

Our way.

Corporate Responsibility Report and Management Report
of the Messer Group GmbH 2015



Our way.

Corporate Responsibility Report and Management Report
of the Messer Group GmbH 2015

This report complies with the G4 Guidelines of the Global Reporting Initiative (GRI). The G4 standard labels in the margin reference the corresponding text to the relevant position in the GRI Content Index (pages 128 to 131).

An overview of the Messer Group

The Messer Group was originally founded in 1898 and is today the largest privately managed specialist for industrial, medical and specialty gases. Under the brand "Messer - Gases for Life", the Group has over 60 operating companies in 30 countries across Europe, Asia, Peru and Algeria. International activities are directed from its headquarters near Frankfurt am Main and the technical corporate functions, such as logistics, engineering and production as well as application technology are controlled from Krefeld. Stefan Messer, CEO and owner of the Messer Group, works together with the 5,354 employees according to set principles. These include a focus on customers and employees, acting responsibly, corporate responsibility, excellence, trust and respect. In 2015, the industrial gases specialist generated a consolidated turnover of 1.166 billion euros.

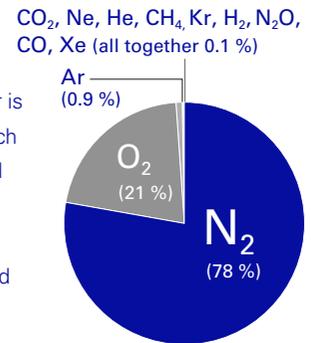
We make gases out of air

What are industrial gases?

Industrial operations require oxygen, nitrogen, argon, xenon, neon and krypton, along with carbon dioxide, acetylene, hydrogen and helium, and a wide variety of gas mixtures. At Messer we call these gases **Gases for Life**. They are produced in large-scale industrial plants and are just as important as water and electric power for many manufacturing processes which make everyday products.

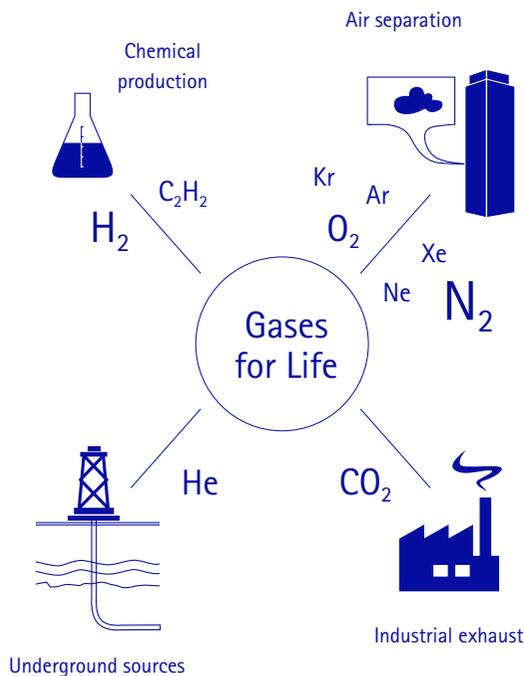
What is air?

What we generally refer to as air is a mixture of different gases which make up the atmosphere around our planet. For the most part, air consists of nitrogen and oxygen, plus a small quantity of argon and traces of other gases.



Where do they come from?

Oxygen, nitrogen, argon, xenon, neon and krypton are produced from the air. Carbon dioxide is primarily collected from the exhaust of industrial operations and cleaned. In some cases it is also produced from natural underground sources. Hydrogen and acetylene are produced chemically. Helium is produced from underground sources.



How are gases produced from air?

In order to produce these gases, we use air separation units which can reach 60 metres high or more. Inside them, a physical process takes place which separates the air into its components. This process, which is also known as low-temperature rectification, basically works as follows:

Air is

- filtered (dust is removed) and compressed to about six bars
- pre-chilled with cooling water
- dried and stripped of all CO₂ in a molecular sieve
- cooled below -175 degrees Celsius and liquefied in the main heat exchanger
- separated into liquid or gaseous oxygen and nitrogen in a separation column
- also separated into liquid argon

The gases are stored in tanks in liquid form.



How do Gases for Life reach the customer?

In smaller quantities, gases are stored in gas cylinders. When industrial gases are needed in large quantities, we install tanks at our customer's plant. These tanks are used to store gases such as oxygen, nitrogen, argon or CO₂ in liquid form. Road tankers are used to transport the gas from the production plants to the customer.

Major industrial concerns such as steel works or chemical companies need so much gas that they often have an air separation unit operating on their grounds. Sometimes pipelines also supply gases to one or more major facilities, such as in industrial parks.

The greater the quantity of gases a consumer needs, the shorter the distance should be between the customer's site and the location where the gases are being produced. Generally speaking, gases are produced where they are needed: close to densely developed industrial areas.

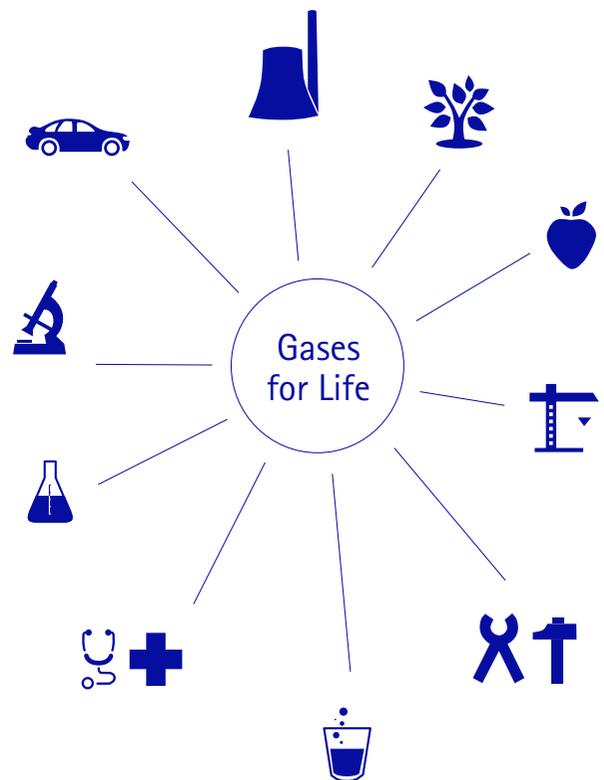


Who needs Gases for Life?

Industrial gases are used in a variety of purity grades and for a wide range of purposes. Including as food gases and medical gases.

Industrial gases can make production processes safer and more cost-effective and improve product quality. They often contribute to environmental protection. Some processes and applications would even be inconceivable without the chemical properties of gases.

Typical user sectors include the automotive industry, the steel industry, environmental engineering, food and beverages, construction, metallurgy, glass and ceramics, medicine and pharmaceuticals, the chemical industry, and research and development.

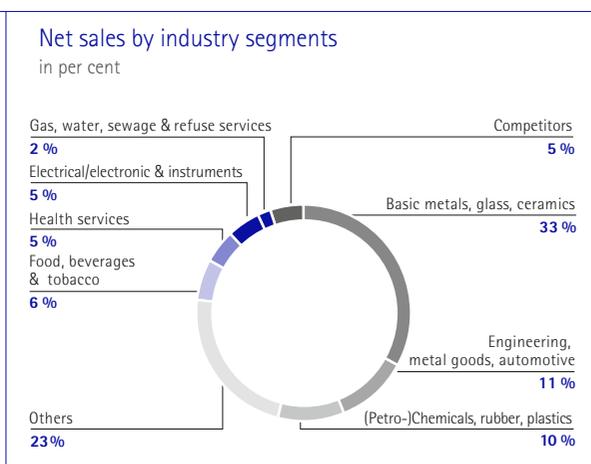
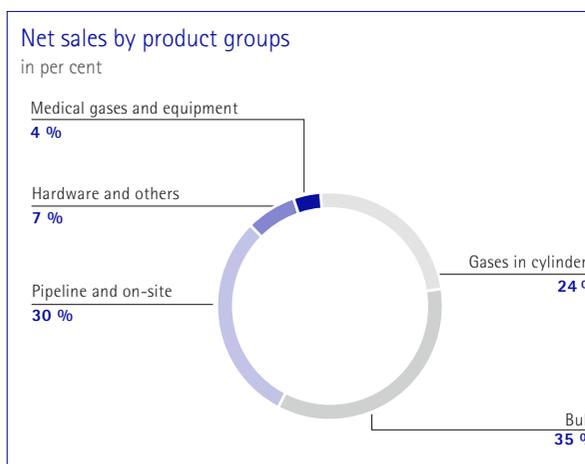
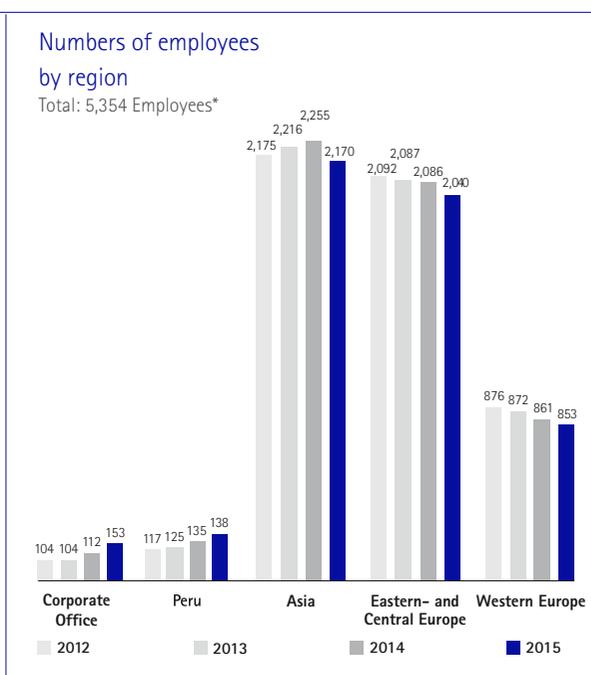
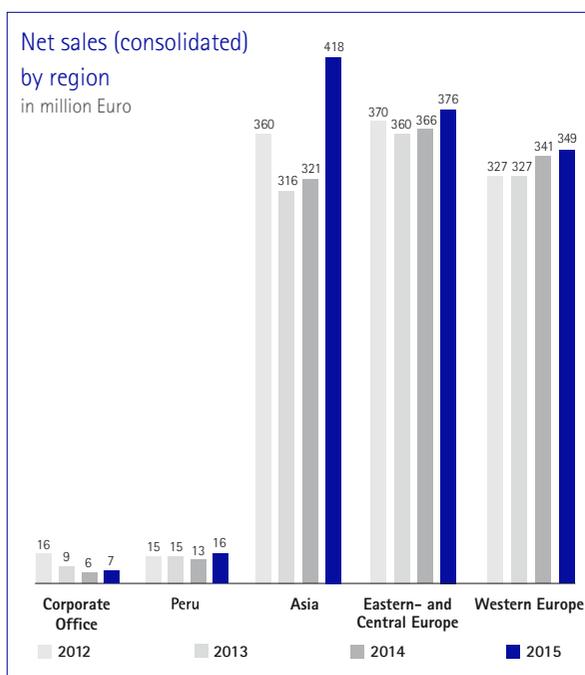


Key figures of the Messer Group at a glance

As of 31.12.2015

		2012	2013	2014	2015
Net sales	in million Euro	1,088	1,027	1,047	1,166
EBITDA	in million Euro	237	231	241	252
EBITDA margin	in per cent	22	23	23	22
Investments	in million Euro**	184	197	205	142
Employees*		5,364	5,404	5,449	5,354

* contractual employments ** incl. IFRIC4



Contents

An overview of the Messer Group	3
We make gases out of air	4
Key figures of the Messer Group at a glance	6
Our way.	9
Our way: sustainable growth, targeted investment, responsible behaviour	10
Foreword by Stefan Messer	13
Management Board and Supervisory Board of the Messer Group	16
Supervisory Board Report	17
Corporate Responsibility Report of the Messer Group GmbH	19
Commitment to sustainability	21
Materiality matrix	23
Corporate responsibility	24
Values	26
Mission Statement	31
Employees	42
Economy and company	60
Safety	76
Environmental and climate protection	84
Customers and markets	98
Society	118
GRI Content Index	128
Group Management Report of the Messer Group GmbH	133
General Information on the Group	138
Report on economic position	148
Events after the end of the reporting period	157
Outlook	158
Opportunities report	161
Risk report	162
Risk management	166
Consolidated Balance Sheet	170
Consolidated Income Statement	171
Consolidated Cash flow Statement	172
Messer World	174
The Messer Group worldwide	182
Imprint	183



Our way.

In 2015, hundreds of our colleagues from throughout the Messer Group posed in front of the camera. The occasion was our first ever global "Employees' Day". T-shirts bearing the core statement of our employer branding, "This is Messer. This is our way", were specially made for the event. I am especially pleased about this clear message and the associated commitment to our company.

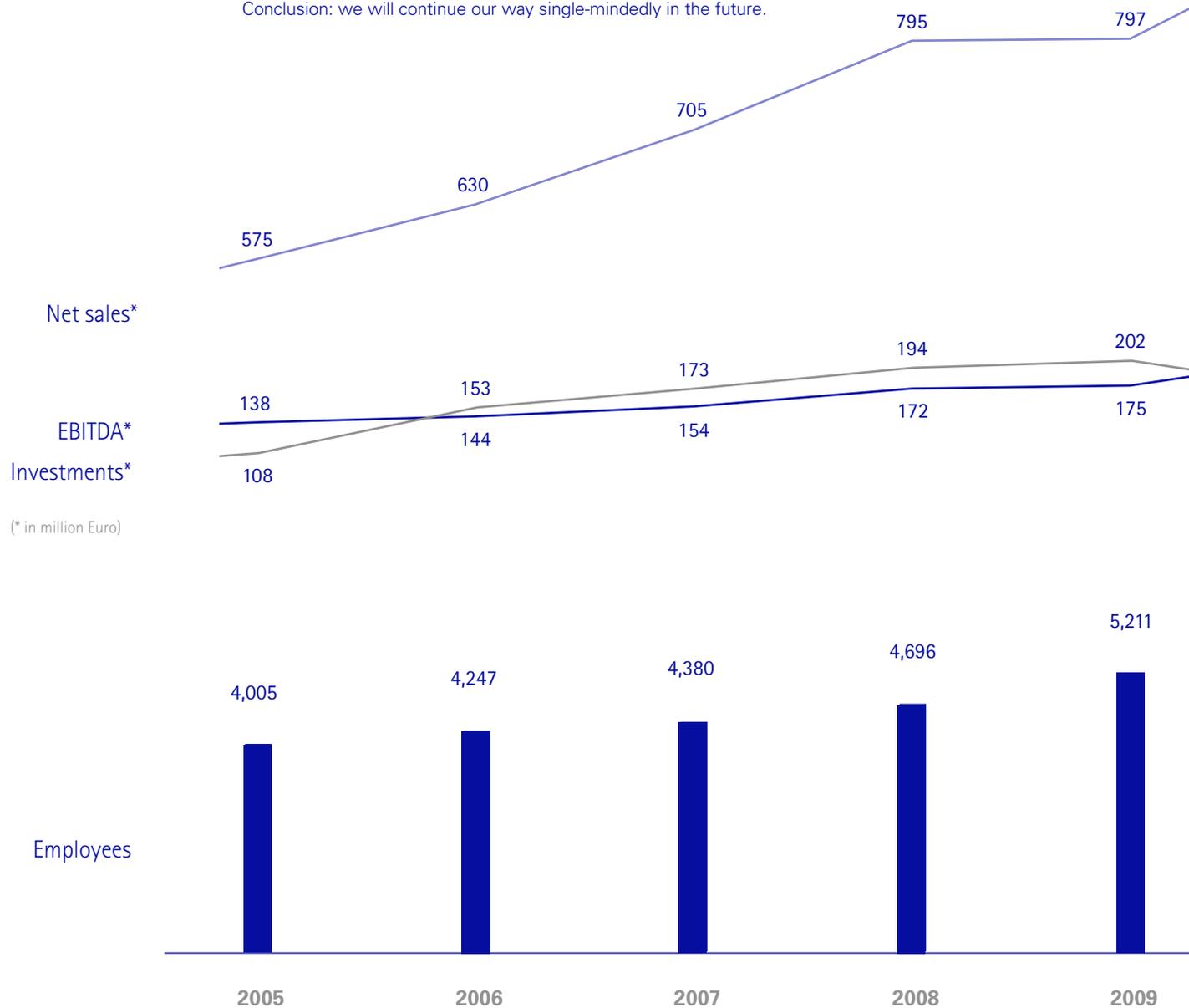
I am convinced that we have the right team in place to continue along the same path, both now and in the future, that has brought us so far already – our way. The financial year 2015 was a good one for the companies that make up the Messer world. We achieved nearly every one of our economic goals – many spot on; some, we even exceeded. This is something of which we are proud, and I would like to take this opportunity to thank the people who made an important contribution to this result through their hard work and commitment: our employees. Thanks to their knowledge, their experience, their motivation and their team spirit, they each form an important link in the value creation chain of our business. They represent that which characterises Messer as an employer together with its brand and the culture of a family company.

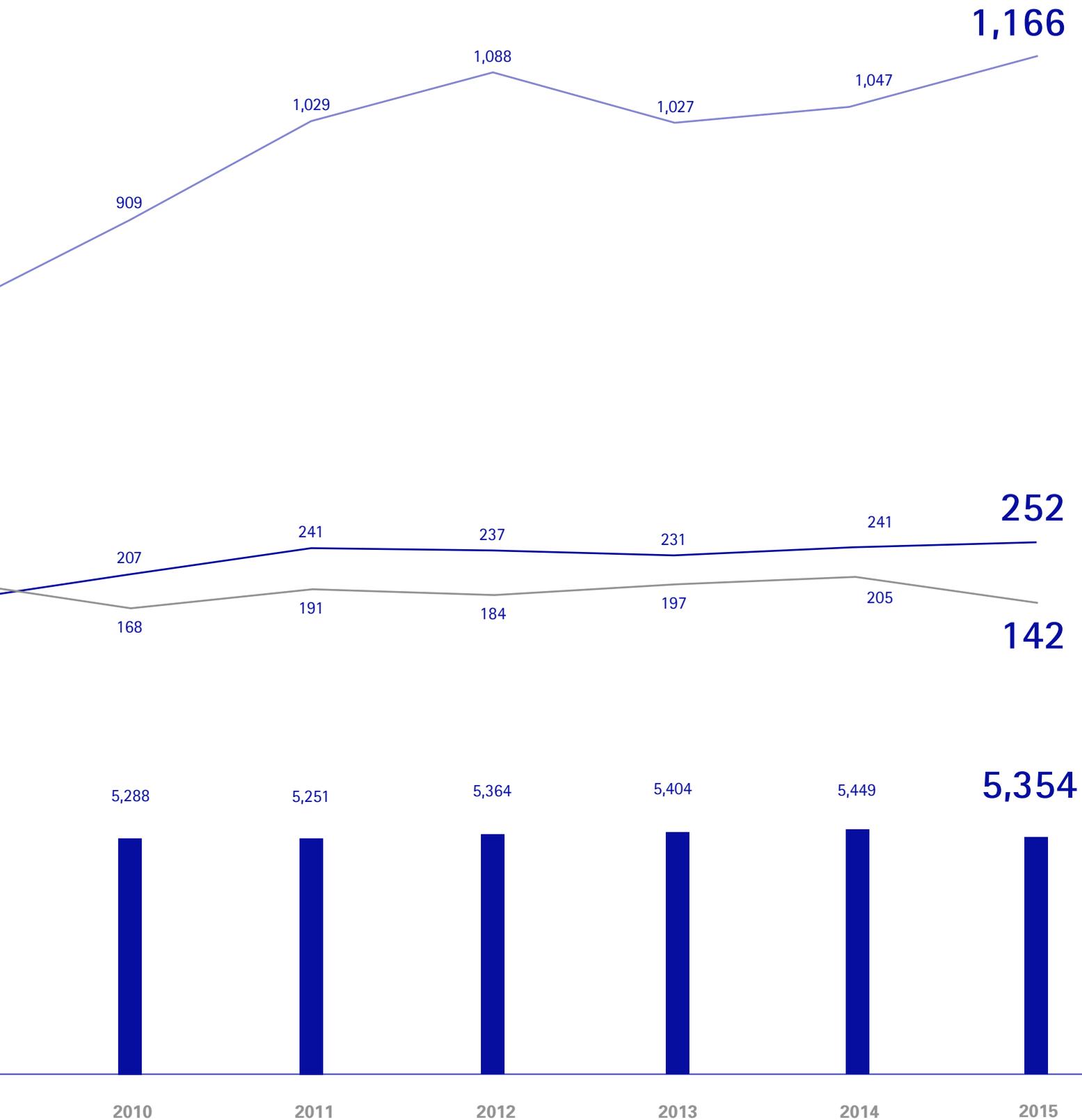
Stefan Messer, Bad Soden in the spring of 2016

Our way: sustainable growth, targeted investment, responsible behaviour

If you look at our company's business figures over the past few years, three things become clear: Firstly – our growth is steady rather than rapid. In other words, we focus on achieving sustained success rather than short-term effects. Secondly – we have invested heavily in the future of our company. This particularly applies to security of supply. We have now reached a very good level in this regard. Thirdly – we are achieving this growth thanks to our employees. They are the most important factor in our economic success.

Conclusion: we will continue our way single-mindedly in the future.







As owner and CEO of the largest owner-managed industrial gases specialist, Stefan Messer has been the driving force behind the strategies adopted for the future.

Dear Readers,

2015 was a year in which much happened and that saw our world become embroiled in a great many political conflicts.

The annexation of the Crimea by Russia, civil wars in Afghanistan, Syria and Iraq as well as the Islamic terror being perpetrated by ISIS and Boko Haram have cost many thousands of innocent lives.

The brutal attacks in Paris in November 2015 that claimed 130 lives shook Europe's liberal values to their core. France's President Hollande declared war on Islamic terror and forged world-wide military alliances with the purpose of destroying the "Islamic State" terror militia.

Nearly 60 million people around the world are fleeing their homeland in search of a better life. Europe is still unable to cope with the flood of arriving refugees. Our population is rendering exemplary assistance. One of the most important tasks in the coming years will be to quickly and successfully integrate the new arrivals into German society.

Compared with these intractable political conflicts and refugee problems, the financial crisis in Greece seemed rather harmless, though detrimental to the stability of the European single currency.

Despite all these negative developments, the global economy still grew by over three per cent in 2015, with Europe recording a moderate rise in growth of 1.7 per cent and North America of around 2.8 per cent. The developing countries in Asia were still the main growth engines, whereby the strong growth enjoyed by China in recent years slowed. Industrial companies are increasingly moving to Southeast Asia where wages are still comparatively low. The service industry is growing at a disproportionate rate and determining the process of change in the Chinese economy.

The future now lies in the ten Southeast Asiatic countries that have united to form the ASEAN Union (Association of South East Asian Nations). Over 600 million people live here and generate a gross domestic product (GDP) of USD 2.3 trillion or USD 3,745 per head. In comparison with the European Union, there is a great deal of catch-up potential that is still to be tapped.

Our company is following this trend, and so began construction of a third air separation plant in Vietnam. We also succeeded in concluding a long-term on-site contract with Samsung for a nitrogen generator to supply a new smartphone factory near Hanoi. Both plants will go on stream in 2016.

In order to develop the markets in the other ASEAN countries, we have established an office and a consulting firm in Singapore. We already have a number of specific projects ongoing in Indonesia, the Philippines, Malaysia and Thailand upon which I will be in a position to report at the end of 2016.

Our diversification strategy for China was successfully pursued in 2015 with the commissioning of two CO₂ plants in Chengdu and Kunming, a new specialty gases plant in Suzhou and a krypton and xenon production facility in Panzhihua. A new air separation plant went into operation in Panzhihua and further production facilities are currently under construction in the provinces of Zhejiang, Jiangsu and Hunan. A gas bottling facility in Changsha should strengthen our cylinder gas business in China.

Following the substantial investments made in recent years, we now need to fully exploit the capacity of the existing plants in China and operate them profitably.

Application engineering plays a pivotal role here and, with the help of our European colleagues, we have already managed to win a number of major customers for liquid gases in the metallurgy sector.

Despite the current economic slowdown in China, we still see sufficient potential to successfully grow our business there over the coming years.

There were great disparities to be seen in the business trend in the European countries. Above average economic growth was experienced in Poland and the Baltic states, from which our national subsidiaries there also benefited. Growth in Western Europe was rather subdued, however.

We commissioned new plants in Estonia, Poland and Serbia. Additional plants are under construction in Slovenia, Belgium (CO₂) and Hungary. We also further expanded our filling plant for cylinder gas in Siegen.

As part of an ongoing consolidation of the European industry, we reached agreement in 2015 with our competitor Air Liquide on a country swap. We sold our holding company in Turkey and are acquiring in return Air Liquide's holding company in Hungary.

The country swap that was agreed upon in 2014 with Praxair in France and Italy has already been concluded and will lead to synergies with Messer France this year.

The economic weakness in the global market has had a greater impact on our sister company, Messer Eutectic Castolin. The decline in oil prices has led to a global reduction in contracts for repair and maintenance work in the field of oil and gas exploration, an important sector for Castolin Eutectic.

Following the successful commissioning of our new Castolin facilities in Japan, Poland, Mexico, Dubai, Thailand, Singapore and Dalian, China in 2014, we are now hoping for a higher degree of utilisation in 2016. The new technologies we acquired through the purchase last year of Whertec and Monitor have been rolled out on a wider international basis over the course of this past year.

Boiler coatings and wear plates are the strategically important fields that we will continue to push in 2016.

In summer, Messer Cutting Systems celebrated the twentieth anniversary of its factory in Kunshan (China). At the same time, a new production building for laser cutting machines went into operation in Kunshan.

Our cutting machines factory in India achieved a gratifying level of growth.

Our third division for diagnostic devices has signed contractual agreements to set up a new joint venture in China. The new enterprise, involving BIT and the Chinese medical devices company EDAN, is set to start manufacturing haematology instruments for the Chinese market in 2016. We expect it to enjoy above average growth over the coming years.

All in all, we can be very satisfied with the way Messer developed during 2015, although growth has slowed noticeably. For this reason, we are somewhat cautious in our outlook, although we did develop many ideas for the sound growth of the group at our management conference in autumn which will be implemented during 2016.

Loyal customers and employees remain the cornerstones of our success.

I therefore ask that you continue to give us your support and help Messer move forward in a difficult market.

I thank you for your partnership, friendship and your confidence.

Yours,

A handwritten signature in blue ink, appearing to read 'Stefan Messer', written in a cursive style.

Stefan Messer

Management Board and Supervisory Board of the Messer Group

Since the founding of the Messer Group in 2004, the Management Board has been supported by a supervisory board which assists with strategic decision making and always demands sustainable measures in addition to business success. The members of our Supervisory Board are considered to be experts in conducting business and always bring their experience to bear in a constructive manner. As such, they are reliable partners to the Messer family and the managing directors.



Dr. Karl-Gerhard Seifert

Dr. Werner Breuers

Peter Wilhelm Storm
van's Gravesande

Dr. Bodo Lüttge

Dr. Nathalie
von Siemens

Dr. Jürgen Heraeus

Stefan Messer

Dr. Hans-Gerd Wienands

Supervisory Board of the Messer Group:

Dr. Jürgen Heraeus, Chairman
Dr. Werner Breuers
Dr. Bodo Lüttge
Dr. Karl-Gerhard Seifert
Dr. Nathalie von Siemens
Peter Wilhelm Storm van's Gravesande

Management Board of the Messer Group:

Stefan Messer, Chief Executive Officer
Dr. Hans-Gerd Wienands, Chief Financial Officer
Dr. Uwe Bechtolf, Executive Vice President
Controlling/Accounting & Strategy
Johann Ringhofer, Executive Vice President
Engineering & Production
Adolf Walth, Executive Vice President
Sales & Marketing

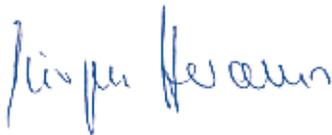
G4-33

Supervisory Board Report

The Supervisory Board performed the tasks incumbent upon it in accordance with the statutory provisions and the articles of association and provided support and advice to the Management Board during the reporting period in question. The Management Board reported to the Supervisory Board, both verbally and in writing, on the performance and situation of the Company within the course of regularly scheduled meetings on the 23rd of April 2015 and the 5th of November 2015. Furthermore, the Supervisory Board was informed about important business transactions and decisions. Legal transactions requiring the Board's approval were submitted to the Board for its decision. The Supervisory Board has satisfied itself in the plenum that the bookkeeping, the annual financial statement of the Messer Group GmbH and the Group accounts for the year ending December 31, 2015, as well as the management report of the Messer Group GmbH and the Messer Group, had been audited and certified with no provisos by the auditing company KPMG AG Wirtschaftsprüfungsgesellschaft, Essen. The audit reports were discussed at the Supervisory Board meeting held on the 7th of April 2016 with the assistance of the auditors. The Supervisory Board had no objections and expressed its agreement with the auditors' verdict.

The Supervisory Board would like to thank the Management Board as well as all employees of the Messer Group for their commitment and successful work during the 2015 financial year.

Bad Soden, 7th of April 2016
Supervisory Board



Dr. Jürgen Heraeus, Chairman

Corporate Responsibility Report

of the Messer Group GmbH 2015



Stefan Messer

Dr. Hans-Gerd Wienands

Commitment to sustainability

G4-1

The Management of Messer Group GmbH is committed to acting in a responsible and sustainable manner as part of its economic and social involvement into society.

Stefan Messer, owner and Chief Executive Officer:

“We recognise and accept our social responsibility towards our employees and society in different areas: the safety of our employees, customers and partners when using our products is our number one priority. We are also committed to protecting our environment and climate by constantly improving our processes and focusing our development on technologies that make our customers’ production processes more efficient and resourcefriendly. Messer has a presence in thirty-one countries. We respect the cultural differences as well as rights in the regions in which we operate. We contribute to community life and education in these regions through the provision of wide-ranging support.”

Dr. Hans-Gerd Wienands, Chief Financial Officer:

“We conduct our business on a sustainable basis and guarantee our autonomy and independence through forward-looking investments. This enhances our customers’ and financial partners’ confidence in us and gives our employees long-term security. We operate with maximum transparency vis-à-vis our stakeholders. Responsible behaviour is an important factor when choosing a business partner. We take this into account by viewing corporate responsibility as a strategic matter and integrating it into our processes.”

G4-15 Strategic integration of corporate responsibility

The key themes concerning our responsibility in the economic and social spheres are derived from our own objectives, traditions and innovations as well as from general standards. The core areas are our values as a company, our customers and the markets in which we operate, climate and environmental protection, safety, our employees and society.

Since Messer Group GmbH was founded, we have been pursuing long-term objectives to take the company forward on an independent and profitable footing. We have always observed the principles of the "honourable businessman", acting responsibly with regard to our place in society. Our corporate responsibility has been strategically embedded in our processes since 2014 through the cross-divisional Corporate Responsibility function. We have set ourselves measurable goals in the different business units to document our improvements and development. We are publishing these goals in this Corporate Responsibility Report for the 2015 financial year, which features extensive comparisons with the results achieved in 2014. In future, we will carry out transparent comparisons of these key performance indicators and let our stakeholders judge us on them.

In this context, we support our customers' aim of checking and ensuring the sustainability of their own activities and supply chains. At our customers' request we therefore also report to contracted third parties, e.g. Ecovadis or the 'Carbon Disclosure Project' and the chemical industry's worldwide "Responsible Care" initiative.

G4-18, G4-20, G4-21, G4-26, G4-27 Generation of our materiality matrix

The key issues we address in our strategic sustainability process are the product of our daily and long-term actions and activities. When evaluating these topics, we consider it important to include representatives of all stakeholder groups. For this reason, we have compiled a diverse list comprising 77 individual topics within the categories of environment/climate protection, economy/business, values, products/services/markets, safety, information/data protection, customers, employees, society and suppliers. In order to differentiate the priorities of our internal stakeholder groups, such as owners, management and employees, around nine per cent of the workforce (approximately 550 employees) voluntarily completed an anonymous online survey where they ranked the topics on a scale of one to ten, with one being important and ten extremely important.

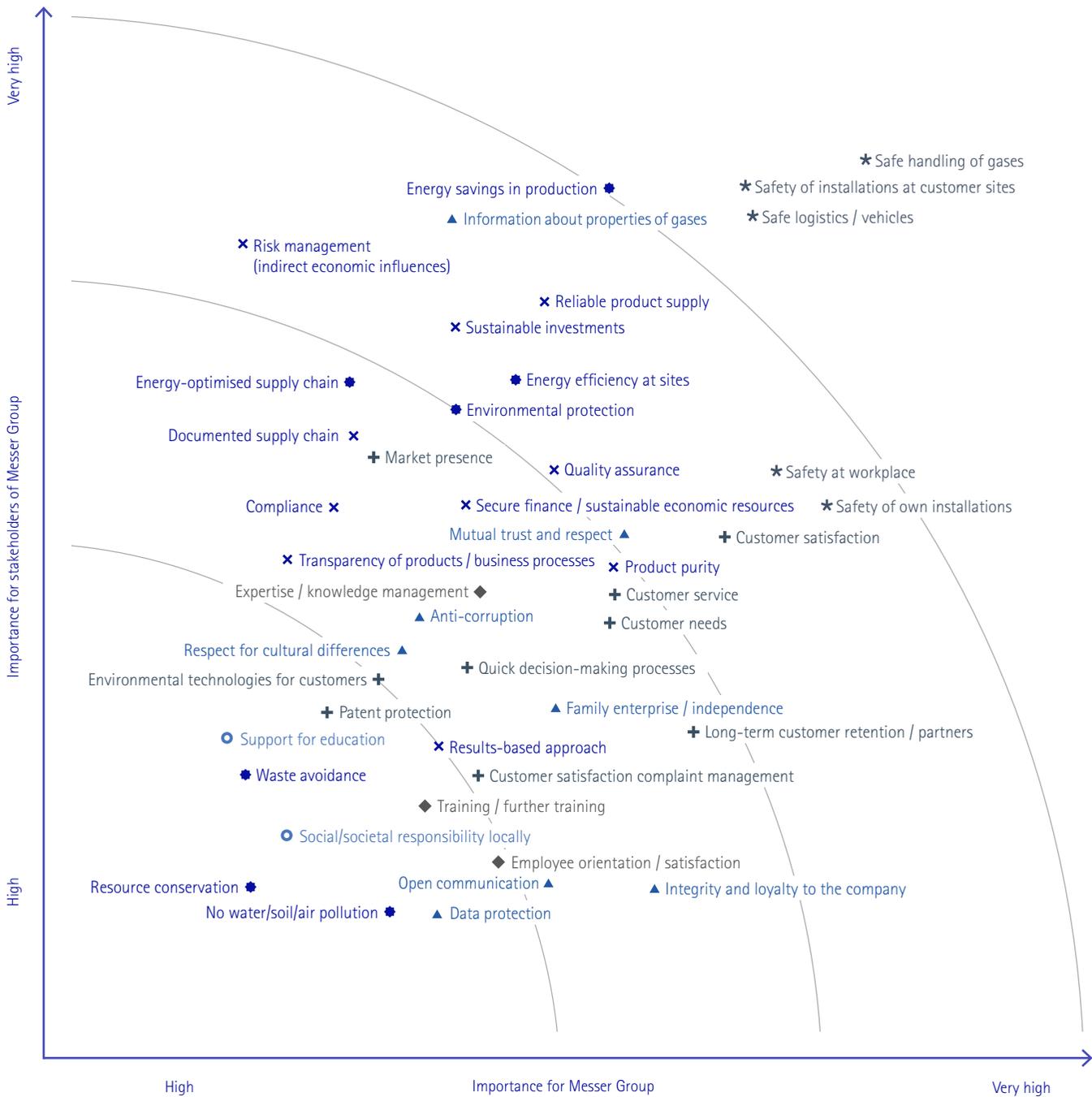
We also evaluated nearly 23,000 customer opinions from the latest customer survey and included the information in our analysis. The anonymous online survey was also completed by selected journalists.

Compared with the materiality matrix that we created for the 2014 Sustainability Report, the number of topics ranked as of "high importance" has increased by seven - in 2014 there were 37 in total. This difference is the result of four individual topics being dropped from the 2014 materiality matrix and eleven new ones being added in 2015. The safety of our customers and employees remains of utmost importance for our company. Protection of the environment and climate was attributed more importance this year.

All important issues can be affected by our decisions and can have potential effects on stakeholders outside the organisation too. For this reason, all major projects, both in-house and external to the organisation, are relevant.

Materiality matrix

G4-19



- ▲ Values
- Environmental and climate protection
- ◆ Employees
- Society
- ✕ Economy and business
- ★ Safety
- + Customers and markets

Customer and employee orientation, responsible behaviour, corporate responsibility as well as open communication, trust and respect: all of these are embedded in the Messer Group's mission statement. Shortly after bringing all of the company's shares back into family ownership in 2004, Stefan Messer personally drove forward a discussion of values, which led to a company-wide vision and mission as well as the formulation of the company's values. Ever since the foundation of the Messer Group, we have acted sustainably to meet the needs of our customers in accordance with our collective responsibility for people, progress and the environment. In order to make these values and the corresponding developments measurable and comparable, Messer introduced Key Performance Indicators (KPI) for the first time in 2014. The following twelve key topics are relevant for every Group company:

	Unit	2014	2015
1. Safety of our employees			
Number of Lost Time Injuries (Messer employees)	persons	18	22
Lost Time Injury Frequency Rate - LTI FR (Messer employees lost time injuries)	per million working hours	1.7	2.2
Lost Time Injury Severity Rate - LTI SR (Messer employees lost days)	per million working hours	47.9	65.1
Number of Recordable Working Injuries - RWIs (Messer Employees)	number	36	87
Recordable Working Injury Frequency Rate - RWI FR	per million working hours	3.5	8.8
Fatalities (Messer employees)	persons	0	0
2. Safety of our logistics			
Cylinder fleet: Number of preventable incidents	number	11	14
Cylinder fleet: Frequency Rate (Number of preventable incidents)	per million driven kilometres	0.49	0.62
Bulk Fleet: Number of preventable incidents	number	14	29
Bulk Fleet: Frequency Rate (Number of preventable incidents)	per million driven kilometres	0.30	0.51
3. Safety of our customers			
Total number of customer installations (Messer owned)	number	6,644	7,853
Number of technical reviews of customer installations	number	7,553	8,800
Ratio: Number of technical reviews / Number of Messer owned customer installations	number	1.14	1.08
Number of safety audits at customer sites with Messer's installations	number	1,199	1,522
Ratio: Number of safety audits at customer sites / number of Messer owned customer installations	number	0.18	0.19
Number of safety trainings provided to customers at any customer site	number	1,697	2,036
Total number of customer training participants	persons	3,841	3,410

	Unit	2014	2015
4. Mutual trust and respect			
Number of cases reported in respect to discrimination	number	0	1
5. Energy efficiency in production			
Specific power (energy consumption in relation to sold product)	kWh	1.3557	1.3760
6. Open communication and cooperation with stakeholders			
Media resonance analysis: Gross coverage	persons	43,498,814	45,240,238
Brand awareness (Germany)	per cent	10.7	12.6
7. Protection of the environment			
CO ₂ Footprint of plants and logistic	million tons of CO ₂ e	2.67	2.85
Specific CO ₂ Footprint of plants and logistic	million tons of CO ₂ e / '000EUR	2.55	2.44
Number of production / filling companies in EU certified to ISO 14001	number	16	19
Number of new customer installations (bulk) for applications which protect the environment	number	169	204
8. Independence of our family-run company			
Net Debt/EBITDA-Ratio	number	1.84	1.74
EBITDA/Sales-Ratio	per cent	23.0	21.6
9. Customer satisfaction			
Number of participants in customer satisfaction surveys across the Group	persons	2,041	2,167
Per centage of credit notes in relation to number of invoices issued	per cent	3.2	0.8
10. Employee satisfaction			
Average length of service	years	9.7	11
Staff turnover rate	per cent	9.0	8.0
Sick days per employee	persons	2.96	3.9
11. Employee development			
Expenditures on training programs per employee	Euro	207	214
Training days per employee	days	3.61	3.48
Apprentices and trainees in total workforce	persons	85	56
12. Compliance			
Inquiries submitted to the "Ask us help desk"	Compliance cases reported	2	2

Our way: acting in a credible and transparent manner.





Stefan Messer:
"Transparency and trust are the basis for teamwork."



STEFAN MESSER |
Chief Executive Officer

"The term "corporate values" stands for the idealistic code of practice on which a company bases its day-to-day dealings in the markets, with its employees and as part of society. The term "values" can be taken quite literally here. Acting in a credible and transparent manner promotes a positive image and facilitates cooperation. It fosters mutual trust between co-workers, customers and business partners, and in doing so, creates the foundation on which economic success is built.

As owner of the Messer Group, I represent our interests in many organisations and associations. These range from various industry and trade associations, educational institutes, business groups and advisory boards up to organisations for international co-operation. For me, it's about promoting an exchange of experience from which all sides profit. I foster this exchange with the media as well. The importance of a company enjoying a good reputation in the eyes of the public is frequently underestimated by company leaders – at least until it suffers a loss of image due to unethical business practices, which can cause the business untold economic harm.

We communicate our corporate strategy to all our employees via every communication channel that is available to us. We do this not only to keep those who work for and are interested in Messer informed, but to involve each and every one of them in the success of the company. For us, this is the basis for dedicated, responsible teamwork."



MESSER FRANCE, France

Our values

Messer consistently aligns all its actions to a specific set of values.

The Company Mission Statement

The strategy followed by the Messer Group is based on the Company Mission Statement, which consists of a vision, a mission and six corporate values: a focus on customers and employees, acting responsibly, corporate responsibility as well as open communication and trust and respect are all firmly rooted in our mission statement. Every one of the Messer Group's subsidiaries has incorporated vision, mission, values and strategic guidelines into its business and implemented its own measures for applying the guidelines intended to assure business success on different levels. Our policy of acting sustainably is informed by the needs of our customers and based on our collective responsibility towards our fellow human beings, the environment and progress.

Just as they were for Adolf Messer, who founded the company in Frankfurt am Main back in 1898, long-term independence, excellence in our products, research and development, an entrepreneurial attitude at all levels including the workforce and a sense of social responsibility towards human beings and the environment are again important cornerstones of business success today.

Immediately after all the parts of the company were returned to family ownership in 2004, Stefan Messer personally instigated a discussion on values which culminated in a group-wide vision and mission, together with the formulation of the corporate values. Eleven years ago, a working group composed of ten members of senior management from different countries developed the mission statement, which also reflected the expectations of employees. This led to the formal signing of the "Contract of Dubrovnik" in a ceremony at a management conference in the Croatian city of Dubrovnik in 2005. Since then, thanks to numerous measures and fruitful dialogue within the company, the Messer Group's mission statement has spread to every corner of the organisation and serves as a declaration of our intent in the eyes of both customers and the general public. Who are we, how do we see ourselves, what are we aiming to achieve and what are our supporting values? These questions are answered by our mission statement.

It can be summarised as follows:

Messer is an independent, owner-managed family company specialising in industrial gases with a focus on the European and Chinese markets.

Our policy of acting sustainably is informed by the needs of our customers and based on our collective responsibility towards our fellow human beings, the environment and progress.

Mission Statement

Our vision

Messer is an important industrial gases group in its core markets of Europe and China. Messer is and will remain an independent family-run business. We think and act decisively for the long term and measure ourselves by our sustained success. Together with our partners and associated companies in the field of wear, fusion, and cutting technologies as well as precision instrumentation we develop synergies and meet our customers' needs expertly, reliably and with a flair for innovation. This is what makes us the first choice for our customers and employees.

Our mission

As an owner-managed family business with a rich tradition we are focused on the future whilst taking into account the different conditions in our existing markets. We also use our experience and expertise to build up our position in new markets. Ranging from acetylene to xenon we offer our customers a wide range of technical and medical gases and food and specialty gases.

Our product range is completed by our excellent services and state-of-the-art technical plants and equipment. In our highly modern technology centers we work together with our customers to develop application technologies for the use of gases in almost every industry, in food technology, medicine, science and research. Our efficient and dedicated employees, our flexibility and our proximity to customers through our presence in local markets makes us their preferred partner. Through entrepreneurial flair, farsighted thinking and the continuous improvement of our processes, we create added value for our customers and so secure our mutual success in the long term.

Solid financing and fair profits guarantee our independence and support sustainable growth.

Our values

Customer orientation

We are focused on the individual requirements of our customers and help them to improve their competitiveness and their performance.

Employee orientation

We train, develop and promote motivated and efficient employees with integrity. We expect our employees to be resourceful and responsible team players.

Responsible behavior

We take our social responsibilities towards our employees and to society very seriously:

- **Safety:** we are committed to the safety of our staff and the safe production, handling and use of our products.
- **Health:** we set working standards that ensure sound health and well-being for every individual.
- **Environment:** as a member of the wider society, we are committed to protecting the environment.

Corporate responsibility

By responsibly managing our resources and applying the talents of our employees we are increasing the worth of our company in the long term.

Excellence

Our actions are based on technical expertise, innovation, flexibility and the ability to make quick decisions.

Mutual trust and respect

We believe that cooperation is based on trust, sincerity, transparency and frank communication.

We respect and abide by the cultural and social customs of the countries in which we work.



MESSER GROUP, Germany

Engagement in the economic sphere

At Messer, both executives and employees alike are engaged in the economic and social spheres in numerous ways. The Group's subsidiaries are involved in a variety of industrial associations at the local level.

The owner's personal commitment

As Vice President and member of the General Assembly of the Frankfurt am Main Chamber of Commerce and Industry (IHK), Stefan Messer holds the office of Chairman of the Foreign Trade Committee and is a member of the Foreign Trade Committee of the German Association of Chambers of Commerce and Industry (DIHK) in Berlin. Stefan Messer is also the President of the International Oxygen Manufacturers Association (IOMA) in Washington. He is on the board of directors of the Brussels-based EIGA, the European Industrial Gases Association. He is also an Honorary Senator of the Technical University Darmstadt and Honorary Senator of the Goethe University Frankfurt, as well as a member of the board of trustees of the Faculty of Economics and on the board of trustees of the China Institute at the Goethe University Frankfurt. Furthermore, he is a member of the board of the German-Swiss Chamber of Commerce, a member of the advisory committee for the FrankfurtRhein-Main Economic Initiative, a member of Commerzbank AG's advisory committee for the State of Hesse and a member of the State Advisory Committee of the Gerling Group. He is also a member of the Friends of the German-Vietnamese University and sits on the board of Dachser GmbH & Co. KG. Since January 2009, Stefan Messer has been Honorary Consul of the Republic of Slovenia for the Consular District of Hesse, Rhineland-Palatinate and Saarland. Stefan Messer is also involved in the association "Die Familienunternehmer - ASU" which promotes the fundamental values of a social market economy and in particular, free enterprise. Furthermore, Stefan Messer is a member of the steering committee and executive

board of the East Asian Association (OAV) and Chairman of the State Committee on Thailand. He also sits on the Executive Committee of the International Chamber of Commerce.

Messer plays host to the umbrella association for the Vietnamese trade unions

During his European tour in June 2015, Professor Dr. Nguyen Thien Nanh, Chairman of the Vietnamese Fatherland Front (the umbrella organisation for the Vietnamese trade unions) paid a visit to the Messer Group in Bad Soden. While there, he gave a presentation of the current and future economic and political developments in Vietnam at the invitation of the Hessischer Kreis business association. 90 guests, including board members from businesses, banks and insurance companies and representatives from politics and academia, followed the talk at the Adolf-Messer Forum, where they also learned about Messer's successful projects in Vietnam. Messer has been steadily expanding its gas supply business in Vietnam, with projects including the construction of a third production plant to supply the steel customer, Hoa Phat.

Stefan Messer meets Vietnamese President

In November 2015, the President of Vietnam, Truong Tan Sang, visited the German-Vietnamese Economic Forum organised by the Frankfurt Chamber of Commerce (IHK). What made it special: Amongst other things, he was given an insight into the Messer Group's successful business activities in Vietnam. In a subsequent face-to-face discussion, the statesman and Stefan Messer discussed potential opportunities for the CO₂ business in Vietnam.

Involvement in industry associations

G4-16

The Messer Group is a member of the European Industrial Gases Association (EIGA). The Brussels-based association represents nearly all European companies that produce and market industrial, medical and food gases. The association's members cooperate with the aim of achieving the highest possible safety and environmental standards during the production, transport and use of gases. At the beginning of each workshop organised by the EIGA, the members are reminded of the importance of complying with the "EIGA anti-trust meeting rules". Messer is also a member of the IOMA (Internationally Oxygen Manufacturers Association), the German Committee on Eastern European Economic Relations and the German Asian-Pacific Business Association (OAV).

The Messer Group is a member of the German Welding Society (DVS-Verband e.V.). The DVS is a non-profit, technical and scientific association based in Dusseldorf. The organisation's aim is to promote welding and allied processes beyond its membership. Messer employees are involved in expert committees, support research projects and establish and maintain contact with expert groups in technologically advanced fields. The subsidiaries are engaged in various local industry associations.

The Messer companies are also involved in organisations in their local regions, such as in Bosnia-Herzegovina. The high rate of unemployment among young people there is just as pressing an issue as it is in many other European countries. Messer works in close cooperation with local authorities to make it easier for school leavers, college graduates and those with vocational qualifications to start a career, prepare them for entering the job market or even recruit them directly.

Company reputation and brand awareness

In contrast to many other businesses and our competitors, "Messer" is not a made-up company name. It is the name of the Messer family and it lends the company, as a family business, and its products a special identity and standing.

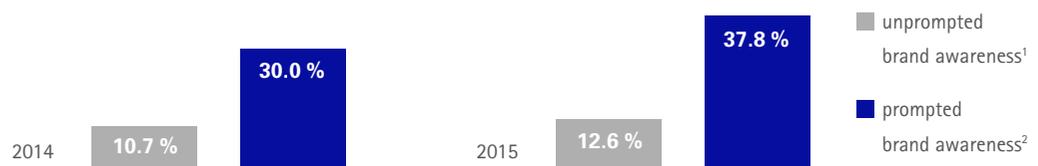
The company slogan "Gases for Life" is an integral part of the Messer brand and plays an important role in the international marketing of our products and services. By associating our brand with positive connotations, we are looking to gain long-term competitive advantages through emotional branding.

To this end, we regularly evaluate the Messer brand's reputation scores and the media resonance in Germany.

The latest reputation survey, involving around 1,200 people in Germany, revealed that Messer's brand awareness rating lies at 12.6 per cent. The survey was carried out by an independent institute. Our brand awareness in Germany last year was 10.7 per cent.

Messer managed to significantly increase its awareness rating in the Duisburg and Oberhausen regions by around 260 and 362 per cent respectively. In its local markets of Bad Soden, Krefeld and Siegen, too, a greater number of those polled were able to name Messer as a manufacturer of industrial gases, or answered "yes" to the question of whether they were aware of Messer as a manufacturer.

The "Gases for Life" campaign, which was introduced in 2011, emphasises that gases such as oxygen, nitrogen, helium, xenon and carbon dioxide play an important role in everyday life and not just in industrial processes. Since 2014, Messer has added examples of use from daily life to its communication materials and supplemented them with popular science contributions in social media. This widening of the company's message into the public sphere has contributed to Messer's awareness level in Germany increasing by 44.7 per cent since 2012 and the general public's understanding of all the gases listed in the survey increasing



The media resonance analysis shows that Messer attained a gross reach of 45,240,238 people with its publications in independent on-line and print media. Media reach is determined according to standard criteria to ensure comparability. Gross reach indicates the number of people contacted. In 2014, a gross of 43,498,814 people were reached. As in the previous year, all of the reports published about Messer in 2015 were positive and provided an accurate picture of our business activities.

¹Survey without mention of different industrial gas manufacturers

²Survey with mention of different industrial gas manufacturers

Vietnam: Championing the Messer brand

Messer Haiphong uses public events to increase awareness of the Messer brand in Vietnam: At the German Festival in Hanoi on the 28th of March 2015, the company had its own information booth that was even graced with a visit by the President of the German Bundestag, Professor Norbert Lammert. In an exciting live experiment show, Ivan Perez from the Application Engineering Division of Messer Haiphong presented our "Gases for Life" to a delighted public. The focus of the festivities was on the diplomatic relations between Vietnam and Germany which have existed for the past 40 years. Messer's commitment was rewarded with an invitation from the European Chamber of Commerce to participate in the "9th European Food Festival" in Hanoi.

Open communication with our stakeholders

G4-24, G4-25, G-26, G4-DMA

Open communication and cooperation with our stakeholders

The basis for a good relationship characterised by familiarity and trust can only be created through open and honest communication. This is why keeping in regular contact with customers, suppliers, employees, industrial operations and organisations, with the media, our neighbours, the general public and the Internet community – and not forgetting our valued retirees – is so important to us. Our communication channels are as varied as the needs of our stakeholders. Information about the Messer brand, about product features or special technologies has to be compiled and made available in a suitable format, and it should be easily accessible. Messer uses a variety of channels to do this.

At Messer, the tools used for external communication are just as important as those used for internal communication. These include our Corporate Internet, press and public relations work, trade show appearances and exhibitions, image brochures, business reports, sponsoring and a customer magazine "Gases for Life" which appears quarterly as well as a website of the same name: www.GasesforLife.de. When it comes to press and public relations work, Messer maintains close contact with both the regional press as well as business and specialist publications and, in particular, with freelance journalists.

Our company profile at www.messergroup.com

Since the end of December 2015, the Messer Group has had a new website where it can showcase its products and services to customers, business partners and the public in general (www.messergroup.com). With an average of 10,000 visitors accessing our European web pages each week, our Internet presence is the ideal platform for finding out more about Messer's activities, its products and applications, as well as to learn about its history and what makes a family business special.

The aim of re-launching the website was, amongst other things, to give the Messer Group a modern, "clean" look. In addition to this, its main focus is now on marketing gases and their applications and to make it easier for customers and other interested parties to find the right contact person from the corporate website. It should emphasise Messer's unique selling point as "the largest privately run specialist for industrial, medical and specialty gases".

Thanks to a design which is carefully streamlined for its target-groups, every visitor can quickly get the information they are looking for with just a few clicks. The significantly simplified navigation system means that it only requires a few steps for visitors to find the content they want. In order to make our customer-oriented approach clearly evident in the Internet too, the contact information of our special-

ists appears wherever it may make sense to get in touch. There is a contact form provided for general inquiries. In order to reduce the number of unnecessary, and for the customer time-consuming contacts, in future the web pages will feature a "product finder" and "sales partner finder" that can be used to filter the contacts beforehand or even establish contact with the nearest supply point directly.

The customer portal, which was previously linked to via my.messergroup.com and hosted our e-sales services, amongst other things, has been fully integrated into the new website. Internet-savvy visitors now have the possibility of being automatically redirected to a target-group-specific "landing page" which features content relevant to their field or area of responsibility, whether production manager, buyer, engineer, applicant, small business owner, journalist or student/teacher. The Messer Group's websites are in the process of being transferred to the powerful Liferay enterprise portal solution, which both enables the sites to work more effectively with each other and offers customers around the world the same options on all the Messer sites. The new system also makes it quicker to install or translate joint content on both the corporate site and on the websites of the national subsidiaries.

G4-30 **The annual report**

Annual reports, which are published once a year following conclusion of the financial year, no longer solely disclose key financial data and core projects. Together with the Corporate Responsibility Report, they are the ideal compendium for assessing the economic and technological development of a company. This is particularly important for demonstrating transparency with respect to financial partners and key accounts and engenders trust. Since an annual report is very expansive, it is made available in printed form in addition to being published on the Internet. Messer's latest Annual and Corporate Responsibility Reports are always available for download from annualreport.messergroup.com.



All of the annual reports from 1964 to the present day are available for download on the company website www.messergroup.com. The archived annual reports and the outlines of the economic environment in which the company was then operating (written by historian Dr. Jörg Lesczenski) chart the economic cycles, the growing intertwining of national economies and the rise of new boom regions that presented Messer Griesheim GmbH (formed in 1965) with increasing challenges in the last third of the 20th century and continue to have a significant bearing on the development of the Messer Group today.

Gases for Life, the industrial gases magazine

Our industrial gases magazine was conceived for readers who are already acquainted with Messer and want to find out more about the diversity of our business. It appears up to three times a year in German, English, Hungarian, Slovakian and Czech.

Gases in everyday life at www.gasesforlife.de

www.gasesforlife.de gives examples of applications and processes that use gases in all aspects of our lives, such as nutrition, leisure, healthcare, communication, mobility, environmental protection, science and home-life. The information is written in a comprehensible manner and aimed primarily at a lay audience, rather than technical experts or those whose work involves the use of gases. The target groups of our website include journalists, teachers, students, school children and consumers. All images and text material can be downloaded for free.



MESSER POLSKA, Poland

GaseWiki at www.gase.de

GaseWiki is a free encyclopaedia about the world of gases which is written by voluntary contributors rather than by a permanent editorial team. This Messer initiative is intended to provide a structured, comprehensive presentation of knowledge on specific topics as well as information about every aspect of the world of gases. Knowledge is central to GaseWiki: it in no way attempts to compete with the much bigger Wikipedia, upon which it is modelled. GaseWiki is a collection of pages which thrives through the propagation of knowledge about gas-related topics. Besides reading the pages, any visitor can also edit them or even add new ones.

Messer in social media

Studies show that social media are increasingly becoming the first port of call for people who are looking for information about products or a company. Even in times of crisis, the public gets its information via social media channels first. Not all of these networks are available in every country, however, which is why their use can vary significantly from region to region. In order to be able to respond to the changes in communication habits, Messer Group has created a number of official channels in the most widely-used social networks in Europe, such as Facebook, Google+, Twitter, Xing and YouTube.

Employee communication

The communication strategy developed by the Messer Group's Central Corporate Communications Division together with the communication officers from the subsidiaries contains communication goals and the measures for achieving them, which are necessary for the implementation and continuity of our corporate strategy.

Messer uses a central intranet portal for the purpose of internal communication to which all employees have access. Messer uses the intranet to publish current information about the company, as well as the group's mission statement and corporate strategy. It also provides access to the Messer Compliance Management System and various other guidelines and manuals.



MESSER CHINA, China

One communication tool that is very popular with employees, according to a company survey, is our employee magazine "Messenger". The magazine for Messer employees is published in German and English on a quarterly basis. Apart from the latest information about successful customer projects, the magazine reports on such things as strategic realignments within the company, employee anniversaries and retirements and staff activities, such as sports days, company celebrations and outings plus social and community projects.

In addition to this, Messer communicates corporate news that is of great importance to all company staff in the form of an e-mail newsletter which is sent out close to the event in German and English.

Awards and commendations

Messer is one of the brands of the century

On the 24th of November 2015, the new edition of "Brands of the Century >>Stars 2016<<" issued by the publishing house Deutsche Standards made its first public appearance in Berlin. The book features around 250 well-known German brands. Taken together, they give an idea of the power of the German economy. Messer is one of the "stars in the brand firmament" with its long-standing "Messer - Gases for Life" brand.

Stefan Messer honoured as visionary

Stefan Messer was among five finalists nominated in the "Visionary" category for the "Querdenker Award 2015" [Lateral Thinker Award]. The award is given to recognise those who get things done in outstandingly creative ways, as well as imaginative and exceptional companies and top performance in Germany's business world. Stefan Messer was represented by Adolf Walth and Andrea Launer of the Messer Group at the award ceremony, which took place in November 2015 at "BMW Welt" in Munich. The Lateral Thinkers Club is an innovation and ideas network for commerce and industry which has over 350,000 members.

Messer Group receives safety awards

At the summer conference of the European Industrial Gases Association (EIGA) held in June 2015 in Milan, the Messer Group accepted four safety awards for exemplary occupational safety.

Messer Tatragas, Slovakia, was awarded the "Gold Two Star EIGA Safety Award" for two million working hours of accident-free operation at its Šala site. Messer Tehnogas in Serbia received a golden "EIGA Safety Award" for 15 years of accident-free operation at its Novi Sad site. Messer Hungarogáz, Hungary, received a silver EIGA Safety Award for 500,000 working hours of accident-free operation. Messer Romania Gaz, Romania, received a bronze EIGA Safety Award for 5 years of accident-free operation at its Resita production site.

Austria: Nomination for research & development

In June 2015, Messer in Austria was nominated for the "Clusterland Award 2015" in the category "Best Collaborative Project in the Field of Research & Development, Innovation" for its "Frozen Bakery" project. "Frozen Bakery" is a project initiated by the Austrian baked goods industry and involves leading baked goods manufacturers and research partners. The focus of the project work is on developing manufacturing techniques to improve the quality of deep frozen baked goods. A key aspect of the work involved the frosting of raw dough pieces using cryogenic food-grade gases. Messer supported the BOKU (University of Natural Resources and Life Sciences) in Vienna by providing them with a cabinet freezer for conducting the cryogenic experiments on the raw dough pieces using nitrogen and CO₂. These are sold by Messer under the Gourmet brand.

The "Clusterland Award" is considered the Lower Austrian award for successful business cooperation and inter-company collaboration - both between companies and between industry and research institutes.

Serbia: Outstanding commitment

Messer Tehnogas was honoured with the Kapetan Miša Anastasijević Award in March 2015 for its outstanding economic commitment to the Timočka Krajina region in the east of Serbia. The company received the award first and foremost for its investment in the industrial center of Bor. The Kapetan Miša Anastasijević Award is presented annually to the best companies in Serbia by the Media Invest agency in cooperation with the Universities of Belgrade and Novi Sad, the Serbian Chamber of Commerce and Industry and the local authorities in remembrance of Miša Anastasijević. Miša Anastasijević was one of the richest men in Serbia in the 19th century and the country's first philanthropist.

Bosnia-Herzegovina: Manager of the year

Valentin Ilievski, Managing Director of Messer BH Gas and Messer Tehnoplina in Bosnia-Herzegovina, was honoured for his management achievements as Managing Director with the "Best Manager of the Year 2015" award. The award is presented annually by the Zenica-based agency "BH Menadžer".

Croatia: Simply exemplary

Messer Croatia Plin was recognised with the "INDEKS DOP-a" sustainability award in the category "medium-sized businesses" at the end of 2015 for its exemplary approach to customers, suppliers, employees, state institutions and environmental protection. The award ceremony took place during the national conference on "Corporate Social Responsibility" in Zagreb. The event was under the auspices of the Croatian President and the Ministry of Economic Affairs. On accepting the award, Robert Mustač, Managing Director of Messer Croatia Plin, emphasised that the commendation reflects Messer's mission statement and the hard work of all the employees.

Spain: Safety award

In May 2015, Messer Ibérica de Gases was presented with the Safety Award from the Spanish Chemical Industry Association (FEIQUE) for the fifth time in a row. The award is given to companies in the chemical industry with the lowest incidence of industrial accidents. Messer Ibérica has operated without an accident at any of its sites in Spain since 2008.



MESSER AUSTRIA, Austria

China: Messer is best supplier

Leshan Phoenix, whose headquarters are in the central Chinese province of Sichuan, is a joint venture between the American ON Semiconductor Group and the Chinese company Leshan Radio Co. Ltd. The semiconductor manufacturer has been supplied with nitrogen and hydrogen by Sichuan Messer since its formation in 1995. On the 29th of January 2016, Leshan Phoenix recognised its 20-year partnership with Messer as a reliable industrial gas supplier with the distinction "Best Supplier".

China: Excellent recycling

On the 29th of January 2016, Zhangjiagang Messer was honoured by the Suzhou city council in the province of Jiangsu for its exemplary economy as part of an industrial cycle. In 2015, Zhangjiagang Messer provided two customers with assistance in recycling hydrogen and recovering waste water, each case involving an annual volume of 1,500 cubic metres of hydrogen and 355,000 tonnes of waste water.

China: Pangang Messer one of the "TOP 100 companies"

Pangang Messer in the central Chinese province of Sichuan operates the largest Messer facility in China. In 2014, the company generated a turnover of RMB 430 million, thus ranking it 95th on the list of manufacturing companies in the province of Sichuan. An achievement for which Pangang Messer received the distinction of being one of the "TOP 100 industrial companies" in the province from the organisation "Sichuan Enterprises Confederation" in November 2015.

Our way: regarding employees as family.





G4-DMA Employment
training and education

Dr. Hansjörg Gruber:

"Our headquarters is a place of communication."

"It has always been difficult to get good staff, and this is why we do our best not to lose them in the first place. Retirement and business expansion measures still make it necessary to scour the job market from time to time, despite early succession planning. For this reason, we have worked to establish a strong employer brand and this is now starting to pay dividends.

the "Junior Circle" staff training program, we are now responding to the needs of the sales departments for a standardised training program for local sales teams with the "Focus on Cylinder" training courses that aim to increase the sales of cylinder gases. This training program is being rolled out throughout the entire group over the next 2 years. The training courses last several days and offer



DR. HANSJÖRG GRUBER |

Senior Vice President Human Resources
(7th from left)

We are a family company. Family-friendliness is something on which we place great emphasis. We celebrate together with our employees when they have children and have flexible arrangements in place to help them return to work afterwards. It's no longer uncommon for fathers working with us to take parental leave either.

2015 saw the Academy Messer Group program being expanded still further. Besides

attendees the opportunity to become better acquainted, forge contacts and exchange knowledge and experiences too. A closely networked team will prevail in every market. We are systematically expanding the training portfolio, and the training facilities in Bad Soden will play an important role in this. The headquarters should also be a place of inspiration for the Group – a place of learning and exchanging ideas that one leaves invigorated."



MESSER HAIPHONG, Vietnam



MESSER HUNGAROGÁZ, Hungary

Our employees

G4-LA1 Length of employment and employment structure

It is important to us and we are proud of the fact that our employees remain loyal to the business in the long term. The group-wide average period of employment of our employees since joining is 11 years, compared with 9.7 years in 2014. We are gratified to note that turnover in the workforce as a whole has fallen to 8 per cent compared to 9 per cent in the previous year. The average number of sick days taken per employee rose slightly from 3.0 in 2014 to 3.9 in 2015. This does not include employees who have been off sick for more than six months (employees on long-term sick leave).

As of the 31st of December 2015, the Messer Group employed an average of 5,515 people worldwide. 75.4 per cent were men and 24.6 per cent women. Almost half (49.5 per cent) of our staff works in the industrial sector. 434 people joined the company in the course of 2015. The Messer Group has 204 part-time employees and 189 with temporary employment contracts. The proportion of our employees with severe disabilities is 0.4 per cent. A total of 48 members of staff serve on supervisory boards.

G4-LA9 Training and further education

Messer offers its employees an established training program. We also encourage employees to make their own personal development suggestions, something that is a topic during the regular employee appraisals. There are training plans at group level specifically for junior executives. A new e-learning portal will play a supporting role in vocational training in future, especially where it concerns the standardised dissemination of knowledge. In 2015, an average of 214 euros was spent per employee on training. The year before, it was 207 euros. Compared with 2014, the average number of training days per employee decreased from 3.61 to 3.48.

The Messer Group trained a total of 56 apprentices and trainees in 2015. This is 14 fewer than in 2014.

G4-LA10 Targeted promotion of junior staff at Messer

Two years ago, the Messer Group, the world's largest owner-managed industrial gas specialist, implemented specific measures to promote junior staff with its "Messer Group Academy" and has already filled management positions with young employees from within its ranks. Our aim is to identify and promote young talent and keep it with us over the long term. Of course, we still consider technical competence, know-how and knowledge to be important too, but we also want to convey the character and "spirit" of Messer as an independent family business, along with openness and respect in dealing with one another. The "Messer Group Academy" has launched an international advancement program, the "Junior Circle". The training concept envisages five one-week modules which focus on different key topics, as well as intercultural training courses for employees from different departments. It started in 2013 with 18 selected candidates from Europe, China and Peru. A further 18 selected junior staff members from twelve different nations started the second circle in

2015 and are also being specifically trained up over the coming two years for a career with Messer. The program is centered on the dissemination of knowledge from external and in-house experts representing the various business divisions. The range of topics covered is extensive - including everything from company history, finances and our product portfolio. It involves intensive dialogue between experienced and young co-workers over the course of the two years.

The participants should become familiar with the entire value chain and be prepared for working on projects and groomed for higher positions within the company. With the Messer Group being a global operation, the role of networking as a team-building activity is an important aspect of the Junior Circle. Nevertheless, before targeted promotion and training can take place, it is crucial to have a constructive dialogue with the employees themselves. Where their training needs lie can only be determined and responded to in consultation between these young talents and the team from the Personnel Management Department. Regular feedback meetings and goal-oriented reflection on the training program for each individual contribute to the success of these strategic staff development measures.

"Focus on Cylinders" in pilot phase

The Messer Group Academy supports the "Focus on Cylinders" strategy project initiated by Messer with employee training courses. The pilot phase of this series of events began with the first training course in the Slovenian town of Ptuj in April 2015 and it will be rolled out to six other national subsidiaries in 2016. The participants include managing directors and sales directors who should later serve as trainers for their own teams. Standardised sales training courses are held in a series of six modules. Five of these modules are supplemented by a day with our experts from the Welding and Cutting and Medical Gases Divisions and Messer GasPack, as well as local specialists. They present all the sales opportunities related to cylinder gases.

Vietnam: Messer promotes combined training

The agreement drawn up in March 2013 by Messer and the pharmaceutical and medical supplies company, B. Braun, with the Hung Yen University for Technology and Education in Vietnam for collaborative training in the field of mechatronics is starting to bear fruit. In February 2015, the first 14 of Messer Vietnam's and B. Braun's mechatronics trainees completed their two-year combined vocational training program. All of the newly skilled workers were given permanent jobs. This pilot project is being supported by the German Federal Ministry for Economic Cooperation and Development (BMZ) within the framework of "develoPPP.de". The develoPPP.de initiative calls for the involvement of private companies in situations where business opportunities and the need for development policy action coincide. In order to further improve the combined training program, Messer Vietnam and B. Braun have analysed their experiences to date. The resulting measures are being implemented over the course of 2016 in the second round of training and the results shared with other ASEAN countries at regular workshops.

Romania: Industrial placement for aspiring engineers

The Romanian Eftimie Murgu University and Messer Romania Gaz are collaborating closely to train young engineers. The cooperation agreement signed in November 2014 made it possible for the first six students to complete an industrial placement at Messer in the summer of 2015. Our Romanian colleagues are using the opportunity to pass on their knowledge and to present Messer as an attractive employer.

Employee orientation and integrity

Financial equality

Our salaries are based on performance, the market, job function and length of service. We do not make distinctions on the basis of gender. More information on our remuneration policy can be found in the Messer Group GmbH Management Report for 2015.

G4-HR3 Equal treatment and anti-discrimination

If employees feel discriminated against or unequally treated, they can at any time turn to their local human resources manager or the Group Compliance Manager, whose responsibility it is to clarify the matter and ensure equality. An employee may also choose to put the matter on record during the annual performance review. One case of discrimination was reported in 2015. In such a case, and provided it is a minor infringement, it would be discussed, in consultation with the parties involved, whether it is possible to resolve the problem through mediation or equivalent coaching. A serious violation can, however, result in termination of employment for the employee who committed the infraction.

G4-11 Internal social partnerships

Messer is generally supportive of the formation of employee organisations, such as workers' councils. Around 26.87 per cent of our employees are represented by workers' councils. 157 employees sit on a workers' council. The local management at most of our Eastern European national subsidiaries negotiates joint pay agreements with trade unions. The relationship between our workforce and the management is characterised by trust, so there has never been a strike or similar action within the Messer Group to date.

Employer branding

The Messer Group has set itself the goal of being perceived by the general public, and most importantly by our employees, as an attractive employer in conjunction with our brand. We would like our employees to identify more closely with Messer as a family business and its unique corporate culture. In 2015, we set out measures, supported by change and improvement processes, with the purpose of making Messer a preferred employer and we will now gradually implement them. Our core message reads "This is Messer. This is our way."

The messages, which are the product of a multi-stage process conducted as part of our Employer Branding campaign, reflect our corporate culture and convey what distinguishes Messer and what we stand for as an employer. 24 of our colleagues from seven European companies provided testimonials for our Employer Branding campaign in order to promote our employer brand and corporate culture. All of the information about the campaign relevant for employees has been compiled in a flyer. These were distributed to employees in June 2015 by the local human resource departments, together with a T-Shirt bearing a clear message of support for this initiative so that management staff and employees could become acquainted with the employer brand before we make it public on the job market. The aims of the employer branding campaign were re-emphasised in a personal letter to the employees from Stefan Messer.



MESSER ENERGO GAZ, Romania

Those who won't settle for second best are the right people for Messer, which is why our international staff exchange program and our internal jobs portal are to be given a new lease of life. Those who wish to keep on improving their skills and knowledge can take advantage of our training program, soon to be expanded to include in-house courses on computer applications. A new concept, and one that has already been successfully implemented at the Messer Group in Germany, is e-learning, which offers such things as safety training courses. The "English offensive" to improve the English language skills of our employees has proven highly popular too.

As a family company, we value open and honest dialogue. This is something we want to encourage. To this end, every site can hold a summer festival or a Christmas party once a year. We organise network meetings, fire-place discussions, forums and employee meetings where colleagues can exchange ideas. We hold to the principle of keeping decision chains short, as we consider ease of interaction to be important.

These are just some measures that we, as employer, hope will motivate our employees to act as ambassadors for the Messer brand. A positive perception of our international markets will help us to successfully master the future as a family business.

France: Collegial introduction to the workplace

As part of the Employer Branding campaign "This is Messer. This is our way.", Messer France launched a coaching program for new employees in July 2015. It involves experienced employees accompanying their new colleagues during their first few days on the job, informing them about the values of our corporate culture and making the special team spirit at Messer tangible. They meet once in a month in order to share expertise and experiences.

Bosnia-Herzegovina: Messer is once again the most popular employer

In 2015, Messer was once again voted the most popular employer in Bosnia-Herzegovina by the Internet job portal Posao.ba. This award makes us attractive as an employer to existing employees and on the job market. One of the things we do is to support the vocational training of new skilled workers.

Messer Tehnogas is the best employer in Serbia in 2015

Messer Tehnogas, Serbia, was distinguished with the "Top Serbian Brands Award" in the category "Best employer of the year 2015", which is presented annually by the organisation "Best of Serbia". The prestigious honour is awarded in a number of categories and what makes it special is that the winner is not decided by a jury, but exclusively by the general public. The award is based on a public, independent market survey. Domestic and foreign companies are assessed based on criteria such as brand awareness, excellence of quality, outstanding business performance, customer satisfaction and successes achieved during the year. For Messer Tehnogas, this accolade is a reflection of employee focus in practice, such as investment in employees, commitment, diligence and advancement. It also serves as a motivation to maintain the outstanding accomplishments achieved thus far and improve on them still further.

Hungary: International Girls' Day at Messer

On the 23rd of April 2015, 32 pupils from different secondary schools in Budapest paid a visit to Messer Hungarogáz. The young ladies were given the opportunity to experience the "Gases for Life" world for themselves. The day began with a tour of the air separation plant and the filling and specialty gases plant. Afterwards, they met with engineers from Messer in Hungary who described their work experiences and day-to-day activities. The purpose of the Girls' Day, which is organised in Hungary by the "Women for Science" Foundation, is to spark the interest of girls in careers within the fields of engineering, the natural sciences and information technology.

G4-DMA Compliance

Messer Compliance Management System

The Messer Compliance Management System (Messer CMS), which we implemented in 2015, is an organisational concept that describes the Messer Group's system of values and its practical implementation and defines the responsibilities derived from it. It constitutes a mandatory framework for resolving conflicts of interest and ensuring compliance with applicable laws, regulatory provisions and the inter-company and company-internal policy guidelines within all divisions of the Messer Group. The managing directors and senior management are fully committed to the Messer CMS, which serves as a tool for building trust with our customers, business partners, employees as well as our competitors, the general public and the media.

The purpose of the Messer Group's system of values is to establish a relationship with our customers and competitors and within the Messer Group, with its senior management and staff, based on fairness, solidarity and trust, to resolve conflicts of interest and ensure compliance with the applicable laws, regulatory provisions and inter-company and company-internal policy guidelines within all divisions of the Messer Group. The Messer Compliance Management System which has been devel-

oped for this purpose broadly defines the respective responsibilities and supports those responsible in setting up and implementing the organisational concept. The aim of the organisational concept is to prevent breaches of the Messer Code before they occur.

The Messer Code

The management of Messer Group GmbH has summarised the principles for the organisational concept in a set of rules (the "Messer Code"). The Messer Code stands for active corporate governance and is intended as a guide to all employees in their daily work life and taking into account the Messer Mission Statement. Managing directors must take suitable measures to ensure that all employees have unrestricted access to the Messer Code and are aware of where and how it can be consulted.

The Messer Code of Conduct is the core document within the Messer Code. It is supplemented and given substance by the Group Guidelines as well as other group-wide or local guidelines, manuals and other internal regulations.

Our most important asset in achieving our company goals is the technical competence and entrepreneurial spirit of our employees. We value the commitment and passion our employees demonstrate in contributing to the success of the business. Employees, for their part, must observe the applicable laws and rules of the Messer Code when performing their work.

We also expect our business partners, customers and other parties who work with Messer to observe applicable laws and the principles of the Messer Code.

Compliance officers

The management of the Messer Group GmbH bears responsibility for monitoring the Messer Compliance Management System. This organisational concept is binding on all managing directors, senior management staff and employees of the Messer Group.

The managing directors are responsible for implementing this organisational concept in their own national subsidiary and ensuring that it is adhered to while observing applicable legal regulations. The board of Messer Group GmbH has appointed a Corporate Compliance Office (CCO) to support the managing directors and the Supervisory Committee in their duties. In addition, there are Country Compliance Officers who are designated by the regional directors in consultation with the respective national managing directors (LCOs). The team of compliance officers is supplemented by the corporate departmental heads in the Corporate Office, so-called department-specific compliance officers (BCOs). The management of the Messer Group GmbH has defined the tasks, rights and obligations of the compliance officers in a Compliance Officer Guideline document.

Managing directors, senior management, the CCO, LCOs and BCOs also serve as role models. They are expected to demonstrate a high degree of social and ethical competence. Managing directors and senior management are expected to demonstrate an appropriate degree of organisation, leadership, communication, selectivity, oversight and direction in their activities. Moreover, they are obliged to protect customers, employees and the environment. In this context, a clear commitment to conducting business in compliance with the law is just as essential as preventing and disciplining illegal practices.

Training program

Besides traditional classroom training, there are webinars and e-learning courses given on selected topics relating to the Messer Code. The corporate departments and the local management and departments generally decide on the content of the courses and the employees to be trained themselves. They assume responsibility for arranging and giving the training courses, supported by external service providers as necessary, and ensuring that proper documentation is issued. The Messer Group management may mandate training courses and specific course content as well as the group of employees to be trained.

Reporting and auditing

The Group Guidelines, the largely standardised articles of association, the rules of procedure for the boards of management of the (national) subsidiaries, the signature regulations based on dual responsibility and the individual requirements issued by the corporate divisions have the effect that a whole range of matters is governed by a specific approvals and reporting process.

In addition to this, regular meetings at the local, regional and departmental levels are held, where topics are discussed and coordinated and experiences and information exchanged and reported on.

The most important procedures at Messer are defined and often certified (e.g. ISO, GMP).

The existing organisational structures are used to ensure that the Messer Code is adhered to. Each department, the regional managers and the management bodies have direct responsibility. Thus each area of responsibility is accountable for ensuring implementation and observation of the Messer Code.



The Internal Audit team, supported by Corporate Legal, performs regular audits of all national subsidiaries which last several days. During the process, matters pertaining to the Messer Code (e.g. articles of association, rules of procedure, signature regulations, training performed, observation of the reporting procedures etc.) are also examined in detail. Individual departments perform other detailed audits in addition (e.g. SHEQ, Medical, IT). Findings and suggestions for improvement are documented in a report which is submitted to the Messer Group Executive Board. Follow-up audits are performed within a set time period to verify that the suggested improvements have been implemented.

Every three months, pending and threatened/imminent disputes which exceed a certain value/risk are queried centrally and the facts of the case, dispute value, process status, process risk and financial provisions already made or which may prove necessary are recorded.

The managing directors/LCOs and BCOs are obliged to inform the CCO of any suspicion of a serious breach of the Messer Code. The CCO shall report to the Messer Group GmbH Executive Board and the Supervisory Board on a regular basis, and in specific cases on request, any serious breaches of the Messer Code of which he or she has been informed in a timely manner or otherwise once a year. Once a year, all national subsidiaries and corporate departments report any issues relevant for the Risk Report to EVP Strategy. This is discussed by the Messer Group Executive Board, which then decides on any further measures that may need to be taken. These are then submitted to the Supervisory Board of the Messer Group along with further explanations as needed for information purposes.



MESSER BIH GAS, Bosnia and Herzegovina

Reporting in the event of compliance infringements and justified cases of suspicion

The managing directors and senior management must organise their area of responsibility such that reports from employees about infringements of applicable law or the Messer Code ("Compliance infringements"), as well as justifiable cases of suspicion, can be submitted in a timely manner in order to ensure that prompt remedial action can be taken.

Part of the reporting process involves creating a report which records the action taken in response to confirmed compliance infringements. This includes a description of how the incident was investigated, how the consequences of the wrongdoing were established and what decision was made regarding further action.

The managing directors must take suitable measures to ensure that all employees are informed about how and to whom breaches of the Messer Code are to be reported, including publishing a telephone hotline number and the compliance e-mail address.

39 compliance infringements were reported in 2015.

Networks and knowledge management

Messer expressly encourages participation in networks. Nearly all departments meet on a regular basis with their international counterparts in order to exchange information and promote current strategy projects. Networking meetings generally take place over the course of two days and feature a talk by a guest speaker. There are 21 specialist networks at Messer consisting of experts and representatives from many different countries.

Initial contact with customers

The corporate division (SAT) Application Technology Chemistry/Environment met between the 15th and 17th of April 2015 for its annual networking meeting in Maribor, Slovenia. 21 participants from



MESSER CROATIA PLIN, Croatia

15 Messer subsidiaries discussed the topics of water, chemistry, paper and fluidised beds amongst themselves and with their colleagues from SAT. Besides the technical agenda items, the meeting included a workshop on acquisition procedures. Special attention was paid to professionally preparing for the discussions, as the demands (potential) customers place on vendors and application engineers have increased substantially in the past few years.

HR meeting in Croatia

The Group's HR managers met in Dubrovnik in 2015. Apart from topics from the national subsidiaries, the agenda included a presentation of the "Focus on Cylinders" training program and an interim report on the e-learning project. An "on-boarding" procedure for new employees was developed together with an external trainer.

Air separation plant managers meet in Croatia

Representatives from 17 national subsidiaries met in Split on April 2015 for the "9th Air Separation Plant Managers Network Meeting". The two-and-a-half-day conference gave all participants the opportunity to discuss the challenges, solutions and innovations surrounding Messer-operated air separation units. The packed conference program was rounded off with a visit to the historical port and emperor's palace and a tour of the air separation plant in Dugi Rat.

In-house Counsels' Day 2015

In 2015, the in-house counsels from nine national subsidiaries met in Bad Soden. Besides dawn-raid training, the meeting focused on the basics of project management and setting up an internal audit. This year as every year, great value was placed on the "Country Information Exchange" as an opportunity to swap experiences, find common links and support one another.

Networking at an international level

Internal networking is of great importance to the Messer Group's Corporate Welding and Cutting Division and has a long tradition. The welding experts from the Application Technology Division in Krefeld have regularly held local network meetings in the Messer regions over the past three years. The focus has been on current market and customer requirements. From the 27th to 29th of April 2015, the first network meeting in a long time with an international focus took place. 38 colleagues accepted the invitation to attend the meeting in Budapest. The topics of this network meeting concentrated on the challenges of day-to-day work. The repercussions of the EN1090 standard were discussed, experiences with the introduction of new three-component mixtures swapped, the newest R&D topics presented and, of course, personal contacts maintained. Because the feedback from the meeting was so positive, another international meeting is to be held in four years' time. Until then, the regional networking meetings will be held as usual.

Communication strategy 2020

Cooking and chatting together - that's how the "ComMeeting 2015", which was organised by Corporate Communications at the historic railway station in Bad Soden in May 2015, kicked off. Over the next two days, the 27 communication managers (ComManagers) from the Messer subsidiaries experienced a full and varied program of events. Workshops were held on the topics of "employer



MESSER FRANCE, France

branding", "image film" and "internal communication". The resulting measures are being or have already been implemented in part, one example being the "Employers' Day" at every Messer site. A PR and social media seminar, a photography course as well as the "Strategy 2020" lecture by Stefan Messer were likewise met with great interest by the ComManagers.

Global Sales Meeting

The "Global Sales Meeting" took place from the 9th to the 11th of September 2015 in Bad Soden. The team from Central Sales Functions, sales managers and selected employees from the Messer world met at the invitation of Adolf Walth, Messer Group's Executive Vice President Sales & Marketing, to discuss new processes, innovative tools and recent successes within the Group. Growth was a central topic of the meeting. All participants developed concrete suggestions, ideas and concepts for achieving this goal. During the two days, related talks were given on international key account management ("Focus IKAM"), logging business processes via smartphone and browser, highlights from the Application Technology Division (SAT) as well as growth from the perspective of the Mergers and Acquisitions Division.

Company anniversaries

MesserGas in Portugal and our IT company, Messer Information Services (MIS) celebrated their tenth anniversaries this year. MesserGas sells cylinder gases which are primarily used in the welding and cutting sector and the food industry. Messer Ibérica de Gases, Spain assumes management and ad-

ministration of the Portuguese subsidiary. Cooperation between the two companies makes it possible to supply customers on the entire Iberian peninsula.

Messer Information Services celebrated its company anniversary with a staff party. In his speech, Stefan Messer underscored that the earlier decision for the company to operate its own computer center for Messer and MEC can be considered the right move.

Family friendliness

Germany: Christmas market

A Christmas market was organised on the Messer Platz at the company headquarters in Bad Soden from the 23rd to 24th of November for the employees and residents of Bad Soden. In the historic station building, there was a Christmas reading for the little ones, a course in making Christmas tree decorations and all manner of treats along with (child-friendly) punch and mulled wine. Stalls with showmen. Christmas tree decorating by nursery schools and carol singers provided for a magical Christmas atmosphere. Messer donated the proceeds to sponsor German courses for refugees.

Romania: A day just for children

On the 12th of September 2015, the Personnel Department of Messer Romania Gaz organised a "kids day" for the children of employees. It was held at an adventure park which offered lots of exciting and fun activities for the 20 girls and boys. The favourite attractions were a cable car, with which the children could glide across a lake, and a woodland climbing park. The smallest guests amused themselves with ball games, painting and colouring. While the children experienced an exciting day in the heart of nature, their parents took care of lunch.

Germany: Doors open for "Die Maus"

On the 3rd of October 2015, the Messer site in Bad Soden opened its doors for the second time to children and families from the surrounding area as well as Messer employees and their children. Apart from talks aimed at children on the properties and manufacture of industrial gases, there were exciting live experiments that made our "Gases for Life" visible. At the end of the event, all of the children were given balloons with popular German cartoon character "Die Maus" (the mouse) on them to take home as a memory of a lovely day with Messer.

Hungary: Unusual experiences

Have you ever worn a firefighter's protective suit and sat in a fire engine or planted flowers and built a birdhouse at your workplace? Or have you had the opportunity to be blindfolded and led by a guide dog or to create enormous soap bubbles? All of these activities were on offer at the "Family Day" organised for employees and their families by Messer Hungarogáz on the 5th of September 2015. Almost 400 guests attended the event which traditionally takes place in autumn each year. A donation by Messer Hungarogáz to the guide dogs association was a further highlight of the day.



MESSER HUNGAROGÁZ, Hungary

Slovenia: Support for the grown-ups, fun for the little ones

2015 saw Messer Slovenia participating in the "Family Friendly Enterprise" project for the third time in a row. By getting involved in activities like this, the company presents itself as an attractive employer that offers its employees the ideal basis for reconciling work and family life. During the summer holidays, we once again collaborated with the humanitarian organisation "Slovenian Association of Friends of Youth" to organise a holiday camp: Fourteen of our employees' school-age children experienced eleven days on the coast of Croatia packed with a variety of holiday activities.

Health management

We take our social responsibilities towards our employees and to society very seriously. This is why we set working standards to safeguard our employees' health and well-being. Many national subsidiaries are implementing measures aimed at preventing sickness. We also promote an open corporate culture and encourage our employees to engage in sport together in order to reduce stress and improve teamwork.

Hungary: Health - our most valuable asset

The management of Messer Hungarogáz has decided to take out supplemental health insurance for every employee. It includes out-patient primary care, standard laboratory tests as well as an annual medical check-up. Family members of employees can also benefit from the healthcare services provided by the supplemental insurance cover at a reduced price.

Germany: Perseverance and team spirit from Siegen

After spending a year preparing for it, our colleague, Thomas Schönauer, the production manager of the air separation plant in Siegen, set off on his first marathon in Bonn on the 19th of April 2015. He finished 149th out of over 13,000 runners in the remarkably good time of 3:25:32. His colleagues at the production facility and from the cylinder gas filling plant in Siegen allowed themselves to become infected with the running bug as well. On the 24th of June, the Messer team lined up to compete in the Siegerländer-AOK Company Run. Over 9,000 runners participated in the 5.5 kilometre-long, climate-neutral run through the town center of Siegen. The Messer Industrial Gases colleagues demonstrated their sporting prowess and all reached the finishing line happy.



MESSER POLSKA, Poland



MESSER INDUSTRIEGASE, Germany

Our way: building stable partnerships.





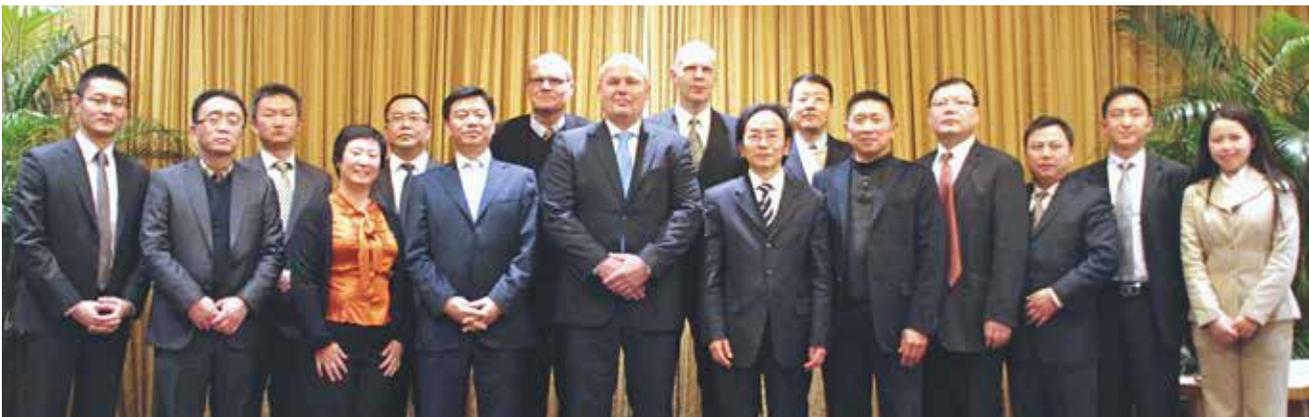
Dr. Hans-Gerd Wienands: "There's no sign of a turnaround in the steel market."

"Around 30 per cent of our company's turnover depends directly or indirectly on the steel market. This proportion is significantly higher in China and Vietnam, at approximately 60 and 45 per cent respectively. The underlying situation in the global steel market during 2015 – a combination of weak demand, high levels of overproduction and the resultant tough competitive environment – is likely to remain unchanged and the determinant factor in 2016. It is highly probable that the demand for steel in China will fall noticeably for the third time in succession in 2016.

Then again, according to new estimates by the OECD, capacity will continue to grow, particularly in Asia. China in particular has developed a

quarter of 2015 in particular saw another dramatic drop, with prices falling almost to the low last seen during the global economic crisis of 2008/09. The low cost of raw materials, such as coal and ore, provide no justification for raising prices either. The price of scrap iron used as the raw material in electric steelworks is falling in line with the trend too.

Due to the weak economic situation in the steel market, we are pressing ahead with our diversification strategy in China and Vietnam. We want to develop long-term, stable partnerships with companies in other industry sectors, and in 2015, succeeded in winning two important new on-site customers in the electronics industry. In addition to this, we finished construction of



DR. HANS-GERD WIENANDS |
Chief Financial Officer (center of photo)

great deal of domestic capacity in recent years, and this is not currently being fully utilised as a result of the slowing Chinese economy. Consequently, these over-capacities are available on the global market. Added to this is the fact that an ever-growing number of manufacturers from various countries is able to supply the grades of steel customers want. The third

our new specialty gases plant in Suzhou in the province of Jiangsu, one of our own krypton/xenon generators and three new CO₂ production plants. We are simultaneously training up our employees in order to achieve even greater success in the Chinese and Vietnamese markets with our processes and gases technologies."



MESSER HAIPHONG, Vietnam



MESSER SLOVENIJA, Slovenia

Economy and company

Business activities

Messer needs to achieve profitable growth in order to be able to continue investing in markets. Prospects for growth are offered by the high-margin cylinder business, selected on-site projects and entry to the ASEAN market. After a strong investment program between 2004 and 2013, we now need to achieve high margins in order to further reduce the company's net debt and generate the income for additional investment in growth. Messer's focus in this regard is on small and medium-sized customers who can be reached through personal contact. In China, Messer's focus within the cylinder gases business is on delivery in dewars or minibulk.

Reliable product supply through investment

Hungary: Messer acquires Air Liquide's gases business

On the 15th of September 2015, Messer's Hungarian subsidiary signed a contract with Air Liquide Eastern Europe S.A. for the purchase of 100 per cent of the shares in Air Liquide Hungary Ipari Gáztermelő Kft.. Messer Hungarogáz is thus taking on more than 50 employees as well as acquiring fixed assets and customer relationships. Full implementation of the contract is awaiting approval by anti-trust authorities. The fixed assets include an on-site air separation unit, two nitrogen generators, a cylinder filling plant as well as tankers, customer tanks and steel cylinders.

Hungary: Doubling of CO₂ production capacity

The project aimed at doubling production capacity at our CO₂ plant in Ölbő, in the west of Hungary, was launched in 2015. After completion of the expansion with an investment of five million euros, the plant will have an annual capacity of 90,000 tons of food-grade liquid carbon dioxide. Since production is based on natural CO₂ sources, the availability of CO₂ will be much improved in the Central and Southeast Europe regions, particularly in the summer months. The additional capacity is due to come on stream in the third quarter of 2016.

Slovenia: First dedicated air separation unit

Messer Slovenija is investing around 15 million euros in the construction of an air separation unit (ASU) in Škofja Loka, right next to the Knauf Insulation plant. Most of the oxygen produced will go directly to Knauf, where the gas will in future be used for a new technology which allows for improved, more environmentally friendly products to be manufactured. Messer will supply the remaining liquid gases to the Slovenian market and neighbouring countries, thereby further strengthening its own market position. The new ASU is due to go into operation at the end of 2016 after a one-year construction period. Messer had already put a liquid oxygen supply system into operation at Knauf at the beginning of May 2015 in order to meet the customer's existing oxygen requirements at the time.

The investment in the site is of great importance. Messer wants to use it to strengthen and expand its cooperation with family enterprise Knauf. The company needs oxygen to modernise its mineral wool production technology. This will not only improve product quality but also protect the environment by reducing sulphur and carbon dioxide emissions as well as the amount of filter dust and waste that is generated.

Messer will supply the oxygen directly to Knauf. The modern facility is being built on a site approximately one hectare in size right next to the Knauf plant. One of the advantages of direct oxygen supply is that neither transport vehicles nor an elaborate pipeline system are required.

Slovenia: New generator for Julon

Julon d.d., part of Aquafil Group, manufactures nylon and polyamide fibres at its production center in Ljubljana. Messer Slovenija has been supplying the company with nitrogen for many years. Since the nitrogen generator installed in 2006 was no longer able to meet current requirements, it was replaced by a more powerful unit in March 2015. In order to keep the investment costs to a minimum, many of the existing generator's components were reused. However, the cold box and molecular sieve are completely new.

Serbia: New air separator for copper works

In May 2015, Messer Tehnogas put a new air separation unit into operation at copper producer RTB Bor in the east of Serbia. The new facility was made necessary by an expansion of the copper works' production capacity. Messer had previously supplied its customer RTB with oxygen via an old existing facility. Thanks to the new 20-million-euro facility, the customer now has access to five times the quantity of industrial gases. In addition, small quantities of liquid oxygen and liquid argon are produced as back-up and for the regional market respectively.

Germany: Filling plant in Siegen expanded

In the summer of 2015, the expansion work on the Siegen filling plant was completed after two and a half years of planning and execution. The investment in this expansion, which was carried out in parallel with normal day-to-day production, has increased the plant's production capacity by allowing



MESSER FRANCE, France



MESSER HUNGAROGÁZ, Hungary

100,000 more cylinders to be filled per year. The product portfolio has also been expanded through the addition of some standard gas mixtures and high purity gases as well as CO₂ for customers in the medical and food sectors. Further advantages are that the cost of transportation and for filling cylinders elsewhere has been reduced. HGV and fork-lift truck traffic has also been streamlined thanks to optimised use of the existing site. The technical facilities are state-of-the-art and of course meet all the requirements in terms of safety, environmental protection, energy management and noise prevention, as well as health and safety at work.

France: New cooling tower in Creil

In August 2015, the existing cooling tower for the air separation unit at the Creil production site was dismantled and replaced with a modern one. It went into operation at the beginning of September. The project was completed on schedule and even came in under the approved budget of 452,000 euros. The new plant achieves a lower cooling water temperature than was the case before, thereby saving energy during compression processes in the air separation unit.

Vietnam: New cold box

At the end of October 2015, the cold box for Messer's third air separation unit was erected in Hai Duong in Vietnam. Its modular design allowed all five prefabricated components to be installed within a week. The new facility is located on the premises of our steel customer Hoa Phat in Hai Duong.

China: Largest krypton and xenon manufacturer

Since May 2015, Messer has been producing the noble gases krypton and xenon at a new production facility in the central Chinese city of Panzihua, Sichuan province. In 2012, Messer commissioned its first inert gas unit in China – in Xiangtan, Hunan province, in the south of the country. With an additional annual production capacity of 5,000 cubic metres of krypton and 450 cubic metres of xenon at a purity of 99.999 per cent, Messer is now the largest producer of high-purity krypton and xenon in China.

Krypton and xenon are among the rarest elements on earth. They comprise only about 1.2 ppm of the atmosphere. These inert or noble gases are among the most valuable products in our range. Applications in which they are used include the manufacture of lighting equipment and in gas lasers. Krypton



MESSER ENERGO GAZ, Romania



MESSER CROATIA PLIN, Croatia



MESSER ROMANIA, Romania

is also used as a damping gas inside sound insulating windows. During the process of air separation, which is used to obtain the atmospheric components oxygen and nitrogen, the inert gases accumulate in the liquid oxygen. Extracting them from this component of the air requires fine-tuned processing steps such as pre-purifying, pressure build-up, methane removal and distillation. Due to their low concentration in the atmosphere, a lot of liquid oxygen is required to obtain them in significant quantities.

Successful through partnerships

Estonia: New oxygen production facility

In 2015, Messer, together with its partner BLRT Grupp, one of the biggest industrial holding companies in the Baltic States, invested some five million euros in a new oxygen production facility in the Estonian town of Järvakandi as part of the Elme Messer Gaas joint venture. The facility is located on the site of Owens-Illinois Inc., a Messer customer and the world's leading manufacturer of container glass. The facility produces 2,650 cubic metres of oxygen per hour, which fully meets the requirements of the new glass tank. Owen-Illinois was supplied with liquid oxygen during the construction phase in order to keep the glass furnace, which had gone into operation in December 2014, provided with oxygen.

The use of oxygen in high-temperature processes is state of the art. The gaseous oxygen is piped directly to the glass furnace's burner station. This station is operated using oxy-fuel technology, i.e. with a calibrated mixture of oxygen and fuel. The new system reduces natural gas consumption as well carbon dioxide and nitric oxide emissions, making a significant contribution to meeting our sustainability goals at Owen-Illinois.

Messer has many years of experience in the development and use of oxy-fuel burners in the glass as well as ferrous and non-ferrous metals industries. Oxy-fuel technology uses oxygen instead of air for combustion in the firing process for the furnaces. The absence of nitrogen, which is present when air is used as the combustion gas, reduces the waste gas volume resulting from the process by about 70 to 80 per cent. Energy can also be saved due to not having to heat the inert nitrogen to the process temperature of between 1,450 and 1,600 degrees Celsius. This reduces CO₂ emissions and helps prevent nitric oxide formation, with a reduction of up to 70 per cent compared to the use of air for combustion. Oxy-fuel is a technology that is being pushed by BAT (Best Available Technologies) for glass production worldwide and which will influence the glass industry in future via investment concessions for the construction of new facilities.

Belgium: CO₂ recovery in the port of Ghent

Messer Belgium and gases company IJsfabriek Strombeek are helping to reduce CO₂ emissions in Belgium. Together with the Alco Bio Fuel (ABF) bio-refinery, they are investing 15 million euros in a new carbon dioxide recovery facility in the port of Ghent. The new facility is due to go into operation in the summer of 2016 with the aim of recovering and processing some 100,000 tons of CO₂ per year. The carbon dioxide is released at the ABF site during bioethanol production from biomass. Biomass is used, among other things, as an energy source for electricity and biofuel production. If solar panels were to be used to reduce the quantity of CO₂ by the amount that is released during electricity generation with fossil fuels, they would need to cover an area of two million square metres. The CO₂ which is processed at the new facility can be put to further use in the food and beverage industry, in water treatment, for refrigerated transport or as a chemical raw material.

Thanks to the recovery of CO₂, ABF will be able to improve the carbon footprint of their bioethanol production and considerably expand its product range.



MESSEER HUNGAROGÁZ, Hungary

This is not the first initiative by Messer subsidiary Messer Benelux and IJsfabriek Strombeek in this area. Five years ago, the two gases manufacturers invested in a CO₂ recovery plant at the Ineos site in Zwijndrecht, which also processes 100,000 tons of CO₂ a year.

Documented supply chain

G4-12

Messer has a central purchasing policy, buying its tanks, tankers and gas cylinders for the whole of Europe. For these products, Messer works with long-standing suppliers who are regularly audited. Before concluding a contract with a new supplier, they first need to pass a comprehensive audit. All other products, in particular the electricity for the operation of our production facilities, but also traded goods, are bought locally by the national subsidiaries. These suppliers undergo regular checks as part of ISO 9001 certification.

Messer Group's supplier audit

The Messer Group's Engineering/Production department has been successfully ISO 9001 certified since 2013. The Corporate Production department supports the national subsidiaries in operating and maintaining the existing production facilities (troubleshooting, maintenance planning, know-how transfer/training, standardisations). The Engineering department is responsible for all technical and procurement-related aspects in connection with the implementation of projects for the production of all kinds of gases. This includes the development as well as the safe and quality-compliant construction or conversion of facilities for the production of industrial and medical gases. Besides plant design, project management and construction management, these responsibilities also include procuring/buying all the necessary plant components and extend all the way to commissioning. Since many components have to meet customer-specific requirements, the department has a large number of suppliers with whom the Messer Group maintains long-term supply relationships.

Comprehensive supplier audits are carried out every year as part of the ISO 9001 certification process. Four suppliers were audited in 2014 and two in 2015.

We first worked with Chinese company Suzhou Oxygen Plant Co. Ltd (SOPC) in 2012. Following the successful inspection and commissioning of a nitrogen generator, the extent of supply orders was significantly expanded in 2015. Delivery of cold boxes, as well as the necessary air treatment components such as chilling towers, DCAC (Direct Contact After Coolers) and molecular sieves for the air separation projects in Poland and Vietnam has also now been made to Messer Group. As part of a five-day ISO 9001 audit, SOPC was first audited as a Messer Group supplier in 2013, which included checking the manufacturing machinery, warehouses and workshops.

In 2015, the Engineering department staff therefore spent some 40 days at SOPC to discuss specification, interim inspections and final inspection of an installation and also get a deep insight into the Chinese company's work processes. On-site process improvements were then also discussed with SOPC so as to ensure that the goods ordered are of a high quality.



MESSEER ROMANIA GAZ, Romania

In this regard, the Messer Group attaches great importance to the working conditions and level of training of the welders. The welding procedures are defined as part of the specification of a project. Since the components ordered are exposed to serious stresses due to temperatures as low as minus 200 degrees Celsius and long operating periods of 360 days a year, the engineers carefully check the welding procedures used and the welds themselves. Within the framework of the specified pressure vessel regulations (ASME Code/DGRL/PED), the individual pressure vessels as well as, later, the plant as a whole are inspected by a notified body. The quality of the welds is also checked, which requires the use of well trained staff.

This high degree of cooperation is also called for with the other suppliers, not just in Engineering but also in Corporate Supply Chain Management (logistics, sourcing and filling plants). This corporate division guarantees the availability of bulk products for the Messer Group and is responsible for Europe-wide procurement and standardisation of the lorry fleet and bulk tanks.

Local management in all matters concerning the management and procurement of equipment for filling plants (cylinders, bundles, filling pumps, accessories) is supported by Messer GasPack GmbH. This company also carries out regular comprehensive supplier audits in accordance with ISO 9001.

G4-PR3 **New labels for gas mixtures**

The cylinder labels for the Messer Group's gas mixtures have had a new look since the 1st of June 2015. It complies with the requirements of the European directive on the Classification, Labelling and Packaging of Chemicals (CLP), which came into force for gas mixtures on this date. The directive is based on the United Nations' Globally Harmonised System (GHS). The new labels feature modified identification symbols. The previous danger symbols with black imprints on an orange background



MESSER POLSKA, Poland

are now replaced by hazard pictograms with black symbols on a white background in red-rimmed diamonds. New symbols have been added, such as for gases under pressure. The hazard and precautionary statements have been expanded and renamed. The R and S phrases used before have now been replaced by H and P statements (hazard and precautionary statements). The former indications of danger have now given way to the signal word “Danger” or “Warning”.

Romania: BABEL successfully implemented by Messer Romania Gaz

In 2015, Messer Romania Gaz successfully implemented the IT-supported “BABEL” pressure vessel tracking system at all locations in Romania. The aim of the project, launched in October 2013, was to further improve the performance of Messer’s cylinder gas business in Romania and the associated customer services. The advantages of “BABEL” are clearly visible in many areas of Messer Romania Gaz such as production, logistics, sales and accounting, as well as at the cylinder gas filling plants in Mintia and Râmnicu Vâlcea and the air separation unit and production site in Resita. They are reflected in a constant overview of all cylinder stocks, also improved traceability of medical gas cylinders, quicker response times in the case of complaints, fewer errors in identifying vessels which are subject to obligatory testing, a time-saving inventory process and quicker preparation of warehouse documentation in response to enquiries from the authorities. During the project, the staff manually registered around 37,000 Messer-owned cylinders and bundles as well as 6,000 customer vessels into the “BABEL” system.

Furthermore, the 40 Gas Centre partners of Messer Romania Gaz are now also taking advantage of the benefits of “BABEL”, such as with cylinder returns.



MESSER GASES DEL PERU, Peru

Quality assurance for our products

New Messer standard for validation of air separation units

Messer Group has introduced a new Messer standard for anticipated validation of air separation units (ASUs). It integrates the validation into the business processes of the corporate “Engineering & Production” division. Messer thus guarantees an efficient, transparent and smooth prospective validation of new ASUs, as an integrated validation has advantages over one that is carried out as a separate process. It allows responsibilities to be made transparent and facilitates timely planning and implementation of all the necessary activities.

The standard applies to the “Engineering & Production” division at Messer Group as well as all those entities in Europe and Peru which are planning to build new air separation units. This means that, as of now, validation activities will already be incorporated into the planning and construction of new ASUs. ASUs constitute a central element in the manufacture of medical gases. ASUs in which medicinal products or active substances are manufactured are subject to the EU’s GMP (Good Manufacturing Practice) guidelines. Appendices 15 and 11 to these guidelines contain binding specifications concerning “Qualification and Validation” as well as “Computerised Systems”.

Slovakia: Pure carbon dioxide

In Slovakia, carbon dioxide without food certification from another provider has come into circulation. This led to the Slovakian gases association – on the initiative of market leader Messer – launching the “čisté bublinky” (pure bubbles) campaign to protect consumers from contaminated products. The campaign in Slovakia was a great success. The buyers in the catering trade have understood that CO₂ is a gas involved in food production and may therefore only be used with the appropriate certificate.

Slovakia: Every step documented

The CO₂ which Messer delivers in Slovakia comes from a natural source in Ölbő, in neighbouring Hungary. There the raw gas is collected in a tank, the contents of which are subject to continuous analysis. Molecular sieves and distillation processes are used to purify the carbon dioxide before it is analysed again and piped to a second tank, from which the tankers are filled. This is followed by repeated stages

of analysis. The contents of the tankers – there is always some residual gas in the tanks – are analysed before and after filling and this is repeated when the gas is transferred into the storage tanks at Messer and from there into the cylinders. Each charge is checked thoroughly, each process properly documented in accordance with the requirements of European and national food regulations. Handling of the cylinders is also subject to strict rules as in this instance they are classified as food vessels. One of the factors which drew attention to the use of uncertified CO₂ in Slovakia was that some of it was sold in old fire extinguisher cylinders.

France: Extensive analyses

The degree of effort applied by Messer in its analyses of the gas CO₂, which is used in the food industry, is illustrated by the new equipment that has been installed at its facility in the French village of Lacq. Here the CO₂ is obtained from the fermentation of maize for bioethanol production. The Messer laboratory received a whole range of analysers which facilitate identification of, among other things, the following impurities in the CO₂: traces of steam and oxygen, nitrogen oxides, hydrocarbons, acetaldehyde, ammonia, methanol and carbon monoxide. A separate, dedicated analyser checks taste and odour. The analysis methods range from gas chromatography to UV luminescence.

France: Messer France successfully re-certified

On the 22nd September 2015, Messer France received confirmation from Bureau Veritas, a worldwide leading company in the field of certification services, about the successful completion of ISO 9001 and OHSAS 18001 certification. The re-certification audits took place from the 11th to the 24th of June 2015 at five Messer France locations in France.

ISO 9001 is an international standard which sets the minimum requirements for a quality management system and which is guided by various principles on how to ensure continuous improvement and a



MESSER FRANCE, France

focus on customers, products and services in line with customer expectations as well as official requirements. OHSAS 18001 (Occupational Health and Safety Assessment Series) is an international occupational health and safety management system. It provides companies with the ideal framework for implementing health and safety systems aimed at preventing industrial accidents.

For Messer France, the certificates are effective and confidence-building instruments which underpin our values as a company, such as customer focus and excellence, and help improve them continuously.

Romania: Messer Romania Gaz is a certified supplier of food gases

Messer Romania Gaz, Romania, has received a certificate for the successful implementation of a food safety management system in accordance with FSSC 2200:20011 (Food Safety System Certification) at its Resita production site and its cylinder gases filling plant in Mintia. The certification in March 2015 enables the company to demonstrate that it complies with all necessary food safety requirements.

With a certified management system for food safety within a supply chain, Messer Romania Gaz will be able to further strengthen its market position in Romania as a qualified supplier of Messer "Gourmet" foodstuff gases.

Belgium: Messer once again awarded CE certificate for respiratory gases

From the 3rd to the 5th of November 2015, Messer Group, Germany, and Messer Belgium, Belgium, were successfully audited and re-certified by certification body Certiquality, Italy, in accordance with Directive 93/42/EEC concerning medical products. The certification entitles Messer Group to manufacture respiratory gases as medical products at Messer Belgium's plant in Zwijndrecht. Along with the certification, Messer Group received the CE mark for respiratory gases, which can therefore be marketed as medical products within the EU.

Directive 93/42/EEC describes the requirements to which medical products must conform, including the necessary measures for placing them on the market and putting them into use, as well as classification according to risk categories, conformity assessment, responsible persons and the CE marking. The CE mark is a basic requirement for placing a medical product on the market. It demonstrates that the medical product conforms to the European directives and its intended use, therefore making it "marketable".



MESSER AUSTRIA, Austria



MESSER DANMARK, Denmark



MESSER POLSKA, Poland

The certification enables Messer companies to trade with respiratory gases in different combinations as medical products within the EU. However, there are different classifications for respiratory gases within the EU. In some countries they are classified as actual medicines rather than medical products. It is therefore necessary to check the national status of the products before their market launch.

Our way: learning from every incident.





G4-DMA Customer health and safety, transport, occupational health and safety

Danilo Ritlop:

"Safety and quality programme are a challenge."



DANILO RITLOP | Senior Vice President
SHEQ (left)

"In the past year, we placed particular importance on recording all incidents in our reporting system – because in the area of safety and quality, we can learn from every single occurrence, even from those that do not initially appear to be important. This is reflected in our safety statistics, which show an increase in the number of safety-relevant

incidents. It is important for us to lower the number of lost work days due to accidents across the entire Messer Group. We are heading in the right direction in Europe, but our maxim is: Every accident is avoidable!

Regrettably, most accidents are the result of human error, and not technical faults. For this reason, I have decided to focus special attention in the coming years to the importance of acting responsibly. We will launch a corresponding program with a large international conference on safety, health, environmental protection and quality in May 2016.

We will also initiate a campaign for customer safety in 2016 and publish a variety of safety information leaflets and brochures to accompany it. Our aim is to not only inform our customers about the safe handling of gases and gas cylinders, but to go a step further by providing them with comprehensive information regarding the safe transport of gas containers in their own vehicles too."



MESSER ALBAGAZ, Albania



MESSER FRANCE, France

Safety

The safe handling of our gases, both at our sites and our customers', safety at the workplace in technical areas and administration, plant safety and a safe logistics operation and fleet are fundamental for our customers, business partners and employees. This is clearly reflected in our materiality matrix. Industrial health and safety is a fundamental principle which is firmly anchored in both our company and our industry as whole. The topic of safety is incorporated into our Mission Statement, our internal guidelines and organisational processes for all areas of the company, thus enabling our experts to implement specific measures to continually improve it.

Safety at work

The Messer Group has two employees at its Corporate Headquarters who are responsible for the areas of safety, health, environment and quality (SHEQ). They are supported by 39 local SHEQ officers at the subsidiary companies.

Global industrial safety awareness day

Messer held its third annual International Safety Day on the 11th of September 2015. Once a year, all employees attend an awareness day under the banner "All work-related illnesses, injuries and accidents are avoidable". Human error is one of the main causes of accidents – whether due to fatigue, ignorance or negligence. As in previous years, the Safety Day served to raise awareness for safe practices and conscientious behaviour at places of work and at our customers' premises. The main theme this time focussed on new life-saving guidelines developed by the European Industrial Gases Association (EIGA) which are to be implemented at every workplace where human error can be avoided, thus ensuring a safe work environment. Special attention was given to the product carbon dioxide, because the dangers associated with handling CO₂ are often underestimated, especially in closed spaces. Unfortunately, the industrial gases industry still documents serious accidents due to the improper handling of CO₂, some of which are fatal.

These life-saving principles for how to behave are now being successively disseminated throughout the Messer Group with the aim of creating greater awareness for identifying potential hazards and their source ahead of time.

After the event, all of the presentations given at Safety Day 2015 were made available on the company intranet and in the Messer Group safety newsletter for all employees to read.

The safety of our employees

G4-LA6

Our key performance indicators (KPI) for all areas of safety reflect an unfortunate negative trend in our accident statistics. The number of accidents at work resulting in lost working days rose from 18 in 2014 to 22 in 2015. The number of reportable accidents rose from 36 in 2014 to 87 in 2015.

The frequency of accidents, measured by the number of work-related accidents with lost days per million hours worked, rose from 1.7 to 2.2. The injury severity rate, that is the number of days lost per million working hours, rose to 65.1 compared to last year's figure of 47.9. In 2015, we recorded a frequency rate of reportable work accidents per million working hours of 8.8, up from 3.4 in 2014. There were no accident-related fatalities.

The safety of our customers

G4-PR1

Messer operated 7,853 of its own plants on customer sites in 2015. This is 1,209 more than in 2014. These plants underwent a total of 8,800 technical inspections. In 2014, 7,553 inspections were performed. In addition to this, 1,522 safety audits were carried out on Messer-owned plants at customer sites. In 2014, the number of safety audits was 1,199. Messer gave a total of 2,036 safety training courses at customer sites involving 3,410 participants. While Messer organised considerably fewer safety training courses at customer sites in 2014 (1,697 in total), the number of people trained was higher at 3,841.

Safety in our communities

Messer receives four safety awards

At the beginning of June 2015, Messer was recognised by the European Industrial Gas Association (EIGA) with four safety awards for exemplary industrial safety.

The national subsidiary in Slovakia was honoured with the "Gold Two Star EIGA Safety Award" for two million working hours of accident-free operation at its Šafa site. The Serbian subsidiary received a golden "EIGA Safety Award" for 15 years of accident-free operation at its Novi Sad site. Messer in Hungary received a silver EIGA Safety Award for 500,000 working hours of accident-free operation. Messer in Romania received a bronze EIGA Safety Award for 5 years of accident-free operation at its Resita production site.

Messer Romania Gaz recognised with Safety Award

Presentation of the Messer Group "Safety Award 2014" took place during the International Company Conference for Senior Management Staff in Prague in October 2015. This year's winner of the second-ever SHEQ Prize, which Messer awards to the company in the Group with the best performance in the areas of industrial safety, quality, environment and health, is Messer Romania Gaz, Romania. Messer Ibérica de Gases, Spain, and Messer Technogas, Czech Republic placed second and third respectively.



MESSER CHINA, China



MESSER NEDERLANDS, Netherlands

As a precondition for further participation in the application process for the SHEQ Award, Messer Romania Gaz fulfilled all the criteria of the initial selection procedure, such as zero accidents in the past two years, zero fatal accidents in the past five years, zero accidents while transporting gases as well as zero accidents resulting in environmental pollution. The final verdict was determined following evaluation of the questionnaires for the second round of the selection process, which asked about measures being implemented concerning accident prevention, quality assurance, environmental protection and the contribution being made to group-wide knowledge management in these areas. The certificates received that confirm the successful introduction and implementation of the ISO 9001, ISO 14001, ISO 22000 and ISO 13485 standards verify that Messer Romania Gaz fulfils all of the requirements for a functioning quality management and environmental management system as well as for food safety and for the production of medical products. Experts from Messer Romania Gaz are contributing their knowledge to support the Messer "SHEQ Committee" in implementing measures to achieve the corporate goals. The company acts on employee proposals generated as part of the idea management process to improve and optimise processes in the area of industrial safety and environmental protection, and that make the day-to-day work of employees easier and more efficient.

Switzerland: Hazard prevention

In order to prevent disruptions, or at least, limit their effects, legislation in Switzerland prescribes regular inspections. In March 2015, Messer Switzerland underwent such a hazard prevention inspection at the Lenzburg site. It was carried out by the works fire brigade from pharmaceutical supplier Dottikon ES and the Aarau and Lenzburg fire brigades. The training connected with the inspection is intended to make the identification of hazard potentials quicker, improve local knowledge and optimise fire brigade deployment plans.



MESSER SCHWEIZ, Switzerland



MESSER BELGIUM, Belgium

The safety of our logistics operation and fleet

G4-EN30

In addition to the statutory provisions on operating a vehicle fleet, Messer implements its own safety concept for the transport of gases with tankers and cylinder trucks. This supplements the training courses for drivers prescribed by the ADR (European Agreement concerning the International Carriage of Dangerous Goods by Road) with the company's own modular driver training programme. You can read about further measures concerning transport safety in the Messer Group's 2015 Management Report.

The key performance indicators (KPI) are also comparable in the areas of logistics and vehicles. Unfortunately, the number of avoidable accidents involving bulk transports (the transport of liquid gases in tankers) rose from 14 in 2014 to 29 in 2015. The frequency rate per million kilometres driven is 0.51 for the year under review compared to 0.30 in the previous year. This figure also includes minor damage above 3,000 euros, but with our modern fleet of vehicles, this threshold is quickly exceeded even in the case of small amounts of damage.

The number of avoidable accidents involving the transport of gas cylinders increased from 11 to 14. This amounts to 0.62 per million kilometres driven, up from 0.49 in 2014.

Our way: always finding the better solution.





G4-DMA Energy

Johann Ringhofer:

"An increase in earnings not despite, but because of environmental protection – this is our way."



JOHANN RINGHOFER | Executive Vice
President Engineering & Production

"Environmental protection is still regarded with a certain scepticism in many countries: Environmental protection measures cost money, reduce the international competitiveness of the company and end up costing jobs – these are the arguments one commonly hears against projects that have to do with environmental protection. As a family-run industrial gases company, Messer has always placed particular importance on protecting the environment. In order to highlight what this means formally, we developed our environmental guidelines and these apply to every Messer subsidiary worldwide. They are one of the basic principles on which our business activities are based. But environmental protection is not just a matter of concern in our day-to-day business. Our industrial gases and the processes we develop help our customers to make their production operations "cleaner" too. Oxygen enrichment

of combustion air, wastewater neutralisation using carbon dioxide and transport refrigeration using nitrogen are just a few examples of processes that enable energy consumption to be lowered and/or reduce the level of pollutants emitted.

The impact our production plants have on the environment is mainly due to the electrical power they consume – and thus indirectly the emissions released during its generation. By continually improving and optimising our production facilities, we have succeeded in lowering the specific energy consumption of our air separation units by around 16 per cent over the past ten years.

During the production of liquid carbon dioxide, another important product in our portfolio, we process several hundred thousand tons of CO₂-containing exhaust gas per year that would otherwise be released into the atmosphere as a greenhouse gas. The gas is purified and liquefied in our energy-efficient production facilities and used as a finished product in both the food and beverage industry and metalworking industry. A significant amount is also used in greenhouses to increase the growth of plants, where it is absorbed so that it can no longer end up in the atmosphere.

The above examples show that reducing emissions not only makes an active contribution to climate protection, but to our economic success – and that of our customers – too by lowering energy costs.

An increase in earnings not despite, but because of environmental protection – this is our way."



MESSER CHINA, China



MESSER GASES DEL PERU, Peru

Environmental and climate protection

Environmental guiding principles of the Messer Group

Messer adheres to environmental guidelines which were developed by the company as the basis of its business activity:

The Messer Group will

- determine the material impact of its business activity on the environment and set itself targets for the continual improvement of its environmental compatibility
- reduce the environmental impact of its products and services
- endeavour to prevent pollution of the environment
- reduce waste generation and support program aimed at the prevention of pollution
- provide operating principles, processes, procedures and resources for the implementation of its environmental guidelines, taking into consideration the best available technology
- encourage staff to act in an environmentally friendly way, both at work and at home
- promote continuous improvement in waste minimisation
- comply with or exceed the requirements of existing environmental legislation
- carry out environmental impact assessments before building new or modifying existing facilities
- strive for open and honest communication with all stakeholders and neighbours
- minimise energy consumption and, wherever possible, reuse materials in an economically viable way

G4-EN6 **Energy management**

Since 2004, we have always achieved our objective of improving the energy efficiency of the air separation units operated by Messer. Our current objective is to reduce specific energy consumption by 0.5 per cent a year from 2010 to 2020. We are achieving this through better capacity utilisation of our production facilities, continuous investment in even more efficient facilities and targeted energy efficiency projects. These projects are based on optimal solutions we have discovered within and outside the Group.

In 2014, we created the new position of Global Energy Officer (GEO) in the Messer organisation. The role attached to this job is to continuously monitor the operation of air separation units in order to identify optimal energy saving potential.

The Messer Group develops and builds its own air separation units. Energy efficiency is a key aspect in the design of these units. Our Corporate Engineering Team is continuously working on ways to further improve the average energy consumption of our new units. This is often done in cooperation with industry partners, external experts and universities. Our commitment to environmental protection is also reflected in our SHEQ (Safety, Health, Environment and Quality) management system, which



MESSER POLSKA, Poland

applies across the Messer Group as a whole. We already have ISO 9001 certification in 19 companies as well as ISO 14001 certification in 28 companies. We use these certifications to constantly improve our relationship with our customers and employees and develop appropriate environmental protection measures. Our internal SHEQ management system requires all Messer companies to comply with the international standards ISO 9001 (quality management system) and ISO 14001 (environmental management system).

Messer Mostar Plin receives certificate for environmental management system

In July 2015, Messer Mostar Plin, Bosnia-Herzegovina, was successfully certified for its environmental management system (EMS) by Bureau Veritas Croatia. As part of the external audit, the company was able to demonstrate that it meets all the globally recognised requirements of the international environmental management standard ISO 14001:2004. This also includes continuous improvements in environmental performance as well as compliance with all legal requirements. The certificate, which was awarded in August 2015, is valid for three years. Bureau Veritas is a world leader in the field of conformity assessment and certification services.

Central energy procurement at Messer Group

Production facilities for the manufacture of oxygen, nitrogen and argon as well as CO₂ recovery facilities are in operation 24 hours a day, up to 365 days a year. A large amount of energy is needed to manufacture our products. In 2015, our total worldwide energy demand just for the air separation units was 4,228 GWh (gigawatt hours). The energy coefficient went down from 1.3840 in 2014 to 1.3760. Efficient energy use and cost-effective procurement of the energy are of major importance to the Messer Group. Optimising electricity procurement includes Europe-wide calls for tenders, long-term



MESSER HUNGAROGÁZ, Hungary

general agreements and continuous monitoring of the futures and spot markets. Since the various electricity markets in Europe are becoming increasingly integrated and interdependent, a central unit for electricity procurement in Europe has been set up in our Corporate Office. This unit supports and advises our national subsidiaries on buying electricity and regularly checks the electricity costs as part of a benchmarking exercise. By implementing these measures, we ensure that our customers receive a cost-effective and long-term product supply.

The economically efficient use of renewable energy is also checked on a regular basis. In 2015, a large proportion of the energy supply for our air separation unit in Austria was covered by energy from hydropower, wind and solar installations. The air separation unit's total energy consumption in 2015 was just over 66 GWh. Our subsidiary in Switzerland also generates its own electricity from hydropower. This is used to supply a hydrogen plant, the operation of the specialty gases facility and the filling plant for air gases, as well as the administration building. In addition, it was possible to feed ten per cent of the electricity generated into the grid. In Austria and Switzerland alone, the use of renewable energy allowed the carbon footprint (CO₂e) to be reduced by 1,867 tons.

Messer Tehnogas in Serbia installed 120 solar panels on the roof of its filling station and put them into operation in May 2015. So far they have produced about 25,400 kWh of solar electricity. The electricity is not fed into the national grid, with all of it being used by Messer instead.

Environmental and climate protection

Greenhouse gas emissions

Air separation units process ambient air without producing any toxic or environmentally harmful emissions. Even in the event of a shut-down or fault, only air components are emitted. Our products are gases which are delivered either by pipeline, via tankers to fill customer tanks or in cylinders. Only cylinder gases are packaged products. Steel cylinders are usually rented out to customers and returned empty after use. They are therefore 100 per cent reusable after the requisite cleaning.

Our total greenhouse gas emissions are shown as CO₂ equivalents (CO₂e). The quantity of emissions is converted into greenhouse gas equivalents using the International Energy Agency's conversion factors. Our calculation of greenhouse gases is broken down into direct emissions (Scope 1) and indirect emissions (Scope 2 and Scope 3), in accordance with the GHG (Greenhouse Gas) Protocol. Scope 1 includes all direct CO₂ emissions from our production facilities.

Despite efficiency gains, CO₂ emissions are increasing in absolute terms as the number of new production facilities grows. The reduction in electricity consumption, which is the biggest factor influencing Messer's CO₂ equivalent, can be demonstrated using the energy coefficient. Indirect CO₂ emissions are emissions from the generation of purchased electricity (Scope 2). A total of 4,231.5 GWh of electricity was used to operate our production facilities and filling plants. This gave a CO₂ equivalent of 2,661,951 tons for 2015.

Indirect emissions that come under Scope 3 include all Group-wide emissions that are not covered by Scope 1 or Scope 2. This includes, for example, the electricity needed for administration buildings or used in connection with travel undertaken by employees. Here the CO₂ equivalent was 65,887 tons in 2015.

G4-DMA Emissions

G4-EN3, G4-EN5, G4-EN16, G4-EN17

Fuel consumption and other emissions

Total fuel consumption was 28.6 million litres in 2015, compared with 27.7 million litres in 2014.

Messer operates nitrous oxide (N₂O) production facilities in Croatia, the Czech Republic, Serbia and China. This gas is used in medicine and the food industry.

The total CO₂ equivalent for our fleet's fuel consumption and for emissions of N₂O and hydrogen is 120,225 tons CO₂e (Scope 1). In 2014, these emissions were 113,600 tons CO₂e.

G4-EN15



MESSER AUSTRIA, Austria



MESSER INDUSTRIEGASE, Germany

Consumption of water

Water consumption at our plants is relatively low as we use water in a closed circuit and only need to replenish what has been lost to flushing and evaporation. In 2015, our total water consumption was 6.4 million cubic metres, with most of this being used for cooling the compressors in the air separation units.

Waste generation

In 2015, the total quantity of non-toxic waste was 45,400 tons. The total quantity of hazardous waste was 723 tons.

Energy saving for our customers

Our gases also help to make our customers' products and processes more environmentally friendly. In 2015, we carried out 204 new installations of tank systems for our customers, which we introduced along with our products, applications and technologies for the purpose of protecting the environment. In 2014, the number of installations was 169.

Ultra-cold for extreme heat

Nuclear fusion allows energy to be generated without producing greenhouse gases or having to dispose of radioactive waste. Working on this principle, the world's first nuclear fusion reactor to produce more energy than it consumes, ITER, is being built in Cadarache, France, as part of a major international project. The aim is to create a virtually inexhaustible source of low-emission energy which does not leave any dangerous waste. The reactor's superconducting solenoids have to be tested at low temperatures before being installed. For this purpose, Messer developed a liquid nitrogen cooling facility, which involves the refrigeration temperature being regulated with a patented process based on the nitrogen's evaporating pressure. This also makes it possible to achieve temperatures below nitrogen's boiling point of minus 196 degrees Celsius, thus facilitating cooling to minus 209 degrees Celsius. A further reduction in temperature is not possible since nitrogen freezes at minus 210 degrees Celsius.

Truck refrigeration without noise or exhaust gases

Many foodstuffs, biological samples and some pharmaceutical products are preserved using low temperatures. It is essential that the cold chain is never broken, even during transportation. Transport refrigeration with cryogenic gases is not only very reliable but also particularly efficient, flexible and environmentally friendly. Messer has developed a whole range of transport refrigeration technologies for the most diverse requirements.

Conventional transport refrigeration has a number of disadvantages. Cooling plates can only store a relatively small amount of cold. They need to be precooled over a longer period of time, hardly making them suitable for reacting to fluctuating demand. While cooling units produce the low temperatures themselves, their compressors generate exhaust gases and noise. If the doors of the refrigerated truck are opened frequently, the cooling effect of both methods quickly reaches physical limits. Cryogenic processes, which make use of the low temperatures of liquid nitrogen or CO₂, have none of these disadvantages.

EcoLIN uses a nitrogen tank and a system of cooling tubes to turn the truck's entire container into a cold box. Before starting a journey, the tank is filled with cryogenic nitrogen, which provides a precisely metered cooling input to the container via the system of tubes. The system can compensate for temperature fluctuations caused by opening the doors with virtually no delay. As it does not need any compressors, EcoLIN is very quiet and easy to maintain. Its environmental footprint is another positive aspect – compared with a conventional refrigerated truck, CO₂ emissions are reduced by some 20 tons a year.

On a smaller scale, there are the Siber containers on castors, which are transported in conventional trucks without cooling equipment. They have a reservoir for dry ice at a temperature of minus 78 degrees. It is produced in the reservoir itself by filling it with highly pressurised liquid carbon dioxide, which partially freezes to form snow when it expands. Either chilled or frozen products can be transported, as required, in the same Siber box – all the way to the refrigerated or frozen section in shops and supermarkets. The low temperatures are maintained for up to 24 hours. In addition to their refrigerated compartment, Snowline containers have another compartment for heating up ready meals. They are used primarily to convey cold and hot food from hospital kitchens to the wards. The CO₂ can be precisely metered, enabling us to achieve maximum energy efficiency. Precise documentation of the refrigeration process is also possible.

The CRYO2PACK system for portable cold boxes allows you to make your own cooling elements in a matter of seconds as and when required: liquid CO₂ is conducted through a special nozzle. The gas expands and turns into dry ice snow, which is collected in a plastic bag. The dry ice bag is then added to the chilled products in the transportation box. The snow center technology facilitates the production of smaller quantities of dry ice snow without bags: the CO₂ is injected into the snow center container through a nozzle in the lid. The dry ice that is formed in there can then be added to the transport boxes with the chilled products to the required amount by hand.

More heat, less waste gas

Air is free – pure oxygen (O₂), on the other hand, requires the use of energy in its production. Storage and transport of the gas also necessitate a certain outlay. Nevertheless, it is worthwhile replacing free air with O₂ in combustion processes. Because the extremely reactive gas promotes combustion to such a degree that the overall costs can be appreciably reduced while at the same time improving the eco-balance. Messer has perfected the oxyfuel burner with Oxipyr technology.

Air consists of 79 per cent nitrogen – an inactive gas which contributes virtually nothing to combustion. But it is unavoidably also heated during combustion processes, consuming a substantial amount of primary energy. “This naturally has an effect on the process temperature,” explains Michael Potesser, technology specialist at Messer in Austria. “The higher the temperature, however, the more efficient combustion is. Put simply, with oxygen combustion you generate more heat from a particular volume of fuel. Increasing the O₂ concentration in the combustion air increases the flame temperature and the combustion efficiency, while, when seen as a whole, generating less carbon dioxide.”

The figures from practical application speak for themselves: fuel consumption and CO₂ emissions decrease by up to 50 per cent, while the furnace throughput can be up to 50 per cent higher. In addition, when the oxy-fuel technology is employed correctly, the production of harmful nitrogen oxides is noticeably reduced. “Our experience shows that this enables the cost of steel production to be significantly decreased, while at the same time benefiting the environment,” emphasises Mr Potesser. The technology can also be used to optimise the processing of non-ferrous metals, glass and ceramic materials. Furthermore, the use of oxyfuel burners in this context also consistently results in further desirable side-effects, as shown by the following examples.



MESSER CHINA, China



MESSER FRANCE, France

In September 2015, an additional smelter with a capacity of 25 tons was installed at Aluhut in Dobris, Czech Republic. Messer equipped this smelter with an Oxipyr F burner which provides a maximum performance of three megawatts. As an extra benefit, a hot air extractor fan enables the kiln exhaust gas to circulate, which results in an additional heat input into the smelting process. This technology also allows Aluhut to process contaminated aluminium scrap without having to use ecologically problematical chlorides and fluorides. The combination of the hot gas blower and the Oxipyr burner provides the option of post-combustion, thus permitting optimised utilisation of the primary energy. New production lines were equipped with Oxyfuel burners at the Czech glass manufacturing company Kavalierglass in Sázava. These are employed, among other things, for treating surfaces and edges. After modifying the glass mixture, the use of highly toxic hydrofluoric acid also became superfluous for polishing table glass. At Jinxin Copper in Mianyang, central China, copper scrap is melted in a 100-tonne anode furnace in order to retrieve the valuable metal for new products. Messer in China supported the company in replacing its conventional air combustion with two Oxipyr F burners, each with a three megawatt output, and a fully automatic burner control system with a burner extraction device. The duration of the melting process decreased from 25 to 23 hours, and natural gas consumption dropped from 12,000 to 7,000 cubic metres. In addition to the significant decrease in costs, this also resulted in an 80 per cent reduction in the exhaust gas load.

Slovakia: environmental protection with CO₂

Messer in Slovakia was hired by construction firm Hochtief to build a station for neutralising alkaline groundwater with CO₂ near the town of Žilina. This water is generated as wastewater during the construction of a tunnel. It has to be neutralised – in this case in a particularly environmentally friendly way, as the neutralised wastewater is discharged into a nearby stream, which flows into a lake that is used as a drinking water supply. Hochtief therefore decided to neutralise the wastewater with CO₂ rather than with mineral acids. With the Messer process, the wastewater's salt load is not increased through the addition of chloride or sulphate. The tunnel construction, which began in March 2015, is due to be completed within two years.

Slovenia: airy environmental protection

In 2016, Messer in Slovenia will build a modern air separation unit in Škofja Loka for nitrogen, oxygen and argon production. There is an important oxygen customer right next door: Knauf, a family company, uses the gas in a state-of-the-art technology that improves the quality of mineral wool production. Knauf is thereby also making a contribution to environmental protection by reducing its sulphur and carbon dioxide emissions. Moreover, less filter dust and waste is produced.

In addition, Messer has changed the neutralisation of cooling water from sulphuric acid to carbon dioxide, as Knauf also produces rock wool at the facility, which is used for insulation. The furnaces for melting the mineral raw material are fitted with a water cooling system. The pH of the cooling water increases during the process and has to be lowered again at regular intervals. Previously, this was done with sulphuric acid, which, as a hazardous substance, constitutes a risk to employees and the environment. CO₂ neutralisation has significantly improved the quality of the cooling water.

The air separation unit – right next to the Knauf site – will also make transportation with road tankers unnecessary.

China: ecologically dyed

Messer in China has commissioned its first carbon dioxide production facility. It uses the waste gas generated by Sichuan Meifeng, a chemical company in Mianyang, as a raw material and is designed for an annual output of 10,000 tons. Mianyang Ganlion Printing & Dyeing has been acquired as one of the first customers for the purified carbon dioxide. The company is the largest manufacturer of camouflage fabrics in southwest China. The process of dyeing the textile material involves the production of alkaline wastewater, which was previously neutralised with sulphuric or hydrochloric acid. Neutralisation with CO₂ eliminates the risks associated with handling these hazardous substances and is kind to the environment. The customer has reported improved wastewater quality and more precise pH control with the new method.

Estonia: green swing

Blowing oxygen rather than air into furnaces saves energy and reduces CO₂ emissions. This does not necessarily involve the use of high-purity gas; in most cases, enrichment of the combustion air is sufficient. To provide a supply for the manufacture of steel, ceramics and glass, energy-saving VPSA facilities therefore offer a good alternative to producing the gas by means of cryogenic air separation. They further improve the environmental footprint, which is already good thanks to combustion with oxygen. Cryogenic air separation facilitates the production of gases with a very high degree of purity. However, this requires air to be cooled to almost minus 200 degrees Celsius in order to liquefy it. By contrast, VPSA systems work without cooling, thereby saving the energy required for this liquefaction. Instead, they use the physical process of adsorption, which also gives them their name: Vacuum Pressure Swing Adsorption. Some substances with a porous structure – activated carbon, silicate gel, a number of ceramic compounds (zeolites) – act as an adsorbent and are able to “capture” the molecules of certain gases. The molecules stick to their surface and accumulate there. This works particularly well under increased pressure. If air is passed through such a substance, the nitrogen is trapped, while the oxygen flows through it. However, the adsorbent’s capacity is exhausted after a few seconds. The nitrogen is removed and released back into the environment by applying a vacuum. The VPSA system “swings” between vacuum and positive pressure in quick succession. The dual design – one half



MESSER HUNGAROGÁZ, Hungary

adsorbing, the other regenerating – ensures that a continuous flow of oxygen with a purity of up to 94 per cent is achieved. That is more than enough for most combustion processes. Furthermore, since VPSA facilities are installed where the gas is actually used, there is no need to liquefy and transport it, thereby avoiding the CO₂ emissions that this would involve. The new VPSA facility commissioned by Messer Elme Gaas, a joint venture of Messer and BLRT Grupp, in May 2015 in the Estonian town of Järvakandi is an example of this. It supplies some 18 million cubic metres of oxygen a year to the glass melting furnace at the directly adjacent site of Owens-Illinois, a glass container manufacturer with global operations.

Romania: through the urban jungle without exhaust fumes

Congested cities are their beat: cycle couriers make their deliveries on time, even when the streets are gridlocked. What's more, courier trips by bike are environmentally friendly. Since the beginning of 2015, Messer Romania Gaz has also been taking advantage of these benefits: the company is cooperating with a small courier service that delivers documents and smaller packages to recipients in and around Bucharest. Our Romanian colleagues particularly appreciate the quick delivery times and the personal service provided by the cycle couriers.

Hungary: protecting the river environment

Even carelessly discarded plastic bottles made from PET (polyethylene terephthalate) can be used for a good cause. This was demonstrated by the participants in the PET Cup in Hungary: with their self-built PET-bottle floats, they organised a boat race on the River Tisza – like every year. The aim was to collect as much (plastic) waste as possible from a long stretch of the river and its banks and then dispose of it in an environmentally responsible way. The event, which was also supposed to raise environmental awareness among the public of the Danube's longest tributary, was supported by local communities. Besides financial assistance, Messer Hungarogáz also provided dry ice, which stabilised the PET bottles for boat construction.



MESSER VADAR TEHNOGAS, Macedonia

Switzerland: dual benefit

The CO₂ emissions of Swiss food producer Hochdorf Swiss Nutrition have been reduced by 10 to 15 per cent since August 2015 through the use of an ASCO CO₂ flue gas recovery system. At the Sulgen plant to the south of Lake Constance, some 2,200 tons of the gas are therefore recovered every year, with most of it being put to use at Hochdorf right away.

Hochdorf has been refining agricultural products to produce high-quality foods for 120 years. Milk is one of the most important raw materials at the Sulgen plant. A steam boiler supplies the heat that is required for various processing steps, the boiler itself being heated with natural gas. Since August 2015, the waste gases from the boiler heating system have been conducted through an ASCO CO₂ flue gas recovery system which recycles more than 90 per cent of the CO₂ emitted. First of all, the flue gas is collected, cooled and precleaned in a gas scrubber, which removes the worst of the contamination and sulphur compounds. In an absorber tower, it is then passed countercurrent to a specially developed solvent. This solvent absorbs the CO₂, and subsequently the gas is removed from the solution again through heating. The solvent's formulation and the process have been optimised for the Ascisorb technology so that it uses 30 per cent less energy than conventional processes. It only uses 0.9 thermal megawatts per tonne of CO₂. In the subsequent process stages, the gas is compressed, further cleaned, dried and liquefied. Only the purified remainder of the flue gas – mainly steam, nitrogen and oxygen – is released into the atmosphere. The recycled carbon dioxide meets the purity standards for use in the food industry. A large proportion is used immediately on site, including for inert gas packaging of milk powder. Hochdorf thereby avoids the costs of purchasing the gas. At the same time, Messer in Switzerland resells the surplus CO₂ to end customers in the country.



Our way: fulfilling or surpassing expectations.



G4-DMA

Product and service labeling

Adolf Walth:

"We don't just work for, but with our customers."



ADOLF WALTH | Executive Vice

President Sales & Marketing

"Attending to customer needs, customer satisfaction and market development are the core tasks of the Central Sales Functions (CSF) Organisation. In 2015, we polled 23,000 of our customers to find out how satisfied they were with our performance. The overall rating showed an improvement over last year, scoring 8.51 on a scale of 1 for very dissatisfied to 10 for extremely satisfied. Customers are particularly satisfied with the attitude of our employees and their specialist knowledge. This is also born out by the many projects developed and implemented by our subsidiaries in collaboration with our customers.

Increasing numbers of customers are using our digital service offerings. E-sales tools make it faster and more convenient to exchange information while simultaneously reducing the specific costs associated with disseminating information – both for us and for our customers too. More and more national subsidiaries are successfully implementing the digital tools developed by CSF, allowing them to maintain closer contact with our customers as a result.

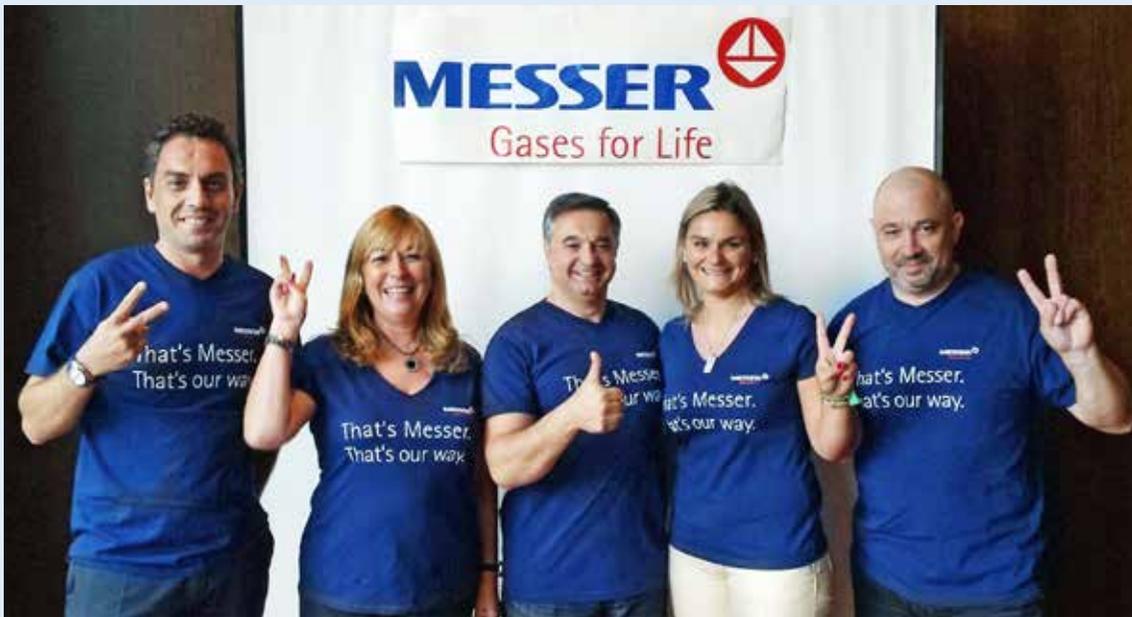
The Application Technology Division draws on its technical expertise, market knowledge and experience to support the sales activities of every Messer subsidiary. When it comes to developing new processes, we rely to a great extent on the good working relationship we have with our customers and their experiences. We assist our customers in optimising the use of gases in their processes.

New products, like our ternary shielding gas mixtures for welding, "Diveline", our pure component gases for breathing gas mixtures, the NO mixtures and the innovative MegaPack cylinder bundle, are intended to secure growth in the cylinder gas segment.

The Sales and Application Technology Divisions cater to the specific needs of our customers, and we look forward to our successful working relationships continuing in the future."



MESSER INDUSTRIEGASE, Germany



MESSER PORTUGAL, Portugal

Customers and markets

The sales division at Messer is geared to the needs of its customers. While smaller customers are looked after by local sales partners and supported with the help of electronic tools, more intimate partnerships are developed with medium-sized customers, who are personally attended to by the local sales departments. International customers, who tend to have complex needs and requirements that span several countries and an international approach to purchasing and/or production technology, are looked after from headquarters by a Key Account Management Team which operates with international scope. Apart from anything else, this allows us to fully exploit the associated business development potential. One of the tools Messer uses to manage its customer processes is a Europe-wide customer relationship management system.

The gases business is characterised by the fact that the pure products sold by all industrial gases manufacturers, such as oxygen, nitrogen and argon, are comparable with one another. As a consequence, Messer is continually striving to improve customer applications through the use of gases, with the ultimate aim of differentiating itself from the competition and developing long-term partnerships with its customers. In general, customers judge Messer's performance based on the business benefits realised and resource savings made through the use of gases and not, as a rule, on the price of the gases themselves.

The main benefits of choosing Messer include:

- Process consulting and application technology
- Quality assurance of the supplied gases
- Quality assurance of the plant provided, including liquid storage tanks, evaporators, compressed gas cylinders and application technology hardware
- Quality assurance of order processing
- Quality assurance of gas deliveries/the order fulfilment process
- Quality assurance of technical services (including installation, maintenance, application technology-related advice)
- Helpful and diligent employees
- Employee competence and technical knowledge
- Flexibility and creativity
- Continuous development and improvement of services
- Fair value for money
- Quality assurance of the supplied data sheets, manuals, information leaflets
- Quality assurance of customer support provided by suppliers
- Maximum possible safety when using and handling gases



MESSER FRANCE, France

Customer satisfaction as a factor for success

G4-PR5

Customer satisfaction is an essential factor in the success of the Messer Group. By measuring the level of customer satisfaction, it is possible to monitor the services provided and verify the effectiveness of the measures which have been implemented. This has the effect of continually raising the level of customer satisfaction and the commercial success of the Messer Group in the long term.

The online questionnaire on general customer satisfaction includes a total of 30 questions. In order to quantify the level of satisfaction, we looked at whether customers are generally satisfied with the services, whether customers see a benefit in being supplied by Messer and whether they would be prepared to recommend Messer to others. The questionnaire focuses on 16 services offered by Messer which customers have to rank in importance and then rate Messer's performance of these services.

In 2015, a total of almost 23,000 Messer Group customers in ten countries were asked about how satisfied they were with the services they received. This is up 30 per cent compared to the previous year. The proportion of customers who completed the questionnaire in full sank compared to the previous year from 10.3 per cent to 7.9 per cent. This corresponds to 1,811 customers, exactly the same as in 2014. The number of customers who partially completed the questionnaires rose, however, from 780 to 1,519. A total of 2,169 questionnaires were analysed to assess satisfaction. On a scale of 1 for highly dissatisfied to 10 for very satisfied, the Messer Group in Europe achieved an aggregate score of 8.51 for their overall performance. This is an improvement over the previous year, where the countries taken together achieved a satisfaction rating of 8.44 for their general performance.

The summary of the results for Europe showed that customers ranked the importance of punctuality and completeness of delivery highest as they had done in the previous year. On a scale of 1 for not important to 10 for extremely important, this service was rated with an importance of 9.0. The quality of the supplied gases as well as their safe use and handling is another aspect which is highly important to customers, scoring 8.9. A fair pricing structure (8.8) and good value for money (8.7) are just as important to our customers as the specialist knowledge (8.7) and attitude of our employees (8.6). Customer service quality (8.7), the quality of order processing (8.6) and also contact accessibility (8.3) are considered to be very important by the participating customers. Whereas customers still place great importance on the quality of the products supplied (8.6), creativity (7.9), technical support for their application (7.5) and the quality of the documentation provided (8.0) were viewed as being less important. Regrettably, the importance of online service to the customers polled was somewhat lower too, at 7.5.

The assessment of all services is very gratifying. On a scale of 1 for highly dissatisfied to 10 for extremely satisfied, the European subsidiaries were only rated 7.8 for pricing structure, while all other services fell in a band between 8.1 and 9.0. Customers are particularly satisfied with the attitude of our employees (9.0) and their specialist knowledge (8.9). The quality of the supplied gases, the quality of order processing as well as punctuality and completeness of delivery were given a high satisfaction rating of 8.9. Messer received a high satisfaction score for safety in handling of the gases too (8.8). Although the online service was judged less important by the customers, it still scored highly for satisfaction, with 8.4. Customers indicate that they are very satisfied with the technical services and with technical support as well, awarding them 8.5 and 8.4 points respectively. Customers rate the quality of the customer service with 8.6 and both ease of contact and the quality of the provided documentation with 8.5 points alike. The quality of the plant provided (8.7), creativity (8.5) and value for money (8.1) all achieved high scores too.



MESSER CROATIA PLIN, Croatia



MESSER HUNGAROGÁZ, Hungary

The results for overall satisfaction should not be compared with one another, as each country has a different mindset when it comes to judging satisfaction. By regularly carrying out customer satisfaction surveys, we ensure that it is still possible to compare the level of satisfaction within a particular country, however.

The survey was repeated at the Messer subsidiaries in Bulgaria, Hungary, Spain, Poland, France and Austria. All these countries managed to increase their general level of satisfaction. In Austria, the focus of the customer survey was on direct logistics services in the cylinder gases segment. Messer Austria managed to achieve an overall customer satisfaction score of 9.1. This represents a clear increase in customer satisfaction compared to the previous year's result of 8.8. Customers in Bulgaria have been highly satisfied with the overall performance in 2015 too, improving their assessment from 8.8 in 2014 to 8.9 in 2015. In France, general customer satisfaction increased from the 2014 score of 7.3 to 8.3 in 2015. In Poland too, customer satisfaction increased from 7.7 to 8.3. A slight improvement in satisfaction was also achieved in Spain, where the rating rose to 7.9 in 2015 from 7.85. Hungary again achieved a very high satisfaction rating of 8.8 for overall performance, although this is slightly below the 2014 figure of 8.9.

The first standardised customer satisfaction surveys performed in the Czech Republic and Slovakia saw overall performance rated at 7.8 and 8.3 respectively. Customers in both Romania and Germany were highly satisfied with the overall performance, awarding 8.9 points to each.

Digital customer service

We offer a range of digital services, particularly in the cylinder gases segment. These are intended to supplement the personal contact we maintain with our customers from the first time they are handed a pamphlet at a trade fair to building a partnership lasting years.

E-sales management now firmly established at Messer Group

In a digital world where new technologies are becoming increasingly vital, including when it comes to marketing industrial goods, it is crucial that Messer should follow the latest trends. Messer uses e-sales in order to accommodate the needs of its customers and to optimise its own sales processes among other things. It is for this reason that the Messer Group has now created the position of Vice President E-Sales at its corporate Central Sales Functions division.

Messer provides access to e-sales tools on its website "messergroup.com" and makes apps such as "Gases center finder", "Welding gases", "Welding positions" etc. available on the Google Play Store and Apple's iTunes App Store, and the app "Shielding gas flow calculator" on Microsoft's Windows Phone Store.

Recognising trends in technology

There are particular benefits when it comes to winning new customers in having knowledge of the application technology and processes that use gases in the steel and metal processing, chemicals, food and pharmaceutical industries, medicine, research and environmental technology. This is why Messer operates a corporate technology department which works closely with the sales teams. The department employs 40 specialists in gas-related applications and processes and uses its expertise, knowledge of the market and experience to support sales activities at the Messer subsidiaries in Europe, China, Vietnam and Peru. Its goal as a driver of growth is to recognise technological trends at an early stage and to work with the customer to quickly develop, supply and integrate gas application-specific processes aimed at optimising and improving production processes and products. The key products and services developed in this division are not so much concerned with the end products themselves, but rather the associated application technologies which involve the use of gases. One key success factor here is being close to customers - something which Messer guarantees by means of its international and well-structured sales network. Dialogue between the sales and application technology departments and keeping in close contact with customers enables new potential customer projects to be identified. Process innovations have a major impact on developing new business and thus on the growth of the company. We publish an annual development plan covering both short-term projects and longer-term topics of interest.



MESSER POLSKA, Poland



MESSER HUNGAROGÁZ, Hungary

Messer currently holds around 900 patents worldwide in approximately 180 patent groupings for processes and applications involving the use of gases to optimise manufacturing and technical processes in almost every industry. Competence centers in Germany, Austria, France, Switzerland, Hungary and China support innovation.

Portfolio extended

Medical gases often do not differ or differ only very slightly in their composition from other technical gases. They are nonetheless special in a number of ways. Medical gases are considered to be medical products or pharmaceuticals depending upon their application and effect. A gas that is used as a pharmaceutical goes through the same approvals procedure as an antibiotic or a preparation against headaches. They are considered medicines, with everything that entails. All legislative requirements for pharmaceuticals - from approval to production and marketing - apply to our medical gases too. The reason for this is obvious: Medical gases are used on or in humans, including administration of anaesthetics, artificial respiration therapies, surgery and laser medicine. If there is something wrong with the quality, it can have fatal consequences.

Messer currently operates as a pharmaceutical company in over 26 countries and is therefore part of the global healthcare system. We are continually expanding our production capacities for medical oxygen - including in Spain. Since receiving initial approval to manufacture medical oxygen from the Spanish health authority in 2005, Messer Ibérica de Gases has continually extended its authorisation to manufacture and market medical gases to all production facilities, filling plants and the sales platforms in Zaragoza and Madrid. The company's presence within the Spanish medical gases market has grown at the same time. Messer supplies state and private hospitals and works together with partners in the home care business. New supply contracts and the desire to increase the safety and reliability of the filling process have led to the decision to expand the Vilaseca filling plant with a new filling line for medical oxygen. This investment allows the production of technical and medical oxygen to be physically separated.



ASCO FRANCE, France



MESSER CHINA, China



MESSER BULGARIA, Bulgaria

New "Diveline" product range – pure gases as components of breathing gas mixtures for diving

In June 2015, Messer introduced "Diveline" – a new product range of breathing gases for diving. Messer has registered "Diveline" throughout Europe as a trademark for such breathing gases (EU 011630829).

The new product range includes pure gases, helium, oxygen and nitrogen, which are suitable for making breathing gas mixtures. The new specifications for breathing gases were drawn up by a working group based on the standard EN 12021:2014 "Respiratory Equipment - Compressed Gases for Breathing Apparatus" and the current version of the European Pharmacopoeia.

Three-component mixtures are on the rise

The quality of welds depends to a significant degree on the choice of shielding gas mixture. A few years ago, the welding experts from the Messer Group's Application Technology Division in Krefeld developed a total of four new three-component mixtures in order to create added benefits for customers. They were initially launched on the Swiss and Spanish markets. The experience gained as a result was used to make the sales offensive in other countries more simple and effective. The launch of the new three-component mixtures was supported by training courses for application experts, technical training courses for the sales teams and accompanied customer visits. The "Euroblech 2014" trade fair in Hanover saw the launch of the "I'm a triple saver" campaign. A "Triple Savings Book", a cost comparison report, posters, apps and information leaflets were produced for the occasion. Since then, the campaign has continued apace: At last year's Messer Group "Global Sales Meeting", it was decided to include the products in Messer Benelux's and Messer Polska's portfolios. Following preparatory training, the first customer visits took place in Belgium and Holland. Training has now been provided in Poland and the market is currently being actively developed.

Spain: Dry ice added to portfolio

In July 2015, Messer Ibérica de Gases in Vilaseca commissioned an ASCO production plant for manufacturing dry ice and in doing so created the basis for a new product line. The many possible applications for dry ice help to open up new market segments and boost the sales of cylinder gases. In Catalonia, Messer offers dry ice pellets for cryogenic cleaning of the refrigeration systems used in the transport of food and medicinal products and for the catering industry. One specific example is during the grape harvest, where the grapes are mixed with dry ice in order to prevent them from fermenting prematurely.

Successful interaction with customers

We first analyse the needs of our customers and then draw on our extensive technological expertise and willingness to serve to meet these in full. Our customers constantly inspire us to come up with new ways of using our products and benefit from the experience of our experts.

China: Targeted embrittlement

Zhejiang Chuangcheng Auto Parts supplies rubber parts, such as sealing rings, damping elements and pedal linings, to the Chinese automotive industry. Since last June, the company from Shaoxing in the Eastern Chinese province of Zhejiang has been using an automated process which uses cryogenic gas for deburring moulded elements instead of manual deburring. The burrs produced during the manufacture of rubber mouldings are made brittle using low-temperature nitrogen and can then be easily removed in the deburring unit. Messer in China supplies the gas and has installed a storage tank for the nitrogen on the site of the Zhejiang Chuangcheng factory for the purpose.

Germany: Gases for technical college

The Bildungszentrum in Höhr Grenzhäuser is a technical college specialising in ceramics and refractory materials. A total of six faculties were previously being supplied by our competitors with liquid nitrogen by tanker as well as cylinder gases. The two largest consumers elected to test the market place in order to cover their needs. They decided to go with Messer and its 300-bar technology: Both faculties signed a framework agreement with Messer via the technical college's holding organisation, the Bildungs- und Forschungszentrum Keramik (BFZK).

Belgium: Deep frozen meat

New ELV, a producer of minced meat products based in Poederlee, Belgium, uses liquid carbon dioxide supplied by Messer to deep freeze its foods. The cryogenic process preserves the high quality of the products, hinders the growth of bacteria and maintains the moisture content at the ideal level. New ELV evolved in 1995 from a meat processing company which was originally founded in 1935 by the family Laeremans-van Reusel. It specialises in the manufacture of minced meat products, such as meatballs, which are supplied to other Messer customers too. They use the minced meat products to make ready meals, soups or grilled specialities.

Poland: 30,000 welded joints

The coal-fired power station in the Polish town of Opole is getting two additional power station blocks, each with a power output of 900 megawatts. This is the largest investment in the Polish energy sector for 20 years. This requires the welding of over 30,000 seams for the boilers and heating elements. Messer in Poland supplied the argon needed for the TIG welding work as well as the central gas supply for the building site. The sheer size of the plant presented a special challenge during installation - the gas has to be made available at heights of up to 125 meters. The new blocks operate using supercritical steam resulting in more efficient use of the primary energy than conventional technology allows. They are scheduled to go on stream in 2017 and 2018. Up till now, the power station has had a generating capacity of 1,532 megawatts.

Hungary: 3D laser cutting

Indupro, a specialist in laser machining based in Biatorbágy near Budapest, has become the first Hungarian company to set up a workshop for 3D laser machining. The company specialises in contract manufacturing for large Hungarian and foreign car manufacturers and their suppliers. One of their main activities is the 3D laser cutting of pressed body panels. They use Nitrocut cutting gas for this, as well as a variety of shielding and resonator gases, such as helium, nitrogen 5.0, argon and CO₂ that are supplied by Messer. The machining cells use a combination of CO₂ and disc lasers. The three-dimensional metalworking services offered by Indupro include welding, cutting, drilling and surface treatment using laser technology. 3D laser machining is growing in importance in the metalworking industry. It allows components with complex three-dimensional geometries to be processed in a single pass and delivers top quality results.

France: Environmentally friendly refrigerated transport

EcoLIN uses a nitrogen tank and a system of cooling pipes to transform the entire freight container of the truck into a refrigerated compartment. Before setting off, the tank is filled with cryogenic nitrogen



which is used to deliver precisely controlled amounts of cooling to the freight compartment through the system of pipes. The system can adjust almost instantaneously to accommodate variations in temperature that are caused when the doors are opened. Since it has no need for compressors, EcoLIN is very quiet and low-maintenance. Its net impact on the environment is low too – its carbon footprint is around 20 tons of CO₂ per year lower than a conventional refrigerated truck. One of Messer's customers in France is the transport company Jacky Perrenot. They are working together to make the technology better known in the market.

Spain: Nitrogen for hydraulic systems

Glual, whose headquarters are in Azpeitia in the province of Guipúzcoa, is one of Messer's most important customers in Northern Spain. Messer supplies it with nitrogen bundles on a weekly basis. The nitrogen is needed to fill hydraulic cylinders and machines of various shapes and sizes. Amongst other things, they are used in the manufacture of smelting furnaces, presses and machine tools, as well as the construction of railway vehicles, aeroplanes and trucks. Hydraulic cylinders are also indispensable for the renewable energies industry. They find use in the manufacture of wind turbines and photovoltaic plants. In addition to its two manufacturing plants in the Basque country, Glual operates plants in five other countries in Europe, America and Asia.

Serbia: Fruity wines from Fruška Gora

The Fruška Gora is a small range of low mountains in the north of Serbia known for its diverse flora and fauna. It is also a wine-growing region with a centuries-old tradition. The Vinum winery in Sremski Karlovci, the regional capital, commissioned Messer to install a centralised gas supply system. This will pipe nitrogen from cylinder bundles into the storage tanks. The gas displaces the atmospheric oxygen from the tanks and prevents the wine from oxidising. This ensures that the fresh, fruity aromas and colour of grape juice do not deteriorate. Vinum specialises in the grape varieties Blaufränkisch, Laški Rizling, Sauvignon Blanc, Chardonnay and Pinot Noir.



MESSER TEHNOGAS, Serbia

Bosnia: Blast furnace renovation

In October 2015, Messer in Bosnia-Herzegovina supplied six tanker loads of liquid nitrogen within a very short period of time for the inerting of gas pipes at the ArcelorMittal steelworks in Zenica. The pipe system, which has a volume of 6,500 cubic metres and supplies the blast furnaces, required overhauling after being in operation for 30 years. To ensure that it was safe to work on the pipes, they were flooded with nitrogen in order to displace any natural gas and atmospheric oxygen present and create an inert atmosphere. Messer performed the risky purging operation in cooperation with the Dutch company Pipeline and Refinery Services International (PRS) without incident. Although the Messer tankers were busy with ArcelorMittal for a full three days, all other nitrogen customers were still supplied on time. This was arranged for by Messer's Serbian subsidiary, Messer Tehnogas.

Switzerland: Large product range

The Wetter group is long-standing company with roots in the metal construction industry which specialises in building steel structures, industrial workshop construction, metal construction, general contracting and real estate development and marketing. Messer Switzerland has been able to regain the firm as a customer and now supplies all the technical gases it uses (oxygen, nitrogen, argon, acetylene, Ferroline and Inoxline) in cylinders and bundles. An indication of the close working relationship Messer has with Wetter AG is their being awarded the order to perform the steel construction work for the new filling plant for home-care oxygen in Lenzburg.

Belgium, Spain, the Netherlands and the Czech Republic: Exhaust systems for all

Bosal supplies complete exhaust systems to all the leading car manufacturers. Messer supplies Bosal with gases at a total of five sites in four European countries. The parent plant in the Belgian town of Oevel receives liquid gases for welding and cutting. The research and development center in Lummen, also in Belgium, is supplied with shielding gas mixtures specially created for Bosal. They are tailored to the needs of the customer and are used for new product developments and pre-production runs. Bosal's factories in Spain, the Netherlands and the Czech Republic are likewise supplied by Messer. Bosal's Zaragoza factory in Spain manufactures exhaust systems for cars and trucks. It uses liquid argon and CO₂ bundles for welding aluminium. The plant was originally established for the sole purpose of supplying Opel España, which has its manufacturing facilities located nearby. Zaragoza now supplies a number of different customers. Messer supports Bosal in developing the ideal gas mixtures for their welding processes.

Romania: MegaPack for high throughput

The Romanian company MPO Prodivers Rezistent manufactures some two million welded parts each year. The producer of air filter brackets and bonnet release handles for the automotive industry uses the Ferroline C8 shielding gas from Messer in its welding processes. The gas is supplied in the modern MegaPack format. MPO Prodivers Rezistent is part of the French MPO Group, an important supplier to the Renault-Nissan alliance. Messer in Romania has been supplying the company since 2008 and has been its sole supplier of gases since 2013.



MESSER TECHNOGAS, Czech Republic

Slovenia: Three-component mixture is superior

Using a three-component mixture results in a smoother weld and reduces spatter. This has been confirmed in trials carried out by the sand blasting machines manufacturer, Gostol TST in Tolmin, Slovenia. They involved the gas metal arc welding (GMAW) of 8-mm-thick unalloyed carbon steel (S235) using Ferroline C18, a mixture of 82 per cent argon and 18 per cent carbon dioxide and with the three-component mixture Ferroline C12X2. Ferroline C12X2 not only improves the quality of the weld, it also increases the efficiency of the process and reduces the formation of harmful vapours and particles.

Vietnam: Cold grinding of spices

Son Ha Spice & Flavorings from Tũ Sũn near Hanoi has recently started using cold grinding technology provided by Messer for processing raw spices. The Vietnamese spices specialist was convinced by trials using the bark of the Cinnamomum cassia, the raw material used to produce a cinnamon-like spice. The cold grinding process completely preserved its high content of essential oils. The introduction of cryogenic nitrogen or carbon dioxide into the grinding process dissipates the heat produced and displaces the atmospheric oxygen. This prevents the aromatic constituents from evaporating or oxidising. The cold gases also resulted in greater throughput whilst significantly reducing the proportion of powder that remained stuck in the mill.

The Czech Republic: Trouble-free welding process

Any automotive industry supplier which fails to deliver on time can expect to be hit with tough contractual penalties. This is something of which the manufacturer of steering columns, Fuji Koyo Czech, is well aware. To keep the Czech company's welding operation running smoothly at all times, Messer has developed an ingenious system for reliably supplying the shielding gases. This includes a proprietary mixing unit, constant monitoring of the gas supply and continuous analysis of the gas mixture. If for any reason the measured values differ from the nominal ones, the system automatically switches to a backup supply. Installation took place in January of 2015.



MESSER SLOWENIJA, Slovenia

Croatia: Furnace construction with welding gases

The MCZ Group opened its first manufacturing facility for pellet furnaces and boilers outside Italy in the Croatian town of Labin. The factory is equipped with state-of-the-art technology for bending, welding and painting sheet metals and furnace construction. Messer Croatia Plin supplies a three-component welding mixture in cylinder bundles.

Bulgaria: New gas pipelines

The company Glavbolgarstroy is building new compressor stations for Bulgartransgas to replace existing ones. These then have to be connected to the existing pipelines and tested for leaks at a pressure of 68 bars. For this purpose Messer Bulgaria is supplying four sites with liquid nitrogen, which is vaporised and injected into the pipes.

Slovakia: Three-component mixture improves weld quality

Messer Tatragas has been supplying Maga, s.r.o. Čerenčany since the middle of 2015. The company manufactures environmentally friendly pellet-fired heating systems for export to Central and Western Europe. The heating systems are welded using the Ferroline shielding gas from Messer. The three-component mixture not only improves the quality but the efficiency of the welding process too. The customer is so impressed that Messer is looking forward to a long-term partnership.

Albania: Gases for soft drinks and beer

ALFA Sha is a drinks manufacturer, PepsiCo's exclusive bottler and distributor for the Albanian market. The company has invested four million euros in a bottling plant in the south of Albania where it produces and bottles the new beer brand ELBAR as well as two new lines of soft drink – Lipton Iced Tea and Cappy juice. Messer Albagaz has installed two additional storage tanks for liquid carbon dioxide and liquid nitrogen and the gas supply systems for this purpose.



MESSER AUSTRIA, Austria

Austria: Maximum safety and top quality thanks to inert atmosphere

Metadynea manufactures synthetic resin used for gluing and sealing wooden composites at its factory in Krems. The process uses methanol as a raw material. In order to ensure that the process is absolutely safe, an inert atmosphere is required for all the processing and storage stages throughout the process chain. Messer Austria has been supplying Metadynea with the required nitrogen since the start of 2016. The design of the supply system presented a particular challenge, because for reasons of safety, all plant components, from the tank to the evaporators and regulator, had to be implemented in a fail-safe redundant configuration. In order to maintain operation of its production and storage facilities around the clock, 365 days a year, Metadynea needs a reliable supply of nitrogen and trusts in the technical competence and supply reliability of Messer Austria to achieve this.

Macedonia: High pressure gas installation for charging airbag inflators

Messer Vardar Technogas has been supplying ARC Automotiv with liquid argon, liquid nitrogen and helium since the middle of 2015. The company manufactures airbag inflators for a number of well-known car makes. The inflators are filled with 94 per cent argon and 6 per cent helium. Messer is the only company in the region that has implemented a gas installation operating at 20,000 psi or 1,379 bars.

Estonia: Gas supply for clinic network

The North Estonia Medical Center is one of the largest health care providers in Estonia, comprising a total of seven hospitals and 31 specialist clinics. With the exception of ophthalmology and obstetrics, the North Estonia Medical Center provides medical care in all disciplines. In September 2015, Elme Messer Gaas in Estonia installed a gas supply system and three storage tanks. Elme Messer also supplies cylinders of medical oxygen to the North Estonia Medical Center.

Latvia: Supply system for metalworking company

Ventspils Welding Plant Ltd. is a diversified metalworking company and the largest metalworking operation in Ventspils. The company manufactures large-scale metal structures with varying levels of complexity for general constructions, machinery and other industrial applications. Several metalworking units at the site – among them, an automated sand blasting booth, modern plasma cutters, drilling stations and a paint shop - are used before the actual assembly takes place. This factory is one of the start-up centers at the Ventspils High Technology Park (VHTP). Ventspils Welding employs around 60 workers. Elme Messer in Latvia has installed an automated welding gas supply system, an argon tank, a mixing station as well as two CO₂ bundles.

Lithuania: Modified atmosphere packaging using nitrogen

The Lithuanian company Gudobele, UAB was founded in 1991 and is one of the leading experts in the bakery sector. Gudobele has recently started producing BON CHANCE bread crisps. Elme Messer in Lithuania supplies the nitrogen needed for the modified atmosphere packaging they use. A storage tank was installed on the Gudobele site in order to ensure a reliable and continuous supply.

Ukraine: Inertising during the drying process

LycorRed Ltd. received a patent on its process for manufacturing beta-carotene back in 2003. In May 2015, Elme Messer in the Ukraine signed a trial agreement and installed a tank plus nitrogen evaporator for feeding nitrogen into a rotary vacuum dryer. The nitrogen is used to create an inert atmosphere that inhibits oxidation of the product during the drying process, thus increasing productivity. Trials of the system were carried out for a period of two months during the summer. The successful outcome of the tests resulted in Elme Messer signing a long-term agreement for the supply of nitrogen and cryogenic equipment in the autumn of 2015.



MESSER POLSKA, Poland



MESSER CHINA, China

Russia: Nitrogen for inertising tanks

Elme Messer in Russia has signed a five-year contract with the pharmaceuticals company, Geropharm and installed a liquid nitrogen tank as well as two evaporators in November 2015. The liquid nitrogen is used to render acetone tanks inert and for manufacturing slip ring seals for mixing rollers. Geropharm is Elme Messer's first customer in the region with this application. Similar projects are currently being developed with other customers.



Our way: helping
where help is needed.



Diana Buss:

"Its commitment shows the character of a company."

"A company is of course part of society. It positions itself in a structure comprising economic, legal and human spheres of activities. And it is most apparent how it is managed through its commitment to society – be it through donations, relief campaigns, educational campaigns or social working conditions.

I see two requirements for this. The first is that the employees of Messer go through the world with their eyes open. They work in an international environment and are able to appreciate different cultures, but this also means they encounter people subject to various fates. Our own security and a social and friendly environment open our minds

to other people's need for help or make us creative. The second requirement is that our bosses have an open ear for our ideas and support us in implementing them.

I have experienced many spontaneous relief campaigns at Messer, most recently one in which a colleague was involved in a church food bank for socially disadvantaged people and was asked to help with organising a flea market in order to raise funds. An email to his colleagues was

all it took to get everyone to look in their cellars for things they could dispense with and donate. It is of course not mentioned in every annual report, but this kind of cooperation among colleagues and their collective understanding for social commitment are hallmarks of Messer."



DIANA BUSS | Vice President Corporate

Communications (5th from left)

We at Messer become involved where we think that help is needed – and I mean that literally. In the process we generally orientate ourselves according to our direct environment, whether food donations in an economically troubled country, educational assistance in a demographically very young and developing region or donations for refugees in our own town are concerned.



MESSER CHINA, China



MESSER BULGARIA, Bulgaria

Social commitment

Many of Messer's subsidiaries are involved in social and environmental projects. This ranges from donating money or goods to social institutions, schools and hospitals, to participating in campaign days and sponsoring projects. The type of involvement depends on the needs of the country in question. Messer is also actively involved in the areas of social welfare and healthcare, amongst other things, through the work of the Dr. Hans Messer Social Foundation set up by the Messer family. It makes donations to help people around the world who find themselves in need through no fault of their own. Its income comes from revenue generated by the foundation's capital reserves and from donations – including from Messer employees who forego their gifts on company anniversaries, significant birthdays or similar events.

Commitment to education, culture and economic cooperation

Hungary: Modern school laboratory

Since March 2015, Könyves Kálmán secondary school in the Újpest district has a modern new school laboratory. Messer Hungarogáz, which is based in the same district of Budapest, is supporting the school for a period of five years with nitrogen, helium, sulphur hexafluoride and dry ice in order to make lessons involving experiments more interesting. The laboratory was financed with the help of the local government and European Union funding, and is available for use by all secondary schools in the district.

Germany: Culture for all

In Germany, "cultural agents for creative schools" drew attention to cultural activities, using helium provided by Messer Industrial Gases to do so. On the 9th of June 2015, 300 helium balloons to which culture passes were attached - tickets to museums and events - ascended into the sky above Oberhausen to float to their new owners. At the end of the event, the Industrial Museum of the Landschaftsverband Rheinland presented a number of artistic projects from schools in Oberhausen.

Bosnia-Herzegovina: Fast with argon

"Formula Student" is an international competition where students compete against each other with racing cars they have designed and built themselves. The aim is to construct racing cars that are impressive from both a technical and economic standpoint. Messer Mostar Plin supported the racing car project entered by the Faculty of Engineering Sciences of the University of Mostar with welding argon for building the chassis. The team from Mostar finished 20th out of 50 teams at the final event of this year's "Formula Student", which took place in September 2015 in Most, Czech Republic.



MESSER HAIPHONG, Vietnam

Germany: Messer supports "Jugend forscht"

Messer auctioned off a designer hoverboard featuring light effects for a good cause on the occasion of the "Back to the Future" day. The proceeds of the auction were rounded up by Messer and went to the non-profit "Jugend forscht e.V." foundation which works to encourage interest for science and research in young people.

Bosnia-Herzegovina: Growth policy

Messer BH Gas supports the EU reform measures aimed at increasing employment and growth in Bosnia-Herzegovina. In March 2015, a European Union Special Representative visited Messer in Sarajevo accompanied by economic advisers and ambassadors from eight EU member states. During its visit, the delegation learned first hand about the experiences Messer has had as a foreign investor in Bosnia-Herzegovina. One of the topics brought up concerned the challenges and prospects awaiting foreign companies on entering the market in the region and how they can be overcome or exploited.

Hans Messer Prize for top marks

On the 5th of February, the Frankfurt am Main Chamber of Commerce (IHK) awarded the 2015 Hans Messer Prize to two graduates of the Frankfurt University of Applied Sciences. The prize-winners received the award in recognition of their outstanding academic achievements and examination results. The award comes with prize money amounting to 3,000 euros in each case and is presented in honour of the IHK President of many years, Dr. Hans Messer.



MESSER AUSTRIA, Austria

Lena Regina Bieber was recognised for her thesis entitled "Communication as a Key to Competitive Advantage in the Business-to-Business Industry, an Analysis Within the Cosmetic World of Merck". Saskia Isabell Fladung received the award for her thesis entitled "The freedom of information act, torn between the interests of the capital market regulatory authority and market players - is the German Federal Financial Supervisory Authority's right to demand that information be released too far-reaching?"

Adolf Messer Foundation Prize 2015 at the Goethe University in Frankfurt

Dr. phil. nat. Nadine Schrodtr, researcher at the Institute of Earth Sciences at the Goethe-University, received the Adolf Messer Foundation Prize worth 25,000 euros on the 2nd of July 2015. The award was in acknowledgement for her German Research Foundation project, "Which C/N ratio leads to the polymerisation of small molecules in the system C-H-N-O at very high pressures and temperatures?". The Adolf Messer Foundation Prize is one of the most valuable science prizes awarded by the Goethe University in Frankfurt and is presented annually for outstanding achievements in the fields of the natural sciences, engineering sciences, as well as economics, social sciences and the humanities.

Adolf Messer Prize 2015 at the Technical University of Darmstadt

The Adolf Messer Prize, which is worth 50,000 euros, was awarded on the 30th of November 2015 at the TU Darmstadt technical university. Bai-Xiang Xu, Junior Professor and head of the Department of Mechanics of Functional Materials at TU Darmstadt, was awarded the prize for her research project. The project makes an important contribution to making the all-pervasive lithium ion battery, which is crucial to today's energy storage devices, substantially more durable.

The Adolf Messer Foundation awards the Adolf Messer Prize to promote outstanding achievements in the fields of the natural sciences and engineering sciences. In acknowledgement of his work in promoting research and the teaching of outstanding young scientists, Stefan Messer was awarded the title of Honorary Senator of TU Darmstadt in 2011.



MESSER CROATIA PLIN, Croatia



Social commitment

Hungary: Help for homeless families

Messer Hungarogáz has collected clothing and other items in support of a foundation for homeless families for the second time. The Menedékház Foundation currently offers accommodation to 21 homeless families, of which around 50 are children. In addition to this, it provides overnight accommodation to between 60 and 80 homeless individuals. Putting a roof over people's heads is not the only assistance the Menedékház Foundation provides, though. It also helps those in need return to a settled life or achieve a better standard of living. This includes such things as helping them find a job or searching for somewhere to live.

Spain: Solidarity initiative against hunger

The employees of Ibérica de Gases have a tradition of showing solidarity with people who are going hungry. In December 2015, they once again donated 800 kilograms of food to the "Banco de Alimentos" food bank. The non-profit organisation works in cooperation with Caritas, The Red Cross and other social organisations to provide thousands of needy people in the Spanish province of Tarragona with food.



MESSER IBÉRICA DE GASES, Spain

Spain: "Gases for Life" for a good cause

The children living in the Ronald McDonald house in Barcelona were thrilled by the gases workshop organised by the employees of Messer Ibérica de Gases at the end of 2015. Together with their families, the children were captivated by the experiments and learned about our "Gases for Life" in an entertaining way too. The "Ronald McDonald House Charities" charitable foundation ("Fundación Infantil Ronald McDonald" in Spain) offers accommodation to families with sick children in houses that they manage. The houses, which are in close proximity to specialist hospitals, are intended as temporary homes where everything is done to bring back a sense of normality and assist in what is in most cases a lengthy process of recovery.

Spain: Help for South Africa

In March 2015, a seven-member team from Tarragona, Spain, took part in one of the world's toughest mountain bike stage races - the "Absa Cape Epic" in South Africa. Competing for the second time was Rubén Folgado, Technical Director at Messer Ibérica. He and his team were riding for the CANSA Foundation (the Cancer Association of South Africa), which helps those suffering from cancer in the south of Africa. Sponsors, including Messer Ibérica, turned out to support this good cause.

Messer Group – GRI Content Index – 'in accordance' Core

The GRI Content Index shows at a glance how the Messer Group's corporate responsibility report meets the requirements of GRI. The Index shows the standard indicators we have considered and to what extent, as well as where these can be found on the company's website or in the Corporate Responsibility Report and Management Report (CRR&MR). In addition, the GRI Content Index includes explanations and supplementary information on selected standard indicators. Further information can be found in the GRI Annex under www.messergroup.com/de/sustainability/index.html. For this report, GRI conducted a Content Index Service. GRI hereby confirms that the GRI Content Index is accurate and aligned with the requirements of disclosure G4-32, and the Standard Disclosure Labels are clearly indicated in the report (e.g. "G4-18", "G4-DMA" or "G4-EN5"). The disclosures on material issues that are not represented by a GRI aspect (at the end of the Index) are not within the scope of GRI's service.



General standard disclosures		
General standard disclosure	Page or link	External Assurance
Strategy and analysis		
G4-1	CRR&MR p. 21	–
Organisation's profile		
G4-3	CRR&MR p. 138	–
G4-4	CRR&MR p. 138	–
G4-5	CRR&MR p. 138, S. 183	–
G4-6	CRR&MR p. 138, S. 182	–
G4-7	CRR&MR p. 174	–
G4-8	CRR&MR p. 6	–
G4-9	CRR&MR p. 6, p.152, p. 155	–
G4-10	CRR&MR p. 6, S. 142	–
G4-11	CRR&MR p. 48	–
G4-12	CRR&MR p. 69	–
G4-13	CRR&MR p. 138	–
G4-14	CRR&MR p. 162	–
G4-15	CRR&MR p. 22	–
G4-16	CRR&MR p. 33	–
Identified material aspects and boundaries		
G4-17	CRR&MR p. 182	–
G4-18	CRR&MR p. 22	–
G4-19	CRR&MR p. 23, p. 24	–
G4-20	CRR&MR p. 22	–
G4-21	CRR&MR p. 22	–
G4-22	no restatements of previous information revealed in CRR.	–
G4-23	CRR&MR p. 138	–

Stakeholder engagement			
G4-24	CRR&MR p. 35		–
G4-25	CRR&MR p. 35		–
G4-26	CRR&MR p. 22, S. 35		–
G4-27	CRR&MR p. 22		–
Report profile			
G4-28	CRR&MR p. 138		–
G4-29	1. May 2015		–
G4-30	CRR&MR p. 36		–
G4-31	CRR&MR p. 183		–
G4-32	This GRI Content Index. Further information can be found in the GRI Annex published on the Internet at: www.messergroup.com/de/nachhaltigkeit/gri/index.html		–
G4-33	CRR&MR p. 17; the corporate responsibility report has not been audited externally		–
Governance			
G4-34	CRR&MR p. 16		–
Ethics and integrity			
G4-56	CRR&MR p. 30		–

Specific standard disclosures			
DMA and indicators	Page or link	Omissions	External Assurance
Category: Environmental			
Aspect: Energy			
G4-DMA	CRR&MR p. 86		–
G4-EN3	CRR&MR p. 91		–
G4-EN5	CRR&MR p. 91		–
G4-EN6	CRR&MR p. 88		–
Aspect: Emissions			
G4-DMA	CRR&MR p. 91		–
G4-EN15	CRR&MR p. 91		–
G4-EN16	CRR&MR p. 91		–
G4-EN17	CRR&MR p. 91		–
G4-EN20	none		–

Category: Environmental			
Aspect: Effluents and waste			
G4-DMA	CRR&MR p. 92		–
G4-EN24	none		–
G4-EN25	none		–
Aspect: Compliance			
G4-DMA	CRR&MR p. 50		–
G4-EN29	none		–
Aspect: Transport			
G4-DMA	CRR&MR p. 78		–
G4-EN30	CRR&MR p. 83		–
Category: Social			
Sub-Category: Labor practices and decent work			
Aspect: Employment			
G4-DMA	CRR&MR p. 44		–
G4-LA1	CRR&MR p. 46		–
Aspect: Occupational health and safety			
G4-DMA	CRR&MR p. 78		–
G4-LA6	CRR&MR p. 81		–
G4-LA7	none		–
Aspect: Training and education			
G4-DMA	CRR&MR p. 44		–
G4-LA9	CRR&MR p. 46		–
G4-LA10	CRR&MR p. 46		–
G4-LA11	100%		–
Sub-Category: Human rights			
Aspect: Non-discrimination			
G4-DMA	CRR&MR p. 48		–
G4-HR3	CRR&MR p. 48		–
Sub-Category: Society			
Aspect: Compliance			
G4-DMA	CRR&MR p. 50		–
G4-SO8	none		–

Sub-Category: Product responsibility

Aspect: Consumer health and safety

G4-DMA	CRR&MR p. 78			–
G4-PR1	CRR&MR p. 81			–

Aspect: Product and service labeling

G4-DMA	CRR&MR p. 100			–
G4-PR3	CRR&MR p. 70			–
G4-PR5	CRR&MR p. 103			–

Aspect: Compliance

G4-DMA	CRR&MR p. 50			–
G4-PR9	none			–

Further material issues for Messer Group (not represented by a specific GRI Material Aspect)

Issue: Open communication and cooperation with stakeholders

DMA & Indicators	CRR&MR p. 35, see G4-24 - G4-27			–
------------------	---------------------------------	--	--	---

Issue: Independence, secure finances / sustainable economic resources

DMA & Indicators	CRR&MR p. 30, see G4-56			–
------------------	-------------------------	--	--	---

Group Management Report

of the Messer Group GmbH 2015

Our way: achieving robust and healthy growth.





Dr. Uwe Bechtolf: "A robust, mature company"



DR. UWE BECHTOLF |
Executive Vice President Controlling,
Accounting & Strategy

"The Messer Group was reborn in May 2004. The company was still a little unsteady on its feet as it started out on its new economic life with around 3,800 employees in Europe, China, Peru and Vietnam and a business volume amounting to 521 million euros. It was necessary to re-learn how to prevail in the market with a company that was not even a third the size of the former Messer Griesheim Group.

In many European countries, the company no longer had an independent product supply as in the past, and there was great uncertainty regarding how activities in a country

that was still relatively uncharted such as China would pan out. The Messer Group has gone through a number of global economic cycles during its short economic life, from upswing (2005-2007) to down-swing (2008-2009) with the lasting consequences of the banking and financial crises, and is now entering a phase of global economic slowdown that may even mark the end of a period of growth that it was assumed would go on forever.

The Messer Group has emerged from these first 10 "juvenile" years with around 5,400 employees in Europe, China, Peru and Vietnam and a turnover that has more than doubled to well over 1 billion euros. The tangible assets, which are of particular importance in our industry, have likewise doubled to over 1 billion euros thereby significantly strengthening our operational independence, amongst other things. The Messer Group has invested almost 2 billion euros over the years, but has done so without neglecting its financial health.

This year's Annual Report shows the Messer Group with an equity ratio of over 58 per cent and net debts that do not even amount to double the annual EBITDA. In short – a robust, mature company!"



MESSER POLSKA, Poland



MESSER AUSTRIA, Austria

General Information on the Group

Overview of the activities of the Messer Group

G4-3
G4-5 Messer Group GmbH (“the Company”), an industrial gases manufacturer, has its registered office in Sulzbach/Taunus near Frankfurt am Main and its postal address in Bad Soden am Taunus. It acts as management holding company and, together with its subsidiaries and affiliated companies, forms the Messer Group (“the Group”).

G4-4 From acetylene to xenon, the Messer Group offers a product portfolio that must surely count as one of the most diverse in the market – the Company produces industrial gases such as oxygen, nitrogen, argon, carbon dioxide, hydrogen, helium, shielding gases for welding, specialty gases, medical gases and a wide variety of mixed gases.

In state-of-the-art competence centers, the Messer Group develops application technologies for the use of gases in almost all branches of industry, in foodstuffs technology, medicine and research and science.

G4-6 The Group has its own operating facilities in 35 countries. Messer is therefore represented in each of the main European markets (with the exception of the United Kingdom and Scandinavia) as well as in China, Vietnam, Singapore, Algeria and Peru.

In Willich, Germany, Messer operates a highly specialized technical center for testing in the areas of cold grinding and recycling. In the area of welding and cutting, the Messer Group’s specialized technical centers in Germany, Hungary and China develop new technologies, mixed gases and applications. Our prime focus is on a future-oriented approach to our products, tailored to the needs of our customers. Gumpoldskirchen, near Vienna, Austria, is the hub for ongoing development of high-temperature processes, with customers, cooperation partners and research institutes. Our technical center in Mitry-Mory, near Paris, France, with 1,150 square meters of usable space, has facilities for carrying out tests relating to the food-processing, pharmaceuticals and chemicals/environment sectors.

G4-13, G4-23, G4-28

Changes in the group reporting entity in the fiscal year 2015

The group reporting entity changed as follows during the year under report:

First-time consolidations

The following entities were founded and commenced operations in 2015:

- Hengyang Xiangang Messer Gas Products Co., Ltd, China, 55 %
- Yunnan Yun Tianhua Messer Gas Products Co., Ltd., China, 65 %
- Foshan Sanshui MS Messer Gas Co., Ltd., China, 85 %
- Green Co2 N.V., Belgium 50 %

Operations under joint control

Effective December 31, 2015, Messer Group GmbH acquired the remaining 50 % of the shares of Messer Information Services GmbH, Groß-Umstadt, for a purchase price of K€ 3,875 from MEC Holding GmbH, Bad Soden.

Deconsolidations

Our production site in Christchurch, New Zealand was closed effective December 31, 2014 due to changed market circumstances. Following definitive completion of the sale of ASCO Carbon Dioxide Ltd., this entity was deconsolidated in the fiscal year 2015 resulted in a gain of K€ 286.

Effective September 15, 2015, the Messer Group entity, Messer Tehnogas A.D., Serbia, sold its shares in Messer Aligaz Sanayi Gazları A. Ş., Kartepe/Kocaeli, Turkey, as a result of which Messer Aligaz Sanayi Gazları A. S. is no longer consolidated. The transaction gave rise to a deconsolidation gain of K€ 33.

Other

Effective October 15, 2015, Messer Finance S.A. changed its registered seat from Luxembourg to Moerdijk, Netherlands. Subsequently, the entity's legal form was changed to Messer Finance B.V. in accordance with Dutch law.

Effective November 6, 2015, Messer Consulting (Singapore) PTE. Ltd., Singapore, was founded as a 100 % subsidiary of Messer Group GmbH. The subscribed capital of the new entity will be paid up in 2016.

Financial performance indicators

For control purposes, the Messer Group mainly uses parameters based on operating performance indicators derived from the income statement (sales, EBITDA) and from capital expenditure, net debt and ROCE indicators. Further explanations and the make-up of the indicators are provided in the sections on earnings performance and financial position.

Non-financial performance indicators

Safety, health, environmental protection and quality ("SHEQ") have been firmly embedded in Messer's guiding principles since its foundation in 1898 and continue to have the utmost priority in the operations of the family-owned company. Messer is aware that well-organized safety and quality guidelines form the basis for dealing safely with operational risks and improving operational performance. For this reason, the health and safety of our workforce and the protection of the environment are firmly embedded in total quality management systems and reflected in various Messer Group Standards.

To take account of the growing importance of ensuring an intact environment, social justice and effective business management, the Messer Group has embarked on the introduction of Corporate Responsi-

bility Management (“CRM”). CRM follows a long-term approach and will contribute to the sustainable development of Messer. To this end, the Messer Group has also enhanced its SHEQ performance indicator system.

During the past financial year, 878 (2014: 781) SHEQ-related inspections and checks were carried out throughout the Messer Group (777 of which in Europe), resulting in numerous improvement measures.

In addition, 237 ideas and suggestions for improvements were submitted by our staff members throughout the Messer Group (153 of which in Europe). The suggestion rate within the Messer Group therefore stood at 0.04 ideas per employee.

Occupational safety

Occupational safety is of the utmost importance for all Messer companies. The Messer safety guidelines clearly reflect our position: “All industrial illnesses, injuries and accidents are avoidable”.

Messer uses its global management system to identify and control potential operational risks. The principles of this system are carefully documented in its SHEQ manual and cover all safety-relevant areas: risk management, safety training, safety inspections, personal protective equipment, communication safety, accident investigations, etc. In recent years, a large number of SHEQ audits have been carried out to ensure compliance with these guidelines.

In addition, since 2014 additional safety guidelines have been drawn up especially for work in laboratories and acetylene plants.

During the fiscal year 2015, eight safety audits were conducted in five countries to ensure compliance with the SHEQ standards in all of the Messer Group's operational activities. The success of the safety measures and initiatives is assessed by means of annual performance indicators: working accidents causing lost days and accident frequency (number of working accidents causing lost days per million hours worked) and accident severity (days lost per million hours worked).

In 2015, 22 working accidents causing lost days were reported. Accident frequency has therefore risen since the previous year (18 working accidents). The greatest increase occurred in China. The level of accident severity rose to 65.1 days lost per million hours worked. At the same time, the level of accident severity in Europe fell to 41.5 days lost per million hours worked, which is the lowest level in 15 years.

	2011	2012	2013	2014	2015
Working accidents causing lost days	12	23	38	18	22
Accident frequency	1.2	2.2	3.6	1.7	2.2
Accident severity	44.5	74.4	61.3	47.6	65.1

In 2013, it was decided to conduct a new safety campaign to avoid working accidents at all sites. The aim of this campaign is to improve occupational safety and to raise employee awareness of a safe working environment, especially at production sites. The focus is placed in particular on the prevention

of working accidents which are attributable to a breach of safety guidelines or negligence and carelessness. Ultimately, all occupational illnesses, injuries and accidents are avoidable.

As a specialist in industrial gases, Messer is aware of its duty in relation to its staff and customers to efficiently identify and avoid potential work-related risks. With campaigns such as our "Safety Day 2015", we highlight potential hazards and endeavor to raise safety-at-work consciousness. This year's Safety Day, which was organized throughout the Group, served as in previous years to heighten awareness of safe and attentive conduct at the workplace and at customer sites. The basis on this occasion was a new set of guidelines, drawn up by the European Industrial Gases Association (EIGA) and applicable to each and every area of work, in which people can avoid mistakes and thereby ensure a safer environment. In a similar vein, we also commend commitment to safety throughout the Group with our Safety Award. This year, this distinction was awarded to Messer in Romania.

Messer continues to be an active member of the European Industrial Gases Association (EIGA) and our experts actively exchange experience, knowledge and what they have learnt from incidents in the industrial gases sector. In addition, some Messer Group entities cooperate with local research institutes and universities to enhance safety in production processes.

Transport safety

The transportation of gases and equipment on the road and customer deliveries are activities which involve the most risks in the gas industry. For this reason, the Messer Group has put its signature to the European Road Safety Charter, thus undertaking to place particular emphasis on transport safety. As well as complying with applicable laws and regulations for operating a vehicle fleet, the Messer Group's own transport safety plan has proved invaluable.

A large proportion of the drivers working for Messer are employed by external transport firms, which are responsible for training the drivers in accordance with the ADR (European Agreement concerning the international carriage of dangerous goods by road). Messer has also drawn up its own modular driver training package, which is used to train drivers. 96 % of the drivers in Europe have participated in this training scheme. The main themes covered by the training are:

- Laws and regulations (ADR and national provisions)
- Technical aspects (hazards arising from product, vehicle and tank technology, vehicle checks, safety technology)
- Accident avoidance
- Defensive, economical driving

In addition, all drivers receive a driver manual specific to their work (bulk, cylinders or service vehicles). This ensures that drivers have immediate access to all important information relating to their activities.

Furthermore, Messer specialists are actively involved in all relevant bodies of the European Industrial Gases Association (EIGA) and to a large extent too in the national associations. The findings from the activities conducted within these bodies are incorporated in the driver manual and the driver training scheme on an ongoing basis, with a view to enhancing transport safety.

In this way, the Messer Group is making its contribution to a steady reduction in the number of transport incidents. In concrete terms, the number of road accident injuries during transport for the Messer Group in Europe fell from 14 (2014) to 5 (2015).

Employees and corporate culture

G4-10 Worldwide workforce

The Messer Group had an average worldwide workforce in 2015 of 5,515 employees, each contributing to the success of the business with his or her extensive knowledge, ideas, know-how, motivation, attitude to work, active commitment and in many cases longstanding experience. In the previous year, the Group had an average worldwide workforce of 5,550 employees.

The average number of employees per region was as follows:

	Jan.1 - Dec. 31, 2015	Jan.1 - Dec. 31, 2014
Western Europe	1,071	1,111
Central Europe	730	734
South-Eastern Europe	1,357	1,351
China, Vietnam and Peru	2,357	2,354
Total number of employees	5,515	5,550

As at December 31, 2015 approximately 88 % of our employees were working in non-German-speaking countries.

Remuneration

Personnel expense in the year under report amounted to K€ 180,119 (2014: K€ 174,891). Variable remuneration components are designed to encourage employees to focus on the Group's strategic objectives. To this end, a uniform bonus system has been introduced for managers and white-collar workers. This enables staff to earn additional gross salaries on attainment of corporate targets (70 %) and personal targets (30 %). Parallel bonus systems are also in place for blue-collar workers.

Training and the Messer Group Academy

The expertise and experience of our workforce of well-motivated and well-qualified employees provides the foundation for the Messer Group's success. They are constantly being required to rise to the practical challenge of highly demanding tasks and projects, at which stage they can also draw on the knowledge gained through regular attendance at internal and external training courses, specifically designed to meet their needs. This combined approach gives them the wherewithal to master the vast array of constantly changing work requirements, while at the same time enhancing the professional manner with which they go about their work. A transparent leadership style, based on an "open door" principle, allows for open communication and represents a core element of our management culture.

We endeavor to make school pupils and students aware of the potential of the fascinating world of gases, also with an eye to winning well-educated staff in the future. It is considered to be a crucial

aspect of business to develop employee skills from an early stage. The Messer Group is committed to providing educational and vocational training opportunities to young people, based on the tenet that investment in the next generation is essential for the future competitiveness and underlying strength of our business. In Germany we offer vocational training to ambitious school and college leavers in the areas of industrial business studies, mechatronics, IT data processing and IT support. Training takes place at various sites, in some cases supplemented by several weeks spent at international locations.

We are also increasingly committed to training young people abroad. In 2013, Messer Vietnam entered into a cooperative arrangement with pharmaceutical and medical supplies firm B. Braun and the Vietnamese University for Technology and Training Hung Yen, which provided for a two-year dual vocational training course in mechatronics. In February 2015, the first 14 trainees successfully completed this course and all were offered permanent employment. The dual training program is being continued and steadily improved. This program is proving to be extremely useful both from a business perspective and in terms of development policy. This pilot project is promoted by the German Federal Ministry of Economic Cooperation and Development (BMZ) under the "develoPPP.de" program, which fosters development partnerships with the private sector.

The Messer Group Academy was established to expand the range of systematic development programs available to employees. The Messer Group Academy offers various training courses and lectures, including the annual autumn lectures for our managers and junior executives. June 2015 saw the successful completion of the first Junior Circle, our young talents program for participants from various national companies and specialist areas, which was immediately followed by the launch of the second Junior Circle, again with 18 participants.

The focus will be the dissemination of knowledge by our own experts from various functions within the organization. Aspiring managers will attend five one-week modules covering various fields of focus, including intercultural training. The principal objective of the Messer Academy will be to provide an insight into our products, technical solutions, structures and specific internal issues based on a comprehensive and practice-oriented approach. Effective networking of the participants is also a primary concern. Training in the Junior Circle is organized over a two-year period, with candidates being selected and invited directly by the management under an internal application procedure.

Last year, the Academy also launched the transnational training course for cylinder salesman "Focus on Cylinder", with training provided in the Messer national companies in Slovenia, Croatia and France. In 2016, six European companies will run this training scheme.

This international, standardized sales training course consists of six modules, is offered to a maximum of 14 participants and takes place in the respective national language. In addition to internal and external speakers, the respective sales manager and deputy are trained as co-trainers who are then able to provide support for future training courses. Throughout, country-specific needs are taken into account in terms of training content.

Further standardized training schemes are currently being prepared for the Messer Group.

An in-house e-learning tool for the Group is being developed and will enter the pilot phase in mid-2016.

The Messer Group has drawn up specific training plans for some 380 employees, while the local human resources departments are in charge of the others. Training needs are always discussed during employee performance reviews.

An “English offensive” has been launched worldwide to increase knowledge of English in the Group. In each company, employees, split into three groups, have the opportunity to improve their language skills.

Each year, the succession planning for managers and technical specialists is updated. Here too, the need for training is determined. Alongside the horizontal succession planning within each company, vertical cross-company succession planning was started in 2015 for the various specialist areas.

Uniform employer branding

In June 2015, the internal Employer Branding Campaign was launched simultaneously in all Messer Group companies. This campaign involved information events, leaflets and T-shirts were distributed, and feedback was obtained from employees. The campaign generated extremely positive feedback.

The Messer Group's Employer Branding project is an international program aimed at depicting a corporate culture that is easy to recognize and understand. On the one hand, it is seen as a way of tying in new and current employees more closely to the business, but also as a means of getting potential employees to be enthusiastic about us, our products and our solutions. The job ads to recruit new employees have also been adapted groupwide, achieving the anticipated result of receiving fewer, but qualified applicants. As a flanking measure, image promotion films and posters have been completed and the Group's website optimized, including a redesigned career page. An in-house job applications portal has been created and can also be made available to the national companies for adaptation from spring 2016. In this way, the Messer Group, via uniform employer branding, will be able to showcase itself as an international, versatile, attractive employer.

Messer invests in vocational training for young employees. This human resources strategy, in combination with the know-how of our workforce and our high-quality products, ensures that we enjoy an excellent reputation among customers, partners and job-seekers alike.

Environmental management

The environment must be protected at all times and in all places. As a company, Messer takes this obligation very seriously and employs its global management system to further the protection of the environment. Internal environmental protection guidelines are documented in the Messer Group's SHEQ manual. These and the environmental management systems in place at all the subsidiaries follow international standard ISO 14001 and recommendations of the European Industrial Gases Association EIGA (for example, IGA IGC Doc. 107 — Guidelines on Environmental Management Systems). In 2015, 19 of our subsidiaries obtained external certification of their environmental management systems, compared with 15 companies in 2014.

Efficient use of energy goes without saying at Messer and is clearly in the Group's own interests. With the main aims of cost-cutting and economic use of resources, energy management is an on-

going process which also makes a contribution to reducing our CO₂ emissions. Our energy management system has been certified in accordance with ISO 50001 at all Messer production facilities in Germany and Spain.

Messer uses atmospheric air and electrical power at its production sites as the main raw materials to produce the air gases nitrogen, oxygen and argon. Production by means of air separation plants accounts for over 75 % of total energy consumption. Particular emphasis is therefore placed on the ongoing improvement of energy efficiency. Accordingly, Messer has assigned the specific task to a global energy manager to increase the energy efficiency of the Group's air separation plants.

Continuous monitoring of plant efficiency brings to light any energy variations and enables potential for improvement to be identified. Working together with local managers, projects are continuously initiated in order to improve energy efficiency.

The key environmental data of Messer's production activities during the past year are as follows:

The volumes of gases produced rose by 7.7 % compared to the previous year, as a result of which the electricity consumption of the Group's air separation plants also rose. On the other hand, energy efficiency, measured in terms of energy consumption per cubic meter of gas sold, declined by 0.5 % compared to the previous year.

New on-site plants were commissioned again in 2015 with a view to bringing about a reduction both in transport costs for the delivery of liquefied gases and at the same time in CO₂ emissions. These plants are used for on-site gas production and save approximately 2,000 truck journeys and 400 tons of CO₂. As a result, local customers benefit from flexibility and security of supply.

During the year, we installed a completely new air separation plant at our subsidiary in Serbia, as a result of which an old, less efficient plant could be decommissioned. In measurable terms, energy consumed by the new air separation plant is approximately 40 % lower.

At our subsidiary in Spain, extensive automation measures allowed optimization of the load adjustment of the pipeline and the condenser, resulting in about 2 % energy-saving.

With effect from the start of the fiscal year 2015, the Austrian plants have been supplied with electricity generated 100 % from renewable sources of energy from Europe. The supply of this product gives rise to neither CO₂ emissions nor radioactive waste.

Messer developed a unique new cooling technology for the superconducting power supply cable used in RWE's AmpaCity pilot project, which won the German Climate and Environment Innovation Award 2015. Normally, it is not possible to cool anything to below 196 degrees using liquid nitrogen. However, Messer's new cooling technology vaporizes liquid nitrogen at below atmospheric pressure, thus achieving a temperature of minus 209 degrees Celsius and facilitating electricity transmission through the cable virtually without losses. Superconductors are seen as a forward-looking solution for particularly space-saving and effective electricity transmission in towns and cities as well as at industrial facilities.

Health management

Messer is aware of its social responsibility and its impact on employees, as employees play a decisive role in all work processes. Messer therefore aims to ensure the health and well-being of the individual through its working standards. For instance, Messer introduced various health program, such as free access to fitness and wellness centers for employees and their families. Measures of this kind are designed to promote a healthy lifestyle among employees. The subsidiary in Slovenia was even awarded the "Family-friendly Firm" certificate for this.

Furthermore, a comprehensive training program for handling gas cylinders was initiated, with a view not only to reducing accidents associated with this, but also to improving the prevention of industrial diseases such as musculoskeletal disorders.

The average number of days lost through illness per employee came to four in 2015, similar to the previous year's level (2014: four).

Customer satisfaction

Customer satisfaction is a key factor in the success of the Messer Group. Measuring customer satisfaction allows the services provided to be monitored and the effectiveness of measures implemented to be verified, thereby increasing customer satisfaction and, in the long term, enabling the Messer Group to improve performance continually.

Most of the Messer Group companies are certificated in accordance with ISO 9001. This standard lays down the requirements for the Group's quality management system, which include regular customer satisfaction surveys. Our customers are aware that where gases are concerned there is far more at stake than merely the price of the products.

Customer satisfaction surveys have been conducted since 2011 using an online tool. In 2014, a Messer survey tool was implemented under the protection of the Messer Group firewall. This tool has the advantage that online responses by customers are immediately visible to the sales staff on the spot, who can react more swiftly to specific customer needs where necessary.

In total, nearly 23,000 of our customers in ten countries were asked whether they were satisfied with the services received in 2015. This number represents a 30 % increase on the previous year. The percentage of customers completing the questionnaire in full fell compared to the previous year from 10.3 % to 7.9 %. As in 2014, precisely 1,811 customers responded. On the other hand, the number of customers completing the questionnaire in part increased from 780 to 1,519. Customer satisfaction was therefore analyzed on the basis of 2,169 questionnaires in total. On a scale of 1 for very dissatisfied to 10 for very satisfied, the overall performance of the Messer Group in Europe as a whole achieved a rating of 8.51. This represents an improvement on the previous year, when, in the country compilation, satisfaction with the overall performance was rated at 8.44.

The online questionnaire on general customer satisfaction consists of a total of 30 questions. To measure satisfaction, an analysis is carried out of whether the customers were satisfied with the services in general, whether customers consider it advantageous to be supplied by Messer and

whether they are prepared to recommend Messer. The questionnaire focuses on the importance of 16 services, for which Messer's performance is then evaluated.

In the compilation of the results in Europe for the previous year, customers had already given their best evaluation for complete and on-time delivery. On a scale of 1 for unimportant to 10 for very important, the importance of this service was rated at 9.0. All services were evaluated as highly satisfactory. On a scale of 1 for very dissatisfied to 10 for very satisfied, only for pricing were the European companies assessed at 7.8, with all other services in a range of 8.1 to 9.0. Customers are highly satisfied in particular with the conduct of our employees (9.0) and their technical knowledge (8.9).

Report on economic position

General economic conditions and sector environment

The various products, services and technologies of the industrial gases business are used in almost all branches of industry, but also in the food technology, medicine and research and science sectors. For this reason, gross domestic product (GDP) is a highly relevant indicator for the Messer Group's performance.

The scale of global economic recovery failed to meet expectations again in 2015. According to data published by the International Monetary Fund (IMF)¹ and the World Bank², the pace of growth decelerated rather than accelerated. The World Bank figures indicate that global GDP grew in real terms only by an estimated 2.4 % compared to 2.6 % the previous year. In particular, there was a significant slowdown in GDP growth in emerging and developing economies, with a clear divergence nevertheless remaining between these economies, whose GDP grew overall at 4.3 %, and developed industrialized countries, which grew at a rate of 1.6 %. Year-on-year, however, economic growth slowed this time round, resulting in a 0.6 percentage point reduction in GDP growth in emerging and developing economies and a 0.1 percentage reduction in developed industrialized countries. Economic growth has therefore slowed down in emerging and developing markets for five years in succession.

European economies revived further in 2015, with the euro area in particular proving able to put the recession of 2012 and 2013 behind it. According to IMF figures, GDP in the euro area rose by an estimated 1.5 % in 2015, an improvement of 0.6 percentage points over the previous year. In this context, particular mention should be made of the momentum currently driving the Spanish economy. GDP growth in Europe outside the euro area was again considerably stronger in 2015. According to the figures of the Organization for Economic Cooperation and Development (OECD)³ strong growth was achieved especially in Poland, Hungary, Slovakia and the Czech Republic, where growth rates for 2015 are expected to be in the region of 3 %.

In China, on the other hand, the GDP growth rate continued to slow down and, based on IMF figures, after 7.3 % in 2014, is likely to finish at a rate of 6.9 % for 2015. The Chinese Government's policy of reducing the dependence of the Chinese economy on exports by boosting domestic demand, with a corresponding emphasis on consumption and services, is leading to the anticipated moderation in growth rates in the long term. For all that, Chinese GDP growth still remains the strongest in the world.

Review of operations

For the Messer Group, the financial year 2015 was influenced by a continued slowdown in the relevant economic sectors in China, and in particular persistently low levels of steel production. Economies in Europe, on the other hand, continued to recover, albeit slowly. In addition, two new plants were

¹ World Economic Outlook, Update January 19, 2016

² Global Economic Prospects, Update January 2016

³ OECD Economic Outlook – No.96, Update November 2015

commissioned in 2015, which are accounted for in accordance with IFRIC 4. These developments enabled the Messer Group to achieve an 11 % year-on-year increase in sales in 2015. We therefore achieved our forecast for 2015 of a “significant growth in sales”. Without the one-time sales revenue recognized in accordance with the requirements of IFRIC 4, the Messer Group would have posted a 7 % increase in sales. Sales growth was bolstered by the weaker euro and the resulting positive effects on transactions denominated in euro, the Group’s reporting currency. These favorable factors partially offset the negative impact arising from increasingly difficult economic conditions in China. The Messer Group’s EBITDA, at approximately 5 %, improved once again compared to the previous year. This performance was significantly better than the forecasted “sharp fall in EBITDA” for the financial year 2015. Earnings benefitted from changes in euro exchange rates, in particular as a result of the substantial appreciation in the value of the Chinese yuan (CNY) compared to the previous year. Including the impact of the USPP currency hedge, the Messer Group again managed to reduce net debt in 2015, which fell from K€ 430,318 at the end of the previous year to K€ 409,079 at December 31, 2015. The “significant rise” in net debt forecasted one year earlier therefore did not materialize.

Overall situation

Earnings performance

Messer Group generated worldwide sales of K€ 1,165,517 in 2015 (2014: K€ 1,047,127) which can be analyzed by region as follows:

Sales	Jan. 1 – Dec. 31, 2015	Jan. 1 – Dec. 31, 2014	Growth 2015
China, Vietnam and Peru	433,511	334,137	30 %
Western Europe	356,019	346,697	3 %
Central Europe	191,713	189,005	1 %
South-Eastern Europe	184,274	177,288	4 %
	1,165,517	1,047,127	11 %

The Messer Group’s sales in the financial year 2015 were 11 % up on the previous year’s figure. Business developed in the various regions as follows:

China, Vietnam and Peru

Sales in China rose by 30 % compared to the previous year. Excluding the one-time sales revenue recognized in accordance with the requirements of IFRIC 4, the increase in sales would still have amounted to 15 %. A large proportion of this increase was attributable to the substantial appreciation in value of the Chinese currency compared to the previous year and the resulting positive effects on translation into the Group’s reporting currency, the euro. The slower economic growth rate in China and the persistently low level of production of our steelworks customers had a noticeable impact on operations throughout the fiscal year 2015. An additional factor was the continued surplus capacity in the liquefied gas market, with the corresponding detrimental impact on prices. The impetus provided by new production capacities was more than sufficient to stave off the negative effects arising from the challenging economic conditions.

In Vietnam sales rose once again in 2015 by a good third compared to the previous year, driven in part by increased demand of our on-site customer, Hoa Phat, and the utilization of further production capacity for liquefied gases in the north of the country. The third air separation plant for on-site customers is still under construction and is scheduled to be taken into service during the second quarter of 2016. Here too, the weaker euro had a beneficial impact on translation into the Group's reporting currency.

Sales also rose sharply in Peru (+18 %), mainly reflecting increased sales volumes, particularly of cylinder gases, including specialty gases and medical gases.

Western Europe

Sales in this region rose 3 % year-on-year, with operations in the Netherlands, France and Spain and the CO₂ hardware business of ASCO Kohlensäure AG in Switzerland making good contributions to the sales figure. The sales increase posted by our Dutch company was mainly attributable to one-off, standby deliveries of acetylene to a major customer. In the industrial gases business in France, the takeover of the industrial gases operations of Praxair in March 2014 continued to bolster sales, while in Spain, the additional capacity utilization created by a new liquefyer commissioned at the beginning of 2014 contributed to further growth. ASCO Kohlensäure AG benefited in particular from the acquisition of part of the operations of Buse Gastek GmbH & Co. KG at the end of 2014.

Central Europe

Compared to the previous year, sales recorded for the Central Europe region edged up by around 1 %. The region benefited in particular from the continuing favorable business climate in Poland, enabling our industrial gases operations there to increase sales by a good 2 %. At the end of 2015, a second air separation plant was taken into service to supply the liquefied gas market in Poland. Operations in Austria and Slovakia made moderate contributions to sales growth, whereas turn over in the Czech Republic could not be increased further.

South-Eastern Europe

Despite the generally difficult economic climate, exacerbated by a strained financial situation in several countries, the Messer Group's sales in South-Eastern Europe rose by 4 %. With the exception of our operations in Romania, all national entities achieved growth in sales revenue of between 1 % and 9 %. The two countries accounting for the greatest volume of Messer's industrial gases business in the region, Hungary and Serbia, generated the largest contributions to sales growth. The Bor on-site air separation plant, commissioned in May 2015, also contributed to the sales growth in Serbia. In September 2015, we sold our company in Turkey.

The Group recorded an EBITDA of K€ 251,795 for the financial year 2015 (2014: K€ 240,416).

EBITDA	Jan. 1 – Dec. 31, 2015	Jan. 1 – Dec. 31, 2014
EBIT	98,551	117,406
Amortization/depreciation of intangible assets and property, plant and equipment	152,949	122,435
Dividend income ¹	295	575
EBITDA	251,795	240,416
: Sales	1,165,517	1,047,127
Margin:	21,6 %	23,0 %

¹ Dividend income from non-consolidated companies,

The Messer Group's EBITDA for 2015 was 5 % up on the previous year, which means that our forecasted "sharp fall in EBITDA" did not materialize. Factors contributing to this outcome were exchange rate movements in relation to the euro, including the considerable appreciation in value of the Chinese yuan (CNY) over the course of 2015, and the application of IFRIC 4 (5.1 million; 2014: 0 million). In the previous year, a one-time gain of K€ 18,224 arose from the deconsolidation of Messer Italia S.p.A. following its sale to Praxair.

Messer Group

Overall the Messer Group recorded a group net profit (including profit attributable to minority interests) of K€ 47,058 for the fiscal year 2015 (2014: K€ 78,170). The gross profit amounted to K€ 464,047 (39.8 % of sales) and the operating profit amounted to K€ 98,551 (8.5 % of sales). Compared to the previous year, the operating profit decreased by K€ 18,855. Cost of sales includes losses of K€ 7,926 (2014: K€ 5,267) arising on the measurement of property, plant and equipment in the financial year 2015. In addition, in 2014, a gain of K€ 18,224 was recorded arising from the deconsolidation of a subsidiary.

Impairment losses on goodwill totaled K€ 6,711 (2014: K€ 2,819). The entities affected have so far only recovered slowly from the financial and economic crisis and their outlook for future developments has been rendered uncertain by the re-emergence of the euro debt crisis in 2011/12. For this reason, forecasts of future net cash inflows for these entities were revised down.

Profit before tax and minority interests is stated after a net interest expense of K€ 21,970, which represented an improvement of K€ 2,295 on the previous year due to the lower level of debt during the year. By contrast, other financial result for the year 2015 deteriorated by K€ 2,070 compared to the previous year, mainly reflecting higher foreign currency losses.

Taking into account all of the above factors, the group net profit after deduction of profit attributable to minority interests totaled K€ 36,567 and was therefore K€ 26,825 lower than in the previous year.

Financial position

Group Treasury is responsible for overall liquidity, interest rate and currency management. The most important objective of Group Treasury is to ensure that a minimum level of liquidity is always available to ensure solvency at all times. High levels of liquid funds help to improve our flexibility, security and

independence. If necessary, we can call on additional liquidity under further various available credit lines amounting to € 44 million.

G4-9 **Financing**

Net debt as of December 31, 2015 stood at K 409,079 (2014: K€ 430,318) and is broken down as follows:

Regional	Dec. 31, 2015	Dec. 31, 2014	Change 2015
Financial liabilities	582,192	597,746	
USPP currency hedging	(28,609)	(11,528)	
Cash and cash equivalents	(144,504)	(155,900)	
	409,079	430,318	4.9%

The Messer Group reduced net debt in 2015 by K€ 21,239 compared to the previous year. Based on financial liabilities of K€ 582,192 at the end of the reporting period, the ratio of financial debt to the balance sheet total was 25.7 %.

In 2005 the Messer Group took up a US Private Placement ("USPP I") amounting to a total of USD 252 million with various investors. An amount of USD 116.5 million was repaid on August 2, 2012 and an amount of USD 135.5 million (subject to an interest rate of 5.46 % p.a.) on August 2, 2015.

A second US Private Placement ("USPP II") dated June 8, 2011 was concluded with various investors and has a term of ten years. USPP II falls due for payment at the end of the term and is broken down as follows:

Amount	Interest rate p. a.
€ 80.0 million	4.55 %
€ 80.0 million	4.6975 %
USD 57.0 million	4.86 %

The third US Private Placement ("USPP III") for USD 100 million and € 46.3 million was completed on August 2, 2012 in conjunction with the partial refinancing of USPP I. It falls due for payment at the end of the term and is broken down as follows:

Amount	Interest rate p. a..	Maturity
K € 23,148	3.680 %	August 2, 2022
K € 23,148	3.680 %	August 2, 2022
K'USD 12,500	4.040 %	August 2, 2022
K'USD 25,000	4.160 %	August 2, 2022
K'USD 25,000	4.430 %	August 2, 2022
K'USD 37,500	4.040 %	August 2, 2022

The USD loans in connection with USPP II and USPP III totaling USD 157 million are fully hedged by cross currency interest rate swaps.

The Revolving Facility Agreement dated June 8, 2011, as amended on July 11, 2012, for € 150 million fell due on August 2, 2015. In order to replace it and to finance the amount falling due under USPP I, a new Term and Revolving Facilities Agreement (RFA) was concluded with a volume of € 160 million. The RFA has been made available by UniCredit Bank AG, Bayerische Landesbank, ING Bank (a branch of ING-DiBa AG) and Landesbank Hessen-Thüringen Girozentrale. It consists of two tranches: tranche A amounts to € 60 million, with an initial margin of 0.70 % p.a. Tranche A has been drawn down in full and will be repaid in six-monthly instalments of € 5 million, although the final instalment amounts to 30 million and falls due on June 30, 2019.

Tranche B amounts to € 100 million, with an initial margin of 0.65 % p.a. It is a revolving credit line to finance investments and working capital. The original term is five years with two successive renewal options for one year each.

USPP I, USPP II, USPP III and the Revolving Facility Agreement of June 8, 2011 are secured by the same collateral. In this context, shares in individual group entities have been pledged and guarantees have been provided by individual group entities. On August 2, 2015, USPP I (USD 135.5 million) and the Revolving Facility Agreement of June 8, 2011 were repaid.

In view of the fact that all covenants were complied with at that date, the USPP II and USPP III lenders released the share pledges provided as collateral. Only guarantees provided by individual group entities therefore remain as collateral for USPP II, USPP III and the new RFA. The number of guarantors was also reduced. Of the covenants existing for these financial agreements, mention should be made in particular of the net debt (i.e. gross debt less liquid funds)/EBITDA covenant, which also contains a computation for the Messer Group excluding China.

Cash flow statement

Abridged version in K €	Jan. 1 - Dec. 31, 2015	Jan. 1 - Dec. 31, 2014
Profit before tax	71,350	93,766
Cash flow from operating activities	219,427	210,618
Cash flow from investing activities	(127,900)	(132,463)
Cash flow from financing activities	(103,677)	(20,360)
Change in cash and cash equivalents	(12,150)	57,795
Cash and cash equivalents at the beginning of the period	155,900	102,426
Currency translation impact on cash and cash equivalents	742	(4,171)
Cash, change in group reporting entity	12	83
Cash and cash equivalents classified as held for sale	–	(233)
at the end of the period	144,504	155,900

At K€ 219,427, cash flow from operating activities was K€ 8,809 higher than in the previous year, which was mainly due to the fact that expenditure on the construction of new air separation plants, which fall under the requirements of IAS 17 (in conjunction with IFRIC 4), was lower.

The change in cash flow from investing activities again reflected the continued high level of investments by the Messer Group. The reduction in cash flow from investing activities was mainly attributable to lower expenditure in the China region.

Cash outflow from financing activities amounted to K€ 103,677, which was K€ 83,318 higher than the previous year's figure, reflecting the sharp net decrease in financial debt in conjunction with refinancing.

Liquid funds held by the Messer Group at December 31, 2015 totaled K€ 144,504, compared to K€ 155,900 one year earlier.

In 2016, the Messer Group will require further capital to fund its expanding business operations and scheduled capital expenditure and to repay loans and interest as they fall due, even though our focus in the medium term will be to consolidate net debt levels relating to operations outside China. These funds will be generated out of cash flow from operating activities, existing funds and credit lines available to the Group. The Messer Group's strong position in the various markets in which it already operates, combined with expansion into new markets, will enable us to maintain our robust financial position.

The Group has committed to purchase or to invest in the construction and maintenance of various production facilities. Obligations under these agreements represent commitments to purchase plant and equipment at market prices in the future. The Group is also party to long-term contracts which give rise to obligations. As of December 31, 2015, purchase and capital expenditure commitments and long-term contracts amounted to K€ 77,158 (2014: K€ 118,383).

Capital expenditure

Capital expenditure is aimed at safeguarding existing business and opening up opportunities for growth. In accordance with normal business principles, the Messer Group invests primarily in projects which will secure supply capabilities and/or which create opportunities for profitable growth. Furthermore regular investments are made in the modernization of production plants and distribution channels.

The Messer Group's capital expenditure on property, plant and equipment and financial investments totaled € 142 million. The capital expenditure ratio corresponds to 12 % of sales. The principal investments in property, plant and equipment relate to the construction of new air separation plants in Vietnam, Poland, China and Slovenia and two CO₂ plants in China. As in the previous year, no major financial investments were made in 2015, which at the same time confirmed our forecast of a "sharp reduction in investment activity".

Capital expenditure by region was as follows:

Capital expenditure in K €	Jan. 1 – Dec. 31, 2015 in K €	Jan. 1 – Dec. 31, 2014 in K €
China, Vietnam and Peru	58,905	50,666
Western Europe	36,538	72,139
Central Europe	24,315	38,723
South-Eastern Europe	22,355	25,738
	142,113	187,266

In China, Messer's investment projects are currently focused on pushing ahead with the strategy to diversify the existing business model. This approach includes a CO₂ plant completed in 2015 in Yunnan province and a further CO₂ plant under construction in Jiangsu province, which is due to be commissioned by mid-2016. Including a CO₂ plant already operated under a joint venture in Sichuan province, the Messer Group therefore has available CO₂ production capacity in China totaling 300 tons per day. The largely completed construction of a state-of-the-art specialty gasworks in Jiangsu province is a further aspect of business diversification in China. In Hunan province, the second in-house krypton and xenon production unit has also been taken into service.

In Jiangsu province, we have invested in a further hydrogen generator to supply customers. Furthermore, an air separation plant is under construction in Hunan province for a new on-site customer outside the steel sector. Construction work for a second air separation plant with a capacity of 40,000 Nm³/h has been completed at the main site of our joint venture partner Pangang in Panzhihua and the plant commissioned in May 2015. Finally, a further air separation plant will be commissioned in mid-2016 in Zhejiang province to round off the expansion of the liquefied gases business started in 2011.

In Vietnam, construction work on the third air separation plant for on-site customer Hoa Phat is near completion. It will be commissioned in the first quarter of 2016.

Capital expenditure in Europe remains focused on investment in distribution channels and selected growth projects. Selected growth projects include the construction work completed in Poland on a second air separation plant for liquefied gases (which ensures continued participation in the country's strong economic development) and the completed construction of a second air separation plant in Serbia to cover the increased demand of an existing on-site customer. In addition, in Slovenia, the start of the construction work on the first air separation plant will ensure the future product supply autonomy of our industrial gases operations in that country. In Germany, the capacity expansion of the filling plant was completed.

Net assets

G4-9

The balance sheet total at December 31, 2015 amounted to K€ 2,264,317, of which the largest proportion (79.1 %) related to non-current assets (2014: 78.4 %). Tangible and intangible assets represented the largest combined item on the assets side of the balance sheet (68 %). The carrying amount of these two items together increased by K€ 26,961 as a result of further investments. Non-current lease receivables and cash at banks account for 7.6 % and 6.4 % respectively of total assets.

Exchange rate variations added K€ 41,726 to the balance sheet total and were attributable mainly to our Chinese companies.

The equity ratio (including minority interests) increased to 58.3 % (2014: 56.3 %). Gross debt accounted for 25.7 % of the balance sheet total and decreased by K€ 15,554 compared to one year earlier. The refinancing concluded in 2015 led to further improvement of the financing structure in terms of the long-term financing of assets.

Cost of capital percentage for employed capital

The ROCE for the past year was 6.98 %, calculated as follows:

ROCE	Jan. 1 - Dec. 31, 2015	Jan. 1 - Dec. 31, 2014
EBIT	98,551	117,406
+ Amortization of/Impairment losses on goodwill	6,711	2,819
EBIT adjusted	105,262	120,225
: Capital employed	1,507,691	1,447,758
ROCE in %	6.98 %	8.30 %
Derivation of capital employed from the balance sheet		
Other intangible assets and property, plant and equipment	1,233,867	1,208,145
Finance lease receivables	186,764	143,185
Net working capital	87,060	96,428
Capital employed	1,507,691	1,447,758

Operating assets

Net working capital stood at K€ 87,060 at the end of the reporting period (2014: K€ 96,428) and comprised the following:

Net working capital	Dec. 31, 2015	Dec. 31, 2014
Inventories	57,131	77,293
Trade receivables	189,056	172,849
Trade payables	(147,281)	(148,634)
Advance payments received	(11,846)	(5,080)
	87,060	96,428

The year-on-year decrease in net working capital reflects, among other factors, the lower level of inventories following commissioning of plant accounted for in accordance with IAS 17 (in conjunction with IFRIC 4). In addition, 2015 saw a significant increase in advance payments received for plants under construction.

The ratio of inventories less advance payments from customers plus receivables on the one hand and trade payables on the other was, as in the previous year, approximately 2:1; the ratio of net working capital to sales went down from 9.2 % to 7.5 %.

Good receivables management enabled us to bring down DSO (Days Sales Outstanding) by a day in 2015 to 58 days (2014: 59 days).

Overall statement on the Group's financial condition

Despite the continued challenging economic climate, the Messer Group was able to increase its worldwide sales year-on-year by 11 %. Positive currency factors and the application of IFRIC 4 to account for two newly commissioned plants contributed to the increase. The EBITDA margin, on the other hand, narrowed from 23.0 % the previous year to 21.6 % in 2015, whereas EBITDA improved year-on-year by some € 11.4 million compared to the previous year's € 240 million.

The Messer Group's return on capital employed (ROCE) amounted to 6.98 % (2014: 8.30 %). Comparison with the previous year highlights the more pronounced decrease in operating result, caused by the absence of positive exceptional items in conjunction with the change in the scope of consolidation in the previous year, thereby also confirming the forecast of a "significantly declining ROCE".

Good progress is being made in consolidating net debt levels relating to our operations outside China, which currently forms the focus of our medium-term planning. In 2015, for instance, net debt relevant for the net debt covenants was reduced year-on-year by a further € 58.9 million to € 348.3 million. This is also reflected in the net debt figure of approximately € 409 million for the Messer Group as a whole, which was lower than at the end of the preceding year.

These overall favorable developments represent good progress and are testimony to the stability and sustainability of the Group's business model. The Messer Group, operating in the two principal regions of Europe and China, has a global presence and good regional diversification in a number of countries or provinces within the two principal regions, so that falling demand in individual markets or downturns in specific sectors can often be offset.

Events after the end of the reporting period

On September 15, 2015, Messer Hungarogáz Kft. signed a purchase agreement for the acquisition of 100 % of the shares in Air Liquide Hungary Ipari Gáztermelő Kft. in Hungary. The acquired company will be consolidated in the financial year 2016, following the agreement of the antitrust authorities in Hungary. It is currently not yet possible to reliably estimate the financial impact on the consolidated financial statements.

On December 2, 2015, Messer Group GmbH signed a purchase agreement for the acquisition of 30 % of the shares in Smart Gas Pte. Ltd, Singapore. The acquired company will be included in the consolidated financial statements as an associated company in the financial year 2016 after the closing of the transaction has been completed and after the purchase price has been paid. It is currently not yet possible to reliably estimate the financial impact on the consolidated financial statements.

On January 21, 2016, Messer Griesheim Vierte Vermögensverwaltungs-GmbH, Sulzbach am Taunus decided to release and distribute Messer Group GmbH's additional paid-in capital amounting to € 4,957,419.73.

On January 22, 2016, Messer Griesheim (China) Investment Co. Ltd., Shanghai, increased its majority holdings in Shaoxing Messer Gas Products Co., Ltd. ("Shaoxing") and Messer Sunshine (Ningbo) Gas Products Co., Ltd. ("Ningbo") to 100 %. A credit difference of K€ 474 for Shaoxing and a debit difference of K 357 for Ningbo, arising on the consolidation of these additional shares, have been transferred to Group's reserves without income statement impact.

On January 26, 2016, Messer Holding GmbH settled its liabilities to the former shareholders, as a result of which the guarantee expired on that date.

On January 29, 2016, the sale-and-lease-back signed on December 14, 2007 was ended. The trust company transferred the co-ownership share of 95 % of the gas cylinders back to Messer GasPack GmbH.

Outlook

Macroeconomic and sector-specific risks

The pace of global economic growth again failed to live up to expectations in 2015, thus triggering further changes in the long-term forecasts of leading economic institutes. For example, the World Bank¹ is now forecasting generally modest global economic growth going forward. That said, due to the loss of momentum registered in 2015, the pace of growth is expected to pick up slightly again in 2016. The forecasts of GDP growth rates published by the IMF² and the World Bank at the beginning of 2016 again approximate to those set out in their previous forecasts for 2015. The IMF expects global GDP to grow in real terms by 3.4 % in 2016, an improvement of 0.3 percentage points over the previous year, while according to the World Bank the global growth rate will accelerate in real terms from 2.4 % in 2015 to 2.9 % in 2016. In subsequent years, a further, albeit significantly smaller increase is expected. For 2016, both institutes forecast improved growth rates both for developed industrialized countries and for emerging and developing economies. For developed industrialized countries, this trend is inferred from the continuation of the 2015 economic upturn, bolstered by extremely low oil prices, notably in the USA and Europe. The IMF, for example, forecasts GDP growth of 2.1 % in 2016, compared to 1.9 % in 2015. For some emerging and developing economies, 2015 is considered likely to be the low point of the recent negative trend, in particular for Russia and Brazil. In China, on the other hand, a further slowdown in the growth rate is forecasted as a consequence of the process of change embarked upon with a view to strengthening domestic demand on the basis of consumption and services. The IMF and World Bank forecast GDP growth between 6.3 % and 6.7 % for China in 2016, following the figure of just under 7 % registered for 2015. Overall, GDP growth is expected to accelerate in emerging and developing economies by between 4.3 % and 4.8 % in 2016, compared to the 4.0 % to 4.3 % estimated for 2015.

The World Bank and the IMF point out significant forecasting risks in their predictions for 2016, the most important ones being the interlinking impact of a sustained erosion in commodities prices, a

¹ Global Economic Prospects, Update January 2016

² World Economic Outlook, Update January 19, 2016

potential worldwide currency war and the uncertain progress of the interest rate hike embarked upon in the USA. Moreover, there are signs that global growth rates are generally slowing down.

Outlook for the Messer Group

The Messer Group's net financial debt to EBITDA ratio stood at 1.6 at December 31, 2015, whilst the corresponding ratio for our operations excluding China was 2.24. The focus of our updated medium-term plan remains the objective to consolidate net debt levels for operations outside China, with the aim of attaining a ratio of net financial debt to EBITDA not exceeding 2.1 by the end of 2018. As well as the pursuit of investment activities at a level conducive to achieving this aim, we also intend to raise sales at a pace appropriate for the prevailing economic conditions and to take advantage of opportunities, wherever they arise, in order to stabilize or improve the profitability of the Messer Group. To this end, the internal profitability program implemented back in 2013 was further developed in 2015, with the emphasis placed on cylinder gas business.

We continue to view economic prospects in Europe with cautious optimism, although further pressure on prices and intense competition, as well as the poor performance of the steel industry, could have a detrimental impact. The main focus of our business performance in Europe is on exploiting new production capacities created in recent years (in particular in Germany, France, Austria, Poland and Spain) to the maximum extent, and successfully creating new production capacities at selected locations (e.g. in Serbia, Slovenia and Hungary). Future investment decisions will be taken in line with the stated strategy of consolidating net debt levels in the medium term.

The China region accounted for a third of net sales and 38 % of the EBITDA of the Messer Group in 2015. The net debt/ EBITDA ratio for the China region is 0.7 and hence significantly lower than that of the Messer Group as a whole (1.6), underlining the importance of Chinese operations for the sales, profitability and internal financing of the Messer Group. We remain confident in our prediction that the market will continue to burgeon in this region. The difficulties now emanating from the slow-down in China's economic performance, particularly the downward pressure on prices and intense competition in the liquefied gases market and surplus capacity throughout the steel industry, also explain the extreme degree of sensitivity concerning the local steel industry. We are in the process of implementing a substantial package of measures aimed at continuously reducing the high level of dependency of our Chinese operations on the local steel industry over the coming years. These measures include concentrating on on-site projects in non-steel sectors, developing the liquefied and specialty gases business and expanding the scale of CO₂ business, in particular through the planned commissioning of two further air separation plants and one CO₂ plant.

According to the current estimates of the various economic research institutes, we expect energy costs, which are all-important for our industry, not to rise significantly for the time being. We have continued to assume in our forecast that the two largest on-site customers of our Serbian subsidiary will remain in business. Delays in interim payments or even in some cases defaults on future receivables have been taken into account in the forecast.

The main financial performance indicators for the Messer Group are forecast to develop as follows in the coming year:

	2016 compared to 2015
Sales	Noticeably decreasing
EBITDA	Sharply decreasing
Capital expenditure*	Sharply decreasing
Net debt	Sharply rising
ROCE	Sharply decreasing

* Excluding investment in non-current financial investments

Overall assessment by management

The pace of economic growth in Europe is expected to edge up slightly in the new financial year 2016, whereas growth in China is likely to tail off further. Current global economic conditions pose major challenges for meeting economic forecasts. The main risks and uncertainties which could have an impact on the Messer Group's performance are considered to be uncertainty with respect to China's future economic development, the unknown magnitude of the slump in commodities prices and its inter-linked impact, difficulties in predicting the progress and impact of the interest rate hike cycle in the USA and the unforeseeable negative impact from the world's trouble spots, especially in the North African and Arabian regions.

The Messer Group considers that it is well placed to meet forthcoming challenges – although for the time being it deems it wise to adopt a prudent stance with regard to short-term expectations. The expected decrease in sales reflects on the one hand the fact that hardware sales in accordance with IAS 17 (in conjunction with IFRIC 4) are not expected to be recorded on a similar scale in 2016 and, on the other, the impact of the value of the transaction currency Euro, which is likely to remain steady or even strengthen. In terms of industrial gases business itself, moderate sales growth is expected in both Europe and China. EBITDA and ROCE on the other hand are likely to be impacted by the downward trend in prices that is currently being forecast, at least in the short term. Furthermore, it has also been assumed for the time being that allowances for potential bad debts on future receivables from the two largest on-site customers in Serbia will be greater than in 2015.

Future investment decisions will be taken in line with the stated strategy of consolidating net debt levels for existing operations in the medium term. Investment activities at a level conducive to the pursuit of this aim, combined with a sound earnings performance, should ensure that the Messer Group's net debt does not increase on a lasting basis.

Forward-looking assertions

The Outlook Report contains forward-looking assertions which are based on the management's current appraisal of future developments. These assertions are not to be interpreted as a guarantee that these expectations will in fact be met. Future business performance and earnings of the Messer Group are dependent upon a number of risks and uncertainties and may therefore diverge significantly from the forward-looking assertions made here.

Opportunities report

As an international supplier of industrial gases, opportunities basically arise for the Messer Group from the multifarious usages of industrial gases to produce products needed in all fields of life and in all countries of the world. Through investment, we are able to exploit available opportunities to realize the full potential of the business and to maintain/ strengthen our market position. We are also taking advantage of the opportunities arising from internationalization – in particular in the light of positive developments on the emerging economies – by purposefully expanding our facilities in these regions. This also enables us to engage in new markets with long-term growth potential. We encourage the identification of new opportunities by embedding employee motivation in the Group's corporate values and by fostering ideas management.

The main opportunities which could be significant for the net assets, financial and earnings position of the Messer Group are as follows:

Macroeconomic opportunities

The general economic environment plays an important role for our operations, our financial and earnings position and our cash flows. Our forecast for 2016 is based on the expectation that future macroeconomic conditions correspond to the description provided in the Outlook Report section of the management report. If the world economy as a whole or in regions or countries of relevance for our business performs better than described, our sales and earnings could exceed the forecasted amounts.

Market opportunities

We still expect a significant market growth, particularly in China, but, for the purposes of the outlook for 2016, have not assumed a further increase in the growth rate. A considerable economic upswing could have a positive impact on the Group's sales and earnings.

We forecast a modest economic recovery in Europe. A faster economic recovery, especially in the southern European countries of the euro area, could have a positive impact on our sales and earnings.

Opportunities arising from industrial gases applications

Our products are used worldwide in a variety of production processes. In the field of application technology, the Messer Group continuously analyzes multifarious processes in order to facilitate more efficient production processes for our customers through the use of industrial gases. New applications identified in this way may open up new business opportunities which could have a positive impact on our sales and earnings.

Opportunities arising from optimization measures

The strategic program "C7" implemented in 2013 with a view to improving profitability includes specific measures aimed at boosting sales, improving business processes and reducing costs by 2015. This program was developed further in 2015, with an emphasis on the cylinder gas business. If the

various measures are implemented more quickly or more successfully than expected, this could have a positive impact on our sales and earnings.

Opportunities created by our employees

The Messer Group promotes "ideas management" throughout the group and employees are encouraged to submit improvement proposals with local and/or international relevance. Furthermore, human resources development program and other training offers are available to encourage the systematic development and exploitation of our employees' potential. If we achieve better progress with these measures and methods than currently expected, this could have a positive impact on our sales and earnings.

G4-14 **Risk report**

As an international supplier of industrial gases, the Messer Group is exposed to opportunities and risks which inevitably arise in connection with entrepreneurial activities. Moreover, future earnings will depend both on the operating performance of the gases business and on the state of the economies in individual countries, a factor over which the Messer Group has no influence. Thereby it is our task to take advantage of opportunities when they arise, whilst at the same time curtailing risk and manage it pro-actively.

The main risks which could be significant for the net assets, financial and earnings position of the Messer Group are as follows:

Macroeconomic risks

The industrial gases business is subject to intense competition. The level of competition is increasing in conjunction with the process of globalization. This highly competitive environment could reduce Messer's earnings and cash flows in the future. The Messer Group operates globally, making it susceptible to local political, social and economic conditions and to the resulting risks arising in each market.

Market risks

We supply a cross-selection of industries and sectors (including steel, metal processing, chemicals, petrochemicals, food and beverages, healthcare and glass) on the basis of long-term contracts over periods of up to 15 years in Europe and up to 30 years in Asia. A significant reduction in market demand in any one of these key industries or sectors – particularly given the prevailing critical situation in the steel industry which is suffering from worldwide over-capacity – could adversely affect future earnings and impair future growth prospects. Our strong position in China also means that this region makes an above-average contribution to our earnings, and conversely, any economic downturn on this market would have a negative impact on earnings.

Cost risks

Regulatory or government amendments or interventions in the energy sector may lead to rising energy prices in some countries. The reoccurrence of crisis situations within oil-producing countries, the growing demand for energy in emerging economies, particularly in China and India, give reason to believe that oil and energy prices will rise again in the long term with a corresponding impact on supplies and primary products necessary for the Messer Group's business. Purchase prices of some important bought-in products, such as helium, fluctuate considerably. Although Messer is often able to pass on cost increases partially to its customers via price escalation clauses or reduce the risk by entering into long-term purchase agreements, it is possible that price increases for energy and bought-in items could adversely affect the profitability of the Messer Group.

However, it should be pointed out that our contracts contain clauses to the effect that electricity price rises can be passed on to our customers.

Selling price risks

The industrial gases business is subject to intense competition. The level of competition is increasing in conjunction with the process of globalization. The intense competition may lead in certain countries to disproportionate downward price trends, as currently in China, which could have a negative impact on future sales and earnings. The integration of member states which have only recently joined the EU entails risk in that many previously state-run businesses will need to be privatized and restructured in accordance with EU and International Monetary Fund requirements. The number and scale of state grants could be drastically reduced, culminating in numerous closures and mergers in these countries, and an adverse impact on the Group's sales. In these circumstances, the downward pressure on selling prices would probably increase.

Operational risks

An operational interruption at one of our production facilities can result in loss of supplies to customers. We endeavor to avoid this situation by regularly maintaining and monitoring our equipment. In the event of breakdowns or defects, emergency plans and instruments are in place to reduce the financial consequences of a business interruption at one of our customers. The Messer Group is currently expanding its supply structure and maximizing flexibility in order to ensure that supplies to customers are safeguarded even in emergency situations. The range and quality of our products depend on the availability of bought-in hardware and on the production equipment used (e.g. cylinders, tanks) on the one hand and on the quality of service/products of our suppliers and business partners on the other.

Acquisition risks

The Messer Group is continually developing new strategies. As well as expanding and strengthening our existing business and continually optimizing our sourcing and logistics processes, we are intent on achieving growth both organically and through other means such as acquisitions and joint ventures. Our aim is to consolidate operations on existing markets and to divest non-core business operations. The sale of entities or business activities can, however, result in retrospective risks for the Group.

Appropriate provision is recognized if a risk is probable. When deciding to make acquisitions or entering into new partnerships there is always a risk that future market potential and the feasibility of projects being put into action may have been wrongly predicted. The Messer Group therefore has internal committees which highlight the development potential of a project prior to its approval and analyze any information which has a bearing on decisions which need to be made. In order to be as certain as possible that M&A projects have future development potential, due diligence investigations are carried out by experienced staff in specialist departments before any acquisitions are made in connection with M&A projects. Risk is also reduced by including relevant terms of agreement in sales contracts.

IT risks

The use of state-of-the-art information technology plays a decisive role in handling and securing business processes within the Messer Group. Our IT center in Germany provides the scope to create a modern and efficient infrastructure and to improve our business processes where necessary. This concentration does, however, mean that there is a greater risk of business interruption, cyber criminality and sabotage, caused by natural hazards or human error. In order to avoid this risk, our IT center applies its own IT risk management system, including ongoing testing of the system architecture. Particular attention is paid to the provision of IT infrastructure and services and especially to guaranteeing fail-safe and interference-free operations. The integrity and reliability of the data and important information are ensured by means of appropriate measures, services and systems. Most of the business processes of the Messer Group are provided by internal or external IT services. The security and compliance of the information systems are set out in the IT strategy objectives, on the basis of which the Messer Group designs, implements and reviews measures to ensure protection of data, applications, systems and networks on an ongoing basis. Both preventive and corrective measures are considered in this process.

Financing risks

We require funding to finance our growth and ambitious capital expenditure program. We are therefore dependent on the financial sector remaining stable and liquid. The Messer Group is reliant on cash flows from operating activities to repay debt. This is dependent to a large extent on the ability to generate positive cash flow from operating activities.

The Group has recognized goodwill in the consolidated balance sheet. The application of IAS 36 (i.e. the performance of impairment tests) could result in the requirement to recognize impairment losses on goodwill, if the business and market prospects of a group subsidiary or cash-generating unit deteriorate compared to the original date of measurement. Impairment losses could have a significant adverse impact on earnings and on balance sheet/ performance ratios. The shares of the largest customer of our Serbian subsidiary, Messer Tehnogas AD, were taken over by the Serbian State in January 2012. The customer operates a steel manufacturing plant at the Smederevo site in Serbia, on the same site where we operate air separation plants for the steel works and for the Serbian market. For the purposes of the impairment test performed for the Serbian unit we assumed – in line with our overall outlook for the business and on the basis of assertions made by the Serbian State – that the operations of the steel works will not be discontinued. Regular payments made in the financial year 2015 for outstanding receivables provide further grounds for this assumption. The resulting uncertainties were taken into account in the forecast through corresponding write-down rates on future receivables.

This is also applicable for RTB Bor, the second largest on-site customer of Messer Tehnogas AD, Serbia, which is currently going through a restructuring phase.

There is always a risk that financial and debt crises could result in global economic downturns or slowdowns. The Messer Group will continue to observe developments very closely. Cost reduction measures and capital expenditure programs initiated and implemented in recent years have helped to counter the negative impact of previous financial and economic crises. Many of these programs remain in place. A potential deterioration in the creditworthiness of our customers increases the risk of bad debts and delays in joint projects. The structure of the Messer Group's receivables is disclosed in detail in note 33 to the consolidated financial statements, "Additional disclosures relating to financial instruments".

It is essential that we ensure compliance with the covenants stipulated in the USPP and RFA financing arrangements. Particularly worthy of mention is the net debt (i.e. gross debt less liquid funds)/ EBITDA covenant which is required to be complied with for the Messer Group as a whole and for the Messer Group excluding its subsidiaries in China. Financial risks can also arise for the Messer Group from changes in exchange and interest rates. The management of interest rate, currency and liquidity risks is handled by Group Treasury in compliance with guidelines approved by executive management. Group Treasury identifies, measures and hedges financial risks. The Messer Group currently employs marketable forward currency contracts, interest rate swaps and crosscurrency interest rate swaps as hedging instruments. Treasury guidelines contain general risk management principles and specific rules for defined areas such as the exchange rate risk, interest rate risk, the use of derivative financial instruments and the investment of surplus cash. The related risks are observed continuously and the scope of hedging adjusted where considered necessary.

Currency risks

Transaction risks arising in conjunction with the export of products are generally hedged as soon as the order is received. At an operating level, for the most part the individual Group entities transact their business locally in their functional currency. For this reason, the currency risk element of transaction risks is generally considered to be low. However, some Group entities are exposed to foreign currency risks that arise on transactions that are not denominated in their functional currency. These transactions relate mainly to payments for imported products or services and are hedged to the maximum extent possible. Like any other market participant, we may be confronted with the unexpected appreciation of a functional currency which weakens the international competitiveness of the country concerned and hence the ability of our local business to export its products. Translation risks which may arise when converting foreign currency exposures into euro are classified as customary for the business.

Legal and contractual risks

Enterprises are repeatedly confronted with allegations that they have infringed industrial rights or legal obligations, that defective products have been supplied or that environmental protection laws have not been adhered to. Regardless of their prospects of success, this type of claim can result in very high defense costs. In cases like these, the Messer Group defends itself energetically with the support of both in-house and external experts.

Our international operations are subject to a wide range of country-specific environmental legislation and regulations in areas such as gas emissions, groundwater pollution, the use and treatment of dangerous substances as well as ground surveys and decontamination. This can give rise to liability risks in conjunction with either past or current operations. New environmental requirements, partially resulting from the adoption of EU directives in the new EU Member States, necessitate that our existing environmental standards (which are already at a very high level) are brought into line with the new requirements. This may result in higher production costs and modifications to the production process. The financial year 2015 shows, however, that the implementation of stricter environmental regulations often results in a more efficient production process and a higher quality product.

Overall assessment by management

The above-mentioned opportunities show that both internal and external potentials are involved. We endeavor to develop in-house potential on a targeted basis and will put external potential to good use whenever the opportunity arises. The risks presented above are not the only ones to which the Messer Group is exposed. Some risks, which have not yet been identified or which are not considered to be significant from today's perspective, could have an adverse impact on the Messer Group if general business or economic conditions were to change. However, no risks were identified in 2015, either individually or in aggregate, which could have a material adverse impact on the going-concern status of the Messer Group. From today's perspective, no such risks are pending in the foreseeable future. The principal risks during the period under report encompassed market developments, with at times intensive competition and price pressure, as currently in China, and production processes. Organizational measures are in place to identify potential risks at an early stage. Our constant risk management (described below) and pro-active management of risks enable us to reduce risk.

Risk management

The principles that dictate our approach to risk management are stipulated by the Executive Management. Risk management is directed at safeguarding the going-concern status of group entities and increasing the value of the business; for this reason it plays a crucial role in all decision-making and business processes. The existing management structure and the reporting processes which are in place ensure that not only developments that could jeopardize its going-concern status are reported regularly and on time to the relevant levels, but also that other developments which pose a threat to the achievement of short-term performance targets (such as EBITDA or cash flow) are reported. This allows management to initiate measures at an early stage to mitigate any business and/or financial risks. Risk managers have been designated at each of the subsidiaries with responsibility for ensuring the proper functioning of local reporting systems. Working together with local risk managers, the group risk manager prepares a risk report for the Messer Group as a whole at the start of each year which is discussed by the Executive Management and communicated to the Supervisory Board of the Messer Group in good time. The risks recorded in the risk report are categorized by nature and classified by probability of occurrence. Risk perception in the current selling environment has exacerbated the risk profile of Messer Group entities in the financial year 2015 compared to the previous year.

Messer is adequately insured against potential claims or liability risks, to which it is exposed; these policies ensure that the financial impact can be kept within defined limits or completely avoided. The scale of insurance coverage is continuously optimized in response to the specific situation of group companies.

The Messer Group GmbH's internal audit department carried out five status audits (all follow-up audits) at European Messer Group companies during 2015. In addition, a first-time audit of the Peruvian operations was carried out. In China, the local central organization carried out internal audits during the year (most of them relating to tax matters) and some status audits. The regular follow-up audits (in total ten audits), which check at appropriate intervals that the previous findings and recommendations have been implemented effectively, are still considered to be a core aspect of the internal audit department's activities. The audits by the internal audit department at the same time include advisory activities in the sense that information on best practice is passed on and cross-border assistance is organized; this takes account of the respective current standards of the entities in the various countries. In addition, a regular exchange of information takes place with the external auditors in order to make the best use of available know-how, on a results-oriented basis, during the respective audits. Where necessary, other central functions are also called upon in an advisory capacity (including SHEQ and Corporate Logistics). Compliance with corporate guidelines is tested and sample testing of voucher/document controls performed within the various business processes, in order to check the effectiveness and commercial sense of processes as well as the accuracy and reliability of financial reporting. Findings were clarified and recommendations made to improve the transparency of business processes.

The Group's Safety, Health, Environment, Quality (SHEQ) department continues to carry out audits and risk analyses in order to reduce the accident ratio even further.

State-of-the-art technologies are employed in the IT area in order to keep the risk from electronic data processing to a minimum. Unauthorized access to data and systems and a significant loss of data are ruled out to the greatest extent possible. The efficiency, operational availability and reliability of systems are constantly being monitored and improved. Messer's security concept also includes a detailed emergency plan. In order to minimize risks, the various technologies employed by the Messer Group are regularly tested to ensure that IT-based business processes are safe.

Tax laws and competition regulations can also give rise to business risks. In order to mitigate these risks, the Company relies upon the advice of both in-house and external experts.

Income and operating cash flows are, to a large extent, unrelated to market interest rates, since the Group does not hold any significant interestbearing assets. Loans or credits subject to variable interest rates are hedged partly with the aid of interest rate swaps (cash flow hedges of future interest payments). Under these arrangements, loans with variable interest rates are converted in substance to loans with fixed rates. In conjunction with the interest rate swaps, the difference between fixed contract interest rates and variable interest rates is settled at specified intervals (computed by reference to an agreed amount). At the balance sheet date, derivative financial instruments had only been entered into with renowned international financial institutions.

Corporate Governance within the Messer Group includes a whole range of in-house rules and measures aimed at preventing the occurrence of risks. The first stage of the risk management system is to assess risks throughout the organization. This risk assessment is conducted by the Group's corporate departments for the respective areas of responsibility and by each consolidated subsidiary for its own business. The assessment of risks is updated each year. All information relating to risks is collated centrally by the Corporate Compliance Officer (CCO). Training is organized and carried out as appropriate to cover identified risk areas and to highlight best practice for avoiding the occurrence of a risk as far as possible. Mandatory compliance guidelines are in place for all Messer Group entities, including in particular the "Code of Conduct" and "Group Guidelines". All first and second-tier managers of the Messer Group and its consolidated subsidiaries have confirmed that they have received these guidelines, examined their content and comply with the regulations contained therein. Furthermore, all employees have been informed of the content of compliance guidelines of relevance to them and have also confirmed compliance with them. Management and staff are regularly informed about, and receive training on, the content of these guidelines, other policies and code of conduct rules.

On the basis of a matrix structure, the Compliance department cooperates closely with the SHEQ, Medical, IT, Audit, Legal and Insurance departments. Internal audits are carried out to check that compliance guidelines – in particular the Group Guidelines – have been appropriately implemented, thus ensuring good risk management procedures throughout the organization, including conduct and reporting rules, the requirement for approval at the appropriate level as well as application of the dual control principle for legally binding agreements with third parties. Incidences of non-compliance are followed up and the appropriate actions taken where necessary. At the same time, any such incidences are used to reflect on how additional preventive measures could reduce the risk of non-compliance in the future.

Bad Soden am Taunus, March 1, 2016

Messer Group GmbH

Consolidated Balance Sheet

of Messer Group GmbH, Sulzbach/Taunus, as at December 31, 2015 (in K €)

		Dec. 31, 2015	Dec. 31, 2014
Assets	Intangible assets	412,256	415,776
	Property, plant and equipment	1,135,818	1,105,337
	Investments accounted for using the equity method	49,703	54,253
	Investments in other companies and financial investments	5,924	5,595
	Deferred tax assets	13,520	17,659
	Other non-current receivables and assets	172,853	137,880
	Non-current assets	1,790,074	1,736,500
	Inventories	57,131	77,293
	Trade receivables	189,056	172,849
	Income tax assets	5,090	2,507
	Other receivables and other assets	78,370	57,676
	Cash and cash equivalents	144,504	155,900
	Current assets	474,151	466,225
	Non-current assets held for sale	92	13,496
	Total assets	2,264,317	2,216,221
	<hr/>		
Equity and Liabilities	Share capital	100,000	100,000
	Reserves	947,068	883,547
	Profit after income tax	36,567	63,392
	Other comprehensive income	62,083	28,103
	Equity attributable to shareholders of the parent company	1,145,718	1,075,042
	Non-controlling interests	173,517	172,712
	Equity	1,319,235	1,247,754
	Provisions for employee benefits	50,831	51,505
	Other provisions	4,714	8,529
	Non-current financial debt	499,695	405,613
	Deferred tax liabilities	34,965	32,880
	Other non-current liabilities	–	6,994
	Non-current liabilities	590,205	505,521
	Other provisions	24,931	30,027
	Current financial debt	82,497	192,133
	Trade payables	147,281	148,634
	Income tax liabilities	7,338	6,165
	Other current liabilities	92,830	84,534
	Current liabilities	354,877	461,493
Non-current liabilities held for sale	–	1,453	
Total equity and liabilities	2,264,317	2,216,221	

Consolidated Income Statement

of Messer Group GmbH, Sulzbach/Taunus, for the Year Ended December 31, 2015 (in K €)

	Jan. 1 - Dec. 31, 2015	Jan. 1 - Dec. 31, 2014
Net sales	1,165,517	1,047,127
Cost of sales	(701,470)	(584,922)
Gross profit	464,047	462,205
Distribution and selling costs	(281,631)	(281,357)
General and administrative costs	(93,073)	(92,556)
Other operating income	23,814	38,978
Other operating expenses	(7,895)	(7,045)
Impairment losses on goodwill	(6,711)	(2,819)
Operating profit	98,551	117,406
Income from investments accounted for using the equity method	(1,339)	2,418
Other investment results, net	386	415
Interest income	2,398	1,427
Interest expense	(24,368)	(25,692)
Other financial result, net	(4,278)	(2,208)
Financial result, net	(27,201)	(23,640)
Group profit before tax	71,350	93,766
Income taxes	(24,292)	(15,596)
Group net profit for the year	47,058	78,170
Of which attributable to:		
shareholders of the parent company	36,567	63,392
minority interests	10,491	14,778

Consolidated Cash flow Statement

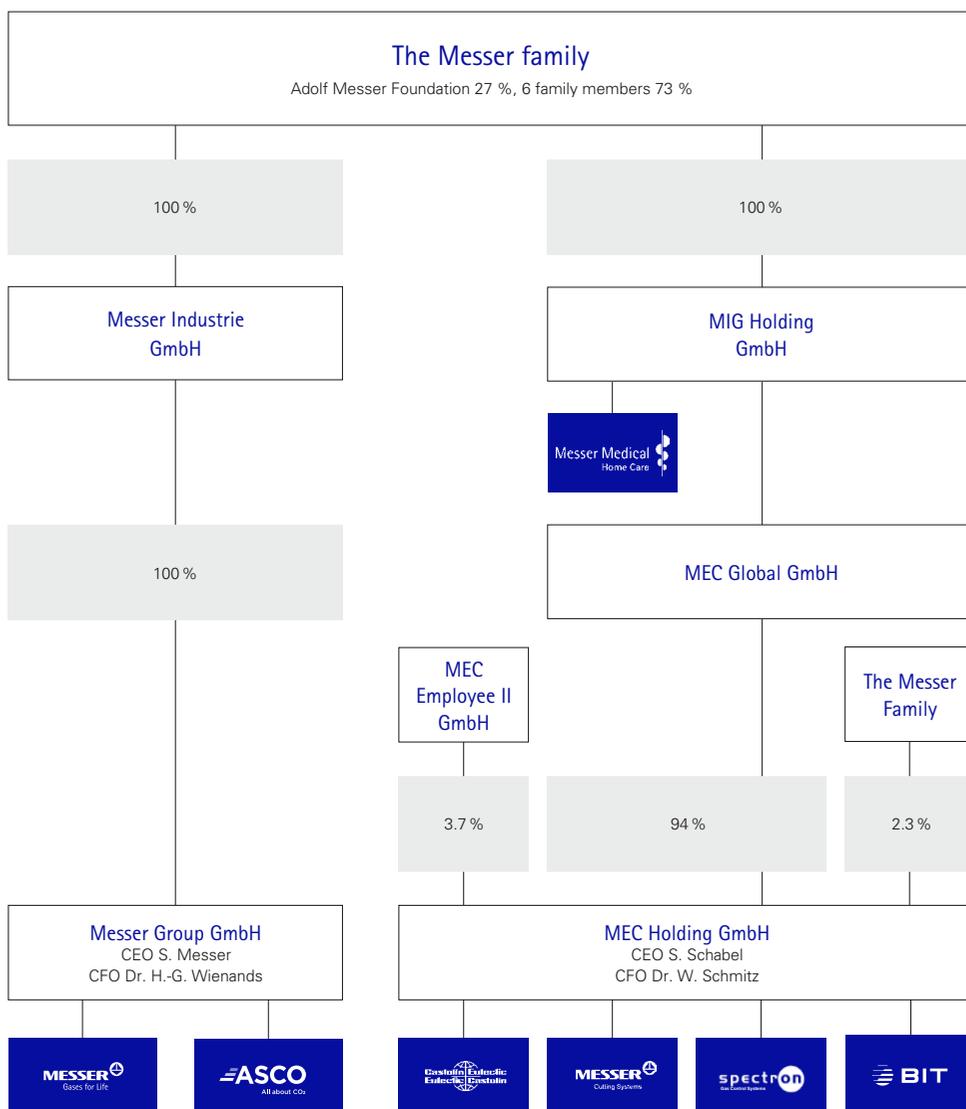
of Messer Group GmbH, Sulzbach/Taunus, for the Financial Year 2015 (in K €)

	Jan. 1 - Dec. 31. 2015	Jan. 1 - Dec. 31. 2014
Group profit before tax	71,350	93,766
Income taxes paid	(22,030)	(21,760)
Depreciation and amortization of property, plant and equipment and intangible assets	150,045	122,435
Gains arising on change in group reporting entity	(33)	(18,224)
Loss / (gains) on disposals of fixed assets	(1,026)	(561)
Changes in investments in associated companies	1,339	(2,418)
Interest result, net	21,970	24,265
Other non-cash financial result	4,278	2,229
Changes in assets resulting from finance lease arrangements (IFRIC 4)	(10,707)	(21,978)
Changes in inventories	(8,514)	2,287
Changes in receivables and other assets	14,749	22,189
Changes in provisions	(5,531)	4,189
Changes in trade payables and other liabilities	3,537	4,199
Cash flow from operating activities	219,427	210,618
Purchase of property, plant and equipment and intangible assets	(138,868)	(135,362)
Purchase of investments and other non-current assets	(4,632)	(50,272)
Sale / (acquisition) of shares of other shareholders	–	2,666
Capital reductions at the level of associated companies	2,100	5,287
Proceeds from disposals of property, plant and equipment and intangible assets	4,048	2,010
Proceeds from disposals of investments and loans	7,034	41,745
Interest and similar income	2,418	1,463
Cash flow from investing activities	(127,900)	(132,463)
Changes in capital by shareholders of Messer Group GmbH	–	–
Proceeds from non-current financial debt	86,137	19,364
Proceeds from current financial debt	10,838	11,869
Repayments of non-current financial debt	(1)	(3)
Repayments of current financial debt	(142,093)	(14,551)
Dividends paid to minority shareholders	(19,093)	(11,999)
Contributions by minority shareholders	583	511
Repayment of liabilities relating to purchase rights	(6,908)	–
Interest and similar expenses paid	(25,874)	(23,969)
Other financial result, net	(7,266)	(1,582)
Cash flow from financing activities	(103,677)	(20,360)
Changes in cash and cash equivalents	(12,150)	57,795
Cash and cash equivalents		
at the beginning of the period	155,900	102,426
Exchange rate impact on cash and cash equivalents	742	(4,171)
Cash relating to changes in group reporting entity	12	83
Cash funds classified as held for sale	–	(233)
at the end of the period	144,504	155,900

G4-7 **Messer World**

Along with Messer Group and ASCO Carbon Dioxide, “Part of the Messer World” also includes the business areas of the sister companies Messer Cutting Systems, Castolin Eutectic, BIT and Spectron Gas Control Systems – and Messer Medical Home Care, which has been independent since 2011. They all offer application-specific expertise and products which help optimise manufacturing processes, extend the life of production equipment and materials, or significantly enhance quality.

Organisational structure



ASCO CARBON DIOXIDE LTD

Technology focus

The year 2015 was dominated by newly won major projects in the field of plant technology for CO₂ recovery and the launch of several innovations in dry ice technology. Here, the new ASCOJET Combi blaster 1708 as well as the Dry Ice Reformer A700R entered the market very successfully. Thanks to developed technological know-how, ASCO was able to reposition itself prosperously in the complex market field of CO₂ recovery technology. Several large projects for recovery of CO₂ from various sources were initiated and implemented. To push these various technologies continuously ASCO has strengthened its staff structures in the development and sales departments.



Positive outlook

The successful restructuring and expansion of individual business areas in 2014, successful new products and a strengthened market position in plant technology in 2015 as well as a continuously optimised product portfolio let us believe in a sustainable growth for years to come.



Broad product portfolio

ASCO CARBON DIOXIDE LTD is a provider of customised and complete CO₂ solutions. Our product portfolio includes automatic dry ice production machinery, CO₂ production plants and recovery systems, dry ice blasting equipment, CO₂ storage tanks, CO₂ cylinder filling plants, CO₂ vaporisers and other CO₂ accessories. Product development and service are built on two solid foundations: the first is our extensive practical experience in everything pertaining to CO₂ and dry ice, and the second is our highly qualified and dedicated workforce. This unique combination of extensive expertise and broad product portfolio provides our customers with complete and customised solutions from a single source.

The entire Messer Group relies on ASCO as its competence center for CO₂ and dry ice.

ascoco2.com

Messer Eutectic Castolin Group

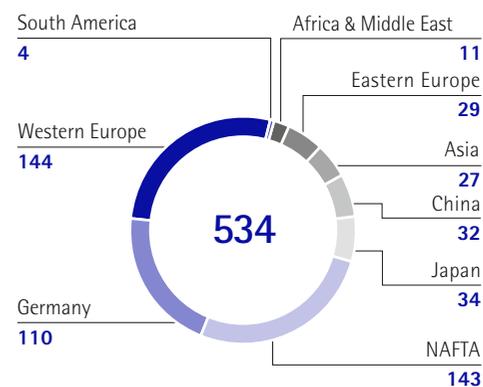
For the MEC Group, 2015 was marked by heterogeneous economic trends in our key markets. While we can look back on good business growth in North America, India and Japan, we saw a drop in sales and earnings in our traditional markets in Europe as a result of economic as well as geopolitical factors. In particular, the unresolved conflict between Russia and Ukraine once again led to a not inconsiderable loss of earnings for us. Brazil's failure to emerge from a recession phase and the decline in the growth rates of the Chinese economy also had a negative influence on the utilisation of our local production capacities.

Nevertheless, in 2015 we achieved total sales of 534 million euros in the MEC Group, an increase of 2.6 per cent above the previous year. Thanks to continuous efforts to boost profitability and reduce costs, we once again generated a profit before taxes. We were able to conclude the 2015 financial year with a positive cash flow and considerably improve on the previous year.

We implemented an extensive, growth-oriented investment program in 2015 and successfully completed numerous projects. In addition to prospects arising from geographical expansion into new growth markets, we also stepped up our investment, targeting new technologies, the intensification of our sales structures and staff recruitment and development. We are pursuing our core strategies across many projects and with further investment, supported by the implementation of new initiatives which are key to the future profitable growth of our group of companies. We are well placed across the MEC Group, to be able to benefit from the opportunities offered by the improving economic situation as well as after the resolution of political conflicts.

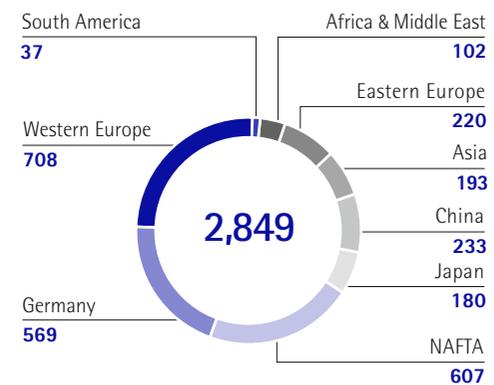
Key figures 2015

Sales of MEC Group by region in million of euros



Number of MEC Group employees by region

As of 31.12.2015



Castolin Eutectic

Sales and earnings trend

The 2015 financial year saw a five per cent increase on the previous year's high level of sales. We were also able to improve our EBITDA by eleven per cent compared to the previous year. Our service activities remain an important element of our core strategy. Compared with the previous year, we were able to increase this service segment as a percentage of total business worldwide from 27.7 per cent in 2014 to 32.8 per cent in 2015.

Growth through service strategy

As in previous years, we also made growth-orientated investments in this area in 2015. We regard our strategic acquisitions in recent years as well as our development activities in complex technical applications as a way of strengthening the service segment and laying the foundation for further growth in our key strategic sectors such as the production of minerals, oil and gas, steel, energy generation, recycling and cement.

By setting up a joint venture in Saudi Arabia in which we have the majority of the shares and by expanding our production capacities for products and applications in the cement, steel and recycling sectors at our location in Dubai/UAE, we see a good basis to integrate the positive growth and earnings potential of this emerging region into our corporate strategy. Also key to our future worldwide growth are further investments and developments in new technologies for the manufacture of coated protective plates, along with the expansion and equipping of our mobile service facilities for time-critical and complex maintenance work in the cement industry.

Extensive Castolin Eutectic product range

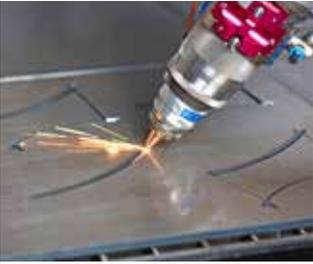
The Castolin Eutectic business unit is one of the world's leading suppliers of products and services in maintenance, repair and wear protection for industrial facilities and factory equipment. Our product range includes consumables and equipment for technologically sophisticated applications in the areas of welding, coating and brazing. In addition, we offer our industrial customers specially developed product packages for complex applications in their industry. Our products and services are available via our subsidiaries in over 35 countries as well as through a worldwide dealer network. Castolin Eutectic employs 1,570 people worldwide with field staff comprising more than 530 highly qualified engineers and international application specialists.

www.castolin.com, www.eutectic.com



Messer Cutting Systems

World of Excellence



The high sales level of the previous year was more or less maintained in 2015. The financial year was marked by a difficult economic trend on the markets which are relevant for us. The continuing weakness of the rouble and the conflict between Russia and Ukraine also meant that not insubstantial order volumes were lost. The weak demand from our traditional markets in Italy and France led to no major upturn in sales in the past financial year. By contrast, a stable development was recorded in machine sales in Poland, the Benelux states and the United Kingdom. We responded to the difficult sales trend and to the location-related reduction in the utilisation of our production capacities by means of differentiated measures to achieve consistent cost reduction and by continuously endeavouring to increase profitability. The result of financial year 2015 is consequently negatively affected by not inconsiderable restructuring costs. The restructuring measures implemented to streamline our organisation, to reduce the complexity in our corporate processes and to decrease the costs are an important contribution towards ensuring the company's earning power in the future. Thanks to the measures introduced early on, we were able to significantly improve the cash flow in the year under review compared to the previous year.

In August 2015, we concluded the construction work on another plant for laser technology in Kunshan, China, and began producing laser cutting machines in the new production rooms. In addition, in Turkey we were able to further consolidate our market presence by opening an independent sales and service office. The expansion of our production capacities in India, which was concluded in 2013, and the establishment of a local sales organisation also fulfilled our high expectations with respect to sales and profitability in 2015. For 2016, we also expect an unchanged positive development of the market segments in India which are relevant for us and efficient utilisation of our local production capacities.

The companies of the Messer Cutting Group are growth- and market-oriented. By focusing our entire organisation on complex and technologically demanding cutting systems, a broad product portfolio for various requirements and applications in the cutting sector and a sales and service organisation geared to customer needs, we will also position ourselves in a technologically demanding customer segment in the future.

Partner for cutting systems

Messer Cutting Systems is a global supplier of products and services for the metalworking industry. As a leader in the sector, we supply complete solutions and concentrate on advising our customers as well as developing customer-focused innovations. Messer Cutting Systems employs approximately 900 people at five main production centers and is represented in over 50 countries with sales companies and service partners. The product portfolio includes oxyfuel, plasma and laser cutting systems ranging from manually operated machines to special machines for shipbuilding. Our portfolio is rounded off by spare parts, a repair service, modernisation of older systems, maintenance and customer service, including all the environmental technology requirements. Software solutions from MesserSoft optimise production and business processes. We focus on intensive dialogue with our customers. This commitment is clearly expressed in our state-of-the-art training center, the Messer Cutting Systems Academy.

www.messer-cs.com

Spectron Gas Control Systems

Sales and earnings

Due to the operational focus of the Messer Group, Spectron is run as an independently operating business unit. In addition to the headquarters in Frankfurt am Main, Spectron also operates production and distribution centers in Coventry/UK and Shanghai/China. Our activities once again developed well in the 2015 financial year. In the past financial year, we were able to maintain the high sales level of the previous year and once again achieve a good result.

Broad spectrum of products

Spectron Gas Control Systems is the gas supply system specialist. Our product family comprises the appropriate fittings and instruments for a broad spectrum of gases. They cover the full range of applications from simple valves through to gas cylinder cabinets for semiconductor gases. Spectron also supplies alarm and control systems for gas applications as well as purification systems for ensuring the purity of gases. Our goal is to provide our customers with the highest levels of service, quality, reliability and technological expertise. With an additional production center in the UK and a worldwide network of sales and distribution partners, Spectron is well positioned globally and always close to its customers. Spectron thus continues to be a leading and innovative international manufacturer and supplier of fittings and systems for the efficient and safe use of gases across a wide range of applications.

www.spectron.de



BIT Companies

Sales performance and profitability



2015 saw the BIT Group once again grow strongly. The acquisition of a number of companies in the in-vitro diagnostics sector in recent years has enabled us to position the group as a global systems provider in this market segment. In late 2015 we signed the contracts for a Chinese joint venture company with EDAN Instruments, Inc. Shenzhen/China. This joint venture, in which we have a 50 per cent share, will facilitate access to the Chinese market for us, one of the largest and fastest growing medical technology markets in the world.



In the 2015 financial year our dynamic growth was, however, slowed by delays in introducing new products. We were not always able to meet our expectations regarding the speed of bringing new products onto the market: Some of the equipment which we planned to integrate into production in 2015 will be brought into service in 2016.

Our development locations in France and the USA once again made a major technological contribution to our new instrument platforms. In 2016 we will introduce new instruments which we have developed in recent years. In the future the BIT Group will continue to focus on sustainable, profitable growth through technological developments in the in-vitro diagnostics sector and on expanding customer support.

Comprehensive services

The BIT Group offers OEMs made-to-order product development and production, plus after-sales-service for Life Science, medical and IVD equipment. The quality standards offered include GMP, FDA registration, ISO13485 & 9001, QSR, Class I, II and III. BIT's global locations in the USA, Germany, France and China supply precise system solutions which are developed on a cost-efficient basis. BITSMARTSOLUTIONS™ are flexible platform solutions which reduce development costs and time to market. Efficient production and a global supply chain permit competitive product costs.

At the end of December 2015 the BIT business unit had a total of 330 employees, about a quarter of whom are involved in development.

www.bit-companies.com

Messer Medical Home Care

Broad portfolio for the home care sector

Messer Medical Home Care Holding (MMHCH) has been developing product offerings and services designed for the treatment of patients at home across several European countries. These product and service offerings allow oxygen therapy at home, therapy for sleep apnea, monitoring for sudden death syndrome with infants, ventilation support and all training measures connected to these therapies.

Treating patients at home is key to health care systems across the world. It alleviates the strain on resources deployed in hospitals. Therefore home care is a solution for health care payers to manage cost and resources in a world whose population is ageing.

Focus on home care

Within the Messer World, MMHCH concentrates solely on the home care area. In the past, these activities were integrated separately in the Messer Group, which made it difficult to focus and align them clearly.

We will continue to develop and market innovative solutions for patients, doctors and health authorities. We expect this to give us a sustainable and leading position in this emerging health sector. MMHCH currently has around 125 employees working day in day out dedicated to this mission.

www.messer-medical.at



The Messer Group worldwide

G4-6, G4-17

Messer Group GmbH
www.messergroup.com
info@messergroup.com

Albania

Messer Albagaz SH.P.K.
www.messer.al

Algeria

Messer Algérie SPA

Austria

Messer Austria GmbH
www.messer.at
info.at@messergroup.com

Belgium

Messer Belgium N.V.
bECO, bvba
www.messer.be
info.bnl@messergroup.com

Bosnia-Herzegovina

Messer Tehnoplina d.o.o.
Messer BH Gas d.o.o.
Messer Mostar Plin d.o.o.
www.messer.ba
info@messer.ba

Bulgaria

Messer Bulgaria EOOD
www.messer.bg
office@messer.bg

China

Messer Griesheim (China)
Investment Co. Ltd.
www.messergroup.cn
communications@messer.com.cn

Croatia

Messer Croatia Plin d.o.o.
www.messer.hr
info.hr@messergroup.com

Czech Republic

Messer Technogas s.r.o.
www.messer.cz
info.cz@messergroup.com

Denmark

MG Odra Gas, spol. s.r.o.
www.mgog.cz
mgog@mgog.cz

Denmark

Messer Danmark A/S
www.messer.dk
danmark@messergroup.com

Estonia

Elme Messer Gaas A.S.
www.elmemesser.ee
emg@emg.blrt.ee

France

Messer France S.A.S.
www.messer.fr
info@messer.fr

Germany

Messer Industriegase GmbH
www.messer.de
info.de@messergroup.com

ASCO KOHLENSÄURE AG
www.ascoco2.com
info@ascoco2.com

Messer Information Services GmbH
www.messer-is.com

Hungary

Messer Hungarogáz Kft.
Messer Széndioxid Kft.
www.messer.hu
info@messer.hu

Latvia

Elme Messer L SIA
www.elmemesser.lv
eml@eml.lv

Elme Messer Metalurgs LSEZ SIA
elme@apollo.lv

Lithuania

UAB Elme Messer LIT
www.elmemesser.lt
vilnius@elmemesser.lt

Macedonia

Messer Vardar Tehnogas d.o.o.e.l.
www.messer.com.mk
info@messer.com.mk

Montenegro

Messer Tehnogas AD
tehkomerzijala@t-com.me

Netherlands

Messer B.V.
www.messer.nl
info.bnl@messergroup.com

Peru

Messer Gases del Peru S.A.
messer.peru@messergroup.com.pe

Poland

Messer Polska Sp. z o.o.
www.messer.pl
messer@messer.pl

Eloros Sp. z o.o.
www.eloros.pl
eloros@eloros.pl

MP Production Sp. z o.o.

www.mpproduction.pl
mpproduction@mpproduction.pl

Portugal

MesserGas Distribuição de Gases
Industriais
www.messer.pt
info.pt@messergroup.com

Romania

Messer Romania Gaz SRL
Messer Energo Gaz SRL
www.messer.ro
mrg@messer.ro

Russia (Kaliningrad)

000 Elme Messer K
www.elmemesser.ru
elmemesser@elmemesser.ru

Switzerland

Messer Schweiz AG
www.messer.ch
info@messer.ch

ASCO Kohlenäure AG
www.ascoco2.com
info@ascoco2.com

REMCO AG
info@remco.ch
www.remco-druckluft.ch

Serbia

Messer Tehnogas AD
www.messer.rs
marketing@messer.rs

Messer GTM LLC.
messergtm@gmail.com

Slovakia

Messer Tatragas s.r.o.
www.messer.sk
info.sk@messergroup.com
Messer Slovnaft s.r.o.
www.messer-slovnaft.sk

Slovenia

Messer Slovenija d.o.o.
www.messer.si
info.si@messergroup.com

Spain

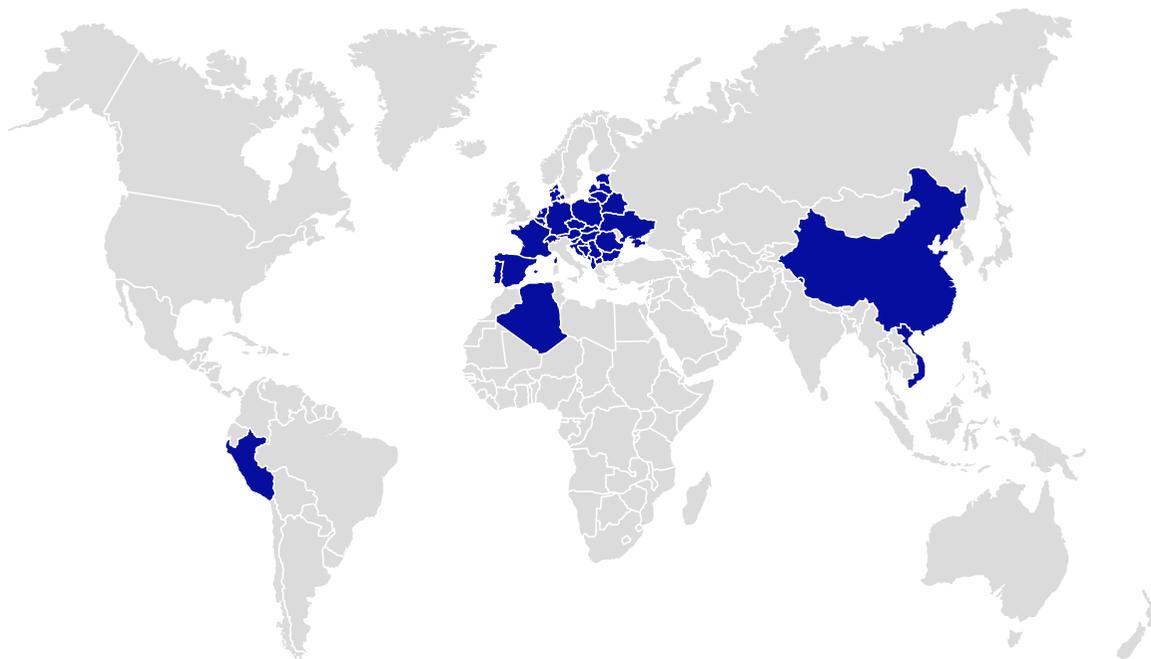
Messer Ibérica de Gases S.A.
www.messer.es
info.es@messergroup.com

Ukraine

Elme Messer Ukraine
Kharkiv Autogenous Plant
www.elmemesser.com.ua
emu@emu.com.ua

Vietnam

Messer Vietnam
Industrial Gases Co., Ltd.
Messer Haiphong
Industrial Gases Co., Ltd.
Messer Binh Phuoc
Industrial Gases Co., Ltd.
www.messer.com.vn
info@messer.com.vn



Imprint

G4-5 **Published by**

Messer Group GmbH
Messer-Platz 1
65812 Bad Soden/Taunus
Germany
Phone +49 6196 7760-0
Fax +49 6196 7760-442
www.messergroup.com

G4-31 **Contact**

Messer Group GmbH
Diana Buss
Corporate Communications
Phone +49 2151 7811-251
Fax +49 2151 7811-598
diana.buss@messergroup.com

Concept, Design and Layout

Brinkmann GmbH
47803 Krefeld
Deutschland
www.agenturbrinkmann.de

Translation

(This report is also available in German)
Greg Vanes, Munich
Contextinc GmbH, Cologne

For further information about our climate protection commitment, please scan the QR code.



ClimatePartner^o
climate neutral

Print | ID: 10289-1604-1006

