remained the secretary general of this office and also managed the machine association.

The structural information that is available for the vehicle industry makes it clear why this administrative restructuring and the expansion of the association's scope of activity came in the middle of the 1950s.

Between 1950 and 1955, the rapid expansion of the economy that began at the end of the 1940s continued; the economy grew fourfold in these five years. This development is also reflected in the industry's output:

Total Austrian vehicle industry production from 1951 to 1955

	1951	1955
Trucks	2,387	6,036
Buses	408	512
Tractors	7,058	14,329
Motorcycles	35,160	68,814
Motor scooters	0	22,620
Bicycles	157,380	207,641

Source: Carl Hudeczek, Wege und Ziele der Wirtschaft Österreichs, Vienna 1958, p. 98.

The vehicle industry was also a leader in productivity growth. With an average annual increase of 14.3 percent from 1950 to 1955, it was only surpassed by the metal industry.[128]

The impressive economic strength that these numbers demonstrate created problems of an entirely different kind. The increasing shortage of qualified workers forced the individual companies to outbid each other on wages. Agreement was only reached on the guidelines for wage and salary negotiations with great difficulty. Individual companies did not hold to the agreement because of "operational needs," which caused widely varying piece rates and voluntary benefits. It is worth noting that the internal discussions covered not only day-to-day business, but also fundamental problems of wage policy including an examination of the union's strategy to boost consumption by pushing wages up, which was accepted as long as the companies were not forced to hike their prices as a result.[129] The good economic conditions also raised the question of whether or not the companies themselves should pursue an "active wage policy."[130]

The prosperity reflected in the profits of the early 1950s belied changes that were occurring in the demand structure on the world market. Competition was heating up in all product segments with the exception of two-wheeled vehicles. Customer preferences were also shifting more and more from motorcycles to small cars, which increased pressure on the market from the demand side. The decision made in 1951 to strengthen international contacts shows that the association was aware of this development.[131] But these fledgling structural observations were not followed up on by concerted action. There was no cooperation, and none of the companies engaged in joint product planning to fully leverage their individual potential; joint distributors in countries outside of Austria also remained a dream. When the first Austrian small car hit the market in 1957, the foreign competition had a lead of roughly two years.[132]

➤ COMPETITIVE PRESSURE INCREASES NOTICEABLY, AND A TREND FROM MOTORCYCLES TO SMALL CARS CAN BE SEEN. ◀

While initial successes rewarded the individual companies for their go-it-alone strategies, stagnating sales and profits after 1956 revealed the structural weaknesses of the Austrian vehicle industry. The domestic market was largely saturated with certain products such as tractors, and advancing liberalization brought more and more pressure from imports (trucks and buses).

In his first statement on the future focuses of the association on the occasion of his appointment as new chairman on June 26, 1958, after the passing of chairman Paul Götzl on December 23, Richard Ryznar stressed the urgent need to integrate the Austrian vehicle industry into the European market that was beginning to crystallize. This would form the basis of all other activities, such as involvement in tariff negotiations and other work.[133] The coming years would prove his assessment to be correct.

Figure 17:
Puch 500, „more modern than ever," advertisement for 1969 model year

It became ever clearer that the capacity increases of recent years had created a production volume that simply could not be absorbed by the domestic market because of the continually growing volume of imports. At the same time, increasing material and wage costs were cutting into the companies' profits. The present structure of the Austrian vehicle industry could not be held, and the companies were forced to implement rationalization and concentration measures. It had especially come to ruinous competition between the Austrian heavy truck and bus manufacturers. In 1959, the renowned Österreichische Saurerwerke AG was forced to give up its independence because of the growing competition in the heavy truck segment. Steyr-Daimler-Puch AG acquired a majority shareholding.[134] In 1970, Gräf & Stift merged with Oesterreichische Automobilfabrik AG.[135]

While this structural change took place beyond the control of the association, it still attempted to influence the conditions under which it occurred. It was especially important to ensure a sensible development of wages, and pressure in this direction was exerted by the association in its function as a negotiating partner for the collective bargaining agreements. The association was also involved heavily in discussions on Austrian customs policy, and played an important role in shaping this key area at the dawn of the common European market. Overall, the initiatives that the association undertook show that it constantly strove to make the most of its autonomous area of activity.

➤ THE ASSOCIATION'S ACTIVITIES FOCUS ON COLLECTIVE AGREEMENT NEGOTIATIONS AND LAYING OUT GENERAL BUSINESS AND LEGAL CONDITIONS. ◄

When assessing the activities of the association and its successes and failures, it is important to take its internal structure into account. Unlike its predecessor the Association of Automobile Industrialists, the Association of the Austrian Vehicle Industry represented not only the interests of the Austrian companies involved in the engineering, prototype manufacture and industrial manufacture of motor vehicles (cars, trucks, buses, motorcycles

and tractors) and parts for them, but also the manufacturers of trailers and vehicle bodies, bicycles, other road vehicles and also the industrial vehicle repair shops and aircraft builders.

One of the focuses of the association's work was on social law. In its function as a collective agreement partner, the association was responsible for holding the required wage and salary negotiations, for helping to solve all problems related to labor law and for coordinating its negotiation objectives with all other affected industrial industry associations. These responsibilities were handled by a Labor Law Committee, which went by the name of the Association Wage Committee before 1975.

➤ MEMBERSHIPS STRENGTHEN INTERNATIONAL COLLABORATION. ➤

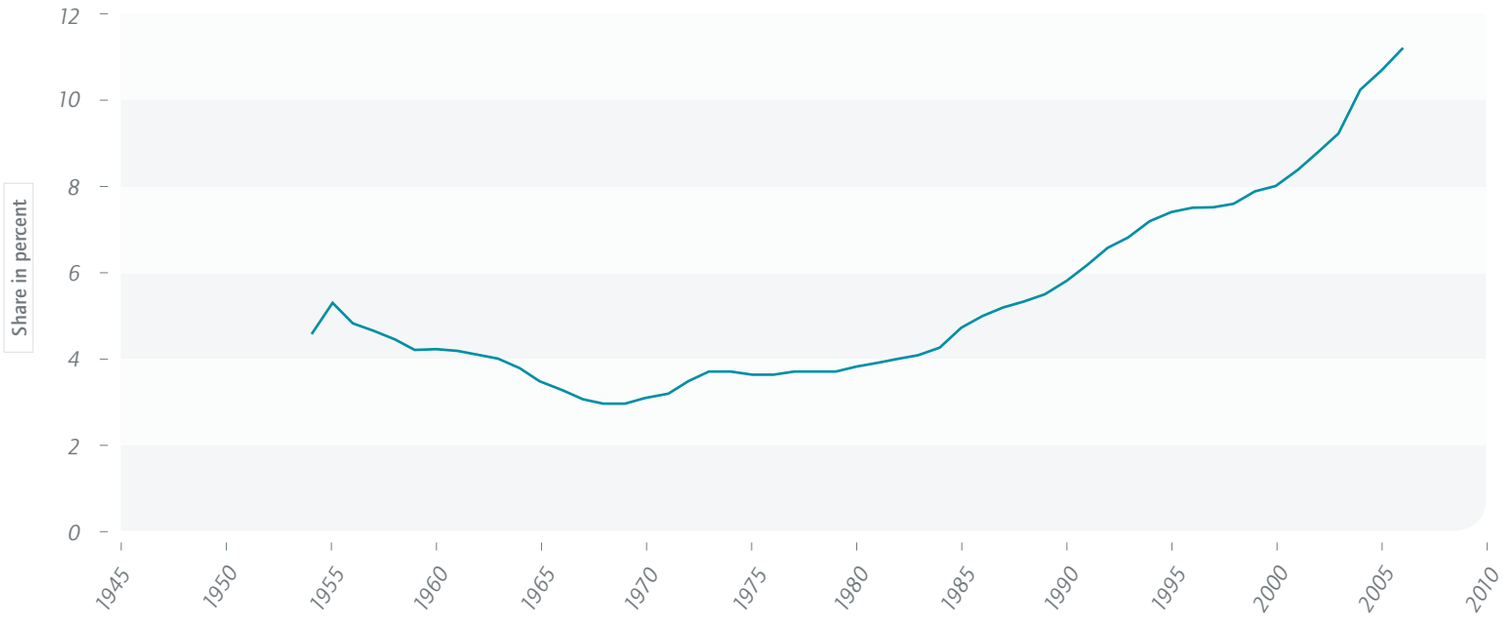
A very important responsibility of the association is ensuring contemporary and appropriate motor vehicle laws (the Motor Vehicle Act and its Implementation Ordinance, the Tank Truck Law and the Road Traffic Law). Other areas of responsibility include the Hazardous Goods Road Law, the International Carriage of Dangerous Goods by Road Agreement and the vehicle liability insurance premiums.

Another area of activity is the issue of delivery terms and appropriate pricing. Climbing material costs and the increased wages and salaries negotiated in the collective bargaining agreements make it necessary to make price adjustments, which are negotiated in the Price Sub-Committee of the Co-Determination Commission for Wage and Price Issues.

An important area of work was and is the monitoring of the development of tariff and trade conditions. The association was involved in the drafting of the new Customs Tariff Law in 1958 (as it pertained to motor vehicles), and also in the preparations for the gradual market liberalization and in negotiations on the "common market."

In order to further its goals of market observation and international cooperation, the association is a member of:
Bureau Permanent International des Constructeurs d'Automobiles (BPICA, Paris), which became the International Organization of Automobile Manufacturers (OICA) in 1986;
Bureau Permanent International des Constructeurs de Motocycles (BPICM, Paris), which became *Association des Constructeurs Europeens de Motocycles* G.E.I.E. (ACEM), The Motorcycle Industry in Europe, in 1986;
and the Association of the European Two-Wheeler Parts' and Accessories' Industry (COLIBI, Coventry).
The association is also involved in the tank truck workgroup of Verband der Automobilindustrie e.V. in Frankfurt am Main (VDA-AKTI).

Figure 18: Contribution of the vehicle industry to total industrial value added in Austria
(three-year average)



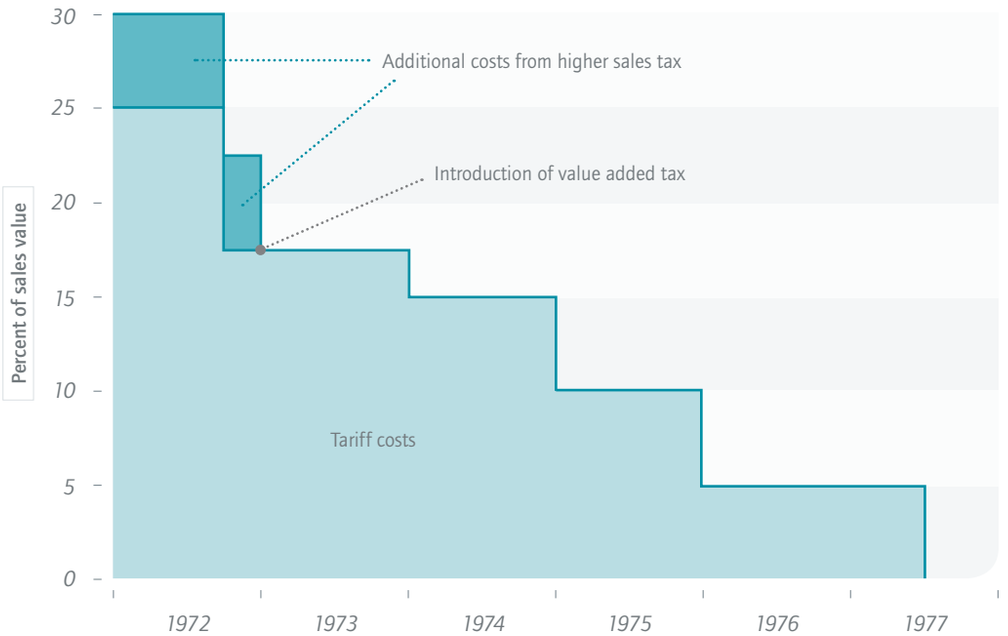
Building a Viable Automobile Industry in Austria

In spite of intensive efforts on the part of the companies and the association, the vehicle industry's share in the value creation of Austrian industry as a whole shrunk to a low of 2.9 percent in 1968, and stagnated at under four percent at the end of the 1970s *(Figure 18)*.[136] Otto Voisard, chairman of the Association of the Austrian Vehicle Industry from 1986 to 1993 and general director of Steyr-Daimler-Puch AG, attributed this development to the strong vertical integration of the Austrian vehicle industry after World War II, according to the philosophy "build everything ourselves and buy nothing from outside," whereby the focus on the small domestic market had resulted in units that were too small to succeed in international competition, "…because of this and because of the Austrian policy of putting full employment before economic efficiency, the industry lost its international competitiveness. High tariffs were imposed *(Figure 19)*[137] to compensate, but had to be reduced later under the influence of the EC…"[138]

➤ The vehicle industry's share of Austria's total industrial value added reaches an all-time low of 2.9 percent in 1968. ◄

This analysis is equally valid for the development of the Austrian bicycle industry from the 1970s onward. Driven by the fitness boom that arose from the oil price shock of 1973, as many as 1.2 million bicycles were manufactured every year in Austria in the first third of the 1970s. Well-known names such as Puch-Steyr, KTM and RWC are icons of this bicycle production boom. Output, exports and sales potential on the domestic market all doubled within a few years. But the loss of the US market in the middle of the 1970s brought about a dramatic turn that had a lasting effect on the Austrian bicycle industry. While Austrian bicycle exports fell by around seventy-five percent from some 800,000 units in 1974 to 200,000 in 1975, imports continued to increase by 60,000 units – which means that Austrian bicycles were less competitive than their international contenders. Austrian production output fell continually until it reached roughly 100,000

Figure 19: Additional costs for imported trucks compared to domestic products between 1972 and 1977



bicycles per year in the middle of the 1980s. In 1987, Steyr-Daimler-Puch AG ended the production of two-wheelers altogether. Today, KTM Fahrrad GmbH is the only successful industrial manufacturer of bicycles in Austria.

➤ Symposium on June 9, 1978, in Vienna: "Should Austria Build Cars?" ◄

The vehicle industry's share of Austria's total industrial output in terms of value was only around half that of the other western European countries around Austria in the 1970s. Hans Peter Lenz, the newly appointed chairman of the Institute for Internal Combustion Engines and Motor Vehicles at the Vienna University of Technology, took up an idea of general director Franz Geist, the former executive board chairman of ÖIAG, at the behest of federal chancellor Bruno Kreisky and held a symposium in Vienna on June 9, 1978, with the title "Should Austria Build Cars?".[139] Representatives from the Austrian business world, science and the government were invited to participate; nearly all responded positively to the start of automobile production in Austria – for different reasons – and even more spoke out in favor of the establishment of a vehicle parts supply industry. While vice chancellor Hannes Androsch's opening speech focused on the large trade deficit (ATS 73 million in 1977), which was primarily the result of car imports, general director Oskar Grünwald from ÖIAG noted in connection with the previously mentioned low contribution made by vehicle production to overall Austrian industrial output that "…Austria needs around 18,000 more jobs in the automobile industry to have an industrial structure comparable to that of other European countries that manufacture automobiles…"[140] The symposium, which was held in cooperation with the association and Section 4 of the Federal Chancellery (Economic Coordination and State-Owned Enterprises), not only generated favorable feedback in the Austrian press, but also created positive sentiment in the public and in the government for promoting automobile production in Austria. In the following years, a series of major projects was initiated and realized in the automobile sector, including a joint project between BMW and Steyr-Daimler-Puch AG for the manufacture of diesel engines in

Figure 20, top left:
BMW engine plant in Steyr

Figure 21, bottom left:
General Motors plant in Vienna's 22nd district

Figure 22, right:
June 21, 1979: Bruno Kreisky digging the first turf at the ground-breaking ceremony for the BMW plant in Steyr together with Volker Doppelfeld, Eberhard von Kuenheim and Karl Michael Malzacher.

Steyr in 1979 *(Figure 20)*.[141] Today, two-thirds of all BMW engines, roughly 700,000 engines per year, are manufactured in this plant *(Figure 21)*.[142]

In 1982, General Motors built an engine plant on the grounds of the former Aspern airfield in Vienna's 22nd district *(Figure 22)*.[143] Today, one out of every two Opel vehicles sold in the world has a piece of Austria inside it. The 2,200 employees of General Motors Austria manufactured nearly 1.5 million engines and transmissions in 2006. There are also other engine manufacturers in Austria. Bombardier Rotax develops and manufactures a wide range of engines for recreational and commercial vehicles and for airplanes, and has sold more than four million of its power plants around the world to date. KTM Sportmotorcycle AG in Mattighofen in Upper Austria, which emerged from the bankruptcy of KTM Motor-Fahrzeugbau AG in 1991, has again become a highly successful company and sells impressive numbers of motorcycles in part as a result of its motorcycle racing victories (six world championship titles in Enduro and motocross). Today, KTM Sportmotorcycle AG is the second-largest motorcycle manufacturer in Europe and will soon begin the manufacture of four-wheeled vehicles. With the KTM X-Bow roadster *(Figure 25)*[144] that was presented at the Geneva Auto Salon in March 2007, Austria now has its own automobile make for the first time in many years.

Based on the total number of engines manufactured in Austria and the number of inhabitants in the country, Hans Peter Lenz proudly opened an engine symposium at Hofburg Imperial Palace in Vienna with the words: "Austria boasts the greatest number of engines built per inhabitant in the world!".[145]

Figure 23, left: The four-passenger plane DA42 Twin Star from Diamond Aircraft Industries

Figure 24, above: High-ranking government representatives at the start of series production for the Jeep Grand Cherokee on October 4, 1994 at Steyr Daimler Puch Fahrzeugtechnik in Graz (l. to r. Ambassador Swanee Hunt, Robert A. Lutz [President of Chrysler], Federal Chancellor Franz Vranitzky, Governor Josef Krainer).

Figure 25, below: KTM X-Bow; KTM Sportmotorcycle AG's four-wheel debut at the Geneva Auto Salon 2007

In 1987, MAGNA International Inc. opened its European group headquarters in Oberwaltersdorf in Lower Austria. In 2006 MAGNA STEYR (as the company is now called) had approximately 12,000 employees in total at its 17 Austrian sites.[146]

New companies continued to settle in Austria in the 1990s. In 1991, the Chrysler Group opened the "Eurostar" plant for the Voyager and later for the Jeep Cherokee *(Figure 24)*[147] in Graz in a joint venture with Steyr-Daimler-Puch AG. In November 2006, the millionth vehicle rolled off the assembly line in the Graz plant,[148] which was taken over by MAGNA STEYR in 1998.

New companies also included an airplane builder in Wiener Neustadt, today's Diamond Aircraft Industries *(Figure 23)*.[149] The interests of engine-powered aircraft manufacturers are also represented by the Association of the Vehicle Industry.

As more and more foreign automakers set up shop in Austria, the automobile parts supply industry also grew rapidly. One example is Miba, which was founded by Franz Mitterbauer in 1927 and began specializing in the manufacture of plain bearings after World War II. Today, Miba AG is an internationally active and listed company that has built up several different business divisions on the basis of its work for international automobile manufacturers.

➤ 2000: "Austria boasts the greatest number of engines built per inhabitant in the world!" ◄

Figure 26:
Opening of the new ÖAF-Gräf & Stift AG plant in Vienna's 23rd district on May 26, 1988. Speeches were held by Wilfried Lochte (MAN), Rudolf Sallinger (BWK), Mayor Helmut Zilk, Federal Chancellor Franz Vranitzky, Richard Daimer (ÖAF) and Fritz Verzetnitsch (ÖGB)

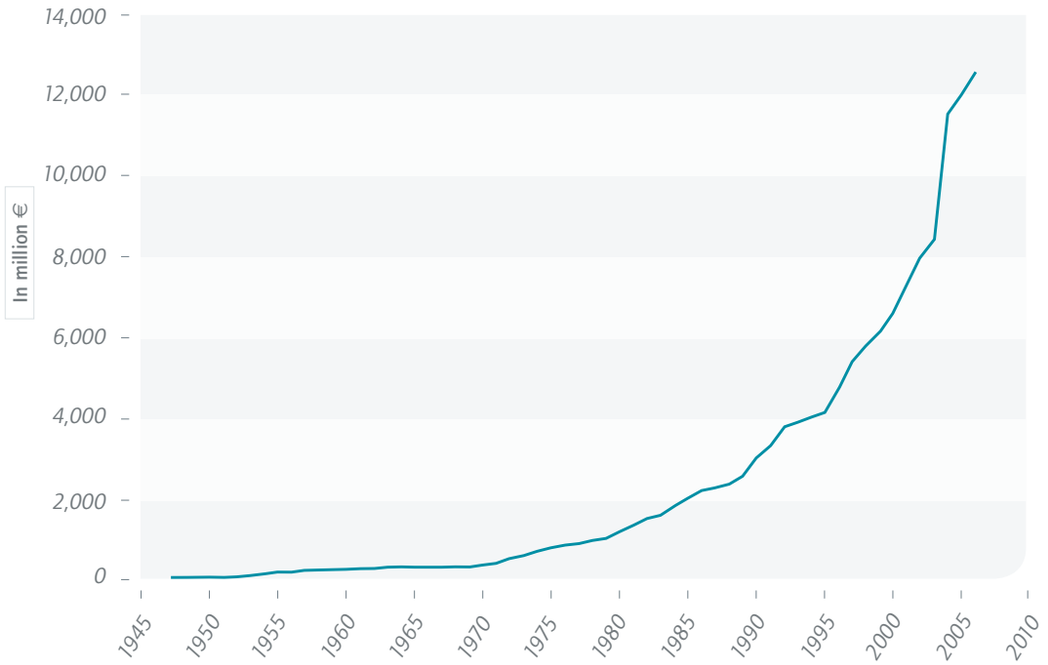
➤ THE END OF THE 1980S MARKS A MOVE TOWARDS PRIVATIZATION IN THE VEHICLE INDUSTRY. ➤

Support from the provincial and federal governments was not limited to new automotive projects; existing companies were also able to profit from the "pro automobile industry" trend. ÖAF-Gräf & Stift AG concentrated its operating facilities in Vienna with the support of the Vienna Business Agency (WWFF), and built an entirely new plant in the 23rd district that was opened in 1988 (Figure 26).[150]

In addition to the establishment of new companies and expansion of existing companies described here, the ownership structures of many companies in the vehicle industry began to change at the end of the 1980s in a trend of privatization. The Republic of Austria sold Österreichische Automobilfabrik ÖAF in Vienna's 21st district in 1970 – many years before closer ties with the EU triggered a larger wave of privatization. Austria's most prominent vehicle manufacturer, Steyr-Daimler-Puch AG with its approximately 17,000 employees, was indirectly state-owned in 1980 by way of its majority shareholder Creditanstalt-Bankverein AG (CA), which was in turn majority owned by the Republic of Austria. CA began successively selling off production segments starting at the end of the 1980s. Eighty percent of the truck segment was sold to MAN in 1989, the roller bearing segment was then sold to SKF in Sweden, the buses to the Volvo Group and the tractors to the CASE Group in America. CA's entire shares in the rest of Steyr-Daimler-Puch AG were finally sold to MAGNA Holding in 1998. The manufacturing operations for tracked vehicles in the plant in Vienna's 11th district were sold to an investor group headed by Michael Malzacher in a management buyout from MAGNA in the same year.

These and other activities boosted the vehicle manufacturing statistics in Austria, which have been collected and published in a statistical yearbook of the Association of the Vehicle Industry since 1993. As can be seen

Figure 27: Production value of the Austrian vehicle industry
(three-year average)



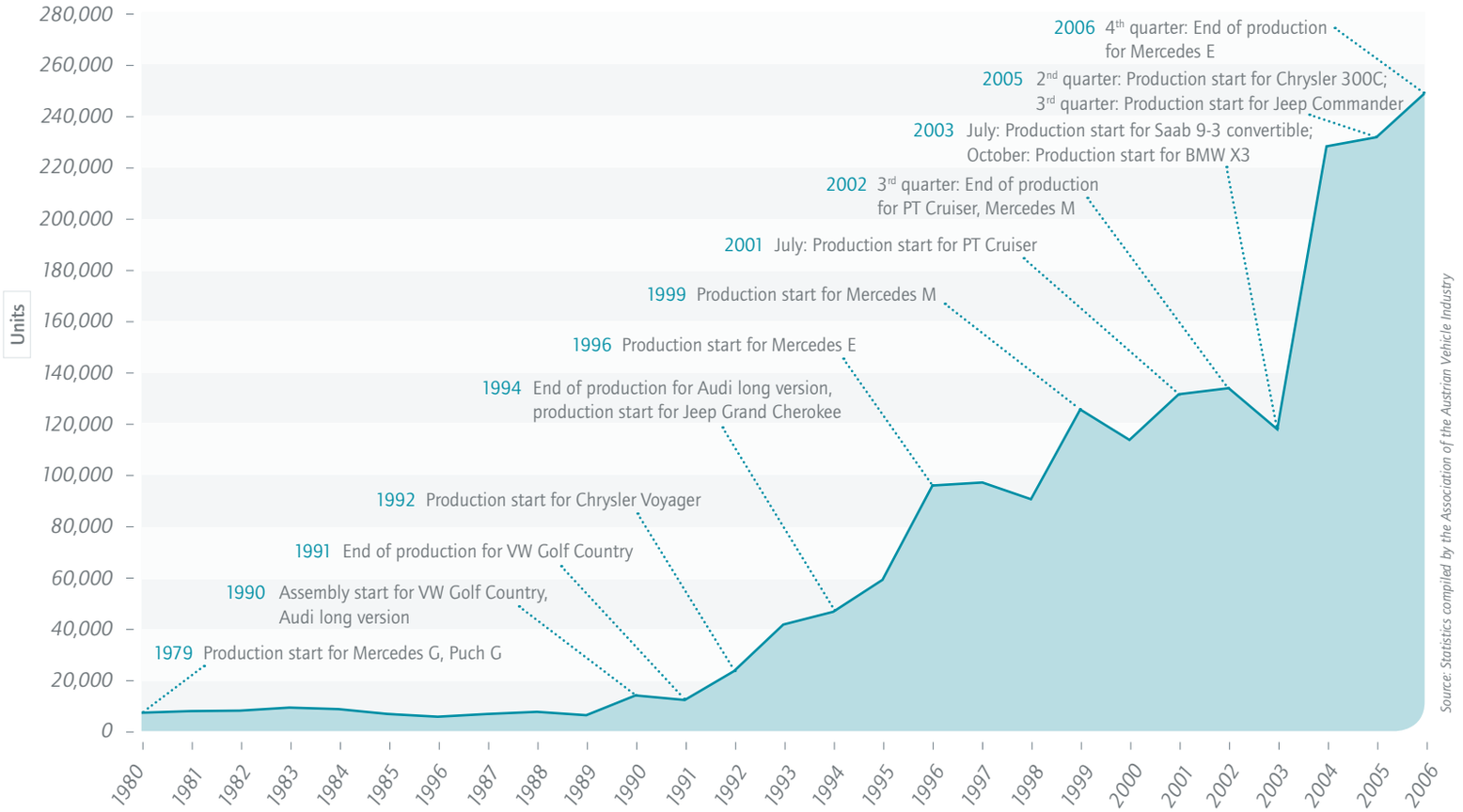
in *Figure 27,*[151] the production output of the vehicle industry in terms of value reached a volume of more than €12 billion in 2006, surpassing 1980's value by more than seven times. This output includes not only complete vehicles, but also the services of key automobile parts suppliers. Even if only completely built cars are taken into account, Austria can still be called an automaking country today *(Figure 28);* [152] over 248,000 cars were built in Austria in 2006.

➤ The Austrian vehicle industry's production volume is over €12 billion in 2006. ◄

The figures for the Austrian labor market have not been able to keep pace with this impressive increase vehicle industry productivity from the 1990s up until today. *Figure 29*[153] shows the development of the number of persons employed directly in the vehicle industry from 1946 to 2006. The graph shows that the stagnation of the 1970s and 1980s that followed the continuous increase from 1946 to 1970 was broken by the start of significant growth again in the 1990s. Roughly 35,300 persons (including 2,000 apprentices) were employed directly by the vehicle industry in 2006.

It must be assumed that the number of persons employed directly by the automobile industry will no longer increase significantly, even if new companies set up operations in Austria. This can be attributed to two factors: First, the automobile industry has significantly increased its productivity as part of its efforts to become more competitive *(Figure 30).*[154] This higher productivity means that greater production output can be achieved with fewer workers than was possible when productivity rates were lower. Second, the slower increase in the number of jobs as compared to the increase in productivity is closely related to the general structural transformation taking place in the vehicle industry in the "rich" countries of western Europe. Because of the vast differences

Figure 28: Production of passenger cars in Austria



Total vehicles 2006: 248,059
thereof Jeep Grand Cherokee 26,431; Voyager 26,867; Mercedes E 21,501; Mercedes G 4,336; Saab 18,552; BMW 113,574; Chrysler 300C 26,403; Jeep Commander 10,395

Figure 29: Employees in the Austrian vehicle industry

(three-year average)

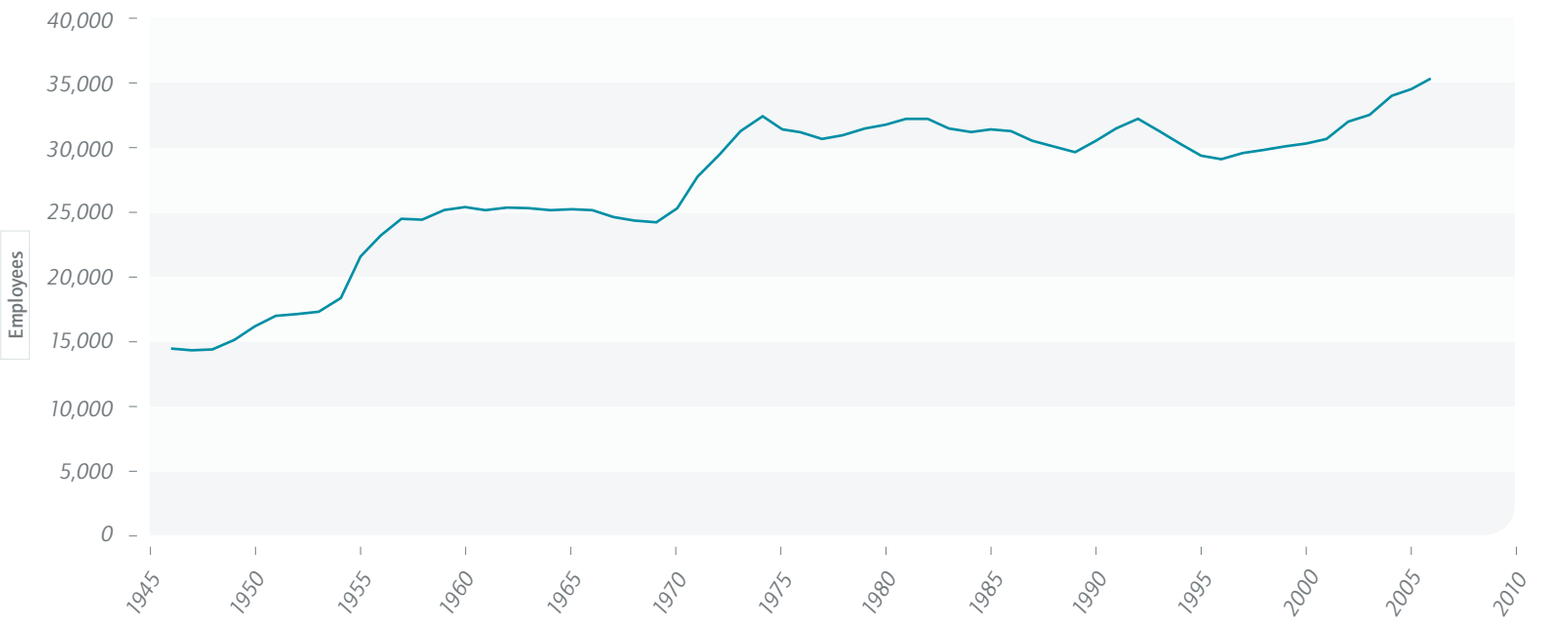
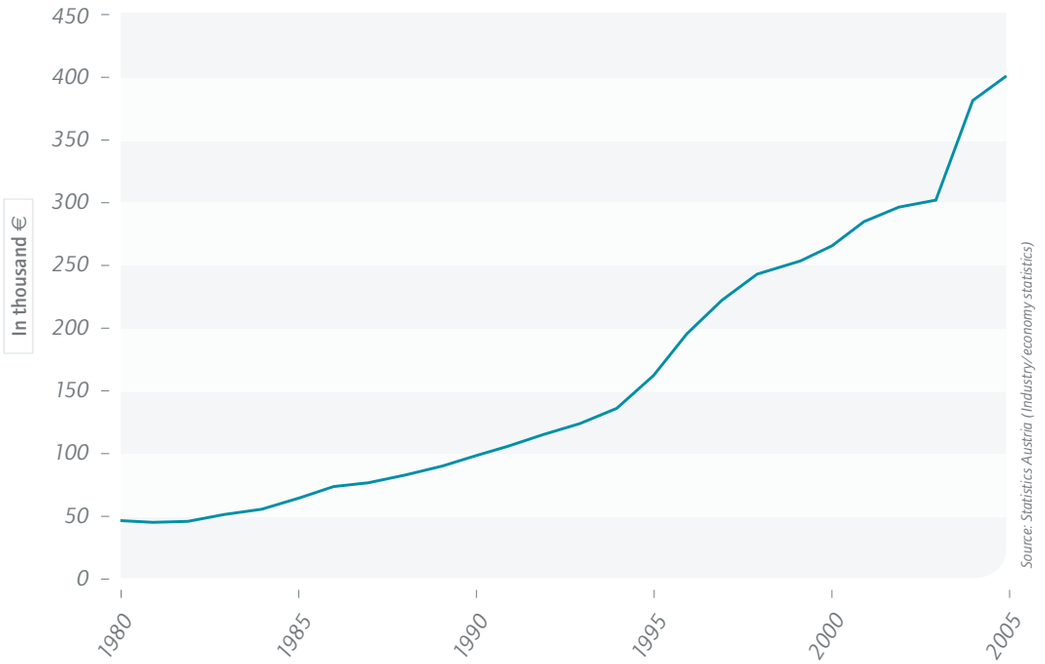


Figure 30: Productivity in the Austrian vehicle industry
(production output per employee, three-year average)



in labor costs in Europe, manufacturing has been relocating to low-wage countries since the 1990s. *Figure 31 and 32*[155] shows a comparison of wage costs and working time between countries around Austria and the USA.

Austria has one of the highest wage cost levels in western Europe and has one of the lowest levels of working time. An examination of the development of wages and salaries in Austria over the last twenty-five years *(Figure 33)*[156] shows that these have risen continually, and are still rising. The increase in these costs as represented by the average wages of a worker in the vehicle industry was greater than the inflation rate in almost every year of this period. The average pay in the vehicle industry in Austria was €1,056 in 1980 and €3,343 in 2006, 316 percent greater. The inflation rate as measured by the change in the consumer price index for the same period was 203 percent, which means that consumer prices roughly doubled.

This confirms that human resources are getting more and more expensive in Austria. As one of the social partners in the collective bargaining agreement negotiations every year, the association strives to ensure moderate increases in the prices of this resource, and as a public body is authorized to conclude collective bargaining agreements with the unions. Changes to the collective agreement must be approved by the trade association. The association has made key contributions to the modernization of the collective agreement for the iron and metal manufacturing and processing industry in recent years. These efforts can be seen in the uniform remuneration system that has applied to wage and salary earners since November 2005, and in the previous change in the advancement system from eight to five biennials. A performance-oriented component was added to the collective agreement for the iron and metal manufacturing and processing industry for the first time on November 1, 2006, so that companies can account for their individual operating conditions in awarding pay increases to their employees.

➤ Roughly 35,300 people (including 2,000 apprentices) are directly employed by the Austrian vehicle industry in 2006. ◄

Figure 31: Actual hours worked per year

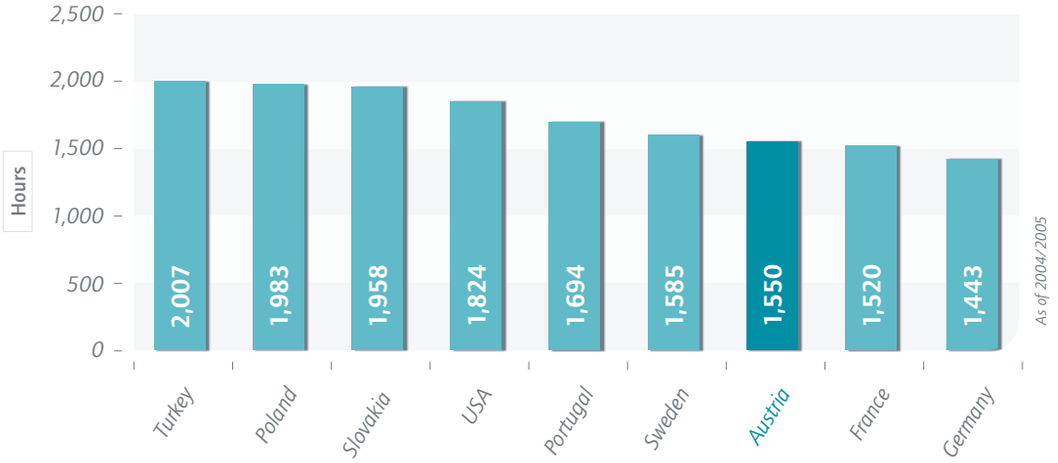
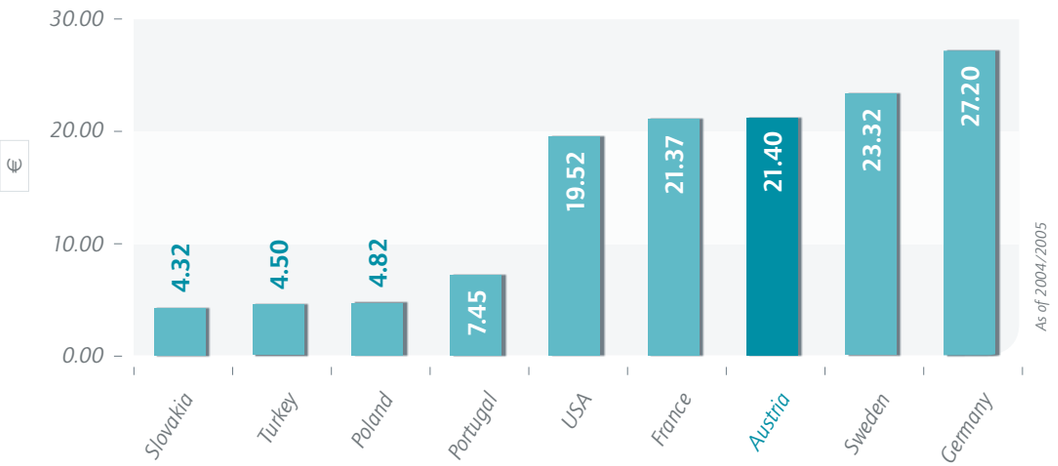


Figure 32: Wage costs per hour



➤ EMPLOYEES' QUALIFICATIONS ARE CHANGING IN AUTOMOTIVE COMPANIES. ◄

The vehicle industry naturally sets up synergistic relationships with manufacturing facilities in lower-cost countries to improve its competitiveness and to secure jobs in Austria, as can be seen in *Figure 31 and 32*.

This structural change, evidenced by increasing automation, rationalization investments in Austria and the increasing outsourcing of work-intensive manufacturing activities to neighboring countries (which has been made easier by European integration) has also brought about changes in the qualifications of the workers in the automobile companies.

A good indicator of an employee's qualifications is his or her service-group assignment. *Figure 34*[157] shows the development of these assignments for employees in the vehicle industry from 1980 to 2005. The increasing share of employees in higher service groups clearly demonstrates the increasing level of qualifications that employees in the industry bring to their jobs. The jobs "lost" to outsourcing must be replaced with more

Figure 33: Wage and salary development in the vehicle industry in Austria and inflation rate (change over previous year)

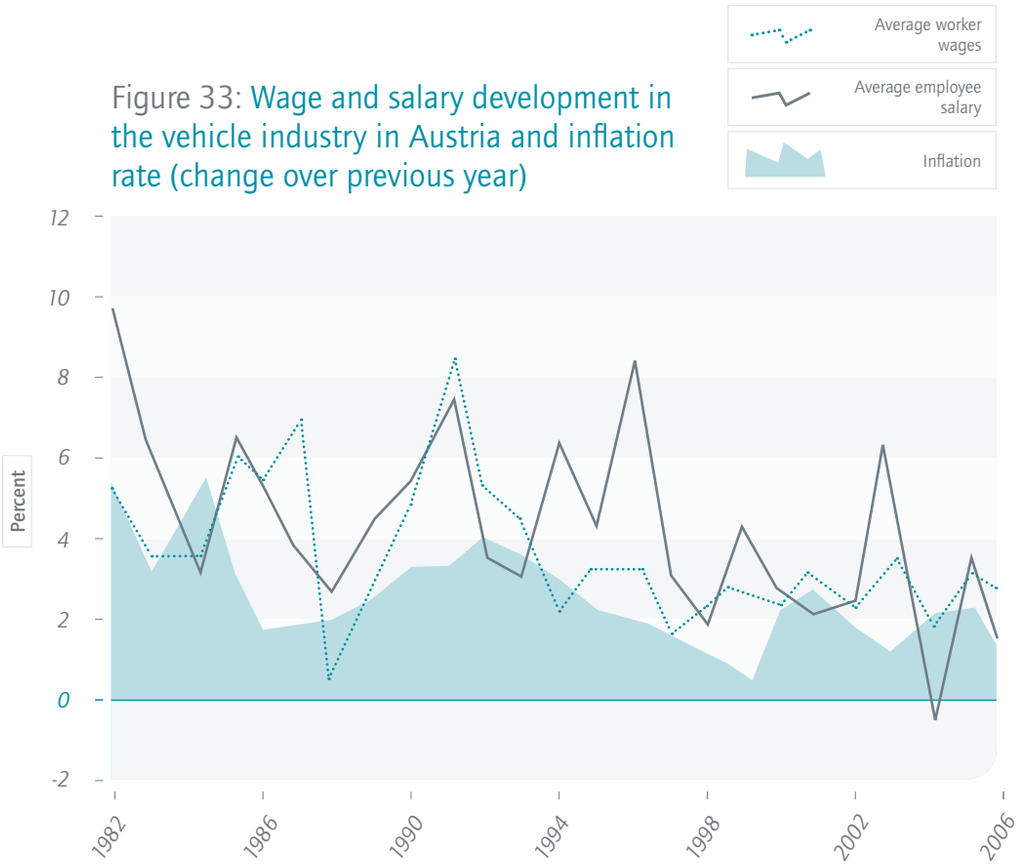


Figure 34: Employee qualifications in the vehicle industry
(I = low qualifications, VI = high qualifications)

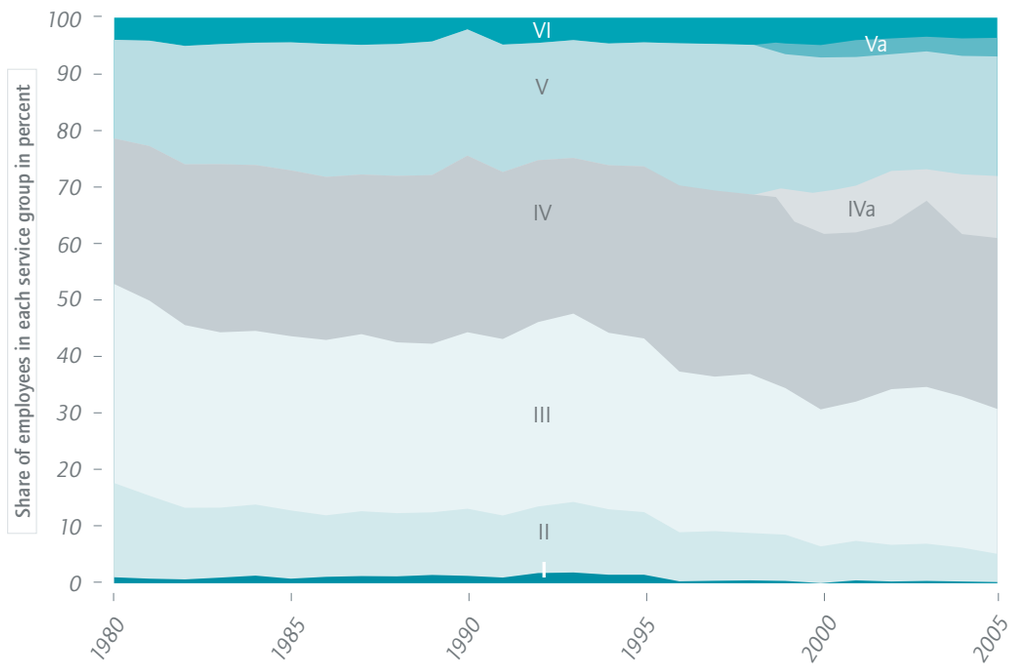


Figure 35, left:
Rosenbauer PANTHER 8x8 airport fire engine

Figure 36, right:
Magna Steyr demonstrated its competence as a development partner for the entire vehicle at the IAA 2005 with its MILA (Magna Innovative Lightweight Auto) concept car

highly qualified positions to maintain Austria's prosperity. The development in the vehicle industry shows that this process is actually taking place. Association members such as AVL in Graz and the engineering unit of MAGNA *(Figure 36),*[158] which are primarily active in research and development, and other members that are known for their particularly high level of innovation such as Rosenbauer, Lindner and Remus-Sebring are good examples of this.

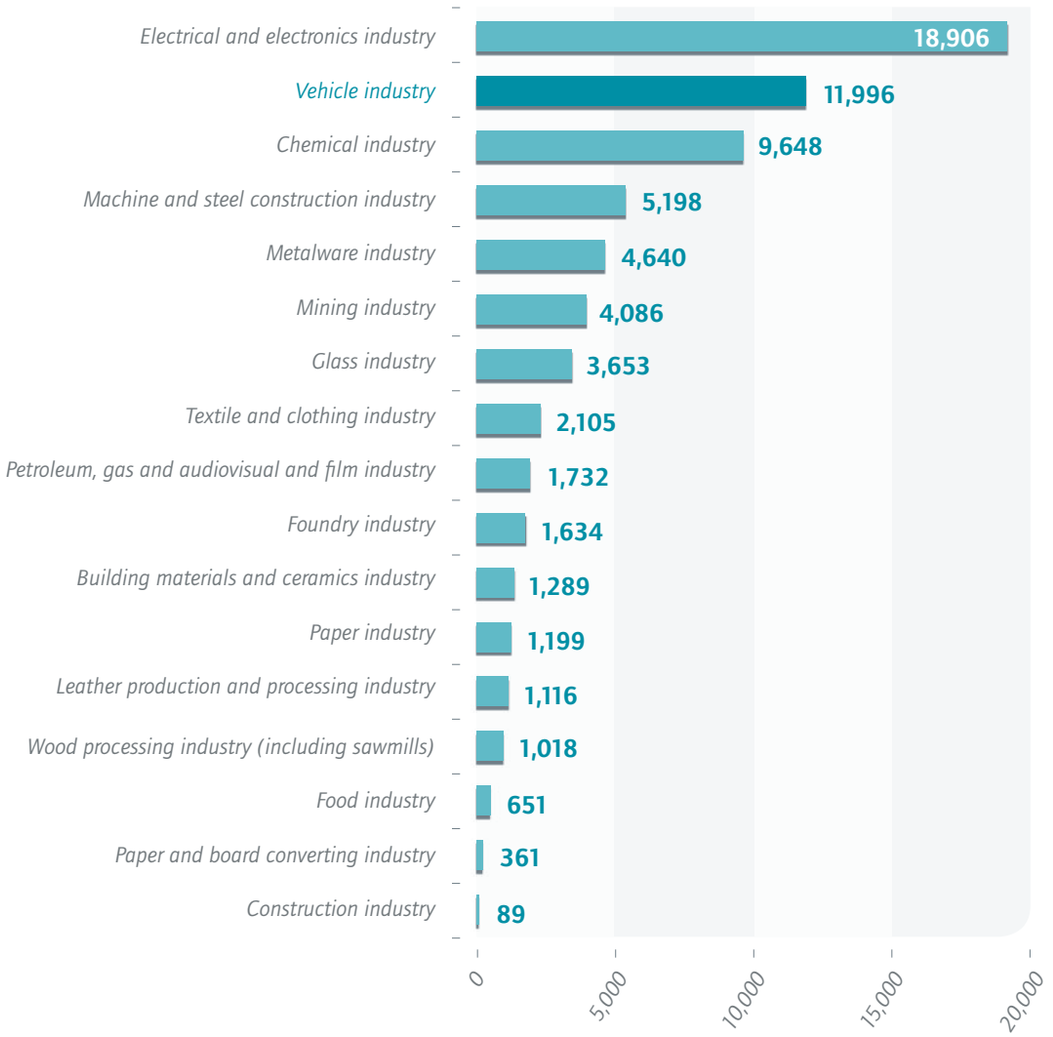
Rosenbauer celebrated its 140th anniversary in 2006 and has grown from its beginnings as a small trading company in Linz to become the world's second-largest manufacturer of high-tech fire fighting vehicles *(Figure 35).*[159] The traditional family-operated business Lindner Traktorenwerk GmbH in Tyrol has won numerous Austrian innovation prizes. Remus-Sebring from Bärnbach in Styria was founded in 1990 and has transformed itself from a leading manufacturer of sport exhaust systems into a professional development partner for sound design and particle filters, among other things, and now supplies components to international automakers.

➤ THE JOBS "LOST" TO OUTSOURCING ARE REPLACED WITH MORE HIGHLY QUALIFIED POSITIONS IN AUSTRIA. ◄

The vehicle industry has one of the highest levels of innovation in Austrian industry and invests roughly €12,000 per employee per year in research and development *(Figure 37).*[160]

Alongside innovative strength and employee qualifications, suitable programs for worker training and further education are especially important in the automobile industry. Universities of applied sciences have been established in Austria to fulfill these educational demands. The first curriculum of this type was the mechatronics program that was introduced in 1994 in Wiener Neustadt, and the second the Automotive Engineering program that was started at Joanneum University of Applied Sciences in Graz in 1996. Educational opportunities have also improved as the academic universities in Vienna, Graz, Linz and Leoben have increased their "automotive" offerings.

Figure 37: Research and development spending per employee in Austrian industry (as of 2004)



The Association of the Austrian Vehicle Industry has supported initiatives for training and further education in its area for many years, and also actively promotes cooperation between science and the business community. This is intended on the one hand to ensure that young workers have the best possible education for the vehicle industry, and on the other to communicate to the academic community that the vehicle industry is a reliable employer. Since 1983, prizes have been awarded from the funds of the *Fachverband Jubiläumsstiftung*, the Association Anniversary Foundation, for the best dissertations and theses by students at Austrian universities that can be used by the Austrian vehicle industry. Monetary prizes totaling €28,000 are paid out every year. Work in the interests of the vehicle industry at universities of applied sciences is also supported with an additional €12,000 per year. *Figure 38*[161] shows some of the winners of the prize in 2004 at the award ceremony at the Vienna University of Technology on June 28, 2005.

➤ The Association of the Austrian Vehicle Industry supports training and further education initiatives and promotes cooperation between science and business. ◄

Figure 38:
Association Anniversary Foundation Prize award ceremony at the Vienna University of Technology on June 28, 2005

ELEVEN PERCENT OF ALL EMPLOYEES IN AUSTRIA WORK IN JOBS ASSOCIATED WITH THE AUTOMOBILE.

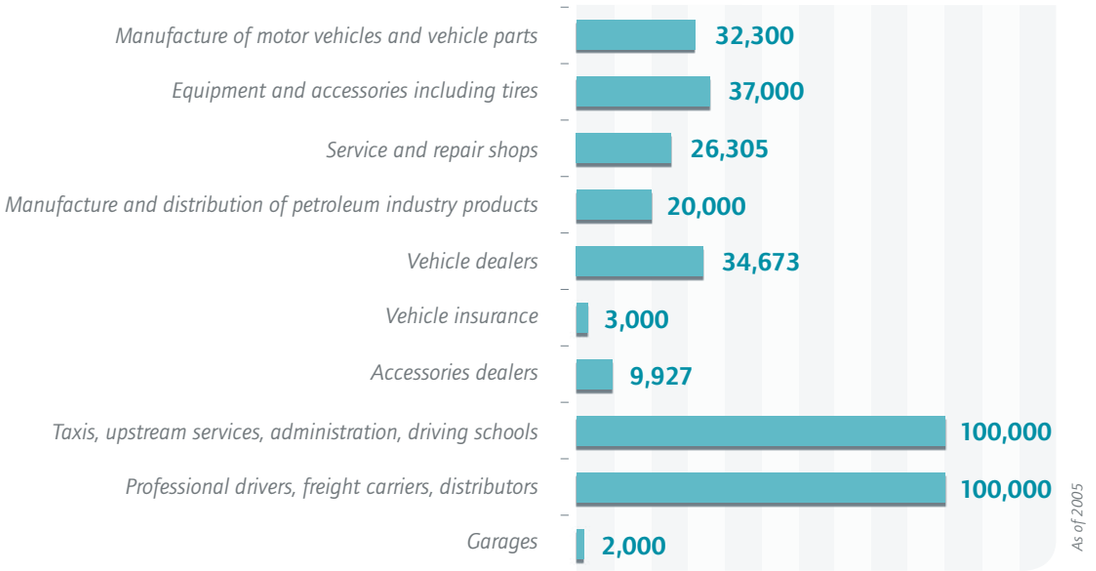
The figures listed above for the number of persons employed in the vehicle industry do not include upstream or downstream automotive sectors such as car dealers, vehicle repairs, insurance, filling stations, garages, chauffeurs and freight carriers. Taking these sectors into account, more than 360,000 people *(Figure 39)*[162] have jobs that are associated with the automobile. This accounts for roughly eleven percent of all gainfully employed persons in Austria. If we also take into account the persons who are supported by these workers such as children, spouses and other persons, the number of persons living from the vehicle industry increases to roughly 700,000. This means that every tenth person in Austria lives from automobiles!

The association's work also has an impact on these upstream and downstream industries, at least indirectly. This is especially true for the vehicle repair businesses. According to a decision by the Administrative Court in 1971, a vehicle repair business can also qualify as an industrial operation.[163] This makes vehicle repair an agenda of the association.

The association provides its members with a valuable basic service in the form of non-binding association recommendations. The terms and conditions of repair for the industrial vehicle repair companies in the association are coordinated with the Office for Consumer Issues in the Federal Chancellery, the two national motoring clubs ARBÖ and ÖAMTC, and the Association for Consumer Information. Company representatives and the association office make an important contribution to the compilation of the Eurotax price calculation and painting books by applying their expert knowledge to the definition of costs for paint work and body damage.

In 1971, an amendment to the 1967 Motor Vehicle Act made it possible for businesses to complete the regular vehicle inspections required by section 57a, and authorized associations to inspect certain types of vehicles. This made it possible for industrial repair businesses to complete these inspections. Since then, company spe-

Figure 39: Automobile-related jobs



cialists and the association have been involved as experts in the permanent adaptation of the requirements and inspection instructions for this work. An important result of these efforts was a Ministry of Transport decree making the inspection and evaluation catalog a valid practical working guideline for the completion of these required inspections by member companies. The association has done similar basic legal work in the drafting of the terms of delivery and sale upon which the transactions of member companies are often based.

In light of the number of persons who are directly or indirectly dependent on the vehicle industry in Austria today, this industry can rightfully be called a key driving force in the Austrian economy and accounts for a large share of the positive economic growth and prosperity that Austria enjoys. This prosperity has caused a rapid increase in the number of vehicles in Austria *(Figure 40)*,[164] which reached an all-time high of over 6.2 million road vehicles in 2006. With 500 cars per 1,000 inhabitants, vehicle prevalence in Austria is in line with the western European average *(Figure 41)*.[165] This graph shows the empirically documentable relationship between available mobility and prosperity. And prosperity is not only a result of the work of the persons employed in the vehicle industry and their purchasing power, but also of the taxes paid by the vehicle industry itself and the taxes and other fees paid in connection with the use of vehicles and roads.

➤ TODAY, THE VEHICLE INDUSTRY IS RIGHTLY RECOGNIZED AS A KEY DRIVER OF THE ECONOMY AND PLAYS A MAJOR PART IN AUSTRIA'S AND PROSPERITY. ◄

As traffic density in Austria has increased, so have the voices speaking out critically against motor vehicles and their use. In response to this development, the Automobile Importers section of the Federal Automobile Dealers' Commission in the Federal Economic Chamber documented the positive contribution of the automobile to Austrian tax revenues in the 1993 brochure *"Autos: Wolf oder Lamm?", "Cars: Wolf or Lamb?" (Figure 42)*.[166] Irrespective of an at times polemic discussion of the positive or negative contribution of the motor vehicle to Austria's economy, one of the most important elements of the association's work in its role as a negotiator between the vehicle industry and lawmakers is dealing with the effects of increasing traffic. In this, it quickly

Figure 40: Growth in the number of motor vehicles in use in Austria

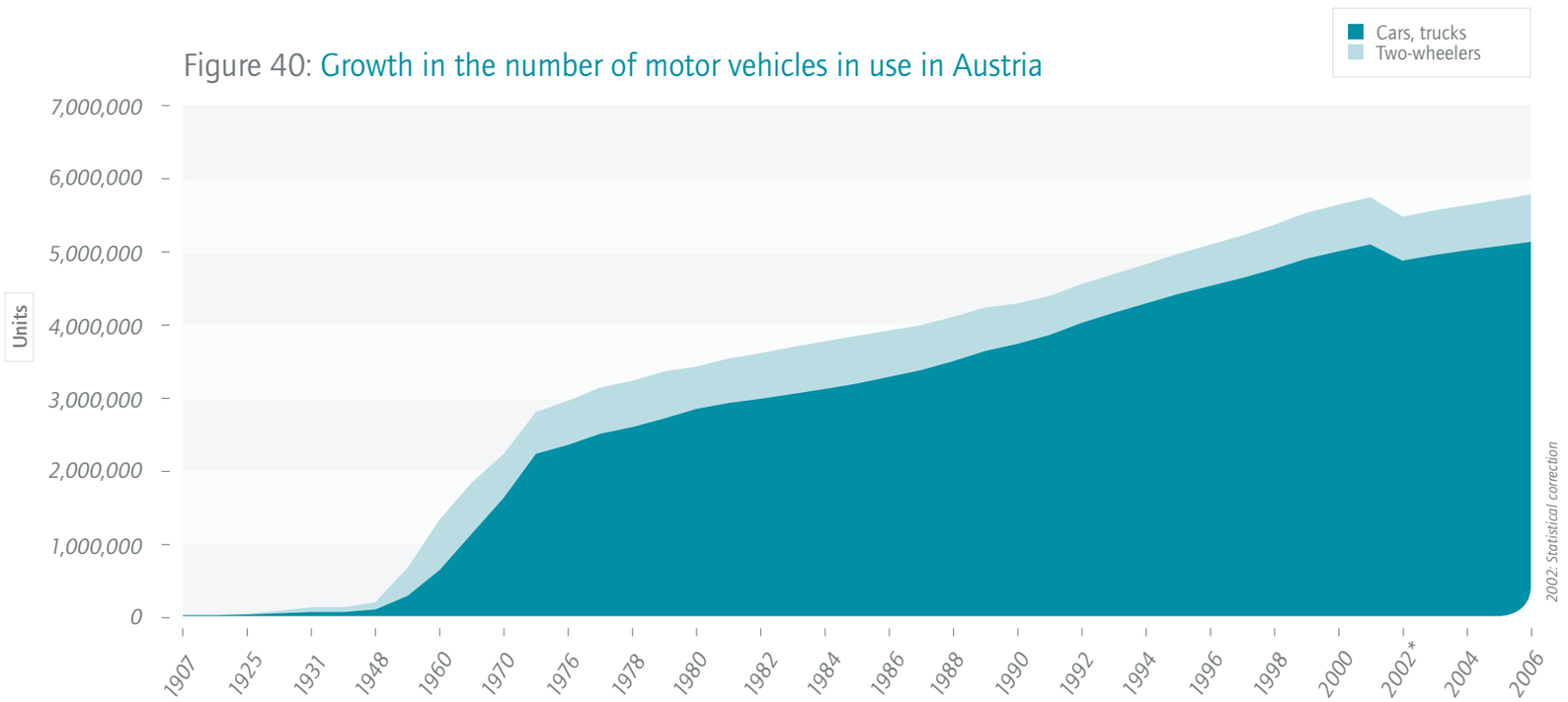


Figure 41: Vehicles per inhabitant, a measure of prosperity?

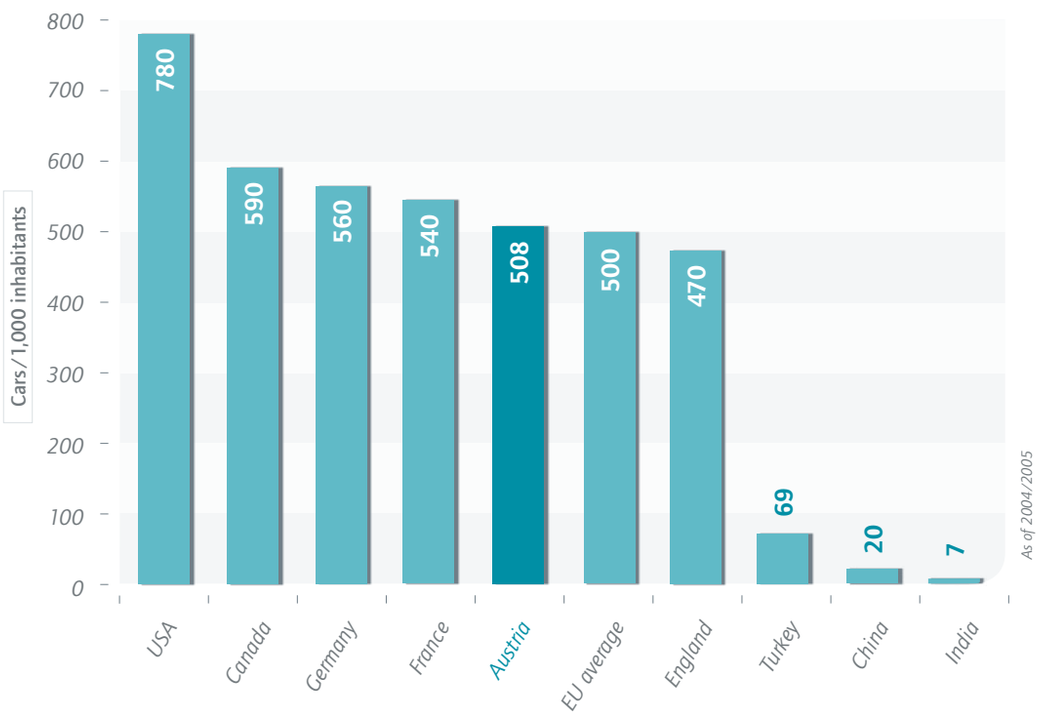


Figure 42:
From the brochure of the Austrian Automobile Importers 1993: "Cars: Wolf or lamb?": „Drivers pay more than they cost."

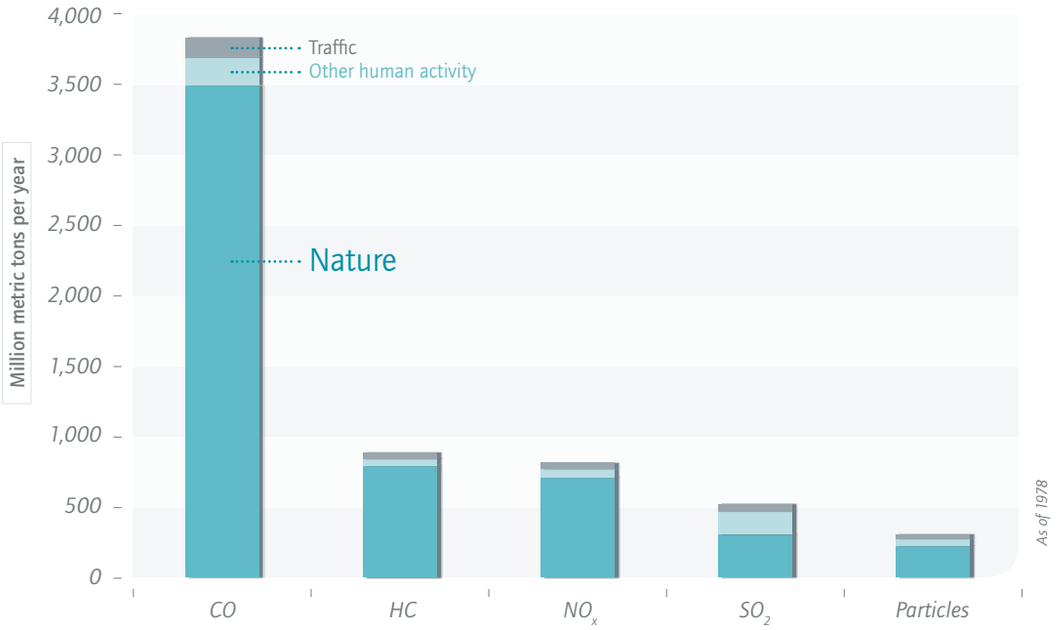
became apparent that the creation of uniform binding legal regulations for all competitors was very important for the industry.

The rapid increase in road traffic in the 1970s made it necessary for the association and its members to deal intensively with the environmental topics of exhaust emissions, noise emissions and energy consumption and with the topic of traffic safety to preserve the level of mobility that had been attained. To this end, the association decided in 1991 to concentrate all environmentally-relevant agendas in an Environment and Traffic Policy working group. This working group drew up a Sector Environmental Concept and also wrote a motor vehicle handbook for vehicle repair businesses.

THE ASSOCIATION COMPLETES AN INTENSIVE EXAMINATION OF ENVIRONMENTAL ISSUES.

The discussions on exhaust emissions from vehicles center on the components carbon monoxide (CO), unburned hydrocarbons (HC), nitrous oxide (NO_x), sulfur dioxide (SO_2) and solids (soot, lead and dust). These substances are in no way alien to nature or caused solely by human activity. Nature is the largest emitter of nearly all of these substances *(Figure 43)*.[167] It has been determined, for example, that the oceans are responsible for a large share of the world's carbon monoxide emissions. A study in America in the 1970s estimated that three major volcanic eruptions released more solids and gases into the atmosphere than all human activity up to that point.[168]

Figure 43: Sources of worldwide emissions



Stoff	Formel	MIK_D-Wert	
		[ppm]	[mg/m³]
Kohlenmonoxid	CO	8,7	10,0
Benzol	C_6H_6	0,0...	0,0...
Methanol	CH_3OH	2,3	3,0
Stickstoffdioxid	NO_2	0,05	0,1
Schwefeldioxid	SO_2	0,08	0,2
Bleitetraäthyl	$Pb(C_2H_5)_4$	–	0,0002
Ozon	O_3	0,01	0,02

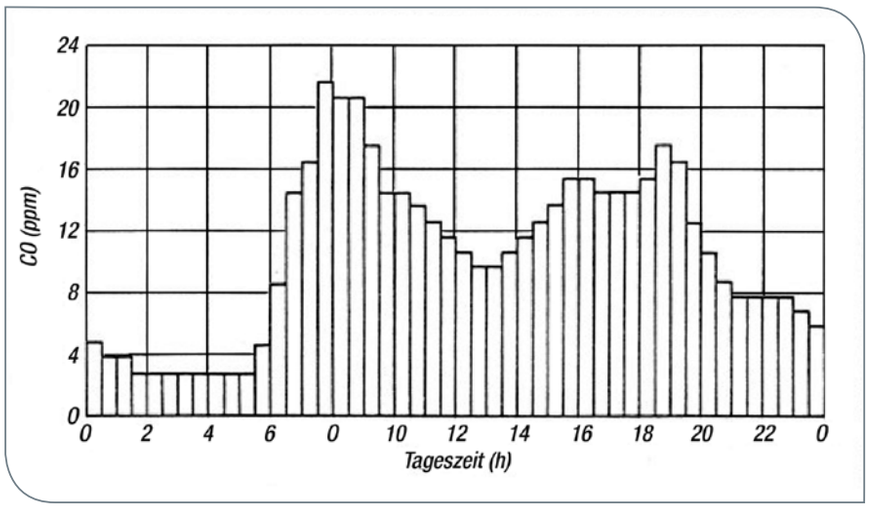
Figure 44:
Maximum immission concentration values for various exhaust components

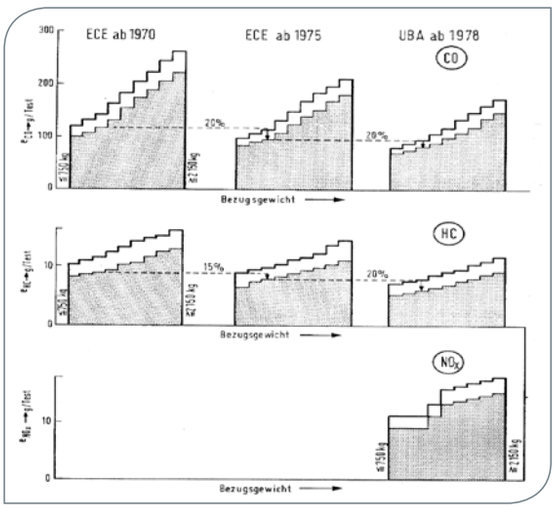
In addition to the at times tendentious debates about the harm caused or not caused by automobile exhaust,[169] targeted scientific studies into the health effects of specific exhaust components were begun. These studies led to what are considered maximum acceptable levels of individual exhaust components in the air at which it can be assumed that sustained exposure will have no negative effect on health (maximum immission concentration or MIC values). The levels of some of these components are shown for lifetime exposure in 1978 in *Figure 44*. [170] The maximum acceptable concentration (MAC value) at the workplace is limited by law in Austria.[171]

Increasing public and government awareness of the issue of traffic and the environment spurred considerable research activity in Austria in the 1970s. Immission measurements in high-traffic areas in Austria *(Figure 45)*[172] revealed that action needed to be taken to reduce the levels of certain harmful components in the air because the actually measured values exceeded the limits that had been determined to be safe. At this time, most but not all of the blame for this problem was assigned to road traffic in high-traffic areas. The studies that were conducted at the time in Austria and elsewhere came to the conclusion that exhaust emissions from vehicles needed to be reduced to prevent immission limits from being exceeded on a local basis. Because passenger cars were felt to be a major source of the overall emissions, efforts initially concentrated on reducing emissions from these vehicles, but other vehicle categories came under scrutiny as time went on.

➤ Extensive research activity begins in Austria in the 1970s. ◄

Without going into the detailed technical possibilities here, the vehicle industry quickly realized that the reduction of emissions from motor vehicles would entail high development costs and additional manufacturing costs. On the other hand, this new challenge was an opportunity for the vehicle industry to innovate and attain a new position on the market.





Europe's Impact

In 1971, the exhaust components carbon monoxide, unburned hydrocarbons and nitrous oxide were limited by law for passenger cars in Europe. These limits came into effect in Austria on September 29, 1972. *Figure 46*[173] shows the exhaust limits as they applied in Austria in 1977, and a proposal for the Federal Republic of Germany from 1978. Unlike the exhaust laws in America, which imposed maximum pollutant emissions per car per kilometer regardless of vehicle size, European lawmakers chose to implement a system of emission limits in accordance with vehicle weight.

The regulations for the reduction of exhaust emissions from motor vehicles in Austria are contained in the Motor Vehicle Act and its Implementation Ordinance. Between the time when provisions concerning the exhaust emissions of cars were first introduced in 1972 and the end of 2006, the Motor Vehicle Act had been amended a total of twenty-five times and the Motor Vehicle Act Implementation Ordinance forty-four times, whereby stricter exhaust regulations were often the reason for the various changes. The association had to invest extraordinary effort into studying and commenting these two amendments per year on average, some extensive, and into coordinating the sometimes diverging opinions of its member companies on these amendments.

The fact that the Austrian lawmakers stipulate significant, complex and cost-relevant vehicle characteristics puts the association in the difficult position of representing the vehicle industry by communicating to the lawmaker what is feasible and what is not in a convincing manner, especially concerning the time required to implement the regulations, while at the same time respecting the legitimate interests of the Austrian citizens in protecting the environment.

Figure 45, left:
Average CO concentration over a typical workday on Währinger Straße in Vienna, winter 1976/77

Figure 46, right:
Car emission limits in 1978

➤ Regulations on the reduction of vehicle exhaust emissions are incorporated into Austrian motor vehicle law and the ordinances enacted to enforce this law. ◀

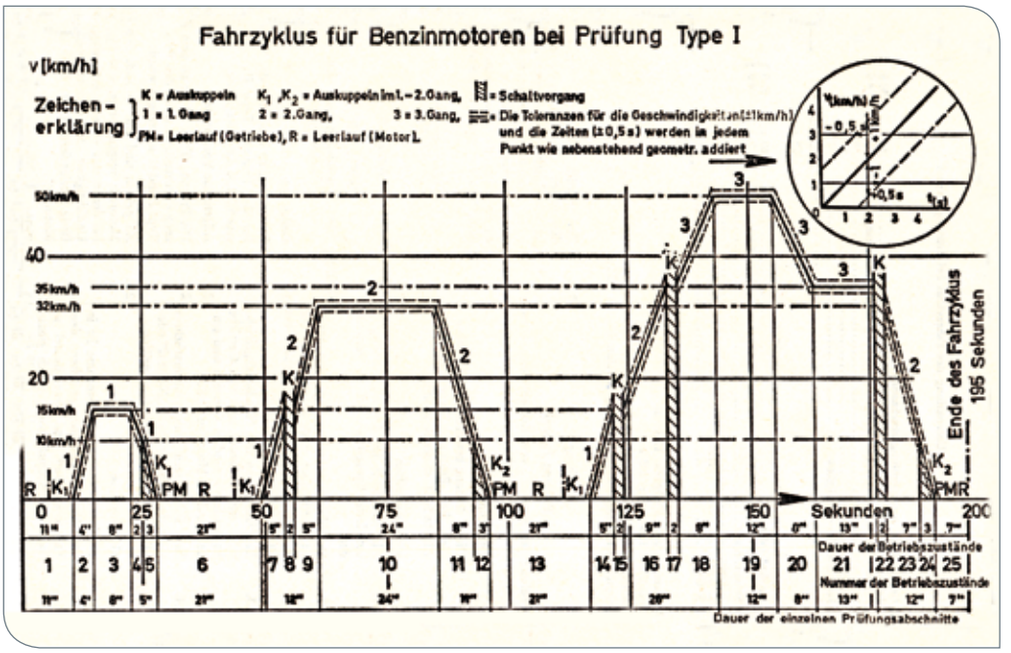


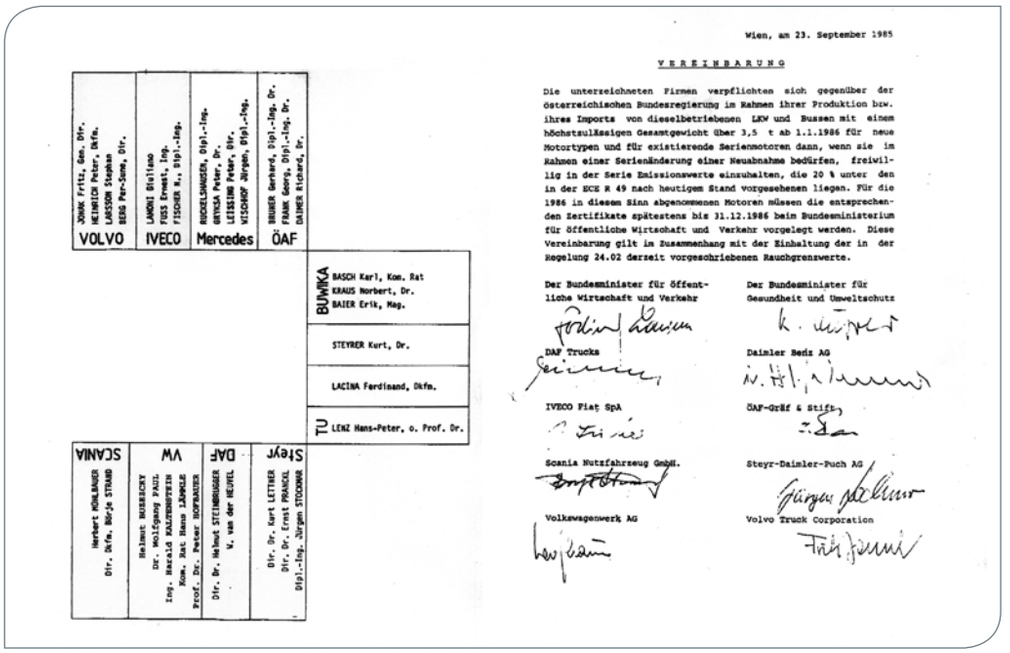
Figure 47:
The car driving cycle on the rolling test bed for the measurement of pollutant emissions in accordance with the 6th amendment of the KDV ordinance 1967

This situation was made all the more difficult by the fact that there were not yet uniform Europe-wide laws in the 1970s and 1980s. The establishment of the United Nations in 1945 laid the foundation for an entirely new form of supranational influence on local politics in the area of motor vehicles, but this did not result in the harmonization of European law from the start. Within the UN, Working Party 29 (WP 29) deals with issues of automobile construction and is a body of the Economic Commission for Europe (ECE). WP 29 engages in close cooperation with many established organizations such as the International Organization for Standardization (ISO) and the International Organization of Automobile Manufacturers (OICA). In 1956, the OICA was awarded the status of a UN advisor and was recognized as the official representative of the international automobile industry. The OICA also plays an active role in the work of WP 29. The Association of the Austrian Vehicle Industry has been a member of BPICA (now OICA) since 1924.

➤ THE INTRODUCTION OF EXHAUST LAWS PUTS THE ASSOCIATION AND ITS MEMBER COMPANIES IN A CHALLENGING POSITION. ◄

Because the UN cannot directly influence the laws of its member states, an agreement from 1958 is very important for facilitating the implementation of the ECE recommendations that are drawn up by WP 29. This agreement governs uniform and mutually recognized homologation conditions for motor vehicle equipment and accessories and stipulates the preparation of ECE rules to harmonize regulations for vehicle components, inspections, tests and measurement procedures. The exhaust emission limits for cars are laid down in ECE Regulation No. 15. *Figure 47*[174] shows an excerpt from the 356th Federal Law Gazette from 1972, through which ECE Regulation No. 15 and the measurement procedure contained in it for determining the exhaust emissions of cars was incorporated into Austrian law. The figure shows the driving cycle on the rolling test bed for cars.

During the first two decades after the introduction of exhaust laws, Austria's desire to take on a pioneering role in Europe in terms of environmental awareness and protection put the association and its member companies in a challenging position because the Austrian exhaust regulations stipulated different limits and implementation



Wien, am 23. September 1985

VEREINBARUNG

Die unterzeichneten Firmen verpflichten sich gegenüber der österreichischen Bundesregierung im Rahmen ihrer Produktion bzw. ihres Imports von dieselbetriebenen LKW und Bussen mit einem höchstzulässigen Gesamtgewicht über 3,5 t ab 1.1.1986 für neue Motortypen und für existierende Serienmotoren dann, wenn sie im Rahmen einer Serienänderung einer Neuabnahme bedürfen, freiwillig in der Serie Emissionswerte einzuhalten, die 20 % unter den in der ECE R 49 nach heutigem Stand vorgesehenen liegen. Für die 1986 in diesem Sinn abgenommenen Motoren müssen die entsprechenden Zertifikate spätestens bis 31.12.1986 beim Bundesministerium für öffentliche Wirtschaft und Verkehr vorgelegt werden. Diese Vereinbarung gilt im Zusammenhang mit der Einhaltung der in der Regelung 24.02 derzeit vorgeschriebenen Rauchgrenzwerte.

Der Bundesminister für öffentliche Wirtschaft und Verkehr

DAF Trucks

IVECO Fiat SpA

Scania Nutzfahrzeug GmbH.

Volkswagenwerk AG

Der Bundesminister für Gesundheit und Umweltschutz

Daimler Benz AG

ÖAF-Gräf & Stift

Steyr-Daimler-Puch AG

Volvo Truck Corporation

VOLVO: JOHAN Fritz, Gen. Dir. / HEINRICH Peter, Dkfm. / LARSSON Stephan / BERG Per-Sune, Dir.

IVECO: LAMONI Giuliano / FUSS Ernest, Ing. / FISCHER H., Dipl.-Ing.

Mercedes: RUCKELSHAUSEN, Dipl.-Ing. / GRYKSA Peter, Dr. / LEISSING Peter, Dir. / WISCHHOF Jürgen, Dipl.-Ing.

ÖAF: BRUNER Gerhard, Dipl.-Ing. Dr. / FRANK Georg, Dipl.-Ing. Dr. / DAIMER Richard, Dr.

BUWIKA: BASCH Karl, Kom. Rat / KRAUS Norbert, Dr. / BAIER Erik, Mag.

STEYRER Kurt, Dr.

LACINA Ferdinand, Dkfm.

TU: LENZ Hans-Peter, o. Prof. Dr.

SCANIA: Herbert MÖHLBAUER / Dir. Dkfm. Börje STRAND

VW: Helmut HUSSECKY / Dr. Wolfgang PAUL / Ing. Harald KALTENSTEIN / Kom. Rat Hans LÄMMLE / Prof. Dr. Peter HOFBAUER

DAF: Dir. Dr. Helmut STEINBRUGGER / W. van der HEUVEL

Steyr: Dir. Dr. Kurt LETTNER / Dir. Dr. Ernst PRANCKL / Dipl.-Ing. Jürgen STOCKMAR

Figure 48:
Text of the 1985 commercial vehicle manufacturers' voluntary agreement for compliance with specific exhaust regulations, and seating plan at the signing ceremony

periods than the laws of neighboring countries. The federal government also conducted talks with individual companies, which made it very difficult for the association to coordinate activity within the industry. One result was the "voluntary" agreement signed between the Austrian federal government and the commercial vehicle manufacturers and importers on compliance with specific exhaust limits in the autumn of 1985 *(Figure 48)*.[175]

Emission regulations were first applied to passenger cars in 1972. Motorcycle emissions have been subject to legal limits since 1985, and commercial vehicles were first subject to voluntary exhaust emission limits in 1986 and then mandatory limits in 1988.

The original limits have been drastically reduced for all vehicle categories. *Figure 49*[176] shows this trend on the basis of nitrous oxide and particle limits (the most important exhaust components for diesel engines) for new commercial vehicles. These drastic cuts in emission limits have caused enormous additional costs for the vehicle industry because of the tremendous need for new research and development, but have also spurred a wave of innovation from which the industry benefits. The current state of technology with regards to fuel-mixture generation for diesel and gasoline engines, electronic engine management, fuel consumption, the reliability of electronic systems in vehicles and our knowledge of alternative drive systems, for example, would not have advanced so quickly without the challenges posed by the stricter laws.

THE DRASTIC LOWERING OF EMISSION LIMITS CAUSES COST INCREASES FOR THE VEHICLE INDUSTRY, BUT ALSO TRIGGERS AN ENORMOUS SPURT OF INNOVATION.

In spite of tremendous efforts on the part of the vehicle industry to not only meet but also exceed the legal requirements, there is still a need to continue reducing emissions. This is in part because the lower emissions required by law for newly registered vehicles only reduce the total emissions from all vehicles in use slowly, and because overall motor vehicle use is continuing to rise. *Figure 50*[177] shows the actual and projected growth of annual distances traveled per year from 1950 to 2020. As this graph shows, vehicle usage will continue to grow for

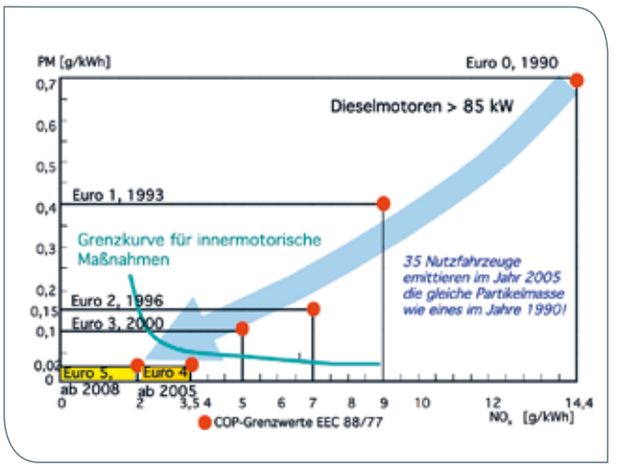
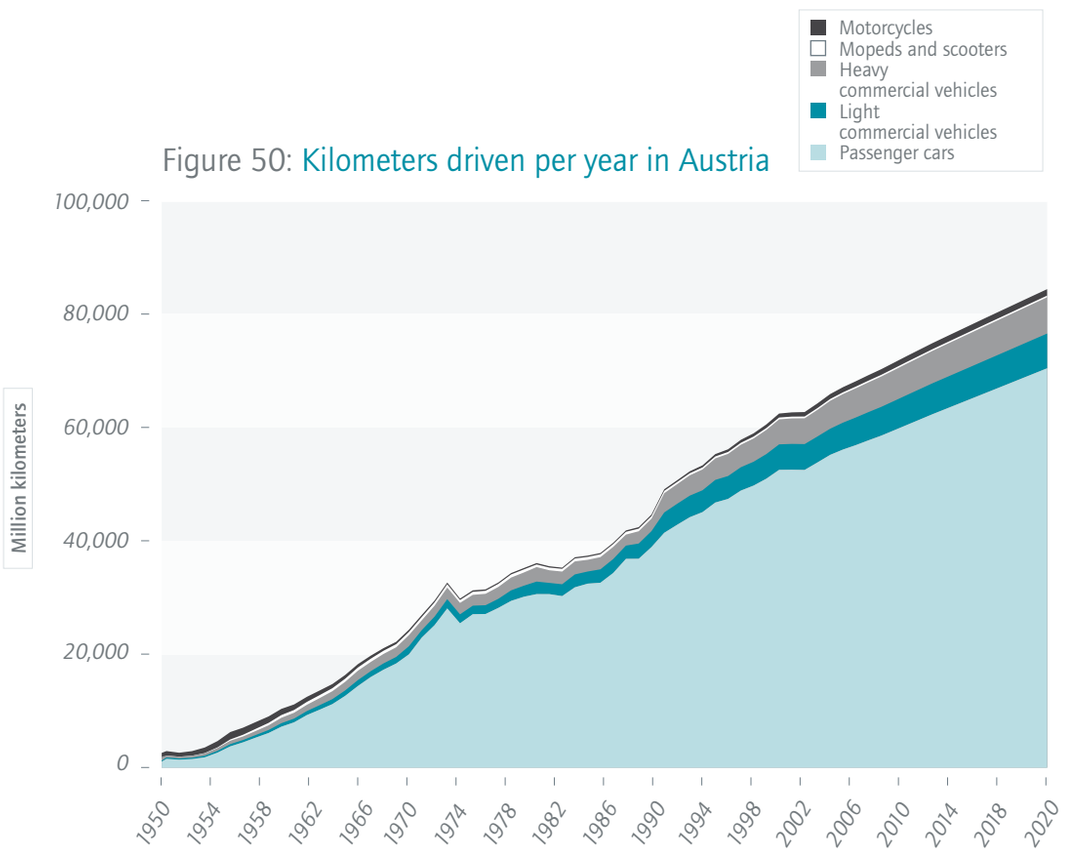


Figure 49, right:
Fifteen years of falling emission limits for diesel engines

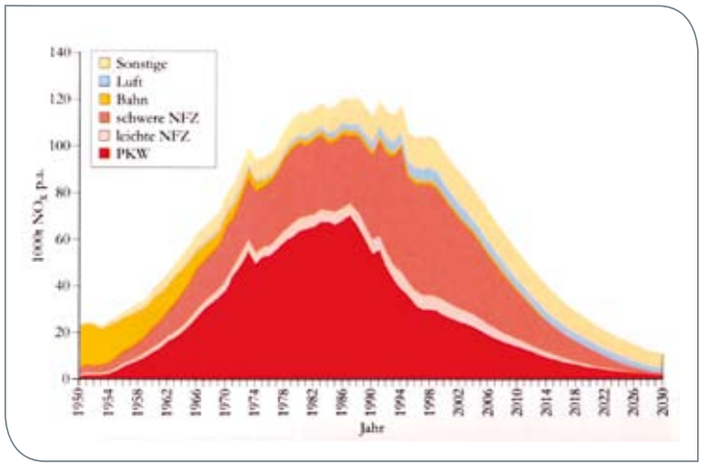
Figure 50: Kilometers driven per year in Austria



➤ CO_2 REDUCTION: THE CONTINUED INCREASE IN TRAFFIC IS A HUGE CHALLENGE FOR THE VEHICLE INDUSTRY. ➤

some time. The intended reduction in environmental impact always occurs some time after the imposition of stricter exhaust emission limits. *Figure 51*[178] shows this on the basis of the development of traffic-related nitrous oxide emissions through to 2030. Technical improvements require a relatively long time to spread through the entire stock of vehicles on the road. For cars, for example, it takes twelve years for a new feature to be present in more than ninety percent of all vehicles in use.

To help accelerate this process, the association regularly presents proposals in coordination with industry and speaks out in favor of promotion measures to motivate consumers to replace their older vehicles with the latest models.



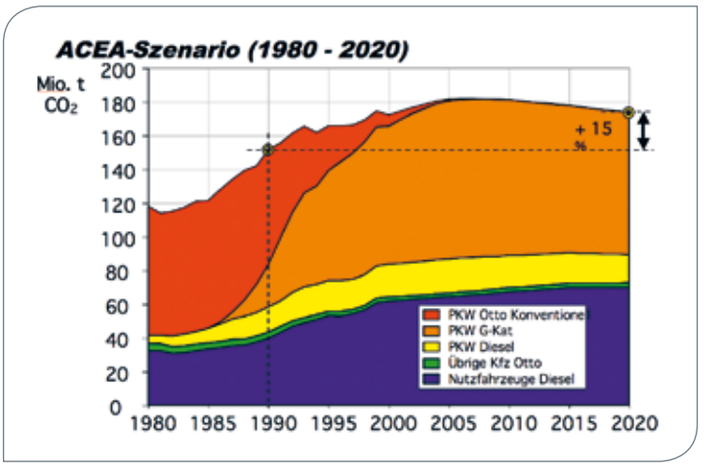


Figure 51, left:
Development and projections for NO_x emissions from traffic until 2030

Figure 52, right:
Development of carbon dioxide emissions from diesel and gasoline cars and trucks

The continuing increase in traffic, both in the western world and even more so in the emerging and developing countries, is a major challenge for the vehicle industry. Our governments must create the framework that the industry needs to successfully master this challenge.

The discussion on legally limited exhaust components has expanded to include the ecologically relevant substance carbon dioxide (CO_2), which is present in large quantities in the exhaust of internal combustion engines. Carbon dioxide is not a health hazard in and of itself, but is considered to be a "greenhouse gas" that reduces the amount of the sun's energy that is reflected back into space, as is likewise the case with other gases such as methane and water vapor. Greenhouse gases let sunlight pass through to the earth, but reduce the level of warmth radiated from the earth back out into space. The increasing amount of carbon dioxide in the atmosphere causes the earth's temperature to rise, the so-called greenhouse effect, and thereby causes climate change.

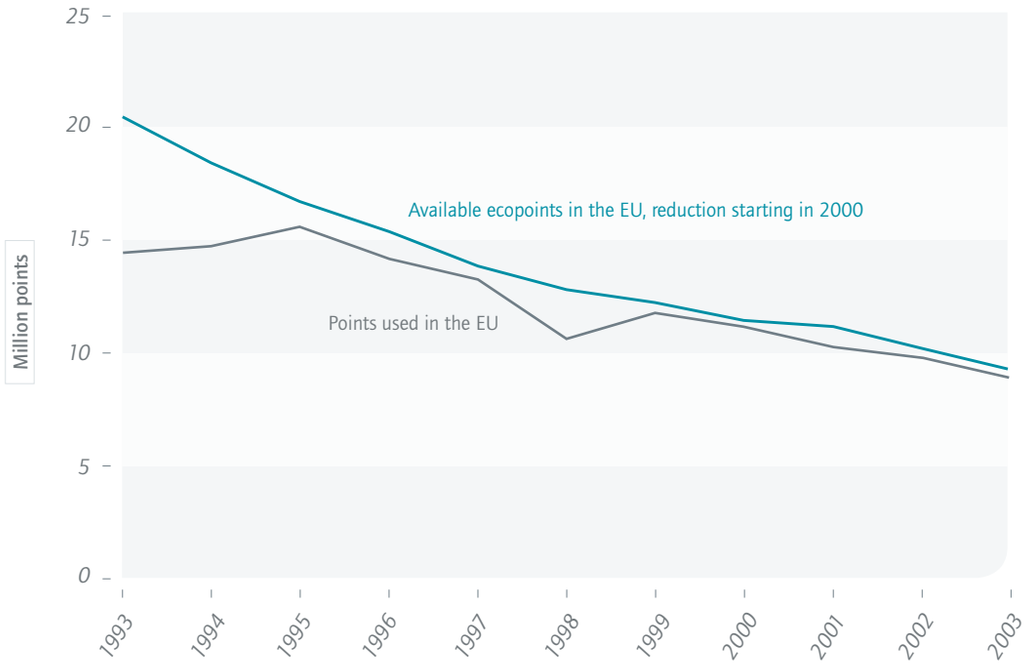
A United Nations framework agreement on the reduction of greenhouse gas emissions, the so-called Kyoto Protocol, was passed in 1997.[179] This agreement stipulates binding targets for different regions to reduce greenhouse gas emissions to a level that is five percent lower on average than the level of 1990 by the year 2012. *Figure 52*[180] shows the projected development of vehicle-related carbon dioxide emissions in Europe. As can be seen, carbon dioxide emissions did not begin falling until 2005.

Europe's Lisbon Strategy,[181] which is intended to ensure the growth and competitiveness of Europe's economies, pursues an entirely different objective than the Kyoto targets. Europe's governments must set priorities to balance the conflicts between these interests and the different objectives. Challenges like this require that the government and business world come to a common understanding of their responsibility for the environment. In this, the Association of the Austrian Vehicle Industry is a competent negotiating partner and industry representative vis-à-vis the Austrian government and has made important forward-looking contributions to environmental protection.

➤ Between the Kyoto and Lisbon targets: The Association of the Vehicle Industry makes forward-looking contributions to environmental protection. ◄

The topic of reducing carbon dioxide emissions has also spurred extensive discussion of vehicle fuel consumption and of alternative fuels such as so-called biodiesel in Austria. Biodiesel, which is won from oil-bearing plants, is a fatty acid methyl ester (FAME). This fuel can theoretically be won from any oil-bearing plant; primarily rapeseed and sunflowers are cultivated in Austria for this purpose.[182] In 1991, the Austrian government introduced the NOVA tax,[183] a tax collected on a vehicle when it is registered for the first time based on its fuel consumption, to promote low carbon dioxide emission levels and low fuel consumption. This has proved to be a simple and practical way to tax vehicles. For environmental reasons, the EU will prefer use-based taxes in the

Figure 53: System of rights of transit (Ecopoints)



future such as the truck toll system on Austria's highways. The Association of the Vehicle Industry has already played a very important role in the necessary mediation between national and international lawmakers and the vehicle industry in this area as well.

➤ THE TOPIC OF THE ENVIRONMENT AND TRAFFIC IS EXTREMELY IMPORTANT IN AUSTRIA BECAUSE OF THE COUNTRY'S LOCATION ON KEY CONTINENTAL TRANSIT ROUTES. ◄

In addition to the global scope of the topic of traffic and the environment, for example carbon dioxide emissions, there is also a significant local dimension to this issue for Austria because of its location on important north-south and east-west transit axes. One solution for reducing the impacts of this is the ecopoint system introduced by federal minister Rudolf Streicher for the transit route over the A13 Brennerautobahn in Tyrol. On May 2, 1992, an agreement was signed between the Republic of Austria and the European Economic Community on goods transit by road and rail. Article 15 of the agreement states: "The Parties agree to reduce the emissions and noise generated by heavy goods vehicles crossing Austrian territory in transit. Such a reduction shall be achieved by cutting NO_x emissions…" And further: "Total NO_x emissions from heavy goods vehicles with a laden weight over 7.5 tonnes, registered in one Party *(one of the twelve European Union member states at that time and Austria, ed.)* and crossing Austria in transit, shall, starting in 1992, be reduced by 60% in the twelve-year period until the end of 2003."[184]

The ecopoint system is a good example of how the interests of the environment and the vehicle industry (accelerating the acquisition of new vehicles in replacement of existing ones) can be served by positive cooperation between the government, the industry association and the industry itself.

Figure 53[185] shows the use of ecopoints from 1993 to 2003. The objectives of the transit agreement were reached.

The ecopoint system created a special incentive to purchase commercial vehicles with low nitrous oxide emissions for the first time. Such vehicles required fewer ecopoints, and could therefore be used more. The commercial vehicle industry invested considerable effort and financial resources in meeting the planned emission

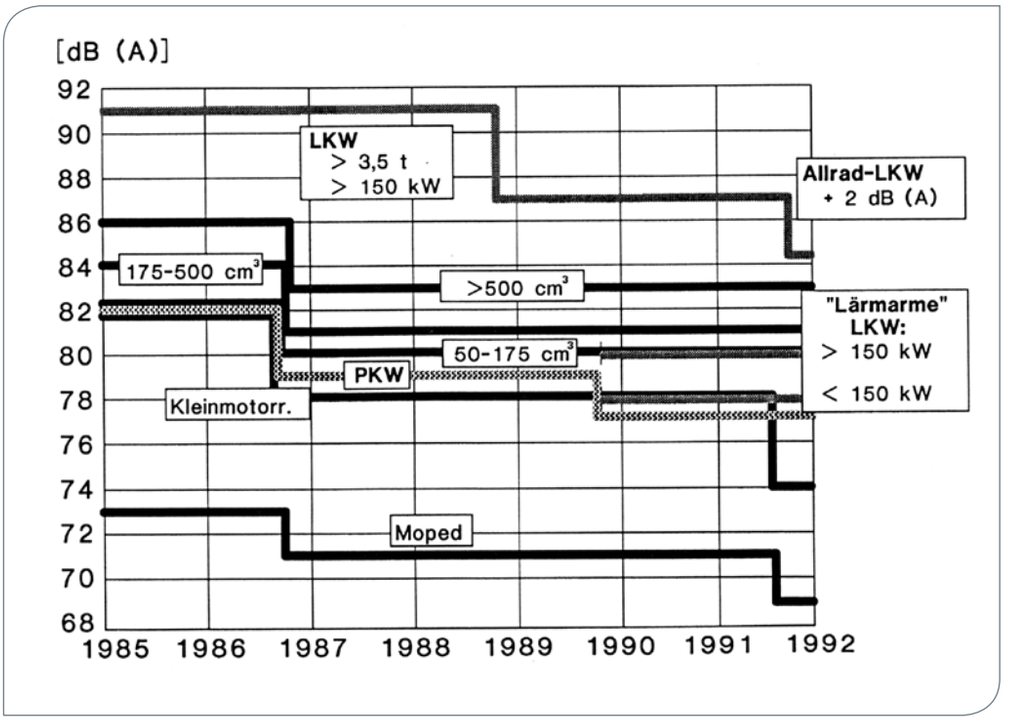


Figure 54:
Development of the noise limits for motor vehicles (as of 1988)

limits as early as possible. This increased competition significantly, and of course the commitment and efforts of the industry association to represent the interests of the vehicle industry as a whole.

When the time came to deal with the noise generated by commercial vehicles at the end of the 1980s, the federal government adopted a similar approach as for gaseous emissions. The federal minister of National Industry and Transport and the governor of Tyrol invited scientists and representatives from the Austrian commercial vehicle industry (Steyr and ÖAF-Gräf & Stift AG) to the „Neues Landhaus" in Innsbruck for an informational meeting with the title "Environmentally Compatible Trucks – The State of Technology" on March 31, 1989. The state of technology as presented and practically demonstrated by the engineering units of these two companies was turned into the definition of a "low-noise truck." Such a truck has a noise limit of eighty decibels, seven decibels lower than required by Austrian law at the time *(Figure 54)*.[186] The Austrian commercial vehicle industry was in an ideal position to manufacture the low-noise truck, the only legal requirement of its kind in all of Europe, because of the origin of the regulations. The government then based travel restrictions for trucks, especially on the Austrian transit routes, on these technical characteristics. The flood of new truck registrations and retrofitting work that followed the introduction of the low-noise truck and the management of the system for regularly ascertaining that the noise-reduction equipment was still functioning properly led to extensive coordination between the Ministry of Transport, the association and its member companies. The very intensive contact between the Austrian lawmakers, the Association of the Austrian Vehicle Industry and the vehicle industry itself as these parties strove to find viable ways to achieve the desired emissions and noise reductions resulted in a climate of openness and mutual trust in the 1970s and 1980s and made it possible to implement the complex vehicle regulations relatively quickly.

➤ Extensive coordinating talks between the Ministry of Transport, the association and its member companies. ◄

These examples of how the topic of traffic and the environment have been handled in the past focus on the commercial vehicle industry. This is because the commercial vehicle industry, which is represented today primarily by MAN Nutzfahrzeuge Österreich AG in Vienna and Steyr, was and is very important for Austria, and has always been a competent and capable Austrian discussion partner for the Austrian government.

Figure 55:
The eighteen focuses of the CARS 21 project

The environment has certainly been a dominant topic for the vehicle industry and the Association of the Austrian Vehicle Industry in recent years. But while these issues are being handled, the association must continue to fulfill its basic responsibilities. These include involvement in the Committee for Historical Motor Vehicles, the Civil Aviation Committee, the Motor Vehicle Committee and the Traffic Safety Committee. The association and its members are entitled to participate in these committees by law.

➤ THE ASSOCIATION STEPS UP ITS ACTIVITIES AT THE EUROPEAN LEVEL AFTER AUSTRIA JOINS THE EU. ◄

Another important area of activity for the association is participation in the "co-determination commission." The Price Sub-Committee of the Co-Determination Commission for Wage and Price Issues ceased its activities at the end of 1994, and was replaced by the Independent Arbitration Commission in the Federal Ministry for Economic Affairs, in which the association is represented. Price adjustments for the product group trucks are usually negotiated in this commission once per year after the collective bargaining agreement negotiations on the basis of the new costs for personnel and material. This "officially" quantifies the changed costs for the member companies for these inputs. Such price adjustments can sometimes be applied to long-term contracts, but it must be noted that the prices for products today are largely free from regulatory control and are determined by market forces. This development is positive for the consumer and enjoys strong support within the EU, for example through the re-publishing of the Block Exemption Regulation[187] in 2002 – another part of the daily work of the Association of the Vehicle Industry.

Austria's accession to the European Union and the Europe-wide harmonization of traffic laws created entirely new working conditions because the pertinent regulations were now being drafted in Brussels. This meant the

end of purely national laws. Recognizing a need for assistance with the implementation of the EU regulations, the association engaged specialist Wolfgang Wister in 1996 as a consultant so that it could inform the Austrian association members of planned changes in good time, provide the information needed to manufacture products and discuss any difficulties or requirements that cannot be met by the vehicle industry with Austria's voting representatives ahead of time. Wister summarizes the results of his work in quarterly reports.[188] Today, the association is a member of several international organizations in addition to the aforementioned OICA, for example of the European Automobile Manufacturers Association (ACEA) in Brussels. Among other things, ACEA is working on a program that goes by the title of CARS 21, or Competitive Automotive Regulatory System for the 21st Century. The objective of this program is to maintain the competitive strength of the European vehicle industry while meeting Europe's environmental requirements. This competitive strength could be impaired by shifting too much of the burden (and thereby the costs) of finding solutions to these problems to the vehicle industry. ACEA notes, for example, that the costs for concrete reductions in carbon dioxide emissions are roughly fifteen to twenty-five times higher for vehicles than for stationary carbon dioxide emitters.

The European Commission and ACEA have defined eighteen focuses within CARS 21 *(Figure 55),*[189] whereby environmental topics are still of central importance. Two of the focuses of CARS 21 deal with traffic safety. This topic was already the subject of extensive talks in Austria between the association, the Ministry of Transport and the vehicle industry before Austria's accession to the EU. One example is the discussions on the mandatory installation of anti-lock braking systems (ABS), side crash protection and digital tachographs in commercial vehicles in Austria.

The vehicle industry and the association feel that not only the Europe-wide but also the worldwide harmonization of motor vehicle laws and regulations would be very beneficial. Globalization is not just a buzzword in the vehicle industry today, it has long been a daily reality.

The use of motor vehicles will remain sensible and desirable for the foreseeable future. The association's areas of activity as dictated by the activities of the vehicle industry have global importance on the one hand, for example carbon dioxide emissions and labor cost structures, and also purely local importance on the other, such as immission levels from exhaust and noise on a specific road. Regulations will have to be applied to motor vehicles in the future as well to minimize their negative effects as much as possible. But these cannot only be applied on a supra-regional level, national implementation will always be necessary – all the more so because for the rapid implementation of laws is not only permitted, but also desirable. The regulations must take into account changes in the global, national and local conditions and needs, and will not necessarily be identical to the primary interests of vehicle manufacturers. For this reason, an Austrian mediator will be needed between those that make the laws and those that must fulfill them in the future. The Association of the Austrian Vehicle Industry and its predecessors have effectively filled this role with a broad range of services for the vehicle industry[190] for a century.

➤ THE VEHICLE INDUSTRY AND THE ASSOCIATION SUPPORT THE WORLDWIDE HARMONIZATION OF MOTOR VEHICLE LAWS AND REGULATIONS. ◄

The authors wish the Association of the Austrian Vehicle Industry all the best for the next hundred years as well!

Footnotes

1 Fédération Internationale de l'Automobile (F.I.A.), Annuaire 1981, Paris 1981, p. 108.
2 For information on establishment see: "Protokoll der XII. ordentlichen Generalversammlung am 12. Februar 1908," printed in: *Allgemeine Automobil-Zeitung (AAZ),* February 16, 1908, p. 1–3; informative in that it also portrays the tenor of the time: "Der Jubiläums-Festabend des Oesterreichischen Automobil-Clubs," in: ibid., especially p. 5–8.
3 For information on the early history of motoring in Germany see: Barbara Haubner, *Nervenkitzel und Freizeitvergnügen. Automobilismus in Deutschland 1886–1914,* Göttingen 1998.
4 A brief biography of Klinger in: Bernhard Denscher, *Österreichische Plakatkunst 1898–1938,* Vienna 1992, p. 198; see also: Ders., *Kunst und Kommerz. Zur Geschichte der Wirtschaftswerbung in Österreich,* Vienna 1985, passim.
5 Minutes, February 12, 1908, as in fn. 2, p. 1.
6 Minutes, February 12, 1908, as in fn. 2, p. 2–3.
7 Hilde Harrer, *Automobilismus in der Steiermark um 1900,* diss., Univ. of Graz, 2006.
8 The first traffic regulations were enacted in Styria on June 10, 1904, the city of Graz enacted such regulations on June 26, 1905. ibid.
9 Hans C. von Seherr-Toss, *Die deutsche Automobilindustrie, 2. Aufl.,* Stuttgart 1979, p. 27.
10 Municipal and Provincial Archives of Vienna, MA 119, Register of Associations, Stricken Associations; for information on the state of international automaking, see: Alfred Buberl, Friedrich Beranek, Erich Kurzl-Runtscheiner, A*uto mobile. Vergangenheit, Gegenwart, Zukunft,* Vienna 1950, p. 100–105. The associations of automobile manufacturers are not accounted for in this work.
11 For information on interest representation by free associations from the Austrian perspective see: Christian Brünner, "Die Rolle der Interessenverbände im politisch-administrativen Entscheidungsprozeß," in: Gerhard Schöpfer, ed., *Phänomen Sozialpartnerschaft, Festschrift für Hermann Ibler zum 75. Geburtstag,* Vienna, Cologne and Graz 1980, p. 163–196; see also: Edwin Buchholz, *Die Wirtschaftsverbände in der Wirtschaftsgesellschaft. Eine Analyse ihres Ordnungs- und Selbsthilfesystems als Beitrag zu einer Theorie der Wirtschaftsverbände,* Tübingen 1969. See also the collected articles: Ernst-Bernd Blümle and Peter Schwarz, ed., *Wirtschaftsverbände und ihre Funktion. Schwerpunkte der Verbandsforschung,* Darmstadt 1985.
12 A prime example is the systematic expansion of economic self-management during World War I. Richard Riedl, *Die Industrie Österreichs während des Krieges,* Vienna 1932, especially chapter IV.
13 This study is based significantly on the commemorative volume published by the Association of the Austrian Vehicle Industry on the occasion of its 75th anniversary: Alois Mosser, *1907–1982. 75 Jahre Fahrzeugverband,* Vienna 1982.
14 "Stand an inländischen Kraftfahrzeugen am 1. April 1907," in: *AAZ,* December 8, 1907, p. 49; "Österreichs Automobil-Einfuhr und -Ausfuhr im Jahre 1907," in: *AAZ,* March 15, 1908, p. 44f.; see also: *Statistik des auswärtigen Handels des Vertragszollgebietes der beiden Staaten der österreichisch-ungarischen Monarchie im Jahre 1907, Bd. I (Spezialhandel),* Vienna 1908, p. 186–188, 431–434, 492f.
15 Arnold Nartowsky, *Die österreichische Automobil-Industrie und deren Hilfsquellen, Jahrbuch 1909,* Vienna 1909, p. 1.
16 See fn. 14.
17 Ludwig Lohner was also the author of the article "Der Wagen- und Automobilbau in Österreich," "Vehicle and Automobile Construction in Austria," in the 1908 volume dedicated to the Emperor on the the sixtieth anniversary of the government titled *Die Gross-Industrie Österreichs,* Austria's Major Industries, which he concluded with the words: "The varied effects of motoring on industry are not part of a booming economy in this anniversary year 1908, on the contrary the outlook for the near future is uncertain and not particularly promising, but our industry, armed with its moral honor and skill, will certainly do all in its power to attain the rank befitting of it in the contest of nations in the future as well." *Die Gross-Industrie Österreichs, 1. Bd.,* Vienna 1908, p. 109.
18 The order of the advocates and the spelling of the company names here is as used by Nartowsky. Nartowsky, *Automobil-Industrie,* as in fn. 15, p. 1f.
19 Printed in: Nartowsky, *Automobil-Industrie,* as in fn. 15, p. 2–8; *AAZ,* May 26, 1907, p. 43–45.
20 Nartowsky, *Automobil-Industrie,* as in fn. 15, p. 8; see "Verband Oesterreichischer Automobil-Industrieller," in: *AAZ,* from May 26, 1907, p. 43.
21 Municipal and Provincial Archives of Vienna, MA 119, Register of Associations, Stricken Associations. No objection was raised against the holding of the constituent assembly before approval was granted for the formation of the association.
22 See fn. 19.
23 Nartowsky, *Automobil-Industrie,* as in fn. 15, p. 9.
24 Central Police Headquarters Vienna, Archive of the Association Office.
25 *AAZ,* February 16, 1908, p. 48.
26 See: Nartowsky, *Automobil-Industrie,* as in fn. 15, p. VIII.
27 Vienna Chamber of Commerce, pub. *Bericht über die Industrie, den Handel und die Verkehrsverhältnisse in Niederösterreich während des Jahres 1909 (Bericht der Handelskammer Wien 1909),* Vienna 1910, p. 98; Bericht der Handelskammer Wien 1910, Vienna 1911, p. 102.
28 *Bericht der Handelskammer Wien 1911,* Vienna 1912, p. 100.
29 *AAZ,* June 10, 1912, p. 38.
30 *AAZ,* November 3, 1912, p. 10.
31 See fn. 14.
32 The *AAZ* reported on the intensive efforts of the Association of Automobile Industrialists to increase domestic sales on February 12, 1912, p. 34; see also the reports of the Vienna Chamber of Commerce for the years 1908, Vienna 1909, p. 100f.; 1910, Vienna 1911, p. 102f.; 1911, Vienna 1912, p. 100.
33 *AAZ,* May 26, 1907, p. 43. Of relevance is also the statement that Ludwig Lohner made at the same time that the automobile industry "outlook for the near future is uncertain and not particularly promising…" See fn. 17.
34 Adolf Lippe, "Österreich als Markt für amerikanische Wagen," translated from the German as quoted in: *AAZ,* June 30, 1907, p. 11f.
35 The quotes from the article written by Robert Atter on the situation in the Austrian automobile industry are translated from the German as quoted in: *AAZ,* October 6, 1907, p. 8.
36 Ibid. p. 11.
37 Statutes, § 2e, see fn. 19.

38 "Erlaß des Innenministeriums an alle politischen Landesstellen vom Juli 1908," quoted from: *AAZ,* August 2, 1908, p. 37.
39 "Die Förderung der österreichischen Automobil-Industrie," in: *AAZ,* August 2, 1908, p. 37.
40 Nartowsky, *Automobil-Industrie,* as in fn. 15, p. VIII.
41 *Bericht der Handelskammer Wien 1910,* Vienna 1911, p. 102f.
42 *Bericht der Handelskammer Wien 1911,* Vienna 1912, p. 98f.
43 Ibid., p. 100.
44 See the corresponding yearbooks of *Statistik des auswärtigen Handels des Vertragszollgebietes der beiden Staaten der österreichisch-ungarischen Monarchie, Bd. 1 (Spezialhandel);* see also: *Berichte der Handelskammer Wien 1912,* Vienna 1913, p. 108; 1913, Vienna 1914, p. 116f.
45 *AAZ,* February 12, 1911, p. 34.
46 *AAZ,* February 19, 1911, p. 43.
47 See: *AAZ,* July 21, 1912, p. 46.
48 *Bericht der Handelskammer Wien 1909,* Vienna 1910, p. 97.
49 *Bericht der Handelskammer Wien 1910,* Vienna 1911, p. 101; 1911, Vienna 1912, p. 98.
50 *Bericht der Handelskammer Wien 1909,* Vienna 1910, p. 97.
51 The road tests were reported on widely in the press, especially in *AAZ.*
52 See the annual reports of the Association of Austrian Automobile Industrialists in the reports of the Vienna Chamber of Commerce of the last years before World War I.
53 See fn. 8.
54 Rolf Gisler-Jauch, "Die einsetzende Motorisierung," in: *Historisches Lexikon der Schweiz (HLS),* version from November 1, 2007, URL: www.his-dhs-dss.ch/textes/d/D13901-1-2.php.
55 Maximilian Robespierre, *Internationales Abkommen über den Verkehr mit Kraftfahrzeugen vom 11. Oktober 1909,* version from January 10, 2007, http://hometown.aol.de/tmirabeau/vz_int.html.
56 Ibid.
57 *Bericht der Handelskammer Wien 1913,* Vienna 1914, p. 117.
58 For information on the role of the free associations in the wartime economy, see: Riedl, *Industrie,* as in fn. 12, p. 62–88.
59 *Bericht der Handelskammer Wien 1914–1918,* Vienna 1920, p. 199–202.
60 *"Verband der österreichischen Automobil- und Flugzeug-Hilfsindustriellen,"* in *AAZ,* October 27, 1918, p. 18; see also: *AAZ,* September 15, 1918, p. 38.
61 *Bericht der Handelskammer Wien 1914–1918,* Vienna 1920, p. 200.
62 Ibid., p. 201.
63 Ibid., p. 200.
64 *AAZ,* December 3, 1916, printed the full text of the proceedings in their entirely (p. 29–36).
65 Ibid., p. 34.
66 This included the plants of Austro-Fiat, Fross-Büssing, Gräf & Stift, the automobile factory Perl and the Saurer plants in Vienna, the Daimler engine factory in Wiener Neustadt, the Puch plants in Graz and the weapons factory in Steyr. Karl-Heinz Rauscher, *Steyr im Nationalsozialismus. Industrielle Strukturen,* Gnas 2004, p. 64.
67 In its 1920 report, the Association of Austrian Automobile Industrialists called the motor vehicle industry one of the most important industries in Austria, and said that it might become the most important export industry in the future. *Bericht der Handelskammer Wien 1914–1918,* Vienna 1920, p. 196 and 198.
68 "Eine Hilfsaktion für die österreichische Automobilindustrie," in: *AAZ,* October 10, 1920, p. 23f.
69 See fn. 60.
70 According to an election notice, Georg Hanel assumed the function of secretary in 1912 with the authorization to "Draft official documents in addition to the Chairman and his Deputies." The secretaries before him held their posts without additional duties. Central Police Headquarters Vienna, Archive of the Association Office.
71 See : "Die Automobil-Industrien Europas und Amerikas. Eine vergleichende Studie," in: *AAZ,* December 22, 1918, p. 18–21; Felix Sterne, "Massenproduktion oder Qualitätsware. Ein Schlagwort – Amerika und Europa," in *AAZ,* February 15, 1920, p. 13–16.
72 A 24-page "Statement of the Austrian automobile industry on the issue of the customs union" with Germany from 1931 is worth noting, as it attempts to describe the effects that this would have on Austrian motor vehicle production in detail. Vienna Chamber of Commerce Archive, Bundle 2545, Folder 2.
73 Ibid., Bundle 2700, "Verbände" folder.
74 Ibid.
75 A large number of statements from both representative associations can be viewed in the archive of the Vienna Chamber of Commerce.
76 Bundesgesetz vom 20. Dezember 1929 über das Kraftfahrwesen (Kraftfahrgesetz), Federal Law Gazette 437/1929.
77 Bundesgesetz vom 20. Dezember 1929 über Grundsätze der Straßenpolizei, soweit sie sich nicht auf Bundesstraßen bezieht, Federal Law Gazette 438/1929.
78 Brief but informative reports on the respective industry conditions can be found in the annual reports of the Vienna Chamber of Commerce in the section *Verkehrsmittel,* Vehicles, including quantitative information, especially on exports and imports, the cost structure and labor conditions. The author is indicated as the Association of Automobile Industrialists.
79 Bundesgesetz vom 24. Dezember 1924 (Federal Law Gazette 461/1924: Schillingrechnungsgesetz [Schilling Conversion Act]); Bundesgesetz vom 4. Juni 1925 (Federal Law Gazette 184/1925: Goldbilanzengesetz [Golden Balance Sheet Law]).
80 "Automobilindustrie," in: *Die Bilanzen. Beilage zum Oesterreichischen Volkswirt 19 (1927),* p. 253–254.
81 One gold crown (1913) is equivalent to 1.41 schillings (1925).
82 *Bilanzen,* as in fn. 80, p. 253f.
83 Ibid., p. 253; see also: W.T. Layton, C.H. and Charles Rist, *Die Wirtschaftslage Österreichs. Bericht der vom Völkerbund bestellten Wirtschaftsexperten,* Vienna 1925, p. 34.
84 "Der Stand der Kraftfahrzeuge in Österreich und im Ausland," in: Federal Bureau of Statistics, pub., *Statistische Nachrichten VII (1929),* p. 267f.
85 *Bericht der Handelskammer Wien 1930,* Vienna 1931, p. 131 and 134.

86 Vienna Chamber of Workers and Employees, pub., *Wirtschaftsstatistisches Jahrbuch 1933/35, 10 (1935),* table 281 h. (p. 354f.).
87 Bundesgesetz vom 17. Oktober 1934 betreffend die Errichtung des Bundes der österreichischen Industriellen (Law on the Formation of the Federation of Austrian Industrialists). Federal Law Gazette 290/1934.
88 This structure decree took into account the "proven structural organization of the Central Industrial Association" and allowed the traditional industry associations to be transformed directly into industry associations under public law. *Die Industrie,* 1935, No. 7.
89 "Das Präsidium des Industriellenbundes," in: *Die Industrie* 1935, No. 1, p. 1.
90 Ordinance of the Federal Ministry of Trade and Transport of December 31, 1934, decreeing the statutes of the Federation of Austrian Industrialists. Federal Law Gazette 1/1935, § 7 (2).
91 Ibid., § 7.
92 Ibid., § 5 (2) c.
93 See also the statement in: *Die Industrie,* 1935, No. 9, p. 1f.
94 See the reports of the Association of the Automobile Industry, in: *Die Industrie,* 1935, No. 2, p. 4f.; 1936, No. 3, p. 4f.; 1937, No. 3, p. 4f.; 1938, No. 6, p. 4f.
95 *Die Industrie,* 1935, No. 6, p. 4f.
96 *Die Industrie,* 1935, No. 9, p. 3f.; 1936, No. 3, p. 4f.; 1937, No. 3, p. 4f.; 1938, No. 6, p. 4f.
97 Vienna Chamber of Workers and Employees, pub., *Wirtschaftsstatistisches Jahrbuch 1937,* Vienna 1937, p. 73f., see also p. 192.
98 Ibid., p. 80. See "Geschäftsergebnisse bedeutender Unternehmungen der Eisen- und Metallindustrie;" which includes the major automakers: p. 91–94.
99 Bundesgesetz über das Kraftfahrwesen (Motoring Act) 1937: Federal Law Gazette 29/1937.
100 Ibid., § 1.
101 Announced in *Wiener Zeitung,* March 30, 1939, p. 4.
102 Hans Seper, Martin Pfundner and Hans Peter Lenz, *Österreichische Automobilgeschichte, 2. erw. Ausg.,* Vienna 1979, p. 304.
103 Rauscher, *Steyr,* as in fn. 66, p. 70 et passim.
104 Seper, Pfundner and Lenz, *Automobilgeschichte,* as in fn. 102, p. 307; Rauscher, *Steyr,* as in fn. 66, p. 74.
105 Rauscher, *Steyr,* as in fn. 66, p. 187–189.
106 Verfassungsgesetz vom 1. Mai 1945 über das neuerliche Wirksamwerden des Bundes-Verfassungsgesetzes in der Fassung von 1929 (Verfassungs-Überleitungsgesetz [Constitutional Transition Law] – V-ÜG), State Law Gazette 1945/74; Verfassungsgesetz vom 1. Mai 1945 über die Wiederherstellung des Rechtslebens in Österreich (Rechts-Überleitungsgesetz [Legal Transition Law] – R-ÜG), State Law Gazette 1945/6; Gesetz vom 20. Juli 1945 über die Überleitung der Verwaltungs- und Justizeinrichtungen des Deutschen Reiches in die Rechtsordnung der Republik Österreich (Behörden-Überleitungsgesetz [Public Authority Transition Law] – Behörden-ÜG), State Law Gazette 1945/94.
107 State Law Gazette 1945/15.
108 Ibid., §§ 1 and 3.
109 The secretary general was Herbert Thausing, and then Ernst Max Hauschka from 1946.
110 Bundesgesetz vom 24. Juli 1946 (Handelskammergesetz [Commercial Chamber Law]), Federal Law Gazette 182/1946.
111 Bundesgesetz über die Kammern der gewerblichen Wirtschaft (Wirtschaftskammergesetz [Economic Chamber Law] – WKG), Federal Law Gazette 103/1998. This law was intended to modernize the voting rights of the institutional organizations that had already adopted the designation "Wirtschaftskammer" in 1993.
112 Fachgruppenordnung-FGO (Section Ordinance), Federal Law Gazette 223/1947.
113 For information on the organization and function see: Franz Geißler, "Die Entstehung und der Entwicklungsgang der Handelskammern in Österreich," in: Hans Mayer, pub., *Hundert Jahre österreichische Wirtschaftsentwicklung 1848–1948,* Vienna 1949, p. 117–121; Franz Geißler, *Österreichs Handelskammer-Organisation in der Zwischenkriegszeit (1920–1938),* 2. Bd. *(Die große Wende),* Vienna 1980, section: "Die Handelskammern nach 1945," p. 608–642.
114 First FGO amendment from July 20, 1948, Federal Law Gazette 167/1948.
115 *Das Organisationsrecht der Kammern der gewerblichen Wirtschaft, Anhang zur Fachgruppenordnung,* § 2, No. 17
116 Association of the Vehicle Industry, Vienna, Archive, correspondence.
117 The shortage of qualified workers often cited in the literature did not exist according to a survey in 1948. "Die Produktivität der österreichischen Industrie," in: Austrian Institute for Economic Research, pub., *6. Sonderheft,* Vienna 1949, p. 24.
For information on the problems immediately after the war see: Kurt Reinauer, *Probleme des Kraftfahrwesens bei der zukünftigen Entwicklung Österreichs,* diss., Academy of International Trade (Vienna), Vienna 1947; Wilfried Kubin, *Entwicklungsmöglichkeiten einer Automobilindustrie in Österreich nach dem Zweiten Weltkrieg mit besonderer Berücksichtigung der Firma Porsche,* diss., Academy of International Trade (Vienna), Vienna 1975, section II; Herwig Kainz, *Produktpolitik der österreichischen Kraftfahrzeugindustrie,* diss., Academy of International Trade (Vienna), Vienna 1972, p. 38–46.
118 "Das Kraftfahrwesen Österreichs im Jahre 1947," in: *Monatsberichte des Österreichischen Instituts für Wirtschaftsforschung 20 (1947), Nr. 8, Beilage 2,* p. 4f.; Reinauer, Kraftfahrwesen, as in fn. 112, p. 113f.
119 Alois Brusatti, "Entwicklung der Wirtschaft und Wirtschaftspolitik," in: Erika Weinzierl and Kurt Skalnik, pub., *Österreich. Die Zweite Republik, Bd. 1,* Vienna 1972, p. 424.
120 So Reinauer, *Kraftfahrwesen,* as in fn. 117, p. 44; see also Kainz, *Produktpolitik,* as in fn. 117, p. 43ff.
121 Reinauer, *Kraftfahrwesen,* as in fn. 117, p. 28 and 37.
122 As did the many reservations of Franz Nemschak, then director of the Institute for Economic Research.
123 Minutes of the Executive Committee Meeting of the Federal Chamber of Commerce from January 17, 1949. Association of the Vehicle Industry, Vienna, Archive.
124 *Rahmengeschäftsordnung für die Fachverbände 1951,* §§ 5–10.
125 "Die wirtschaftliche Lage Österreichs am Ende des ersten Nachkriegsjahres," in: *Monatsberichte des Österreichischen Institutes für Wirtschaftsforschung 19* (1946), p. 25–31.
126 Association of the Vehicle Industry, Vienna, Archive, Minutes of the Meeting from September 6, 1950.
127 Ibid., Minutes of the Meeting from November 4, 1954.
128 Margarethe Krautgasser, *Die Strukturwandlungen der österreichischen Wirtschaftszweige seit dem Zweiten Weltkrieg,* diss., Univ. of Innsbruck, Innsbruck 1969, p. 197.

129 Association of the Vehicle Industry, Vienna, Archive, Minutes of the Meeting from November 26, 1954.
130 Ibid.
131 Ibid., Minutes of the Meeting from June 27, 1951; see also Kainz, *Produktpolitik,* as in fn. 117, p. 52.
132 Carl Hudeczek, *Wege und Ziele der Wirtschaft Österreichs, Vienna 1958,* p. 98; Kainz, *Produktpolitik,* as in fn. 117, p. 52.
133 Association of the Vehicle Industry, Vienna, Archive, Minutes of the Meeting from June 26, 1958.
134 Kainz, *Produktpolitik,* as in fn. 117, p. 55f.; Kubin, *Entwicklungsmöglichkeiten,* as in fn. 117, p. 69.
135 Kubin, ebd., p. 72.
136 The data for the chart for the years 1954 to 1980 in figure 18 were taken from the brochure *"Ausgewählte statistische Daten,"* which was published on the occasion of the 75th anniversary of the association. For the years after 1980, data from the 2006 statistical yearbook of the Association of the Austrian Vehicle Industry were used. The break in 1995 is the result of the mandatory assignment of employees to specific trade association groups in compliance with EU requirements starting in 1996. The primary difference is that according to the new EUROSTAT counting system, employees in industrial vehicle repair businesses are no longer assigned to the vehicle industry association. For figure 29 (Employees in the vehicle industry), the figures after 1995 were estimated by the association according to the "old" counting method.
137 Quote and figure from the presentation "Die österreichische Kfz-Industrie," by Otto Voisard, held as part of the Austrian Society of Automotive Engineers presentation series, November 1989, Vienna, published in *Kfz-Wirtschaft* 3/90.
138 See fn. 137.
139 Vice chancellor Hannes Androsch was a guest speaker at Hans Peter Lenz's symposium "Should Austria Build Cars?". Hans Peter Lenz from the Vienna University of Technology, Ernst Fuhrmann, formerly of Porsche AG Stuttgart, and Oskar Grünwald, chairman of the managing board at ÖIAG, gave full presentations. Statements were given by Franz Geist, formerly of ÖIAG, Hans List (AVL), Michael Malzacher (Steyr-Daimler-Puch AG), Richard Daimer (ÖAF-Gräf & Stift AG), Anton Dolenc (Steyr-Daimler-Puch AG), Rudolf Gräf (ÖAF-Gräf & Stift AG), Rudolf Hruska (Alfa Romeo), Gert Kortzfleisch (University of Mannheim), Erich Ledwinka (Graz), Fritz Paschke (Vienna University of Technology) and F.M. Rogers (Chrysler).
140 Quote from Oskar Grünwald's presentation at the symposium "Should Austria Build Cars?".
141 The memorandum between Steyr-Daimler-Puch AG and BMW AG on the construction of a joint engine factory in Steyr was signed on December 21, 1978. BMW AG acquired Steyr-Daimler-Puch AG's shares in the venture in April 1981. The picture is from BMW's historical archives.
142 www.bmw-werk-steyr.at from March 1, 2007.
143 www.gm-powertrain.at from March 1, 2007.
144 http://ooe.orf.at from March 1, 2007.
145 Hans Peter Lenz, 21st International Vienna Motor Symposium, May 4–5, 2000.
146 www.magnasteyr.com from March 1, 2007.
147 MAGNA STEYR Fahrzeugtechnik archive.
148 http://oesterreich.orf.at/steiermark from November 20, 2006.
149 www.diamond-air.at from March 1, 2007.
150 Annual Report 1987/88 of Österreichische Automobilfabrik ÖAF-Gräf & Stift AG.
151 See fn. 136.
152 Statistical Yearbook 2006 of the Association of the Austrian Vehicle Industry, p. 6.2.
153 See fn. 136.
154 See fn. 136.
155 OECD Factbook 2006, EUROSTAT.
156 See fn. 136.
157 See fn. 136.
158 See fn. 147.
159 www.rosenbauer.at from March 1, 2007.
160 Statistics Austria.
161 Archive of the Association of the Austrian Vehicle Industry. Prize award ceremony for the Association Anniversary Foundation on June 28, 2005, at the Vienna University of Technology. The individuals in the picture are professors Rammerstorfer, Skalicky and Gehringer from the Vienna University of Technology, professor Eichlseder from the Graz University of Technology, professor Wegscheider from the University of Leoben, professor Linszbauer from the association and prize winners Strassnig, Prochazka, Pichler, Fröschl, Wallner, Schaffer, Lang, Ivanisin, Neumayer, Kupnik and Minichmayr.
162 See fn. 160.
163 Administrative Court Decision from December 13, 1971, 1646/69.
164 See fn. 160.
165 EUROSTAT.
166 Informationsdienst der Automobil-Importeure Österreichs, A-1045 Vienna, Wiedner Hauptstraße 63, "Cars: Wolf or Lamb?," Edition 1993. The data are updated yearly in the Statistical Handbook of the Association of the Austrian Vehicle Industry.
167 K. H. Lange (Porsche AG), Stuttgart, 1978.
168 E. Robinson, C. Moser, *Global Gaseous Pollutant Emissions and Removal Mechanism, 2nd International Clean Air Congress, No. 1097.*
169 The fact that a substance occurs naturally or that nature produces the majority of a substance on a global scale must not be understood to mean that this substance does not present a health hazard. Virtually all substances can cause physiological reactions after entering the organs once a certain level of exposure is reached in terms of quantity or time. The dosage and duration of exposure alone determine the hazard or lack of hazard presented by a chemical substance. No exact distinction can be made between harmful and non-harmful doses because each individual has a different sensitivity to a given substance. However, maximum concentrations of certain components that have been determined to be harmful can be specified at or below which it can be assumed with reasonable certainty that especially sensitive persons will suffer no negative health effects from the substance in question (MIC values).
170 G. Bruner, *Die Belastung der Umwelt durch Kraftfahrzeugemissionen, Kolloquium aus Verkehrsplanung und Verkehrstechnik,* 1978, Vienna.
171 Federal Ministry of Labor and Social Issues, *Amtliche Nachrichten,* 48th yr., Special no. 2/1993.

172 See fn. 170.
173 Federal Environment Agency (BRD), pub., *Empfehlungen zur Schadstoffverminderung, Kraftfahrzeugabgase,* Reports 7/76
174 Federal Law Gazette of the Republic of Austria, 1972, published on September 29, 1972; 356th Ordinance: 6th Amendement to the KDV 1967.
175 Archive of MAN Nutzfahrzeuge Österreich AG, copy for participants at the signing of the agreement on September 25, 1985.
176 E. Hipp, *Alternative Kraftstoffe und Antriebe für Stadtbusse,* Vienna 2003
177 S. Hausberger, H. Eichlseder, *Entwicklung von Schadstoffemissionen aus dem Verkehr bis 2010 und Abschätzung von Maßnahmenwirkungen. Erstellt im Auftrag des Bundesministeriums für Land- und Forstwirtschaft, Umwelt und Wasserwirtschaft,* Graz 2003.
178 *Nachhaltig umweltverträglicher Verkehr, Bundesministerium für Land- und Forstwirtschaft,* Vienna, 2001, Pilot Study Austria, p. 24.
179 Kyoto Protocol to the United Nations Framework Convention on Climate Change, United Nations 1998
180 See fn. 176.
181 www.lissabon-strategie.at from March 9, 2007.
182 Roughly 1,000 liters of biodiesel can be won from one hectare of rapeseed. The major advantage of biodiesel over fossil fuels is that it has a neutral greenhouse-gas balance. The carbon dioxode released during combustion was stored by the plant during its growth. The use of biodiesel in motor vehicles leads to a reduction in most exhaust emissions (especially CO, HC and particles). The fuel also contains no sulfur and is biodegradeable. The use of biodiesel leads to roughly the same level of greenhouse gas emissions (CO_2) as fossil diesel, but the fuel offers considerable savings potential when the entire manufacture of the fuel is taken into account.
183 Normverbrauchsabgabegesetz (Fuel Consumption Law) 1991, Federal Law Gazette No. 695/1991.
184 According to the ecopoint system, a truck had to pay a certain number of ecopoints for a transit trip through Austria, whereby one ecopoint was equivalent to the emission of 1 g of NO_x per kilowatt hour (kWh) by the truck. For example, a truck that emitted 8 g NO_x/kWh for a transit trip through Austria would have had to pay eight ecopoints. The emission levels of a truck were shown in the type approval documents prepared by the manufacturer for all trucks registered after October 1, 1990.
185 www.bmvit.gv.at from November 30, 2006.
186 H. P. Lenz, E. Pucher and P. Kohoutek, *Wiener Lastenheft für den Individualverkehr in Ballungsräumen,* Vienna 1992.
187 The Block Exemption Regulation specifies that automobile manufacturers may not restrict the locations where a contract dealer is permitted to sell its vehicles. This exerts more pressure on the manufacturers to harmonize their prices within the EU more than has been done in the past.
188 For example the quarterly report on future EU regulations for motor vehicles.
189 www.acea.be from December 15, 2006.
190 www.wko.at/Fahrzeuge

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Allgemeine Automobil-Zeitung (AAZ): figures 1, 6, 7, 8, 9, 10, 11, 12

Vienna Library at City Hall, Vienna, poster collection: figures 2, 3, 5

Association of the Vehicle Industry, archive: figure 13

Karl-Heinz Rauscher and Franz Kogler, *Das Steyr-Baby und seine Verwandten. Pkw aus Steyr,* Gnas 2002: figure 14

Wiener Zeitung: figure 15

Verein zur Förderung der Historischen Fahrzeuge der österreichischen Automobilfabriken (Association for the Promotion of Historical Vehicles and Austrian Automobile Factories), archive: figure 16

Friedrich F. Ehm, *Puch-Automobile 1900–1990,* Gnas 2000: figure 17

The Chairmen and Directors

Term	Chairmen and Presidents of Verband der österreichischen Automobil-Industriellen (Association of Austrian Automobile Industrialists) (1907–1934)
1907–1912	Eduard Lanner
1912	Wilhelm Strauß
1913–1914	Anton Graf Ceschi
1914–1918	Karl Gräf
1918–1920	Karl Frh. von Skoda
1920–1931	Adolf Eduard Egger
1931–1934	Anton Fross-Büssing
	Chairman of Verband der Automobilindustrie (Association of the Automobile Industry) (1934–1938)
1934–1938	Paul Götzl
	Director of Verband der Fahrzeugindustrie (Association of the Vehicle Industry) (July 1945–June 1948)
1945–1948	Paul Götzl
	Chairmen of the Association of the Austrian Vehicle Industry (since 1948)
1948–1958	Paul Götzl
1958–1970	Richard Ryznar
1970–1980	Karl Rabus
1980–1986	H. Michael Malzacher
1986–1992	Otto Voisard
1992–2000	Dr. Richard Daimer
since 2000	Bruno Krainz

The Secretary Generals

Term	Secretaries of Verband der österreichischen Automobil-Industriellen (Association of Austrian Automobile Industrialists) (1907–1912)
1907–1911	Arnold Ritter von Nartowsky
1911–1912	Karl Waller
	Secretary of Verband der österreichischen Automobil-Industriellen (Association of Austrian Automobile Industrialists) (1912–1918)
1912–1918	Dr. Georg Hanel
	Secretary General of Verband der österreichischen Automobil-Industriellen (Association of Austrian Automobile Industrialists) (1918–1934)
1918–1934	Dr. Georg Hanel
	Secretary General of Verband der Automobilindustrie (Association of the Automobile Industry) (1934–1938)
1934–1938	Dr. Georg Hanel
	Secretary Generals of Verband der Fahrzeugindustrie (Association of the Vehicle Industry) (1945–1948)
1945–1946	Dr. Herbert Thausing
1946–1948	Ernst Max Hauschka
	Secretary Generals of the Association of the Austrian Vehicle Industry (since 1948)
1948–1965	Ernst Max Hauschka
1966–1986	Dr. Norbert Kraus
1986–2000	Erik Baier
since 2000	Walter Linszbauer

The Association Offices

When it was established, *Verband der österreichischen Automobil-Industriellen,* the Association of Austrian Automobile Industrialists, had no offices of its own. The meeting of the advocates' committee on March 5, 1907, and the constituent assembly on April 15 of the same year were held at the offices of the Austro-Hungarian Export Association. In the notice of association establishment that was sent to the Lower Austrian authorities, the official address given was that of Eduard Lanner and Wilhelm Strauß, the notice of approval from the authorities was sent to Lanner.

The association moved into its first offices at Gumpendorfer Straße 15 in the sixth district of Vienna very early, most likely before the end of 1907. This location was already listed in *Lehmann's Directory* for the year 1908. All available sources also show that the headquarters remained here in 1909. No certain information is available for the following two years. While the above-mentioned directory lists Strobachgasse 2 in the fifth district as the association's new address, a letter from the association to the Lower Austrian administration in April 1911 lists Magdalenenstraße 18 in the sixth district as its old address and the House of Industry building on Schwarzenbergplatz (third district) as its new address in the letterhead. Magdalenenstraße 18 was then the headquarters of Schrauben- und Schmiedewaren Fabriks-AG Brevillier & Co.; this company's general director Karl Waller was also the association's secretary during these years. In 1912, *Lehmann's Directory* also lists the House of Industry building as the headquarters of the association; the association's correspondence provides no verification of the Strobachgasse address.

The association's address from 1913 to the last year of World War I was listed as Christinengasse 4 in the first district. A letter sent to the Lower Austrian administration on December 11, 1918, concerning a change in the association charter indicates that the association moved its headquarters from Christinengasse to Untere Viaduktgasse 37 (third district).

Lehmann's Directory for 1917 gives the association's address as Nordwestbahnstraße 53, but this is the same address as for the company headquarters of Fross-Büssing Kommanditgesellschaft, which was a member of the association at that time. As the automobile journal *Allgemeine Automobil-Zeitung* from June 23, 1918, announced that the association had moved into new offices on Untere Viaduktgasse, it can be assumed that the offices were on Christinengasse until the middle of 1918, but that the location of a member company acted as a temporary second office, as had also been the case in the past. The move back to Christinengasse indicated in *Lehmann's Directory* for 1919 is unlikely. The association's offices were at Untere Viaduktgasse 37 from 1918 until it was integrated into *Bund der Österreichischen Industriellen,* the Federation of Austrian Industrialists, in 1934.

Lehmann's Directory lists this address until 1938, but according to a notice in *Mitteilungen des Bundes der Österreichischen Industriellen* (the bulletin of the Federation of Austrian Industrialists) on July 30, 1937, the association moved to Prinz-Eugen-Straße 4 in the fourth district shortly before the announcement was made.

After the World War II, the *Wirtschaftsgruppe Fahrzeugindustrie,* the Sector Group for the Vehicle Industry, was headquartered in the House of Industry building at Schwarzenbergplatz 4. When the Allied Council moved into this building in July 1945, the offices of the *Verband der Fahrzeugindustrie,* the Association of the Vehicle Industry, was forced to relocate to Engelsberggasse 4 in the third district, where it remained after it was transformed

into today's Association of the Austrian Vehicle Industry. In 1953, the association moved to Wildpretmarkt 10/ Bauernmarkt 13 in the first district, and then to Lugeck 1 (likewise in the first district) on March 24, 1966.

In 1984, the association moved into the building of the Austrian Federal Economic Chamber at Wiedner Hauptstraße 63 in the fourth district, where it still has its offices today.

Association Addresses

	Association of Austrian Automobile Industrialists (1907–1934)
Establishment 1907	Schwarzenbergplatz 4, House of Industry, 1030 Vienna
1907–1910	Gumpendorfer Straße 15, 1060 Vienna
1910–1911	Strobachgasse 2 (?), 1050 Vienna
	Magdalenenstraße 18, 1060 Vienna
1911–1913	Schwarzenbergplatz 4, House of Industry, 1030 Vienna
1913–1918	Christinengasse 4, 1010 Vienna
1918–1934	Untere Viaduktgasse 37, 1030 Vienna
	Association of the Austrian Automobile Industry (1934–March 1938)
1934–1937	Untere Viaduktgasse 37, 1030 Vienna
1937–1938	Prinz-Eugen-Straße 4, 1040 Vienna
	Sector Group for the Vehicle Industry (April 1945–June 1945)
1945	Schwarzenbergplatz 4, House of Industry, 1030 Vienna
	Association of the Vehicle Industry (1945–1948)
1945	Schwarzenbergplatz 4, House of Industry, 1030 Vienna
1945–1948	Engelsberggasse 4, 1030 Vienna
	Association of the Austrian Vehicle Industry (since 1948)
1948–1953	Engelsberggasse 4, 1030 Vienna
1953–1966	Wildpretmarkt 10/Bauernmarkt 13, 1010 Vienna
1966–1984	Lugeck 1, 1010 Vienna
since 1984	Wiedner Hauptstraße 63, 1040 Vienna

The Authors

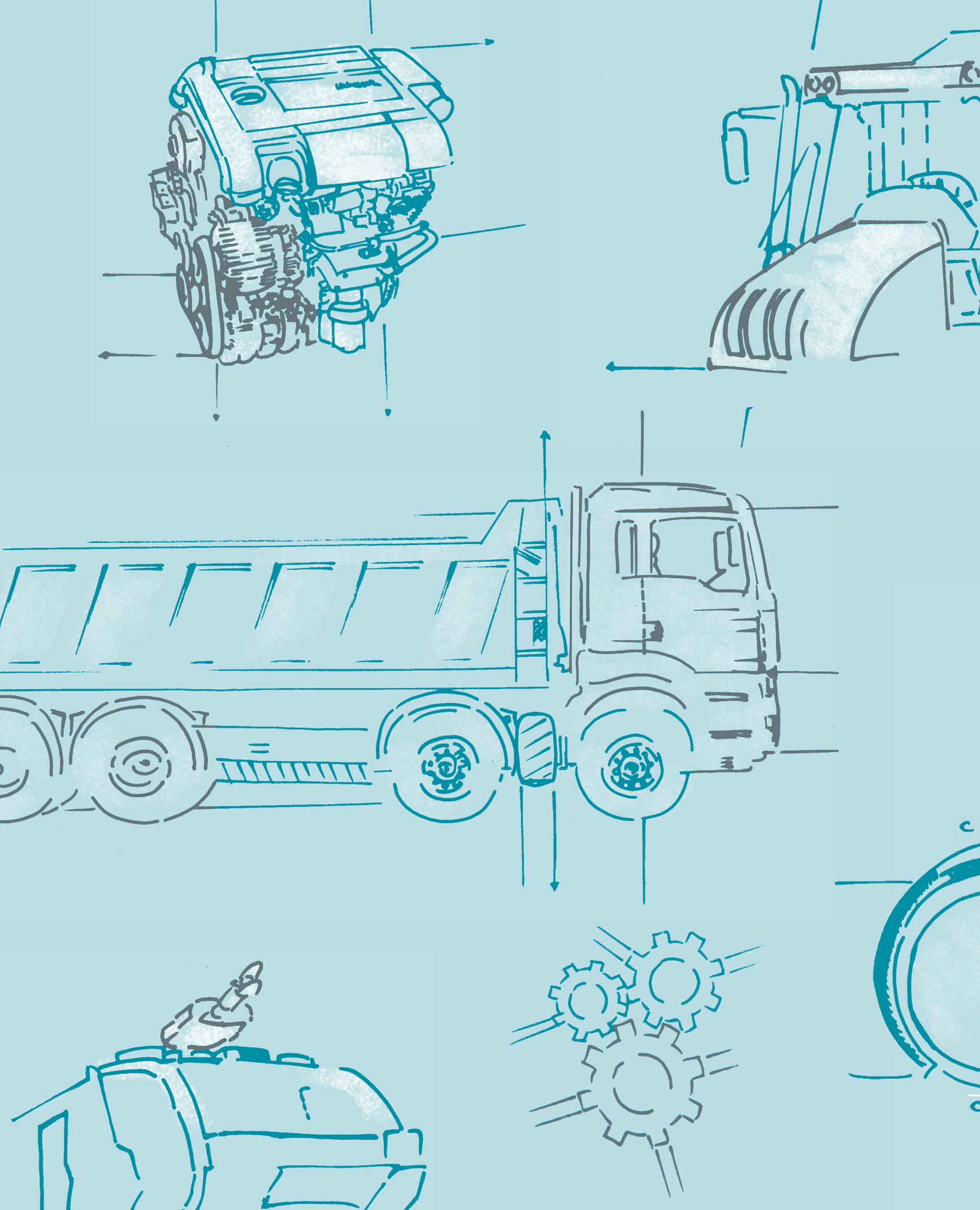
The historical section of this commemorative volume was written by Alois Mosser and Gerhard Bruner. The chapters "Building a Viable Automobile Industry in Austria" and "Europe's Impact" in the section "Industry Representation during the Second Republic" were written by Gerhard Bruner, and the remaining chapters and sections by Alois Mosser.

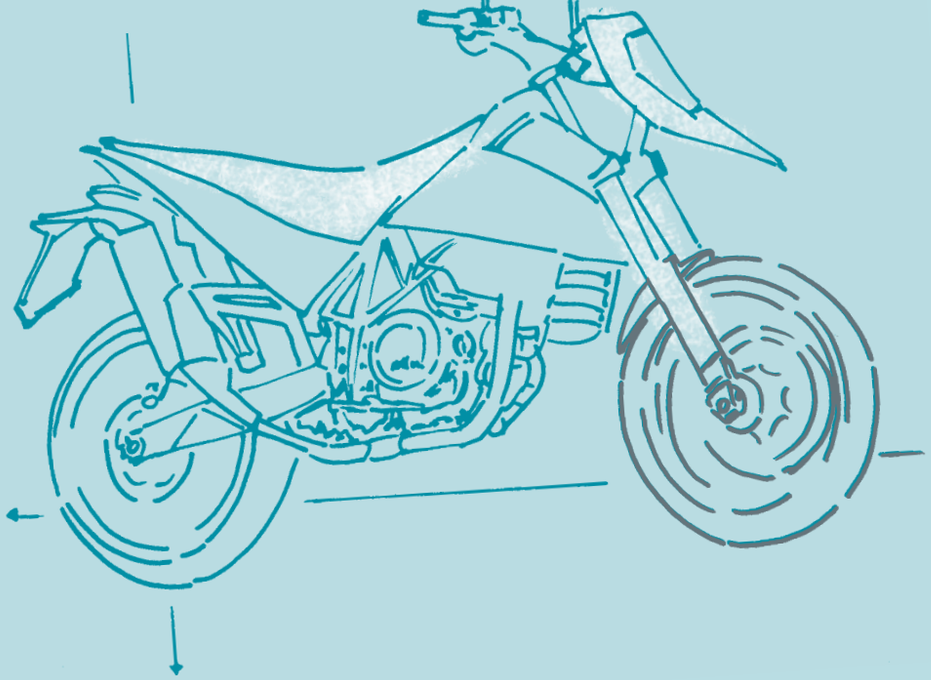
Prof. Dr. Alois Mosser

Born in 1937 in Laakirchen (Upper Austria).
Full professor for economic and social history at the Vienna University of Economics and Business Administration, professor emeritus since 2003.
Member of Institut für Österreichische Geschichtsforschung (the Austrian Historical Research Institute), chairman of Österreichische Gesellschaft für Unternehmensgeschichte (the Austrian Society for Commercial History), and chairman of Kommission für südosteuropäische Geschichte (Commission for South East European History) of the foundation PRO ORIENTE (Vienna)

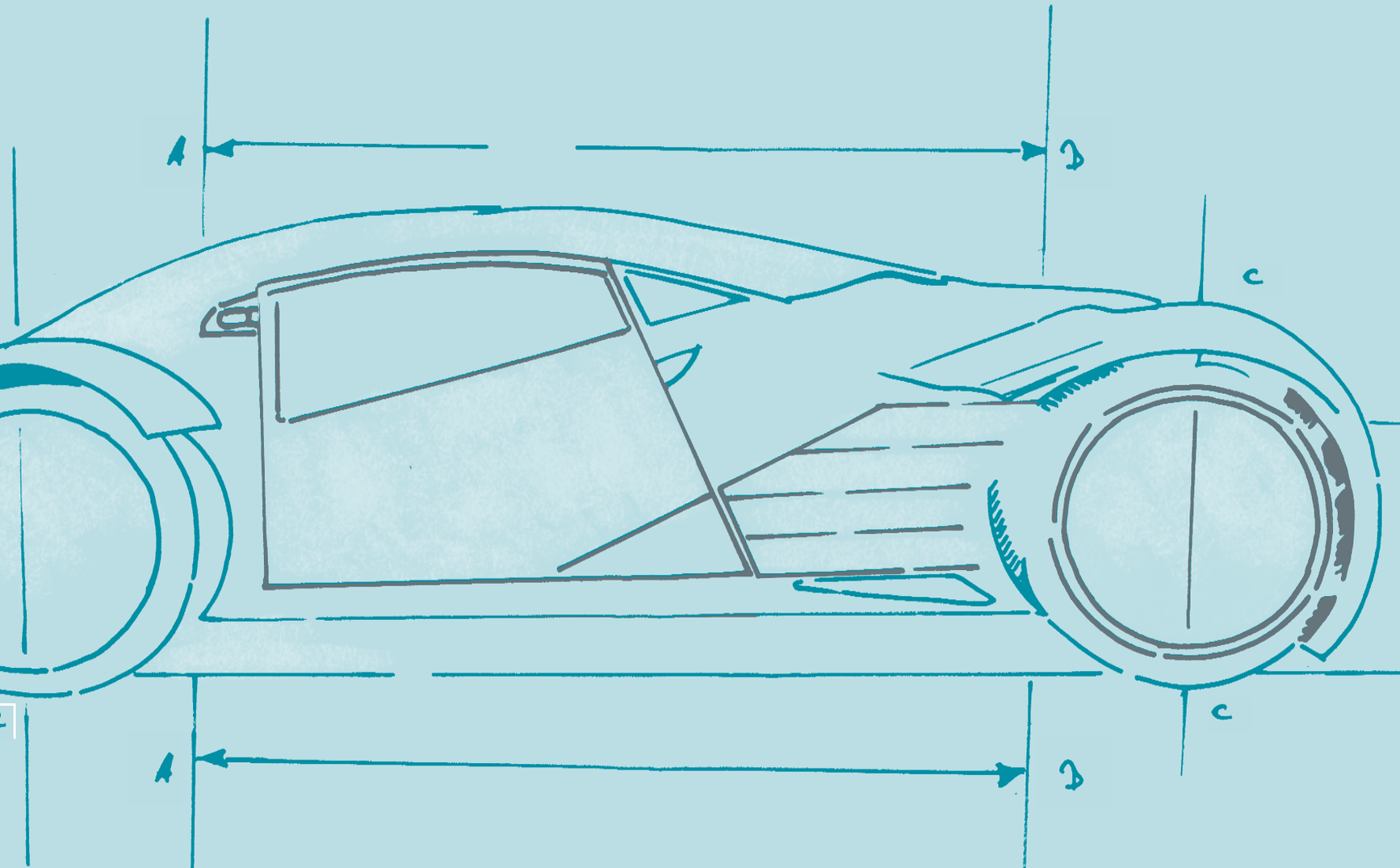
Dr. Gerhard Bruner

Born in 1947 in Vienna
1967–1973: Studied mechanical engineering at the Vienna University of Technology
1973–1975: Engine development at Porsche Stuttgart
1975–1979: Assistant at the Institute for Internal Combustion Engines at the Vienna University of Technology
1979 to present: ÖAF-Gräf & Stift AG, now MAN Nutzfahrzeuge Österreich AG; Prokurist and director of engineering since 1985
1980 to present: member of the Austrian Motor Vehicle Advisory Committee





Members



A Brief Portrait of the Association of the Austrian Vehicle Industry

Walter Linszbauer

The Association of the Austrian Vehicle Industry is a corporation under public law and the representative by law in Austria for all companies licensed to conduct business in the vehicle industry. That includes manufacturers of automobiles (e.g. passenger cars, trucks, buses, agricultural tractors), two-wheelers (e.g. motorcycles and bicycles), vehicle bodies, bodywork and trailers, automotive components and parts (e.g. engines and transmissions, exhaust systems, plain bearings, clutches, brake parts) and a number of other products (e.g. forklift trucks, aircraft, etc.). Engineering, prototyping and industrial motor vehicle repair are further activities of member enterprises.

The Association represents the interests of Austria's third largest industry, an industry that surpasses all others in exports. Approximately 360,000 people are employed by the vehicle industry, its suppliers and the sectors upstream and downstream from it. They are what make Austria an automotive powerhouse. The Association is keenly aware of its responsibility and views itself primarily as a service organization, a conveyor of information and a promoter of business on behalf of its member companies.

Responsibilities and activities in representing the industry

Under the Economic Chamber Act, the Association has inherent responsibilities as well as responsibilities assigned to it from the outside. In representing the interests of its members, the Association's activities are concentrated on the supreme authority of the collective bargaining agreement, the right to be consulted on legislation, and participation in trade and business administration. Other key responsibilities include promoting economic, social and humanitarian issues relevant to its members, strengthening community spirit and the industry's reputation in society, and keeping files and statistics on members. In further important tasks, the Association reconciles interests with other like associations, engages in promotion and PR, issues non-binding association recommendations and codes of conduct, and advises individual members.

Services exclusively for members, free of charge

The Association offers its members a number of exclusive services free of charge. It produces quarterly reports on technical and legal automotive standards as well as issuing individual informational publications geared to members and a weekly industry newsletter. Put in the form of a top management briefing, information is provided on subjects such as environmental, customs and trade policy, transport and infrastructure policy, labor law, energy policy, government procurement, invitations to tender, price and antitrust policy, and automotive tradeshows.

The industrial association with the lowest basic dues

The Association of the Austrian Vehicle Industry levies dues equal to 0.43 per mille of the gross payroll (about €15 per member company employee), the lowest "contribution to financing" of all industrial associations within the Federal Economic Chamber. Frugality, purposefulness and efficiency are the three main principles guiding resource management. It was largely the recent reforms and the constant efforts of the Association to cut costs and utilize synergies with other players that allowed these membership dues to be reduced by 28.3 percent, from 0.6 per mille in 1999 to their current level.

Presiding Committee and Association Board

A Presiding Committee elected for a five-year term heads up the Association. In the current term (2005 to 2010), Bruno Krainz (CEO of MAN Nutzfahrzeuge Österreich AG) was elected as president and Julian Wagner (CEO of Rosenbauer International AG), as vice president. The Presiding Committee is, in turn, part of the Association Board, which has 14 members.

This latter committee is the supreme steering body of the Association and makes decisions on basic dues, budget matters, business development actions, memberships in organizations, subsidies, and collaborations with universities. The committee also lays appropriate groundwork for a number of special topics. Examples include restitution payments and the annual collective bargaining negotiations.

The business office

Operating business is handled by Secretary General Walter Linszbauer (with a secretariat run by Sabine Pflügl), with the support of Deputy Secretary General Andreas Gaggl and his colleague Gerhard Klausner.

Autonomy and financial sovereignty ensure independence

To ensure that the Association can perform its work on behalf of its member companies as effectively and freely as possible, the overriding goal of the Association Board is to maintain the organization's autonomy and financial sovereignty. This autonomy allows the Association to act independently of other economic and political interest groups.

International memberships and advisory councils

The work of the Association of the Austrian Vehicle Industry is not confined to the national level. The Association also has a key part to play in numerous international organizations and associations.

Representatives in Austrian advisory councils:

- Council on Historical Motor Vehicles
- Advisory Council on Motor Vehicles,
- Advisory Council on Traffic Safety,
- Advisory Council on Civil Aviation,
- Advisory Council on Paint and Bodywork, and
- the editorial team for cataloging defects in the industry.

Membership at European level:

- European Automobile Manufacturers Association (known as ACEA, the abbreviation of its French designation *Association des Constructeurs Européens d'Automobiles)*
- Motorcycle Industry in Europe (known as ACEM, the abbreviation of its French designation *Association des Constructeurs Européens de Motocycles)*
- Liaison Committee of the Body and Trailer Building Industry (known as CLCCR, the abbreviation of its French designation *Comité de Liaison de la Construction de Carrosseries et de Remorques)*
- Liaison Committee of the of the European Bicycle Industry (known as COLIBI, the abbreviation of its French designation *Comité de Liaison des Fabricants Européens de Bicyclettes)*
- European Committee of the Manufacturers of Fire Protection Equipment and Fire Fighting Vehicles (abbreviated as EUROFEU)

Memberships at international level:

- International Motorcycle Manufacturers Association (IMMA),
- International Organization of Motor Vehicle Manufacturers (known as OICA, the abbreviation of its French designation *Organisation Internationale des Constructeurs d'Automobiles)*

Through the mandate of OICA, the Association has influence on the working group on automotive technical regulations set up at the United Nations (WP29) and is represented through its cooperation with the Austrian government ministries in two EU working groups, the Motor Vehicle Working Group (MVWG) and the Motor Vehicle Emission Group (MVEG).

Walter Linszbauer

Secretary General of the Association of the Austrian Vehicle Industry

List of Members

101 AC Austro Car
102 Aerotechnik
103 AL-KO
104 AMT
105 Anton Cserna
106 Arctic Cat
107 Austrian Airlines
108 Austro Diesel
109 Autohaus Robinson
110 AVL DiTEST
111 AVL List
112 Bernhofer
113 BMW Plant Steyr
114 Bombardier Transportation
115 Bosch
116 Brantner
118 BRP-Rotax
119 Carvatech
120 CNH
122 Diamond Aircraft
123 ELB-Form
124 Enzesfeld-Caro
125 Epsilon
126 Euromotive (SAG)
127 Fritzmeier
128 Fuhrmann
129 General Motors Powertrain

130 Gföllner
131 Grabner
132 Graf Carello
133 Hella
134 HEW
135 Hirtenberger Präzisionstechnik
136 I & T
137 Iveco
138 Kässbohrer
139 KTM Fahrrad
140 KTM-Kühler
141 KTM-Sportmotorcycle
143 Kuhn
144 Lammel-Kraus
145 Landgenossenschaft Ennstal
146 Lederer Kfz-Reparatur
147 Liebherr
148 Lindner
149 Magna Powertrain
151 Magna Steyr Fahrzeugtechnik
153 Mahle König
154 MAN
156 MAN Vertrieb
157 Maraton
158 Maschinenfabrik Liezen
159 Maschinen-Service Erzberg
160 Mauser
161 Meiller
162 Miba

164 Motor Center Austria
165 M-U-T
166 Öfag
167 Palfinger
168 Partsch Kraftfahrzeugwerkstätten
169 Pöchhacker
170 Pongratz
171 Pöttinger
172 Pusch
173 Reform-Werke
174 Remus
175 Renault Nissan Wien
176 Rosenbauer
178 Roth-Technik
179 Schaeffler
180 Schwarzmüller
181 Schwingenschlögel
182 Sebring
183 Stetzl
184 Steyr Motors
185 Stummer
186 Tarbuk
187 Terra
188 Toyota Frey
189 Wabco
190 Zellinger
191 ZF
193 Zizala

AC Austro Car

AC Austro Car is Chrysler Vienna and, as the name indicates, a member of the DaimlerChrysler AG group. The company operates six dealerships in Vienna, Graz and Klagenfurt.

Photo left: Chrysler Vienna 23 dealership and management headquarters

Photo right: Klagenfurt dealership with staff

Its six sales and service centers in Vienna, Graz and Klagenfurt make AC Austro Car the largest Chrysler, Jeep and, since June 2006, Dodge dealer in Austria. Around a quarter of vehicles of these makes registered across the country are sold by AC Austro Car.

Vienna has four Chrysler dealerships, which all offer both sales and vehicle repairs and maintenance. Chrysler Vienna 23 at Breitenfurter Straße 142–144 in Vienna's 23rd district is also the management headquarters from where the business operations of the group's dealerships are directed. Compared with other European cities, the market share achieved in Vienna is one of Chrysler's highest.

Chrysler Vienna 5 at Rechte Wienzeile 87, right next to Pilgrambrücke bridge, has both a very attractive showroom and a large service garage including body shop in the inner city area. The metro station across the street makes it easy for customers to get to work or home from the dealership.

The Chrysler Vienna 14 dealership at Albert-Schweitzer-Gasse 1a looks after the whole of the northwest business region. Working closely together, the service garage team and the sales team have managed to secure many regular customers for the company.

Felmayergasse 2 in the 21st district is the site of the highly successful Chrysler Vienna 21, which besides a newly designed showroom covering almost 1,000 square meters also features a very modern, well-equipped service garage. The spacious showroom allows around 25 new vehicles to be professionally presented. In addition, up to 75 high-quality used vehicles can be viewed on the lot. Chrysler Vienna 21 has the right vehicle for nearly everyone.

Chrysler Graz, with a site covering over 5,000 square meters at Waagner-Biro-Straße 125, enjoys excellent business and features both a service garage and a spacious 400 square meter showroom.

The newest dealership in the group was opened in Klagenfurt on a 7,100-square-meter site at Lodengasse 27, including a spacious showroom, service garage and body shop covering approximately 2,400 square meters of floor space.

DODGE CHRYSLER Jeep

ADDRESS:
AC Austro Car Handelsgesellschaft
m.b.H. & Co OHG
Breitenfurter Straße 142–144
A-1230 Vienna
Austria
T: +43 1 80121-0
F: +43 1 80121-100
E: chrysler@chryslerwien.at
I: www.chryslerwien.at

FURTHER BUSINESS LOCATIONS:
A-1050 Vienna
A-1140 Vienna
A-1210 Vienna
Graz
Klagenfurt

YEAR FOUNDED: 1988

EMPLOYEES: 147

Aerotechnik

Aerotechnik GmbH is one of the most renowned aircraft maintenance facilities at Salzburg Airport and in addition is a training center for apprentices as aircraft engineers.

Starting maintenance work

Aerotechnik is one of the most renowned maintenance facilities at Salzburg Airport

Instrument check

ADDRESS:
Aerotechnik GmbH
Kroebenfeldstraße 12D
A-5020 Salzburg Airport
Austria
T: +43 662 852910-20
F: +43 662 852910-78
E: szg@aerotechnik.at
I: www.aerotechnik.at

YEAR FOUNDED: 1955

EMPLOYEES: 26

Aerotechnik GmbH was founded in Salzburg in 1955 under the name ÖFAG (Österreichische Fahrzeugbau GmbH). In 1986 the company became an official maintenance facility and was given the name Aerotechnik GmbH. Aerotechnik has since become one of the most renowned maintenance facilities for aircraft and helicopters at Salzburg Airport. In September 1994 the company was approved as a maintenance base according to JAR-145.

Aerotechnik is now part of Compass Holding, a dynamic group of companies which together offer a wide range of products comprising charter flights, freight and heavy goods transports, maintenance services and helicopter operations.

Aerotechnik currently provides comprehensive services in the maintenance and overhaul sector for aircraft over and under 5.7 metric tons take-off weight, for the following makes among others: Cessna (various models); Piper; Beech King Air; as well as for PUMA and Bell Textron Group helicopters.

But that is not all, Aerotechnik also offers other services. The company is namely a training center for apprentices as aircraft engineers and a supplier of Cessna and Bell spare parts. Furthermore, Aerotechnik is specialized in inspections and full overhauls of Puma SA330 J helicopters.

AL-KO

The construction of the AL-KO plant in Zell am Ziller in 1961 marked the birth of AL-KO in Austria. At the same time, the first step was taken towards a multinational commitment by the Kober group. The Ramsau site in Zillertal was established in 1976.

Photo left: AMC automobile chassis

Photo right: Trailer components

The AL-KO Kober group employs over 4,000 people at 46 locations in Africa, Australia, Asia, Europe and the USA. The company is divided into the three segments of vehicle technology, garden + hobby and air technology. AL-KO Kober GmbH has been producing components for the automotive industry at two locations in Zillertal in Austria since the 1970s.

The vehicle technology segment is focused on the production of:

- wheel brakes for trailers,
- trailer hitches,
- safety cable winches,
- cables (actuating cables),
- complete handbrake lever systems with automatic cable adjustment,
- plastic components,
- steel plate components for the vehicle industry (automotive industry, construction machinery, automotive engineers, chassis builders).

Through consistent research and development, the company has managed to become the worldwide market leader in chassis building and for trailer components up to 3.5 metric tons permitted total weight and to successfully defend its position in face of its competitors.

As is the case at other firms in the AL-KO group of companies, the following three production criteria apply to the 374 employees:

- innovative technology,
- accreditation, production in accordance with ISO 9001 and ISO / TS 16949,
- design and production with the latest CAD technology (Auto-CAD, CATIA, Pro-Engineer, AMD).

As a systems supplier, AL-KO integrates consultancy, planning, design and manufacture. Around 80 percent of production from both the Zell am Ziller and Ramsau plants is sold overseas and to members of the ALKO group of companies.

AL-KO KOBER GROUP

ADDRESS:
AL-KO Kober GmbH
Zellbergeben 38
A-6280 Zell am Ziller
Austria
T: +43 5282 2651-111
F: +43 5282 2651-314
E: office@zell.al-ko.at
I: www.al-ko.at

FURTHER BUSINESS LOCATION:
Ramsau im Zillertal

YEAR FOUNDED: 1931

EMPLOYEES: around 374

AMT

AMT Aircraft Manufacturing Technology GmbH specializes in intelligent solutions in aircraft design. The company's strategy is to ensure competitive advantages for its customers with innovative and versatile aircraft. AMT Aircraft Manufacturing Technology relies on international technological collaborations with industrial and university partners.

Cockpit of the Versatile V201

The Versatile V201

ADDRESS:
AMT Aircraft Manufacturing
Technology GmbH
Flugplatz Punitz 201
A-7535 Punitz
Austria
T: +43 3327 25151
F: +43 3327 25151-20
E: office@amt-aircraft.com
I: www.amt-aircraft.com

YEAR FOUNDED: 2004

EMPLOYEES: 16

AMT Aircraft is based at the Punitz/Güssing Airfield in southern Burgenland, Austria's easternmost province.
There, it develops aircraft with a novel design language and innovative technology that set new standards in the utility aircraft industry. AMT sells its aircraft worldwide, targeting governments and commercial customers in particular. Orders in hand of €45 million ensure future growth. AMT's multi-task aircraft excel in reliability and versatility. There are currently two models available: the Versatile V201 and the Versatile UAV Eyrie.

The Versatile V201

The Versatile V201 is a 2 to 4-seat aircraft with helicopter-like characteristics. It is ideal for surveillance, pilot training and tactical missions in poor weather and difficult terrain. The V201 can be fitted with equipment such as cameras, lights and speakers. It can remain in the air for over nine hours with a 450 kilograms payload. With its aerodynamics and overall design, it offers virtually unlimited uses. It executes short takeoffs and landings on paved and unpaved runways and strips and on water and snow. The Versatile V201 is also perfect as an observational or research aircraft thanks to a speed range that extends to a very low stall speed of 67 kilometers per hour. The Versatile V201 has a powerful engine to provide additional optimized safety reserves that might be needed on difficult missions. The V201 exceeds all current requirements of observational aircraft: maximum range in airspace, larger payload, lower minimum flight speed, lower fuel consumption, i.e. greater efficiency in safety, diversity and flexibility as well as lower costs with regard to acquisition, operation and personnel.

The Versatile UAV Eyrie HP75

The Versatile UAV has the extraordinary advantage of combining internationally unique flight properties and a great loading capacity with relatively small aircraft dimensions. It flies at speeds ranging from 45 to 337 kilometers per hour and has a rate of climb of 863 meters per minute. The Versatile UAV can remain airborne for a minimum of eleven hours, making it ideal for surveillance and tactical missions. The Versatile UAV can fly in any weather and can be loaded with a minimum of 68 kilograms of equipment.

Anton Cserna

The company's director places particular emphasis on the satisfaction of his customers. Even after cars have been sold, this is ensured by the most modern, well-equipped workshop. Body repair and painting with invoicing direct to the insurance company is all part of customer service.

Vienna International Airport is one of the company's key customers

Site at Prager Straße

Site at Wiener Neudorf industrial center

The highly modern Cserna car dealership is located in Vienna's 21st district at a very busy traffic junction, where several main arteries meet.

AC vehicle construction and engine technology

Anton Cserna GmbH works on vehicle construction and engine technology for all makes of car in its modern facilities.

Its specialist area is converting vehicles up to a total weight of 5.4 metric tons, including for transporting handicapped people, whereby particular attention is also placed on fulfilling special requests.

The company is the place to go for special designs in any industry, for example de-icing vehicles, measuring technology vehicles, VIP buses, and sales and trade show vehicles. The company also supplies commercial and industrial customers with refrigerated vehicles, large capacity vans, tipper/pallet superstructures, cars for driving schools, service vehicles and much more.

Additional services include fitting heating systems for buses and people carriers, vehicle interior fittings, fixtures and conversions for handicapped people, superstructures for tarpaulins and roof braces, and refrigerated superstructures. All work is naturally carried out with the standardization included.

The company's motto is: "We plan your ideas and make all variants and requests a reality!"

RENAULT

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YEAR FOUNDED: 1986

EMPLOYEES: 30

Arctic Cat

Arctic Cat is a world-leading manufacturer of all-terrain vehicles (ATVs), quads and snowmobiles. Consistent improvements in quality and technical developments have enabled the vehicles from Arctic Cat to sustain their position in the international market. The company looks after customers in over 30 countries around the world by means of a network of 1,500 dealers.

ATVs from Arctic Cat offer new mobility on four wheels.

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YEAR FOUNDED: 2001

EMPLOYEES: over 60

Arctic Cat AG based in the Pongau district of Salzburg is the European headquarters of Arctic Cat Inc., currently employing over 60 people. The ATVs are both assembled in Austria and sold from there in over 15 European countries. The year 2006 saw the foundation of subsidiaries in Germany, Italy, France, Great Britain and Spain in order to take care of the most important markets in Europe. Arctic Cat employs another 35 people at the branches in these countries. In 2006, sales of around €14 million were achieved in Europe.

All ATVs from Arctic Cat come authorized for use on the road ex works and are fitted with Euro 2 catalytic converters as standard. (Euro 2 is coming for diesels in the course of 2007.) The vehicles are – with the exception of the model DVX 400 – licensed for two people and can be driven with a car driver's license. Arctic Cat's current product range includes vehicles with engines with a capacity of 250 to 700 cubic centimeters, which ideally covers the whole spectrum from sporty quads to all-terrain utility vehicles.

The company's international success is attributed among other things to its versatility, which is achieved at Arctic Cat above all by its extensive range of accessories: it supplies more than 120 parts for farming and forestry, transport, clearing snow, hunting, fishing, camping, leisure and racing. The patented SPEEDRACK™ system makes assembly quick and easy.

The fields of application and target groups for Arctic Cat ATVs include on and off road leisure, farming and forestry, hunting and fishing, wildlife parks and zoos, town councils and authorities, aid and rescue organizations, the military and security sector, tourism and leisure industry, racing and rallying.

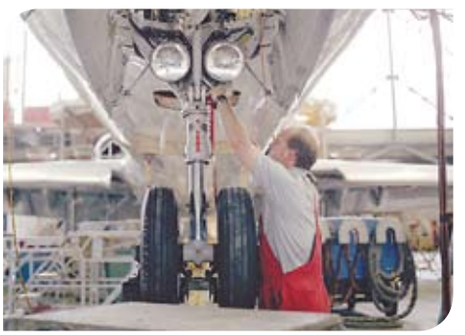
Arctic Cat proves its role as a leader of innovation where ATVs are concerned with its 700 diesel 3in1 model. The diesel ATV is driven by a high torque, powerful SOHC two-cylinder engine, which is equally robust and economical. The unique concept of this diesel model is rounded off by the patented 3in1 system, which enables a pillion seat, a cargo box or a versatile transport carrier to be fitted to the rear end. The long wheelbase creates ample space for this changeover system and ensures increased driving stability. The 700 diesel 3in1 sets new standards in the ATV market in terms of technology and looks, and is used above all as a utility vehicle. Its high traction and loading capacity due to the SPEEDRACK™ at the front and rear make it the ideal work and transport vehicle with optimal all-terrain qualities.

Austrian Airlines

Austrian Technik is the technical base of Austrian Airlines. It offers comprehensive technical service for customer airlines at Vienna Airport according to international quality standards and provides line and base maintenance as well as a wide selection of modifications and refitting options.

Boeing 777 in front of the Austrian Technik hangar

Austrian Technik offers line maintenance according to international quality standards



Line maintenance at Vienna Airport

Austrian Technik employs 1,200 highly qualified and meticulously trained engineers in a 24-hour shift operation in order to guarantee customer satisfaction. Modern infrastructure in Vienna and at other locations makes it possible to carry out aircraft maintenance right through to C-checks, as well as aircraft modifications and technical training. This means that Austrian Technik is in a position to fulfill even special customer demands and requirements.

Austrian Technik guarantees to do an excellent job, to offer "typical Austrian Airlines" quality and is committed to keeping aircraft ground times to a minimum. Furthermore, routine and unplanned maintenance work as well as additional work on airplanes is carried out within the shortest periods and to the highest standards. Thanks to years of experience as an aircraft business, Austrian Technik also offers a wide selection of modifications and refitting options.

The company provides a comprehensive technical service (line maintenance and base maintenance) for customer airlines at Vienna Airport according to international quality standards. The company's main customers are: Austrian Army, British Airways, Emirates, Fly Niki, Lauda Air, Lufthansa, Malaysia, SAS Scandinavian Airlines, Swiss International Air Lines. The range of services includes aircraft maintenance, maintaining components, technical training, engineering services and full technical service for numerous engine types and the following types of airplane: Airbus A320 family (A319, A320, A321), Airbus A330/A340 family, Boeing B737CL/NG, B767, B777, Canadair Jet CRJ 100/200, Fokker F70/F100, Boeing/Mc Donnell Douglas MD80 series.

Austrian Technik

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YEAR FOUNDED: 1957

EMPLOYEES: 1,200

Austro Diesel

Austro Diesel located in Schwechat near Vienna is the expert partner for agricultural mechanization from Lake Constance to the Black Sea.

Photo left: Massey Ferguson: world market leader for tractors

Photo right: Austro Diesel managing director Gram is pleased about the long-term partnership with Massey Ferguson

25 JAHRE Austro Diesel

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YEAR FOUNDED: 1982

EMPLOYEES: about 40

Successful companies need successful partners. Massey Ferguson, the world market leader for tractors, and Austro Diesel have been a team for 25 years. Austro Diesel is currently responsible for Massey Ferguson sales and service together with independent sales partners in five countries. Based in Schwechat, Austro Diesel is the expert partner for agricultural mechanization in many countries across Central and Eastern Europe, and the company has managed to more than double its sales in the last three years.

A pioneering spirit, a wealth of ideas and consistent development were and are the backbone of Massey Ferguson's dynamic ascent to number one in the world. Today Massey Ferguson offers a complete range of tractors up to 300 horsepower and over, combine harvesters featuring the unique PowerFlow, telescopic loaders and precision seeders through to presses and lawn and landscaping equipment for all professional requirements.

Continued expansion in Central and Eastern Europe

A key factor in the dynamic growth of Austro Diesel is its consistent expansion in Central and Eastern Europe. The markets of Austria, Czech Republic, Slovakia, Hungary, Slovenia and Romania are currently looked after directly by the team in Schwechat, supported by expert service and sales staff in each of the countries. The company will continue down this path in the next few years. There are plans to expand its market activities to the countries of Bulgaria, Croatia, Serbia and Bosnia and Herzegovina. This in turn will naturally strengthen the company's vigor, flexibility and expertise in Schwechat. Austro Diesel has an excellent logistics center and service team in Schwechat with a fully sorted spare parts warehouse. The team is currently in a position to deliver 97 percent of all orders to the dealer's premises within 24 hours.

With its local dealers, Austro Diesel now guarantees the operating efficiency for customers of over 50,000 Massey Ferguson machines in the field – even on weekends and public holidays during harvest time.

Autohaus Robinson

Fascinated by the whirlwind motorization in the USA, Douglas Robinson, a native of Vienna with English ancestry, founded an automobile company in Graz in 1908, making it the very first car business in Styria. Robinson dealt with Opel and Steyr but also sold Styria bicycles, all from a small site in the street of Neutorgasse.

Photo left: Autohaus Robinson today

Photo right: The first car business in Styria

Undeterred by the serious economic setbacks of both World Wars and the period in between, in the late 1940s the business took on English and Czech makes that could be supplied (Humber, Commer, Aerominor, Sunbeam and Skoda, Tatra) as well as Simca from France. The firm moved to the Roseggerhaus building on Annenstrasse. In 1950 the founder's son, Dr. Harald Robinson, took over the running of the company. He introduced the Vespa in Styria for the first time with great success, was equally successful in choosing Volkswagen in 1952, founded the sister company Wittwar & Co with Mercedes-Benz in 1956 and started importing Peugeot from 1974 and also Talbot later on. In 1954 the company started building the premises at Kärntner Straße 30, its current location. Neighboring land was bought on an ongoing basis, and the company continued to build briskly up to the 1990s.

At the start of the new millennium, further investments were made: in 2001 Autohaus Robinson opened a new used car center covering 2,500 square meters, including an attached showroom for the Kia make. In 2004 the customer and office area in the service reception was completely renewed and in 2005 the car firm invested in the modernization of the display area for Mazda.

The founder's grandson, Heinz Robinson, has managed the company since autumn 1983 and as early as the beginning of 1984 took it into a new era with the most successful Japanese make in Austria, Mazda. From that time onwards, Autohaus Robinson has been the largest Mazda dealer in the south of Austria. In 1995 the firm expanded its range of products by taking on the up and coming Kia brand. In 2005 Autohaus Robinson become the world's best Kia dealer and received the "Kia Dealer Performance Award" for this exceptional effort. Furthermore, the Robinson customer service workshop received an award eight years in a row from the readers of the Austrian car magazine "Alles Auto" (1998–2006).

The car firm, which sees itself as a "center for mobility and performance" with the highest standards, has so far delivered over 110,000 cars and has land on Kärntner Straße covering more than 40,000 square meters. The family business has been a member of the Association of the Austrian Vehicle Industry for decades and currently employs 65 staff.

mazda robinson KIA
Zentrum für Mobilität & Leistung
KIA MOTORS

ADDRESS:
Autohaus Robinson KG.
Kärntner Straße 30
A-8020 Graz
Austria

YEAR FOUNDED: 1908

EMPLOYEES: 65

AVL DiTEST

From the standard inspection of a family car to telemetry data in Formula 1, the pinnacle of motor sport, the electronic analysis of engine data, in short vehicle diagnostics, now sets the tone in the automotive service industry. With AVL DiTEST, an Austrian business has established itself as one of the world's leading providers of vehicle diagnostics.

AVL Twin DiX – fixed system for fault diagnostics and fault analysis

AVL DiX Drive – part of the AVL modular system

The developments of the AVL group company in Graz set technological standards in Europe. Automotive manufacturers such as VW, BMW and DaimlerChrysler as well as the large test centers put their trust in this car diagnostics technology from Austria. In 2005, the automotive diagnostics system AVL DiXDrive was awarded the innovation prize of the German trade sector. In 2006 AVL DiTEST was given a similar innovation prize for the first fully sealing motorbike emission tester, AVL Pro-Bike 220/420, which was honored in March in Munich.

The heart of the car now beats electronically

"Automobiles have long since made the leap from a purely mechanical to a mostly electronic system!" says Gerald Lackner, chairman of the AVL DiTEST management board.
With the introduction of airbags, ABS and ESP, vehicles have become more comfortable, more efficient and above all safer. The development of inspection and fault diagnosis for cars was a complex process, however. Many vehicle shops at first found it difficult to keep up with this development. This radical technical change called the existence of many small and medium-sized businesses into question. Says Lackner: "With the AVL DiTEST package consisting of vehicle measuring systems and corresponding diagnostics software, we equip service shops and test centers with modern tools that make efficient troubleshooting possible once again!"

AVL DiTEST: Growth through automotive expertise Within a relatively short time, the Austrian company managed to establish itself with its products in a central field of automotive development against suppliers from automotive strongholds such as Germany. By taking over both of its main competitors, Grundig and Pierburg, in 2002, the Graz outfit succeeded in becoming market leader for the first time in the prestige market segment of vehicle diagnostics in Europe.
AVL DiTEST achieved a turnover of almost €42 million in 2005, meaning that the company succeeded in increasing its sales fivefold in the last five years. The percentage of exports is 93 percent.

AVL DiTEST: Innovation comes from investment AVL DiTEST secured its technological advantage in the automotive diagnostics market by conducting a sustained program of investment. With an average investment ratio of 12 percent of net sales, AVL DiTEST has been able to establish itself in the upper segment of domestic industry in recent years and has doubled its level of R&D investment since 2002.

AVL DITEST

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YEAR FOUNDED: 1999

EMPLOYEES: 209
(of which 64 work in Graz)

AVL List

AVL is the world's largest privately owned, independent company for the development of powertrain systems with internal combustion engines as well as instrumentation and test systems.

Photo left: The AVL List headquarters in Graz

Photo right: Powertrain system

AVL scope of business

- Development of Powertrain Systems:
  AVL develops and improves all types of powertrain systems as an expert partner for the engine and automotive industry. The simulation methods required for development work are also developed and marketed by AVL.
- Engine Instrumentation and Test Systems: The products in this business area cover all instruments and systems required for testing engines and vehicles.

MILD HYBRID POWERTRAIN

The concept for future mobility demands – a joint research project by AVL List, GETRAG and ATB Technologies.

In connection with the coordination towards future mobility demands, ecological and economic issues naturally come to the fore: in the interest of nature and consumers, fuel consumption must be lowered by a package of various measures in order to significantly reduce emissions of CO_2 caused by vehicles. At the same time, however, the joy of driving must not be neglected. Whatever strategy is employed, a reduction in emissions and driving pleasure must not rule each other out.

Project aims and conception

In light of these issues, the ECO-TARGET™ Powertrain concept offers a very promising performance. We are talking here about a diesel engine with a capacity of approximately 1.2 liters and an automatic six-speed gearbox (AMT) with a 10-kW42 V electric motor attached to the transmission. In this joint project, AVL were responsible for the internal combustion engine and the whole energy management system, GETRAG for the transmission and ATB Technologies for the electric motor. The aim was to reduce CO_2 emissions by 27 percent (New European Driving Cycle NEDC) with a vehicle weight of 1,350 kilograms. Driving comfort, vehicle response and weight should be in the same range as that of the powertrain model, a two-liter diesel engine.

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YEAR FOUNDED: 1948

EMPLOYEES: 3,440
(of which 1,450 work in Graz)

TURNOVER 2005: €507 million

Share of internally financed research:
approximately ten percent of turnover

Bernhofer

In 1603 a grain mill situated along a stream called Vierlingerbach was converted into an iron mill. In 1824 the first Bernhofer became the owner of the iron mill, succeeding the Felshofer family. The machinery consisted of a large drop hammer driven by a water wheel. It was employed for producing tools for use in farming and forestry. Little changed until 1948/49.

Bernhofer in the early 1900s

Bernhofer in 2007

In 1946 Ferdinand Bernhofer Sen., the father of the current company owner, started restructuring the iron mill into a stamp shop. On January 12, 1949, the firm completed a new forge addition and set up two new spring hammers and a pneumatic forging hammer there, along with several crank presses. The decisive step towards becoming a stamp shop had been taken. On February 1, 1987, Ferdinand Bernhofer took over the operations.

The heart of Bernhofer: Tool making complete with designing work With seven workstations in design, 2-D to 3-D Visi-Series, ACAD and CAM Work NC and EdgeCam, with a 3-D ATOS scanner and a D Form forming simulation software, 2-D to 3-D, Bernhofer has state-of-the-art equipment and the capabilities to prepare proposals for its customers in very short order.

In tool making, almost everything has changed in the last ten years: Workers used to copy and erode. Now they simply go to HSC machines and implement whatever solution was previously worked out on the computer.

Bernhofer expanded its material warehouse in 2006 to a capacity of approximately 2,000 metric tons, the equivalent of 25 percent of the company's yearly consumption. After being cut to length, a process which is integrated in the new building, the parts are forged in two areas:

Hammer work Bernhofer has been passing down its experience in this field from generation to generation for centuries. The company is currently working on a pneumatically driven Banning hammer with an induction heating system from AEG und two preforming units. The second hammer is a hydraulically raised drop hammer from Lasco with gas heating and a stretching hammer.

Press forge Bernhofer has been active in press forging since 1990. The entry-level machine was a Weingarten PSH 265 screw press with 11,000 kN capacity. In 2000, the company installed a Ficep-PVM 360 with 21,000 kN capacity. Five years later it added a Lasco SPR1000 with 16,000 kN and in 2007 a Ficep DD190 with 27,000 kN, able to produce in a weight range from 0.1 to approximately 12 kilograms. In three press groups, finished parts can be taken directly out of the forging heat to harden following deburring. Bernhofer uses induction heating on all forging groups.

Heat treatment, normalizing, annealing, BG annealing and hardening and tempering are all done in-house at Bernhofer. The long-established company has five plants for sandblasting. Troughed belt conveyors do almost all the work. Bernhofer purchased a small plant only for samples and small series. The company also has six installations, made by Tiede and Interflux, for checking all parts for cracks. Strength testing is another of the operations performed. If customers should need tensile test specimens and Charpy V-notch test specimens, they can have the tests carried out at Bernhofer by the pertinent specialists. Finally, parts are machined in-house. The company also cooperates with 10 other business in machining.

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YEAR FOUNDED: 1603

EMPLOYEES: 152

BMW Plant Steyr

The BMW engine plant in Steyr is an integrated part of the BMW Group's worldwide production network. The group's largest engine plant is also the worldwide competence center responsible for the development of all BMW diesel engines.

Photo left: State-of-the-art technology in machining

Photo right: BMW engineers continuously work on the improvement of engine technology.

BMW Plant Steyr was founded in 1979. Engine production then started in 1982, and today more than half of all BMW engines are built here.
During the past 25 years about 10 million engines have left the production lines. Several extension stages have led to tangible growth both in production and the R&D sector. Altogether, several billion euros have been invested in the site so far.

BMW Plant Steyr builds four- and six-cylinder diesel engines as well as six-cylinder gasoline power units shipped to BMW Group car production plants the world over. These multi-award-winning power units are viewed as the benchmark for the most modern engine technology both by customers and in expert groups.

As a measure of success, the innovative, fuel-efficient BMW high performance diesel engine with six cylinders and Variable Twin Turbo technology was the first diesel engine worldwide to receive the coveted international "Engine of the Year Award" in two consecutive years. Similar sensation surrounds the BMW six-cylinder gasoline engine with Twin Turbo technology, which combines high fuel efficiency with driving dynamics at their best.

Environmental protection is a primary concern of the BMW Group, both in terms of its products and its production processes.
For example, BMW engineers are continuously improving engine technology. Through BMW's "Efficient Dynamics" philosophy, the fuel consumption is consistently reduced while the driving dynamics typical of the BMW brand are enhanced at the same time.

Moreover BMW is clearly committed to sustainability in production. Using an innovative combination of membrane technologies at BMW Plant Steyr, the water used in various production processes is purified and fed back into the production system. This saves about 30 million liters of water per year, thereby helping to conserve the environment.

As one of the largest industrial companies in Austria, BMW Plant Steyr is not only an important employer but also a good neighbor in the region. The direct and indirect safeguarding of jobs creates spending power and social security. Cooperation with education and research institutions is just as much a part of this as sponsoring art and culture.

BMW
Werk Steyr

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YEAR FOUNDED: 1979

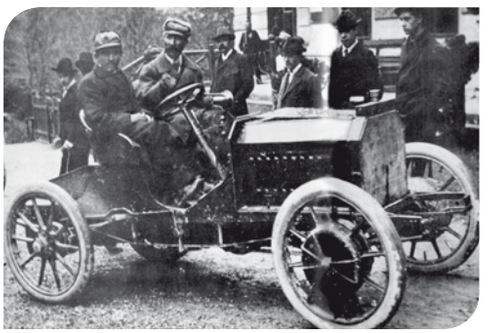
EMPLOYEES: 2,717

Bombardier Transportation

In 1823, the Viennese company was founded in the 9th district as the "Laurenzi & Lohner" coach works. The firm moved to Vienna-Florisdorf in 1876, where the business still has its operating premises today.

Bombardier FLEXITY Outlook 100 percent low-floor tram for Linz

Bombardier FLEXITY Outlook 100 percent low-floor tram for Marseille, France



Lohner-Porsche combination car with Ferdinand Porsche (at the wheel) and Ludwig Lohner (passenger)

BOMBARDIER

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YEAR FOUNDED: 1970

EMPLOYEES: 500

In 1970, the Canadian company Bombardier Ltd bought the Viennese Lohner works as its first acquisition outside Canada. A new chapter in the company's long history is currently being written with the installation of a new, ultra-modern production plant. The move from Florisdorf to Vienna-Donaustadt is planned for the end of 2007.

Bombardier Transportation employs around 500 people in Austria at the Vienna site. There is a center of excellence in Vienna with all the key functions for the trams and light rail vehicles business unit, which develops and produces solutions for the Austrian and European market. In addition, the Austrian capital also houses divisions for drive and control technology as well as the servicing of rail vehicles.

Bombardier in Vienna developed the world's first 100 percent low-floor tram with a conventional wheel-set bogie and a stepless interior throughout, thus combining two types of technology that were previously incompatible. The site also developed the first modern low-floor light rail vehicle in 1990, which was subsequently produced for Vienna, Cologne, London, Stockholm and Istanbul.

Bombardier Transportation is the global leader in the rail equipment manufacturing and servicing industry. Its wide range of products includes passenger rail vehicles and total transit systems. It also manufactures locomotives, bogies, propulsion & controls and provides rail control solutions. Bombardier Transportation's revenues for the fiscal year ended Jan. 31, 2007 amount to $6.6 billion US. It is a unit of Bombardier Inc., a global corporation based in Canada, world-leading manufacturer of innovative transportation solutions, from regional aircraft and business jets to rail transportation equipment.

Bosch

In Austria, Bosch is represented in the fields of automotive engineering, industrial engineering, consumer goods and building technology with the trade names Bosch, Bosch Rexroth, Blaupunkt, Buderus, Dremel, Junkers and Skil. With total sales of €1,060 million in 2005, Bosch exceeded the one billion mark in Austria for the first time.

Photo left: Bosch plant in Hallein

Illustration right: CRS injectors

The Viennese corporation Robert Bosch Aktiengesellschaft, a subsidiary of Robert Bosch GmbH, Stuttgart, is responsible for the sales of Bosch group products in Austria. In addition to its sales activities, electronic control units and software for car diesel injection systems are developed in Vienna. The development, production and sales of Bosch injection equipment for large diesel engines are concentrated at the Hallein plant in Salzburg. With more than 1,100 staff, Bosch is the biggest employer in this region.

Key components for the common rail diesel injection system are developed at the site in Linz. As part of the worldwide Bosch design network, injectors used in commercial vehicles are designed and tested here, as is the accumulator along with its control and safety valves.

Robert Bosch AG, Vienna, is also responsible for sales and customer service in the countries of Central and Eastern Europe. In 2005 these sales companies employed a total of 1,307 staff. The region achieved a turnover of €442 million. The division for large diesel injection systems at the Hallein plant is responsible for development, production and sales of in-line pumps, single cylinder pumps, solenoid valve controlled pumps, injection nozzles and nozzle mounts for large diesel engines. In addition, other Bosch group sites are supplied from Hallein with diesel equipment components for private and commercial vehicles. Furthermore, the Hallein plant is the main center for developing and producing gearwheel pumps and emission control systems (DNOX).

Bosch injection equipment for large diesel engines is used for a multitude of applications worldwide. Large diesel engines equipped with Bosch technology are used in ships, locomotives and large capacity trucks such as the huge dump trucks for excavation work. Another important field of application is driving generators in power plants for producing electricity.

The customer base includes prominent manufacturers of heavy good vehicles and of special-purpose vehicles in Europe, the USA and Asia. The largest single cylinder pumps made in Hallein are 70 centimeters tall and weigh over 100 kilograms. They inject 15,000 cubic millimeters of fuel per cylinder stroke, 300 times more than an ordinary car diesel engine. The injection pressure is currently 2,000 bar, which in theory is the equivalent of the water pressure 15 kilometers below the ocean's surface. The production tolerances are anything but coarse, however. The dimensional accuracy of the parts is less than one micrometer – a human hair is 50 times thicker.

BOSCH
Technik fürs Leben

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FURTHER BUSINESS LOCATION:
Linz

YEAR FOUNDED: 1899

EMPLOYEES: 1,563

Brantner

Brantner has developed from a small, country blacksmith to the largest producer of agricultural tipper trucks in Europe, with exports of more than 65 percent. The production of vehicles for farming, local authorities and industry is completed exclusively at the company premises in Laa an der Thaya, where the 100,000th tipper rolled off the line in summer 2005.

Four-axle dumping trailer

ADDRESS:
Hans Brantner & Sohn
Fahrzeugbaugesellschaft mbH
KR-Hans-Brantner-Straße 8
A-2136 Laa an der Thaya
Austria
T: +43 2522 2511-0
F: +43 2522 2511-5
E: fahrzeugbau@hb-brantner.at
I: www.hb-brantner.at

YEAR FOUNDED: 1948

EMPLOYEES: 306

The first horse trailer with air-filled tires was built by Hans Brantner senior in 1948. Just like this trailer, nearly all Brantner trailers are still in functioning condition, as all Brantner employees have aimed at producing the best quality for generations. The company has been the number one in agricultural tipper trailers in Europe for 21 years.

This pursuit of quality and the close link between the Brantner family, its employees and its Lower Austrian home are the best reasons for not looking, like most other manufacturers, for cheap labor in the East, and instead for creating high-quality jobs here in the Weinviertel region.

The tire business (Ergola Brantner KG) and the four car dealerships in the Brantner group of companies are also making steady, positive progress. As a result, the 10,000th new car was delivered just recently.

Brantner POWER-PUSH dump trailer

The quality characteristics of the POWER-PUSH dump trailer are a chassis frame made of highly stable pressed profiles, 40 kilometer per hour tandem axles, with suspension fitted under the axles, as well as vibration control and suspension support. As with all other Brantner products, the trailer comes with a 10-year guarantee on the chassis frame. Comprehensive additional equipment, such as air suspension, steering axle, unsprung pendulum suspension, sprung tow bar and various wide-tire versions provide every customer with a tailored solution.

Stable construction on the POWER TUBE dumper

The stable dump box made of a single piece with a thickness of 5 millimeters means that transporting and dumping grain and dry goods is also no problem for the POWER PUSH dump trailer. Another advantage of the robust dump box is that silage can be compressed during the loading process. This enables considerably more to be loaded compared with conventional dumpers and silo trucks of a similar size. The total volume of the dumper trailer can be further increased by fitting additional side attachments that are either 400 or 500 millimeters high.

POWER TUBE

Aerial photo of HB-Brantner

POWER-PUSH

Dumper device

Plastic rollers with ball bearings and sprung presser rollers allow the load to be dumped easily. The positioning of the chrome-plated, double action thrust cylinder in front of the dumper leads to no loss of loading space. The thrusting cylinder and the double action cylinders at the rear opening require 35 liters of oil altogether.

Brantner POWER TUBE dumper

The latest development from the Brantner stable also remains faithful to the company's long-time strategy: best quality, continuous technical development and adaptation, as well as production with the latest machinery and expert personnel resulting in reasonable prices. Fifty years of experience in the production of agricultural trailers has made Brantner into the biggest manufacturer of such trailers in Western Europe. The POWER TUBE dumper is supplied as a single, tandem or triple axle vehicle.

Numerous benefits

The benefits of the new POWER TUBE reverse dumper trailer are plain to see: A fixed, self-supporting, stable, tapered dump box with a standard height of 1,500 millimeters and with totally smooth interior surfaces. The hydraulic rear opening is particularly easy to operate and is available as standard on all reverse dump trailers. Chrome-plated tilt cylinders, a tilting angle over 50 degrees, a trapezoid tilting frame as on trucks, widely separated tilt bearings with tapered ball cups, rear grain pushers, sturdy cross arm on the frame end to prevent underrun and removable light covers are just a few of the standard benefits of the new POWER TUBE. With a host of other add-on devices, the Brantner POWER TUBE dumper can be custom equipped to meet the customer's individual needs.

BRP-Rotax

BRP-Rotax, a subsidiary of Bombardier Recreational Products Inc. (BRP), is a world leader in developing and producing innovative 2 and 4-stroke high performance engines for snowmobiles (Ski-Doo® and Lynx™), watercraft and sports boats (Sea-Doo®), ATVs and roadsters (Can-Am™), motorbikes (BMW and Aprilia), go-carts, as well as light and ultra light aircraft.

Photo left: The BRP-Rotax plant in Gunskirchen

Photo right: The new revolutionary Can-Am Spyder Roadster is powered by a Rotax engine.

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YEAR FOUNDED: 1920

EMPLOYEES: about 1,200

The export level of BRP Rotax is continually at approximately 98 percent. More than 70 percent of its exports go to the main sales market North America. Besides its state-of-the-art production, the company operates an efficient research and development department at its site in Gunskirchen, Upper Austria. In the last 50 years, BRP-Rotax has developed over 350 engine models and built over six million Rotax® engines. Years of experience, combined with an outstanding reputation, have helped BRP-Rotax become one of the most renowned and experienced engine manufacturers outside the automotive sector. This is best demonstrated by the company figures from the 2006/2007 business year. Sales were €327 million, whilst around 187,000 engines were produced in the year quoted. And with around 1,200 employees, BRP-Rotax is the largest employer in the Wels-Land district.

This development is not a matter of chance. The company's strengths are based on several factors:

- Leading technology due to world-class R&D expertise and advanced processes such as "simultaneous engineering,"
- continuous investment in product and process innovations,
- excellent, standardized production with high quality, flexibility and efficiency,
- targeted staff development and, consequently, problem solving skills, creativity and motivation.

Setting the standards – an example

The ROTAX 4-TEC® boat engines have revolutionized the market and therefore contribute to keeping up the tradition of being market leader with Sea-Doo watercraft and sports boats. These innovative engines come with low noise and exhaust emissions together with reliable high performance.

The pioneering services of BRP-Rotax in this market are represented by its 215 horsepower engine with supercharger and intercooler. The product is currently one of the most powerful three-cylinder engines on the market and sets new standards in terms of torque, acceleration, agility and reliability.

Carvatech

Thinking in solutions! This is the motto under which Carvatech works. The Upper Austrian company is a synonym for design-led aluminum light engineering, best quality and the highest level of safety. Since 1956, Carvatech has been designing and producing cable car carriages, funicular railway carriages and carriages for the most varied mechanized systems across the world.

STSB Nordpark

Carvatech has been based in Oberweis near Gmunden since it was founded. Whether it is ropeway cars for the new "Golden Jet" in Schladming, aerial tramway cabins for the "Ahornbahn" or cars for the funicular railway on the Schlossberg at Graz, all their carriages come with the highest comfort.

Since the 1990s, large European automotive industrial companies have also been part of Carvatech's customer base. For example, the firm built specially designed trains for transporting visitors at the visitor centers in the VW *Autostadt* and the Opel plant.

In the "special superstructures for motor vehicles" sector, the company has been working closely with Rosenbauer International AG, Leonding. Carvatech is responsible for numerous design solutions for special car bodies within this partnership. New developments of aluminum driving cabs for municipal fire engines are evidence of the company's technical expertise in product design.

Together with manufacturers of railway vehicles, Carvatech designs and produces aluminum driving cabs for trains and locomotives. Many years of experience in aluminum light engineering design provides customers with competitive benefits due to savings in weight and generous design techniques.
As an innovative company, Carvatech is always on the lookout for new challenges that allow it to continually increase its expertise. For example, the company has been designing and producing so-called Rent-mobiles for promotion purposes since the fall of 2006. A Rent-mobile is a conventional VW Crafter van that is then given a special design. The vehicle's re-standardization is also done by Carvatech.

From van to Rent-mobile – a brief description

The whole rear section of the VW Crafter van is cut off. Only the driver cab plus the back wall and floor panel remain. The shell of the design structure is then put in place. The roof and rear end of the design structure are paneled with sandwich boards. The driver's side is fitted with semi-transparent compound panels, whilst the passenger side is done with a high-quality VSG glazing.
The whole construction is carried out in tried and tested adhesive technology, which is also used on airport fire-fighting vehicles.

The outer and interior design of the Rent-mobile is done using special films and is entirely in line with the customer's requirements. Particular emphasis is placed on the interior fittings including multimedia equipment – on the one hand in terms of the vehicle's equipment with auxiliary heating and AC/DC converters for the power supply, on the other hand in terms of technical fittings.

carvatech
KAROSSERIE & KABINENBAU GMBH

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YEAR FOUNDED: 1956

EMPLOYEES: 70

CNH

Steyr Landmaschinentechnik AG was taken over in 1996 by the Case Corporation, leading international tractor manufacturer, and renamed Case-Steyr Landmaschinentechnik.
Since the subsequent 1999 merger of Case Corp. and New Holland to form CNH, the Steyr brand has belonged to one of the world's largest makers of farm machinery. The St. Valentin factory has conducted business under the name CNH Österreich GmbH since 2002.

Steyr Kompakt

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YEAR FOUNDED: 1864

EMPLOYEES: 430

Steyr tractors have been synonymous with premium quality from Austria for 60 years. About half of all tractors operating in Austria bear the logo of this market leader on their hood. The factory in St. Valentin, Austria, has gained further significance as the new European headquarters of Steyr and Case IH and of Vice-President Europe Andreas Klauser, an Austrian.

The factory currently produces 75 different tractor models and configurations with a capacity range of 80 to 309 horsepower. St. Valentin manufacturers 80 percent of all Steyr and Case IH tractors sold in Europe.

Tractors have been mass produced at the St. Valentin tractor factory since 1947. Initially, it was the legendary 180 model with 26 horsepower and two cylinders or the green 15 model packing 15 horsepower. Technology and requirements have changed greatly since then, but Steyr has always remained a leader in expertise and technical innovation, as shown by the revolutionary features of its CVT tractors. This reputation is impressively confirmed by numerous prizes and gold medals and by Steyr being singled out multiple times for the coveted "Tractor of the year" award.

Austria's farmers have relied on Steyr tractors for 60 years. The model range and the extensive equipment for farm, forestry and municipal applications ensure steady high demand for these products. Andreas Klauser, Vice-President Europe of Steyr and Case IH: "About half of all tractors in Austria come from Steyr. We are dedicated, now and in the future, to doing our utmost to ensure that Austrian farmers can rely on Steyr."

Steyr: innovative top brand with tradition

Highly qualified specialists apply their superb expertise to technical advances, production, assembly, quality management and sales. Extensive investments in the production technology in St. Valentin in such things as computer-controlled assembly systems, the very latest quality management systems and a leading development center underscore the factory's European significance.

The St. Valentin factory keeps setting new standards in development. The continuously variable technology of the Steyr CVT, a milestone in tractor design, was developed in Austria. Today, the continuously variable transmission technology and ultra-modern controls from St. Valentin are models for the entire industry. They excel in performance and ensure a superb return on investment. And they are unbeatable when it comes to versatility.

Steyr CVT: revolutionary continuously variable technology

The continuously variable CVT is the flagship of the Steyr fleet, packing a powerful 141 to 196 horsepower as well as the Power Plus System, which boosts power during transport or PTO work by an additional 20 horsepower. All five models in this line of tractors are now fitted with new and more dynamic common rail engines that comply with tier-3 emission standards and deliver about 4 horsepower more

Steyr Profi

Andreas Klauser, Vice-President Europe of Steyr and Case IH

Steyr 9000 M

power than engines of the previous CVT generation. The interior of the operator cabin has also been totally redesigned. The floor and sitting position of the driver are now slightly lower and the controls and air conditioning were completely repositioned.

Steyr Profi: economical model with optimum performance

The Steyr Profi line features extremely low fuel consumption and engines with a powerful 101 to 136 horsepower output, along with Power Plus for an additional boost of as much as 26 horsepower. The new Profi 4130 with four-cylinder engine and 132 horsepower (97 kilowatts) is available in six different models. With their exhaust gas recirculation and resized exhaust gas piping, all Profis meet the tier-3 exhaust gas emission standards and are even more powerful than before. Power Plus boosts power to as much as 152 horsepower.

Steyr 9000 M: All-round star for arable farming and grassland work

The Steyr 9000M Multi Trac packs a robust 82 to 97 horsepower engine and performs all tasks with optimum economy and comfort. Its low power-weight ratio and excellent maneuverability make it all the more productive in arable farming and grassland work as well as for transports. Electronic hitch control and active vibration absorption, electronic loading control and an axial or chassis mounting front hitch with electronic front hitch control make the Steyr 9000M a comfortable tractor that meets even the most exacting standards. Power 2 transmissions and front and back variable-speed PTOs are two more features that ensure this tractor's versatility.

Steyr Kompakt: the same top technology and comfort as the large-scale models

These tractors are lightweight and agile yet have all the technical features of the big guys: power shift, power shuttle, electronic hitch control, axial or chassis front mounting hydraulics, front and rear PTOs, hydraulic oil cooler and air-conditioning. Quite a compelling lineup! To tailor the Kompakt even more effectively to individual needs, Steyr now offers a further transmission model.

Diamond Aircraft

Diamond Aircraft Industries is specialized in designing and manufacturing composite aircraft and is one of the world's leading suppliers in the general aviation class. The headquarters in Wiener Neustadt houses the research, development and sales center, as well as one of the company's three production sites.

Photo left: DA42 Twin Star

Photo right: Headquarters in Wiener Neustadt

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YEAR FOUNDED: 1981

EMPLOYEES: 630

Its customers include private and commercial operators, flying clubs and private and military flight schools from all over the world, so that besides having a second plant in Canada, the company is also represented across Europe, North America, South Africa and Australia.

As an approved Design Organization (DOA), Diamond Aircraft Austria is authorized to independently develop internationally accepted aircraft designs. The design and production of aircraft is based on researching, developing and applying high-performance composites, which are manufactured in the Diamond Composite part of the firm. Every year approximately 400 airplanes are hand built in the Wiener Neustadt plant, of which half are finished in Austria and half in Canada. As a manufacturer the corporation holds a Production Organization Approval (POA) and the authorization to produce and inspect new aircraft and to deliver these with an Aircraft Statement of Conformity within the entire EASA area.

A key prerequisite for success on the international market is taking full advantage of all options and making the technically feasible reality. To this end, the top priority at Diamond Aircraft is combining speed, range and superior safety at a completely new economical and ecological level. One answer to this challenge is the DA42 Twin Star, a twin-engine four-seat aircraft that combines the benefits of outstanding safety and optimum flight characteristics. The DA42 Twin Star is built from an internally developed, ultra-light, high-strength composite material and offers ideal flight characteristics and performance specifications thanks to its combination of a lightweight airframe and aerodynamics that were refined in countless testing runs in the wind tunnel. The range of groundbreaking innovations extends to the fully integrated glass cockpit with its ultra-modern digital avionics system that allows the pilot to easily monitor engine data, flight situation and navigation and keep better control of the aircraft.

The DA42 Twin Star sets new standards for light, twin piston-engine aircraft and offers a unique combination of safety, cost-effectiveness and performance.

ELB-Form

The Form Group is a recognized partner of leading international companies in the automotive and automotive supplier industries and specializes in the development and production of premium quality components.

Hydro forming

Design and structural part

Business site in Vandans, Austria (province of Vorarlberg)

The Form Group operates two production locations in Austria: one in Vandans in Vorarlberg, the far western province of Austria, and one in Voitsberg, Styria, a province in southeastern Austria. The company is a recognized partner of leading international companies in the automotive and automotive supplier industries. Form specializes in the development and production of high-quality components and assemblies. The group's product range comprises:

- Equipping engines with tubing components,
- Stampings, also as welded assemblies,
- Structural parts made of steel and aluminum.

Customers obtain everything from a single source, from development to production.

Just-in-time delivery

The core competence of Form lies in the shaping and welding of components and assemblies in lightweight construction. We offer top quality tube shaping, e.g. CNC-bending and hydro forming. Our own stamping shop supplies our customers with small and medium sized stampings and welded assemblies. Attachments for tubing components manufactured in-house are likewise in our portfolio. Steel, stainless steel and aluminum are processed in series production. One of the company's special skills is the production of lightweight aluminum components. The Form Group is a master of the complete process chain, up to the finished welded part and including pickling passivation done in series production.

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FURTHER BUSINESS LOCATION:
Voitsberg, Austria (province of Styria)

YEAR FOUNDED: 1998

EMPLOYEES: 300

Enzesfeld-Caro

Today, Enzesfeld-Caro Metallwerke AG (ECM) is a leading manufacturer of non-ferrous metals in Austria and an acknowledged supplier of niche products in Europe and overseas. With 310 staff members, ECM is one of the largest employers in the Triesting valley and, with a positive annual result over the 2006 financial year, achieved sales of approximately €52 million.

Employee measuring

Caro antifriction bushes and antifriction elements

ENZESFELD-CARO METALLWERKE AG

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YEAR FOUNDED: 1905

EMPLOYEES: 310

Enzesfeld-Caro Metallwerke AG's wide range of products cover tubes, bars and profiles made from tin bronze and other copper alloys. The manufacturing program also includes solid brass cages, antifriction bearing bushes and other antifriction elements. These products are generally used in mechanical engineering, high-performance engines or in a processed form as heating or sanitary pipes. Well-known customers such as SKF, Bosch or Ferrari put their confidence in Enzefeld-Caro quality.

The Carobronze® high-performance material

The phosphorous tin bronze Carobronze® product has held a prominent position for decades on the antifriction bearing materials market. The reasons for this are the minimal wear and tear, low material costs with a long life cycle, high operational safety from proven product quality, as well as in-depth consultancy and a high level of service due to a wide range of stock.

The particular properties of the material are based on the interaction of extraordinary alloy purity, high phosphorous content and targeted wrought forming and heat treatment. The internal ECM tolerances in the alloy composition of Carobronze® are far more stringent than those specified in international standards. This guarantees a very pure alloy which can achieve better antifriction properties and lower fluctuations in mechanical properties than conventional CuSn alloys.

This means it is ideally suited for use as a high-performance antifriction material where there are demanding requirements regarding load suspension capacity, acceptable sliding speed, abrasion resistance during mixed friction operation and first-rate hydrodynamics.

In the machining sector this alloy is processed into high-precision Carobronze® antifriction bearing bushes, Carobronze® antifriction elements and other products. Furthermore, maintenance-free Caro®plus antifriction bearings with hard lubrication and sintered Carint bushes are produced using the most up-to-date equipment.

Decades of experience and solid expertise in manufacturing and application technology have played their part in giving the quality products from Enzesfeld-Caro Metallwerke, "from a semi-finished product to the end product – from a single source," an international reputation.

The EN ISO 9001 quality management system, IS0 14001 certified environment management system and committed employees ensure that this standard will also continue to be improved in the future.

Epsilon

Epsilon Kran specializes in designing, assembling, selling and servicing cranes for loading timber and waste, as well as for handling recyclable materials and cranes used on forestry machinery, such as skidders and forwarders.
With a market share of 40 percent, the company is the market and technology leader in Europe for truck-mounted timber cranes.

Epsilon crane in off-road use

Innovation made in Elsbethen

In the year 2000, Epsilon was the first supplier of timber cranes featuring a double telescope with boom cylinder and hose guide mechanism, which were fitted in the knuckle boom and thus protected against mechanical damage. When the company started making the series of cranes for use on off-road machinery, the second and revised generation of this telescopic system was successfully patented under the name "EPSCOPE." Furthermore, a new link between the jib and the rotator developed by Epsilon was patented under the name "EPSLINK." Another feature, which is available exclusively from Epsilon under the name "EPSLIGHT," offers the benefit of intelligent lighting, which simply means that the position of the headlights always illuminates the area of work by means of an overriding control system.

Knuckle boom crane for timber and waste

Epsilon designs and produces cranes with knuckle booms for the heavy timber and recycling sectors. They can also be seen on the street, as they are mounted on trucks for loading and unloading recycling containers, for example. Their main job consists of transporting timber or they are used as fixed appliances in junkyards, recycling plants, timber yards and saw mills. The combination of hydraulics and perfectly coordinated work design gives them a large pivoting range and the ability to load even the heaviest goods safely and quickly onto trucks or railcars. The company currently produces 17 different models of crane in four modularly structured product groups. These groups are based on four main modules each with the same design principles. The power of Epsilon cranes is divided in to categories from 6.5 to 38 metric tons. All cranes have internally routed, protected hoses and linkage systems, resulting in appliances of high technical quality and making Epsilon the leader in technology.

A highlight of the Epsilon product range is the E110L model with its weight-optimized EPSCAB crane-operator cabin – it weighs at least 300 kilograms less than comparable competitors' models. Epsilon designed EPSCAB in collaboration with customers from Scandinavia, taking into account the weather conditions in the north European timber-loading sector. Heated seats and radiator heating with a three-level fan, Hultdins swing dampers, electro-hydraulic control from forestry machinery, windshield wipers with variable speed, shatterproof front windshield, protection against stone chips and interior lighting are just a few of the features from the comprehensive standard equipment. All operating controls including the two joysticks for controlling all functions are integrated in the armrests. The control processor in the cabin can easily be set to the driver's requirements and preferences. In addition, the cranes have become even more service-friendly: service intervals are displayed automatically. Epsilon also equips its cabins with optional diesel heating, air conditioning and wired remote control on the base frame.

EPSILON PALFINGER

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YEAR FOUNDED: 1981

EMPLOYEES: 50

Euromotive (SAG)

SAG Euromotive is a wholly-owned subsidiary of Salzburger Aluminium AG (SAG). SAG and its subsidiaries are international manufacturers of high quality aluminum components for the automotive, aviation, motorcycle, commercial vehicle and rail vehicle industries and also make high performance aluminum materials for the processing industry. SAG Euromotive was taken over by SAG in 1995.

Top photo: Seat-back frame for sports car

Photo right: Active solution for pedestrian protection

SAG
Euromotive

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YEAR FOUNDED: 1995

EMPLOYEES: 140

With its century of experience in working with aluminum and lightweight construction, SAG is able to accompany its customers along the entire processing chain: from the production of high performance aluminum materials to the development and manufacture of innovative high-tech components and metal recycling. By providing the appropriate expertise and a broad range of products, SAG can respond effectively to the challenges the supplier industry faces on the market today. About half of total sales are currently generated with automotive components.

SAG Euromotive is active in the automobile, aviation commercial vehicle and motorcycle industries and has earned an especially strong reputation in energy management systems. Besides traditional components of relevance to crashes such as impact absorbers, bumper systems, honeycomb knee cushions, side impact bars and reinforcement parts, SAG Euromotive is adding a growing number of its own advances to its product range.

Energy management in pedestrian protection

SAG Euromotive has been working on the problem of pedestrian protection for a long time. SAG Euromotive develops systems meant to substantially increase pedestrians' chance of survival in accidents with vehicle involvement.
The latest development in this area is an active lightweight hinge. This component has a dual function. Besides protecting pedestrians, the spring elements in it are also used for opening the engine hood in normal operations. This eliminates the need for the usual construction with pneumatic springs.

New solution with numerous advantages

The active hinge is also a good solution from a commercial standpoint and can be produced either as a single-joint or multiple-joint hinge.
A major advantage it has over many other systems is that it allows the hood to be reset repeatedly with ease and no additional effort. The driver can do this by him or herself with little exertion. The entire system enables the hood to be raised by 110 millimeters and has a respectable opening time of 72 milliseconds.

Fritzmeier

The Fritzmeier company produces complete cabs, paneling parts and system assemblies for the automotive industry. Approximately 60,000 cabs and 10,000 safety frames are produced for OEM customers at the locations in Germany, France, Belgium, the Czech Republic and Austria.

"Map" of the Fritzmeier Group

The Austrian company in Wels, which has 110 employees, makes approximately 5,000 cabs for commercial vehicles, most of which are fully fitted out, for the European market.

The Fritzmeier range of products includes complete cabs, paneling parts and system assemblies for construction machinery, forklift trucks and agricultural machinery.

Once a customer places an order with Fritzmeier, its cab is created by means of the following process:

Step 1: Industrial design
The product design creates a synthesis of functionality, safety and modern looks.

Step 2: Construction R&D by CAD
The products are planned at 51 CAD workstations with various 3-D systems (ProE, CATIA, Solid Designer).

Step 3: FE-ROPS/FOPS simulation + safety/ load tests
Fritzmeier carries out tests of all types so that their cabs hold up to the rigors of practical use.

Step 4: Prototype and sample construction
The company is able to manufacture complete, ready to use prototypes for tests and installation trials.

Step 5: Tool and fixture construction
Construction and manufacture of all manufacturing tools and aids is completed on the basis of 3-D CAD data.

Step 6: Plastics processing
"Competence in plastic" is the next step for finishing the cabin interior.

Step 7: Steel construction and painting
All production facilities are run in accordance with the highest industrial quality standards.

Step 8: Plug & Play
The cabins are handed over to the customer after being fully fitted out and tested.

Tested quality and just-in-time deliveries ensure high reliability.

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YEAR FOUNDED: 1926

EMPLOYEES: 110

Fuhrmann

Fuhrmann has been in existence for 150 years as a family business at its site in Steinebrunn and currently has around 135 employees in Steinebrunn and 40 employees in Feldsberg/Valtice. The company specializes in the production of steel sideboards for the truck industry, agricultural tippers and automobile trailers.

Photo left: The family business Fuhrmann specializes in the production of steel sideboards.

Photo right: 3-D view of steel sideboard

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FURTHER BUSINESS LOCATION:
Feldsberg/Valtice

YEAR FOUNDED: 1856

EMPLOYEES: 157

The Fuhrmann production program comprises approximately 100 types of steel sideboard, with heights from 300 to 1000 millimeters and thicknesses from 1 to 2.5 millimeters. These profiles are used for agricultural tippers, truck and automobile trailers. The production volume total approximately 5,000 metric tons a year, equivalent to a distance of 500 kilometers. Seventy-five percent of production is exported to more than 20 countries. The main sales markets are the EU countries but also countries in the Middle East, in Asia and in South America.

Since 1975, Fuhrmann has held its ground as a leading producer of steel sideboards. With our decades of experience, high quality standards and state-of-the-art manufacturing technology, the company endeavors to maintain this position and to expand sales into new markets. The switch to laser welding technology was a significant step in the further development of our products. Since 1988 robot welding has also been used for further processing. Fuhrmann welds the profile ends together. All necessary components such as locks, hinges or tarpaulin hooks are then completed using a separate robot system.

Vehicle engineering

Fuhrmann produces agricultural two, three and four-axle tippers up to 32 metric tons total weight as well as trailers and tippers for commercial use. In addition, the company's portfolio includes special vehicle construction in the trailer and tipper sectors. Also in the program: platforms and tipper add-ons for the agricultural, construction and municipal sectors. What is more, special units in steel, aluminium and stainless steel, plus repairs to trailers, tippers and add-on units.

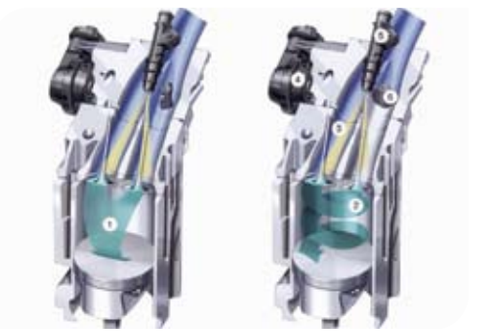
Another firm fixture in company's activity is the manufacture of vintage wagons for transport and the unloading of grapes using excentric conveyor pumps. The vehicles can be used both for entire grape harvests and hand picking. Horizontal and vertical V2A stainless steel mashing wagons with a tank capacity of up to 4,000 liters, a closed transport holder and integrated stalk removers ensure high quality grape processing.

General Motors Powertrain

General Motors Powertrain – Austria has been a showcase site in terms of quality and productivity for more than 20 years.

General Motors Powertrain plant

Six-speed transmission assembly



TWINPORT concept

A piece of Austria can be found in one out of every two Opels worldwide. Since opening in 1982, the General Motors Powertrain plant in Vienna-Aspern has produced more than 26 million engines and transmissions and sent them out to power vehicles worldwide (99 percent of which are Opels).

The company was formed in 1963 as a trade organization. In 1980 to 1982, an engine and transmission plant was built in Vienna-Aspern. The GM Group has invested a total of €2.1 billion in its Austrian facilities.

General Motors Powertrain – Austria has developed into a benchmark enterprise in terms of quality and productivity since production began in 1982. GM acknowledged this success in 2004 with a major €380 million investment in a new six-speed transmission plant. Today, the 2,100 employees in Vienna-Aspern manufacture 1.5 million engines and transmissions a year and export them to customers throughout Europe. In 2005, the company had annual turnover of €810 million.

General Motors Powertrain – Austria produces environmentally friendly and economical three and four-cylinder TWINPORT ECOTEC engines with a displacement of 1.0 to 1.4 liters, high torque and electronic motor management exclusively for Opel/Vauxhall models. The five-speed transmission has a torque of 170 to 180 newton meters and is produced for gasoline and diesel engines with a maximum engine size of 1.8 liters. The compact six-speed transmissions are compelling in their high resilience and acceleration, yet are low in fuel consumption and noise level. These transmissions are suited for gasoline and diesel engines ranging in size from 1.3 to 2.2 liters. Customers are group brands of GM and Fiat Auto. The five and six-speed transmissions are also available as automatic transmissions (Easytronic).

GM Powertrain Europe

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I: www.gm-powertrain.at

YEAR FOUNDED: 1963

EMPLOYEES: 2,100

Gföllner

A Future Based on Tradition
Gföllner has been in the vehicle manufacturing business for over a century. Now in its fourth generation, this business that began as a blacksmith and wheelwright shop is today an innovative and successful producer in the vehicle industry.

Photo left: Tipping bed for vehicle transport

Photo right: The company's business site in Grieskirchen

Continuous stream of first-class products

To realize visions, a company needs decades of experience plus innovative ideas. In 1970 the company began production of containers and mobile space modules. This new product line developed into a mainstay of business and today stands for excellent quality sold the world over. Additional all-round reliability is ensured by the company's certification under the ISO 9001 quality standard in October 1995.

In the 14,000 square meters of floor space at its two production locations in Grieskirchen, at Moos 31 – and since March 2007 also in St. Georgen bei Grieskirchen (a new factory), the company and its 160 employees manufacture functional products of premium quality in a special project-based collaboration with customers. The product range of Gföllner is diverse and extends from all types of truck bodies and trailers to semi-trailers and special vehicles. The focus is on everything from refrigeration and solid waste disposal applications to special transport solutions.

Gföllner also plays a major role in welding technology. As a welding business with an inspection and testing log according to ÖNORM M 7812, Part 1, Gfoellner can also guarantee excellent welds. With its combination of ultra modern technology and strong personal commitment, this company is a competent partner for customized, high quality solutions for transport and for mobile space systems.

The company's strength is its ability to devise tailor-made solutions no matter what problem or request the customer may have. In-house project execution covers all areas, from sales, design and planning to purchasing, production and the delivery of the products. As a result, customers receive a comprehensive range of services from a single source. Professional customer advice and care are integral to our service approach, as is the in-house repair shop.

Gföllner had total sales of €18.5 million in 2006. Broken down by business segment, sales were as follows: container/system construction, including container rental: €6 million (domestic sales) and €6 million (exports). In vehicle construction, the company posted sales of €6 million (domestic sales). And in the repair and service segment, sales totaled €500,000 (domestic) in 2006.

Gföllner
Fahrzeugbau und Containertechnik GmbH

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E: gfoellner@gfoellner.at
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FURTHER BUSINESS LOCATION:
St. Georgen bei Grieskirchen

YEAR FOUNDED: 1895

EMPLOYEES: 156

Grabner

Johann and Hermine Grabner formed the company in 1960 for the purpose of producing, trading in and repairing farm machinery. Through much of its history, Grabner has built cranes for Liebherr. In fact, this activity has been the main part of its business for over 29 years.

Photo left: Welding robot

Photo right: This dump truck that tips to three sides is ideal for municipalities.

In 1997, the sole proprietorship enterprise was converted into a corporation with Gottfried Halwachs appointed as managing director. Today more than 125 skilled employees work at the factory in the areas of structural steel work, CNC sheet metal work, farm machinery and vehicle construction. More than two thirds of business is done in structural steel work for business, industry and agriculture in the private and public sectors.

Service for the vehicle industry: CNC sheet metal work

Grabner has also been equipped since 2003 for sheet metal work on CNC machines. Laser cutting machines can work sheet steel up to 25 millimeters thick, sheet stainless steel up to 20 millimeters thick and sheet aluminum up to 12 millimeters thick as well as foil or otherwise coated sheet metal in sizes as large as 1,500 millimeters by 3,000 millimeters. CNC-controlled press brakes bend sheet metal parts up to four meters in length into complicated parts.

Welding robot

In 2005 the CNC sheet metal shop celebrated a new addition: a welding robot for welding components as large as 12 meters long by 5 meters wide.

Vehicle construction

Besides structural steel work and trade in farm machinery, Grabner has been successful in developing a vehicle construction business. A major aspect of this business has entailed the planning and production of dump bodies that tip to three sides for small trucks ranging in size from 3.5 to 5 metric tons. This work began in 2006. The services range from body production to shipping; the bodies are also mounted directly at the factory on request.

These electro-hydraulic dump bodies (Kreuzer-Grabner tipping system) are available for the following vehicle makes: Mercedes Benz, Volkswagen, IVECO, Hyundai, Nissan, Opel, Renault, Mitsubishi, Fiat, Citroën, Peugeot and Ford.

The three-way dump bodies have two major advantages for use on municipal vehicles: they have a long service life (fully galvanized) and they have an auxiliary frame that bolts on and renders them reusable in some cases when switching to a new vehicle or make.

Grabner
STAHLBAU · CNC-BLECHBEARBEITUNG · LANDMASCHINEN

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YEAR FOUNDED: 1960

EMPLOYEES: 126

Graf Carello

Graf Carello has been successfully involved for over 25 years in the development, production and sales of small electric vehicles. The vehicles, of which 5,000 in total have been sold to date, provide mobility to people with disabilities or elderly people who do not have a driver's license.

The Graf Carello Team

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F: +43 3385 8282-5
E: office@graf-carello.com
I: www.graf-carello.com

YEAR FOUNDED: 1989

EMPLOYEES: 13

Graf Carello makes a fundamental contribution to the well-being of the older generation and also indirectly contributes to cost reductions in the public sector. Recently, applications in the area of greener mobility as well as city and internal company logistics have also been added. Sales in 2005 of almost €1.5 million were achieved with 13 employees. The company is headquartered in Nestelbach bei Ilz (50 kilometers from Graz). The main markets are Austria, Norway, Germany and Switzerland.

Current company highlight: electric vehicles used for pilot test in downtown Graz

In 2005, as part of a two-month pilot project, the practicalities of using non-polluting electric vehicles for goods transportation in downtown Graz were tested. Small electric transporters with four-wheel drive, low-floor transporters with tarpaulins and box bodies and other electric transport vehicles from Graf Carello were deployed for this. The box superstructure is an integrated cold-storage container for the specialized transportation of foodstuffs and frozen products. Using low floor technology and a load platform that can be lowered electrically goods can be transported on Euro palettes or proprietary roll container systems without further reloading.

The objectives of the project were:

- exhaust, particulate and noise reduction,
- customer-friendly transport on narrow paths in the pedestrian zone,
- customer-friendly transport to downtown businesses,
- integration in the delivery chain of existing suppliers.

It is of utmost importance that in addition to the particular advantages the efficiency and environmentally-friendly use of electric vehicles can be demonstrated. The service was free of charge during the pilot phase (mid-July until the end of August 2005). It was provided from 5:00 a.m. to 11:00 a.m. – during the permitted access times. Stops for reloading were arranged by voluntary agreement and at fixed or pre-arranged times, however, the main square was overwhelmingly chosen as the stop.

During the start-up phase, the success of the model relied on organizing collaboration between strong partners and in the follow-on phases on the integration of new participants in the logistics chain. This meant close cooperation of the supporting project management with the transport logistic firms making the deliveries, which were anticipating cost and time benefits due to the integration of electric vehicles in the supply chain.

The information and experience gathered in downtown Graz form the decision-making basis for the long-term use of these electric vehicles.

Hella

Hella Fahrzeugteile Austria GmbH was founded in Vienna in 1933 as a factory for metal fabrication. As part of company expansion, the administration and production departments were moved to Grosspetersdorf in the Burgenland province. In the course of continuous development towards a modern company in the automotive components industry, the firm was taken into Hella KG as a subsidiary.

LED work lamp

Xenon work lamp in use

At its sites in Grosspetersdorf and Vienna, Hella develops and produces mainly work lamps and headlights as well as customized headlights and lighting for niche sectors. These niche sectors include agricultural and construction machinery, forklifts, motorcycles, quads, snowmobiles and other leisure vehicles.

Harsh conditions on construction sites or in agriculture, such as dust and vibration, require special products that can cope with these demands. Hella Fahrzeugteile supplies programs and solutions for every equally difficult application. A key factor in the company's success is the modular systems it supplies for work lamps. Every type of work lamp is available with different lighting applications (for halogen, double halogen [double beam], H9, LED or Xenon, different types of light distribution) and mounting possibilities (built-in, surface mount, side mounted and many more).

World's largest range of work lamps

Hella Fahrzeugteile Austria has developed the world's most comprehensive product range with very bright Xenon work lamps for various purposes and produces these work lamps in Grosspetersdorf. Hella's Xenon work lamps set standards in terms of design, lighting power and service life. People working at night in the agricultural and construction sectors benefit from the 2.5 times higher lighting power that Xenon lights provide compared with a work lamp with a 55 watt halogen bulb, at the same time using 25 percent less energy and lasting five times longer. Thanks to the shockproof light arc in Xenon lamps, there is no chance of the light suddenly failing.

First LED work lamp "made in Austria"

Hella is now using LED lighting technology in work lamps for the first time. They are fitted with powerful white LEDs and only require 7 watts of power. These long-life, shock and vibration-resistant lights are ideally suited for use in a work lamp that is designed for close-range illumination.

Reliable work lamps are essential in the agricultural and material handling sectors. Energy-saving LED technology is particularly beneficial for older tractors with low generator power, electric forklifts, special-purpose vehicles with battery-aided and therefore limited power supply or in heavy-duty application fields.

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I: www.hella.at

FURTHER BUSINESS LOCATION:
A-1100 Vienna

YEAR FOUNDED: 1933

EMPLOYEES: 350

HEW

HEW Maschinenproduktions GmbH produces industrial trucks bearing the name Sichelschmidt. Explosion-proof industrial trucks are used for work in which the risk of explosion is especially high. Sichelschmidt is one of the leading makers of explosion-proof forklift trucks.

HEW: Industrial trucks made in Austria

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E: verkauf@sichelschmidt.at
I: www.sichelschmidt.at

YEAR FOUNDED: 2005

EMPLOYEES: 14

The world's largest maker of explosion-proof industrial trucks has completed its reorganization. Sichelschmidt industrial trucks are manufactured today at production sites in Korneuburg, Austria, and Wetter, a town in the Ruhr region of Germany. Purchasing, sales, technical management and central service are all located in Wetter. For the national and international sales of new vehicles and for servicing the over 35,000 forklift trucks worldwide, Sichelschmidt relies on more than 35 competent and experienced partners.

For operation in areas subject to explosion hazards, Sichelschmidt industrial trucks are licensed for the explosion categories 2 G/D and 3 G/D (formerly Zone 1/21 and 2/22). Certified vehicles licensed for Class 1, Division 1, as well as EE are available for the US market.

All model series are equipped with three-phase drives to save on energy and maintenance. Sichelschmidt was one of the pioneers in frequency-controlled three-phase drive technology (ASM) for industrial trucks and made large investments in the development of this revolutionary technology.

Sichelschmidt's expertise is based on decades of experience in forklift truck construction and a constant willingness to innovate. What customers around the globe expect from the company is original explosion proof equipment that is absolutely reliable; not merely converted standard forklift trucks. Only a specialist can meet these exacting requirements for operation in the chemical industry, in the oil and gas sector on offshore platforms, in paint factories and in logistics involving hazardous materials.

Hirtenberger Präzisionstechnik

Hirtenberger Präzisionstechnik (HPT) specializes in chipless metal working and in complying with even the toughest customer requests in the areas of design and tool manufacture.

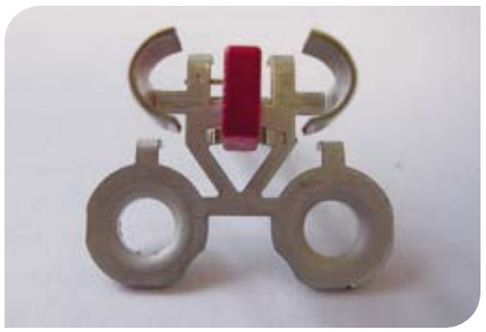

Photo left: Assemblies

Photo right: Punched part

Precision engineering

The company draws on the latest technologies for eccentric presses and automatic punching-bending machines to ensure its customers economical solutions with optimum tool engineering. System suppliers to the automotive industry make up a large part of HPT's clientele.

Bent punched parts

Automatic machines combining punch and bending operations are used by Hirtenberger Präzisionstechnik to manufacture the most complicated bent punched parts, such as switch contacts, plug contacts, springs, windings, mountings, etc. The company also offers thermal and surface treatments. They include, for example, powder-coating, galvanization and scouring.

Economy guaranteed

With its combined punching-bending machines, HPT also accomplishes demanding assembly techniques that allow several individual parts to be joined together by welding, screwing, riveting or similar processes. Integrating assembly steps of this kind in part production opens up interesting cost-saving possibilities in series large and small.

Extrusion coated punched parts

To be finished with plastic extrusion-coating, punched parts have to be ultra-precise. The company successfully meets this challenge thanks to decades of experience in punch making and its modern machinery.

Tool manufacture

A team of highly qualified designers and skilled workers see to the manufacture of tools needed in production at the in-house tool making shop. Innovative CAD workstations and modern machine tools are teamed with a state-of-the-art precision measuring chamber to ensure the optimum execution of the tools.

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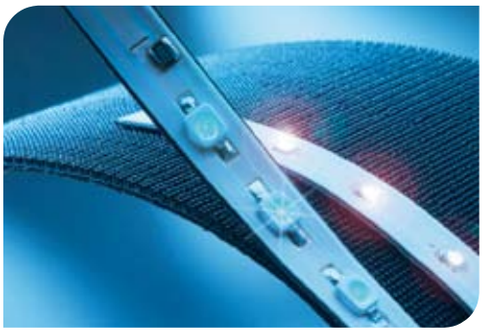
YEAR FOUNDED: 1993

EMPLOYEES: 37

I & T

I & T is one of the most innovative and dynamic companies in the automotive supply industry and is considered a market leader in flat cable systems and their integration.



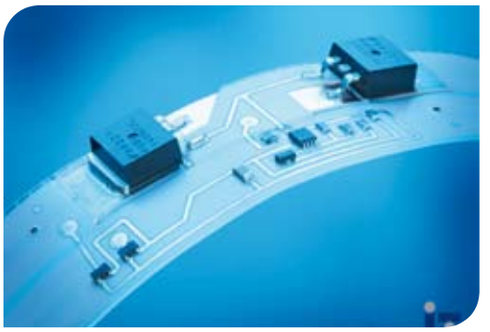


Photo left: Blue LEDs
Photo right: Intelligent FFCes

INNOVATION TECHNOLOGY

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E: office@innovation-technology.com
I: www.innovation-technology.com

FURTHER BUSINESS LOCATION:
A-8041 Graz-Thondorf
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YEAR FOUNDED: 2007

EMPLOYEES: 70

Intelligent flat cables

I & T's specific and internationally unique expertise and skills in developing and manufacturing flat cables, flat cable sets for vehicle interiors and flexible three-dimensionally shapeable PCBs and circuitry make an ideal base for optimum solutions of unsurpassed quality. Its solutions are lighter, better performing, and safer while also allowing for more freedom of design and greater economy and not just in automobiles. The importance of "intelligent electronics" in cars is growing relentlessly, as is the number of functions that have to be performed. Even the use of bus systems for networking controllers does not prevent cable sets from becoming more and more complex and extensive. This makes today's cabling technology tomorrow's brake on innovation. With FFCes – flat flexible cables – which are commercially viable and certified for the automotive industry, I&T lays the groundwork for more functions in the vehicle of the future.

Extruded flat cables make cabling that saves space, weight and costs possible in virtually every space in the car – and improve quality at the same time.

With variable conductor cross-sections from single-core to multicore and hybrid conductors and free choice of insulating materials, the company meets cable standards and individual, customer-specific requirements as they occur. Through the special, eco-friendly extrusion method, which I&T has patented worldwide, production proceeds without adhesion promoters or other harmful additives.

Flatness is the solution to many problems

The extremely flat and flexible format makes space-saving use possible inside cars, for instance in roof liners, seats, doors, trunk lids, cockpits, bumpers, frame-floor systems, the coil spring in airbags and ambient lighting.

Customers derive numerous benefits such as a reduction in weight of nearly 30 percent compared with conventional interior networks. Fully automatic production lines also save time and money. Other benefits include assembly advantages and the automated mounting of the line set on the parts carrier.

Iveco

On January 1, 1975, Iveco (Industrial Vehicles Corporation) commenced operations. Iveco was the result of merging the commercial vehicle activities of Fiat and Klöckner-Humboldt-Deutz. This brought together many years of experience from commercial vehicle manufacturers from various countries and cultures.

The most recent milestones are the introduction in 2005 of the Euro 4 and Euro 5 engines for selected models in the Stralis AS range. The year 2006 saw the introduction of the fourth generation Daily, exclusively with Euro 4 engines with outputs up to 176 horsepower.

Iveco product range

As regards research and development, Iveco has always kept its focus on the benefits to the customer and the protection of the environment. The commercial vehicles are built to be efficient and cost-effective, and are tailored as precisely as possible to the particular usage.

Service to be further enhanced

Iveco is widely represented in the Austrian market with the entire range of commercial vehicles as well as an extensive customer service network. Customer service covers maintenance contracts, garage fast service packages, guaranteed spare parts availability and a 24-hour emergency service for drivers. Sixty-five percent of the main roads in Austria can be reached by the emergency services within 45 minutes, and in 2007 it is to be 85 percent.

Service garage and dealer network continues to grow

In 2007 there are plans to extend the service garage network and strengthen the dealer network in the light, medium and heavy sectors. The service network (currently 55 service bases) is to be extended by seven sites.

Vehicles

Daily As the first transporter with adaptive ESP and a Euro 4 engine, safety and environmental friendliness have always been the prime concern. Further characteristics include the spacious and comfortable driver's cabin, modern design and dynamic aesthetics.

Eurocargo Iveco offers the Eurocargo models in the medium heavy segment: 7.5 metric tons to 18 metric tons permissible maximum weight, very modern Tector engines (Euro 4 and Euro 5) with 140 horsepower to 299 horsepower, standard cab, long-distance cab or twin cab (6+1), chassis and 4x2 and 4x4 tippers. What is more, the 12 ton Eurocargo 120 EL offers the perfect alternative to heavy trucks due to its lightweight yet robust construction.

Stralis Customer benefits are also a priority in respect of the medium heavy and heavy road vehicles. Iveco has developed three subseries which are fundamentally different in their varying cabin sizes and to some extent also in the engine outputs available. In all subseries, there are two and three axle versions, chassis and tractor units, manual or automatic gearboxes, and a comfortable driver's seat with instruments that provide the driver with lots of useful information.

Trakker The Trakker is Iveco's construction or "offroad" vehicle. In the tradition of the "building workhorses" of the 1970s and 1980s and the immediate predecessor, the Eurotrakker, this range represents Iveco's development of particularly robust yet lightweight and high payload two, three and four axle versions.

IVECO

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FURTHER BUSINESS LOCATIONS:
Eugendorf
Linz
Marchtrenk
Steinabrückl

YEAR FOUNDED: 1975

EMPLOYEES: 180

Kässbohrer

The roots of Kässbohrer Transport Technik are in the Kässbohrer Group, which was founded by Karl Kässbohrer in Ulm in 1983. The first engine-driven vehicle transporters were made in 1950. In 1968 the Kässbohrer Group constructed the first plant abroad, in Salzburg.

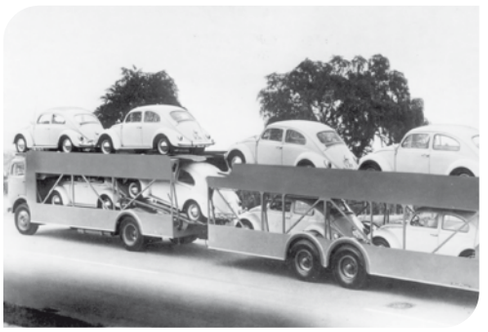

Photo left: Historic photo of a Kässbohrer vehicle transporter

Photo right: Kässbohrer vehicle transporter in front of Schloss Klessheim

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YEAR FOUNDED: 1995

EMPLOYEES: 380

Automotive logistics partner

In the 1990s, independent companies developed from the individual product divisions of the Kässbohrer group. Kässbohrer Transport Technik, founded in 1995, now belongs to the leading international suppliers of vehicle transporters with sales markets in Europe, Asia and South Africa.

Consistently targeting all value added processes to the increasing demands of the automotive logistics sector and to customer requirements ensures continuous growth and secures important market share. With new production technologies, a lean and process-oriented organization, and last but not least motivated and skilled employees, Kässbohrer is working hard to safeguard its customers' competitiveness.

Professional quality management according to international standards and the latest production and assembly technology form the basis for a wide range of products – from solo vehicles for urban delivery traffic, to multi-functional vehicle transporters with optimum loading factor for short– and long-distance transport to fully enclosed, high-tech semi-trailers for the safe transport of especially exclusive and high-value cars.

Kässbohrer stands for quality and functionality, and, as a partner for automotive logistics providers, offers solutions for their varied demands. The company's business divisions are:

- Design, production and sale of vehicle transporters,
- Commercial vehicle service center,
- Production of parts for ski slope maintenance vehicles.

Company turnover in the financial year 2005/2006 was around €98 million.

KTM Fahrrad

Mention the 100-year-old Austrian vehicle industry and most people will immediately think of KTM. Founded in 1934 by Hans Trunkenpolz as a metalworking shop, the company has throughout its history developed, produced and sold motorcycles, bicycles and radiators around the world from its base in the Upper Austrian town of Mattighofen.

Photo left: Aerial view of KTM Fahrrad GmbH

Photo right: As swift as an arrow: trekking bike from KTM, 2007 model

In 1991, when the company declared insolvency, these three branches of the business went their separate ways – and not without success. Last year, KTM Fahrrad GmbH, with a workforce of around 250, produced almost 140,000 bicycles. As one of the few manufacturers in Europe, KTM offers the full range of the latest bicycles, developing and producing everything from classic city and trekking bikes, sporty mountain bikes and racing bikes right through to niche lines such as electric bikes and the currently popular downhill bikes and dirt bikes.

It is precisely here where KTM's strength lies, in its ability to react so quickly to new trends – coupled with the almost legendary quality of its products. With the backing of a large in-house development and design department, KTM consistently succeeds in keeping in step with, or even one step ahead of, the times.
Thanks to groundbreaking carbon frames, practical frame details and expertly chosen fittings, KTM bikes are the most innovative on the market.

Take the new Phonic LC with its ultra-light carbon monocoque frame. As a purely "all-purpose" bike, this is a whole new application for the high-tech specifications usually reserved for professional racing. And the good news is that pioneering products such as these are going to continue to have their roots in Mattighofen. While other companies are favoring relocation to low-wage countries, KTM's redevelopment of its administrative building and warehouses serves nicely to confirm its strong future commitment to Austria.

KTM BIKE INDUSTRIES

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YEAR FOUNDED: 1991

EMPLOYEES: 250

KTM-Kühler

Top-quality aluminum radiators and coolers have been produced in Mattighofen since 1984. Yet it is only since splitting from KTM Fahrzeugbau AG in 1992 with roughly 60 employees and sales of €8 million that KTM-Kühler GmbH has been able to develop into what it is today: a company with steady growth and its sights set on new markets.

Photo left: Radiators and coolers for cars and motorcycles

Photo right: The new Audi R8 is fitted with a radiator, oil cooler and oil-to-water heat exchanger supplied by KTM-Kühler.

KTM-Kühler supplies leading motorcycle and car manufacturers such as Audi, BMW, VW, Ferrari, Ducati, Triumph and, of course, KTM-Sportmotorcycle. The company gained its firm foothold in the motorcycle industry and automotive industry many years ago thanks to much more than just the name KTM – KTM-Kühler has earned its status as a competent partner by offering a combination of high quality, exceptional flexibility, extensive technological expertise and long-standing experience. In addition, this manufacturer achieves outstanding performance in its products by using a flux-free high-temperature vacuum brazing process. Not only are the aluminum coolers highly resistant to corrosion, they are also light and completely recyclable.

The first order for oil-to-water heat exchangers for the automotive industry was put into series production in 1996. Thereafter, the need for coolers rose significantly, particularly due to the market success of increasingly high-performance diesel engines and with it the demand for high-quality cooling components in the form of oil-to-water heat exchangers. At almost the same time, the entire European motorcycle market began to experience rapid growth and KTM-Kühler was at the ready with the right products. In 2004, due to the continuing surge in orders, production space had to be expanded to 11,000 square meters. With sales increasing by 15 percent year on year, KTM-Kühler is proving very capable on the innovation and efficiency front and is one of the market leaders in the manufacture of aluminum coolers for the engine industry.

Until 2006, radiators were manufactured mainly for motorcycles, so with the Audi R8, KTM-Kühler GmbH has demonstrated expertise in an area it was not previously known for. For this manufacturer, based in the Austrian Innviertel district, the production of the radiator for the R8 sports car, alongside the supply of oil coolers and oil-to-water heat exchangers for this vehicle, is something to be especially proud of.

Creativity and a desire for innovation have certainly paid off for KTM-Kühler.

Now a healthy, medium-sized company, it is setting itself up for the challenges ahead. Since 2005, the new owner, the Austro-American investment group Andlinger & Company, has been opening up new possibilities for the radiator and cooler manufacturer. Andlinger is experienced in dealing with the idiosyncrasies and needs of companies of this size and by taking over the organization is now in a position to offer support in the face of international competition.

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YEAR FOUNDED: 1992

EMPLOYEES: over 470

KTM-Sportmotorcycle

KTM-Sportmotorcycle AG, based in Mattighofen in Upper Austria, manufactures highly sport-oriented motorcycles for use on and off road. KTM machines have been used with great success for many years in both professional racing and recreational sport, and have been tried and tested in both contexts for day-to-day operation.

KTM's first ever car, the X-Bow, goes into pilot production.

As the 120-time world champion (60 of which in the last five years) and six-time winner of the Dakar Rally, KTM is one of the most successful and best-known brands in international motor racing.
Since 2004, KTM has also been among the winning contenders in street racing in the Grand Prix classes 125 cubic centimeters and 250 cubic centimeters.
KTM motorcycles are known for their first-class features such as light weight, high performance, excellent handling, as well as their distinctive design, and they are exported to all four corners of the world. The main sales markets include North America, Germany, France, Spain and Italy.

The concept

In 1999, during modernization of its headquarters, KTM constructed a new main building, a modern engine works and a pioneering development center in Mattighofen. In recent years, the new facilities have enabled production capacities to be doubled. All KTM models are designed, developed and produced in Mattighofen. The KTM development center, where roughly 200 employees are based, is where engineers build and develop the motorcycles of tomorrow. The results of this work are then subjected to practical testing by the KTM factory team on the racetracks in the prototype stage. Only innovative concepts that can withstand the rigorous test cycles are put into series production, meaning they are worthy of the distinction "Ready to Race."

The product

KTM sport motorcycles are designed for competitive sport and are suitable for both professional riding and recreational use. Top-quality components and a constant flow of new technical innovations are the hallmarks of every model in the KTM range. The striking design, created by the Kiska design agency in Salzburg, is an eye-catching, award-winning distinguishing feature. The current product range consists of over 30 models – mostly off-road motorcycles for endurance or motocross riding, but also including street models such as the "Travel Enduro," "Supermoto" and "Streetfighter." KTM operates at a high rate of innovation, with one or two new models released onto the market every season. There are also plans to sell products from the US manufacturer Polaris in some European markets and to manufacture a KTM racing ATV.

The production

KTM is currently the most modern motorcycle factory in Europe and the second largest motorcycle manufacturer after BMW. The motorcycle factory contains four production lines, with 16 stations per line.

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F: +43 7742 6000-303
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I: www.ktm.at

YEAR FOUNDED: 1953

EMPLOYEES: 1,624

All vehicles undergo testing on a test bed before leaving the plant.

Plant in Mattighofen

With the KTM 690's revolutionary single-cylinder engine, KTM signals a whole new era in the field of sporty single-cylinders.

On average, 380 motorcycles are produced each day, with an average assembly time of 45 minutes. One hundred percent of the vehicles undergo testing on a vehicle test bed. Forty percent of all suppliers are Austrian, of which over 50 percent are located within a 100-kilometer radius of Mattighofen. This ensures greater flexibility, faster access and shorter distances during development.

The market

Over 80 percent of sales are made through independent subsidiary companies, or through importers in smaller markets. In the majority of the sales markets, the KTM brand is a market leader in off-road motorcycles.

History

KTM was founded in 1953 by business partners Ernst Kronreif and Hans Trunkenpolz. Following the fresh start in 1992, the company has developed with unprecedented success: In fiscal 2004/05, the internationally active company sold 80,356 motorcycles worth a total of €452.4 million worldwide and employed some 1,600 employees around the world. In recent years, KTM has launched countless successful models onto the market.

The highlight: 690 Supermoto

In spring 2007, KTM unveiled the true highlight of the upcoming motorcycle season at the Intermot international trade fair in Cologne – the 690 Supermoto. Equipped with a revolutionary single-cylinder engine with electronic fuel injection, 63 horsepower and an anti-hopping clutch, this bike signals a whole new era in the field of sporty single-cylinders. The new 690 Supermoto is already one of the most sought-after of the new models.

KTM X-Bow

A prototype of the KTM X-Bow was displayed for the first time at the Geneva Auto Salon. It will serve as the basis for a pilot production of 100 cars, due to be constructed from the end of 2007. As the first car from KTM, this is a street-legal sports car with technology borrowed from racing.

Kuhn

The Kuhn Group has operated as a reliable partner to the construction, transportation, warehousing and logistics industries for over 30 years, with more than 650 employees, sales of almost €375 million and subsidiaries in ten European countries.

The group is split into two divisions in terms of both products and organization – Kuhn-Baumaschinen (construction machinery) and Kuhn-Ladetechnik (material handling systems). Kuhn-Baumaschinen is the principal agent for KOMATSU and is the largest private dealer.

Kuhn-Ladetechnik operates on the market as the principal agent for Palfinger loading cranes, Epsilon timber loading cranes, Palift container changing systems, Bison aerial work platforms and Mitsubishi forklift trucks (diesel and electric) from 1.5 to 15 metric tons.

The headquarters in Vöcklabruck, Upper Austria, is home to the newly designed center of competence for truck cranes and the distribution center for all new cranes and forklift trucks. This is where superstructure projects are conducted using the latest technology and extensive expertise. Vöcklabruck is also the point of control for spare parts logistics for the service branches in Austria and the subsidiaries in neighboring countries, offering over 90 percent availability of spare parts.

Kuhn-Ladetechnik is Austria's leading supplier when it comes to durable, technically advanced and affordable truck-mounted crane units. The market's number one is in the proud position of looking back over more than 30,000 successfully completed crane projects.

The secret to this success is the system solution concept. This quality assurance system was developed in particular to assist with the more delicate assignments using very large crane superstructures. Of course, it is now also applied for smaller, less powerful cranes to ensure customer safety.

Crane competence center in Vöcklabruck

In order to create a perfect working unit using a truck and a crane, Kuhn divides each project into three phases.

Phase 1 is the requirements analysis phase, which involves preparing an exact definition of the assignment in hand.

Phase 2 consists of a calculation system. This system accurately performs all necessary calculations and reconciliations as well as verifying legal provisions.

In Phase 3, the realization of the development project, the requirements and/or specifications stipulated by the development guidelines, the crane manufacturer, the hook system manufacturer and the truck manufacturer must be adhered to.

Comprehensive warranties and services give all Kuhn customers the reassurance that their investment will pay off not just in the short term but also in the long term. Given the ready availability of a wide range of spare parts for several years after purchase and the existence of the mobile Kuhn service fleet, customers are guaranteed freedom from expensive downtime.

Complete crane superstructure with a 36-meter Palfinger crane for Felbermayr

KUHN-Ladetechnik

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KUHN-LADETECHNIK GMBH
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A-4840 Vöcklabruck
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T: +43 7672 72532
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E: office-lt@kuhn.at
I: www.kuhn-gruppe.com

FURTHER BUSINESS LOCATIONS:
Achau
Eugendorf
Kematen
Kirchdorf-Pernegg
Villach

YEAR FOUNDED: 1974

EMPLOYEES: 180

Lammel-Kraus

Top picture: Trade in engine parts and replacement components

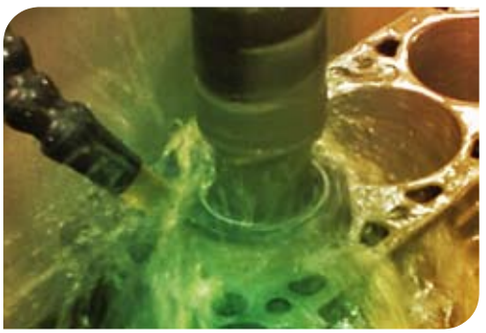
Picture on right: Honing work is one of the services rendered for industry

ADDRESS:
Motorenwerk Lammel-Kraus, formerly
Kolbenkraus Gesellschaft m.b.H.
Altmannsdorfer Straße 142–144
A-1230 Vienna
Austria
T: +43 1 8040494-0
F: +43 1 8040494-20
E: office@lammel-kraus.at
I: www.lammel-kraus.at

YEAR FOUNDED: 1927

EMPLOYEES: 12

Motorenwerk Lammel-Kraus formerly Kolbenkraus GmbH has its headquarters in Vienna, Austria and has been providing its customers with intelligent total solutions for overhauling expensive gasoline, diesel and LNG engines for reuse in business, industry, and agriculture as well as the private sector.



Service can involve an on-site rebuilding or if more extensive, can entail a complete rebuilding at the central workshop based on Austrian guidelines for quality engine rebuilding ("Austria Gütezeichen"). Thoroughly trained service technicians carry out the maintenance work on the engines and have the kind of experience that enables them to give engines a new lease on life.

Lammel-Kraus cooperates with renowned engine manufacturers as a contract, service and trade partner and keeps an extensive stock of parts to provide spare parts. As a result, it can cover its own spare parts needs and fill customer orders for spare parts at short notice.

The service technicians receive training from engine manufacturers to ensure a high level of expertise.

Company history

The pioneering engineer Max Kraus founded Kolbenkraus Präzisionswerkstätten und Gießerei KG in Vienna in 1927. The company grew quickly thanks to a number of innovative patents in light metal piston construction. Soon it had business sites in Vienna, Bad Radkersburg, Graz, Klagenfurt and Salzburg.

In 1955 these facilities were upgraded with modern machinery to enable industrial engine rebuilding. The company also sold its piston production business and specialized in large diesel engines.

The Vienna operations were finally consolidated in 1983 thanks to lasting innovations and the building of a new plant in southern Vienna.

When Eastern Europe opened up, the company rose to the challenge early on, setting up branches in Hungary and Slovakia in 1989.

In 1998 it co-founded Motor Center Austria GmbH, which has business locations today in Wels and Hallwang.

Service profile: engines and everything connected to them

That includes detecting faults and damage, rebuilding of internal combustion engines or processing all engine parts. Customer service covers maintenance and warranty services for leading engine manufacturers or mobile on-site servicing.

Services for industry include, among others, the manufacture and rebuilding of plain bearings, metallizing, and hydraulic rebuilding and manufacture. Trade in engine parts and replacement components rounds out the service profile.

Landgenossenschaft Ennstal

Landgenossenschaft Ennstal is a cooperative owned by about 2,000 farmers from the Liezen district. Internal competition is promoted by the existence of different lines of business. That ensures that Landgenossenschaft Ennstal always develops for the benefit and well-being of its customers.

Photo left: Technik-Center is the center of competence for machinery and equipment.

Photo right: Ennstal-Auto-Liezen

Landgenossenschaft Ennstal sets great store by developing proper and personal relations with its customers. The enterprises want to be the top address for their customers and gear their efforts to what customers require. Over 400 employees do their utmost to provide competent advice and friendly service in nine lines of business (at 33 enterprises).

The business establishments in Admont, Aigen in the Enn Valley, Bad Mitterndorf and Schladming have developed into centers of competence for machinery and equipment. They provide servicing and repairs for tractors, farm machinery and small pieces of equipment.

Modern testing equipment is used. That includes a PTO output test stand, an exhaust gas tester, an alternator-starter test stand, a tester for small engines, a brake test stand and an axle clearance tester. The enterprises inspect and tests cranes, forklift trucks and liftgates as well as tractors and trailers. Truck checks include the legally required inspections of tachographs and speed.

In other services, the company presses hydraulic hose, mounts and repairs tractor and farm machine tires, and balances and mounts passenger car tires. Milking machine repair and on-site machine repair are among its special services.

The business establishments in Liezen and Gröbming offer service and repairs for all makes of cars. They are also authorized dealers for Fiat, Ford, Alfa Romeo, Dodge, Chrysler and Jeep. As authorized dealers for WEBASTO, they retrofit products such as engine independent heating systems, sunroofs, and air conditioning systems. In addition to repairs of all kinds, the service shops conduct §57a inspections, service the tires, handle insurance claims and provide a towing service.

TECHNIK CENTER LANDMARKT
ENNSTAL·AUTO·LIEZEN

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T: +43 3682 285-13
F: +43 3682 285-613
E: landmarkt@landmarkt.at
I: www.landmarkt.at

FURTHER BUSINESS LOCATIONS:
Admont
Aigen im Ennstal
Bad Mitterndorf
Gröbming
Liezen
Schladming

YEAR FOUNDED: 1987

EMPLOYEES: 400

Lederer Kfz-Reparatur

Lederer opened its doors for business in 1850 at its current location at Landstrasser Hauptstrasse 128 in the third district of Vienna. The enterprise was initially a rest stop and inn on the arterial road from Vienna to Budapest.

Service shop in the third district of Vienna

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Landstrasser Hauptstraße 128
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T: +43 1 7132531
F: +43 1 7132531-27
E: office@autorep-lederer.at
I: www.autorep-lederer.at

YEAR FOUNDED: 1856

EMPLOYEES: 15

Later at this same site, various types of coaches were serviced and if necessary repaired prior to the long trip to Budapest. In 1856 a private limited company was founded there. It built countless coaches and sold them to customers among the minor nobility and the rich middle class. The high nobility purchased only from Imperial and Royal Purveyors to the Court (k.u.k. Hoflieferanten), a distinction this business never had.

Soon after the advent of automobiles, vehicle bodies began being designed and produced at this site, which is still known as Karosseriefabrik Ferdinand Keibl Ges.m.b.H. After World War II, the enterprise confined itself to repairs only.

Today it repairs all makes of passenger cars and every type of vehicle. The enterprise has three workshops:

- A mechanics department fitted with ultramodern equipment and authorized to issue roadworthiness stickers in accordance with §57a of the Austrian Motor Vehicle Act.
- A fully equipped diagnostic stand and electronic axle measurements ensure quick and effective troubleshooting.
- A metalworking shop complete with fiberglass specialists for plastic bodies and a car paint shop with computerized paint mixing are available to the experts in damaged vehicle repair.

The workshop handles the insurance claims directly with the customers' insurance companies over the Internet.

The employees of Kfz-Werkstätte Lederer are specially chosen experts in their fields, giving the company an excellent reputation on the market. It needs no advertising. It has always flourished and prospered by word of mouth referrals and quality work.

Historical note

In being excluded from the select circle of k.u.k. Hoflieferanten, Karosseriefabrik Ferdinand Keibl Ges.m.b.H. shares a fate similar to Rolls-Royce, which was never among the Purveyors to the British Royal Family.

This common fate, hurtful to both enterprises at the time, led to friendly contact between them, despite the difference in their size and fame. At a World's Fair in Paris held between the two World Wars, Rolls-Royce contracted the small body shop in Vienna's third district to manufacture bodies for use with Rolls-Royce engines. Kfz-Werkstätte Lederer is proud of that privilege that other companies did not have.

Liebherr

Liebherr, a family company, was established in 1949 by Hans Liebherr and flourished initially thanks to the huge success of its first mobile tower cranes. Liebherr is now not only one of the world's largest manufacturers of construction machinery, it is also a recognized supplier of technically innovative products and services in many other fields.

Over the years, the company has grown into a group organization employing a workforce of more than 26,000 in over 100 companies across all continents.

The group is organized locally and divided into clearly defined, independently operating business units. This serves to ensure customer proximity and the ability to react flexibly to market developments in global competition. Operative management of the production and distribution companies for the individual product segments is assigned to divisional control companies. The parent company of the group is Liebherr-International AG in Bulle, Switzerland, which is owned exclusively by members of the Liebherr family.

Liebherr-Werk Bischofshofen GmbH

Under the Liebherr umbrella, Liebherr-Werk Bischofshofen GmbH is responsible for development, production and marketing for the entire wheel loader range. Sixteen different wheel loader models are currently manufactured at the wheel loader plant, all of them equipped with the Liebherr traction drive system, the most powerful and efficient drive technology available for wheel loaders.

Efficiency and environmental protection are a top priority with both the medium-sized and the large Liebherr wheel loaders. Compared with similar machines from other manufacturers, under comparable operating conditions, fuel consumption in these wheel loaders is 25 percent lower, if not more. Liebherr wheel loader customers are therefore protecting not only the environment, but also their wallets.

Wheel loader in operation

For some years now, Liebherr has been implementing an improved version of the tried-and-tested traction drive system in its large wheel loaders. Thanks to "2plus2" drive technology, the driver can achieve stepless acceleration and deceleration of the wheel loader without the slightest interruption in traction. Switch interruptions are systematically eliminated, while ride comfort and working conditions are considerably improved. The drive technology is based on a gearbox with two different-sized, directly mounted oil motors, each with a separate coupling – hence the name "2plus2." With this drive technology, the wheel loader smoothly adapts itself to every operating situation regardless of the required travel speed and tractive force.

The mid-sized model range has recently been completely overhauled and the results were unveiled to the world for the first time in spring 2007. Compared with previous models, the new generation is characterized by even more impressive machine performance, further improved ride comfort and additional safety equipment.

In terms of the smaller wheel loaders, Liebherr sets great store by its stereoloaders, which boast many system-related advantages over conventional loaders with center-pivot and all-wheel steering. Stereoloaders are particularly agile and stable and offer superior ride comfort.

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F: +43 6462 888-418
E: info@lbh.liebherr.com
I: www.liebherr.com

YEAR FOUNDED: 1960

EMPLOYEES: 890

Lindner

In fiscal year 2005/06, Lindner, a farm machinery specialist from the Austrian province of Tyrol, produced more than 1,400 Geotrac tractors and Unitrac transport vehicles and greatly increased its exports. For fiscal year 2006/07, Lindner has set a sales target of €58 million.

Photo left: Lindner tractors are always in step with the times and geared to changes in farming.

Photo right: Unitrac 102

ADDRESS:
Traktorenwerk Lindner Ges.m.b.H.
Ing.-Hermann-Lindner-Straße 4
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Austria
T: +43 5338 7420-0
F: +43 5338 7420-41
E: verkauf@lindner-traktoren.at
I: www.lindner-traktoren.at

YEAR FOUNDED: 1946

EMPLOYEES: 200

Foreign business has increased markedly in recent years. The company's export ratio has risen from 27 percent to 34 percent. Lindner's key markets are Germany, Switzerland, Italy, France and Slovenia. One third of all exports are sold on the German market.

The company located in a region known as Tiroler Unterland (the part of Tyrol east of Innsbruck, excluding East Tyrol) has about 200 employees.

In fiscal year 2005/06, Lindner launched a new generation of transport vehicles on the market: the Unitrac-2 Series. The Unitrac 92 is a truck specially designed for use in farming. The Unitrac 102 model is used for municipal and aerial ropeway applications. Customers have been delighted by technical highlights such as the comfort cab that can be tilted laterally in its entirety by 50 degrees without tools.

Other special Unitrac features are the high performance chassis with independent suspension, optional four-wheel steering and the powerful Perkins turbodiesel engines. In 2006/07 Lindner plans on manufacturing 200 Unitrac transport vehicles. Lindner: "The new Unitrac recently passed two important toughness tests. Deutsche Landwirtschaftsanstalt, a German agricultural testing institute in Gross-Umstadt, tested the stability of the passenger cab as well as electromagnetic compatibility."

The vehicle also received top scores for its suspension, as indicated in a comparison study by Bundesprüfanstalt Wieselburg, an Austrian federal test institute. Hermann Lindner: "The Unitrac already complies today with Directive 2002/44/EC, which goes into force in two stages starting in 2007 and in 2014."

Magna Powertrain

Magna Powertrain is a premier supplier for the global automotive industry with full capabilities in drive train design, development, testing and manufacturing. Offering complete system integration sets us apart from our competitors. Engine and engine component development is carried out at the Engineering Center Steyr (ECS).

Two core areas of expertise in software development are structural durability analyses and vehicle thermal management.

Magna Powertrain innovations make an important contribution to the overall performance of the vehicle while providing technologies that improve fuel economy, assist in making the vehicle safer, reduce weight and provide value to our customer.

Modern and innovative manufacturing capabilities ensure quality and cost-efficient production.

With more than 11,000 employees in 38 locations and eight engineering centers across the globe, Magna Powertrain is close to its customers and able to respond promptly to their needs.

Established clientele

Magna Powertrain can count the following among its regular customers: Audi, BMW, DaimlerChrysler, Fiat, Ford, General Motors, Honda, Hyundai, Nissan, Porsche, PSA, Renault, VW and their operating units and subsidiaries.

Product portfolio

Engines
- Engine front covers
- Drives for auxiliary units
- Water pumps
- Oil pumps
- Vacuum pumps
- Mechanical balancing systems
- Oil pan modules
- Thermostat modules

Transmissions
- Hybrid transmissions
- Transmission modules
- Transmission fluid pumps
- Flex plates
- Clutch housings
- Interlocked components
- Oil pans
- Shafts
- Housings

AWD / 4x4 systems
- Transfer cases
- Coupling systems
- Hybrid AWD/4x4 modules
- Rear axle modules
- Torque vectoring units
- Electronically controlled limited slip differentials (eLSD)

Drive and axle systems
- Solid and sturdy beam axles
- Front and rear axle drives
- Power take off units (bevel gears)
- Electric rear drive modules (eRDM)
- Mechanically controlled limited slip differentials (mLSD)

Mechatronics
- Actuators, complete with electronic control systems

MAGNA POWERTRAIN

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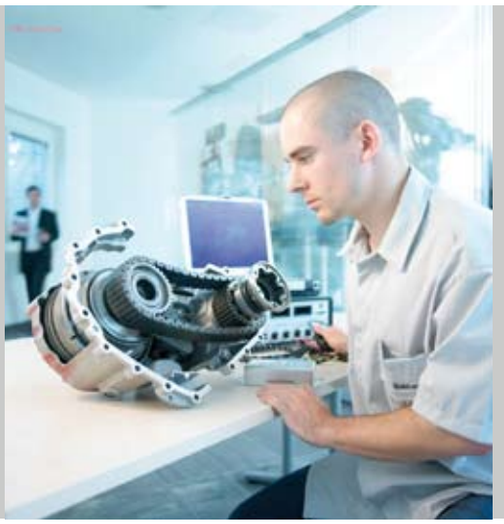
E: information-eu@magnapowertrain.com
I: www.magnapowertrain.com

FURTHER BUSINESS LOCATIONS:
Albersdorf
Ilz
Oberwaltersdorf

YEAR FOUNDED: 2005
Merger of MAGNA Drivetrain, TESMA and ECS

EMPLOYEES: 1,824

Magna Powertrain facility in Lannach



Engineering and production for transfer cases

Own proving grounds at ECS

MAGNA POWERTRAIN

Engineering Center Steyr GmbH & Co KG
Steyrer Straße 32
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Austria
T: +43 7435 501-0
F: +43 7435 501-404
E: office-valentin@ecs.steyr.com
I: www.magnapowertrain.com

YEAR FOUNDED: 1984

EMPLOYEES: roughly 11,000 worldwide

Engineering services/System integration

- Engine engineering
- Powertrain development
- Commercial vehicle development
- Testing and simulation services
- Determination of load population
- Noise, vibration and harshness analyses
- Development software
- Software development for mechatronic systems
- Small series production

Magna Powertrain has 21 locations and three engineering centers in North America, nine locations and two engineering centers in Europe, and eight locations, two engineering centers and one joint venture in Asia.

Engineering Center Steyr (ECS)

With its staff of 320, Engineering Center Steyr (ECS), located in St.Valentin, Austria, is currently Magna Powertrain's second largest engineering center and center of excellence for engine and engine components for Europe and Asia. ECS is a full-service-engineering partner, offering renowned customers around the world the complete spectrum from engineering, simulation and testing all the way to release for volume production.

Core areas of expertise

- Commercial vehicle development
- Engine engineering
- Drive train engineering
- Low volume component production
- Software development and simulation services:
  FEMFAT structural durability analyses
  KULI vehicle thermal management
  KABI cable harness development
  ALSIM immersion paint simulation

Laboratories and test benches

- 15 engine test benches
- Two drive train test benches
- Fatigue laboratory with five foundations
- On-site proving ground

Magna Steyr Fahrzeugtechnik

Magna Steyr is a group of companies belonging to the Canadian based Magna International Inc., one of the world's largest automotive suppliers. Magna International has more than 83,000 employees at 229 production sites and 62 development centers in 23 countries. Magna International had sales of USD 24.18 billion in 2006.

The MILA Concept (Magna Innovative Lightweight Auto) is a one-seater sports car fueled by compressed natural gas.

On the strength of more than a century of experience and its range of services, Magna Steyr ranks as one of the world's leading independent technology and production partners for automotive manufacturers. The company was founded in 1899 by Johann Puch as Erste Steiermärkische Fahrrad-Fabriks-AG. The initial products were bicycles and motorcycles, but by 1904, the Graz location had begun producing automobiles. In 1928 the Puch factory was merged with Österreichische Daimler-Motorengesellschaft Wiener Neustadt and in 1934 with Steyr-Werke AG to create Steyr-Daimler-Puch AG. In 1998, Steyr-Daimler-Puch AG was taken over by Magna, a firm founded by Frank Stronach in 1957, and has conducted business under the name Magna Steyr since 2001. Fahrzeugtechnik in Graz manufactured more than 248,000 vehicles in 2006.

Products and services

Magna Steyr currently produces the Mercedes Benz G-Class, the Jeep Grand Cherokee, the Chrysler Voyager, the Saab 9^3 Convertible, the BMW X3, the Chrysler 300C and the Jeep Commander.

Engineering offers a broad range of services, from engineering services to vehicle concepts, project management, manufacturing of prototypes and low-volume production. Magna Steyr is also active in space technology, providing, for example, the propellant feed lines for the ARIANE 5. It also teams up with MAGNA STEYR Fuel Systems to develop and manufacture tank systems.

Gold medal for Magna Steyr factory in Graz: "Europe's Best Automotive Factory"

In a study on European automobile factories by the renowned American market research institute J. D. Power, the Magna Steyr factory in Graz was singled out for the Gold Plant Quality Award. The factory received this gold medal because it produces vehicles with the lowest defect rate of all European automobile factories supplying the American market.

"MILA Concept" (Magna Innovative Lightweight Auto)

The MILA Concept is a one-seater sports car fueled by natural gas. This vehicle shows Magna Steyr's ability to make complete cars, as have numerous successful vehicle series in the past, while also demonstrating its engineers' creativity and skill in mastering innovative and demanding technical challenges.

MAGNA STEYR

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I: www.magnasteyr.com

Final assembly of Chrysler Jeep

Aerial view of the plant in Graz-Thondorf

Assembly of the Saab 9³ Convertible

MAGNA STEYR

HEADQUARTERS:
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F: +43 2253 600-1200
E: office@magnasteyr.com
I: www.magnasteyr.com

YEAR FOUNDED: 1899

EMPLOYEES:
Magna Steyr worldwide: 12,000

The technical highlights of the MILA Concept are as follows:

- Eco-friendly compressed natural gas engine (CNG) coupled with sporty performance,
- Consistent use of lightweight design techniques,
- Modular design with pre-developed components and assemblies with optimized costs and weights allow different versions of the concept to be built with minimum difficulty, i.e. one or two seats, regular engine or high performance engine, etc.
- Advanced vehicle safety due to the high rigidity of the body's monocoque design.

Magna Steyr is convinced that natural gas will become increasingly important in the future as an alternative fuel for automobiles. The MILA Concept achieves greater efficiency with its CNG powered engine than would be possible with gasoline (up to 32 percent versus 25 percent). Under the stringent California emission laws passed in 2004, a CNG vehicle falls into the eco-friendly AT-PZEV category (Advanced Technology Partial Zero Emission Vehicle). That is why Magna Steyr will focus more on the development of natural gas engines in the future.

The MILA Concept was developed and built in less than six months. All development steps up to the complete car concept were carried out virtually, including crash behavior, structural durability, ergonomics, thermal analyses, aerodynamics, etc.

Studies have clearly shown that a vehicle with a design like the MILA Concept has excellent prospects on the market.

Innovation fields

With an eye to future mobility, Magna Steyr is active in a number of innovation fields such as intelligent safety, eco-friendly technology and emotional vehicles. Intensive efforts are also made to constantly improve the processes. The goal is to develop better quality vehicles more quickly at lower cost all the way to volume production. Magna Steyr utilizes a system for virtual vehicle development that was created in-house.

Mahle König

This company in Rankweil is the world's leading manufacturer and supplier of pistons, piston rings, cylinders and cylinder heads for recreational riding and racing. The daily challenge to remain one of the best in the world serves as constant inspiration for Mahle König and its expert employees in their bid to achieve remarkable superior performance each and every day.

Photo left: Pistons, piston rings and cylinders are used for two- and four-stroke engines.

Photo right: The products are used for instance in motorcycles, quad bikes and personal watercrafts.

World champion of high-performance engine components

Advances in technology and experience are the cornerstones of the company's long-standing success and the basis for ever-improving performance in two- and four-stroke engines in motorcycles, all-terrain vehicles (ATVs), scooters, snowmobiles and personal watercrafts.

Key customers of Mahle König include the Austrian motorcycle manufacturer KTM, the leading manufacturer of motorized recreational vehicles BRP-Rotax, Polaris and Arctic Cat, as well as the boat manufacturer Mercury Marine.

Mahle König has been riding the wave of mutual success with these customers for many years and in fiscal year 2006, it crossed the 50 million sales threshold for the first time.

The company has a workforce of 480 and is owned by the König Private Foundation and the German Mahle Group.

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YEAR FOUNDED: 1946

EMPLOYEES: 480

MAN

MAN Nutzfahrzeuge Österreich AG, with plants in Steyr and Vienna, is a company of the MAN commercial vehicles group. It was formed from the long-established companies Steyr-Daimler-Puch, ÖAF, and Gräf & Stift.

MAN TGL was voted "Truck of the Year 2006."

1960 model Gräf & Stift double-decker bus

Steyr XIIN truck from 1927

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I: www.man-mn.at

FURTHER BUSINESS LOCATION:
Vienna

YEAR FOUNDED: 1922

EMPLOYEES: 3,800

At its facility in Steyr, Austria, the company develops and produces all vehicles in the light and medium weight ranges of the MAN truck series. The factory in Vienna, Austria, produces MAN special vehicles (e.g. for military, firefighting and municipal uses). About 3,800 employees work in both plants. With sales revenues of €1.380 billion and an output of 27,000 vehicles in 2006, the company exceeded even its business performance of 2005 (€1.087 billion in sales and 22,700 vehicles). Today, more than a third of all MAN trucks bear the stamp "Made in Austria."

The parent company MAN Nutzfahrzeuge AG, with over 36,000 employees, revenues of approximately €8.7 billion and more than 79,800 trucks and over 7,000 buses and bus chassis sold, is one of the leading international suppliers of commercial vehicles and transport solutions.

From its plant in Steyr, Austria, MAN Nutzfahrzeuge Österreich AG supplies customers around the world with truck series in the light and medium weight ranges. It also provides individual parts, units and completely disassembled trucks (CKD) that are reassembled by the customer. Western Europe is the prime export market, but group businesses are also supplied with components and parts as part of the manufacturing group of MAN Nutzfahrzeuge AG.

The special vehicles produced in the factory in the Liesing district of Vienna are mainly exported to Western Europe, Asia and Australia.

Low-entry vehicle

Production operations at the Steyr plant

Truck-trailer combination

Product range:

- Trucks in the light, medium and heavy weight series for civilian and military uses (models: 2, 3 or 4 axles; drive layout: 4x2, 6x2, 6x4 or 8x4 as well as all-wheel models 4x4, 6x6 or 8x8; engine outputs: 107–485 kilowatts/145–660 horsepower; total weights: 8–41 metric tons for payloads of 3 to 28 metric tons),
- Special vehicle frames from the TGA series up to a total weight of 50 metric tons with 2, 3 or 4 axles (e.g. construction vehicles, municipal vehicle chassis, firefighting vehicles),
- Chassis with steerable end axles, driven and non-driven,
- Heavy-duty truck-trailers with a total weight of up to 250 metric tons (including the new TGA heavy truck with 660 horsepower V10 engine),
- Original spare parts and accessories for all MAN and Steyr vehicles,
- Driver cabs and driver cab component sets for light, medium and heavy trucks and for special vehicles.

Truck of the Year 2006

The MAN TGL light truck series developed and built at MAN Nutzfahrzeuge Österreich AG in Steyr was voted "Truck of the Year 2006." When the high-caliber panel of renowned industry journalists from 19 European countries singled out the TGL for this honor, MAN Nutzfahrzeuge became the first truck manufacturer in the world to receive this distinction six times. It is a premiere for the domestic production location in Steyr and a great acknowledgement of the development work and fine quality manufacturing done at this site.

Economy, comfort and safety were the three traits engineers concentrated on in developing the truck series in the 7.5 to 12 metric ton weight class. With their clear vote for TGL, the panel of judges confirmed that these goals had in fact been attained. "The candidates in this field were very strong," noted the panel chairman, the British automotive journalist Andy Salter. "TGL winning the title by such a large margin of the votes proves what a superior product it is."

MAN Vertrieb

MAN Nutzfahrzeuge Vertrieb Süd AG (MNVS) manages sales operations in 16 European countries from its base in Vienna and is a wholly owned subsidiary of MAN Nutzfahrzeuge AG in Munich, Germany. The company has branches in Italy and Austria and headquarters in Vienna. It wholly owns companies in Slovenia, Hungary, Switzerland and Greece.

MAN Nutzfahrzeuge Vertrieb Süd AG is responsible for sales and servicing of trucks and buses in 16 European countries.

Products from MAN

Among its other duties, MNVS manages sales operations in the markets of Croatia, Serbia, Montenegro, Bosnia and Herzegovina, Macedonia, Albania, Cyprus and Malta.

Truck & Bus Österreich

MAN Nutzfahrzeuge Vertrieb Süd AG is the largest provider of new and used utility vehicles in Austria. As a sales and service firm, it builds on the successful history of the traditional makes Steyr Trucks, ÖAF, MAN and Neoplan.

The company's range of products and services is unique in quality and in scope. It includes a complete lineup of new and used vehicles and a constantly growing portfolio of services, e.g. finance, hardware and software for fleet management, transport consulting and telematics. The company is responsible for sales and servicing of the truck makes MAN, Steyr Trucks and ÖAF and the bus makes MAN and Neoplan.
At the company's 17 service branches and its headquarters, around 900 superbly trained employees ensure quick and expert service relating to all aspects of utility vehicles. A further 41 partner companies assist it in providing full coverage care throughout Austria.

The makes the company carries account in Austria for nearly 50 percent of all trucks with a total weight of 6 metric tons and higher and 30 percent of all buses with a total weight of 10 metric tons and higher. In 2006, the firm sold 2,995 trucks, 257 regular and tour buses, and 2,008 used vehicles in the Austrian market with a total value of approximately €499.4 million.
MAN Nutzfahrzeuge Vertrieb Süd AG is the undisputed market leader in Austria. MAN vehicles play a dominant role in the Austrian transport sector. They are a major tool for providing the population with daily goods and for shipping freight in trade and industry. MAN and Neoplan buses form the backbone of public transit in Austria.

Branches in Austria

- Burgenland/Lower Austria: Bad Fischau, Schwechat, St. Pölten
- Carinthia: Klagenfurt, Villach
- Upper Austria: Ansfelden, Wels
- Salzburg: Eugendorf
- Styria: Graz, Gleisdorf, Liezen
- Tyrol: Innsbruck, Kundl, Imsterberg
- Vorarlberg: Lustenau
- Vienna: 14th, 21st and 23rd districts

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I: www.man-mn.at

YEAR FOUNDED: 2006

EMPLOYEES: 900

Maraton

Maraton-Maschinenbau is one of the largest producers of agricultural cranes and dump wagons. The company also builds special vehicles for use in forestry, municipal services and earthmoving.

Photo left: The galvanized frame is standard in the dump wagons.

Photo right: Top priority is given to model diversity and responding to individual customer requests.

With its technical expertise in production (laser technology, CNC turning shop, etc.), the company can take on specific customer and market requirements and fulfill them in actual practice.

The Maraton product range covers

- Crane systems (all sizes for agricultural and industrial businesses),
- Hay excavators (drivable, steerable, stationary),
- Baling pro for silo bales and feed,
- Single-axle and tandem three-way dump wagon, total weight from 3 tons to 20 tons,
- Special vehicle construction (municipal, forestry, etc.) and
- Feed systems for biogas systems.

The main focus in manufacturing activities is on crane systems and dump wagons, Maraton is one of Europe's largest manufacturers of these products. All products listed above are made by the company. Maraton also has a cylinder manufacturing operation, a laser cutting center and a CNC turning shop for contract work. About 50 employees work in production and administration.

Maraton dump wagons

Top quality standards in production are the hallmarks of the new generation of Maraton dump wagons. To increase and prolong their value, all dump wagons are delivered with a galvanized and coated chassis frame as a standard feature. In this new galvanization method, even cavities are hot-galvanized. Galvanization guarantees effective protection against rust and wear, which is especially important in our regions where dump wagons are subject to a wide variety of uses.

Rising sales figures affirm that the dump wagon series meets the high quality and performance requirements of customers in Austria and abroad. This success can be attributed to a completely revised sales assortment of single-axle and tandem three-way dump wagons. The strategy of model diversity and customization to meet individual customer requirements has proven highly effective. The program now includes single-axle dump wagons from 4 to 8 tons and tandem dump wagons from 9 to 20 tons. The special features of the dump wagon design have great advantages in actual operation.

MARATON Maschinenbau GmbH

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YEAR FOUNDED: 1969

EMPLOYEES: 50

Maschinenfabrik Liezen

Maschinenfabrik Liezen und Gießerei GesmbH was founded in November 1994. However, thanks to its traditional location, Maschinenfabrik Liezen has access to 50 years of experience in the fields of mechanical engineering and casting.

Photo left: Plant in Liezen

Photo right: The shell molding process also enables series production of automotive castings.

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I: www.mfl.at

YEAR FOUNDED: 1994

EMPLOYEES: 700

The factory develops tailor-made casting solutions in response to individual customer problems with the help of modern tools such as in-house casting and solidification simulation. In each case, the ideal technical and commercial solution is produced using the company's shell molding process.

Maschinenfabrik Liezen operates in the following strategic business segments:

- Automotive castings
  Engine and gearbox parts, drive components, chassis parts.
- Heat-resistant castings
  Grate bars and other heat-resistant castings.
- Mill linings
  Wear linings for ball mills.
- Container corner castings
  Corner castings for ISO containers, European land containers and swap bodies, special containers and US domestic containers.
- Customized castings
  Individual casting solutions for various applications and industries, according to customer specifications and within the technical production parameters at Liezen Foundry.

Automotive castings

Liezen Foundry began two decades ago to specialize in heavy-duty, series production molding using the shell-molding process and in doing so laid the foundation for its tradition in the manufacture of automotive castings.

Initially, production focused on crankshafts and camshafts for some of the world's leading engine manufacturers. As engines become more and more powerful and economical and ecological expectations grow, the demands placed on raw materials for the components used are increasing steadily and cast steel is experiencing a comeback.
Consequently, the foundry at Maschinenfabrik Liezen has established itself as a specialist in the production of high-quality precision automotive castings made from cast steel.

Maschinen-Service Erzberg

Following the modernization of the exploitation and reprocessing technology at Erzberg, qualified mountain technical staff and specialist personnel in the central workshops of VA-Erzberg Ges.m.b.H. found themselves with time on their hands. In order to successfully place the available capacity on the market, Maschinen-Service Erzberg Gesellschaft m.b.H. was founded in 1994.

The range of services provided by the company includes:

- Repair and maintenance of all types of construction machinery and reprocessing plants
- Manufacture of bodies for heavy-duty construction trucks and buckets for wheel loaders from 6 to 15 cubic meters
- Manufacture of steelwork parts and machine parts
- Welding for heavy-duty construction parts
- Manufacture and assembly of wear parts for processing plants and machinery
- Technical service for industrial facilities
- Assembly and disassembly of industrial facilities
- Manufacture of aluminium tanks, containers and load-bearing aluminum constructions

The company currently employs 65 staff. In-house machinery includes a 70-metric-ton mobile crane, a four-axle truck with a 16-metric-ton loading crane, a Sato oxy-acetylene and plasma cutting machine, a 400-metric-ton hydraulic bend press, modern welding machines and equipment for plant assembly etc.

Key projects 2006

- Manufacture of bodies for heavy-duty construction trucks: eight bodies (40–64 cubic meters) for customers in Belgium, two 40-cubic-meter bodies for a customer in Germany, one 60-cubic-meter body for a customer in France and two 64-cubic-meter bodies for a customer in Austria.
- For Voestalpine Donawitz: blast furnace gas dedusting plant, disassembly, manufacture and assembly of components for the furnace gas dedusting plant, manufacture and assembly of wear parts for the prebunker for ore-sieving, manufacture of vibration chutes.
- Manufacture and assembly of a testing plant for rock fall protection grids.

Bodies for heavy-duty construction trucks

Specific services

- Manufacture of bodies for heavy-duty construction trucks and buckets for large wheel loaders, tailored to suit the specific requirements of customers. On customer request, products can be made up to 10 percent lighter than standard bodies by using high-quality construction materials, among other solutions.
- Welding and welding repairs to massive and heavy-duty construction parts.
- Manufacture of wear parts from wear-resistant steel, ceramic, plastic, rubber or plates made of sinter material or coated with weld overlay, depending on the load exerted by the materials used. Weld overlays with highly wear-resistant welding materials in heavily loaded areas and at crusher cones constitute a further segment within wear protection.

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YEAR FOUNDED: 1994

EMPLOYEES: 65

Mauser

At the end of 1950s, Walter Mauser (after whom the company was named) and his wife Heidi were tired of being constantly exposed to the wet when with their tractor in the rain. The problem of the open tractor cab was resolved with a cover that in 1960 resulted in the setting up of the company Walter Mauser Weather Protections. Two years later the company acquired an estate that became the basis for the current working premises.

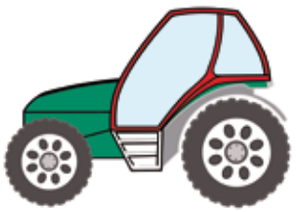

Figure: Tractor sketch with driver cab

Photo right: Walter Mauser products are exported around the world.

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I: www.mauser-cabs.eu

YEAR FOUNDED: 1960

EMPLOYEES: 200

The development of the SK-300 cab completed in 1966 and the standout features of which were its wonderful design and its high level of stability marked a milestone on the way to achieving its current market position. Just two years later, Mauser launched the CAB-404 retrofit cab on to the market, with its great success making the expansion of the working premises absolutely essential.

The C-Series, developed shortly afterwards and with its modular system construction, once again highlighted the company's development skill, and grew to become an export hit.

Walter Mauser GmbH employs more than 200 people. Each year, Mauser produces approximately 8,000 driver cabs, 85 percent of which are exported. Its key foreign markets include the entire EU as well as the USA and Switzerland. The company serves a total of 3,000 active customers.

Safety takes center stage

Customers benefit from a company which processes complete projects single-handedly, from design all the way through to production. In order to exploit potential from synergies and to minimize friction loss, construction experts are often involved as early as the vehicle development phase. The company has 13 CAD workstations on which the designs and data are prepared for prototype construction and subsequent series production.

Cabs are predominantly made out of sheet steel and special profiles with plastic or metal roofs, which are combined with laminated or tempered safety glass. The cabs are equipped with all accessories, including additional lighting, air-conditioning and heaters or noise insulation packages. In most cases, the customer simply has to mount the cab and it is ready for use.

The stringent quality line pursued is also evident in the highly modern machinery, comprising three laser cutting machines as well as CNC-controlled equipment for nibbling, punching, folding and welding. The cataphoric painting process, termed CPP, guarantees optimum protection against corrosion. Using the fully-automated CPP painting method, workpieces are given a layer to prevent corrosion to which the final layer is applied either as a powder coating or paint. To date, approximately €5 million has been invested in CPP equipment alone.

The expertise of Walter Mauser GmbH is also shown in the efficient manufacture of niche products and products tailored specifically to customer requirements. On request, initial prototypes can be provided in as little as eight weeks.

Today, the company is run by son Martin Mauser and daughter Charlotte Mauser together with a young team of qualified employees.

Meiller

On September 1, 1999, F.X. Meiller GmbH & Co KG acquired the vehicle technology division of IFE AG Waidhofen an der Ybbs, incorporating Meiller GmbH in Waidhofen an der Ybbs to run the business.

Photo left: Waidhofen an der Ybbs site

Photo right: The convincing features of the stone tipper are its robustness, versatility and efficiency.

The commercial activities of Meiller GmbH are spread over two sites, namely Meiller GmbH Fahrzeugtechnik in Waidhofen an der Ybbs, Lower Austria, and Meiller GmbH Service- und Montage in Asten, Upper Austria.

Meiller's competences lie primarily

- in product innovation, i.e. the rapid implementation of market wishes into sales products,
- in realizing customer's special requests,
- in the assembling of components for customer-specific tipper bodies and
- in surface technology.

Product overview

Construction logistics
- Three-way tippers
- Two-way tippers
- Stone tippers
- Rear tippers
- Tipping semi-trailers
- Center-axle trailers
- Asphalt tipping bodies

Waste management
- Roll-off tippers
- Skip handlers
- Container transport trailers
- Moving floor semi-trailers

Vehicle and system equipment
- Hydraulic systems and components for vehicle construction
- Hydraulic systems for local authorities
- Semi-trailer hydraulic systems
- Exchange systems
- Tarpaulin systems
- Cover systems for using mixtures
- Cranes
- Individual solutions

Worthy of particular mention in the product range is the stone tipper, which offers exceptional robustness, versatility and efficiency. The new fold-down Meiller corner post, which can be operated from the cab, provides further benefits.

The markets for Meiller GmbH are in Austria, Hungary, Slovakia, Germany, Switzerland, Greece, Macedonia and Cyprus.

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FURTHER BUSINESS LOCATION:
Asten

YEAR FOUNDED: 1999

EMPLOYEES: 98

Miba

In Austria, the Miba Group consists of the three companies: Miba Frictec GmbH, Miba Gleitlager GmbH and Miba Sinter Austria GmbH. The Miba Group, based in Laakirchen, Upper Austria, is a strategic partner and supplier to the international engine and automotive industry.

Miba Frictec, Roitham

Miba Sinter Austria, Vorchdorf

Miba Gleitlager, Laakirchen

Innovation in Motion

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I: www.miba.com

YEAR FOUNDED: 1927

EMPLOYEES: 2,900

At twelve sites around the world, components, bearings and friction materials are manufactured for vehicles.

Miba products make cars, trains, ships, aircraft and power stations more powerful, safer and more environmentally friendly. Miba employs around 2,900 people, around half of them at the Austrian sites in Laakirchen, Vorchdorf and Roitham. In the 2005-06 financial year, Miba AG, which is listed on the Vienna stock exchange, generated sales of €347 million, with an operating result of €21.7 million.

In Austria, Miba Frictec GmbH, Miba Gleitlager GmbH and Miba Sinter Austria GmbH make up the Miba Group.

Services and products

Miba sintered components are high-precision, high-strength components produced with the help of specialized chemical engineering and used in car engines and transmissions. Sinter technology allows maximum utilization of materials with minimum energy, as compared with other production processes. Thanks to its commitment to ongoing technological progress, Miba can produce complex, sophisticated components for future-oriented vehicle concepts.

Miba bearings help determine the operation and working life of the combustion engines in which they are used. Bearings are used in camshaft and crankshaft applications to minimize friction during operation and protect the engine from damage and breakdown. Miba is involved in ongoing development of new bearing designs, to ensure modern engines can operate in an efficient and eco-friendly manner even under extreme conditions.

Miba carbon friction plates in clutch packages for powerful, silent locking differentials in modern SUVs

Miba bearings ensure that modern engines can operate optimally under extreme circumstances.

Miba sintered components are high-precision, sophisticated components for future-oriented vehicle concepts.

Miba friction materials are key performance elements in the clutch plates and brakes of vehicles and machinery, and help optimize speed and power. Miba's R&D activities ensure customers are offered high-quality products, customized as necessary.

Technology leadership is one of Miba's core values, and a significant part of its strategy for success. Development teams look very closely at future trends in order to stay a step ahead of competitors. The goal of each technological innovation is to provide customized yet cost-efficient solutions.

In the 2005-06 financial year, Miba invested a total of €17.5 million in R&D and thus in its own future. That figure represents a research budget of 5 percent of total sales, making Miba one of the 500 most research-intensive companies in Europe, according to a recent European Commission study. In Austria, where Miba carries out its R&D, its research budget ranks among the top ten.

Example product Miba Friction Group

The net results of the Miba Friction Group's new insights and products in friction materials and friction systems are a high friction coefficient and minimal wear. The new Miba carbon linings significantly enhance the performance of modern, highly-stressed and silent locking differentials.

Motor Center Austria

The service provider for everything engine-related: In partnership with Mibra – the industry leader in the engine parts segment – Motor Center Austria provides optimum levels of support for internal combustion engines, parts and industrial services.

Photo left: Company head office – Wels site

Photo right: Mechanical processing of a connecting rod

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FURTHER BUSINESS LOCATION:
Hallwang

YEAR FOUNDED: 1949

EMPLOYEES: 20

It is a partnership which has increased its level of experience over the course of decades and which has an indisputable degree of expertise. As the largest company in its field in Austria, Motor Center Austria wants to pass these benefits on to its customers. With pooled visions and ideas, a greatly expanded range of products, well-known agents as well as Austrian service providers for industry, trade and commerce, Motor Center Austria aims to have a presence in all matters relating to engine technology. Motor Center Austria distributes well-known brands such as Deutz, Hatz, Perkins, VM, Cummins, Volvo Penta and Falch Lombardini for the provinces of Upper Austria and Salzburg.

Range of services:

- diagnosis, fault detection, damage assessment,
- engine repair for all makes of internal combustion engine, from 1 horsepower to 2,000 horsepower,
- partial or complete rebuilding,
- processing of all engine components (e.g. engine block, crankshaft, cylinder head) using state-of-the-art machinery, in accordance with the criteria laid down in the Austrian Seal of Quality.
- rebuilding of fuel injection pumps, turbochargers, water pumps, starters.
- engine test bench,
- removal and fitting of engines and powertrain units,
- final checks.

The company also carries out repairs and maintenance work, in particular for the following vehicle makes: MAN, Mercedes, Deutz, Iveco, Steyr, DAF, Scania, Ford, Case, Hanomag, VW-Audi, Opel, Citroën, Chrysler, Volvo, Volvo BM. MAG, Renault, Same, Caterpillar, GM, Holder, Farymann, Robin, Lombardini, Isuzu, Toyota, Mazda, Mitsubishi, Nissan, Yanmar, Lister Petter, Suzuki und Komatsu.

M-U-T

M-U-T is a company established in 1932 in Stockerau, a town 30 kilometers to the north of Vienna, Austria. It initially focused on manufacturing transport and conveyor systems. In 1955 the first garbage truck rolled off its assembly line. In 1972 M-U-T recognized the urgent need for expertise in environmental technology.

Photo left: Historical vehicle

Photo right: Innovative municipal vehicles for public and private disposal companies

In 1988 it rounded out its broad range of environmental technology by adding sewage treatment plant construction. These products and services are so intermeshed that great synergy effects are generated between the individual segments.

Today the product portfolio of M-U-T is as follows:

Municipal vehicles for solid waste management Rotating drum refuse trucks, refuse compactor trucks, street sweepers, suction trucks and sewer cleaners.

Sewage treatment plants Equipment components for large-scale plants, flotation system for precleaning industrial sewage, compact sewage treatment plants.

Environmental technology Fermentation plants, waste splitting and sorting plants, biological filters, process control systems, refuse loading stations, waste and laundry discharge plants.

Conveying equipment Complete conveying systems for bulk and piece goods, conveyor belts, bucket conveyors, conveyor screws, cellular wheel sluices, spiral chutes, automatic parcel conveying systems.

With its broad portfolio, M-U-T is certainly one of Europe's most important companies in providing total solutions for the disposal sector. It currently has 160 employees and generated sales of €32 million in 2006.

Innovative M-U-T AUSTRO CLEANER

M-U-T launched a project to fight particulate matter pollution. It managed to line up two competent institutions as project partners: Höhere Technische Bundeslehranstalt Hollabrunn and Umweltbundesamt Wien. The result was a completely new type of sweeping machine, the M-U-T AUSTRO CLEANER 247/7.0 UM circulating-air system.

This device is advantageously compact, featuring a 7 cubic meter waste container, 2,400 liter water tank and an ultra-small wheel base of 3,300 millimeters. That means maximum maneuverability compared with other systems and minimal discharge of particulate matter. This feature is substantiated by measured values and confirmed by expertises.

Timely action reduces particulate matter pollution. One effective measure is to clean streets properly and regularly with the most modern street sweeper equipment available. That is the best way of reducing particulate matter pollution in the PM 10 range.

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E: office@m-u-t.at
I: www.m-u-t.at

YEAR FOUNDED: 1932

EMPLOYEES: 160

Öfag

The automotive dealership Öfag, based at Innsbrucker Bundesstraße 128, operates under the motto "Working as a team to serve the customer." Öfag is one of Salzburg's most popular and well-known automotive dealerships, providing top makes, attractive offers and reliable service.

Photos left and right:
Öfag premises in Salzburg

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I: www.oefag.at

FURTHER BUSINESS LOCATIONS:
Bischofshofen
Hallein
Straßwalchen

YEAR FOUNDED: 1953

EMPLOYEES: 139

Its annual sales of €68 million are generated by 139 employees, three branches, two sales outlets and 12 sub-dealerships. Approximately 4,000 new and used cars are sold each year.

Öfag has been a distributor of Opel vehicles in Salzburg for more than 50 years. Following the coming into effect of the EU's Block Exemption Regulation for the motor vehicle sector, the company decided to begin selling multiple automobile brands.

With top names like Opel, Chevrolet, Saab, Suzuki, Nissan and Daihatsu, the company has all of the customer's wishes covered from the most basic of models through to top-level limousines.

Hotly expected from Opel in 2007 is the new, old Opel GT, the reincarnation of the legendary sports car from the 1970s.

Öfag also has a constant stock of some 200 used vehicles. All vehicles are G2 certified which means that the customer can be certain that the used car is in perfect condition.

Palfinger

Established in 1932, the company has been a leading international manufacturer of hydraulic lifting, loading and handling systems for many years. As a multinational company group based in Salzburg, Austria, Palfinger has production and assembly sites in Europe, in North and South America, and in Asia.

Photo top: Hook loaders in the Palift Telescopic series

Photo left: Truck-mounted knuckle-boom crane

Innovation, further internationalization and diversification of products and services form the pillars of the corporate strategy. Today the name Palfinger stands for innovative lifting, loading and handling solutions at the interfaces of the transport chain. The company's main guiding principle is to make its customers throughout the world more successful. Palfinger is world market leader in truck-mounted knuckle-boom cranes and hookloaders, number two in the world in transportable forklifts as well as timber and recycling cranes, and the unrivalled European technology and market leader in railway applications in the high-tech sector. As such, its challenge today is to operate close to its customers worldwide.

The core product is the truck-mounted knuckle-boom crane. The company is the world market leader in this segment with close to 150 models and a market share of 30 percent. In hookloaders, too, Palfinger tops the rankings as the world's biggest manufacturer. Over the years the product portfolio has been steadily expanded with products such as mounted forklifts, tail-lifts, and truck mounted aerial work platforms. In addition, the company develops innovative solutions for railway applications, bridge inspection, and recycling. Cranes for use in agriculture, forestry and other off-road applications complete the product range.

In the world market for hydraulic knuckle-boom cranes, the Palfinger Group is regarded not only as the market but also as the technology leader. This reputation is impressively substantiated by its three new crane series "Performance," "Advantage" and "Compact," as well as by its latest innovations such as the DPS (Dual Power System), the standard inclusion of return oil utilization, the Power Link Plus reverse linkage system, and the integrated stability control (ISC).

To maintain its preeminent position, the company invests more than 2 percent of its revenue in research and development. About 97 percent of the products are exported to 125 countries around the globe. Palfinger maintains a local presence around the world, operating over 1,500 sales and service outlets on all five continents.

In 2004 the group adopted a new organizational structure to support the strategy of controlled growth. Known as the "Global Palfinger Structure," its main goal is to ensure the best possible operational capabilities for the company in the various markets. Operational management at Palfinger is based on Area Sales Divisions and Product Divisions. This approach allows quick, flexible on-site decision-making.

The Palfinger family owns approximately 62 percent of the stock in the Palfinger Group. About 33 percent of the shares are in free float. Palfinger AG acquired 5 percent as part of a stock repurchase program. Palfinger has been listed on the prime market of the Vienna stock exchange since June 1999. The Palfinger AG stock has been listed in OTC trading on the stock exchanges in Stuttgart, Berlin, Düsseldorf and Frankfurt since June 2000. Palfinger AG has also been listed in New York since March 2005.
The company and its 3,443 employees generated total sales of €585.2 million in 2006.

PALFINGER

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I: www.palfinger.com

FURTHER BUSINESS LOCATIONS:
Elsbethen
Köstendorf
Lengau

YEAR FOUNDED: 1932

EMPLOYEES: 3,500

Partsch Kraftfahrzeugwerkstätten

M. Partsch has a long tradition in the vehicle industry in southern Lower Austria with its authorized car dealership (sales and servicing), body and paint shop, and transport operations. Company founder Maximilian Partsch obtained a license for the "periodical transport of passengers by automobile" back in 1922.

Master automotive mechanics

Autohaus M. Partsch

Neu- & Gebrauchtwagen CHRYSLER Jeep

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YEAR FOUNDED: 1922

EMPLOYEES: 100

In 1963 the authorized service garage was opened on Trostgasse in Wiener Neustadt. This site remains the head office of the company today, although the bus operations encompassing over 30 vehicles have since been relocated and a branch has been operating in Neunkirchen for ten years.

Guaranteed quality

Over the years, M. Partsch has established itself far beyond the district's borders as one of the region's leading service firms with its customer service for Mercedes Benz, its main make of vehicle. It was also one of the first authorized Mercedes Benz service garage to operate according to the strict ISO 9001 quality standard and thus to be capable of consistently guaranteeing the high level of service customers expect. In April 2004, this authorized service status was extended to Smart cars and at the start of 2005 also to Chrysler and Jeep. In 2006, Dodge and Mitsubishi Canter were added to the portfolio.

From garage to full service operation

Besides its ultra-modern garages for passenger cars, vans and trucks, the firm has had a fully equipped body and paint shop since 1980. In 1995 the branch in Neunkirchen was opened as an authorized service garage for Mercedes Benz and for used car sales. In the spring of that same year, a new body shop and paint center for all makes of cars was opened at the main business location in Wiener Neustadt. The youngest "offspring" to date followed in 2006, Autohaus M. Partsch for the car makes Chrysler, Jeep and Dodge and used vehicles of all makes, likewise located on Trostgasse in Wiener Neustadt. "All services from a single enterprise" is the company's motto, thus assuring customers short travel and service times.

In its truck and utility vehicle business, Partsch concentrates on servicing the makes Mercedes Benz, Setra and Omni-Plus.

Employee expertise as a decisive factor

In its business philosophy, M. Partsch focuses on setting new standards and providing customers with a new quality of customer care. Achieving this goal requires experience and professional expertise. Employee quality and competency are thus top priorities. To ensure these standards, M. Partsch arranges regular basic and continuing training for its employees. The business has seven master auto mechanics.

The apprenticeship training provided at the enterprise is a key indication of how highly employees are valued. An average of 10 apprentices are undergoing training at the Wiener Neustadt location at any given time. The family-owned firm has nearly 100 employees in Wiener Neustadt and Neunkirchen and handles about 50 vehicles a day in its shops.

Pöchhacker

The company H. Pöchhacker & Co. KG was founded by Hans Pöchhacker as sole proprietor in Vienna 90 years ago and is active in the electro-technical sector. The company's original products included a wide spectrum of lighting fixtures, including streetlights and replacement parts, and British imported carbon brushes.

Photo left: Brush holders being used on the railways

Photo right: Industrial trucks for railways and airports

The many years of contact with the railway authorities led to the creation of a small manufacturing company in Mödling in the 1930s.

With a workforce of less than 50 employees, the company went on to manufacture and supply a variety of railway requisites such as brush holders (in accordance with its own design), track signal lights, portable lamps with recharging packs, energy regulators for the individual cars, mast circuit breakers, and section insulators.

The 1950s presented the opportunity to develop and manufacture industrial grade electrical vehicles (baggage transport on train platforms). What began with small flatbed transport vehicles and towing units evolved into electric forklifts and custom made electric transport/towing vehicles. The circle of customers grew with the addition of several Austrian airports including Vienna, Klagenfurt, Salzburg, and Innsbruck. A considerable number of industrial companies such as Swarovski also demonstrated great interest in these rechargeable electric vehicles. By the year 2000, the market was saturated and pressure from foreign competition increased changing the company's marketing direction from new product production to quality service and maintenance including replacement parts for the existing vehicles.

In contrast, as a key branch of production, the company began manufacturing and supplying overhead contact line fittings for the railways. The company also distributes industrial lubricants produced by the British company Rocol.

H.PÖCHHACKER & CO
ELEKTROTECHNISCHE FABRIK

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E: h.poechhacker@aon.at

YEAR FOUNDED: 1917

EMPLOYEES: 6

Pongratz

This group's success story began in the 1970s in Köllach near Leoben in the southern Austrian province of Styria. First, the vision of establishing farm machinery production operations at an agricultural business was realized with modest resources. The workshop grew steadily and the need for warehouse space for stock material forced the enterprise to expand.

Business site in Modra

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E: office@pongratz-anhaenger.com
I: www.pongratz-anhaenger.com

FURTHER BUSINESS LOCATIONS:
Modra

YEAR FOUNDED: 1970

EMPLOYEES: 160

In 1974 Pongratz designed its first trailer model for utility transports for series production. From the outset, quality was a top priority. Requirements became ever more varied as to the type of car trailer that should be built. As a result, new models were constantly launched for series production. Within a few years, Pongratz was producing a broad range of trailer series that gradually achieved sizable market shares in Austria and neighboring countries.

In 1990 Pongratz took the step of introducing robot-supported production. The firm now offers virtually all types of transport solutions up to the 3.5 ton class, ranging from small steel or aluminum utility trailers without brakes to animal transport vehicles, boat trailers and top-line trailers for industrial applications. Today, over 160 employees have secure jobs manufacturing these trailers at three different plants. With sales throughout the group currently running more than 25 percent higher than in 2006, the company is obviously on the right track, although the crisis-ridden raw material market did pose a major obstacle to development.

Philosophy

In its business philosophy, the company reiterates time and again its awareness of the responsibility it bears in developing and building vehicles for licensed use on public roads and highways. Careful craftsmanship is a matter of course and serves the goal of customer safety. Extensive development work and the most modern manufacturing technology are combined with select materials and constant monitoring to assure quality. The resulting record is impressive: trailblazer and market leader for over 30 years in Austria and for a number of years in several other EU countries.

Paths to the future

As Pongratz grew, it allied itself with trade partners throughout its markets, which for decades have formed a customer-friendly sales and service network across large parts of Europe. Another way the company ensures that it can continue to meet market requirements is by constantly enlarging its infrastructure with the establishment of additional production sites and investments in high performance steel and aluminum machining centers. Pongratz has specials on set trailers all the time and is constantly introducing new advances in its trailer series, such as the new dump-body trailers launched on the market at the beginning of 2007. Its goal is to ensure that customers derive benefits from their trailers at an advantageous price. This approach assures the company's presence on the market and guarantees for the long term a range of products and spare parts from a healthy, competitive and potent business.

Pöttinger

Since the company was founded in 1871 the Pöttinger family company in Upper Austria has become one of the most highly regarded agricultural technology manufacturers in Europe. The 2005/06 financial year brought a hefty increase in overall sales to €171 million, thus emphasizing the company's winning streak.

With 986 committed employees and a worldwide sales partner network, growth of 10 percent was achieved. The extensive product range fully covers the entire harvesting chain. It includes haying machines (mowers, tedders, swathers), self-loading wagons, silage trailers, maize and grass choppers, round baler presses and wrapping machines, plus soil preparing equipment (plows, rotary harrows, cultivators and sowing machines). Indeed, in the loader wagon sector, this traditional company is a global market leader.

Active worldwide More than 80 percent of sales are achieved worldwide across 50 markets plus. The rapid development of exports also necessitated the foundation of its own subsidiaries, for example in France, Switzerland, Australia, Italy and Canada.

Revolution in mowing technology Pöttinger's Alpha-motion, the new front mower system is captivating practitioners and the professional world. This multi-award winning machine can cope with the most difficult of conditions in parallel with increased cutting force.

Harvesting technology 17 to 80 cubic meter load wagons "made by Pöttinger" have a long tradition. The company has been working consistently on the flagship of the Pöttinger product range for more than 40 years. The result is 50 different load wagon models for more than 40 markets, which means that with the numerous equipment variants, individual solutions can be found for every customer.

A considered solution to conserve the soil. The sowing technology products range from pneumatic and mechanical equipment to mulch seeding drillers. With the Terrasem "workhorse," Pöttinger has placed a top quality product in the trendy mulch seeding machines segment.

Pöttinger is a global market leader in loading wagons.

ISOBUS – so that tractor and machine understand each other better. Pöttinger is a leading light in electronic solutions for agricultural technology. ISOBUS includes a large selection of electrohydraulic control terminals, a multifunction control instrument which serves as an interface between the tractor and attachment.

Latest testing technology The technology and testing center (TIZ) is the centerpiece of Pöttinger's operations as regards quality assurance. This is where the machines are tested for their quality and suitability under conditions that mirror practical realities. The testing center is one of the most modern in the world as far as agricultural technology is concerned.
The TIZ in Grieskirchen ranks among the largest centers of expertise in Austria.

Innovations for practical applications "Innovations that make customers' lives easier." With this in mind, Pöttinger continues to develop its product range permanently. Committed employees who for the most part have their roots in agriculture are familiar with the demands placed on agricultural machines from their own experience.

Multi-award winning attachment system for front-mounted mowers: Alpha-motion

PÖTTINGER

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YEAR FOUNDED: 1871

EMPLOYEES: 986

Pusch

Wohnwagen Pusch has long been an institution in the Austrian motorhome and mobile travel market. Fans of campers and motorhomes from all provinces in Austria turn to this family-owned company in Gmunden or its branches in Graz and Altlengbach with any and all issues concerning mobile vacationing.

Photo left: Even the selection of motor homes is large.

Photo right: Rental travel trailers are a good way to gain experience in mobile vacationing.

WOHNWAGEN Pusch
TREFFPUNKT FÜR CARAVANER

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FURTHER BUSINESS LOCATIONS:
Altlengbach
Graz

YEAR FOUNDED: 1962

EMPLOYEES: 27

About 700 new and used travel trailers, camper vans, and trailer tents roll off our company's assembly lines every year. Sales figures are the result of 45 years of building up business and underscore the company's Number 1 position in the industry. Wohnwagen Pusch is Austria's largest travel trailer dealer. One in three travel trailers sold in Austria hails from this well-known company in Gmunden.

Its success can be attributed to the large selection of travel trailers, motorhomes, trailer tents and accessories to meet every taste and budget. In keeping with its motto "successful brands for satisfied customers," the company teams up in all product segments with manufacturers of top travel trailers that have had decades of experience in trailer and motorhome construction. It has been the exclusive dealer for well-known makes such as Hobby (Europe's and Austria's most widely sold travel trailer), Tabbert and Fendt. These products are synonymous with first-class quality and provide a comfortable home for camping pros on the road.

The selection at Wohnwagen Pusch also includes a large range of first-class lightweight trailers and trailer tents for mobile camping novices at attractive rates. In recent years, the young dynamic lines of Eifelland have made it a popular entry-level model, alongside the popular Puscherl. In the motorhome segment, the product range has been steadily expanded and interesting models are on offer in different price categories with the general dealerships for Elnagh and Hobby. Campers can select their vehicle of choice from among some 200 models with the widest range of features.

About 30 travel trailers and motorhomes are also available for rental.

Customers remain in good hands at Wohnwagen Pusch even after the sale thanks to the company's own service workshop. As the largest company in the industry, Pusch provides its customers with a huge range of accessories: more than 10,000 articles in a 2,000 square meter camping accessories market, Austria's largest such store.

Fans of motorhoming and mobile camping can find out about the latest trends and product program at the company's website, which also features a used car exchange, a list of rental vehicles on offer, etc.

Reform-Werke

Reform-Werke Bauer is an acknowledged specialist in equipment for work on slopes and municipal services, for intensive turf maintenance, gardening and landscaping, and in seed drill construction. Reform ensures technology at its best. Its products are manufactured at its plant in Wels, Austria, and sold mostly in European markets, but also beyond the borders of Europe.

Plant in Wels

The 400 employees at Reform and its Swiss subsidiary Agromont generated consolidated sales of €59.2 million in 2006. Reform has been pursuing a business policy of specialization for decades. Below are the results of this consistent policy.

Equipment for slope work The market leader's product range includes a large selection of motorized mowers such as the extensive double-axle series of Metrac mowers, the Mounty generation of slope-tool carriers, and the Muli line of slope transport vehicles.

The Reform Metrac maintaining a golf course with minimum impact on the soil.

Municipal equipment Reform offers innovative solutions for landscape maintenance and municipal services. Lawn and embankment maintenance, e.g. along highway and railroad tracks, on river banks, on ski slopes, company premises and much more, difficult off-road transports, summer and winter services in town and in the country.

Intensive turf maintenance Reform's maneuverable tool carriers and transport vehicles deliver top performance while being particularly gentle on the soil. They feature solutions tailor-made for golf courses, parks, sports fields, etc. to ensure economical, neat and effective operation.

Gardening and landscaping equipment Countless gardeners and landscapers have sworn for decades by Reform's practical single-axle mowers, so easy to use and so economical.

Sowing equipment Reform can draw on nearly a century of experience in this area. The indomitable Reform-Semo runner planters and disk drills are tried and tested as modern, reliable seeding machines for precision sowing.

In general, you could say that Reform is right at home on slopes. A recent confirmation of that was the silver medal the Reform Mounty 100 received for innovations at the last Demopark Trade Fair.

This slope-suitable hydraulic tool carrier with a 95 horsepower engine gives the crowning touch to the successful Mounty 70 and 80 S model series. With its Mounty 100, Reform sets new standards in the mechanization of lawn maintenance on slopes as well as grounds maintenance and municipal services. One special highlight of this top-line model is its hydrostatic drive with electronic control system. This feature is particularly interesting because of its power limit control and forward-backward shuttle control. Other innovative product advantages come from the many proven features of the Mounty series. They include four-wheel steering with a turning radius of 6.5 meters, with switchover at the push of a button to front-wheel steering, rear-wheel steering and crab-steering mode; strong lifting gears; equal sized wheels front and rear; comfortable air-conditioned cab; excellent panoramic windscreen; low center of gravity; high stability in connection with front loader; and eminent suitability for operation on slopes.

REFORM
TECHNIK IN BESTER FORM

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YEAR FOUNDED: 1910

EMPLOYEES: 400

Remus

Remus Innovation Forschungs- und Abgasanlagen-Produktionsgesellschaft was founded in September 1990. With a staff of just five people and a myriad of good ideas, the firm took off on its remarkable road to become a showcase company in the Austrian province of Styria.

Photo left: Plant in Bärnbach in the Austrian province of Styria

Photo right: Remus sport muffler with Powersound System

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YEAR FOUNDED: 1990

EMPLOYEES: 350

In just five years, it had skyrocketed to the position of world market leader among makers of sport exhaust systems and soon thereafter to a competent development partner for the vehicle industry on all issues related to exhaust systems.

Today Remus's industrial clientele includes the entire tuner industry as well as renowned car and motorcycle manufacturers. Over 90 percent of its output is exported to nearly 60 countries around the globe and that figure is on the rise. Remus opened its new research and development center in the summer of 2002 to secure and improve its leading position on the world market.

The latest product from Remus is a diesel particle filter for retrofitting diesel vehicles. It is completely maintenance free and substantially reduces ultra-fine particulate matter, which is especially harmful to human health.

In the summer of 2006, a further addition was completed, augmenting production space by another 8,000 square meters to provide appropriate capacity and space to the 350 employees now working for the company and to meet future demands in the after market and OEM business.

Renault Nissan Wien

With its new brand claim "Renault. Créateur d'automobiles," Renault has taken an important stride into a new automotive age. Renault is indeed a creator, an inventor that comes up with visionary designs and makes them a reality.

Photos: Company premises on Laaer Berg in Vienna

The addition of "automobiles" to the claim underscores the focus of this creative process. This approach results in designs for non-conformist vehicle series with a heart, which are based on fundamental values like safety, quality and environmental awareness. The range of passenger cars extends from spirited subcompacts to luxury-class sedans. With spacious and flexible interior design in all vehicle classes, Renault keeps setting new standards in auto space design. There are no limits to the pleasure of driving Renaults, with their unprecedented safety standards, expressive design and economical engines.

In 1955 the Austrian Renault pioneer Schrack acquired a property on Laaer Berg and proceeded to build a body shop, a paint shop and a new car dealership.

Today Renault Nissan Wien is integrated in the REAGROUP (300 businesses in 14 countries with approximately 15,000 employees) and is Austria's largest dealership for Renault and Nissan. With three business locations and a network of 18 partner dealerships, the firm has achieved a market share in Vienna and environs of approximately 5.7 percent for Renault and about 1.7 percent for Nissan. It maintains about 24,600 vehicles a year as part of customer service activities at its service businesses. Customer quality is extremely important to the company and its 170 employees guarantee it.

The services on offer range from individual finance advice from the company's own Renault Finance AG, the handling of all general insurance matters up to and including all contacts with government offices related to registering a vehicle or canceling or changing a vehicle registration. In after-sales services, the staff at the Renault Assistance Control Center is available round the clock to line up assistance technicians who do their best to get the vehicle back up and running on site. The company's own inspection station for roadworthiness stickers in accordance with §57a of the Austrian Motor Vehicle Act, as well as wheel servicing, including storage, and nighttime acceptance of vehicles round out the offerings.

New specialty services are devised to meet constantly changing requirements. For example, the express body shop service handles jobs taking less than an hour promptly and economically. Other makes of vehicles are naturally also welcome. The Renault Wien Business Center specializes in vehicle fleets and utility vehicles. Corporate customers have special expectations of their mobility partners. As the top vehicle manufacturer in Europe, Renault can offer just the right vehicle for every company's needs in every segment.

With its tailor-made services, the company guarantees its corporate customers permanent mobility, a key criterion for making full use of a vehicle fleet as an operational instrument and for minimizing downtime.

RENAULT WIEN
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FURTHER BUSINESS LOCATIONS:
1200 Vienna
1220 Vienna

YEAR FOUNDED: 1955

EMPLOYEES: 170

Rosenbauer

The Rosenbauer Group is the world's second-largest manufacturer of fire fighting vehicles. With its wide range of municipal fire fighting vehicles and aerials built to both European and US standards (NFPA), its extensive series of aircraft rescue and fire fighting vehicles (ARFF) and industrial fire fighting vehicles, advanced fire fighting components and fire and safety equipment, Rosenbauer is the industry's "full-liner."

Firefighting vehicles for Hungary

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T: +43 732 6794-0
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E: rbi@rosenbauer.com
I: www.rosenbauer.com

FURTHER BUSINESS LOCATION:
Neidling

YEAR FOUNDED: 1866

EMPLOYEES: 1,500

Rosenbauer is the international group with the strongest sales and distribution organization for mobile fire protection and civil defense solutions. With its worldwide sales and customer service network, Rosenbauer has a permanent presence in more than 100 countries. Rosenbauer supplies its products to all target groups: professional and volunteer fire brigades, industrial and airport fire brigades.

The Group's technological leadership is underpinned by a tradition of innovational strength, and by a system of institutionalized design management. Its central expertise lies in complex, custom-built fire fighting systems and vehicles. All the processes needed in this regard are united under one roof: design and production of all fire fighting systems, fire engineering superstructures and electronic and pneumatic control of the overall systems.

Rosenbauer International AG, headquartered in Leonding, Austria, is the Group's holding company and derives over 86 percent of its revenues from exports. Besides being the largest production company in the Group, it is its worldwide competence center for fire fighting vehicles of the AT-series, aircraft rescue and fire fighting vehicles (ARFF), industrial fire fighting vehicles and for fire fighting components.

The Group's eleven production facilities and six sales companies around the world have a workforce of about 1,500 that generated revenues of €372 million in 2006.

PANTHER, the top model

The predecessor of the latest PANTHER, the top model among the aircraft rescue and fire fighting vehicles, was first unveiled in 1991. Even back then it fascinated the fire fighting industry.

In mid-2005 Rosenbauer presented the new aircraft rescue and fire fighting vehicle at the Interschutz in Hanover, the world's largest fire fighting trade show. With this completely reengineered PANTHER series, Rosenbauer has set new benchmarks for design and technology. This advance substantiates the company's position as technology leader in the world market for ARFF vehicles.

The goal in redeveloping the two PANTHER series, the 8x8 model and the 6x6 model, was to gear the vehicles even more effectively toward larger and busier airport operations. That means the new vehicles are faster and more maneuverable than their predecessors. With their greater axle weights they can carry even more extinguishing agents and equipment. The electronic control system makes them easier to operate than ever before and the vehicles comply today with exhaust emission standards set to go into force in the years ahead.

International awards attest to the uniqueness of the fire fighting giants newly developed in 2005:

- German Design Prize (silver), February 2007

Fire and safety equipment

Top model, the Panther 8x8, for Dubai

Rosenbauer vehicles in action worldwide

- Upper Austrian Prize for Innovation, October 2006
- Nomination for the Austrian National Prize for Innovation, October 2006
- Red dot international design award, June 2006
- Fokus Energy Gold award, an international design prize of Baden-Württemberg, October 2006
- iF design prize, an international product design award, March 2006

The PANTHER 8x8 model has eight powered wheels, an operating weight of 40 metric tons, 14,500 liters of extinguishing agents and a maximum speed of 135 kilometers per hour. It is the airport vehicle for handling aircraft of the dimensions of the Airbus A380.

The cabin was designed to comply with the requirements of international crash tests. It has a panorama windshield made of laminated safety glass and, for the first time, full glass doors. The driver has an optimum overview of his surroundings through the wide front and side windows that extend extremely far up and down the vehicle. Electrical exterior swiveling doors close automatically at a speed of 5 kilometers per hour and the greater opening angle allows crew members to get in and out quickly.

The ergonomic control panel allows one-man operation of the vehicle and its entire extinguishing agent equipment.

Cabin and body construction feature exclusively high quality corrosion-resistant materials like fiber-glass reinforced plastic molded parts for body construction and polypropylene for water and foam tanks.

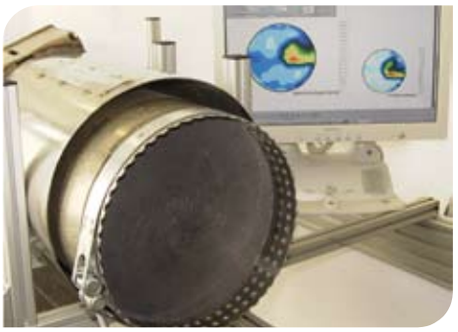
The PANTHER 8x8 model was fitted with a completely redesigned RM60E roof turret and the RM15E bumper turret. The roof turret is a significant innovation in this vehicle, providing a large flow volume of up to 8,000 liters per minute at 10 bar and a large projection range of 95 meters. The turret is remotely controlled with a joystick, which is also unique. The bumper turret delivers a flow of 1,500 liters per minute and has an excellent range of 60 meters.

The heart of the firefighting giant is the N100 normal pressure pump, which Rosenbauer developed as the system solution for this category of vehicle. It is the top performing rotary pump and was designed with minimal weight and minimal dimensions in mind.

The PANTHER's success has been confirmed by a number of new international orders. Deliveries are made the world over: Venezuela, Dubai, Turkey, Japan, Hong Kong, Great Britain, Germany, Croatia, Ireland, Oman, Australia, India and many other countries.

Roth-Technik

Roth-Technik Austria (RTA) is an OEM supplier and system partner to the European commercial vehicle industry. Together with its business establishments in St. Aegyd am Neuwalde, Austria, and Gaggenau, Germany, RTA has been supplying mufflers and exhaust gas after-treatment systems for decades to leading manufacturers of trucks, buses, transporters, agricultural and construction machines, forklift trucks and stationary engines.



Numerical flow simulation determines the expected flow curve of the flow approaching the catalytic converter and the backpressure response of the design.

Historical photo from 1956 of the industrial location of St. Aegyd am Neuwalde

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E: info@rothtechnik.eu
I: www.rothtechnik.eu

YEAR FOUNDED: 1990

EMPLOYEES: 198

St. Aegyd am Neuwalde was first officially mentioned as an industrial site in 1794 in connection with the formation of "St. Egyder Eisen- und Stahlindustrie-Gesellschaft." In 1978, this business operation became an enterprise of Voest Alpine Werkzeug & Draht AG. In 1982, the newly renamed company VASTAG (Voest Alpine St. Aegyd AG) entered the vehicle technology segment when it began producing exhaust systems under American license.
Following VASTAG's takeover by the German-based Roth-Technik Group in 1990, the enterprise received its current name, Roth-Technik Austria (RTA).

In the course of a management buyout in December 1996 by Armin Angele, the enterprise became autonomous and has been an independent system supplier to the commercial vehicle industry ever since. The St. Aegyd site is home to administration and sales and to the production operations for exhaust gas systems, punched parts and welded assemblies.

RTA has years of commercial vehicle experience and excels in development expertise, modern manufacturing technology and the implementation of innovative logistics concepts. These areas of expertise enable RTA to meet the future requirements for pollution and noise emissions and for structural durability with its range of products and services. RTA works closely with manufacturers to make the latest generations of various commercial vehicles even safer, cleaner, more efficient, and more economical and to comply with the ever stricter exhaust emission standards.

Over the past ten years, RTA has firmly established itself in a stable and leading market position as a system supplier in the market of the European commercial vehicle industry. In long-term partnerships with its customers, RTA contributes valuable developmental and manufacturing expertise. RTA has applied for numerous joint patents with its customers as well as its own patents.

About 85 percent of the services and products are exported to EU countries, but some also go to Turkey, China, Brazil and the United States.

The company's successful development is supported by its highly skilled and motivated employees and their experience in the industry. On December 31, 2006, RTA had 198 employees, 12 of whom were apprentices, and another 42 temporary employees.

Schaeffler

Schaeffler Austria GmbH, based in Berndorf, Austria, is a member of the international Schaeffler Group, a group of companies conducting business worldwide in the precision technology sector. The group has more than 60,000 employees at 180 business locations in over 50 countries across the globe.

Photo left: Company headquarters and plant in Berndorf in the Austrian province of Lower Austria

Illustration: The new X-life bearings have a longer service life and generate less friction.

Consolidated sales totalled just under €8 billion in fiscal 2005. Under the brand names INA, LuK and FAG, the company develops and manufactures precision products for everything that moves, in motor vehicles, machines and plants and in aerospace. Automotive business is a main focal point, accounting for 60 percent of product sales.

Schaeffler Austria GmbH was created in August 2006 from the merger of FAG Austria AG and INA AUSTRIA GmbH and currently has 608 employees.

In the 22,000 square meter facility at our Berndorf location, we produce FAG tapered roller bearings for practically the entire European commercial vehicle industry and renowned original manufacturers in other European industrial sectors.

As a competent partner of the truck industry, Schaeffler Austria also offers its customers highly specific, tailor-made solutions, such as development services. True to its motto "Together we move the world," the Schaeffler Group views itself as its customers' partner for development and engineering. In this capacity, it stresses innovation, creativity and perfect performance in all regards. Schaeffler considers its intensive dialog with product users to be a crucial factor in its success.

The Berndorf location also has a sales unit that serves the requirements of trade and industry throughout Austria.

With innovative new advances, the company intends to develop promising markets and expand the customer base. For example with its new X-life bearings, Schaeffler achieves an even longer service life and even less friction. The goals are clearly defined: less fuel consumption, lower emissions, greater dynamism. In other words, the company's products help to bring society's growing mobility into harmony with the environment.

"Zero faults" is the quality goal. End-to-end quality, from design to delivery, is a key to customer satisfaction.

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I: www.schaeffler.com

YEAR FOUNDED: 2006

EMPLOYEES: 608

Schwarzmüller

Schwarzmüller is proud to look back on a 130-year tradition in utility vehicle technology. In its first two generations, Josef and Wilhelm Schwarzmüller sen. managed the company as a small craftsmen workshop. In the 1950s, Wilhelm Schwarzmüller jun. and Egon Schwarzmüller laid the foundation for the company's transformation into one of Europe's leading enterprises in the commercial vehicle sector.

Photo left: Company headquarters

Photo right: Vehicles can be purchased, rented or leased.

SCHWARZMÜLLER

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I: www.schwarzmueller.com

FURTHER BUSINESS LOCATIONS:
Lieboch
Mäder
Wels-Pernau
Vienna

YEAR FOUNDED: 1870

EMPLOYEES: 1,800

Technical expertise, innovative know-how, numerous patents and the efforts of Schwarzmüller's highly qualified and dedicated staff over the past 40 years have made the company what it is today: Austria's largest truck-trailer and truck-body manufacturer with an output of roughly 8,000 utility vehicles Europe every year.

With a business network spanning 18 European countries, the company has created the optimal basis for international growth and success.

Thanks to the optimal interplay of all of these aspects, Schwarzmüller's customers can count on consistently high quality in every vehicle and first-class service. Stable constructions, attractive designs and precise manufacturing combined with the careful preparation of all steel parts by means of granulate blasting and the latest painting techniques guarantee robust vehicles with a proven design, a long service life and excellent corrosion resistance. The use of high-quality materials means lower own weight and higher maximum permitted loads, especially for our latest generation of products built using modern lightweight materials.

Schwarzmüller not only manufactures vehicles, it also offers a broad range of services. With its own shop network in Austria and abroad and an extensive network of service partners, Schwarzmüller guarantees its customers reliability and mobility. All facilities are fitted with state-of-the-art equipment such as brake testing and frame straightening rigs that can be used to repair any truck or trailer. Schwarzmüller is also a specialist in tank truck repair, maintenance and calibration, and provides these services to all mineral oil companies.

Master blacksmith Josef Schwarzmüller laid the cornerstone of today's company in Passau, Germany in the year 1870. The group's headquarters and its utility vehicle technology center are now located in nearby Hanzing in Upper Austria. There are a total of 20 company sites throughout Europe with a total area of 900,000 square meters.

Over the years, the company has not only gained international experience, but also increasing customer proximity. Numerous Schwarzmüller service stations and branches can be found on key national and international traffic and transit routes.

Schwingenschlögel

In the development and manufacturing of its products, Schwingenschlögel stands out for its combination of high technical expertise, precision and quality. Numerous national and international companies put their trust in the innovative products of this firm.

Photo left: The well-thought-out layout of the CryoGo instrument cabinet increases user friendliness.

Photo right: CryoGo is part of a new generation of tank semitrailers for transporting deep-frozen liquefied gases.

Pioneering spirit and entrepreneurial farsightedness have been fundamental to the company's development since the outset. With innovative ideas, Schwingenschlögel has been setting new state-of-the-art standards in the vehicle and tank construction industry for more than half a century.

CryoGo tank semitrailers

The company took a step into the new millennium with its development of a new generation of tank semitrailers for transporting deep-frozen, liquefied gases. The innovative design of the CryoGo and the use of new materials has made Schwingenschlögel the technology leader on the European market.

Lower, lighter and shorter were the three traits the engineers focused on in developing this vehicle.

With its lower center of gravity, shorter length and substantially increased payload, the CryoGo offers outstanding advantages far superior to the cryo tank vehicles currently on the market.

LOWER
The wedge-shaped tank decreases the overall height of the tank semitrailer. That, in turn, lowers the center of gravity, thus increasing the trailer's stability against tipping and its overall driving safety.

LIGHTER
With its combination of stainless steel (inside tank) and aluminum (outside tank), the CryoGo delivers a payload 10 to 20 percent higher than cryo tank vehicles currently on the market.

SHORTER
The CryoGo has a much shorter overall length so it is more maneuverable and can execute even the most difficult approaches. The carefully designed valve arrangement makes the vehicle easier to operate and service. The piping layout is compact and favorable for gas flow, thus reducing the time it takes to discharge the transported gases and decreasing gas losses from dissipation.

PRODUCTS
Tank vehicles, silo vehicles, containers, changeable bodies, CryoGo

SCHWINGENSCHLÖGEL
TANKWAGEN UND SILOFAHRZEUGE

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FURTHER BUSINESS LOCATION:
Tribuswinkel

YEAR FOUNDED: 1900

EMPLOYEES: 110

Sebring

Sebring has stood for premium quality in sports exhaust systems for more than 40 years. Founded in 1963, the well-established company has been successfully manufacturing sport exhaust systems for passenger cars and motorcycles for over two decades, first in Köflach and since 1998 in Voitsberg.

Photo left: The company has been located in Voitsberg since 1998.

Photo right: Sound design in the acoustics center

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I: www.sebring.at

YEAR FOUNDED: 1963

EMPLOYEES: 300

The value of a vehicle is also audibly perceptible, a fact proven by the more than 300 employees at the Sebring Technology Center in Voitsberg. At the ultramodern Acoustics Center attached to the Development and Research Department, highly specific sound tuning can be carried out to meet the customer's individual requirements.

Besides influencing noise levels, Sebring also focuses on optimizing or boosting performance and on high quality materials and appealing product design. This Austrian exhaust specialist uses the latest processing technologies, allowing it to achieve new and extraordinary shapes and designs in production. In keeping with its motto "Made in Austria for the World Market," Sebring manufactures sport exhaust systems for customers across the globe.

The centaur of Ancient Greece, half horse, half man, is featured in Sebring's logo as a dynamic symbol for the Sebring philosophy of fascination and technology.

Sebring also caused quite a stir in professional car racing early on. Through its close association with Jochen Rindt, the 1970 Formula 1 World Champion, Sebring began a partnership in the mid-1960s that continues to be a major channel for technology transfers with professional car racing down to this day. Illustrious racers like Karl Wendlinger and Alexander Wurz have come into their own with Sebring. Professional racers and their teams rely on Sebring's experience in all areas of racing, from Formula 1 and touring car racing to rallying.

Stetzl

Stetzl & Söhne can look back with pride on its more than 75 years of business in the commercial vehicle industry. The company originally began as a small craft enterprise.

The range extends from tractor dump bodies and dump bodies that tilt to three sides and trailers for passenger vehicles.

Historical trailer

Stetzl was still a craft business in 1929.

Technical competency, innovative expertise and first-class employees are the ingredients over the past 75 years that have made Stetzl & Söhne what it is today: one of Europe's largest trailer factories.

Stetzl & Söhne produces about 3,000 units for its customers each year. Its major export markets are Germany, the Netherlands, Switzerland, Hungary, the Czech Republic, Slovakia and the countries of former Yugoslavia. Some exports also go overseas.

Thanks to the perfect interplay of these components, the company can always assure its customers of consistently high quality in all Stetzl products and first-class service.

The modern trailer plants at Zistersdorf in the Austrian province of Lower Austria are the customers' guarantee of genuine Austrian craftsmanship of the finest quality.

Today it is one of Austria's largest trailer factories (36,000 square meter facility).

STETZL

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I: www.stetzl.at

YEAR FOUNDED: 1923

EMPLOYEES: 100

Steyr Motors

Steyr Motors GmbH is the specialist for high performance diesel engines out of the former Steyr-Daimler-Puch group of companies. It has been producing diesel engines for all kind of commercial and military vehicles for over 80 years.

Photo left: Specialist in high performance diesel engines

Photo right: These engines stand up to even the harshest conditions.

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YEAR FOUNDED: 2001

EMPLOYEES: 65

The proud results of these decades of engine engineering, production and marketing experience is the development of the Steyr M1 ("Monoblock") engine family. After 13 years, engine production of Magna Steyr Engineering Center Steyr is returning as an autonomous enterprise from St. Valentin to its hometown of Steyr. In preparation for the move, the new owners erected a development and production building in Steyr. Besides its slogan "Steyr Engines from Steyr," the region around Steyr has an excellent potential for skilled labor. This location with its historical town center is impressive to employees and customers alike.

Into the future with tradition and innovation

The objective of this development project was to wed a robust design and state-of-the-art high-performance materials with the consistent use of lightweight construction techniques. Designed to meet the toughest requirements, these engines are highly specialized and reliable in operation, powerful and dynamic in performance and eco-friendly in continuous operation. Investments are constantly made especially in research and development to meet customer and market requirements. To sustain global success and customer satisfaction, the enterprise provides its engineers, technicians and skilled workers with excellent continuing training in development, production and quality control.

Innovation with Lightness

Steyr Monoblock engines and their compelling design

The engines have been developed without compromise for the most selective markets, ambient conditions and operation profiles. All peripheral components have a compact and lightweight eco-friendly design that incorporates materials with maximum corrosion resistance. Environmental protection is a high priority at Steyr Motors.

The enterprise considers it only natural that it live up to its responsibility to society and the environment. Carefully selected high performance materials are combined with a compellingly simple design to create the sturdy basic driving mechanisms of Steyr Monoblock engines.

Stummer

For more than 30 years, Stummer Eurowaren has specialized in the latest waste disposal solutions and techniques to ensure minimal dust, odor and noise. At the same time, it constantly improves the safety of its products and the speed at which they work, while devoting special attention to their durability.

All construction elements in the hooklifts are made of fine grained steel.

Refuse collection vehicles (RCVs)

Waste disposal management is becoming increasingly complex and requires new approaches to be developed all the time. The company's commitment to this task plus the expertise it has acquired over the decades in consulting, production and service are what stand behind the high quality of its innovative waste disposal technologies. For most people it is only a refuse collection vehicle, for Stummer Eurowaren it is an economic concept.

Stummer Eurowaren has the perfect RCV body for any need, no matter what type of waste is collected or the collection regions or containers involved. Despite the various models, the technical design of these bodies is quite similar. The collection container is manufactured according to precise dimension for each individual truck chassis. That means the distance between the driver's cab and the body is kept as small as possible. The advantages are obvious: heavier weight on the steering axle, better handling and maneuvering and maximum volume. Of course all bodies are CAN-bus controlled, with any special customer parameters always taken into account.

The optimum RCV body for each application.

Hooklifts and skiploaders

Eurolift hooklifts and skiploaders have stood as proof of Stummer Eurowaren's competency for decades. This practical experience enables it to meet the many requirements of its customers. The selection of models is as extensive as their range of possible uses is broad. All construction elements in the hooklifts and skiploaders are made of high quality fine-grain steel. This material allows a low construction height, low unladen weight and thus a larger payload.

Sewer cleaning vehicles

The company has been a dealer for Wiedemann & Reichhardt sewer cleaning vehicles since the end of 2006. Wiedemann & Reichhardt has been the market leader in sewer cleaning vehicles since 1974. The philosophy of Wiedemann & Reichhardt can be summed up as follows: The use of precious drinking water should be kept to a minimum in sewer cleaning in the interest of the environment.

There are vehicles with two-tank systems, single-tank systems and compact water recyclers ideal for narrow streets and historical urban centers. This approach has many advantages. Besides eliminating travel times to water sources and water filling times, it reduces drinking water consumption and due to continuous operation, has up to twice the daily output. It naturally also delivers an effective cleaning performance.

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YEAR FOUNDED: 1970

EMPLOYEES: 33

PRODUCTS:
Refuse collection vehicles (RCVs)
Hooklifts
Skiploaders
Sewer cleaning vehicles

Tarbuk

The name Tarbuk is closely associated with the historical development of the vehicle industry. The company was founded in 1920 by Fritz Tarbuk Sensenhorst. By 1970 it had 1,000 employees at its branches in Vienna, Linz, Innsbruck, Braunau and Götzis.

Photo left: Company founder Fritz Tarbuk Sensenhorst

Photo right: Tarbuk Jaguar dealership in Vienna's 23rd district

TARBUK

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I: www.tarbuk.at

YEAR FOUNDED: 1920

Up to 1970, further branches were added and a dealership for imported makes of vehicles was established. In the years thereafter, the branch on Davidgasse in Vienna's 10th district, which had 520 employees, was further expanded and a central spare parts warehouse was set up for imported makes of vehicles. The number of apprentices at Tarbuk at the time averaged 100. With the successful introduction of Nissan to the market, the number of authorized dealerships in Austria rose to a record of 140.

In 1978, Autobank was founded as a finance partner to provide all types of automotive financing. In that same year, the Austrian president awarded Tarbuk the privilege of using the national coat-of-arms in promoting its business. It has been part of Tarbuk's corporate identity ever since.

From 1980 to 1990 Tarbuk acquired stakes in various dealerships in Austria as well as entire companies, including Deutz-Fahr Austria.

In the 1990s, Tarbuk Holding generated total sales revenues of €390 million at 40 enterprises with 1,200 employees. Nissan reached its peak market share of 5.4 percent in 1991.

Following various restructuring and changes, Tarbuk Cars & Cie GmbH today is a family-owned company focusing on automotive retailing with six locations in Germany and four in Austria. It has one automotive wholesale enterprise and two affiliates in the farm machinery business, namely the successful dealers Deutz-Fahr Austria and Austro Diesel. The branches carry the following makes of cars: Jaguar, Land Rover, Rover MG, Saab, Fiat, Alfa Romeo, Lancia, Opel, Ford, Daewoo, Chevrolet and Nissan.

Additional group companies are Tarbuk Autohaus Management GmbH, a holding for the equity interests in all retail auto dealers (all of which are wholly owned) and Deutz-Fahr Austria GmbH (stake of 93.3 percent),
More Drive Kfz Service GmbH (stake of 10 percent).

The holding company, Tarbuk Autohaus-Management performs various management functions for the individual dealers, such as finance, controlling, accounting and IT.

Terra

This likable firm based in Perg, a town in the Austrian province of Upper Austria, has to be highly flexible to satisfy the wide variety of market requirements in its sector. Terra Technik guarantees perfect products, adapted to meet the customer's individual needs.

A massive, oversized steering axle with excellent steering angle provides the high maneuverability and stability called for. The hydraulically supported power steering makes steering effortless.

Jumbo sideloader, diesel/LPG/electrical, 4 to 8 metric tons ... making short work of long goods!

Please take your seat in the Jumbo, a picture of perfection!

The driver determines his position. The variably adjustable seat with armrests and belt and the steering column with its adjusted height and angle feature ensure that the driver can work safely and with the utmost concentration.

Excellent service before and especially after the sale is a hallmark of the top quality work done by the company's 90 employees.

The volume of orders grew so steadily that Terra was catapulted to the rank of major player on the world market in an unusually short period of time. It constantly expanded its production facility to keep pace with this growth. The technologies of its innovative lifting vehicles more than meet the growing demands of the network of Terra Technik dealerships, whose expansion is being pushed worldwide.

Terra nonetheless continues to devote special attention to the domestic market. With five bases in Austria, Terra can provide its customers with the best in local service. Although Terra Technik has been manufacturing for over 40 years in Perg, it feels at home throughout the world.

TERRA

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YEAR FOUNDED: 1957

EMPLOYEES: 90

Toyota Frey

Toyota first began doing business on the European market in the early 1960s and earned an excellent reputation thanks to the reliability of its vehicles and its excellent customer service. In the area of environmental protection, the company is focusing its efforts on promoting the adoption of hybrid vehicles and the further development of the fuel cell as a power source for automobiles.

Signing of the general representation contract for Toyota

TOYOTA

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FURTHER BUSINESS LOCATIONS:
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Wiedner Gürtel 2, A-1040 Vienna
Prager Straße 131, A-1210 Vienna
Wagramer Straße 256, A-1220 Vienna
Stadionstraße 17, Wiener Neustadt

YEAR FOUNDED: 1936

EMPLOYEES: 265

Frey – Company History

1936 Ernst Frey opens a general vehicle repair shop.

1952 Frey becomes exclusive representative for NSU motorcycles.

1971 Frey becomes exclusive representative of the entirely unknown Japanese automobile maker Toyota. Start of sales with 130 employees and 40 dealers. The sales target of 2,000 vehicles is surpassed by far, with 4,000 units sold.

1972 The 10,000th Toyota is sold in September. Sales already double to 8,500 units and a market share of 4 percent is achieved in the second year.

1974 Automobile pioneer and company founder Ernst Frey passes away unexpectedly.

1990 Groundbreaking for the new Toyota Frey import center in the Inzersdorf industrial district in Vienna.

1991 Introduction of the new luxury brand Lexus.

1992 Franz Wittmann, 10-time Austrian national rally champion, signs on to drive a Toyota Celica Turbo 4WD in Group A. Toyota Team Austria wins the 1992 Austrian national rally championships and the marque environmental trophy in its first year.

The new Toyota Frey import center opens.

1993 Dr. Volkmar Burgstaller is awarded the 1993 Adolf Loos Architectural Prize for office buildings in Vienna for the new Toyota import center in Inzersdorf on October 13.

2000 Toyota Motor Europe becomes the main sponsor of the Vienna State Opera for the period 2000 to 2006 in May with the support of Toyota Frey.

2002 The new Lexus Hall Vienna is opened for business. The futuristic building contains a light-flooded showroom for 20 Lexus models and, as a central meeting place, a fountain of life designed by professor Muhr. During the opening celebration, the Federal Ministry of Economics and Labor announces that Frey is being given the distinction of being authorized to bear the Austrian state seal in its company name.

The new Toyota Frey dealership in Wiener Neustadt opens.

2005 Toyota Frey Austria Ges.m.b.H., Toyota Frey Retail and Ernst Frey OHG attain international recognition for their environmentally responsible business practices in the form of ISO 14001 certification.

2006 Thirty-five years of Toyota Frey are celebrated at a major dealer convention.

Austria is the first country in Europe visited by Mr. F. Cho in his capacity as the chairman of the supervisory board of Toyota Motor Corporation, whereby he expressed his thanks for the loyalty and trust exhibited for the brand Toyota in Austria.

Wabco

Wabco Austria belongs to the international group known as Wabco Vehicle Control Systems, a global leader in commercial vehicle air brakes and control systems.
Wabco Austria has its head office in Vienna and is the headquarters for serving customers in the countries of Central and Eastern Europe.

Photo left: The PAN 22-1 air disc brake set new benchmarks for the industry with its single-piston technology.

Photo right: Central and Eastern European headquarters in Vienna

From its base in Vienna, the company coordinates 15 business establishments in Central and Eastern Europe and in the Commonwealth of Independent States (CIS). At these branches, technicians provide support to commercial vehicle manufacturers locally and in close proximity to customers. Other activities include the development and management of a comprehensive service network and supplying spare parts to dealers from these local bases.

Over the past 25 years, the product range has shifted greatly towards the use of electronics in brakes and control systems. Since rendering ABS mass producible for commercial vehicles 25 years ago, Wabco has introduced a number of electronic systems for air suspension, door operation in buses, air-conditioning control, and tire pressure monitoring.

Wabco offers central board computers for trucks, buses and trailers for comprehensive vehicle control and data recording and tailors them to meet the specific requirements of manufacturers. Air disc brakes have been used for years in commercial vehicles to ensure the shortest possible stopping distances and optimum braking on long downhill stretches. This is another area in which Wabco offers advanced technology. Wabco also developed air suspension systems for luxury-class passenger cars and introduced them at the leading manufacturers.

In the OEM segment, 300 manufacturing enterprises in Austria, Central Europe and CIS are served and supplied on a regular basis. There is great pent-up demand in the rapidly expanding commercial vehicle industry in Eastern Europe. New products and electronic systems from Wabco are used in new designs to bring about quick improvements in vehicle quality and safety.

The need for diagnosis, service and spare parts supply for locally made vehicles and the growing fleet of western makes has prompted us to build up an extensive network of service partners and an organization of spare parts dealers to ensure quick, competent repair should the occasion arise.

This organization enables Wabco to satisfy burgeoning demand on schedule despite a pace of growth averaging 30 percent a year.

WABCO

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YEAR FOUNDED: 1869

EMPLOYEES: 30

Zellinger

Johann Zellinger founded the firm Joh. Zellinger GmbH & Co KG as a leatherworks in Linz on April 27, 1873. Family-owned ever since, the enterprise has developed into a company known today around the world for its production of tunnel-washing machines, airport vehicles and special vehicle bodies.

Toilet-servicing vehicle

Water-supply vehicle

Tunnel washing machine with three automatically controlled washing brushes

FAHRZEUGFABRIK Zellinger 4050 TRAUN - AUSTRIA

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I: www.zellinger.com

YEAR FOUNDED: 1873

EMPLOYEES: 20

In 1956 the business was moved from Linz to its present location in Traun. On November 23, 1977, the company was awarded the privilege of using the Austrian coat-of-arms in its correspondence as special recognition of its outstanding achievements. Vehicles for the municipal sector and for airports constitute the mainstays of business.

Zellinger produces tunnel-washing machines for the municipal sector. They are used for cleaning tunnels throughout Europe, Asia, Australia and Central America. These machines can be fitted with a choice of two or three automatically controlled washing brushes and clean 13,500 square meters per hour, which is a unique performance by international standards.

The company's toilet-servicing and potable-water supply vehicles perform their duties at airports. And hydrant pit-cleaners from Zellinger are also well-known at airfields. These airport vehicles operate smoothly and efficiently not only throughout Central Europe but also in areas of Russia, including Siberia.

ZF

ZF Friedrichshafen AG is a leading worldwide automotive supplier for driveline and chassis technology with 122 locations in 26 countries. ZF has a workforce of approximately 55,400 employees. Its product range includes transmissions and steering systems, chassis components and complete axle systems and modules for cars and commercial vehicles.

Factory in Lebring

In axle system business, ZF Lemförder also opened a location in the Austrian town of Lebring in 2002. It supplies front and rear axle systems "just-in-sequence" and ready to install to Magna Steyr Fahrzeugtechnik (MSF) in Graz. As the partner bearing overall system responsibility, ZF Lemförder developed the axle system for the BMW X3 to customer specification. Today, it mounts the front and rear axles at the Lebring plant and delivers to MSF "just-in-sequence."

The 150 employees at the plant have produced over 300,000 ready-to-install axle systems here since production began in 2003. An 800 square-meter addition was added to the 6,000 square meter assembly factory in Lebring to keep up with customer demand. ZF Lemförder initially began its system business in front and rear car axles in the United States. Lebring was the first axle assembly plant in Europe.

As the Car Chassis Technology business unit in the ZF Group, ZF Lemförder has been producing complete front and rear axle systems for cars up to 3.5 metric tons since 1994. Shortly after that year, requests began coming in for the company to develop front and rear axle systems.

Two engineering centers in Germany and North America and production facilities for a total of 12 vehicle models in the US, South Africa, China, Thailand, Austria, England and Australia underscore ZF's competency in car chassis technology. They are also the result of a new division of labor between OEMs and suppliers: System partners like ZF did not start taking on the development and manufacture of complex vehicle systems for carmakers until the 1990s. To deliver ready-to-install axle systems just-in-sequence to customers, the system supplier has no choice but to build up its own manufacturing capacities near the customer's plants. Besides its own competencies and capacities, ZF Lemförder always gives carmakers valuable inputs in its collaborations with them, namely the ZF Group's expertise in automotive dynamics, noise and vibration damping, steering and electronics/integration/complete vehicle competency.

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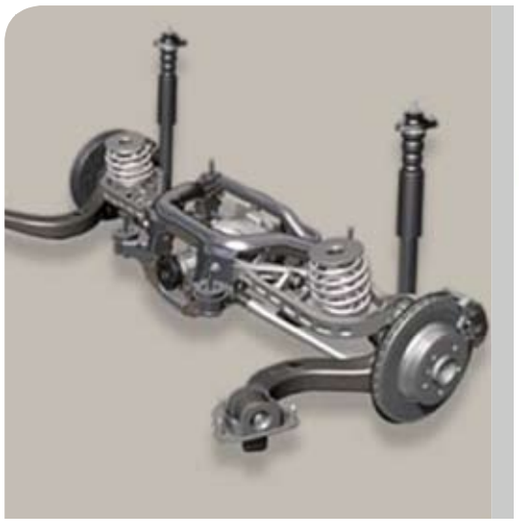
YEAR FOUNDED: 1915

EMPLOYEES: 359 in Austria



ZF manufactures the complete axle modules for the BMW X3 in Lebring.

S-Matic transmission

System drawing

Worldwide business in axle systems has developed in spurts for ZF. By 2006, nearly 7 million axle systems had been delivered to customers around the world. From 2003 to 2005 alone, annual worldwide output doubled from 626,000 to 1.2 million systems.

In addition to axle systems in Lebring, the Off-Road Driveline Technology and Axle Systems Business Unit at ZF produces precision parts for farming and construction machinery transmissions and tractor transmissions in the neighboring town of Steyr.

The ZF Group is headquartered in Friedrichshafen on Lake Constance and is divided into five product segments: "Car Driveline Technology" located in Saarbrücken, "Car Chassis Technology" located in Lemförde, "Commercial Vehicle and Special Driveline Technology" located in Friedrichshafen, "Off-Road Driveline Technology and Axle Systems" located in Passau, and "Powertrain and Suspension Components" located in Schweinfurt. There are also the autonomous units "Aviation Technology," "Marine Propulsion Systems" and "Rubber-Metal Technology." Since 1999, ZF Friedrichshafen AG and Robert Bosch GmbH have together formed the joint venture ZF Lenksysteme GmbH. Automotive business accounts for 87 percent of total group sales and are equally divided between driveline technology and chassis technology.

Zizala

Zizala Lichtsysteme (ZKW) has about 1,100 employees and ranks as a top player in OEM equipment in the premium segment of the automotive industry. Classified as a "Tier 1" supplier, Zizala Lichtsysteme collaborates constantly with development centers of the European automotive industry to provide customers with tailor-made products.

Photo left: ZKW plant in Wieselburg

Photo right: Production of high-tech lighting technology for the automotive industry

The front headlight segment is the definite focal point of these efforts. From halogen headlights in complex surface reflector technology and xenon headlights with projection modules to headlights with a curve-light function, ZKW is a recognized brand for high-end products in the industry. Zizala Lichtsysteme also supplies front fog lights, daytime driving light modules, front lighting, and various small products like blinking, entry, or logo and interior lights.

About 160 people work constantly on the further development of products at the main plant of Zizala Lichtsysteme in Wieselburg, Austria (province of Lower Austria). The primary focus in 2006 is on headlights featuring AFS technology (Adaptive Front-lighting System). AFS headlights adapt automatically to driving conditions, providing the optimum light distribution for the given weather and speed. These types of systems will be available to ZKW customers in the next few years as series products. LED technology is another area being given developmental priority. While simple lights such as daytime driving lights are already available today, Zizala Lichtsysteme will present the first fully functional main headlights in LED technology in 2007.

The fine clientele of Zizala Lichtsysteme substantiates its powers of performance.
The premium European carmakers Audi, BMW, Mercedes-Benz, Porsche, Saab and Volvo all trust in ZKW and install its products in their vehicles. Opel and Chrysler also rely on the lighting expertise from this Austrian company. Satisfied customers in the truck segment include MAN, Mercedes-Benz, Scania and Volvo.

ZKW

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YEAR FOUNDED: 1938

EMPLOYEES: 1,100

Further Companies

The following companies are also members of the Association of the Austrian Vehicle Industry:

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Together we can accomplish anything!

One hundred years of successful industry representation demand both respect for the association's founders and praise for prudent management in difficult times.

The association's directors must also ensure dynamism, adaptation and progress during each period.

Today's lean but highly effective and independent representation of the Austrian vehicle industry would not be possible without the solidarity of our member companies, the commitment of our functionaries in the provinces and in the Association Board, the efforts of the company experts in the individual working groups and last but not least the highly motivated team in my association office.

I would like to express not only my warmest congratulations to all of these individuals and organizations on the occasion of our one-hundredth anniversary, but above all my sincere thanks for the valuable contribution that each one of them makes to our mutual success.

Walter Linszbauer

Secretary General of the Association of the Austrian Vehicle Industry