



MAGNA STEYR GRAZ

# 360° Perspectives

2017

Performance Report  
with Integrated Environmental Statement



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## 360° PERSPECTIVES

Embedded in an environment which is continually being shaped anew by many people every day, Magna Steyr has always tried to find both the best possible and sustainable solutions for the demands of the automotive industry. Using a holistic approach, it becomes clear that many different interlocking processes are necessary to realize defined objectives together.

How can a company go easy on resources, avoid environmental pollution and at the same time take social responsibility? The current Performance Report with Integrated Environmental Statement of the Magna Steyr Graz location deals with questions like this and shows that answers are not only multifaceted, but that various perspectives are necessary to best understand the processes and procedures involved.

A 360° perspective grants wide-ranging insights into the company. The four topics of Business Performance, Environment, Social

Responsibility and Compliance form the substantial areas of focus, and the people behind our achievements will also be brought into the limelight.

Whether employee, local resident or public authority, different interest groups involved are given a chance to speak and thus facilitate a perspective from a variety of angles. Impressive 360° images also open up new perspectives on a photographic level. After all, what is often necessary for new and innovative approaches is exactly that – a new angle of view.





FOR US, ACTING WITH RESPONSIBILITY STARTS BEFORE THE MANUFACTURING PROCESS, NAMELY – DURING VEHICLE DEVELOPMENT, AND CONTINUES UNTIL THE PRODUCED VEHICLES ARE RECYCLED.

# INTO THE FUTURE TOGETHER WITH RESPONSIBILITY

In this issue of the Performance Report with Integrated Environmental Statement, the four essential topics of Business Performance, Environment, Social Responsibility and Compliance will be presented together again and considered holistically. Each individual focus contributes significantly to the success of Magna Steyr.

From the company's point of view, acting with responsibility in all four areas is of great importance to safeguard sustainable and social corporate success. In essence, we have to work continually on competitiveness to secure Magna Steyr's profitability and the jobs of our employees in the long term.

With regard to protecting the environment, we are committed to ensuring an efficient utilization of natural resources, including safeguarding energy and water, guaranteeing minimization of waste streams and emissions, and carrying out effective recycling in the production areas. This responsible use of resources is not only enshrined in our Health, Safety & Environment (HSE) guidelines, in our Code of Conduct and Ethics and in the Magna Operational Principles, we also live out this approach every day. In numerous projects and measures, we are working on the continual minimization of environmental effects and by doing so achieve high savings – something we will look at more closely in the Environmental Statement.

For us, acting with responsibility starts before the manufacturing process, namely – during vehicle development, and continues throughout the entire product lifecycle until the produced vehicles are recycled. Through the use of innovative construction and engineering methods and environmentally friendly materials, our development teams contribute substantially to the reduction of environmental influences of the products during and after the products' service life. Moreover, we are working on innovative mobility solutions of the future to curb global CO<sub>2</sub> emissions.

The centerpiece of our Graz location is our complete vehicle production. And it is exactly in this area, in the framework of the annual strategy process, that we conducted a comprehensive investigation into what sustainability actually means for contract manufacturing, and we have developed and described a vision which takes into account customer-specific sustainability goals.

In all the activities in which we are involved as a company, compliance with regulations and standards has the highest priority. We at Magna are committed to fulfilling all legal regulations and laws concerning health, safety and environmental protection, and where possible, to surpassing them. On top of this, Magna implemented a Code of Conduct and Ethics which also addresses environmentally relevant topics to implement and live out in a sustainable way the topic of Compliance in all areas.

Our employees are the key driver in our enterprise and our most valuable asset. It is all the more important, therefore, that each person think proactively in the spirit of the company and take responsibility for their behavior. At the same time, we see it as our duty not only to secure jobs, but also to offer our employees added value beyond their daily work routine. Our "Great Place to Work®" award, an award for being one of the best employers in Austria, shows that we are taking the right steps to live up to our responsibilities. And it is exactly these activities that we must continue to pursue in order to approach the future successfully.

**The Magna Steyr Management Board**

# THE COMPANY

Magna International, with its seven subsidiaries, is a leading global automotive supplier with 327 production plants and 100 centers for product development, engineering and sales in 29 countries. Our work force of more than 161,000 employees worldwide contributes to higher value added in the global automotive industry thanks to innovative processes and World Class Manufacturing. Nearly all vehicle components are designed, developed, tested and manufactured by Magna. Our fields of expertise include: bodies, chassis, external parts and trim, seats, drivetrains, electronics, active driver assistance systems, mirrors, locking systems, roof systems and modules as well as complete vehicle engineering and vehicle contract manufacturing.



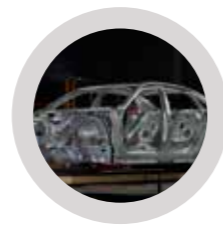
## **MAGNA INTERNATIONAL IS DIVIDED INTO SEVEN GROUPS:**



**SEATING**



**EXTERIORS**



**BODY & CHASSIS**



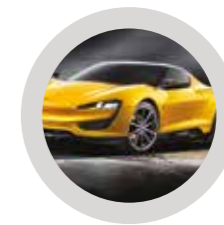
**CLOSURES, VISION SYSTEMS, ROOF SYSTEMS**



**POWERTRAIN**



**ELECTRONICS**



**VEHICLE ENG, CONTRACT MFG, FUEL SYSTEMS**





## **MAGNA STEYR IN GRAZ: A LOCATION WITH TRADITION**

Magna Steyr is one of seven groups of Magna International and a global enterprise with more than 11,000 employees at more than 30 locations distributed over three continents. Over 100 years of experience in vehicle production and comprehensive broad range of services make Magna Steyr the world's leading, brand-independent engineering and manufacturing partner for OEMs.

The extensive range of services comprises engineering, vehicle contract manufacturing and fuel systems.

The Graz location plays a special role within the Magna Group. Apart from its 100-year history, the Graz Magna Steyr plant is characterized in particular by its size and complete vehicle competence. Graz is not only the biggest worldwide location of Magna International, it is also the only one where complete vehicles are produced. Currently it has a workforce of approximately 8,000. It thus counts as one of the biggest employers in the region. Due to its flexibility and close proximity to the engineering services of Engineering Center

Austria, which is located on the same site, Magna Steyr can offer its customers special added value. The company can look back on the production of more than three million vehicles. Due to the new production orders from BMW and Jaguar Land Rover for several vehicle models starting 2017, and thanks to the extension of the contract for the Mercedes-Benz G-Class, the Magna Steyr plant at Graz is ensured good capacity utilization over the next few years. Until mid 2018, some 3,000 new employees are being sought for the new production contracts in the areas of body-in-white, painting, assembly and logistics.

# EMPLOYEE FEEDBACK THAT MAKES US PROUD

## **Magna Steyr is a Great Place to Work®**

After 2015, Magna Steyr Graz once more took part in the international benchmark study Great Place to Work® in fall 2016. For the second time running, Magna Steyr Graz was awarded the Great Place to Work® award in the category of company with more than 500 employees. The automotive supplier thus counts as one of the best employers in Austria for the second time. The participating companies were scored with the help of an employee questionnaire and a workplace culture audit. From this a total score was calculated and the participating companies ranked accordingly.





# MAGNA STEYR GRAZ: A COMPANY WITH TRADITION

From the historic Voiturette up to the current range of models, a total of over three million vehicles have rolled off the lines at Magna Steyr since 1906. Among these is also the Mercedes-Benz G-Class, which has been made in Graz for 38 years and has thus achieved one of the longest production runs in history worldwide.

1906

2017



**Voiturette**  
(1906)



**Puch 500/650/700c/126**  
(1957 – 1975)



**Pinzgauer**  
(1971 – 2000)



**Mercedes-Benz G-Class**  
(since 1979)



**Alpenwagen**  
(1919)



**Haflinger**  
(1959 – 1974)



**VW Transporter T3 4x4**  
(1984 – 1992)



**VW Golf Country**  
(1990 – 1991)



**Audi V8L**  
(1990 – 1994)



**Jeep Grand Cherokee  
ZG, WG, WJ**  
(1994 – 2004)



**Mercedes-Benz M-Class**  
(1999 – 2002)



**Jeep Grand Cherokee WH**  
(2005 – 2010)



**Jeep Grand Cherokee  
ZG, WG, WJ**  
(1994 – 2004)



**BMW X3**  
(2003 – 2010)



**Mercedes-Benz SLS AMG  
Painted Aluminum Body**  
(2009 – 2014)



**Jeep Grand Cherokee  
ZG, WG, WJ**  
(1994 – 2004)



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*“Active environmental protection is a permanent part of our daily work. This is visible in our integrated management system and in our commitment to World Class Manufacturing. An overarching aim in both strategic approaches is the best possible balance between the requirements of our stakeholders. We can thus ensure that environment-related aspects be appropriately taken into account in all decisions.”*

*Dr. Wolfgang Zitz, Vice President Contract Manufacturing*

# INTEGRATED MANAGEMENT SYSTEM



We define our mission as the fulfillment of the needs and expectations of our stakeholders (customers, employees, investors, suppliers, society) in a customer-oriented, efficient and ethical compliant, as well as resource-friendly, sustainable and safe way.

**THE MANAGEMENT SYSTEM**  
is an instrument by which we describe and manage the company

**IN THE GUIDELINES OF THE MANAGEMENT SYSTEM**  
the organizational guidelines and regulatory systems of the company are defined

**ADHERENCE TO OUR GUIDELINES**  
establishes our competitiveness and protects us legally

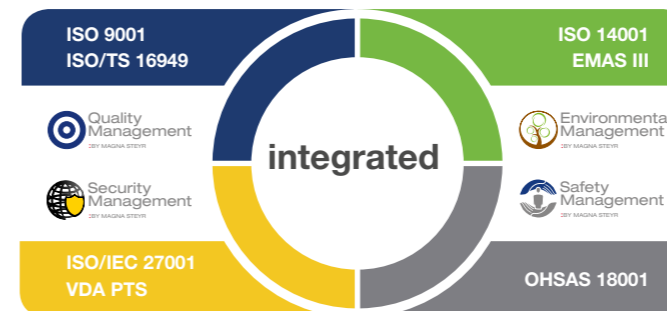
**CERTIFICATION ACCORDING TO OUR INDUSTRY STANDARDS**  
is the basis for new contracts and guides us in the fulfillment of our contracts

**COMPETITIVENESS**

- Knowing why we are successful
- State of the art in our industry
- Legal protection

**OFFICIALLY ACKNOWLEDGED CAPABILITIES**

- Basis for new contracts
- Contractual fulfillment



**INTEGRATED MANAGEMENT SYSTEM**

- The same requirements from various standards are implemented only once.



A strong team for our environment

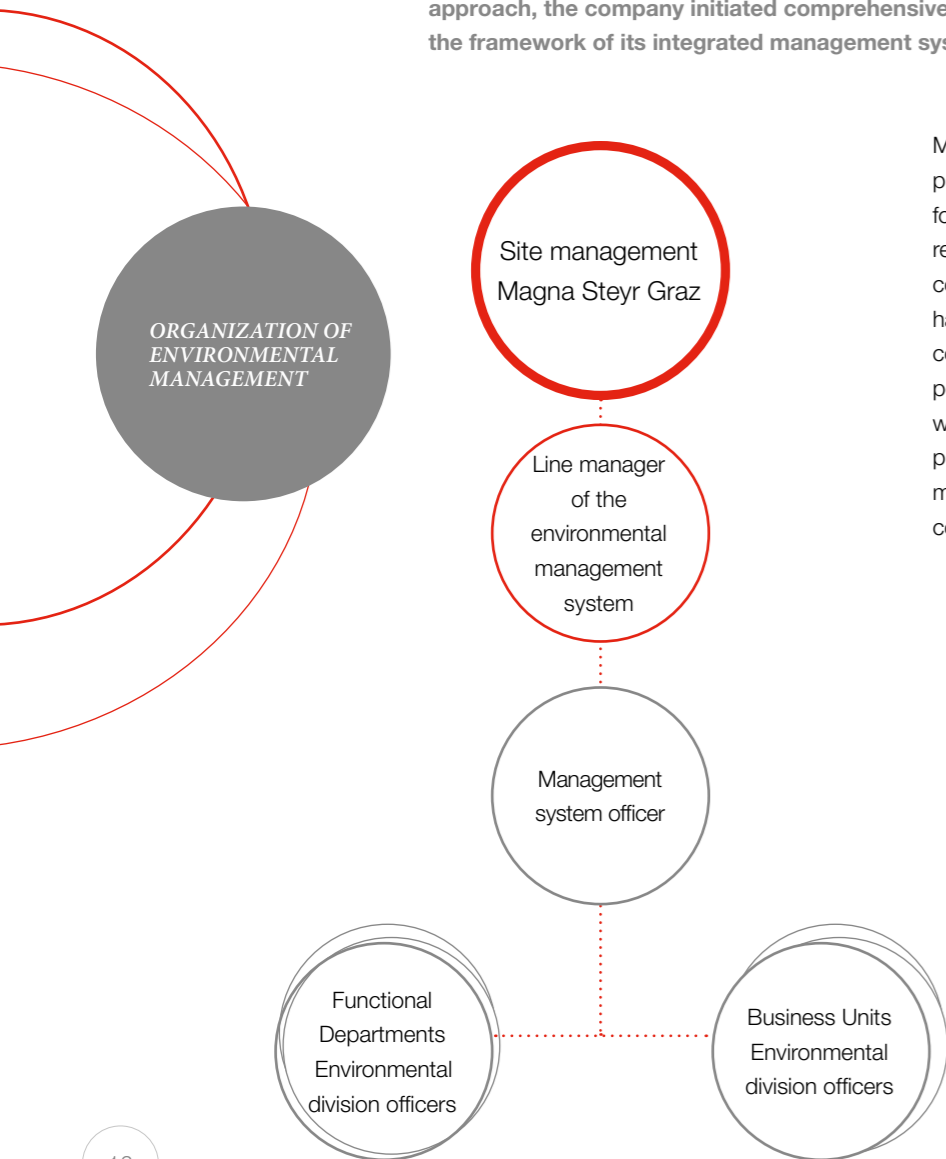
# ACTIVE ENVIRONMENTAL MANAGEMENT AT MAGNA STEYR

Protection of the environment is a regular component of the Magna Steyr corporate strategy and is lived out in an active and committed way, day in day out, in every area. To sustainably protect our environment using exactly this approach, the company initiated comprehensive environmental management in the framework of its integrated management system.

Magna Steyr Graz' environmental management pursues a holistic strategy and is responsible for the fact that requirements governing the reduction of the raw materials and energy consumption as well as environmental effects have to be laid down in all areas of the company. Our environmental management policy ensures that all actions in the company which have an influence on the environment are properly planned and carried out, controlled, monitored, documented and, if necessary, corrected.

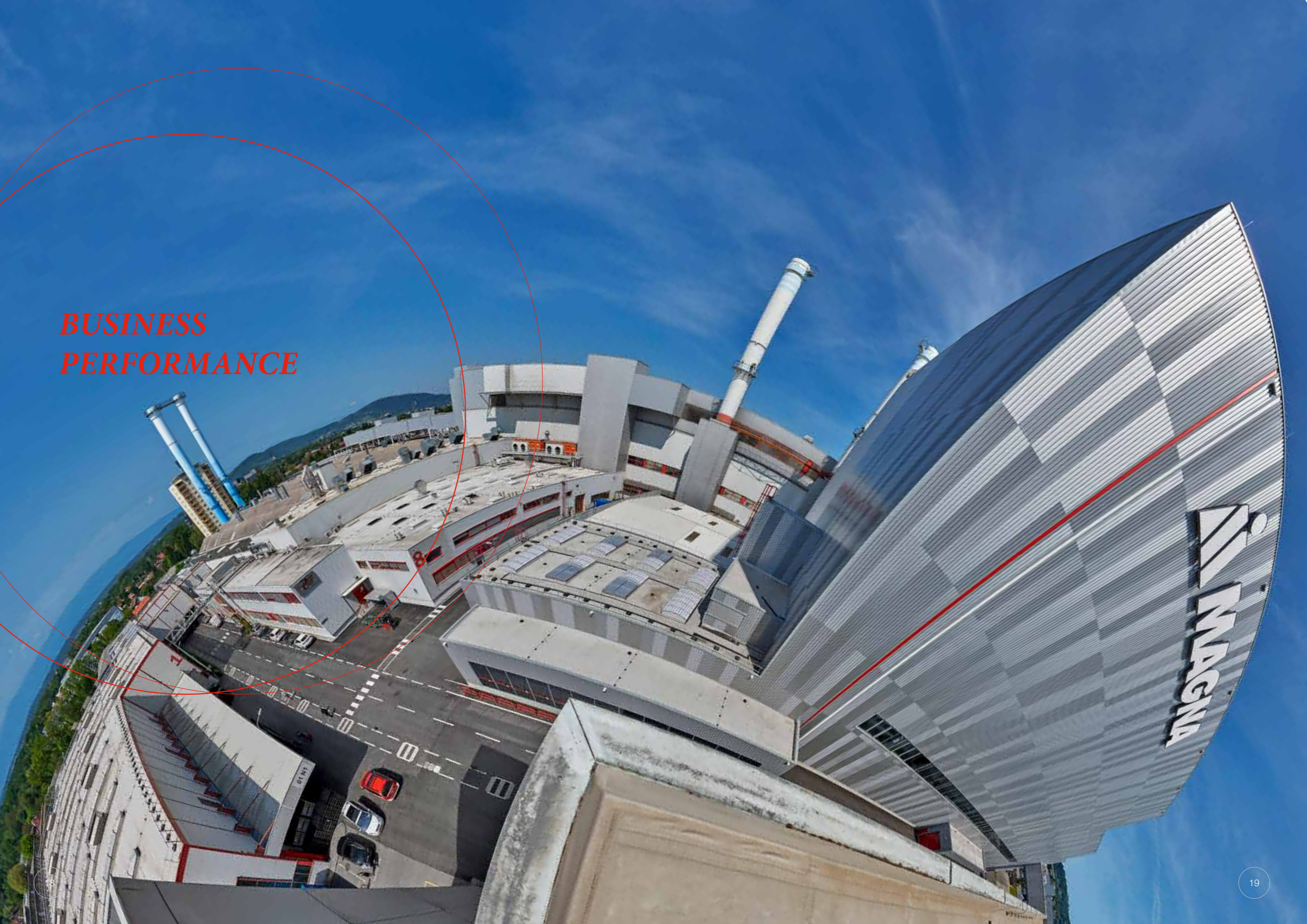
To fulfill this challenging task, a special environment team has been set up which acts as an environment network within the company. This interdisciplinary working group consists of a management system officer for the environment and environmental division officers in the business units and functional departments. The environmental division officers are the connecting links between the management system officer and the divisions, and they provide the necessary communication and networking in the spirit of a holistic approach to all relevant environmental issues.

The management system officer is familiar with implementing strategic planning, design, maintenance and further development according to the tasks laid down by the line manager of the environmental management system. Furthermore, he is responsible for compliance with the requirements of ISO 14001, the EU directive EMAS III and the Magna Corporate Environmental Standards (MCES). Through this extensive field of activity the circle of efficient corporate environmental management becomes complete, thus providing a convincing and effective approach both in terms of strategy and taking active measures in all the areas of the company – for environmental protection along the whole line management.





***BUSINESS  
PERFORMANCE***







Apprentice training as a successful model

# *YOUNG TALENT FROM MAGNA STEYR CONQUER APPRENTICE COMPETITION*

Young talents have been trained into top specialists of tomorrow at the Magna Steyr apprenticeship workshop for decades. During this time, again and again, specially committed apprentices have been able to win top places at competitions held at state and national levels. A current example is Markus Schirrhofer, who became Austrian national champion in 2016. A great achievement for the ambitious car body maker and, at the same time, a great confirmation for Magna Steyr that the quality of training, the diverse possibilities and the many additional offers of the apprenticeship workshop are bearing fruit.





MARKUS SCHIRNHOFER & HERBERT WALSER

“THE BEST THING IS WHEN YOU GET UP EARLY IN THE MORNING AND LOOK FORWARD TO DRIVE TO WORK.”  
National champion  
Markus Schirnhofer

With over a 100 years of tradition in apprentice training, today Magna Steyr trains more than 200 apprentices in 13 different occupations. The Apprentice Training Center was modernized in 2015 to live up to the increasing demands and numbers of apprentices. The number of apprentices at Magna Steyr has risen by more than 40 % in the last few years, and the proportion of women apprentices meanwhile lies at 17 %. Apprentices are close to the heart of Magna Steyr and vital for the future. The company invests a lot in the skilled workers of tomorrow – much more than the actual quality of training requires. During the apprenticeship period, there are additional accompanying courses, events and internships abroad on the program.

A wide and varied range of offers which combines specialist expertise with social and emotional support – and which produces above-average, top performing apprentices. In this way, not only does the Apprentice Training Center bear the title of state certified training center which was conferred on it by the Austrian state in 2006, but its protégées are also officially recognized. Magna apprentices

gain good results in branch competitions regularly; they almost always manage to get a place on a podium – as Markus Schirnhofer did recently.

Born in Pöllau, Markus Schirnhofer began his apprenticeship in 2013 as a car body maker at Magna Steyr and distinguished himself right from the start both in the vocational school and during his training in the company. In his third apprenticeship year Markus won first place in the Styrian state apprenticeship awards 2016, and was finally able to become national champion in car body construction engineering.

**How did you like your apprenticeship at Magna Steyr?**

**Markus Schirnhofer:** “Really good. We – the apprentices – always worked very well together and our master always had a sympathetic ear for us. And on top of that, a lot of additional benefits are offered at Magna.”

**What experiences did you take with you after participating in the state and national apprenticeship awards?**

**Markus Schirnhofer:** “It was a real challenge, but you just have to keep a cool head and work carefully.”

**What tasks did you have to perform at the national apprenticeship awards?**

**Markus Schirnhofer:** “The competition consisted of three practical tasks. I had to prepare, fill and repaint a damaged fender. I had to show my gluing and sealing abilities on a plastic part, and then I had to make a spring dome from metal sheeting.”

**You now work in the Joining Technology Center and work primarily with welding. How did that come about?**

**Markus Schirnhofer:** “When I did my first internship, I found out that the whole field of welding and materials was exactly what I wanted to do and I absolutely wanted to continue.”

**What do you like about welding?**

**Markus Schirnhofer:** “You have to know about the properties of materials and you also need skill.”

**What are your plans for the future?**

**Markus Schirnhofer:** “I’m doing university entrance night



“THE WILL TO ACHIEVE SOMETHING IS A CRUCIAL FACTOR!”

Herbert Walser, head of the Apprentice Training Center

school at Bulme Graz-Gösting in automotive technology. My main goal is to pass the exams, and then I’ll decide what I’m going to do.”



# ACHIEVEMENTS & AWARDS

## ÖKOPROFIT® AWARD FOR GRAZ PLANT

### Magna Steyr stands up for environmental protection and sustainability

In 2016 the Graz location received the accolade as an ÖKOPROFIT® company from the City of Graz for the 19<sup>th</sup> time. ÖKOPROFIT® stands for “ecological project for integrated environmental technology” and is a key environmental program of the City of Graz which sets measures in order to protect resources and benefit from them. Due to a whole range of measures and investments in 2015, an annual reduction of heat and power to the amount of 290,000 kWh and a CO<sub>2</sub> reduction of 680 tonnes could be achieved at the Graz location. The energy savings is equivalent to the annual

power consumption of approx. 66 four-person households. A project in the painting process of Business Unit Painted Body could be elevated to highlight of the year 2015. By lowering the supply-air temperature in the spray and work booths, gas savings and a CO<sub>2</sub> reduction of 200 tonnes per year was achieved. Sustainability and associated environmental protection have been an integral element of World Class Manufacturing for many years, and Magna Steyr is very proud to win an award for its environmental program yet again.

## MAINTENANCE AWARD

### First place for Magna Steyr maintenance

Magna Steyr Graz was thrilled to receive the Maintenance Award Austria 2016 on October 5. Magna Steyr convinced the jury with its internal CIP system (continual improvement process) and its external service management. Furthermore, the perfect process organization, precise documentation, the good IT system, and the high degree of planning as well as painstaking recording of costs and clearance were very highly rated. After being placed second in 2015, winning first place in 2016 confirms Magna Steyr's presence in the context of World Class Manufacturing.

## JOINT AWARD WITH JAGUAR LAND ROVER

### Good cooperation as a basis for future success

The Magna Steyr Supply Planning Team together with the JLR Supply Chain Design Team were overjoyed to receive the CIPS Supply Management Award 2016. Magna Steyr's customer Jaguar Land Rover was awarded this well-known prize for the shared Total Cost of Ownership Workstream in the category of “BEST CROSS-FUNCTIONAL TEAMWORK PROJECT” on September 14.



The CIPS Supply Management Award is seen as a benchmark for excellence and is one of the highest awards an organization in the field of procurement and supply chain can win in Great Britain. Winning in the category of BEST CROSS-FUNCTIONAL TEAMWORK PROJECT shows the outstanding capability of Magna Steyr to solve complex, cross-company tasks in close cooperation with customers in such an exceptional way.

## J.D. POWER INITIAL QUALITY STUDY 2016

### Magna Steyr Graz is fourth best production plant in Europe/Africa

As in previous years, Magna Steyr was delighted with the excellent results in the Initial Quality Study (IQS) in 2016. Both the MINI production and the Buick Cascada, in whose development Magna Steyr was substantially involved, achieved top places.

The Magna Steyr Graz location together with its production of MINI models regularly appeared among the best automotive productions in the J.D. Power plant rankings, and was chosen as the fourth best production plant in the region Europe/Africa by the J.D. Power Initial Quality Study 2016. On top of this, the new Buick Cascada achieved first place in the segment “Compact Sporty Car” in the year of its introduction to the market.





# ACHIEVEMENTS & AWARDS

## ACCLAIMED SUPPLY CHAIN MANAGEMENT

### Commitment, competence and professionalism along the value chain

Magna Steyr's excellent achievements along the value chain at the Graz location were recognized in 2016 by the Austrian Federal Association of Materials Management, Purchasing and Logistics. The company's

Transportation Logistics and SCM Systems were thrilled to be given the Austrian Supply Excellence & Purchasing 4.0 Award 2016 for their concept "Integrated transport service provider valuation". The focus of the project was on fully integrated supplier assessment and control for achieving autonomous processes in in-bound parts delivery.



## THE ANNUAL END-OF-YEAR PRIZE DRAW OF THE COMPANY SUGGESTION SCHEME 2016

### Employee participation is rewarded

On March 30, 2017, the annual end-of-year prize draw of the company suggestion scheme was held. It's been a fixed part in Magna Steyr's entrepreneurial culture for many years and an important contribution to safeguarding competitiveness and jobs. In 2016, an amazing 2,328 suggestions for improvement were

implemented. The "imax of the year" for the best company suggestion scheme performance went to Facility Management. The highlight of the event was the prize draw of a Mercedes-Benz A-Class. Each employee has a chance to win with the most implemented suggestions for improvement and the biggest savings made for the company.

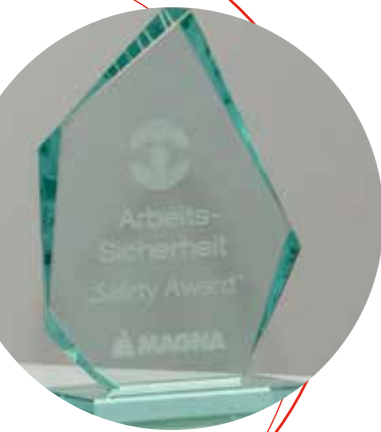


## MAGNA STEYR GRAZ SAFETY AWARDS 2016

### Internal prize for best work safety

In 2016 the "Magna Steyr Graz Safety Awards" initiated by the Department of Work Safety were given for the first time. These internal Magna Steyr awards are given to those areas of the company which launched special activities and pulled off extraordinary achievements. Evaluation criteria for the Magna Steyr

Graz Safety Awards are accident statistics, suggestions for improvement on the topic of work safety, the number of accident-free days, accidents which almost happened but didn't (near misses) and special events. A business unit and a functional department hold the half-yearly awards ceremony in the form of a challenge cup.



## FOR THE FIRST TIME EVER 20,000 MERCEDES-BENZ G-CLASSES WERE PRODUCED IN ONE YEAR.

### A special milestone for a legend

The Mercedes-Benz G-Class has been built at Magna Steyr in Graz by order of Mercedes-Benz since 1979 and continues to enjoy popularity with the customers. Since the introduction of the first model of the G-Class, more than a quarter million vehicles have been handed over to customers. In December 2016, the 20,000<sup>th</sup> off-road vehicle rolled off the line at the Graz plant. That was the first time that this amount had been achieved in one year. Whether exterior or interior, whether stitched

or leather, nearly every detail is made by hand in Graz. With passion and hand-made to perfection, unique pieces fulfilling the highest demands on quality and exclusivity are made on the line.







## GOODBYE MINI: PRODUCTION PHASE-OUT OF MINI MADE BY MAGNA STEYR

### End of an era

October 11, 2016, was the day the last of altogether 606,223 MINIs manufactured by Magna Steyr rolled off the production lines. Not only did Magna Steyr prove as a reliable, flexible and quality-conscious contract manufacturer with the MINI Countryman and MINI Paceman, Magna Steyr also worked together with the BMW Group as an engineering partner. Since the production starts in the years 2010 and 2012, Magna Steyr has every reason to be happy about the top places in international studies, customer awards for best quality, highest safety, lowest breakdown values and highest end-customer satisfaction. With their great commitment and dedication, all employees made a substantial contribution to the fact that even the last MINI vehicle left the production line in top quality.



## 70 YEARS OF MAGNA STEYR CUSTOM MANUFACTURING

### A department with tradition

A Custom Manufacturing open day on October 7, 2016, celebrated the 70-year anniversary of the Magna Steyr corporate division. All employees at the Graz location had the opportunity to get to know the diversity of Custom Manufacturing in a guided tour. After the department was established in 1946, it produced metal parts to supply the company's bicycle production. Since the end of bicycle

production, prototypes and series parts have been made here for meanwhile more than 20 various vehicles. Manufacturing techniques and facilities have been constantly further developed and are today at the cutting edge of technology. Approximately 120 employees currently work in Custom Manufacturing on internal and external orders for the automotive industry as well as on special products for space technology.



## SECOND PLACE FOR FCREEV AT THE F-CELL AWARDS

### Top ranking for green energy vehicle

The WORLD OF ENERGY SOLUTIONS 2016 took place in Stuttgart in October 2016, where energy production, storage systems and mobility solutions concerning battery, hydrogen and fuel-cell applications were at center stage. In the course of the specialist conference, the F-Cell awards were given, which honor the outstanding developments in the field of fuel cells.

The Magna Steyr demonstrator vehicle FCREEV took second place in the category Products & Market. Magna Steyr's Advanced Development department worked on this fuel-cell range-extender concept vehicle along with Proton Motor GmbH in Munich, the hydrogen-research company HyCentA in Graz and with TU Wien.



## MAGNA STEYR GRADUATE APPRENTICES DELIGHTED WITH SCHOLARSHIPS

### Special achievements and stays abroad are rewarded

Every year Julius-Raab grants are given to students and apprentices who have distinguished themselves through special achievements in combination with completing a stay abroad. In 2016 Magna Steyr graduate apprentices Paul Arenkens (cutting machinist) and Marlies Strein (automotive engineer), among

others, became beneficiaries. Not only did both pass their final apprenticeship examinations with distinction, they also demonstrated their abilities in internships abroad. During his apprenticeship, Paul Arenkens spent several weeks in Portsmouth, Great Britain, whereas Marlies Strein took part in a training partnership in a BMW exchange program. Both benefited from a grant to the amount of 300 euros.







***ENVIRONMENT***



# FOCUS ON THE ENVIRONMENT

Each one of us affects the environment through our actions in daily life – so-called environmental issues. A stable, functioning and competitive location must reduce or keep as low as possible the consumption of raw materials and energy as well as the environmental impacts caused by the company.

Due to a range of measures and investments in 2016, heat and power demand was able to be reduced by 2,269,285 kWh at the Graz location. This energy saving is equivalent to the annual power consumption of approx. 500 four-person households. Furthermore, a number

of non-quantifiable measures were implemented (see Environmental Achievements 2016 in the Appendix).

The environmental issues of Magna Steyr Graz, which we report on in what follows, are a result of material flows and energy consumption:

- Consumption of resources (raw materials, energy, land consumption, etc.)
- Release of waste materials in solid, liquid and gas form



## ENVIRONMENTAL ASPECTS OF MAGNA STEYR GRAZ

ENVIRONMENTAL ASPECT	IN DETAIL:
Air emissions	Odor, volatile organic compounds (VOC) released by solvents, organic carbon emissions, carbon dioxide, carbon monoxide, nitrogen oxide, dust, greenhouse gases
Wastewater	Fecal water, industrial wastewater, wastewater from oil separators, wastewater from grease separators, unpurified surface water, surface water from meteor water purification plants
Soil contamination	Contamination of unsealed surfaces
Water consumption	Municipal and well water
Material consumption	Direct and indirect production material
Energy consumption	Power, heat and natural gas
Noise	Internal traffic, facilities, personnel and visitors
Waste generation	Hazardous and non-hazardous waste
Land consumption	Built-up and fortified areas

## INPUT/OUTPUT BALANCE

75,529 vehicles were produced at the Graz location in 2016 (reference value for calculation of the core indicators) and approx. 6,600 persons employed. The site area comprises 813,440 m<sup>2</sup> (incl. rented spaces).

INPUT	UNITS	2016	OUTPUT	UNITS	2016
<b>Absolute indicators</b>			<b>Absolute indicators</b>		
Direct production material	t	121,714	Complete vehicles incl. painted bodies	pcs.	75,529 <sup>2</sup>
Indirect production material	t	1,139	Components from aerospace sector	t	9
Water consumption <sup>1</sup>	m <sup>3</sup>	285,618	<b>Air emissions</b>		
Energy consumption			Odor emissions	MGE <sup>3</sup>	1,022,705
Power	MWh	82,098	Solvent emissions	t	97.7
District heating	MWh	66,754	of which are organic carbon emissions	t	68.6
Natural gas	Nm <sup>3</sup>	5,648,503	Carbon dioxide	t	27,462
			Carbon monoxide	t	8.4
			Nitrogen oxide	t	18.8
			Dust	t	3.9
			Wastewater	m <sup>3</sup>	285,442
			Discharge into sewage system	m <sup>3</sup>	250,869
			Pipe bursts, losses, evaporation and test-track irrigation	m <sup>3</sup>	34,573
			Waste	t	6,727
			Hazardous waste	t	1,342
			Non-hazardous waste	t	5,385

1) Incl. output to external heat supplier (176 m<sup>3</sup>)  
 2) Incl. SKD (Semi Knocked Down) and CKD (Completely Knocked Down) production  
 3) Mega odor units



# MATERIAL CONSUMPTION

Material consumption includes the consumption of raw, auxiliary and operating materials as well as semi-finished products in industrial production. Magna Steyr Graz divides these input materials into direct and indirect production material.

All materials which are built into the vehicle directly count as direct production material. Among these count e.g. raw materials (metal sheeting, leather, etc.), auxiliary materials

(welding wire, adhesives, rivets, coatings, etc.) and semi-finished products (engines, axles, gearboxes, wheels, windows, trim, etc.) All materials which are not built into the vehicle directly count as indirect production material. These include e.g. work equipment (gloves, cleaning cloths, etc.) and auxiliary materials (oils, grease, cleaning agents, various chemicals, etc.).

MATERIAL CONSUMPTION	UNIT	2016	2015	2014	2013
<b>Core indicator</b>					
Material efficiency <sup>1</sup>	kg per vehicle	1,627 <sup>2</sup>	1,467	1,380	1,563

<sup>1</sup> Input value: consumption of direct and indirect production material  
<sup>2</sup> The raised value is a result of the higher share of larger vehicles in the overall production volume.

## MATERIAL CONSUMPTION: ACHIEVEMENTS IN 2016

Reduction of paint consumption in interior painting in top coat line 3 by 10 % and improvement of the grade of application efficiency (Business Unit Painted Body)

Reduction of paint consumption in top coat line 2 by 15 % (Business Unit Painted Body)

Presentation of concept maturity of lightweight-construction hybrid materials to enable a reduction of indirect environmental effects in the utilization phase of future customers products (Engineering Center Austria)

Improvement of environmental compatibility and reduction of indirect environmental effects of three products with series effectiveness 2016 (Engineering Center Austria)







# *SUSTAINABILITY RIGHT FROM THE BEGINNING*

How lightweight construction, e-mobility, etc., contribute to achieve environmental objectives using Life-Cycle Assessments

Thoughts on effective environmental protection do not start when a car is already on the road. Magna Steyr lives up to its social responsibility even during the development phase and strives for sustainable solutions right from the beginning. The resulting questions open up the exciting topic of environmental assessment using Life Cycle Assessments, about which Dietmar Hofer, Environmental Officer at Engineering Center Austria, and Bruno Götzinger, Head of Lightweight Technologies, have much to report.





BRUNO GÖTZINGER & DIETMAR HOFER

"LCA TAKES A HOLISTIC VIEW AND MEANS MUCH MORE THAN JUST PAYING ATTENTION TO EXHAUST GASES."  
 Bruno Götzinger,  
 Head of Lightweight Technologies/R&D

**Life Cycle Assessments (LCA) are now indispensable to the automotive industry. But what exactly is behind this term and what does it mean for sustainable product development?**

**Dietmar Hofer:** "Life Cycle Assessments are a requirement in product development and part of the Magna Steyr development process – and for good reason. In addition to rising demands in vehicle efficiency and performance, it is at the same time also necessary to increase environmental compatibility and to maintain a positive overall environmental balance. And this is what LCA supports. It shows environmental impacts and their associated cost implications across the total life cycle of a vehicle. This assessment compares alternatives and records relevant environmental aspects across the whole life cycle of a product in figures – for example, to choose the optimum material for a vehicle component."

**What particular environmental impacts are paramount in a LCA in the automotive industry?**

**Dietmar Hofer:** "In the course of an LCA, we give priority to evaluate potentials for the greenhouse effect and put together a

greenhouse gas balance – the so-called "carbon footprint". If required, we expand this balance to include other environmental aspects, such as energy consumption, water consumption, consumption of resources, particle emissions and emissions of nitrogen oxides."

**What is the relationship between lightweight technologies and LCA?**

**Bruno Götzinger:** "LCA is primarily about finding out whether the energy input for the applied lightweight technologies makes economic sense across the complete life cycle – taking into account minimization of environmental pollution. A fairer comparison between the materials used has been set out by Advanced Development in close cooperation with the environmental team of Engineering Center Austria in order to use the right material at the right place. In evaluating lightweight materials, weight, strength and rigidity play an important role in relation to environmental pollution. In addition to lightweight materials, the joining technologies used are also analyzed. To get tangible results, the whole lightweight concept must be looked at taking into account the needs of the complete vehicle."

**How can lightweight construction contribute to an improved ecological balance?**

**Bruno Götzinger:** "In general, fuel savings and an improved CO<sub>2</sub> balance can be achieved by making use of lightweight materials in the vehicle system concerned. For example, lightweight construction helps to compensate for the weight increase in electric vehicles due to the high-voltage batteries. For this reason it is particularly valuable and from the point of view of costs very realizable with respect to electric vehicle architecture."

**Keyword electromobility – what role does LCA play in Engineering?**

**Bruno Götzinger:** "If you compare its advantages over conventional mobility solutions, LCA plays a significant role in the development of electromobility. Due to the improved freedom of choice of the energy form used for running the electric vehicle and the possibility of increased "fueling" using

renewable energy, electric vehicles increase the potential to reduce greenhouse gases."

"INTELLIGENTLY DEVELOPED LIGHTWEIGHT SOLUTIONS ENABLE A REDUCTION OF ENVIRONMENTAL EFFECTS TO BE MADE OVER THE WHOLE LIFE CYCLE OF A VEHICLE."  
 Dietmar Hofer,  
 Senior Engineer Environmental Compliance

**Why is Magna Steyr involved in LCA?**

**Dietmar Hofer:** "On the one hand, it's a customer requirement to take into account environmental aspects in the development process. On the other hand, we as an automotive supplier have a responsibility to society and thus place special focus on sustainability. Magna Steyr is committed to conserving resources and minimizing environmental impacts. These topics are part of Magna Steyr's corporate policy."



# WATER CONSUMPTION

Water consumption describes the use of amounts of water by humans.

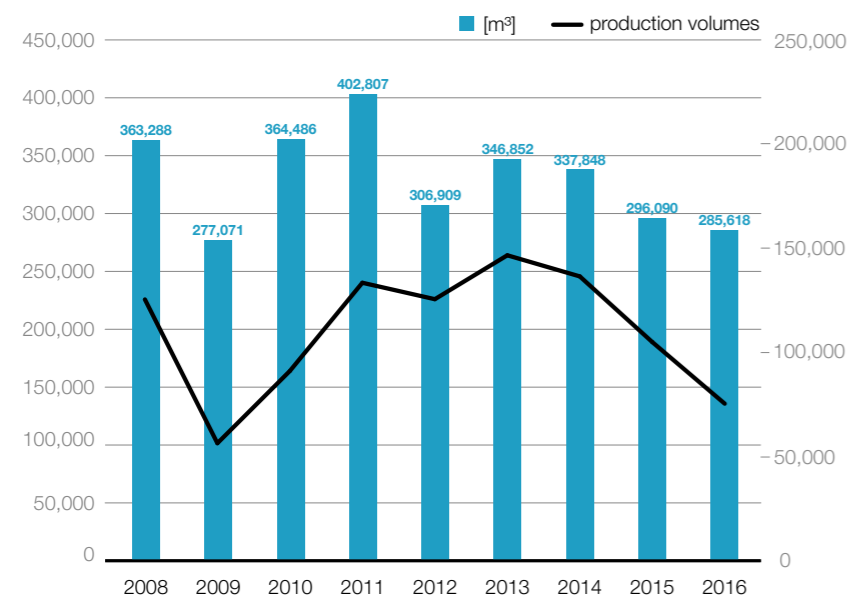
The water demand of the Graz location is mainly covered by water taken from the company wells. Additional municipal water is provided for the drinking water supply. The

water supply for the social areas consists of a blend of well water and municipal water. The quality of the drinking water is ensured by regular inspections.

WATER CONSUMPTION	UNIT	2016	2015	2014	2013
<b>Core indicator</b>					
Water <sup>1</sup>	m <sup>3</sup> per vehicle	3.78 <sup>2</sup>	2.82 <sup>3</sup>	2.48 <sup>3</sup>	2.37 <sup>3</sup>

1) Input value: water consumption  
 2) The raised value is a result of reduced vehicle production (reference value) compared to the previous year.  
 3) The value was adjusted later since the overall water consumption was used as input value.

## Wasserverbrauch



The key influential factors in water consumption are the consumption of sanitary water (employee dependent) and process water (production dependent). A linear relation between water consumption and production numbers is therefore not necessarily given.

# ENERGY CONSUMPTION

Energy consumption is characterized by the energy demand necessary to carry out work.

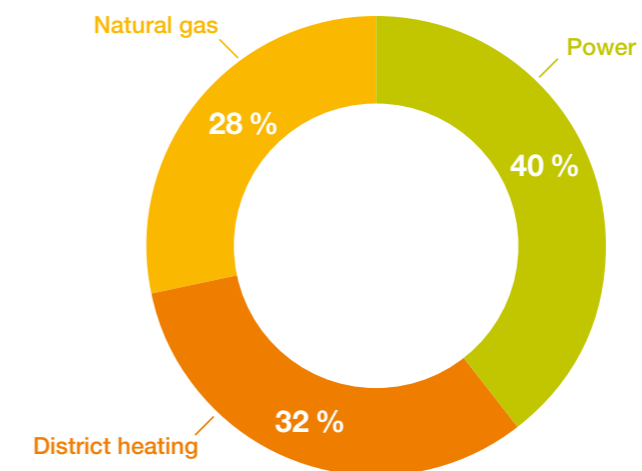
At Magna Steyr Graz, the sources of energy used are power, district heating and natural gas. The power supply is provided entirely by an external supplier. The heat supply is also provided externally via the on-site boiler house.

The detailed production-related metering structure is being constantly expanded to ensure a transparent picture of energy consumption per business unit.

ENERGY CONSUMPTION	UNIT	2016	2015	2014	2013
<b>Core indicators</b>					
Energy efficiency <sup>1</sup>	MWh per vehicle	2.75	1.98	1.64	1.77
Energy efficiency of renewable energies <sup>2</sup>	MWh per vehicle	1.09	0.79	0.65	0.11

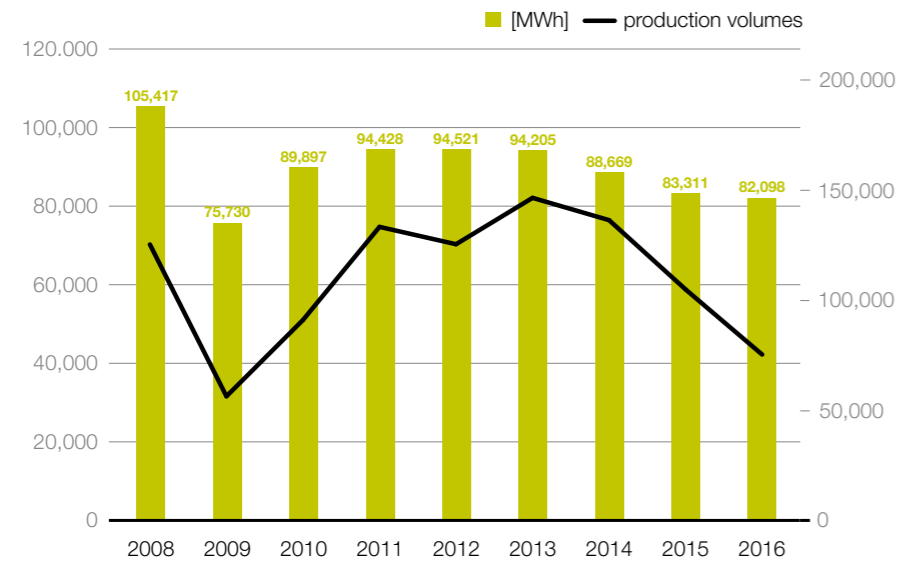
1) Input value: power, district heating, natural gas consumption  
 2) Input value: power consumption (100 % green electricity)

## Distribution of energy demand in 2016



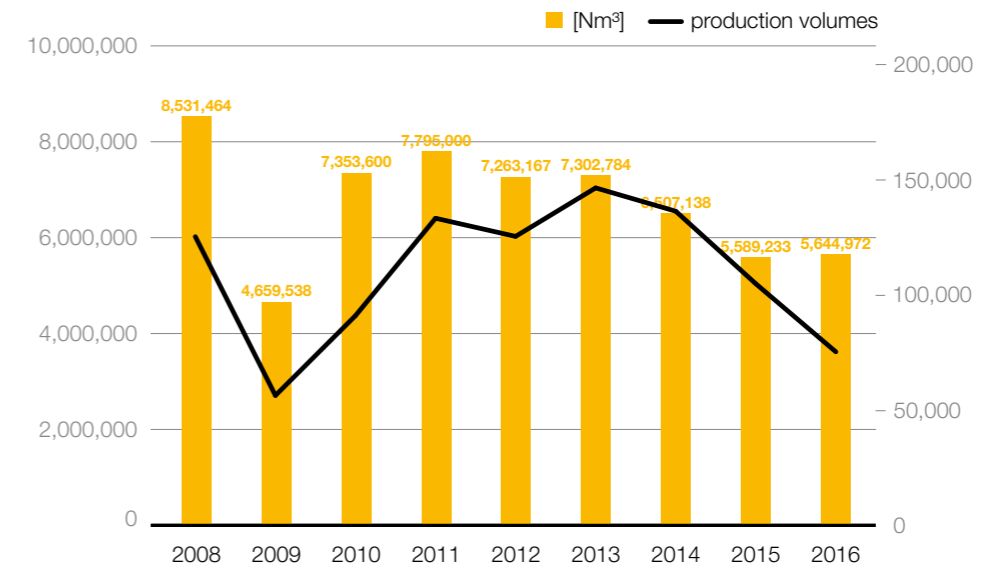


### Power consumption



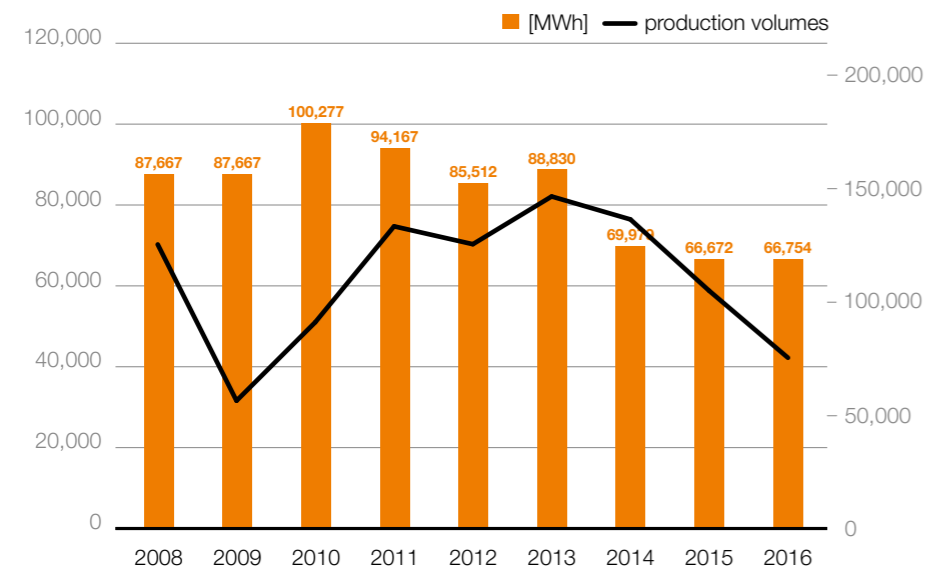
Power consumption is determined by production volume, degree of automation and number of employees.

### Natural gas consumption



The amount of natural gas consumption is influenced by process and climatic conditions.

### Heat consumption



Heat consumption is influenced by the size of the areas to be heated. Climatic conditions also influence the heating periods.

### ENERGY CONSUMPTION - ACHIEVEMENTS 2016

- Reduction of power demand in the operation of the roller test bench in Hall 12 by approx. 45 % (Business Unit G)
- Reduction of heat loss (caused by ventilation) during operation of the roller test bench in Hall 12 by approx. 45 % (Business Unit G)
- Reduction of compressed-air consumption in Hall 12 by 10 % (Business Unit G)
- Reduction of heating costs (reduction of energy costs) by optimizing the rolling doors and door air locks in Hall 82 (Business Unit H)
- Test request regarding the reduction of electrical energy consumption by installing solar-powered hot water system in Hall 84 (Business Unit H)
- Reduction of electrical energy consumption and waste volume in Hall 82 and Hall 84 (Business Unit H)
- Reduction of energy consumption in the parts washing plant at the external locations at Köglerweg by 15 % (Business Unit Painted Body)
- Reduction of electrical energy consumption for compressed-air production at the external locations at Köglerweg by 30 % (Business Unit Painted Body)
- Reduction of natural gas consumption in top coat line 3 by 10 % (Business Unit Painted Body)
- Reduction of electrical energy consumption in Hall 1 by 35 % (Facility Management)
- Reduction of electrical energy consumption in Hall 2 by 35 % (Facility Management)
- Reduction of heat energy consumption at the Graz location by 1.371 MWh (Facility Management)
- Reduction of heat energy consumption in Hall 1 by 570 MWh (Facility Management)
- Reduction of energy consumption by materials-management hall transport in Hall 82 by 290 MWh (Supply Chain Management)



Implementation of the Energy Efficiency Act at Magna Steyr

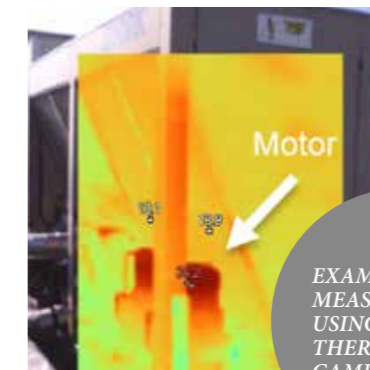
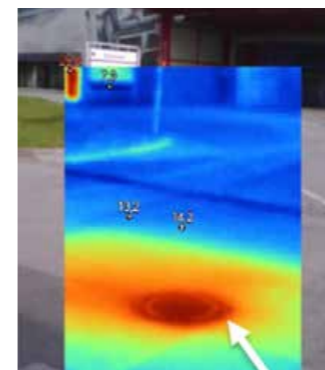
# ON THE TRACK OF ENERGY SAVINGS POTENTIALS

Best possible energy efficiency plays an important role in environmental protection – throughout Europe. The EU set itself the goal to save 20 percent of its primary energy consumption by 2020. What was passed in the form of an EU directive regarding energy efficiency is anchored in Austria in the Energy Efficiency Act (EEffG). Magna Steyr Graz takes the corresponding business obligation very seriously and in the form of in-depth audits has traced, tested and already successfully implemented a number of saving potentials in the company.

According to the criteria of the Energy Efficiency Act, which came into law in 2014, Magna Steyr Graz is classed as a large-scale company. Under this classification, Magna Steyr Graz is obliged to implement a recognized management system which, at the same time, has to include an energy audit at least every four years, or has to have energy audits carried out externally every four years. The implementation of this management system on-site is carried out in the framework of the existing environmental management system. For the required energy audits, Markus Binder was nominated as the internal energy auditor so that company know-how could be combined and the knowledge of the location used in the best possible way.

Different savings potentials in the company were recognized and implemented in the framework of the energy audit. To provide a basis, an analysis was carried out using the energy-monitoring system MEPIS, which recorded energy data of some 900 metering points in the location and which was processed into ongoing reports and key figure statements. The areas with the biggest energy consumption in the location were audited.

The theoretical saving potentials brought about were finally checked together with the persons responsible on on-site tours. In the course of this, various measuring devices were used, such as thermal imaging cameras. Finally, the potentials were evaluated with



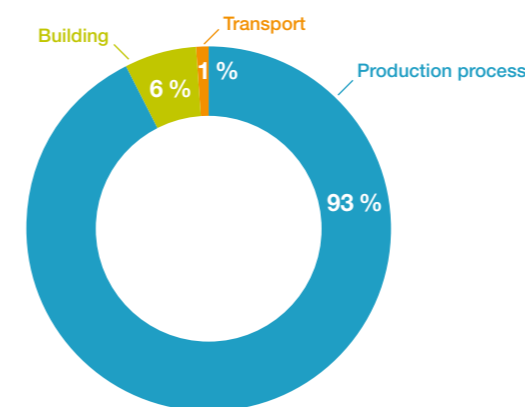
EXAMPLES OF MEASUREMENTS USING THE THERMAL IMAGING CAMERA

respect to actual savings and implementation costs. In the end, many saving potentials were able to be implemented quickly; others were included in budget planning for the following year. The course was thus successfully set for a maximally energy-efficient, environmentally friendly company – and Magna Steyr Graz was also able to make an important contribution to the overarching savings target of the EU.

## Increase of energy efficiency in production practice: Annual 570-MWh savings by means of needs-oriented heat supply

The reduction of heat energy consumption in Hall 1 is one of several highlights of Magna Steyr's Environmental Program 2016, and impressively shows the success entailed by tracking down savings potentials in the framework of the energy audit. By joining up the heat-supply systems in a network, a needs-oriented heat supply was able

to be created which also saves an annual 570 MWh of heat energy. Before, the halls were heated using different heat transfer systems (and a number of individual substations), each with its own regulator which was no longer state of the art. A resource-friendly temperature reduction in production-free periods would only be achievable through a high degree of manual effort. Instead, exchanging the old regulators made it possible to link up the individual plants in a network and enable a utilization-oriented temperature regulation to be achieved automatically. The temperature of the halls can now be reduced at weekends in a very uncomplicated way without manual intervention. An additional dashboard to regulate energy consumption in the building control system allows the recognition of abnormal operating states and countermeasures to be taken.



Distribution of energy consumption based on categories of measures pursuant to the Energy Efficiency Act (EEffG)





More safety and cost effectiveness for new vehicle projects:

# *TUGGER TRAINS REPLACE FORKLIFT TRUCKS*

The New BMW 5 Series has been rolling off the production lines at Magna Steyr in Graz since March 1, 2017. On top of this, the company is undertaking intensive preparations for production starts of other vehicles. To ensure an optimum logistical supply for these new projects, so-called tigger-train systems were introduced as an important element of an efficient, up-to-date logistics strategy as early as 2016. By acquiring 15 tuggers including trailers, 30 forklift trucks could be completely decommissioned. More safety and cost effectiveness could be thus brought about.





MARKUS VESZELOVICS, PATRICK CHOWANETZ, MENSUR KURSUMOVIC & ANDREAS GERT  
 JURGEN MÜNCH & STEFAN SCHRÖCKER

This new logistical solution renders two distinct advantages: on one hand, a more efficient use of personnel for transport routes longer than 60 meters; on the other hand, a significant increase in safety along the routes in the production halls. The tuggers are equipped with up to four trailers and thus have a greater transport capacity and optimized efficiency compared to forklifts. Their slower speed and better field of view (no load in front of the driver) contribute to higher safety. Also, in contrast to forklifts, no raised loads have to be handled.

Vehicle production is already benefiting extensively from these advantages. The implemented solution allows vehicle parts in small and large containers to be transported safely and economically from the store to the point of use on the various assembly lines in the

plant. And the employees themselves benefit from an optimized working procedure. The provision of large containers on elevated stands on rollers also makes for better ergonomics and flexibility at the assembly station.

Before commissioning the tugger systems, a few conditions and prerequisites had to be brought about before the successful launch. The choice of suitable equipment, mapping the transport in the IT system, and developing suitable transport containers to be used universally for all possible applications were on the to-do list of the project planners. A big challenge in this development process was making sure that the containers were compatible with a heavy goods vehicle transport from the external store to the plant and also for a safe and ergonomic handling in

the plant. The new tugger systems enable the forklift trucks in the assembly halls to be limited to the areas used for purely docking purposes around transport routes where parts with unusually large sizes or extreme weight have to be transported or deposited on special raised pedestals.

With this new approach, Magna Steyr is not only equipped for the coming challenges regarding production, but also sets an important step in the comprehensive introduction of an up-to-date logistics strategy.



**“THE IMPLEMENTATION OF TUGGER TRAINS IS A FURTHER STRATEGIC STEP IN THE DIRECTION OF SMART LOGISTICS.”**  
 Michael Druml,  
 Director Global Purchasing & Logistics Magna Steyr



# LAND CONSUMPTION

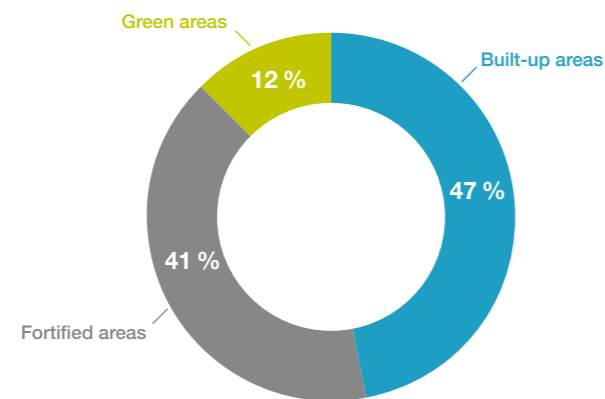
The integration of the new vehicle and engineering projects through the best possible use of existing land and buildings at the location can be regarded as a substantial challenge in space management. If land and space capacities are not sufficient, additional areas in the close vicinity will be leased and counted

towards designated land usage. Areas are subdivided into built-up areas, fortified areas and green areas; fortified areas also include all asphalted and graveled areas.

LAND CONSUMPTION	UNIT	2016	2015	2014	2013
<b>Core indicator</b>					
Land consumption	m <sup>2</sup> per vehicle	9.43 <sup>2</sup>	6.42	4.94	4.90

1) Input value: Built-up and fortified areas  
 2) The raised value is a result of reduced vehicle production (reference value) compared to the previous year as well as modifications to buildings.

## Distribution of land utilization in 2016



The areas additionally built in 2016 will be used for the new projects in 2017. The green areas amount to about a tenth of the overall space at the location.

# AIR EMISSIONS

Air emissions are air pollutants which can have an effect on the environment. The origin of an air emission can have a natural or a human (anthropogenic) cause.

Airborne emissions from the location come primarily from the paint shop. Emissions of carbon dioxide and nitrogen oxides come from the combustion of natural gas for heating the supply air of the painting booths, from the operation of the drying ovens and the location heat supply.

AIR EMISSIONS	UNIT	2016	2015	2014	2013
<b>Core indicators</b>					
Solvent emissions <sup>1</sup>	kg per vehicle	1.29	1.10	1.06	1.03
Carbon dioxide <sup>2</sup>	kg per vehicle	364 <sup>5</sup>	254	214	241
Nitrogen oxide <sup>3</sup>	kg per vehicle	0.25	0.23 <sup>6</sup>	0.20 <sup>6</sup>	0.19 <sup>6</sup>
Dust <sup>4</sup>	kg per vehicle	0.05	0.06	0.06	0.06

1) Input value: solvent emissions  
 2) Input value: carbon dioxide emissions (incl. heat supply)  
 3) Input value: emissions of nitrogen oxides (incl. heat supply)  
 4) Input value: dust emissions  
 5) The raised value is a result of reduced vehicle production (reference value) compared to the previous year.  
 6) The value was adjusted later since the emissions of nitrogen oxides from the heat supply were taken into account in the input value.

Sulfur dioxide is not relevant as an air emission (only sulfur-free energy sources are used).  
 Hydrochlorofluorocarbons, chlorofluorocarbons and sulfur hexafluoride are only used in closed plants (refrigerators and electrical switchboards) and therefore not relevant as air emissions.



# NOISE

## Emission limit values laid down by the authorities and measured values in 2016 (paint shop)

TYPE OF EMISSION	UNIT	LIMIT	MEASURING RESULTS
Particulate	mg/Nm <sup>3</sup>	3	0.2–2.0
Total carbon acc. to TNV <sup>1</sup>	mg/Nm <sup>3</sup>	30	0.2–4.7
Nitrogen dioxide acc. to TNV <sup>1</sup>	mg/Nm <sup>3</sup>	100	35.4–95.6
Carbon monoxide acc. to TNV <sup>1</sup>	mg/Nm <sup>3</sup>	100	1.4–88.0
Total carbon <sup>2</sup>	mg/Nm <sup>3</sup>	75	0.2–56.6

1) Thermal afterburning plant

2) Measured in the exhaust air from the paint booths. The measured results are derived from 90 individual measurements at various emission sources

In the case of air emissions, most of the values are considerably lower than the limits laid down by the authorities.

## AIR EMISSIONS – ACHIEVEMENTS IN 2016

Integration of electrical drivetrains to enable reduction of exhaust emissions in the utilization phase of future xEV series vehicles

(Engineering Center Austria)

Determination of the transport-relevant CO<sub>2</sub> emission by implementing a CO<sub>2</sub> reporting model for the Graz location

(Supply Chain Management)

Increase of truck capacity utilization in the case of direct and milk-run routes from 74 % to 79 % and associated CO<sub>2</sub> reduction

(Supply Chain Management)

Noise designates sounds which on account of their volume and structure disturb people and the environment or have a detrimental effect. Noise-relevant areas, such as internal traffic and operating plants, are taken into account during the process of planning and approval by regulatory authorities.

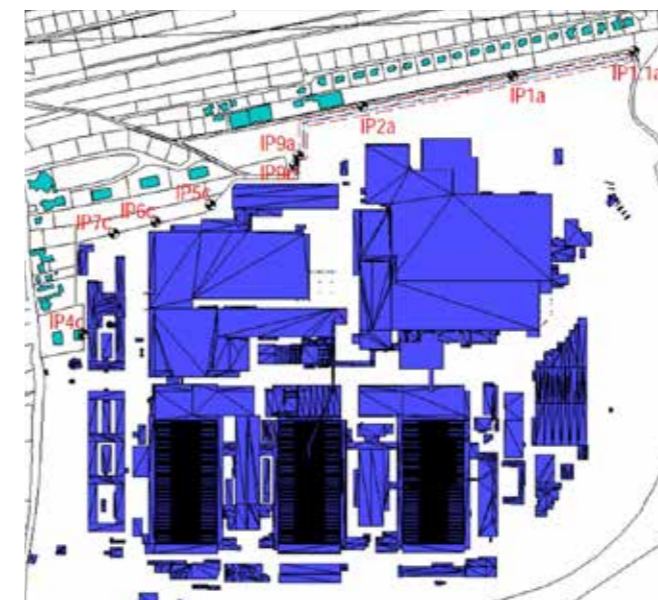
The relevant areas and sources of emissions are authorized in the permit of the operating plant under commercial law. The on-site noise situation is primarily determined by traffic noise from the A2 freeway, the freeway feeder, and Liebenauer Hauptstrasse. Noise emissions from the operating plant do not stand out in

the noise situation of the whole area. Named transport carriers predominantly determine the noise level in the immediate neighborhood.

To check compliance with emission values, immission points (IP; see chart) were defined. The approved values for the specific noise emissions are different, depending on day or night.

In 2015 compliance with specific emission levels approved by the authorities were confirmed by an external expert.

## Immission measuring points from noise surveys on the plant premises





# WASTEWATER

The individual wastewater collection points are divided into industrial, fecal and surface water. All wastewater from the location is fed into the Graz-Gössendorf purification plant (indirect discharger) exclusively by means of the combination sewage system.

Industrial wastewater, which are primarily generated in the body pretreatment area, is

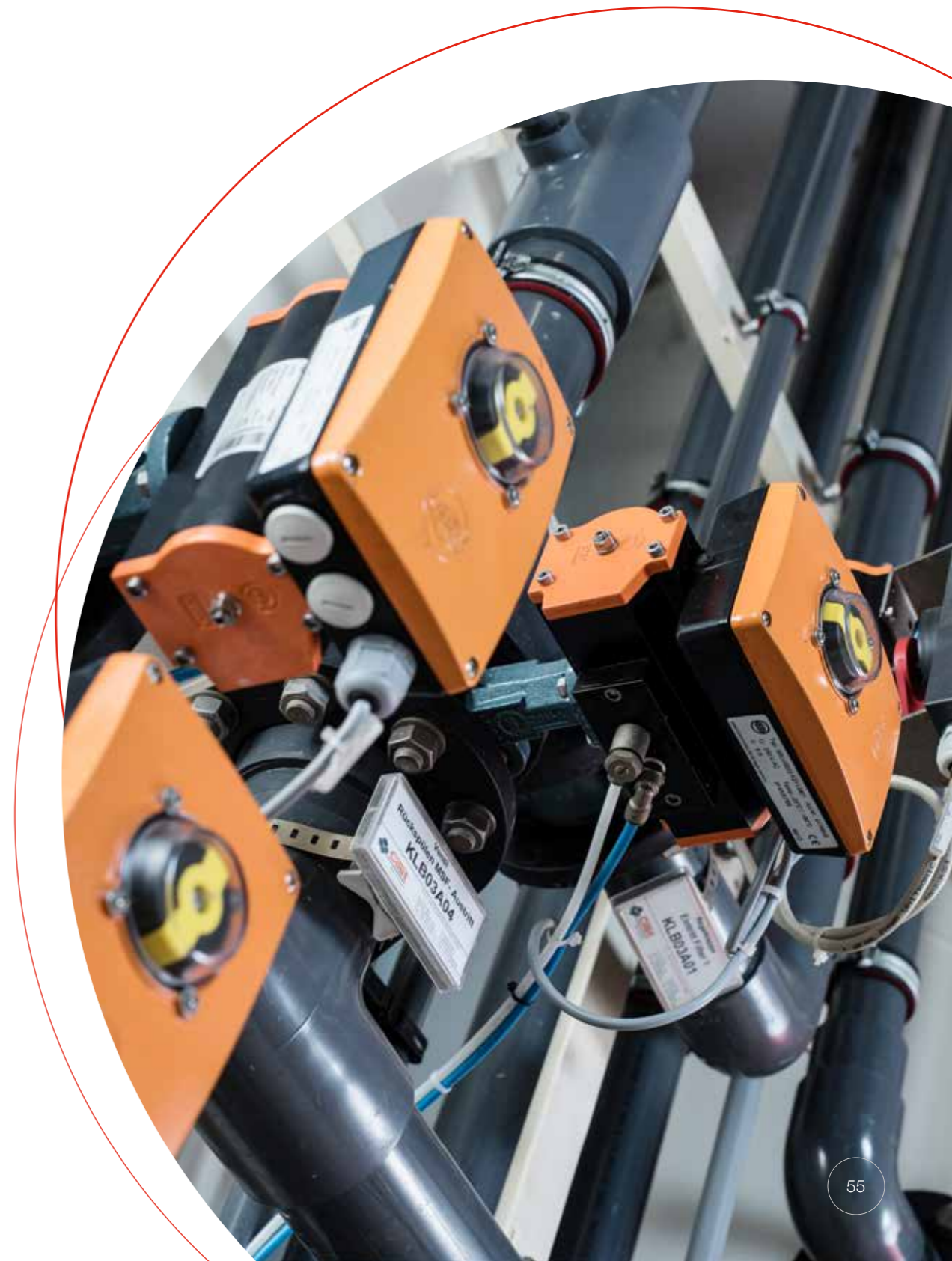
mostly polluted with heavy metals (zinc, nickel, manganese) and organic contaminants (oils, grease, etc.). This is cleaned in the company's own wastewater purification plant before being discharged into the combined sewage system. Compliance with thresholds is periodically checked by independent, external experts.

## Wastewater limit values laid down by the authorities and measured values in 2016

<i>SUBSTANCES IN WASTEWATER AND WASTEWATER VOLUMES</i>	<i>UNIT</i>	<i>LIMIT</i>	<i>MEASURING RESULTS <sup>1</sup></i>
Adsorbable organically bound halogens (AOX)	mg/l	1	0.26
Nickel	mg/l	0.4	0.09
Zinc	mg/l	1.1	0.06
Manganese	mg/l	0.9	0.32
Fluoride	mg/l	35	3.95
Sulfates	mg/l	400	48.65
Sulfites	mg/l	10	0.22
Hydrocarbons <sup>2</sup>	mg/l	15	0.08
Industrial wastewater quantities per day	m <sup>3</sup>	456	185
Industrial wastewater quantities per year	m <sup>3</sup>	139,000	44,471

<sup>1</sup> Mean values from external monitoring  
<sup>2</sup> Measured as hydrocarbon index

In the case of emissions into wastewater, most of the values are considerably lower than the limits laid down by the authorities.





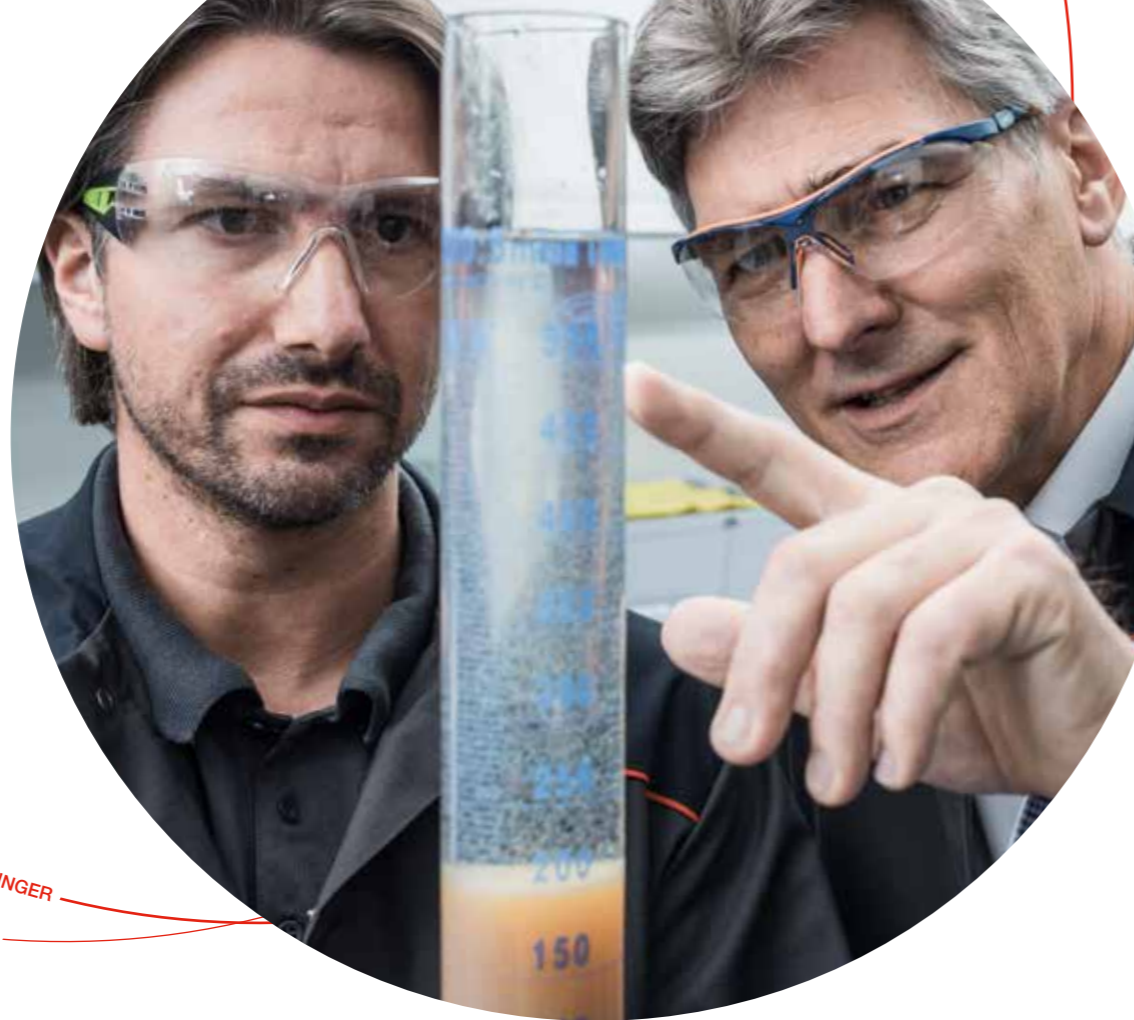


Wastewater management at the Graz location:

## *CORPORATE ENVIRONMENTAL AWARENESS IN ACTION*

Magna Steyr feels very strongly about all aspects of environmental protection. As a manufacturing company, professional wastewater management plays a big role. The company's wastewater purification plant, for instance, thanks to the careful handling and efficient use of resources by the experienced team of experts, has shown itself to be an impressive example of corporate environmental awareness in action at the Graz location. To keep it like this in the future, continual further development by means of modifications or innovative strategies provides for sustainable results at the cutting edge of technology.





BERNHARD HUBER & ROBERT HAIDINGER  
GERALD-JOSEF WIESER & ERICH EISNER

Magna Steyr's wastewater purification plant is very impressive above all due to its efficient methods thanks to the dual work levels, namely wastewater preparation and wastewater treatment. In the preparation phase, fully demineralized water is produced for a variety of production processes. In the wastewater treatment phase, the wastewater is subject to a heavy metal precipitation and a biological stage to reduce chemical oxygen demand. After purification, the wastewater is brought together before being subject to selective ion exchange and end control. Subsequently it is run into the company's own combined sewage system and finally discharged into the Graz municipal sewage system.

A big contribution to the stable operation of the company's wastewater purification plant is carried out by its specially trained personnel, who have been working together for more than 15 years. The experienced team brings

its expertise to bear in all the modifications to the plant and optimizations, thus constantly improving the processes in the company's own wastewater treatment. Main activities in shift operation comprise – on top of plant monitoring, cleaning, maintenance and servicing – continual checking of all statutory parameters (e.g. pH values, COD values, etc.), which are then recorded in a logbook.

In addition to the dedicated commitment of the employees, constant development with regard to both structure and strategy ensures sustainable results. For example, current rebuilding measures of the plant – such as the installation of an additional sludge buffer – enable more wastewater to be processed at higher quality in less time. On top of this, the social area of Hall 25 was renovated, and a well thought-out cooling system installed in the plant control station so that the wastewater purification plant team can better survive the

hot summer months. Due to the Innovation Aqua project (INAQ) in 2012 and its associated technical reorientation, the wastewater strategy at the location was changed to accommodate the fact that since this time processing all the accruing wastewater in the plant has been carried out in the company's own wastewater purification plant in Hall 25. With these and other activities at all levels, intensive work is

being done to optimally prepare the company's wastewater purification plant for future challenges and safeguard its outstanding reputation in the long term as a Magna Steyr showcase project for environmental awareness in action.



**“OUR TEAM CONTRIBUTES ITS SPECIALIZED KNOWLEDGE AND MANY YEARS OF EXPERIENCE TO THE SMOOTH OPERATION OF THE WASTEWATER TREATMENT AT THE GRAZ LOCATION.”**

*Bernhard Huber, Wastewater Treatment Officer*



# WASTE GENERATION

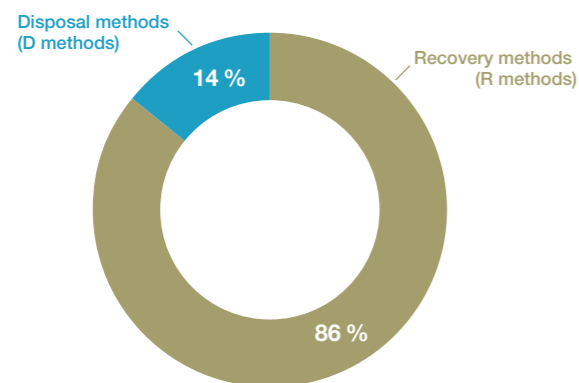
The variety of the accruing waste fractions from the development and production of different cars made at the site confer a special importance on waste management. The requirements made by the proper collection and weighing at the respective waste collection points of the plant are fulfilled in cooperation with Saubermacher Outsourcing GmbH. 45 employees of the waste-disposal service provider are engaged at the location. At the Thondorf location there are three internal

company waste collection centers – so-called “waste yards” – which are operated with 36 large-volume containers, compactors, a fleet of vehicles including a waste-compactor vehicle (Multicar) and several forklifts and tractors. Collection and separation stations and waste collection containers have been set up at strategic points all over the plant. The respective size of the containers is determined by the amount of waste generated and the type of fractions.

WASTE GENERATION	UNIT	2016	2015	2014	2013
<b>Core indicators</b>					
Hazardous waste for disposal <sup>1</sup>	kg per vehicle	12.8 <sup>5</sup>	9.7	9.44	10.67
Hazardous waste for recovery <sup>2</sup>	kg per vehicle	4.96 <sup>5</sup>	2.91	2.18	0.22
Non-hazardous waste for disposal <sup>3</sup>	kg per vehicle	0.04	0.09	0.9	1.66
Non-hazardous waste for recovery <sup>4</sup>	kg per vehicle	71.26 <sup>5</sup>	48.27	67.54	48.68

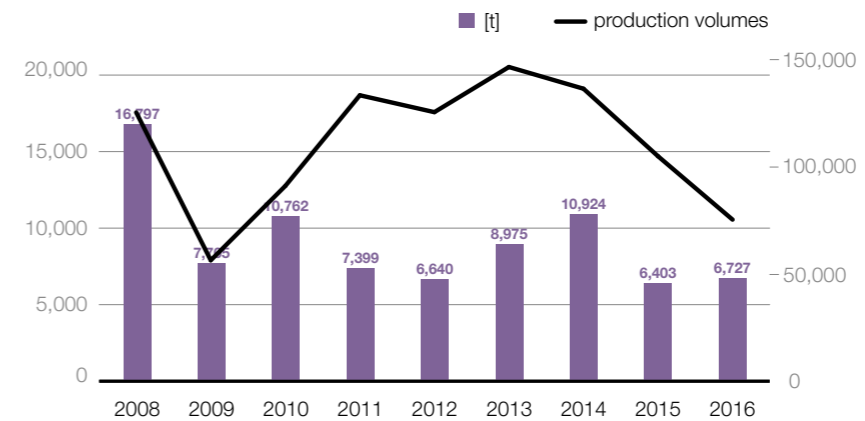
1) Input value: generation of hazardous waste for disposal  
 2) Input value: generation of hazardous waste for recovery  
 3) Input value: generation of non-hazardous waste for disposal  
 4) Input value: generation of non-hazardous waste for recovery  
 5) The raised value is a result of reduced vehicle production (reference value) compared to the previous year and the increased generation of waste from production starts and development projects.

## Share of recovery and disposal methods in 2016



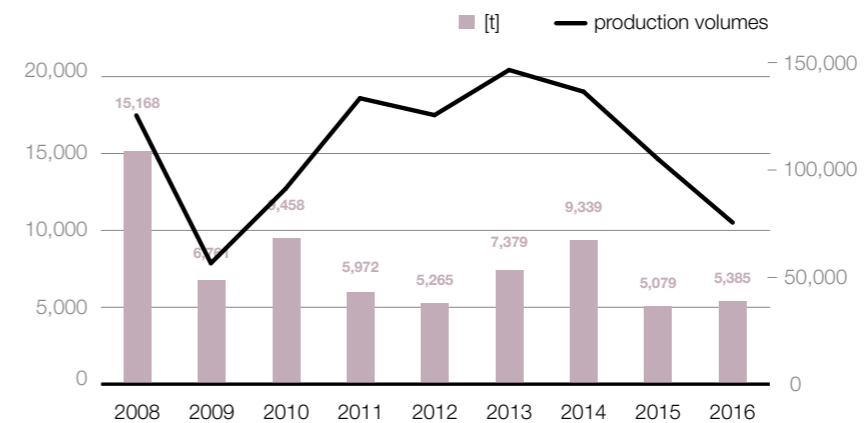
In 2016 the amount of waste which was eliminated by means of recovery processes was raised to 86 % due to improvement measures. Waste from construction activities is not included in these statistics.

## Volume of waste – total

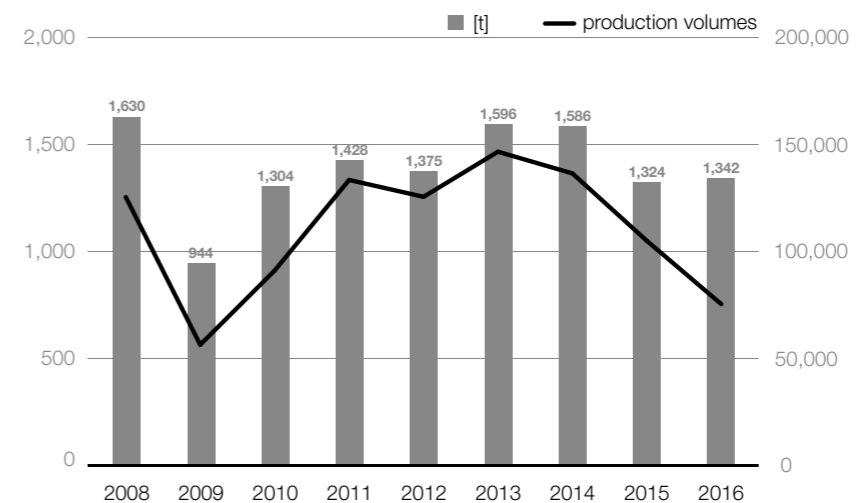


The volume of waste increased slightly in 2016 due to the increase in quantities of a large vehicle and increased prototype constructions. Waste from construction activities is not included in these statistics.

## Waste volumes – non-hazardous waste



## Waste volumes – hazardous waste



## GENERATION OF WASTE – ACHIEVEMENTS IN 2016

- Optimization of route planning and adaptation to the frequency of waste generation; reduction of costs for waste disposal in Hall 12 by approx. 5 % (Business Unit G)
- Reduction of waste generation from circulation parts (Business Unit H)
- Changeover from the paint-sludge recovery process from method D to method R, thus raising the recycling quota (Project “Zero Waste”; Business Unit Painted Body)
- Reduction of hazardous waste by lowering the amount of aerosol cans to be disposed of by 30 % (Engineering Center Austria)





***SOCIAL  
RESPONSIBILITY***





**my  
life**  
AT MAGNA STEYR

Diverse people, diverse interest, many advantages

## MYLIFE AT MAGNA STEYR – MY PLACE TO BE

Magna Steyr employees spend each fulfilling customers' expectations to their fullest satisfaction and providing highest quality. To find a balanced relationship between work and leisure, it is important to the company to create a space where employees can unwind from their professional challenges.

For this reason a holistic concept in the form of the mylife program which combines all the employee activities was developed. The needs of employees in the areas of Job & Career, Health, Qualification, Family & Friends and Sports & Leisure are a big concern of the company. The diverse range of the mylife program at Magna Steyr ensures a varied balance regarding daily working life and enables added value in job and leisure time.



### JOB & CAREER

Magna Steyr offers a whole range of activities and services which support the working day of the employees in a positive way. Among these count regular employee communication, flexible working-time models and workwear, free-of-charge parking and shuttle services as well as employee events for special occasions.

### HEALTH

Employee health is an important matter for Magna Steyr. Here, you can find different workshops and activities about topics, such as protecting non-smokers, ergonomics and burnout prevention. Also, regular health days fall into this area.

### QUALIFICATION

This comprises the extensive program of training and continuing education at Magna Steyr. It includes internal and external continuing education regarding apprentice training, technical training, personal development, language courses and cultural training courses. Another focus at Magna Steyr is the promotion and development of managers in the framework of leadership training courses.



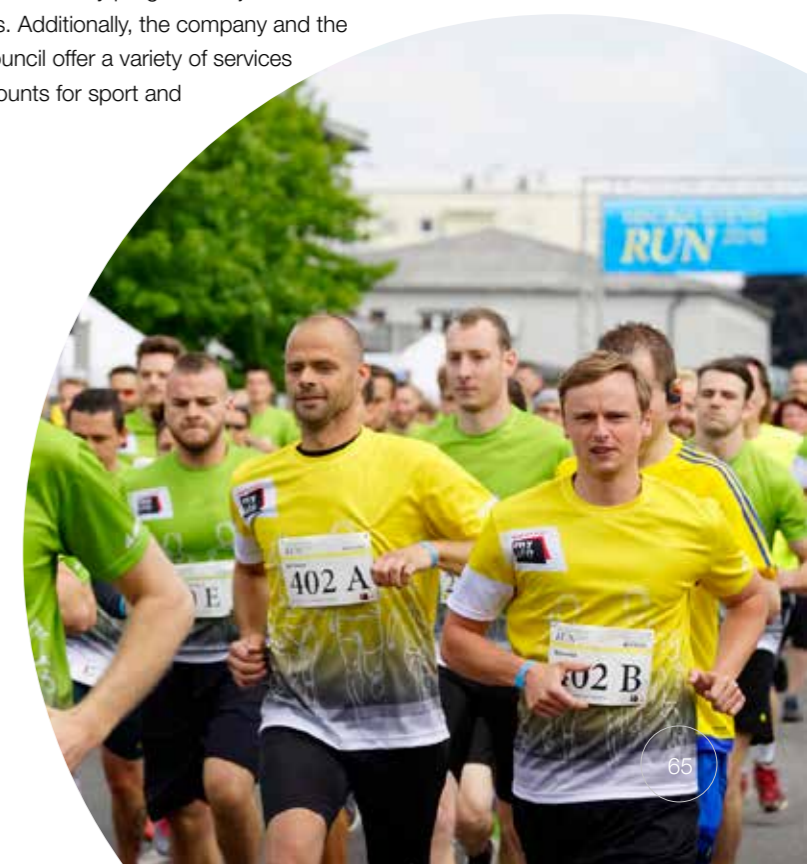
### FAMILY & FRIENDS

To give the families of the employees an insight into the company and products, Magna Steyr organizes festivities and celebrations, such as family days and summer parties, on a regular basis to which family members are especially welcome. A showcase project from this mylife area is the first Magna Steyr childcare facility – Magna Kids World.



### SPORT & LEISURE

Whether team sports, running events or outdoor activities – this area embraces the colorful sport and leisure program which is organized all over the world at Magna Steyr locations – the Magna Steyr Run, Magna Steyr Aktiv and the Vitality program are just a few examples. Additionally, the company and the works council offer a variety of services and discounts for sport and leisure.







Magna Kids World supports compatibility of family and work

# *MORE TIME TOGETHER FOR MOM, DAD & THE KIDS*

Making family and job more compatible is a big challenge for many parents. With the Magna Kids World, Magna Steyr has created a possibility for employees to accommodate their children in a loving and nurturing environment right next to the company premises. Opening times based on the company's working hours, a diverse pedagogic concept and the active connection to mom and dad's place of work are just some of the benefits with which Magna Kids World makes everyday family life easier.





CHRISTINA STINGL & ANZE ZIH

“MOST OF ALL I LIKE PLAYING WITH MY FRIENDS IN THE GARDEN!”  
Maximilian

Shift work at 6am – but no kindergarten which opens so early... A total of nine weeks summer vacation – but only five weeks annual vacation for us... These and other problems are very familiar to parents. To relieve the worries of employees, Magna Steyr initiated the Magna Kids World in 2015. 75 children from nursery to kindergarten age are cared for in the modern facility, open all year round, and if needed from 5.45am to 5pm, specifically tailored to parents' working times.

But it's not only the opening times which are unusual, the pedagogic concept also stands out. On the one hand, there is a focus on science and technology, packaged for children, and implemented in a fun way in a special laboratory. On the other hand, diversity and equal opportunity play a big role.

The focus on technology is lived out in a typically Magna kind of way: kids are allowed to visit the Mercedes G production, for instance, and be present when mom and dad "make a car". Not only that, but every year a new theme is set – the current kindergarten year is under the slogan "Step by step – we're upcycling". Everything that spells out fun for the kids and which at the same time imparts educative content in an experiential way.

“FOR ME, KIDS WORLD MEANS MORE EFFICIENCY IN DAILY LIFE.”

Christina Stingl,  
Maximilian's mom



“IT'S A GOOD FEELING TO KNOW THAT OUR DAUGHTER IS HAPPY!”

Anze Zih,  
Luna's dad

**TALKING WITH PARENTS ABOUT MAGNA KIDS WORLD**

Anze Zih lives with his family in Hart bei Graz and works at Magna Steyr in assembly. He found a place for his 3-year-old daughter, Luna, in the nursery, where she's very happy.

**What is the special advantage of Magna Kids World for you?**

**Anze Zih:** "I work shifts. Kids World provides childcare as early as 5.45am. There isn't any other possibility to have our child looked after."

**Magna Steyr invested some two million euros in the project. What do you like about it best?**

**Anze Zih:** "The kids have a lot of space, and the rooms have been designed very generously. The carers are very nice and nothing is left to chance."

Christina Stingl has been working at Magna Steyr since 2003. Her son, Maximilian, has been at the kindergarten since Magna Kids World was opened.

**What benefits did you gain from Magna Kids World?**

**Christina Stingl:** "Lots of organizational benefits. I can make the best use of my time, not waste any."

**What do you think of the technology and science focus of the pedagogic concept?**

**Christina Stingl:** "I like the way Kids World works together with Magna and the way technology and science are particularly encouraged."

**And what about diversity?**

**Christina Stingl:** "I see cultural diversity as a very valuable thing. The children benefit from it in every way."



# COMPLIANCE





Actively taking on responsibility

# COMPLIANCE MANAGEMENT

The term “compliance” means observing rules, laws and guidelines. Towards this aim, Magna has implemented a Code of Conduct and Ethics which affirms the basic values and business principles of the fair-enterprise culture of Magna, and at the same time has taken up a zero-tolerance approach to unethical behavior. As a whole, the Code of Conduct and Ethics sets out the ethical and legal framework within which the entire Magna corporate management operates, including all employees in all departments. Regular training courses sensitize both management and the employees for these basic values, thus ensuring in a sustainable way that everyone acts with honesty and integrity and always make ethically correct business decisions.



Magna's Code of Conduct and Ethics is divided into five sections, in which the advancement of integrity at the workplace as well as environmental protection and work safety provisions form an essential part. The Code of Conduct and Ethics introduces standards of environmental protection and work safety as follows:

**“It is essential that Magna employees work in safe and clean environments. We seek to be an industry leader in occupational health and safety and environmental responsibility in all our operations.**

**We are committed to meeting or exceeding all health, safety and environmental laws and regulations that apply to us and seek to monitor and review each operation with a goal of continuous improvement.**

**Our commitment to health, safety and the environment is explained in our Employee's Charter and our Operational Principles and explained in greater detail in our Health, Safety & Environmental Policy.”**

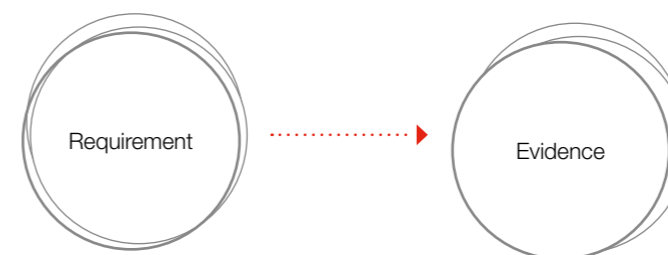
In addition to the statutory environmental regulations, Magna lays down further environmental standards in the form of global, internal company standards which minimize the ecological footprint of the company and which additionally support all the plants in complying with the Magna specifications for health, safety and environmental protection.

An important task of the field of environmental management is to bring together all the statutory and internal company binding

obligations and to implement them in the company. On the basis of an organized procedure, the various obligations from the following topics are ascertained:

- Legal standards (laws, regulations, etc.)
- Technical standards
- Permits
- (Internal) Magna corporate environmental standards
- Customer contracts, etc.

A compliance-management system and legal-data management system supports the internal implementation process at Magna by keeping a company-specific legal register for all environmentally relevant legal areas. The legal-data management system is kept up to date by means of a systematic legal-data service. New tasks are defined on the basis of legal changes and consequently delegated to the responsible organizational units. To guarantee a legally compliant operation with respect to regulatory requirements, any permits regarding construction, commercial or water law are part of this compliance-management system. Implementation of the compliance obligations regarding installation, acceptance and operation of plants is documented in the form of an appropriate compliance evidence.



Compliance management in action – from requirement to evidence



## EVIDENCE OF COMPLIANCE OBLIGATIONS IN THE FRAMEWORK OF MAGNA CORPORATE AUDITS

In addition to annual environmental inspections, environmental audits are carried out by Magna every four years. The aim of these audits is to make sure that, in addition to the statutory requirements, all Magna environmental standards are being complied with in all the plants. Environmental inspections and audits take place at Magna in the following thematic areas:

- Compliance and approvals from regulatory authorities
- Handling and storage of hazardous materials
- Airborne and noise emissions
- Water management
- Soil and groundwater
- Waste management

In the context of the environmental audits, inspections in all areas are carried out more

strictly than the legal requirements demand and include the following internal company obligations:

- Comprehensive inspections on the basis of check lists
- Emergency infrastructure for handling hazardous materials
- Organizational guidelines for the management of emergencies
- Handling and disposal of waste
- Collection facilities for hazardous materials

A Magna corporate environmental audit was last carried out at Magna Steyr Graz in the period from 3/10/2016 to 6/10/2016, and a positive result documented in the final report.

## EVIDENCE OF COMPLIANCE OBLIGATIONS IN THE FRAMEWORK OF INSPECTIONS BY REGULATORY AUTHORITIES

Magna Steyr Fahrzeugtechnik AG & Co KG is subject to the IPPC regime parameters defined in the commercial law. The background to this is that for the painting process, plants are operated which qualify as so-called IPPC plants (Integrated Pollution Prevention and Control) pursuant to the Industrial Emissions Directive. The legislator initiated a monitoring instrument, the so-called environmental inspections, to verify these particular facilities. (Article 71b letter 9 of the Commercial Law), whose legal framework is stipulated in Article 82 of the Commercial Law:

*"By 'environmental inspections' pursuant to Article 71b letter 9 of the Commercial Law, is to be understood all measures, including on-site inspections, monitoring of emissions and inspection of internal reports and follow-up documents, verification of self-monitoring, inspection of applied techniques and their suitability as regards environmental management of the IPPC plant which have to be carried out by the regulatory authority or in its name to ensure and promote compliance of the IPPC plants by a consensus of permit and if necessary to monitor their effects on the environment."*

Pursuant to Article 82 para. 2 of the Commercial Law, the systematic assessment of the environmental risks in the framework of an environmental inspection has to be based on not less than the following criteria: Possible and actual effects on human health and on the environment;

Previous compliance with a consensus of permit;

Participation of the IPPC plant owner in an environmental audit according to the EMAS regulation (EC) No. 1221/2009 or in an environmental audit according to ÖNORM EN ISO 14001 concerning eco-management systems.

The environmental inspection was agreed by the Municipality of Graz as responsible authority with the coordination office, i.e. the Environmental Inspection Office of the State of Styria. The following core points of the environmental inspection carried out in May 2016 were specified:

- Inspection of the IPPC status;
- Inspection of technology applied and its conformity with the granted permits;
- Inspection of the environmental management system;
- Inspection of effects on the environment (environmental situation);
- Notifications in the EDM (electronic data management) system.

The documentation handed over beforehand was seen by the Municipality of Graz, checked for completeness and discussed in the framework of the on-site inspection with Magna as plant operator. Furthermore, all the necessary evidences were properly submitted, for which reason the Municipality of Graz graded the 2016 environmental inspection in its final report as faultless. The 2016 environmental inspection 2016 thus confirmed the outstanding operation of the established environmental and legal management system of Magna Steyr Fahrzeugtechnik AG & CO KG.





MARTIN ORASCH, HEAD OF THE OPERATING FACILITIES UNIT, CONSTRUCTION AND PLANT AUTHORITY OF THE CITY OF GRAZ, IN INTERVIEW WITH HERBERT BAUER, PUBLIC AUTHORITIES MANAGEMENT & FACTORY MODEL MAGNA STEYR

Extensive rebuilding and cooperative partnership with authorities:

# THE GRAZ LOCATION MAKES ITSELF FIT FOR THE FUTURE

To be suitably equipped for the upcoming production starts, extensive building activities have been carried out at Magna Steyr in Graz since 2015. The extent of this construction work is not only unique in the history of the location, even the appearance of the plant has been substantially changed. The successful implementation of the individual construction projects also demands a high degree of cooperative partnership with the responsible approval authorities, something guaranteed by Magna Steyr's own internal evaluation process.

Wherever you look, something is going on. Numerous scaffoldings, cranes and site fences have shaped the landscape of the Graz plant in the last few months. From summer 2015 to early 2017, new construction and rebuilding activities were taking place on some 20 sites. This represents an enormous enlargement of the built-up area of the Graz plant within the shortest possible time. Construction work was even carried out beyond the boundaries of the current plant premises, for instance a large production hall next to the parking ramp is emerging from which in the future body shells will be transported to the plant by trucks.

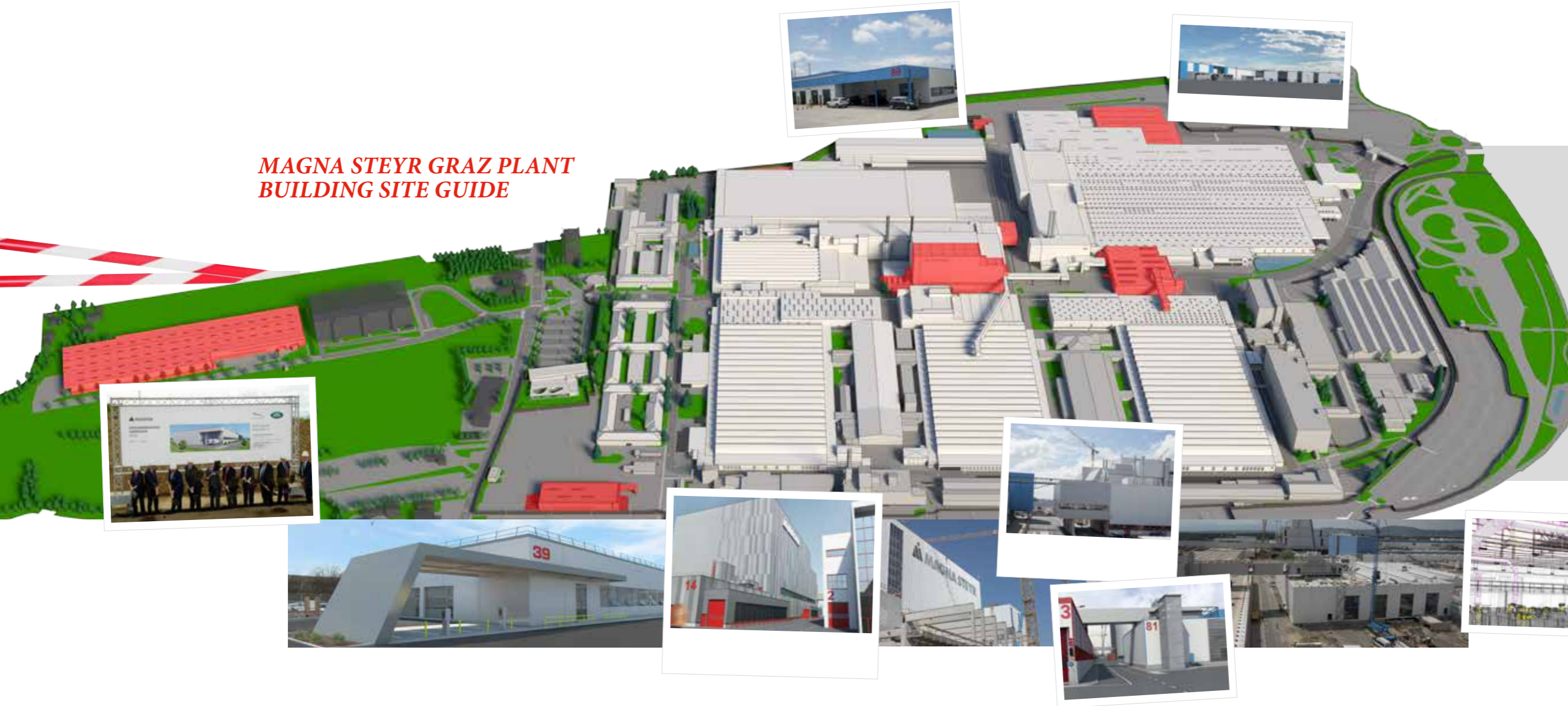
But changes were carried out even in the interiors of existing halls – these posed the biggest challenge. All this was performed during normal plant operation, where the high quality of each and every vehicle had to be ensured. This was a masterly achievement which could only be made possible through intensive preparations, digital planning and the awesome commitment of all those involved. The good cooperation of all those involved made it possible up to now for the building

projects to be completed on time and within their budgets. Good cooperation was or is of great importance – not only internally but also with those outside the company. In order to get the various approvals and permits from the relevant authorities on time, constructive work between the authorities and Magna Steyr as applicant was necessary. For proceedings under commercial law, this was achieved by regular preliminary project meetings and negotiations with the Construction and Plant Authority. Magna Steyr supported its position with its evaluation process for implementing proceedings with authorities – which had already been established under its compliance management – thus ensuring that the documentation to be submitted supported the demands and activities of the authorities accordingly.

Only with very well prepared, internally evaluated documentation for submission and involving representatives of the authorities at an early stage was it possible to achieve efficient negotiations and fast proceedings for



## MAGNA STEYR GRAZ PLANT BUILDING SITE GUIDE



### FACTS AND FIGURES

- +++ altogether about 20 building sites
- +++ approx. 70 companies were involved in the building work
- +++ the built-up area of the plant was enlarged by almost 32,000 m<sup>2</sup> – this is about the size of four and a half football fields
- +++ about 11,000 m<sup>3</sup> of concrete were processed
- +++ over 1,500 tons of steel were used
- +++ some 44,000 m<sup>3</sup> of soil was moved

the complex projects. Also in the phase after receipt of the approvals and permits, Magna Steyr cooperated with the public authority correctly and objectively to ensure fulfillment of various requirements of permits and statutory demands.

Only the combination of all these dedicated efforts before, during and after the extensive building work made it possible to offer the customers a generously expanded engineering and production location in Graz at the cutting edge of technology and at the same time to create new, attractive workplaces. In short: Magna Steyr is making the Graz location fit for the future.

**Mr. Orasch, how's the cooperation going and what do you value about the working method of Magna Steyr in the course of the preliminary project talks and negotiations?**

**Martin Orasch:** "From the point of view of the authorities, cooperation with Magna Steyr Fahrzeugtechnik AG & Co KG is going very well and efficiently. In the case of any open issues, the individual projects are discussed at a preliminary level and negotiated with very well organized documentation. If there are still any outstanding questions from the official experts, any uncertainties can be quickly resolved, and the permit issued in the shortest time possible. In this way, proceedings can be dealt with and completed as fast as possible."

**Last year numerous projects underwent an approval process at Magna Steyr. What were the most important prerequisites, from the point of view of the authorities, which made it possible for this large number of projects to be dealt with in the shortest possible procedural time span? What is the value of open dialogue, regular meetings with authorities and constructive cooperation in bringing about a smooth procedure?**

**Martin Orasch:** "The most important prerequisites for the multitude of carried out and completed projects were the acting persons and the very well prepared documents for the individual projects. On top of this, open questions could be resolved as fast as possible

and missing information could be submitted promptly later.

Only through open dialogue and regular meetings with the authorities can the overall view be kept with such a large company and huge number of changes; only then can the problems and unfinished proceedings be quickly resolved. That's why the monthly meetings are very valuable – where it's often discussed how changes can be efficiently implemented according to the law and regulations and approved."





*“An active dialogue with our local residents is very important for us. All phone calls and remarks are taken very seriously and followed up. Feedback to the findings is a matter of course for us. We strengthen our commitment to living together in partnership with our annual local residents’ Christmas party.”*

*Roman Pöltner, Director Facility Management*

Active communication with local residents and society as key to good neighborliness

## DOOR TO DOOR WITH AUTOMOBILE PRODUCTION

Dialogue with local residents plays a major role for Magna Steyr Graz. It is important to recognize perceptions from the neighborhood so that measures to correct any adverse circumstances can be initiated in a timely way. Having an open ear to the concerns of local residents is a very high priority for Magna Steyr.

Magna Steyr Graz has committed itself to keeping the company’s effects on the environment as low as possible and to constantly minimize them. For this reason the production location is obliged to constantly keep an eye on these effects (e.g. noise, odors, etc.) even beyond the physical boundaries of the premises. Information and perceptions of the local residents are very helpful in order to carry out an internal cause analysis efficiently and subsequently to find lasting and effective solutions. Remarks and concerns can be reported to the Safety Center or directly to Roman Pöltner, Director Facility Management.

The annual Christmas party is a permanent fixture in the calendar, and all the local residents are invited. During this event the guests are informed about current and future

happenings at the plant by Dr. Wolfgang Zitz, Site Management. The extensive building activities in and around the plant were reported in 2016. This event is the best platform for proactive communication and is ideal for listening to the concerns of the neighbors and discussing them.

*“AS NEIGHBORS WE ARE REGULARLY INFORMED ABOUT NEWS AND ANY CHANGES BY THE COMPANY. WE FEEL UNDERSTOOD AND TAKEN SERIOUSLY IN ALL OUR CONCERNS.”*

*Karin and Rudolf Kadlecik, local residents*





*"EACH EMPLOYEE IS AN IMPORTANT PART OF MAGNA'S SECURITY STRATEGY. IRRESPECTIVE OF AREA OF RESPONSIBILITY AND LEVEL OF HIERARCHY, WE ALL HAVE THE SAME RESPONSIBILITY: NAMELY, THE PROTECTION OF THE BUSINESS AND TRADE SECRETS ENTRUSTED TO US."*  
*Bernhard Gupper,  
 Group Security Manager  
 Magna Steyr*

The Magna Steyr Information Security Campaign for increasing the security awareness of every employee

# INFORMATION SECURITY CONCERNS US ALL!

Information and know-how are the backbone of each company and a decisive competitive factor. For this reason information security has highest priority at Magna Steyr. In 2016 Magna Steyr's Group Security Management kicked off a global training initiative with the objective of strengthening the security awareness of employees in order to better protect valuable data and confidential information of Magna Steyr and its customers. Practical training sessions showed us the right way of dealing with phishing mails, hoaxes and social engineering, etc.

Together with their customers, Magna Steyr employees work on the technologies of tomorrow, which means they have to deal with sensitive information on an every day basis which has been entrusted to them by customers and partners. It is Magna Steyr's duty to treat this knowledge with care and to protect it from misuse. Each one of us has to carry this out.

"Information security concerns us all!" is the slogan of the training initiative: it was translated into nine languages and carried out worldwide at all Magna Steyr locations. In the course of the year, round about 20,000 online training sessions at computer workstations and some 11,000 personal training sessions

with supervisors familiarized the workforce with topics of security awareness, social engineering, mobile security and travel security.

In addition to fundamental knowledge, the training sessions also imparted rules of conduct and tips to help deal with information securely. For instance, accompanying external visitors on the company premises, the right behavior in social networks, and dealing with mobile IT devices in a secure way. Regular intranet clips and comics which demonstrate numerous do's and don'ts in a humorous way in the daily work routine were included in the communicative measures of the information security initiative.





# APPENDIX

# ENVIRONMENTAL ACHIEVEMENTS IN 2016

NO.	OBJECTIVE	MEASURES	FULFILL- MENT IN %	RESPONSIBLE AREA
<b>Material consumption</b>				
5	Reduction of paint consumption in interior painting in top coat line 3 by 10 % and improvement of the grade of application efficiency	Installation of an automatic interior painting unit	100	Business Unit Painted Body
6	Reduction of paint consumption in top coat line 2 by 15 %	Savings in roof paintwork of contrast vehicles during first top coat run	100	Business Unit Painted Body
8	Presentation of concept maturity of lightweight-construction hybrid materials to enable a reduction of indirect environmental effects in the utilization phase of future customer products	Eco-design for metal-plastic hybrid construction techniques to improve recycling capability; creation of a comparable greenhouse-gas balance sheet (carbon footprint), lightweight construction by using intelligent material composites	100	Engineering Center Austria
9	Improvement of environmental compatibility and reduction of indirect environmental effects of three products with series effectiveness in 2016	Use of the Magna Steyr balance-code method and the Magna Steyr eco-design program to ensure material compliance; improvement of recycling capability and optimization of indoor air quality	100	Engineering Center Austria
<b>Energy consumption</b>				
14	Reduction of power demand in the operation of the roller test bench in Hall 12 by approx. 45 %	Attachment of automatic timers to the extractors of the pit roller test bench	100	Business Unit G
15	Reduction of heat loss (caused by ventilation) during operation of the roller test bench in Hall 12 by approx. 45 %	Attachment of automatic timers to the extractors of the pit roller test bench	100	Business Unit G
13	Reduction of compressed-air consumption in Hall 12 by 10 %	Shutting off compressed air on the manipulators (e.g. wheel assembly)	100	Business Unit G
16	Reduction of energy consumption by converting to non-compressed air drive technologies in Hall 82	Replacement of "compressed-air" drive technologies by other technologies (electric drive). Situation analysis, procurement, definition of exceptions (changeover to decentralized compressed-air production), dismantling the compressed-air pipes; NB: no evidence of financial savings for 2016, continuation as environmental objective in 2017	0	Business Unit H
17	Reduction of heating costs (reduction of energy costs) by optimizing the rolling doors and door air locks in Hall 82	Repair of old doors/air-lock control systems, replacement of rolling doors by better sealed sectional doors, and ensuring correct use	100	Business Unit H



NO.	OBJECTIVE	MEASURES	FULFILL- MENT IN %	RESPONSIBLE AREA
18	Test request regarding reduction of electrical energy consumption by installing solar-powered hot water system in Hall 84	Inspection of cost effectiveness and planning; structural implementation in 2017	100	Business Unit H
19	Reduction of electrical energy consumption and waste volume in Hall 82 and Hall 84	Execution of a continual improvement process campaign ("energy saving and waste avoidance")	100	Business Unit H
20	Reduction of energy consumption in the parts washing plant at the external locations at Köglerweg by 15 %	Renovation of the parts washing plant	100	Business Unit Painted Body
21	Reduction of electrical energy consumption for compressed-air production at the external locations at Köglerweg by 30 %	Renovation of the compressed-air supply and dryer	100	Business Unit Painted Body
22	Reduction of natural gas consumption in top coat line 3 by 10 %	Automation of interior painting using robots and resulting reduction of air-flow speed	100	Business Unit Painted Body
23	Reduction of electrical energy consumption in Hall 1 by 35 %	Conversion of lighting in Hall 1 to LED technology	100	Facility Management
24	Reduction of electrical energy consumption in Hall 2 by 35 %	Conversion of lighting in Hall 2 to LED technology	100	Facility Management
25	Reduction of heat energy consumption at the Graz location by 1,371 MWh	Restructuring of the plant-wide heating network into a room heating network and industrial heating network	100	Facility Management
26	Reduction of heat energy consumption in Hall 1 by 570 MWh	Interconnection of all heating facilities in Hall 1	100	Facility Management
27	Reduction of energy consumption by materials-management hall transport in Hall 82 by 290 MWh	Withdrawal of 30 forklift trucks and replacement by 15 electrical tugger trains including trailers	100	Supply Chain Management
<b>Air emissions</b>				
10	Eradication of noise and air pollutants regarding operation of the post vehicle at the Graz location	Replacement of fuel-driven post vehicle by an electrically powered vehicle; NB: not implemented for reasons of cost effectiveness – will be reconsidered at a later date	0	Facility Management
11	Inquiry into transport-relevant CO <sub>2</sub> emission by implementing a CO <sub>2</sub> reporting model for the Graz location	Acquisition of relevant baseline data for the calculation of the CO <sub>2</sub> emission of new projects	100	Supply Chain Management
12	Increase of truck capacity utilization in the case of direct and milk-run routes from 74 % to 79 % and associated CO <sub>2</sub> reduction	Adaptation of released quantities in terms of a transport-optimized released quantity in the course of the "Redesign LAB" project	30	Supply Chain Management

NO.	OBJECTIVE	MEASURES	FULFILL- MENT IN %	RESPONSIBLE AREA
<b>Waste generation</b>				
1	Fitting out all waste containers with sensors for identifying fill levels and place of installation in Hall 12 to reduce costs of waste disposal in Hall 12 by approx. 5 %	Fitting out all waste containers with sensors for identifying fill levels and place of installation in Hall 12; NB: no evidence of financial savings for 2016 since the conversion of the plant was only completed at the end of the year (continuation as environmental objective in 2017)	100	Business Unit G
2	Reduction of waste generation from circulation parts	Setup of a recycling collection point; collection of parts serving transport protection and transport safety, etc. and return to the transport process	100	Business Unit H
3	Changeover from the paint-sludge recovery process from method D to method R, thus raising the recycling quota (Project "Zero Waste")	Separation of paint sludge from the jute sack (after dewatering) for recycling	100	Business Unit Painted Body
4	Reduction of hazardous waste by lowering the amount of aerosol cans to be disposed of by 30 %	Installation refilling stations and standardization of the aerosol cans	71	Engineering Center Austria
<b>Miscellaneous</b>				
28	Increasing the knowledge of Magna Group-wide environmental guidelines, product environmental safety and material-compliance requirements in product development for 100 employees	Carrying out training courses on the mentioned topics	100	Engineering Center Austria
7	Integration of electrical drivetrains to enable reduction of exhaust emissions in the utilization phase of future xEV series vehicles	Creation of a high-voltage competence center including installation of innovative charging facilities for electric vehicles, expansion of training for the engineering team	100	Engineering Center Austria

The environmental achievements of 2015 are illustrated in the updated Performance Report with integrated Environmental Statement 2016.



# ENVIRONMENTAL PROGRAM FOR 2017

NO.	OBJECTIVE	MEASURE	IMPLEMENTATION DATE	RESPONSIBLE AREA
<b>Material consumption</b>				
1	Reduction of batteries used in the forklift-battery pool by 10 %	Efficient charging and efficient use of batteries by using a battery-charging management system	Mar. 2017	Supply Chain Management
<b>Energy consumption</b>				
2	Reduction of electrical energy consumption by installing solar-powered hot water system in Hall 84	Installation of a technologically innovative solar energy system (vacuum-tube collectors)	Feb. 2017	Business Unit H
3	Reduction of energy consumption by converting to non-compressed air drive technologies in Hall 82	Replacement of "compressed-air" drive technologies by other technologies (electric drive). Situation analysis, procurement, definition of exceptions (changeover to decentralized compressed-air production), dismantling the compressed-air pipes	Dec. 2017	Business Unit H
4	Reduction of heat energy consumption in Hall 1 by 24 %	Rebuilding of the ventilation plant for utilization of exhaust air for heat recovery	Dec. 2017	Business Unit J
5	Reduction of heat energy consumption in Hall 2 by 3 %	Insulation of the facade to lower heat loss through the building envelope	Dec. 2017	Business Unit J
6	Reduction of natural gas consumption in the dryers of the primer paint coat by approx. 5 %	Installation of a dynamic volume-flow lowering in the dryers	Dec. 2017	Business Unit Painted Body
7	Reduction of natural gas consumption in the dryers of the CDP (cathodic dip painting)-coat by 5 %	Installation of a dynamic volume-flow lowering in the dryers	Dec. 2017	Business Unit Painted Body
8	Increasing the knowledge of 16 employees regarding the development of more energy-efficient vehicles	Training courses on the topic of energy management	Apr. 2017	Engineering Center Austria
9	Reduction of heat energy consumption in Halls 10 and 13 by 5 %	Temperature reduction during the heating period by 2 Kelvin	May 2017	Engineering Center Austria
10	Reduction of heat energy consumption in Hall 20 by approx. 22 %	Recommissioning of the timer program for reducing the operating periods of the ventilation plant	Dec. 2017	Facility Management
11	Reduction of heat energy consumption in Hall 3 by 8 %	Joining up the heat-supply systems in a network for a needs-oriented heat supply	Dec. 2017	Facility Management
12	Reduction of heat energy consumption in Hall 82 by approx. 17 %	Conversion of exhaust-air fans from manual to automatic operation	Dec. 2017	Facility Management
13	Reduction of electrical energy consumption in Hall 82 by 5 %	Conversion of exhaust-air fans from manual to automatic operation	Dec. 2017	Facility Management
14	Reduction of electrical energy consumption in Hall 22 by approx. 5 %	Repair of free back-cooling	Dec. 2017	Facility Management

NO.	OBJECTIVE	MEASURE	IMPLEMENTATION DATE	RESPONSIBLE AREA
<b>Air emissions</b>				
15	Use of an electrically powered truck in the internal logistics system and associated CO <sub>2</sub> savings	Procurement of an electrically powered truck	May 2017	Supply Chain Management
<b>Waste generation</b>				
16	Increase in waste-separation discipline of employees in Business Unit G	Training 49 masters and team leaders regarding proper waste separation	Jun. 2017	Business Unit G
17	Reduction of costs for waste disposal in Hall 12 by approx. 5 %	Optimization of route planning and adaptation to the frequency of waste generation using data analysis	Dec. 2017	Business Unit G
18	Reduction of journeys with half-empty containers in waste logistics in Business Unit H	Optimization of route planning and the type and number of collection containers	Dec. 2017	Business Unit H
19	Reduction of waste generation from circulation parts	Inspection of the return of circulation parts to suppliers for the new product, for the purpose of transport protection and safety etc., deployment of collection stations	Aug. 2017	Business Unit H
20	Logistics-specific analysis to define concrete savings potentials in waste management of Business Unit	Detailed specification of planning data for waste generation and waste-management costs	Jul. 2017	Business Unit J
<b>Miscellaneous</b>				
21	Increase in environmental safety of handling hazardous materials	Installation of a new unloading platform in the north exterior of Hall 3 for the paint store in Hall 14	Dec. 2017	Business Unit Painted Body
22	Reduction of direct and indirect environmental effects at Engineering Center Austria	Carrying out 40 environmental and work-safety tours per year	Dec. 2017	Engineering Center Austria
23	Introduction of an environmental key performance indicator (EPI) at Engineering Center Austria	Definition of the key figure and reference basis for calculation, implementation in the product development process and training of employees on the topic of eco-design using an e-learning tool	Dec. 2017	Engineering Center Austria



## Environmental verifier's declaration on verification and validation activities

The undersigned, Dipl.-Ing. Peter Kroiss, Head of the EMAS – environmental verification organization of TÜV AUSTRIA CERT GMBH, 1230 Vienna, Deutschstraße 10, EMAS environmental verifier with registration number AT-V-0008, accredited for the

### Group 29.10 “Manufacture of vehicles”

declares to have subjected the Magna Steyr location to an environmental verification, as in the updated Environmental Statement of the following organizations

**Magna Steyr AG & Co KG**  
8041 Graz, Liebenauer Hauptstrasse 317

**Magna Steyr Fahrzeugtechnik AG & Co KG**  
8041 Graz, Liebenauer Hauptstrasse 317 and Köglerweg 50

**Magna Steyr Engineering AG & Co KG**  
8041 Graz, Liebenauer Hauptstrasse 317 and Puchstrasse 85

with the registration number AT-000159. All requirements of Regulation (EC) No 1221/2009 of the European Parliament and of the Council of 25 November 2009 on the voluntary participation of organizations in a Community Eco-Management and Audit Scheme (EMAS) have been fulfilled.

By signing this declaration, it is confirmed that:

- The verification and validation has been carried out in full compliance with the requirements of Regulation (EC) No 1221/2009.
- The outcome of the verification and validation confirms that there is no evidence of non-compliance with applicable legal requirements relating to the environment.
- The data and information of the consolidated environmental report of organizations Magna Steyr Graz reflect a reliable, credible and correct image of all the organizations activities, within the scope mentioned in the environmental report.

This document is not equivalent to EMAS registration. EMAS registration can only be granted by a competent body under Regulation (EC) No 1221/2009. This document shall not be used as a stand-alone piece of public communication.

Vienna, July 1<sup>st</sup>, 2017

Dipl.-Ing. Peter Kroiß  
Chief environmental verifier

# IMPRINT

## Magna Steyr AG & Co KG

Liebenauer Hauptstrasse 317  
8041 Graz  
Tel.: +43 (0)316 404 0  
office.magnasteyr@magna.com  
magnasteyr.com

## CONTACT PERSON

### Roman Pöltner

Line manager of the environmental  
management system  
Tel.: +43 (0)664 8840 2111  
roman.poeltner@magna.com

### Walter Gantner

Management system officer  
for environment  
Tel.: +43 (0)664 8840 2829  
walter.gantner@magna.com

For reasons of readability, the language in this report is gender neutral. In the spirit of equal gender treatment, all appropriate terms in this report apply to both sexes. Thank you for your understanding.

## IMPRINT

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Liebenauer Hauptstrasse 317, 8041 Graz, Tel.: +43 (0)316 404 0  
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Read the Performance Report with Integrated Environmental Statement 2017 as well as other previous versions online on the company website.  
Scan the QR code to get background information on the four topics of Business Performance, Environment, Social Responsibility and Compliance.





MAGNA STEYR GRAZ



Magna Steyr AG & Co KG

Liebenauer Hauptstrasse 317

8041 Graz

Tel.: +43 (0)316 404 0

[office.magnasteyr@magna.com](mailto:office.magnasteyr@magna.com)

[magnasteyr.com](http://magnasteyr.com)