



forward

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*In 2023, Messer celebrated its company anniversary under the motto “125 Success Story”. In the 2023 financial year, we succeeded in adding an outstanding chapter to that success story. Messer’s long-term development is rooted in the expertise, diversity, and commitment of our employees worldwide. They are the driving force behind our company’s products and services: each day, they bring their innovative spirit, skills, and energy to support our customers, keep Messer moving forward, and contribute to a more sustainable future.*

*This is why photos with people who emotionally celebrated our company’s success story in 2023 form the visual anchor points of this sustainability report.*

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## forward

Messer's business activities are geared towards trends in the global economy, where we observe increasing demand for environmental protection and a focus on social responsibility. Indeed, we are ideally positioned to benefit from these developments as we support our customers to achieve their objectives.

For example, climate change is altering global living conditions and economic activities with substantial consequences for people and companies. We at Messer can help by deploying our 'Gases for Life' and our application technologies to help reduce the Greenhouse Gas (GHG) footprint of our customers' processes:

- industrial sectors: e. g., oxygen and hydrogen in the glass sector, nitrogen for volatile organic compound (VOC) removal in the chemical sector, carbon capture, etc.
- transport sector: e. g., nitrogen cooling replacing diesel auxiliary generators in refrigerated trucks, renewable hydrogen in fuel-cell buses, etc.

Since the COP27 in late 2022, there has been an upsurge in customers who are committing themselves to absolute CO<sub>2</sub> emissions reductions and seeking Messer's expertise to achieve their targets. For example, Messer's development of oxy-fuel and oxygen-enriched combustion processes for the glass and insulation sectors has supported oxygen enrichment of up to 23.5%, which does not trigger changes in furnace design or safety standards yet can deliver significant reductions in fossil fuel consumption.

In support of the decarbonization of logistics Messer has in 2023 deployed hydrogen refueling technology and hydrogen to large fleet operators of fuel-cell-powered city buses and material handling vehicles in Asia, Europe, and the Americas. In a joint venture with the city of Düren, Germany, Messer has taken the final investment decision on a 10 MW hydrogen electrolyzer to produce renewable hydrogen.

To increase circularity in our supply chain and meet customer requirements Messer is investing in the capture, purification, and re-use of biogenic CO<sub>2</sub> emissions to replace previous fossil sources of merchant carbon dioxide for the food, beverage, chemical, environmental, and other sectors.

As our customers' corporate goals are developed and aligned with changing market and regulatory conditions, so we adapt to support them. Unchanging is Messer's own commitment to act sustainably ourselves and to meet our customers' needs in accordance with a collective responsibility for people, progress, and the environment. We are determined to think and act decisively for the long term and to measure ourselves against objectives for sustained success and our reputation for innovation and reliability. Sustainability is a feature of our approach to doing business at Messer. This is how we move forward.

# UN Sustainable Development Goals

In 2015, under the aegis of the United Nations, the international community adopted Agenda 2030. It lays out 17 global goals together with the call to implement measures to achieve those goals. In essence, they seek to permanently preserve the natural basis of human existence and to enable people everywhere to live in dignity. Messer aligns its business activities with the 17 UN Sustainable Development Goals, which also form, in turn, the substantive framework of this Sustainability Report.



# Corporate Responsibility

Sustainability factors may present both opportunities and risks to the company, as well as having a potential impact on many stakeholders, including our customers, our employees, our suppliers, the communities where we operate, the environment and society, together with our shareholders and financial partners. Material topics are those which are most significant on either or both dimensions.

In 2023 a new risk management policy and process was established at Messer - derived from the requirements of ISO 31000:2018 Guidelines. The global Risk Management System includes a regular risk reporting to the Messer Executive Management Board and Supervisory Board in order that material risks may be actively managed. Risks (and opportunities) are categorized under “sustainability” if they relate to the anchoring of sustainability objectives or targets within the company, or to impacts on stakeholders.

Messer in Germany



For example, global warming and the shift towards a decarbonized economy may present environmental risks including higher insurance rates, potential carbon taxes, penalties or changes in processes and value chains. It also presents significant business opportunities, including growing demand for carbon capture, improved process efficiency and zero-emission gases, including renewable hydrogen, in industrial, transport, medical and scientific sectors.

The most material sustainability topics are recognized by the Executive Management Board and prioritized for action by setting goals, defining responsibilities, establishing policies, and monitoring progress since 2014).

At Messer, these include:

- **Decarbonization:** we want to contribute to a successful transition to a decarbonized economy and so to realize our opportunities whilst recognizing our responsibilities;
- **Diversity:** we want the benefit of a diverse and inclusive workforce, in order to maximize our access to talent and our corporate intelligence;
- **Safety:** we want all our employees and those who work with us throughout the value chain to go home safely every day.

Messer's local businesses are run by entrepreneurial management teams while the Executive Management Board decides on leadership, group-wide strategy and financial policy, organizational matters, and capital allocation. Messer is fully committed to responsible behaviors, focused around the areas of Safety, Environment, Quality and Health (SHEQ). The Company's business model is

aligned with its Environmental, Social and Governance (ESG) targets concerning safety, diversity and decarbonization. It generates value by supporting its customers towards their goals, for example by improving their carbon footprint, given its position as an integral part within their value chain.

Management is responsible for developing strategies and delivering progress towards business goals set by the Executive Management Board. Strategic objectives include the management of our own carbon footprint, the pursuit of business opportunities, the mitigation of climate-related or safety risks, the satisfaction of customers whose imperatives include a reduction in their CO<sub>2</sub> emissions, the achievement of operational excellence and financial sustainability.

## Commitment of the Executive Management Board to Sustainability

Messer is an international group that lives the values of a privately owned company. As a specialist in industrial, medical and specialty gases, we have defined ESG (Environment, Social, Governance) guidelines that are practiced by the entire team.

Our mission statement, which summarizes our vision, our mission, and our values, plays an important role in the central embedding of ESG. ESG also focuses on the requirements of our customers and our shared responsibility for the environment, people, and progress.

### Environmental protection

Our gases and Messer's application expertise contribute to the UN's declared goal of achieving climate neutrality by 2050. To achieve this, we are minimizing our own CO<sub>2</sub> footprint and helping our customers to reduce CO<sub>2</sub> emissions in their applications. This is made possible by the effect of our gas applications and efficient gas supply, among other things.

We want to reduce the emissions intensity of our global activities by 40% by 2030 compared to 2019, measured in kg CO<sub>2</sub>e per euro of EBITDA.

We see green hydrogen as a lever for decarbonizing industry and mobility. Based on our H<sub>2</sub> expertise, we are focusing on the particularly economical on-site production of green hydrogen, customized refueling solutions and an operator model for the use of fuel cell-powered electric buses in local public transport. Another focus is on the recovery of CO<sub>2</sub> emissions from industrial exhaust air and subsequent recycling or storage.



**Safety, diversity, and inclusion**

Our focus is on the greatest possible safety for our employees and customers. Our aim is to prevent accidents among our employees and our customers' employees.

As part of our diversity and inclusion management, we want to increase the proportion of female managers at first and second management levels to 30 percent by 2030.

We consistently develop the potential of our international and multicultural teams. For us, mixed management teams are a prerequisite for achieving balanced and profitable cooperation at a strategic level.

**Governance**

We reflect the legal requirements for ESG reporting in our Group guidelines.

We utilize our potential in terms of employees, expertise, and customer satisfaction.

We pursue strategies and measures for sustainable growth and secure financing of our investments.

We find ways to involve our team even better in the development of new ideas. We encourage our employees to demonstrate their personal ESG commitment in line with Messer's mission.

**Creation of our Materiality Matrix**

In 2023, Messer conducted a materiality assessment to update the company's material topics and refresh the materiality matrix used to prioritize sustainability efforts worldwide.

This approach not only examined Messer's current and potential impacts on the environment and society (impact materiality), but also the current and potential impacts of external ecosystems on Messer's financial performance (financial materiality). It gave us a unique opportunity to engage with our stakeholders, better understand evolving expectations and engage them in Messer's sustainability journey.

We followed a systematic process to complete the double materiality assessment:

- 1. Defining sustainability topics.** We started by establishing and assessing a list of 220 sustainability topics derived from the most recent materiality assessment, the ESRS topic list, peer reviews, rating agency focus areas and relevant industry reports.
- 2. Refining sustainability topic short list.** Our assessment led us to a list of 12 sustainability topics that we believe are most relevant to Messer, considering Messer's business operations and potential impacts, risks, and opportunities.
- 3. Interviewing and surveying affected stakeholders.** We conducted interviews with selected internal and external stakeholders in Asia, Europe, and the Americas, including customers, suppliers, financial partners, and members of the leadership

**Executive Management Board of Messer**

**Bernd Eulitz**  
CEO



**Helmut Kaschenz**  
CFO



**Dr. Werner Hickel**  
COO Asia



**Virginia Esly**  
COO Europe



**Elena Skvortsova**  
COO Americas

teams. Furthermore, anonymous surveys were used to gather insights from Messer employees and social media followers.

- 4. Analyzing results and defining materiality.** After analyzing and validating the data, we shared the matrix output with internal stakeholders, including Messer's experts from various business domains as well as the Executive Management Board. We set our material thresholds and documented Messer's materiality process.

The highest impact topics identified as part of Messer's materiality assessment and their related definitions are listed below in alphabetical order:

- **Communicate with stakeholders about sustainability matters**  
Communicating with stakeholders about sustainability matters refers to how Messer engages with affected stakeholder groups regarding the impact of material topics as well as its progress and achievements on environmental, social, and governance-related programs, including business conduct.
- **Cultivate a culture of safety, health, and well-being**  
Cultivating a culture of safety, health and well-being refers to Messer's commitment to build a strong safety culture and its obligation to offer the highest level of safety to its employees, whether they work in plants, construction, transportation or in administrative workplaces. This also encompasses Messer's efforts to ensure the physical and mental health of employees, and work-life balance.

- **Foster safety for our customers and end users**

Fostering safety for our customers and end users refers to Messer's commitment to ensuring that its customers and end users use its industrial gases, related equipment, and services in a safe manner. This includes providing ongoing safety education and related training to our customers.

- **Improve decarbonization, energy efficiency and climate resilience across our value chain**

Improving decarbonization, energy efficiency, and climate resilience across Messer's value chain refers to Messer's actions to continuously minimize emissions through the sustainable use of energy, the mitigation of climate risks, as well as decarbonization efforts. These actions include product and application technologies and innovations to support a circular economy and deliver alternative solutions that have a positive impact across its value chain. This will help Messer and its value chain partners to reduce their ecological footprint, enhance their climate resilience, and improve energy efficiency in their operations.

- **Promote compliance, good governance, and ethical business conduct**

Promoting compliance, good governance and ethical business conduct refers to Messer's practices, policies, and procedures that ensure appropriate business conduct and strict compliance with the law. This includes tracking as well as corrective actions concerning incidents of corruption and bribery, procedures, and policies for the protection of whistleblowers, and policies for relationship management. Further, this includes establishing

policies and trainings for Messer's workforce which enforce the protection and detection of non-compliance.

- **Promote diversity, mutual respect, and employee development**

Promoting diversity, mutual respect and employee development refers to Messer's efforts to creating a prejudice-free and appreciative working environment where everyone can thrive, irrespective of gender, nationality, ethnic or social origin or caste, religion, ideology, disability, age, sexual orientation or sexual identity for all employees and workers in the value chain. This includes efforts to train and develop employees, so they feel valued and appreciated.

- **Safeguard data and promote cybersecurity**

Safeguarding data and promoting cybersecurity refers to Messer's commitment to comply with applicable data protection regulations as well as implement preventive measures to protect the company against unauthorized access and cyberattacks. This includes handling personal and business data of their employees, customers, and business contacts in a legally compliant manner and implementing organizational and documentation measures specified by data protection law to ensure privacy.

- **Uphold safe practices across our supply chain**

Upholding safe practices across our supply chain refers to Messer's commitment to protecting and promoting the safety of the workers in its value chain, in particular contractors and suppliers in construction, plant maintenance and operation, and logistics and transportation. This includes supporting their right to collective bargaining and freedom of association.





Messer will also continue to monitor the following topics in the light of trends and new developments to take into account evolving expectations and business conditions:

• **Act responsibly towards the local communities in which we operate**

Acting responsibly towards the local communities in which we operate means managing the impact of Messer’s activities on the affected communities in which it operates, as well as contributing to the development of local communities.

• **Manage the use of water and marine resources effectively**

Managing the use of water and marine resources effectively includes ensuring sustainable practices for the extraction from, use and discharge of water.

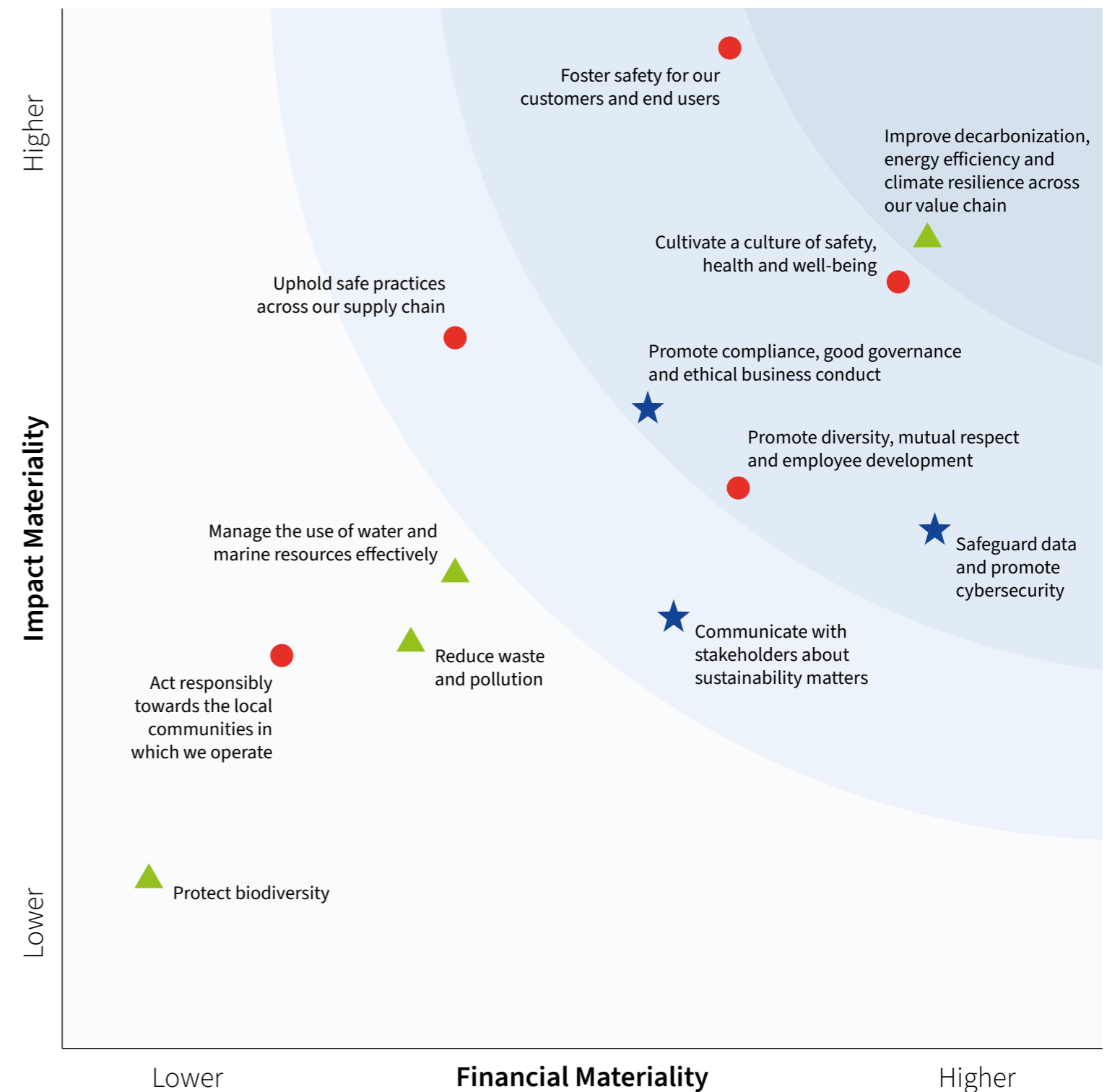
• **Protect biodiversity**

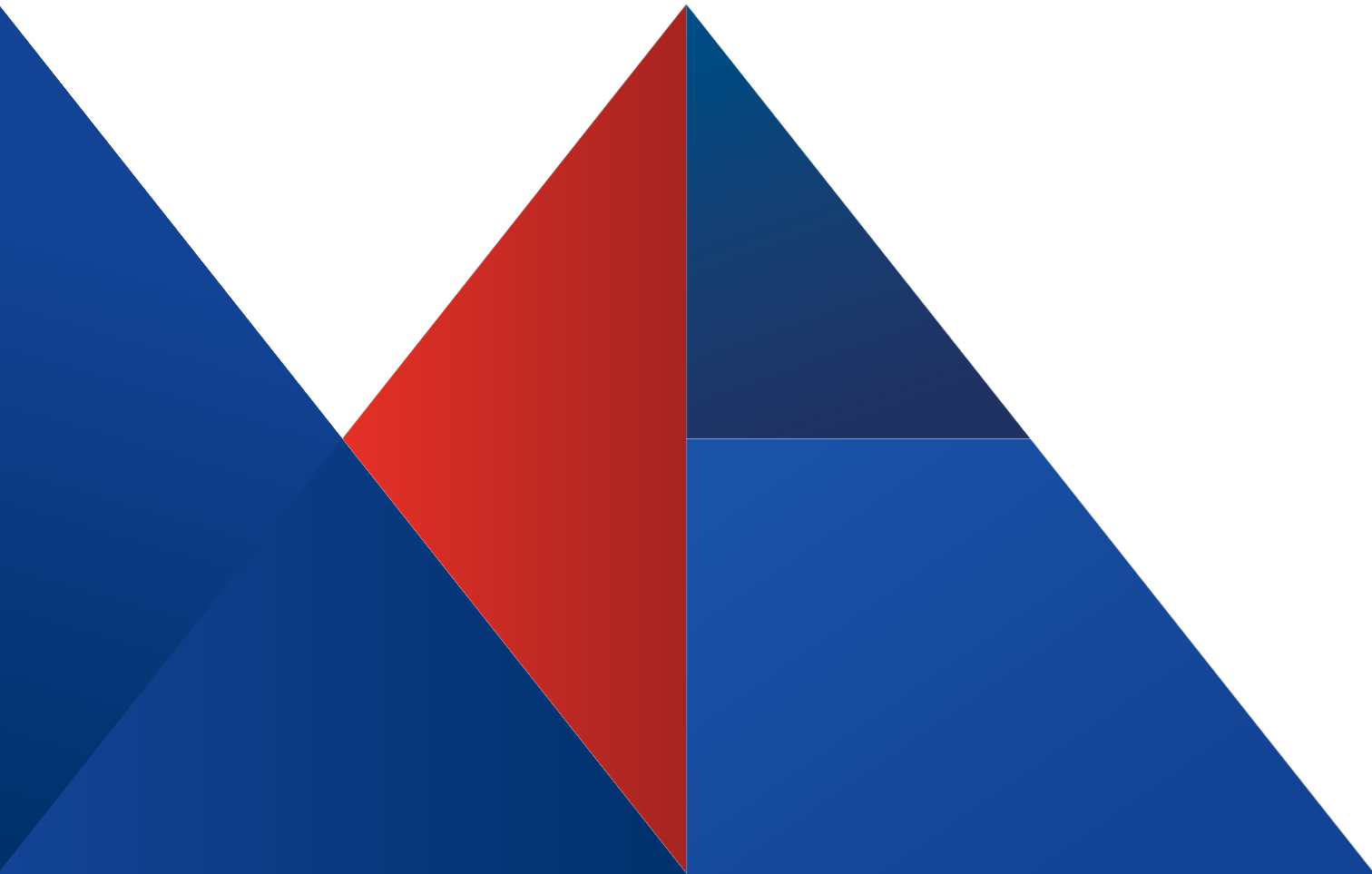
Protecting biodiversity refers to managing the impact on the state of the species (animals and plants) within the ecosystems that Messer operates in.

• **Reduce waste and pollution**

Reducing waste and pollution refers to the responsible management and avoidance of air, soil, and water pollution, as well as the reduction of waste by enhancing the efficiency of Messer’s processes and its value chain.

- ▲ Environment
- Social
- ★ Governance





## Key Performance Indicators for Sustainability

Our corporate values are anchored in a focus on customers and employees, responsible action, corporate responsibility, open communication, and trust and respect. To make these values and our development in terms of sustainable action measurable and comparable, we have been using key performance indicators (KPIs) for sustainability since 2014.

Through measurable targets, we document our improvements and developments in the various business areas. This sustainability report, based on the UN Sustainable Development Goals, includes harmonized key performance indicators relating to sustainability. Each dedicated chapter of the report then provides information on the evolution of some of these indicators.

	Unit	2022 Combined KPI	2023 Combined KPI
<b>1 Safety of our employees</b>			
Number of Lost Time Injuries (Messer employees)	number	47	<b>54</b>
Lost Time Injury Frequency Rate (Messer employees lost time injuries)	per million working hours	2.05	<b>2.32</b>
Lost Time Injury Severity Rate (Messer employees lost days)	per million working hours	70.07	<b>83.44</b>
Number of Recordable Working Injuries (Messer employees)	number	96	<b>106</b>
Recordable Working Injury Frequency Rate (recordable injuries)	per million working hours	4.20	<b>4.55</b>
Fatalities (Messer employees)	number of persons	1	<b>0</b>
<b>2 Safety of our logistics</b>			
Cylinder fleet: Number of preventable incidents	number	56	<b>53</b>
Cylinder fleet: Frequency Rate (number of preventable incidents)	per million driven kilometers	1.59	<b>1.47</b>
Bulk fleet: Number of preventable incidents	number	193	<b>186</b>
Bulk fleet: Frequency Rate (number of preventable incidents)	per million driven kilometers	0.96	<b>0.91</b>
Development of the distance traveled per ton (payload) of liquid industrial gas or cylinder gases delivered (Index 2019 = 100)	index	101.00	<b>102.05</b>
<b>3 Customer safety and satisfaction</b>			
Number of participants in customer satisfaction surveys across the Group	number	2,136	<b>1,312</b>
<b>4 Diversity, mutual trust and respect</b>			
Proportion of women overall	%	27.8%	<b>26.7%</b>
Proportion of women in first and second management levels	%	24.7%	<b>27.0%</b>
<b>5 Energy efficiency in production</b>			
Energy coefficient (Index 2018 = 100)	index	102.5	<b>103.2</b>
<b>6 Open communication and cooperation with stakeholders</b>			
Number of items of customer feedback regarding the content of the digital customer magazine Gases for Life	number	13,254	<b>60,021</b>
Total number of attendees at employee assemblies (townhall meetings) and international network meetings towards strategic integration and know-how transfer	participants	33,033	<b>43,186</b>

	Unit	2022 Combined KPI	2023 Combined KPI
<b>7 Protection of the environment</b>			
CO <sub>2</sub> footprint of plants and logistics - Scope 1 & 2 (location-based)	million metric tons of CO <sub>2</sub> e	5.33	<b>5.09</b>
Specific CO <sub>2</sub> footprint of plants and logistics - Scope 1 & 2 (location-based) vs. Sales	metric tons of CO <sub>2</sub> e / '000 euros	1.28	<b>1.14</b>
CO <sub>2</sub> footprint of plants and logistics - Scope 1 & 2 (market-based)	million metric tons of CO <sub>2</sub> e	5.63	<b>4.74</b>
Specific CO <sub>2</sub> footprint of plants and logistics - Scope 1 & 2 (market-based) vs. Sales	metric tons of CO <sub>2</sub> e / '000 euros	1.35	<b>1.06</b>
Number of production and filling plants certified according to ISO 14001	number	61	<b>84</b>
Water consumption	million m <sup>3</sup>	17.6	<b>16.6</b>
<b>8 Employee satisfaction</b>			
Average length of service	years	10.1	<b>10.1</b>
Staff turnover rate	%	13.3%	<b>12.2%</b>
Lost days due to sickness per employee (Number of working days per employee, long-term sickness > 6 months excluded)	days	3.3	<b>2.2</b>
<b>9 Employee development</b>			
Average expenditures on training programs per employee	Euro	179.0	<b>187.2</b>
Training hours per employed person per year (excluding cost-free webinars from 2020 and onwards)	hours per employee	14.2	<b>20.0</b>
Proportion of apprentices and trainees in total workforce	%	1.4%	<b>1.5%</b>
<b>10 Compliance</b>			
Numbers of suspicions of rule violations	number	5	<b>24</b>
<b>11 Community engagement</b>			
Volunteerism	number of site volunteering	193	<b>191</b>
Community engagement events	number of events	298	<b>382</b>
<b>12 Supplier sustainability</b>			
Vendor assessment	rating from survey feedback (1-100)	83.7	<b>86.7</b>

## Changes in the Executive Management Board and Supervisory Board

**Bernd Eulitz** has been appointed as the new CEO of Messer with effect from April 26, 2023. In the coming years, he will realize Messer's full potential in the new structure created in November 2023 as a customer- and value-oriented gas player. With his extensive experience in the gases business, together with his strong management team and the loyal and highly qualified international workforce, Bernd Eulitz will successfully shape the future of Messer in this spirit.

Bernd Eulitz joined the Messer Group as Deputy Chairman of the Executive Management Board at the beginning of 2022. Previously, he was the CEO of a German Mdx company. Bernd Eulitz has more than 20 years of experience in the industrial gases sector. Among other things, he held various management positions in Germany and abroad at Linde, where he was a member of the Executive Board from 2015 to 2019.

**Helmut Kaschenz** has been appointed Chief Financial Officer (CFO) of Messer SE & Co. KGaA with effect from January 1, 2022. He took over the position from Dr. Uwe Bechtolf. Before joining Messer, Helmut Kaschenz worked for 25 years in corporate and institutional banking in New York, London, and Frankfurt/Main as well as in the chemical industry.

**Virginia Esly** has been appointed to the Messer Executive Management Board as Chief Operational Officer (COO) Europe as of January 2, 2023. This makes her the first female board member in Messer's history. Virginia Esly has over twenty years of experience in the industrial gases business. She succeeds Ernst Bode.

**Elena Skvortsova** has represented the Americas region on the Messer Executive Management Board as COO Americas since November 22, 2023. She began her professional career in 1994 at Bayer AG in Germany. In 2001, she moved to the USA to work for Baxter International Inc. where she most recently served as Vice President BioScience until 2015. Elena then moved to the industrial gases sector and held the position of President Middle East & Eastern Europe at Linde in Munich before taking over responsibility for Praxair's Canadian business until 2020. Most recently, she was a member of the Executive Board of OMV AG in Vienna, Austria.

**Dr. Werner Hickel**, took over the position of COO Asia on November 22, 2023, and thus continued to be responsible for the business in China and the ASEAN countries. Werner Hickel joined Messer in 1998 and was appointed Finance Director of Messer China in Shanghai in 2000. From 2003 to 2018, he was COO and later CEO Messer China / ASEAN.

In 2023, **Stefan Messer** relinquished his position as Chairman of the Executive Management Board and thus the operational management of Messer and moved to the top of the Supervisory Board on April 27. The long-standing Chairman of the Supervisory Board, Dr. Jürgen Heraeus, is now an honorary member of the Board. Stefan Messer, a third-generation shareholder, had been at the helm of Messer since 2004.

## Our Business Model

With over 125 years of history, Messer is the world's largest privately held specialist for industrial, medical and specialty gases. Building on this heritage, the company today is the leading independent provider of industrial gases with revenues of around 4.4 billion euros in 2023.

Messer manufactures and supplies oxygen, nitrogen, argon, carbon dioxide, hydrogen, helium, shielding gases for welding, specialty gases, medical gases, and food gases as well as many different gas mixtures. The highest sales contribution comes from air gases. The portfolio is further complemented by non-air technical, specialty and medical gases as well as valued-added services including application technologies, hardware, and others.

Messer's products are used across a broad spectrum of diversified end markets, including industry, environmental protection, health services, the food and beverage sector, welding and cutting technology, 3D printing, construction, research, and science. Gases products deliver various advantages to Messer's customers through

gas applications technology including greater efficiency, higher safety, and lower environmental footprint.

The company has a resilient business model due to regional, product and distribution diversification, mission criticality of products (typical for the industrial gases sector), many non-cyclical end markets, long-term contracts, and a flexible cost structure.

Messer has a strong sustainability profile, based on the alignment of its objectives for safety, decarbonization, and diversity with stakeholder priorities, especially those of its customers.

Messer's environmental philosophy is centered on responsible energy sourcing, efficient energy use, and environmental applications:

- High energy efficiency of its air separation units and rising share of renewable energy (GHG Protocol Scope 2).
- Growth opportunities in carbon capture and renewable hydrogen.
- Environmental applications supporting decarbonization of customers' processes.
- Successful partnerships creating added value in application technologies supporting decarbonization.

### **Intellectual property - patents and trademarks**

Patents serve to protect the results of research and development of Messer and their further development for commercial use.

Messer owns over 1,000 patents worldwide. They strengthen Messer's competitive position by creating competitive advantages through the monopolization of certain products or processes.

The Messer company logo and logotype, as well as many products, processes, and services, are protected by registered trademarks (over 800 in total in more than 50 countries). Should a competitor use identical or similar designations for identical or similar items, Messer will take all measures to protect its own rights.

The registered trademarks of the Messer Group are generally only used by Messer Group companies. The property rights of competitors are respected in all activities of the Messer Group.

### **Sustainable, documented supply chain**

At Messer, we strive to always act with a high degree of integrity and reliability in everything we do. Since the founding of Messer, we have valued responsible behavior towards people and the environment, and compliance with the law, as cornerstones of the way we do business. Consequently, we expect that our Business Partners act responsibly and in compliance with all applicable laws, too.

Group Compliance oversees key measures relating to the supply chain. In 2023, for example, necessary guidelines were drawn up

to combat bribery / corruption and for third-party management. A Business Partner Code of Conduct and a Declaration of Principles for Human Rights and Working Conditions were developed across departments and represent uniform, globally binding guidelines for all Messer business partners that are based on the ten principles of the United Nations Global Compact and focus on internationally recognized human rights, labor standards and working conditions.

Messer has also implemented a Third-Party Management System, starting with Europe. This enables Messer to fulfill its extensive due diligence obligations with regard to the review, selection, and monitoring of its business partners (third parties).

These requirements are becoming more stringent worldwide due to legal and contractual obligations, not least under the German Supply Chain Due Diligence Act (LkSG) or the EU Corporate Sustainability Due Diligence Directive (EU CSDD). These third-party audits cover reputational, corruption, and sanction risks and will be expanded in the future to include human rights, occupational health and safety, and environmental protection issues throughout Messer's entire value chain, including direct and indirect suppliers, service providers, and customers.

In 2023 an IT solution ("Third-Party Risk Management Tool") was purchased to standardize and simplify the process of supplier due diligence and management. It is adapted to Messer-specific requirements and will be made available to all group companies.

## Governance of the Company

### Decision-making processes and control procedures

The information on reporting lines between the Executive Management Board and the supervisory bodies is derived from the shareholder agreement between Messer and GIC, the Articles of Association and the rules of procedure for the Management Board of Messer Management SE and the rules of procedure for the Managing Partner of Messer SE & Co. KGaA.

The obligation of the Messer organization to report to the Executive Management Board is regulated in a catalog of legal transactions requiring approval.

The decision-making processes are defined in the organization via a delegation of authority, such as rules of procedure, policies and/or guidelines.

The ICS and Internal Audit departments ensure internal control procedures.

### Messer appoints Patricia Hargil as Chief Sustainability Officer

In April 2024, Messer created the global position of Chief Sustainability Officer effective immediately reporting to Bernd Eulitz. In this new role, Patricia Hargil, as the Chief Sustainability Officer, will focus on working closely with regional and corporate functions to further progress our Environment, Social, and Governance (ESG) and Diversity & Inclusion (D&I) agendas, building on what we have

accomplished to date, facilitating the process of ESG reporting and establishing a program that will solidify our commitment to responsibly operate our company.

### Messer Compliance Management System

With the Messer Compliance Management System (Messer CMS), we have implemented an organizational concept that defines the practical implementation of our responsibilities. The purpose of the organizational concept is to prevent violations of the Messer Code in advance. It provides a binding framework for dealing with conflicts of interest and for complying with applicable laws, regulatory provisions and internal and external rules and regulations in all our business units. The Messer CMS is supported by a clear commitment on the part of the Executive Management Board, managers and senior executives and serves as an instrument for creating trust.

Messer SE & Co. KGaA has issued binding compliance guidelines for its companies. These include, in particular, the Code of Conduct, the Business Partner Code of Conduct and the Group Guidelines. Management and employees are regularly informed and trained on the content and any amendments to these guidelines, other policies, and rules of conduct.

The Executive Management Board is responsible for monitoring the Messer CMS. This organizational concept is binding for all executives, managers, and employees of Messer. The managing directors are responsible for implementing this organizational

concept in their own national company and ensuring compliance with it, taking into account applicable legal provisions. The Executive Management Board has appointed a Chief Compliance Officer (“CCO”) to support the managers and supervisory bodies. The CCO is supported by the Corporate Compliance department. In addition, there are the Local Compliance Officers appointed by the regional managers in consultation with the respective country managers. The group of compliance officers is supplemented by the central department heads in the Corporate Office as (specialist) departmental compliance officers. The Executive Management Board has defined the tasks, rights, and duties of the Compliance Officers in a Compliance Officer Directive.

Messer also conducted a risk analysis including all national subsidiaries and corporate departments to manage risks accordingly. Classroom training, webinars, and e-learning courses are held on selected topics relating to the Messer Code. The central specialist departments and the local managing directors and specialist departments generally determine the compliance training content and the employees to be trained. They are responsible for organizing and conducting the training courses, supported by external service providers if necessary, and ensure that they are properly documented. In addition, the Executive Management Board can specify binding training courses and training content as well as the group of employees to be trained.

Internal compliance audits are used to review the implementation of compliance guidelines in all national companies, in particular the Group Guidelines. Group Compliance makes a statement on important compliance areas such as compliance culture, compli-

ance objectives, compliance risks, compliance program, compliance organization, compliance communication and compliance monitoring and improvement. Any identified need for improvement and remedial measures in individual areas are implemented through a continuous follow-up process.

With the Messer Integrity Line, Messer offers a communication platform through which information and (possible) grievances can be reported in an uncomplicated manner. Employees can address their comments and suspicions about possible compliance violations to defined contact persons in a simple, legally compliant, and confidential manner. Compliance violations are both prosecuted, punished, and used for reflection in order to adopt preventive measures so that a similar violation with the associated risk does not occur again in the future. The whistleblower channel is also available to business partners and is communicated on the websites of national companies. In 2023 there were 24 (previous year: 5) suspected cases of compliance violations at Messer, none of which were confirmed after investigation. This increase in compliance-related reports shows increased awareness, and a sense of responsibility as well as trust within Messer to actively deal with and report suspected cases. Employees are consciously motivated by the easily accessible and understandable Integrity Line, training courses and a clear and unambiguous “Tone from the Top” to constructively avert risks for the company and its employees, and thus continuously improve processes.

### **Revised purchasing policy for electricity**

In January 2023, the Executive Management Board of Messer SE & Co. KGaA approved the amended purchasing policy for electricity within the Compliance Management System.

The aim is to spread risks as widely as possible and increase planning security by means of a binding energy purchasing strategy.

The policy also contains a passage on covering electricity requirements via power purchase agreements (long-term electricity supply contracts between a renewable energy producer and a buyer) as a further diversification component, but also as a key factor in achieving the ESG targets set.

### **HR guideline and legal handbook**

In February 2023, the Executive Management Board of Messer SE & Co. KGaA approved the amended HR Guideline (Rev. 2, February 1, 2023) and the amended Legal Manual (Rev. 2, January 1, 2023) within the Compliance Management System (CMS).

The aim of the HR guideline is to take account of the changed requirements when hiring employees and to update the corresponding approval procedures.

The Legal Manual has been adapted to Messer’s new legal form and structure.

**Risk management guideline**

In July 2023, the Executive Management Board of Messer SE & Co. KGaA approved the newly created risk management guideline within the Compliance Management System (CMS).

The aim of this guideline is to set the regulatory framework for the new Messer risk management system.

The guideline applies globally within the Messer Group and supports early risk identification. Being aware of risks creates transparency, increases planning security, and secures our corporate success in the long term with targeted measures.

**New IT security policy**

In September 2023, the Executive Management Board of Messer SE & Co. KGaA approved the newly created IT / security policy within the Compliance Management System (CMS).

The aim of this policy is to ensure a higher level of protection for all information processed at Messer worldwide, in particular to minimize the risk of loss or unintentional disclosure and to avert the associated economic damage. To this end, confidentiality, availability, and integrity must be fulfilled as the basic requirements for information in our company. Information security at Messer affects all areas of the organization worldwide and their digital and non-electronic or manual processes for processing information. The policy regulates, for example, the handling of information and purpose-related company knowledge and the disclosure or non-disclosure to different recipient groups on the basis of an information classification. It also addresses the secure han-

dling of the infrastructure provided by the company (PC; mobile devices), cloud services or protection against unauthorized access (e. g., minimum password requirements, etc.). The requirements relevant for all target groups in dealing with (IT) security incidents complete the new guideline. The maintenance of business operations (business continuity management; BCM) is also an important chapter.

**Business Partner Code of Conduct and compliance clauses**

The Executive Management Board of Messer SE & Co. KGaA adopted the Business Partner Code of Conduct (“Business Partner CoC”) in October 2023. In addition to the generally binding Code of Conduct, which is aimed at all employees, the Business Partner CoC applies to Messer’s business relationships. Based on the ten principles of the United Nations Global Compact, the Business Partner CoC defines a uniform, globally binding guideline for all Messer business partners and focuses on internationally recognized standards in the areas of human rights, labor standards, environmental protection, and anti-corruption (ESG).

Messer will implement and realize a Third-Party Management System in 2024 to digitally implement the requirements for our business partners. The necessary preparations for this, such as purchasing and the Messer-specific set-up of an IT tool, were completed in 2023.

**Newly created risk management manual**

In November 2023, the Executive Management Board of Messer SE & Co. KGaA approved the newly created risk management manual within the risk management system (RMS). The manual is based on the risk management guideline and describes the Messer risk management process in detail. The process is essentially based on the guidelines of the international standard ISO 31000:2018. Knowing risks creates transparency, increases planning security, and secures our company’s long-term success with targeted measures.

The manual has global validity within Messer.

**Declaration of principles on human rights and working conditions**

In January 2024, the Executive Management Board of Messer SE & Co. KGaA approved the newly created policy statement on human rights and working conditions at Messer within the Compliance Management System (CMS). The policy is based on Messer’s mission statement and supplements the Messer Code of Conduct. It describes respect for human rights and fair working conditions as the basis of the corporate philosophy and business processes.

The guideline has global validity within Messer.



### **“Speak up” compliance campaign**

With a poster campaign under the slogan “Speak up”, the Messer Executive Management Board emphasizes that it is expressly desired when employees help to uncover illegal or illegitimate practices.

Various reporting channels are available to them, such as contacting line managers personally or using the Messer Integrity Line whistleblower platform. The poster campaign also points out that employees who report potential misconduct are protected from possible reprisals. The posters were translated into the respective national languages by the local companies and displayed at many sites.

### **Data protection**

Messer is committed to complying with the applicable data protection regulations. Corresponding structures are in place to ensure a permanently high level of data protection.

The Group Privacy Officer of Messer SE & Co. KGaA is responsible for coordinating the central data protection department and also manages its implementation by the national companies. In accordance with the EU General Data Protection Regulation (GDPR) and the German Federal Data Protection Act (BDSG), we handle the data of our employees, customers, and business contacts in a

legally compliant manner. Messer implements measures for organization and documentation prescribed by data protection law. To ensure optimal understanding, Messer’s European subsidiaries and Messer SE & Co. KGaA communicate their data protection notices in the respective national language via their websites.

Messer Americas complies with the applicable data protection laws, the Messer SE & Co. KGaA Code of Conduct for the Americas and the Messer Americas Supplement to the Code. In addition, Messer Americas has a separate privacy policy for North America. The Senior Counsel & Regional Compliance Officer of Messer Americas, the Head of Human Resources for North America Business Operations and members of the Messer Americas Legal and Compliance team are available throughout the Americas to answer questions about data privacy. Messer Americas also makes use of external experts for compliance issues.

Training on data protection is included in Messer Americas’ Code of Ethics and Conduct. The “Code of Ethics and Conduct” e-learning course is mandatory for all Messer Americas employees.

# Sustainable Business

In 2023, the year of Messer's 125th anniversary, the company acquired all remaining shares in the Messer Industries joint venture and opened a new chapter in its company history. The transaction marked the end of the successful cooperation between Messer and CVC Capital Partners, which comprised Messer's companies in North and South America and Western Europe. With the new structure, Messer can now grow as a globally positioned gas company. GIC, a global institutional investor, became a long-term oriented minority shareholder of Messer. GIC is an experienced partner of family businesses around the world and supports Messer's strategy for sustainable, profitable growth.

As a successful gas company in Asia, Europe, and the Americas, Messer is driving forward its own ambitious plans even more strongly. Messer has enormous potential in the world's most important markets. We are expanding our offering with a focus on particularly promising sectors and through partnerships in the course of the green energy transition. We expect increases in sales and earnings in the medium term. Sustainability, customer focus and satisfaction, efficiency, teamwork, and profitable growth are among Messer's top priorities.



Messer in Hungary



## Sustainable Growth Through Investment

The industrial gas business is capital intensive. Well-prepared investment decisions taken by the executive management board have a long-term and significant impact on the company's activities and its sustainability-related impacts, risks, and opportunities. Therefore, it is vital that such decisions take sustainability factors into account.

In 2023, Messer explicitly incorporated considerations of carbon footprint and climate-change-related risks into the evaluation methodology used to support investment decisions by the expert body which advises the executive management board on investment opportunities, the Capex Committee. This development ensures that costs and risks associated with a carbon footprint, climate-change mitigation, or developments in the value chain, are highlighted in the decision-making processes. Investment decisions are generally expected to support the company's sustainability goals.

Investment projects form an important basis for sustainable growth in the long-term industrial gas sector. Messer started or completed the following exemplary projects in 2023:

### Liquefied gases and hydrogen plant in China

In 2023 Messer put two large-scale ASUs into operation respectively in southern China's Guangdong province and central China's Chongqing City. The new ASU in Guangdong with a capacity of 1200tpd is the largest liquid ASU of Messer in China. In Chongqing City, the new ASU has a capacity of 44,000 Nm<sup>3</sup>/h and the internal liquefier can bring 880tpd of liquid. These two new facilities will further strengthen Messer's position in the local markets and support Messer to meet more customers' demands and to explore new markets. In 2023 Messer accelerated the investment in hydrogen production in China. Two hydrogen plants, both with a capacity of 1,000 Nm<sup>3</sup>/h, were on stream respectively in the province of Chengdu and Anhui. The Anhui plant is using steam methane cracking to produce hydrogen while the Sichuan plant is using water electrolysis process. In addition, the construction of a new hydrogen plant, which uses the steam methane cracking process, was started in China's Hunan province in 2023, and this will bring the market 2000 Nm<sup>3</sup>/h of hydrogen in the future. In China hydrogen is greatly demanded as a reducing gas in the production of cemented carbide.

### New plants for electronic specialty gases

Messer has further expanded its market position in specialty gases in China with the official start of production at the newly built plant for electronic specialty gases in Chuzhou. The inauguration ceremony for the new site took place on June 27, 2023. Messer now has seven specialty gases plants in China in the provinces of

Jiangsu, Anhui, Guangdong, Sichuan and Yunnan, including three plants for electronic specialty gases.

The new plant in Chuzhou can produce sixty different high-purity and ultra-high-purity electronic gases as well as various gas mixtures and excimer laser gases. This product portfolio covers the majority of gas applications in the electronics industry.

### Nitrous oxide plant in Vietnam

At the end of 2023 Messer commissioned a nitrous oxide plant successfully in Vietnam at the site in Haiphong. The new plant represents Messer's first specialty gas plant in Vietnam and will produce 100 kg/h of nitrous oxide of high purity >99.9995% to supply to the customers in the electronics field. It's just the first phase of the whole project, phase II will see a double in the capacity by the end of 2024.

### CO<sub>2</sub> Recovery in Austria, Poland, Czech Republic, and Serbia

In their partnership, Messer Austria and Donau Chemie have decided to make the production of basic inorganic chemicals more environmentally friendly. For this purpose, the CO<sub>2</sub> generated during the production of calcium carbide at Landeck site is taken over by Messer Austria and purified for further industrial use. Through this cooperation, the annual CO<sub>2</sub> shortage on the gas market, which is particularly due to the significantly reduced production of ammonia in Europe, which also produces CO<sub>2</sub>, can be optimally bridged in the summer months.

Messer Polska is investing around EUR 12 million in a CO<sub>2</sub> production plant in northern Wielkopolska. The raw material for production will come from renewable sources. The primary aim of the investment is to increase the production capacity and adapt it to the company's demand. Importantly, this investment will allow the company to start producing 'green' CO<sub>2</sub> and to optimize transport and thus reduce its carbon footprint.

In November 2021 Messer Technogas signed a package of contracts with the company Ethanol Energy in Vrdu (EEV) pertaining to the construction of a new liquid carbon dioxide (LCO<sub>2</sub>) production plant in said locality. Messer Technogas and Ethanol Energy have joined forces to recycle the raw CO<sub>2</sub> generated as a by-product of the bioethanol facility in Vrdu into a pure, commercial-grade liquid product for use, inter alia, in the food industry. The capacity of the plant will amount to 39,000 tons of LCO<sub>2</sub> per year. The start of operation is planned in 05/2024. With its own production facility Messer Technogas will eliminate its dependence on competitors' plants on imported LCO<sub>2</sub>.

At the beginning of 2024 Messer Tehnogas commissioned a CO<sub>2</sub> plant in Rusanda, Serbia. This plant ensures the full supply to our local market. Significant storage guarantees uninterrupted supply of our customers. The plant is designed for a maximum of energy efficiency and sustainability. In our pursuit of eco-friendliness, all wastewater undergoes meticulous treatment in a dedicated facility, ensuring its safe return to the environment. With each innovation we reaffirm our pledge to a greener future.

### **Inauguration of Messer's new air separation plant in Vilaseca**

The new investment, worth 60 million euros, is the fifth plant for the production of industrial and medical gases that Messer has built in Spain in its 53 years of operation. The investment includes the construction of the new plant, the modernization of Messer's existing production facilities in Vilaseca and a new substation for the power supply. With a daily production of 2,600 tons of oxygen, nitrogen and argon, the air separation unit (ASU) is one of the largest and most modern plants of its kind in Europe.

Together with the other production plants and emergency supply systems, the new ASU is connected to Messer's own pipeline network of more than 90 km in length, which Messer operates to ensure the current and future supply of oxygen and nitrogen to the chemical industry in Tarragona. This investment makes Messer the largest producer of air gases in Catalonia with a daily production of 4,500 tons.

### **Investment in new ASU in Serbia**

Messer built a new air separation plant in Bor, Serbia, to fully meet the operational requirements of the copper smelter there. The new plant was commissioned in 2023 and complements the existing ASU in Bor. The oxygen production capacity was increased by 35%.

Since 2012 Messer has invested over 50 million euros in the Bor site, including the construction of a new administration building and a distribution center for technical gases. The production facili-

ties are designed for maximum energy efficiency and sustainability: solar panels have been installed and the facilities are also state of the art, resulting in savings in electricity consumption.

### **Increased supply reliability with environmentally friendly gas production**

In 2023 Messer commissioned a new air separation unit in Vratimov, Czech Republic. It replaces the existing ASU of MG Odra Gas, which was modernized in 1993. MG Odra Gas is a joint venture between Messer and Liberty Ostrava, 70 percent of whose shares are held by Messer. Thanks to the improved specific energy consumption of the new plant, industrial gases can now be produced in a more environmentally friendly and economical way. At the same time, this investment will make it possible to increase liquid gas production by a factor of around four. This increases supply reliability for bulk customers.

One of the largest consumers of the gases is the Liberty Ostrava steelworks. The steel producer and other major industrial companies in the region receive gaseous nitrogen, oxygen and argon via a pipeline. The remaining product quantities are filled in gas cylinders and in liquid form in tankers.

## Sustainability and Continuous Improvement

Our participation with ratings agencies provides input on ways we can continuously improve and advance to support our sustainability commitments. Following the acquisition of all remaining shares in the Messer Industries joint venture, Messer is taking this one step further by integrating its sustainability strategy into a newly created, robust global program.

In 2023, we participated in the “Sustainability Performance Overview” by EcoVadis and, secondly, by the “CDP Score Report - Climate Change 2023”.

### EcoVadis “Sustainability Performance Overview”

As the world’s largest provider of sustainability ratings for companies, EcoVadis evaluates how companies incorporate CSR principles into their business strategy and management system. Various categories such as environmental protection, labor and human rights, ethical standards and sustainable procurement are taken into account when assessing sustainability performance. In 2023 Messer’s sustainability performance was once again assessed by EcoVadis in the “Sustainability Performance Overview” published on April 25, 2024.

### “CDP Score Report - Climate Change 2023”

The “CDP Score Report - Climate Change 2023” enables companies to be classified in terms of environmental and climate protection.

## Involvement in Industry Associations

Messer SE & Co. KGaA is a member of the European Industrial Gases Association (EIGA). The EIGA, based in Brussels, represents almost all companies throughout Europe that produce and distribute gases for technical, medical and food applications. The focus is on achieving the highest possible safety and environmental protection standards in the production, transportation, and use of gases. Messer is also a member of the International Oxygen Manufacturers Association (IOMA). Messer employees are represented on all the management committees of these two gas associations

as well as in the Committee on Eastern European Economic Relations, the Eastern European Association of German Industry, and the East Asian Association.

Messer SE & Co. KGaA is a member of the German Welding Society (DVS e. V.). In the DVS, a technical-scientific and non-profit association based in Düsseldorf, Messer employees are involved in specialist committees, supervise research projects, and maintain contact with technologically demanding specialist circles.

Messer is also a member of the European Clean Hydrogen Alliance and the Joint Initiative for hydrogen Vehicles across Europe (JIVE2). The European Clean Hydrogen Alliance, launched by the European Commission, aims to accelerate the development of clean hydrogen solutions in Europe by bringing together industry leaders, policymakers, and researchers. The Joint Initiative for Hydrogen Vehicles across Europe (JIVE) focuses on promoting hydrogen fuel cell buses and related infrastructure to demonstrate the benefits of hydrogen-powered public transportation and foster sustainable urban mobility.

Our subsidiaries are active locally in various industry associations. Messer in the Americas is a member of the following associations, among others: American Chemistry Council (ACC), Compressed Gas Association (CGA), Chemistry Council of New Jersey (CCNJ), Texas Chemical Council (TCC), California Large Energy Consumer Association (CLECA), Indiana Energy Consumers, West Virginia Large Energy User Group, West Virginia Manufacturing Association, Pennsylvania Energy Consumers Association and Ohio Energy Group.

# The Messer Team

## Declaration of Principles

Messer’s mission statement enshrines customer and employee orientation, responsible action, corporate responsibility as well as open communication, trust, and respect. Messer is aware of its responsibility to respect human rights and working conditions.

The Messer Code of Conduct sets out binding principles of behavior for all employees worldwide. The Code of Conduct is part of the Messer Compliance Management System (Messer CMS) and emphasizes Messer’s sustainable understanding of values for living integrity.

As a member of the *Charta der Vielfalt* (Charter of Diversity), Messer complies with the national and international provisions for human rights and the general ethical principles against child and forced labor. The respect for human rights and the maintenance of fair working conditions form the basis of our corporate philosophy and business processes. Messer believes that every employee is entitled to fair treatment, courtesy, and respect. Thus, we expect every employee to treat all persons in a respectful, fair, friendly, and professional manner.



Messer in China



The basis of human rights diligence at Messer is our commitment to respect human rights. With this policy statement, we are making a strong and binding commitment to human rights and working conditions as set out in internationally recognized frameworks:

- The Ten Principles of the UN Global Compact
- The Labor Standards of the International Labor Organization (ILO)
- The International Bill of Human Rights (UN)

We support our employees, customers, and suppliers in complying with human rights principles and maintain an ongoing dialog with them on important human rights issues.

## Diversity and Equal Opportunities

Messer is committed to diversity and equal opportunities for its workforce. Our future-oriented and sustainable human resources policy ensures a level playing field for professional success, respects cultural differences and promotes interaction with each other. For Messer, diversity is the basis for innovation and sustainable corporate success; mutual trust and respect are the corporate values that form the basis of our corporate culture and are deeply rooted in it.

Our salaries are based on function, market, performance, training, experience, and length of service as well as, where applicable, collective bargaining agreements or comparable wage agreements and inflation compensation. Gender equality is a matter of course. Our vision for diversity and inclusion is to create an environment

where all employees accept, respect and value the differences of multiple identities and truly welcomes the diverse ideas and perspectives of individuals. In doing so, we shape an open and creative company culture, providing every individual an equal opportunity to thrive.

We define diversity as the presence of differences and representation of multiple identities such as age, race, ethnicity, family or marital status, gender identity or expression, language, national origin, physical and mental ability, political affiliation, religion, caste, sexual orientation, socio-economic status, veteran status, life experiences, knowledge, inventiveness, innovation, self-expression, unique capabilities, talents, and other individual differences.

We define inclusion as the assurance that the thoughts, ideas, and perspectives of all individuals' matter. When there is inclusion, our people, our teams, and our company are truly inviting to all, creating engagement, and belonging.

### Composition and diversity of the Executive Management Board and Supervisory Board

Our Executive Management Board is made up of the Chairman of the Executive Management Board, CEO, the CFO and three Executive Management Board members who represent the operating businesses in the Asia, Europe, and Americas regions. In 2023, the Executive Management Board consisted of three men and two women.

Messer's Supervisory Board, chaired by Stefan Messer, consists of four men and five women.

### Proportion of women overall and women in the 1<sup>st</sup> and 2<sup>nd</sup> management levels

In 2023, Messer employed 11,725 people (headcount), compared to 11,469 in 2022. The proportion of women in the total workforce was 26.7 percent, compared to 27.8 percent in the previous year. The proportion of female managers in the 1st and 2nd management levels has increased and stood at 27 percent in 2023 compared to 24.7 percent in 2022.

### Proportion of part-time employees and blue-collar workers in the workforce

In 2023, 200 part-time employees worked at Messer compared to 187 part-time employees in 2022. The proportion of blue-collar workers in the total workforce was 45.5 percent compared to 45.7 percent in the previous year.

### Age structure of our workforce

The average age of our total workforce is 42.83 years, a very slight increase of 0.1 percent compared to the previous year. 11.9 percent of our employees are under the age of 30. At 56.9 percent, more than half of the people at Messer are between 30 and 50 years old. 30.9 percent of employees are over 50 years old.

### Entitlement to family leave

Messer grants all employees the right to take time off to support their families. In 2023, 5 percent of the total workforce took advantage of this entitlement.



## Structural Integration of Diversity Management

The aim of our diversity management is to create a prejudice-free and appreciative working environment, irrespective of employees' gender, nationality, ethnic or social origin, religion, caste, ideology, disability, age, sexual orientation, or sexual identity. Interdisciplinary teams at our Messer SE & Co. KGaA headquarters are responsible for the strategic integration of diversity and inclusion. Across Messer, representatives and ambassadors in each national company help to promote diversity and inclusion through targeted initiatives and concrete measures.

At Messer Americas, People Excellence is part of our operational strategy, which is about creating an environment that attracts and retains our highly skilled workforce, motivating and enabling each colleague to reach their highest potential and advancement in their careers. Together diversity and inclusion are one of the elements of our People Excellence strategy. To accelerate our endeavors, Messer Americas has D&I Ambassadors in each country and a joint D&I Council comprised of leaders from across the region. The leadership team launched a comprehensive program comprised of three key pillars: education, engagement, and process.

The proportion of women in the 1<sup>st</sup> and 2<sup>nd</sup> management levels is expected to rise in the long run, and the goal is to increase this measure by establishing mixed management teams with at least a thirty percent share of women by 2030.

In order to achieve this goal, within the Corporate Office of Messer SE & Co. KGaA, activities have been developed that are intended to lead the way for the Messer companies in the future. First of all, a women's network called "Women Network@Messer" was set up to give interested women the opportunity to participate and share their experience in the workplace. Under professional guidance, "Power Teams" were formed to exchange ideas and provide support on a regular basis to make it easier to overcome professional and personal challenges. Accompanying targeted training opportunities on topics such as personal excellence, work / non-work balance and inclusion were offered to the entire workforce at the headquarters. A mentoring program for women was launched in 2023.

## Awards and Initiatives

### Diversity Charter

Messer SE & Co. KGaA is a member of the "Diversity Charter," an initiative to promote diversity in companies and institutions. Diversity management is designed to help our commitment to diversity throughout the company through our interdisciplinary teams and responsible persons or contact persons in our national companies.

### Total E-Quality

Since 2019, Messer Group has been awarded the Total E-Quality rating for equal opportunities in personnel and organizational policy with the additional rating "Diversity," which is valid for three years. It is supported and recommended by the German Federal Ministry of Family Affairs, Senior Citizens, Women and Youth and the Federal Ministry of Education, Science, Research and Technology. For our further development in the area of human resources policy and for the organizational and structural anchoring of equal opportunities and diversity, Messer 2022 has once again been awarded the Total E-Quality rating and the additional rating for diversity so that it was still valid in 2023.

### Great Place to Work®

In 2023, Messer companies in Brazil, Canada, Colombia, Chile and the United States were certified as a Great Place to Work®. The certification acknowledges employers who excel in fostering an outstanding employee experience. Besides the recognition, this certification provides data that drives D&I initiatives, which support the continuous effort of creating a company culture that enables employees to thrive and where they can feel respected, valued, included and that they belong.



### **CandE Award**

Messer United States and Messer Brazil were recognized for providing an excellent candidate experience in their recruitment and selection process. Messer is committed to its value of trust and respects, and our engagement with all candidates from their very first interaction with the organization until become a Messer employee reflects this value. In addition to this honor, Messer Brazil ranked first place in Latin America by the Talent Board, the sponsor of the CandE Award.

### **Corporate Equality Index (CEI) from Human Rights Campaign for the United States**

In 2023 Messer in the United States was featured for the first time with the Corporate Equality Index recognized for earning a perfect score of 100. The recognition demonstrates Messer's commitment to implementing LGBTQ+ inclusive policies and practices.

### **CEO Action for Diversity and Inclusion™**

Messer is part of the largest CEO-driven business commitment to advance diversity and inclusion in the workplace. As part of the initiative, Messer contributes along with other companies to drive progress in D&I and drive change at scale.

### **WEP: Women's Empowerment Principles**

Messer Americas is a signatory of the Women Empowerment Principles (WEP), established by UN Women and UN Global Compact. By joining the WEP's community, Messer signals its commitment with the gender equality dimensions of United Nations Sustainable Development Goals.

### **Internal feedback mechanisms on D&I Program**

Messer recognizes the importance of its employees in shaping an inclusive environment and creating initiatives for the D&I program. Examples: The two-way feedback is practiced by the Employee Circle members in the United States, who collect feedback from other employees and share it anonymously with the D&I team. In Colombia, the Diversity Table is a place where employees provide feedback on diversity initiatives.

### **USA: Military Medallion**

Messer was recognized by the US Department of Labor as a HIRE Vets Gold Medallion Award recipient for the third year in a row for the company's exemplary efforts in recruiting, employing, and retaining veterans. The HIRE Vets Medallion Award is the only federal award recognizing exceptional achievement in hiring employees who are veterans. The award signals to veterans that an employer is committed to and supports our nation's heroes. The company also received the Recruit Military Champion Award, which publicly recognizes and awards organizations that empower the military community through meaningful career opportunities.

## Employee Satisfaction

The average length of service of our employees in 2023 was 10.1 years, as it was in the previous year. Of the employees at Messer, 18 percent are represented by workers’ representatives. 39.7 percent of all employees are covered by collective bargaining agreements.

Employee appraisal and satisfaction reviews were conducted with 55.3 percent of all employees in 2023. In 2023, more than 4,400 employees in the Americas participated in the regional Viewpoint survey and the results demonstrated significant improvement in several categories including the areas of learning and development as well as diversity and inclusion.

## Education and Training

Messer is committed to the education and training of junior employees, who are seen as an important investment in the competitiveness and performance of our company. In 2023, Messer’s vocational training ratio increased slightly from 1.4 to 1.5 percent.

### Continuing education and promotion

Messer uses webinars and classroom training to provide its employees with further training. A total of 10,762 employees received training, which corresponds to 91.8 percent. In the previous year, this figure was 10,998 people, corresponding to 95.8 percent. On average, 20 hours per person were spent on paid seminars in 2023

compared to 14.2 hours in 2022. Expenditure on further training increased slightly: in total, an average of 187 euros per person was spent on this, which is 8 euros per person more than in 2022.

### D&I Trainings

Training on the topic of “unconscious bias” has been ongoing since 2021 for international management and the German- and English-speaking workforce in Europe in order to help resolve unconscious thought patterns. A total of 570 people have completed the training. D&I trainings were also organized in the Americas, where 1,759 employees were trained and 527 people managers completed sessions on topics including unconscious bias, inclusive communication, and inclusive leadership.

### USA: Forging talent for Messer’s future

The three classes of the Messer Graduate Development Program (GDP) met in person at the headquarters in Bridgewater. This gave them the chance to meet Messer executives, network with colleagues and celebrate the first GDP graduating class of 2023 together. During the GDP program, the new employees are mentored by our experienced management and receive practical technical know-how within the various business units. The GDP graduates represent the future of Messer.

## Open Dialog and Know-How Transfer

Open dialog and internal know-how transfer are important to us. That is why we promote supra-regional and intercultural networks.

We were able to network even more closely at an international specialist level and at the same time attract more participants to the virtual international town hall meetings that have been held regularly since 2022. In total, there were 43,186 participations in location meetings or network meetings for strategic integration or knowledge transfer and in town hall meetings, compared to 33,033 in 2022.

To improve internal international communication, Messer introduced an app internationally in 2021, which simplifies global exchange between the organizations and their teams. In order to simplify dialog with the Executive Board and bundle the strategic information, the Executive Management Board has been communicating in the app with its own stream since 2023.



# Safety and Health

Measures related to safety and health are of fundamental importance to Messer. Safety is the license for our work, the prerequisite for us to be able to operate as a commercial enterprise at all. Messer's entire Management Board has defined SHEQ - which stands for Safety, Health, Environment, Quality - as one of its priorities. Every Management Board meeting begins with the topic of safety. All related goals and measures are bundled together organizationally in the SHEQ department. We see it as our duty to offer the highest possible level of safety to our teams in the plants and at the technical and administrative workplaces, the people who control our logistics and our vehicles, as well as everyone who uses our gases.

Our materiality matrix reflects the importance of occupational health and safety. This includes promoting the safety of those who use our products, adhering to safe practices throughout our supply chain and fostering a culture of safety, health, and well-being. These issues are firmly anchored in our company, as they are in our industry. The importance of safety for all areas of the company is also emphasized in our mission statement, our corporate values,



Messer in Slovakia



and our internal guidelines. One example of this is our company-wide SHEQ commitment, which was revised in 2023. We are demonstrably committed to safety and thus empower our employees to make continuous improvements in this area.

In the reporting year, we placed particular emphasis on occupational safety. Our goal is “zero accidents at work”.

To this end audits were carried out in Asia on the general safety of air separation plants, filling stations and customer sites, among other things. The safety of specific activities was promoted through on-site visits and corresponding safety briefings. Safety awareness was raised through communication measures such as safety warnings, newsletters, and posters. In addition, there was a separate safety program that included audits, equipment checks and exercises.

In Europe, the current status of occupational safety measures was analyzed and evaluated together with an external service provider. This was done through interviews, site visits and workshops. The interviews, which were conducted in January 2023, included top and middle management, divisional specialists, and employees at the plants. The high participation rate and commitment of all participants reflected the shared commitment to safety at Messer. Subsequent workshops helped to develop and implement concrete measures for even greater safety. This ongoing journey towards a safety culture is known in Europe as COMPASS (Culture of Messer to ProActively Support Safety). The aim is to establish a safety culture in which everyone involved not only pays attention to their own safety, but also actively contributes to safe behavior

in their environment. Messer is thus continuing its efforts to further improve occupational safety within the company. COMPASS was also the focus of the SHEQ Conference 2023, which took place on November 8 and 9 in Bad Soden, Germany. Here presentations and workshops were held to explain how COMPASS can help ensure that our employees go home at the end of the day as healthy as when they came to work in the morning. The SHEQ managers from the Americas and Asia regions were also invited to attend.

In 2023 the decision was made to use INTELEX as the SHEQ platform for Europe and Asia. The “Document Control” module was implemented in selected countries and the course was set for the “Incident Management / Observations” module in China and Europe. The “Audit & CAPA” modules are planned for 2024, followed by “MOC”, “Approvals”, “Risk Management” and “Training”.

In the Americas “safety shares” were held at the beginning of each meeting to reinforce safe behavior at work and in private. Management used town hall meetings to share relevant safety information with the team. Managers at all levels of the organization were actively involved in reviewing incidents. Other measures included the continuous sharing of findings to prevent future incidents and safety walks. A culture of continuous learning was promoted to positively reinforce safe behaviors.

## Safety of our Employees

Our network of safety officers investigates and records all safety-related incidents at Messer. Information and training materials help to further improve the safe handling of our products and applications and promote safe behavior among employees at the various workplaces.

The total number of reported accidents at work resulting in absence from work at Messer rose from 47 in 2022 to 54 in 2023. The rate of employee absence from work per million hours worked (accident frequency rate) rose from 2.05 in 2022 to 2.32 in the reporting year. The number of lost working days (occupational accident severity rate) per million working hours rose from 70.07 in 2022 to 83.44 in 2023. A total of 106 reportable occupational accidents were registered in 2023, 10 more than in the previous year. The accident frequency rate of reportable workplace accidents per million hours worked rose from 4.20 to 4.55.

In Asia accidents with lost time injuries (LTI), recordable workplace accidents (RWI), product-vehicle accidents (PVA) and process accidents, such as O<sub>2</sub> fires or damage to process equipment, were once again significantly reduced. RWI and process accidents fell to zero. Road traffic accidents are a focal point, which is partly due to the continued increase in the number of road users. The following measures were taken in 2023 to further improve the KPIs relating to employee health and safety: the reporting of accidents and near misses as well as the associated investigations were added to the leading KPIs. The digital accident management tool INTELEX was

introduced. Special safety training materials were developed, and safety training courses were held specifically for activities with a high accident rate.

In Europe, several measures were taken to increase safety awareness. These include the COMPASS concept, safety information, safety walks, audits, and workshops, as well as support in identifying the causes of accidents. The main causes of accidents resulting in lost time were the handling of gas cylinders, tripping and slipping.

In the Americas, continued measures for accident prevention and consciously safe behavior at work focused on the most frequently occurring injuries: slips, trips, and strains/sprains. There was also a focus on employees working for Messer for the first year. This was done through onboarding, training, and coaching, especially for employees with the highest accident risk. The “Safer Together” program and behavioral observations were also emphasized, early indicators were used to improve the safety culture. The collaboration with Gallagher Basset was continued with a view to achieving the most efficient case management possible.

### Safety Week 2023

A “Safety Week” was also held at Messer’s international locations in 2023. Under the guiding theme “From Safety-I to Safety-II” it was emphasized that the previous focus on negative, undesirable events (Safety-I) should be expanded to include the consideration and use of events that are positive and desirable (Safety-II). The combination of both perspectives and the corresponding conclusions can make a decisive contribution to further improving occupational safety.

### An important moment for safety

A so-called quick win on the way to a safety culture at Messer is the “safety moment”. At the beginning of meetings, training sessions or workshops, it invites people to share a safety experience with the group. This could be a personally experienced event - both negative (e.g., accident, near-accident) and positive (exemplary, safe behavior). Reports from the media can also serve as examples. The purpose is to present a safety-relevant event, talk about it together and, if necessary, rethink or adapt your own behavior.

### Safety measures in the Čáslav filling plant

Handling gas cylinders is one of the most frequent causes of accidents in filling plants. Especially when the operating personnel has to overcome different height differences when removing or placing cylinders on pallets. At Messer’s filling plant in Čáslav, Czech Republic, a special movable platform has therefore been installed that allows cylinders to be handled at the same level. This also reduces physical exertion, which additionally promotes occupational safety.

### Safety tour of the bottling plant

Messer Benelux initiated a safety campaign in Belgium to emphasize the importance of the safe handling and transport of gas cylinders. It also emphasized the importance of reporting incidents or unsafe situations. The employees who take care of the associated work, who handle gas cylinders on a daily basis and who are in direct contact with our customers, were able to provide important feedback and suggestions.

### Safety initiatives on several levels

In 2023 Messer France introduced or extended various initiatives as part of its safety management program: the “Back to Basics” campaign focused on a different basic safety topic each month, such as fire extinguishers, the “three-point rule”, eyewash or order in the work area. Specific tasks were delegated to site management and employees in order to put theory into practice. Informal discussions on a specific safety topic allowed teams to openly share ideas, identify areas for improvement and remind each other that safety requires a dynamic approach. “Safety Walks” aimed to strengthen the safety culture and train the right responses. During the safety walk, a trained team examined safety-related points using a checklist so that appropriate measures could be initiated if necessary.



### Personal commitment as part of “Safer Together”

“Safer Together” is a Messer Americas initiative that combines leadership training, engagement and teamwork to create an environment of trust, empathy and problem solving. By working together and taking personal responsibility for safety, all employees feel empowered to stop work to discuss risks and hazards and solve problems before incidents and injuries can occur. In 2023 all employees signed a declaration of commitment, which was posted in the offices and other work areas.

### Safety deficiencies at federal helium plant rectified

Messer assumed operation of the Amarillo Crude Helium Extraction Unit (CHEU) in April 2022. Before Messer intervened the CHEU was cited for 21 Occupational Safety and Health Administration (OSHA) violations. As a result of the citations, the plant was shut down. Several violations had to be abated prior to starting the plant. There were several safety systems that were either not working or were bypassed. Approximately 22 employees from across Messer USA, from various disciplines, assisted with correcting the violations, preparing the plant for startup, and operating the plant. This was accomplished without incident or any injuries. Messer personnel trained 12 new hires within 90 days while operating the facility. Helium was back in production within four weeks of Messer assuming control of the operations. All citations were closed to the satisfaction of the OSHA in March 2023.

### Digital permits for hazardous work

The issuance of permits for hazardous work primarily relates to hazard identification and mitigation through planning and intensive communication processes. In 2023 Messer introduced a digital system for hazardous work permits (HWP) in the USA. It is used by all primary production areas and currently contains more than 1,000 permits - and the trend is rising. The digital work permit makes the documentation of these important steps easier and more streamlined. The digital format also ensures that communication is clear and handwritten entries no longer need to be interpreted. The system provides the ability to view permits that are at various stages of completion, from the draft to the final. In addition, permits that have already been issued can be easily copied, making the creation of repeat permits less time-consuming. The time saved can instead be used to assess hazards and communicate with the team carrying out the work. In addition, the digital platform provides an easy way to monitor hazardous work that takes place in the facilities on a daily basis. A training campaign was launched to introduce the system, focusing on key elements in the authorization of hazardous work. This ensured that people who issue permits are aware of the responsibility they bear when issuing permits.

### Safety Day 2023 in North and South America

On April 28, 2023, Messer Americas actively participated in the World Day for Safety and Health at Work.

Across the Americas teams watched the Messer produced video titled “A Day in the Life” and managers led discussions on how teams can work even more safely by knowing and understanding the dangers at work. This includes doing risk assessments, using existing tools and understanding how to pause when something seems unsafe. The culminating activity was when teams gathered together to “take the pledge” and commit to working “Safer Together” by:

- Continuously improving our safety culture
- Identifying and reporting hazards and unsafe conditions
- Understanding and eliminating at-risk behaviors
- Working towards achieving zero incidents and injuries in the workplace
- Promoting active caring for the safety, health, and well-being of our colleagues

Employees then signed posters with the pledge, which were then hung up in a visible location at their site or office. The posters are a daily reminder of the pledge employees took to be “Safer Together” every day.

## Awards in the Field of Safety

Messer is an active member of the EIGA (European Industrial Gases Association), the IOMA (International Oxygen Manufacturers Association), the AIGA (Asian Industrial Gases Association) and the CGA (Compressed Gas Association). Our experts regularly exchange experience and knowledge, as the protection of our employees, the safe manufacture, use and handling of our products and responsible action are important parts of our corporate values.

### EIGA awards for exemplary occupational safety

**Messer Croatia Plin** (Croatia) received the “Gold Three Star Safety Award” for 30 consecutive years without an accident at the Kutina plant.

**Messer Hungarogáz** (Hungary) received a “Gold Two Star Safety Award” for 25 years of accident-free work at its Ölbő site.

**Messer Tehnogas** (Serbia) was honored with a “Gold Star Safety Award” for 20 consecutive years of accident-free work at its Niš site. Messer Tehnogas also received a Silver Safety Award for ten consecutive years of accident-free work at the Smederevo production site.

**Messer’s Vratimov site in the Czech Republic** was honored with the “Bronze Safety Award” for five consecutive years with zero accidents.

### “Best Craftsman” award

In May 2023 Xu Bo Xu, who is responsible for production operations and company safety at Sichuan Meifeng, Messer Gas Products Co., Ltd., received the internal “Best Craftsman” award. Bo Xu maintained safe production operations for many years and carried out his work without errors or accidents. During his time as a production manager, he trained many new employees for the company. He actively participates in the technical optimization of product quality and energy efficiency of the company. In recent years he has been actively involved in the company’s new technologies to save energy and reduce consumption.

## Safety of our Customers

The safety of the people who work with our industrial gases is of paramount importance to Messer. That is why we are also raising awareness of the safe handling of gas cylinders among our customers.

### New “Pocket Guides Safety” and corresponding videos

To make the handling of our products even safer Messer produced two new “Pocket Guides Safety” and corresponding videos in 2023. The topics were “Storage of gas cylinders” and “Handling cryogenic transport containers (dewars)”. Pocket guides and videos are aimed at external target groups to provide basic information on handling our gases and raise awareness of potential hazards.

### “Safety 360” focuses on safety

“Safety 360” was launched in 2022 to determine the risk level of our products and equipment used at our customers’ sites. In 2023 Messer was able to implement a robust, user-friendly assessment app that allows employees in the US bulk business to assess and document what could go wrong at a customer facility. “Safety 360” allows Messer to track equipment and assign actions as needed to customer-facing sales staff working at customer locations. The tool is considered exceptional because it is one way Messer is working with customers to keep their workforce safe while using Messer products.

### Program for safe customer locations

To improve safety conditions during customer deliveries that benefit both Messer’s drivers and the customers they supply, the team at Messer Canada launched a program in 2023 to notify and assess the safety of customer sites. Deliveries must be stopped or delayed if a customer-owned site is classified as “unsafe.” When this happens, the program communicates clear criteria for the customer, corresponding notification procedures and ways to partner with Messer on safety programs.

## Safety of our Logistics and Vehicles

In addition to complying with legal regulations, Messer uses a proven transportation safety concept. In Europe we are committed to paying particular attention to the safety of our vehicle fleet as part of the European Road Safety Charter. The safety measures we have developed for logistics at national and international level include a constant exchange of experience between logistics and safety personnel with the aim of further improving safety in this area.

While Messer’s American companies use their own personnel to transport gases, external companies are primarily entrusted with this task for other regions. They are also responsible for providing the legally required training for drivers.

We supplement this with a driving training program developed by Messer for Europe. It is supported by an on-board computer system that records safety-relevant driving data. Based on driving data and integrated sensors, it also prompts drivers to adapt their driving style during the journey. This makes our transports even safer and helps to consume less fuel. The on-board computer system contributes to reducing the absolute number of accidents and further improving the accident frequency rate, as do suitable supplier management, training courses and manuals for drivers with individually tailored content for the operation of bulk, cylinder or service vehicles, as well as technical aids to reduce the absolute number of accidents and further improve the accident frequency rate.

Since 2023 the division responsible for logistics in Europe has also held several local workshops focusing on transport safety each year. The aim of these events is to develop potential improvements for logistics safety in a cooperative environment and to improve performance in this area with targeted measures.

In 2023 the number of avoidable accidents during the transport of our cylinder gases worldwide was 53, compared to 56 in the previous year. This slight improvement is reflected in the accident frequency rate per million kilometers driven, which fell from 1.59 in 2022 to 1.47 in the reporting year. The number of avoidable accidents involving the transport of liquefied gases was 186 in 2023, compared to 193 in 2022. This development is confirmed by the frequency rate per million kilometers driven: It fell from 0.96 in the previous year to 0.91 in 2023.

### “Messer Driver Award” for Slovakian driver

Slovakian driver Dezider Laky, who has been driving for Slovakian Messer Tatrugas for seven years, was presented with the “Messer Driver Award” in 2023. This made him the safest of a total of 650 drivers who drive for Messer in 11 European countries. The evaluation was based on the “ECO Scorecard Report”. Its data, which includes all incidents during the journey, kilometers driven and the driver’s driving style, is automatically determined by an on-board system.

### Messer Tehnogas is “Best Performer”

Messer Tehnogas was awarded the internal logistics prize “Best Performer” in 2023. The Serbian logistics team, led by Dejan Markovic, achieved the best logistics KPIs in 2022. The award was presented by COO Virginia Esly and SVP Logistics, Sourcing & Filling Plants, Christoph Launer. The Messer Logistics Awards recognize the best logistics teams of the subsidiaries for their improvements and achievements.

### “Driver of the Year Program”

In 2023 drivers in Canada participated in a program that tracked performance in categories including safe and efficient driving, respect for the environment, and commitment to safety and productivity. In each region drivers with the best points-based performance were named regional champions.

These drivers were invited to participate in a final “Roadeo” event where they participated in driving as well as a pre-trip inspection test to earn the Gold Cup and the honor of being titled Driver of the Year. The program proved to be a promising approach, both to improve safety and to increase productivity, further reduce Messer Canada’s environmental footprint and drive a positive safety culture.



### “Roadeos” for driving safety

In 2022 Messer relaunched the “Roadeo” events in the USA when the company hosted regional Safety Roadeo Showdowns. All the regions that hosted these events gathered in Springville, Illinois for the 2023 national Safety Roadeo Showdown. The ten best drivers from the regions took part. They had to face ten challenging situations that typically occurred in the course of their day-to-day work. These included a maneuvering course, a safety quiz, a manual handling, emergency response and individual understanding of policies and procedures. The event also featured a safety demonstration in the form of a “magic” show that clearly illustrated the effects of liquid nitrogen and liquid oxygen. All participants, as well as those involved in the organization of the 2023 National Safety Roadeo Showdown, were enthusiastic about the nature and benefits of the event.

## Health

Messer advises its customers in the medical sector, supplies gases as medicinal products or medical devices, plans, assembles and maintains supply systems and offers medical accessories and consumables as part of a complete service package - in more than 20 countries.

Our activities in the pharmaceutical sector fulfill the relevant requirements at national, European and international level. This applies in particular to the requirements of European Good Manufacturing Practice (EU-GMP) and the specifications of the European Pharmacopoeia. As a medical device, our gases comply with the Medical Device Regulation (EU 2017 / 745), the previously applicable Medical Device Directives and the corresponding national laws.

We guarantee continuous product and delivery quality through internal audits, a standardized pharmacovigilance system and validated work processes and computer systems.

### More sustainability and improved occupational safety in the healthcare sector

Together with Medclair, a Swedish research and development company with expertise in nitrous oxide, Messer aims to reduce the environmental impact of medical gases while improving occupational safety for medical staff. Medclair has developed two systems for this purpose: one for parallel treatments in several rooms and one for occasional treatments in different rooms. Both systems capture the medical gas emitted during patient treatment,

break it down into its components, for example nitrogen and oxygen, and return these basic components of the atmosphere to the ambient air. The described decomposition of gases and gas mixtures not only prevents the release of pollutants into the environment - it also increases safety for medical staff: the concentration of gases in the air is already significantly reduced simply by using one of Medclair’s systems.

### Medical gases from Messer - an important brand in the healthcare sector

In 2023 Messer presented itself at five different medical congresses. In Krakow, Prague, Belgrade, Geneva and Athens, the focus was on the gas mixture Serynox® / Placynox®, which is used for sedation and analgesia. The climate-friendly administration of nitrous oxide through collection and decomposition was particularly emphasized.

At neonatal and adult medical conferences in Warsaw, Brussels and Geneva, Messer’s role as a solution provider in medical nitric oxide therapy was highlighted. In addition to supplying gases, Messer also provides the hardware, organizes service and maintenance and, if required, trains hospital staff in the use of the devices.



### Training through e-learning courses

Doctors and hospital staff must attend training courses at regular intervals in order to keep up with technological progress. To this end, they can either attend classroom training or e-learning courses and collect a certain number of necessary points over the course of a year. In order to train the widest possible audience in the safe handling of gases and a specific therapy, an audited e-learning course has been developed. This allows medical professionals to be trained on our applications, be made aware of new developments and collect points at the same time.

### “Marketing Authorization” obtained for lung function gases

In the context of increasing environmental pollution, the number of people with mild to severe lung diseases is also rising steadily. In order to detect this at an early stage and treat it, if necessary, lung function tests are carried out in specialized centers. This involves the use of lung function gases, for which Messer received approval as a medicinal product in 2023. They help to predict diseases reliably and accurately. It was also decided to approve further gases in this area, as there is a need and demand for different applications.

### Medical Sales Meeting

In 2023 the first Medical Sales Meeting was held in Germany, at which sales employees from all European national companies were trained on medical gases. The aim was to gain more confidence in dealing with doctors on medical topics. The newly acquired knowledge could be tested on medical devices on site. The best practice examples presented by the sales department were particularly impressive.

### Food Safety Meeting

In 2023 the Food Safety Officers from the European Messer companies met in Bad Soden, Germany, to deepen their knowledge and share best practice examples for the production of food gases. Meetings of this kind help to ensure the safety of our food gases and, as a result, the health of consumers.

### Serynox® / Placynox® Workshop

In 2023 the Serynox®/Placynox® workshop was held in Lyon, France. All national companies with a “Marketing Authorization” for the above-mentioned gases were invited to visit the production site in Saint-Georges, receive training on the safe use of the gas and learn marketing strategies for marketing the gases.

### Certification of argon 300 bar as a medical device

Argon 300 bar plays an indispensable role in the field of cryoablation in the treatment of cancer. Tumors that are difficult to access are localized and destroyed using a special therapy applied by a Messer key customer. Messer has obtained certification for this gas in Slovakia, which can be used to treat patients throughout Europe.

# Environmental and Climate Protection

As an energy-intensive company producing and trading industrial gases essential to life Messer has responsibilities and is committed to environmental and climate protection.

We monitor our own production and distribution processes to ensure the sustainable use of energy, try to mitigate climate risks and continue to identify decarbonization levers.

Air is a mixture of gases mainly composed of nitrogen (78%), oxygen (21%) and the inert gas argon (0.9%). The remaining 0.1% is made up mostly of carbon dioxide and the inert gases neon, helium, krypton, and xenon. A significant portion of our business is air gases. Air is typically separated into its components by means of distillation in air separation plants employing cryogenic rectification. This process is fully electrified, and our energy requirements are thus substantial. We carefully monitor and manage electricity consumption and sources for our production process. The decomposition of ambient air into its constituent parts does not produce any toxic or environmentally harmful emissions, even in the case

Messer in the USA



of a shutdown or disruption to operations. Our most significant greenhouse gas impact therefore comes from the electricity that we use (Scope 2).

Messer supplies its products, also known under our brand “Gases for Life”, to customers by means of on-site production at customers’ sites, by pipeline, in bulk form as cryogenic liquids, or in high-pressure gas cylinders and cylinder bundles (‘packaged’ products). The business mix by product, customer sector, and delivery mode varies by geography.

The delivery of bulk or packaged gases is done by trucks. We plan our deliveries to provide customers with reliable gas supply while optimizing fuel consumption and improving the efficiency of our logistics. This, in turn, minimizes resulting emissions. We are also considering the use of alternative fuels when and where these are permitted for the transportation of our products.

Packaged products are gases held under high pressure in gaseous or liquid form in steel cylinders. Such cylinders are generally provided on a rental basis to customers and recovered after use. After cleaning and inspection, gas cylinders are refilled and resupplied to customers. Both cylinders and cylinder bundles are thus reusable packages and contribute to a circular economy. Gas cylinders can remain in circulation for over 30 years. In addition, we take measures to reduce the carbon footprint of our filling plants, where cylinders and cylinder bundles are filled. For instance, some Messer subsidiaries are replacing traditional diesel or propane-powered forklifts with electric or hydrogen fuel cell forklifts.

## Greenhouse Gas Emissions

At Messer we strive to continuously improve our own processes to minimize our carbon footprint. We have set ourselves a target to reduce the emissions intensity of our worldwide activities (plants and logistics) by 40 percent by 2030 compared with a 2019 baseline (Scope 1 and Scope 2 using the market-based method). This ratio is expressed in kilograms of CO<sub>2</sub> equivalent (CO<sub>2</sub>e) per euro of EBITDA.

In 2023 we continued to make progress towards this goal and reduced the emissions intensity of our worldwide activities by 23.4 percent compared with 2022, reaching 3.7 kilograms of CO<sub>2</sub>e per euro of EBITDA. The decrease was driven by revenue growth and absolute emissions reductions in Asia and the Americas. Overall, since 2019, Messer has managed to cut its emissions intensity by 36.2 percent (2023 compared with the 2019 baseline).

Messer’s greenhouse gas (GHG) emissions are calculated according to the GHG Protocol and include direct emissions (Scope 1), indirect emissions from purchased energy (Scope 2) and other indirect emissions in the upstream and downstream value chain (Scope 3). These emissions are reported as CO<sub>2</sub> equivalents.

In 2023 the methodology for the calculation of GHG emissions remained the same as in 2022. We calculated our Scope 2 emissions using a dual approach, which includes the location-based method and the market-based method. When calculating our Scope 3 emissions, we focused on 6 of the 15 categories defined by the GHG Protocol, as in 2022.

In 2023 fiscal Messer’s absolute GHG emissions related to its worldwide production and logistics activities (Scope 1 and Scope 2 using the market-based method) amounted to 4.74 million metric tons of CO<sub>2</sub>e. This is 890,000 metric tons less than in the previous year, when the comparable figure was 5.63 million metric tons of CO<sub>2</sub>e. This decrease of 15.7 percent is mainly due to a decrease in electricity consumption and the improvement of emission factors for electricity.

### Scope 1

Scope 1 includes direct emissions generated in our production facilities and operations. This is in particular linked to the production of hydrogen, carbon dioxide and nitrous oxide. Further direct emissions arise in logistics from the combustion of fuel. In 2023 Scope 1 for Messer worldwide was 250 thousand metric tons of CO<sub>2</sub>e. It remained at a level comparable to that of 2022 when the figure was 248 thousand metric tons of CO<sub>2</sub>e. Fugitive emissions continued to be derived by considering a small percentage of total production lost during removal of CO<sub>2</sub> from its natural or chemical source.

Messer’s bulk and cylinder fleet in Asia, Europe and the Americas consumed 82.6 million liters of diesel in 2023 compared to 82.8 in 2022. Our fleet covered a total of 246.4 million kilometers in 2023 compared with 246.6 in 2022. Average diesel consumption remained stable at around 0.3 liters per kilometer traveled in 2023.



We show the development of the distance per metric ton (payload) of liquid industrial gases or cylinder gases delivered with an index value. In 2023 the index value for Messer worldwide was 102.05. In 2022 the index value was 101.0. The slight deterioration in the key figure is partly due to the fact that additional routes were necessary in 2023 to ensure a continuous supply of gases.

The production of hydrogen and nitrous oxide also contribute to our Scope 1 emissions. Messer produces nitrous oxide (N<sub>2</sub>O) in Croatia, the Czech Republic, Serbia, and China. This gas is used in the medical, electronics and food industries. Messer operates a total of ten hydrogen plants of its own, such as in Switzerland, China, and Vietnam. We do not take into account hydrogen plants located at our customers' sites ('on-site') when calculating our own carbon footprint. Gaseous hydrogen is used in many industries, for example, as a food additive in hydrogenation or fat hardening, in heat treatment, as an energy carrier or even as an emission-free fuel.

**Scope 2**

Indirect CO<sub>2</sub> emissions under Scope 2 relate to emissions caused by the generation of energy that we purchase, primarily electricity. Against the background of our decarbonization program and our goal to reduce GHG emissions, we calculate our emissions using both location-based and market-based factors in 2023 in accordance with the GHG Protocol. This dual reporting approach enables Messer to better track improvements related to local initiatives.

In the reporting year Messer's market-based Scope 2 emissions decreased by 16.5 percent from 5.38 million metric tons in 2022 to 4.49 million metric tons in 2023. This decrease of about 890,000 metric tons in 2023 is mainly due to the decrease in the electricity consumption by 1.6 percent and an overall improvement of emission factors in Asia and the Americas. In Asia, China especially contributed to this positive trend thanks to the introduction of power conversion factors at the provincial level in 2023, which could be used in the calculation. Messer plants in China are indeed almost all located in the most favorable provinces in terms of CO<sub>2</sub> intensity (Sichuan, Chongqing, Yunnan, Hunan, and Guangdong).

The emission factors of electricity purchased by Messer reflect a global trend towards more green electricity, which contributes to an increase in our share of renewable energy. As a result, our indirect CO<sub>2</sub> emissions under Scope 2, which account for more than 90 percent of our total emissions, will continue to decline, supporting our commitment to achieve our long-term goal of climate neutrality.

To further decrease our Scope 2 emissions, we design and build air separation units that ensure energy-efficient and cost-effective operations. If possible, we access renewable energy sources as part of our strategy to ensure the uninterrupted supply of energy to our plants. For example, Messer is building a state-of-the-art, large-scale air separation unit in McGregor, Texas, United States. This production plant for air gases will be operated substantially with energy from an on-site solar farm.

To optimize the electricity procurement flexible and favorable energy supply contracts with reliable suppliers as well as long-term framework agreements are used. In addition, the futures and spot markets are continuously monitored. Messer has dedicated teams in local markets to support and advise on electricity purchasing. These dedicated energy professionals regularly conduct reviews and compare electricity costs, considering the integration of renewable energy deliveries.

Our production facilities worldwide consumed 11.6 terawatt hours of electricity worldwide in 2023 compared with 11.8 terawatt hours in 2022 despite an increase in volumes.

**Scope 3**

The emissions included under Scope 3 are indirect emissions that do not relate to the purchase of electricity. We include the following categories, which are relevant to our activities in our upstream and downstream value chain according to best practices in our sector and the results of joint working groups organized by the industrial gas associations: the purchase of goods, services and capital goods, other energy consumption not included in Scopes 1 and 2, business travel, employee commuting, and the use of products sold.

Overall, the CO<sub>2</sub>e value for GHG emissions under Scope 3 in 2023 across the Group was 3.19 million metric tons. In the previous year, the comparable figure was 2.92 million metric tons. This rise of 9.3 percent is due to an increase in all categories apart from energy consumption that are not included in Scopes 1 and 2.



## Sustainable Energy Consumption

Messer is committed to using all resources in a sustainable manner, in particular energy. The specific energy consumption of Messer's own plants, including its air separation units (ASUs), is to be further reduced through better utilization of existing production plants and targeted projects that help increase their energy efficiency sustainably. To this end Messer strives to increase the energy efficiency of the air separation units and has set itself the target of reducing the specific energy consumption of its own ASUs by 0.7 percent per year. In addition, Messer is making a further, significant contribution to decarbonization and sustainable energy consumption through the increasing use of renewable energies.

Fluctuations in customer demand are often short-term and the corresponding adjustment of the ASU is complex: in addition to the compressor output, which is particularly important for energy consumption, a dozen or more other parameters must be adjusted so that the system runs smoothly and delivers the desired gas quality. Optimizing all of them every minute is hardly possible with manual control. The only practical solution is a software-based automated control system. To save energy and make even better use of it, Messer therefore implements specially adapted advanced control systems in its ASUs to adjust the production of gases to the actual demand of customers in real time, i.e., neither too little nor too much product is produced.

### Examples of measures to improve energy efficiency in production in 2023:

- Monitoring of energy consumption versus design to understand improvement opportunities.
- Replacement of outdated, inefficient equipment with modern technology.
- Installation of on-site equipment to avoid liquid deliveries by truck.
- Implementation of Aspen DMC advanced process control software at additional ASUs.

Among other metrics, we use an energy coefficient to measure the energy efficiency of our ASUs. This energy coefficient indicates how much electricity was consumed per metric ton of product compared to an assumed reference plant. In 2023 the corresponding value worldwide was 103.2 compared with 102.5 in the previous year. The energy coefficient in Asia decreased in 2023 due to three positive factors. Existing air separation units were operated in an optimal manner, while older, smaller, and less efficient ASUs were replaced by larger, more modern, and more efficient ones. Finally, the production capacity utilization rate in Asia was very high. In Eastern and Central Europe, the energy coefficient remained stable. However, in Western Europe and the Americas, product mix and demand influenced plant optimization, resulting in a degradation of the energy coefficient in 2023.

In addition, Messer significantly contributes to decarbonization and sustainable energy consumption through the use of renewable energies. The conclusion of Power Purchase Agreements (PPAs) is recommended in all countries where available. PPAs are mostly long-term electricity supply contracts between a renewable energy producer (usually solar or wind farm) and a buyer. Where possible, Messer also installs solar panels on its sites to produce its own renewable energy.

#### Examples of such initiatives:

##### **Germany: Messer signs a long-term solar Power Purchase Agreement (PPA) with Axpo**

At the end of 2023, Messer signed a long-term solar PPA with Axpo under which Axpo will act as an intermediary between Messer and the Südwerk Group, an operator of photovoltaic power plants in Germany. From January 1, 2024, Axpo will supply Messer's plants located in Siegen and Speyer, Germany, with solar electricity from two solar farms operated by Südwerk in Bavaria, in the southeast of Germany.

##### **Switzerland: ASCO expands solar energy production for its own use**

A total of 158 solar panels were installed at its Swiss location in Romanshorn, producing 60,000 kWh of power per year. The installation of the solar panels is the next step of reducing its own carbon footprint. ASCO now mostly uses renewable energy at all its Swiss locations and reduces fossil energy as best as possible. In a time when sustainability is a growing concern for companies worldwide, ASCO Carbon Dioxide Ltd. is committed to play its part in reducing environmental impact through decarbonization of hard-to-abate industries like power generation, cement, chemicals and many more. By promoting state-of-the-art Carbon Capture Utilization and Storage (CCUS) solutions, the company supports global efforts to reduce CO<sub>2</sub>. It goes hand in hand that ASCO actively strives to minimize its own ecological footprint through the implementation of eco-friendly initiatives like solar power and the optimization of production processes.

Sustainable energy consumption also means optimizing delivery routes to minimize fuel consumption and substituting fossil fuels by alternative fuels such as biofuels or electricity when and where these are permitted for the transportation of our products.

#### Examples of concrete actions:

##### **Choosing the best route for truck deliveries**

Messer uses software to plan and optimize delivery routes. This ensures that road tankers delivering gas in liquid form, or trucks delivering cylinders and cylinder bundles, follow the shortest possible route to the delivery point and distribute our products as efficiently as possible.

##### **Brazil: electric trucks for the transportation of gas cylinders**

In 2023 Messer in Brazil launched a nationwide project to transport gas cylinders using trucks that run on 100 percent electricity. The aim of switching from diesel to electric is to protect the environment and improve customer service. Replacing a diesel truck with an electric truck saves around 1.8 metric tons of CO<sub>2</sub> emissions per year. The project was designed at the end of 2022 and launched in August 2023. It took more than eight months of preparation before the electric trucks started rolling.

## Water Consumption

Messer's water consumption is mostly linked to the consumption of water to cool the compressors in its air separation plants. In 2023 the water consumption across the Group was 16.6 million cubic meters, which is 1 million cubic meters less than in fiscal year 2022. The decrease is linked to a drop in production in 2023.

Our main production processes, which are air separation, CO<sub>2</sub> purification, and liquefaction, do not require water within their current process control. However, a great deal of heat is generated primarily during the compression of gases, and in most plants this heat is dissipated via an open cooling water circuit. The cooling water absorbs heat from the respective sources and releases it into the atmosphere via an open cooling tower. In the process, some of the circulating water evaporates. Another part of the water is discharged to prevent thickening of non-soluble components. The evaporated or discharged water must be returned to the system as fresh water. This is the only direct water consumption in our production processes. The amount of fresh water supplied depends directly on the power consumption of a plant, which is around two to three cubic meters per hour per megawatt of electrical power.

## Environment Management Systems

Messer's commitment to the environment is reflected in the implementation of integrated environmental management systems, in particular for its production and filling plants. In 2023 84 production and filling plants were certified in accordance with the international standard ISO 14001, compared with 61 in 2022. In early 2022 Messer Americas started the process to investigate potential improvements to its Management System (MMS), including an evaluation to expand its Environmental Management program and incorporate it to the existing North American matrix ISO 9001 certification. This decision was made to better align with Messer customers in the Americas and to improve Messer's efficiency as audits for ISO 14001 could be integrated with our existing ISO 9001 audits. Between 2022 and 2023 Messer Americas took several significant steps for a successful transition and to achieve the ISO certification, such as gauging customer interest, conducting a gap analysis, reorganizing its Management System and the environmental structure and working with several locations in preparation for the first integrated audits. After successful audits at headquarters and several locations in 2023 Messer Americas was granted the ISO 14001 certification in October 2023 covering 52 locations in North America. A total of 59 sites are now certified ISO 14001 in the Americas, including the locations already certified in Colombia and Brazil. ISO 14001 is an internationally recognized standard that defines conditions to support organizations in establishing, implementing, maintaining, and continuously improving environmental management systems. It attests to the existence of an environmental risk assessment and mitigation plan, among other things.

## Non-Hazardous and Hazardous Waste

In 2023, the amount of waste generated by Messer in Asia and Europe was 18,383 metric tons, representing an increase of 4.8 percent compared with 2022. This included 18,038 metric tons of non-hazardous waste, of which 87.8 percent was recycled, and 345 metric tons of hazardous waste, of which 40.9 percent was recycled. We continued to implement initiatives across the group as part of Messer's environmental management systems in 2023 to minimize our impact and avoid air, soil, and water pollution.



# Customer Loyalty

Making our customers' products and processes as economical, efficient, and sustainable as possible is one of our most important goals and a key aspect of our commitment to customer loyalty. In 2023 we succeeded in increasing our customers' competitiveness and thus their economic success in a variety of ways.

Messer is continuously expanding its range of customer-oriented digital tools. These simplify routines, facilitate work processes, and provide targeted information. Examples of this are the e-services that Messer offers its customers. They range from ordering/reordering, stock management and invoicing to product or application-specific information and applications that can be used to handle feedback and technical questions. In addition, digital technologies are used to optimize customer care.

Messer in Bulgaria and North Macedonia



### **Demand-oriented and sustainable supply chains**

Messer offers customers with correspondingly large gas requirements storage tanks for rent that are equipped with level gauges and a SIM card. Once a day the current fill level is automatically transmitted to Messer via the mobile phone network. Logistics knows the customer's consumption profile from the filling level data, which can be evaluated to optimize supply. If the tank level falls below a minimum quantity defined by the customer, a subsequent delivery is automatically scheduled in the route planning system.

The route planning itself is optimized with the help of software. It ensures that the tanker truck travels to the various delivery points via the shortest route and with the most efficient distribution of the transported gas.

The gas supply is even more direct and fully automated via an on-site plant, from which the gases flow to customers via pipelines. There, production follows the actual purchase volume virtually every minute; transportation by truck and the associated emissions are completely eliminated.

### **MegaPack D - Digital communication for automatic replenishment**

Messer is the first major industrial gas company to expand its range of services for its customers with a digital cylinder bundle, thus offering even greater supply reliability: with the new MegaPack D series, gas bundles can be integrated into Industry 4.0 applications.

Messer's customers benefit from the electronic recording of their gas consumption by being able to monitor their requirements more effectively and plan ahead, also in terms of costs. This eliminates the need to manually monitor the fill level of the bundles.

A pressure transmitter records the fill level, and a data transmission module reports it to the responsible authority. Depending on the type of service contract follow-up actions are triggered - up to and including the complete takeover of automated replenishment by Messer.

MegaPack D communicates independently of any customer infrastructure such as WLAN or gateways and includes all bundles located at the customer's premises, regardless of whether they are in use or not.

## Satisfaction of our Customers

The satisfaction of our customers is a fundamental indicator of our success. That is why Messer continuously monitors the level of satisfaction and asks about individual needs. We use the results to derive improvements to our products, processes, and services. In this way, we strengthen the performance of our customers - and thus also their satisfaction and loyalty.

### Customer satisfaction surveys

We measure the satisfaction of our customers through systematic surveys and integrate the results into our management processes.

Customer satisfaction surveys were conducted in Asia and Europe in 2023. In Asia customer satisfaction was surveyed in one operating company in Vietnam and across fourteen operating companies in China, including those with a focus on specialty gases. In Europe it was conducted in five countries and included a customer satisfaction survey for gas centers. The survey was translated into local language as well to make it more user-friendly. Overall, 1,312 questionnaires were successfully submitted. The measurement of customer satisfaction (Customer SATisfaction = CSAT) accounted for 30 percent of the total, while the remaining 70 percent was distributed across 21 services provided by Messer in the following areas: sales support, logistics, technical service, back office, and SHEQ management. Complaint management was handled separately. In addition, the Net Promoter Score (NPS), which was introduced in 2020, has gradually been used by all operating companies. This

makes it possible to compare loyalty and satisfaction measurements with those of peers or other companies. Suggestions from customers were actively sought to identify reasons for dissatisfaction in a particular area, gather specific requests for improvement and obtain additional information on how Messer can better support them. In 2023 the combined CSAT and NPS scores in Asia and Europe saw improvements, with the overall CSAT reaching 94.2 percent and NPS achieving 70.4 percent.

Continuous improvement is at the heart of what we do. In 2023 we implemented measures to further improve how we collect feedback from customers. The Messer companies in China and Vietnam that conducted surveys began to follow the Group’s guidelines and use the standardized survey. They will continue to do so in the future. In Europe Messer implemented a new tool for customer satisfaction surveys. The user-friendly interface and comprehensive features will help to streamline the process while improving customer experience.

In the Americas, customer satisfaction surveys are conducted every two years, most recently in 2022. The next survey is scheduled to take place starting in September 2024.

## Products and Applications for Decarbonization

In order to drive forward the decarbonization of industry and mobility, Messer attaches great importance to the recovery, use, and storage of CO<sub>2</sub>, applications with clean hydrogen and efficient high-temperature processes.

While carbon dioxide is essential for life and industry, excessive CO<sub>2</sub> emissions caused by human activity are considered to be the main cause of climate change. This is why Messer founded ZeCarb. ZeCarb stands for “Zero Carbon”. ZeCarb’s services help to counteract climate change: industries that are difficult to decarbonize are supported in capturing, storing and / or recycling carbon dioxide by means of “Carbon Capture as a Service” (CCaaS; CO<sub>2</sub> recovery as a service). ZeCarb utilizes Messer’s decades of experience in CO<sub>2</sub> recovery and has a global partner network to capture various CO<sub>2</sub> sources and capacities worldwide.

Hydrogen is considered a key factor in the decarbonization of industry and mobility. Messer is focusing on selected segments in order to be able to respond more specifically to the associated requirements. These are the “H<sub>2</sub> One-Stop Shop”, a holistic service for the operation of bus fleets, the “H<sub>2</sub> Refueling Solution”, which bundles experience, expertise and safety in hydrogen supply and refueling, and the “H<sub>2</sub> On Site Concept”, which includes cost-optimized solutions for the on-site production of clean hydrogen including the optimal use / marketing of all by-products. Safety is

crucial for the use of hydrogen on a large scale. As an industrial gas specialist Messer has many years of experience with hydrogen - from quality assurance to filling technology and logistics, right through to application.

Many different types of furnaces are used in heating, melting, refining, cleaning, and calcining processes. They are used for the production of non-ferrous and ferrous metals, glass, ceramics, mineral materials and many other purposes. In these furnaces it often makes sense to inject oxygen or other gases or to use oxyfuel combustion, which increases process efficiency and thus reduces CO<sub>2</sub> emissions. Messer offers tailor-made oxyfuel burner technology with a low Nox content and high output for this purpose. With two device families for injection and combustion processes and systems, a wide range of applications can be covered. The strengths of the Oxipyr and Oxijet technologies are high capacity, low downtime, low emissions, and flexible adaptation to various existing processes.

**Investment in CO<sub>2</sub> recovery technology**

Messer invested in a CO<sub>2</sub> recovery plant in Austria in 2023, which will use an innovative technology from BASF to recover CO<sub>2</sub> from flue gas. With the help of recovery and purification processes, Messer aims to make the gas available for reuse and thus increase the security of supply for companies in western Austria, South Tyrol, eastern Switzerland, and Bavaria. In future these companies will be supplied with liquid CO<sub>2</sub> by tanker over shorter distances.

CO<sub>2</sub> is a sought-after raw material in the food industry, which was previously often obtained as a by-product from ammonia production for this use. The combination of Messer’s own expertise in plant and equipment construction with BASF’s technology will enable Messer to build and operate energy-efficient and economical CO recovery plants.

**HyCut - fuel gas without CO<sub>2</sub>**

With HyCut, Messer is the first gas supplier to launch hydrogen on the market as a CO<sub>2</sub> -neutral fuel gas for oxyfuel technology. The use of HyCut is the result of joint development work with Messer Cutting Systems.

HyCut gases not only avoid any CO<sub>2</sub> emissions, but also significantly reduce the emission of nitrogen oxides and dust and lower the noise level. Compared to conventional oxyfuel technology, HyCut therefore significantly improves health protection in the workplace. Hydrogen requires less oxygen for complete combustion than traditional fuel gases. Together with the high output this can help to reduce costs. Special torches and nozzles have been developed to make optimum use of HyCut. The gas can be supplied in individual cylinders, bundles or by trailer. In addition to flame cutting, it is also very suitable for heating and straightening, soldering and flame spraying.

**Hydrogen for emission-free racing series**

The eTouring Car World Cup is a racing series for electrically powered vehicles that takes place on existing racetracks. These circuits were built for cars with combustion engines and generally do not have fast-charging stations. So, the teams have to rely on other energy sources. These could be diesel generators, but this does not fit in with the ecological approach of the racing series. Instead, generators are used that produce electricity from hydrogen with the help of fuel cells. At the Hungaroring racetrack in Hungary, it was supplied by Messer for the Hyundai, Alfa Romeo and Cupra racing teams.

**Support with H<sub>2</sub> bus development**

Messer supported the Slovakian start-up company Mobility & Innovation Production (M&IP) in the development of a hydrogen-powered city bus. The vehicle is a modified version of an electric bus also manufactured by M&IP. The batteries were largely replaced by hydrogen tanks and a fuel cell that generates the electricity to power the engine. Messer supplied M&IP with the hydrogen for testing the components and helped to flush the hydrogen lines.

**Hydrogen for the first public H<sub>2</sub> filling station**

The first public hydrogen filling station in the Czech Republic is located in Ostrava. It is operated by Vítkovice, a real estate developer and utility service provider. The filling station consists of a high-pressure tank, a compressor, and a dispensing system. The hydrogen required comes from Messer. The facility is currently



designed to refuel up to ten hydrogen-powered vehicles per day. Thanks to its modular design, it can easily be expanded to refuel up to 40 vehicles a day if demand increases.

### **HYmpulsion filling stations launch with H<sub>2</sub> from Messer**

In 2023 Messer supported the commissioning of HYmpulsion, a network of filling stations for clean hydrogen in the Auvergne-Rhône-Alpes region. As part of the “Zero Emission Valley” project, HYmpulsion is responsible for the design, dimensioning, installation, and operation of the hydrogen infrastructure. This project, the first of its kind in France, aims to accelerate the use of clean mobility. As a partner Messer contributed its hydrogen expertise and ensured that the stations were reliably supplied with hydrogen during the start-up phase. Later it is to be produced directly on site.

## **Products and Applications for Industrial Production**

### **Competence in powder metallurgy**

Messer presented its gas solutions for all production processes in powder metallurgy for the first time at the “China International Powder Metallurgy and Cemented Carbide Exhibition”. Various products and processes within powder metallurgy, such as aerosol powder, sintering, heat treatment, hot isostatic sintering and steam treatment, require industrial gases. The type, quality, and application of the gases have a major influence on the quality of the powder metallurgy process and the end product. Messer has developed customized products and technical solutions for these processes. These include Neutrotherm® and Hydrotherm®, patented technologies that help to increase the productivity of the sintering process while improving product quality and application safety.

### **Nitrogen for purely cryogenic recycling process**

The specialty chemicals manufacturer Evonik requires methyl chloride (CH<sub>3</sub>Cl) for the production of surfactants, the main ingredient in most cleaning agents. However, the methyl chloride does not react completely with the other ingredients. Excess methyl chloride must be removed from the product and is vaporized for this purpose. The vapor is passed through a nitrogen-cooled heat exchanger, which is part of a heat transfer circuit. In order to also recover the non-condensed quantities Evonik uses an additional

freezing stage instead of an adsorber, which also obtains its cooling from the nitrogen. These purely cryogenic processes for methyl chloride condensation are particularly economical because the liquid nitrogen that provides the cooling can be reused as a gas in the nitrogen supply network at the respective site after evaporation. The nitrogen that Messer supplies is therefore used for cooling and inerting.

### **Nitrogen for combination of heat exchanger and adsorber**

Nobian, a European market leader in the production of salt, basic chemicals, and energy, produces methyl chloride at Industriepark Höchst in Frankfurt, Germany. From there the liquefied methyl chloride is transported to customers via trailers and tank wagons. Nitrogen is injected into the tankers to speed up the unloading process into the customers’ storage tanks. After unloading the trailers or tank wagons are returned to Nobian with a residual mixture of the two gases. Before they can be refilled, this mixture must be removed. This is where cryogenic liquid nitrogen from Messer comes into play: the exhaust gas is passed through a heat exchanger. This cools the exhaust gas precisely using liquid nitrogen in a special condenser. Most of the methyl chloride condenses and can be reused immediately. A molecular sieve adsorbs the remaining portion. Nitrogen is also required to operate the adsorber. This process combination was specially developed for Nobian to ensure continuous compliance with legal limits and to prevent the release of methyl chloride into the ambient air.

### Cold grinding expertise presented at Powtech

Messer used the Powtech trade fair, which took place in Nuremberg, Germany, in September 2023 to present solutions for cryogenic grinding, composite separation, and the production of powders for 3D printing. Information was provided on the use of liquid nitrogen and carbon dioxide for cold grinding as well as cryogenic systems for product and mill cooling.

### New ASU at the McGregor site with “green” energy supply

A new air separation unit (ASU), construction of which began in January 2023 in McGregor, Texas, USA, can be considered a showcase model when it comes to Messer’s commitment to environmental sustainability. This is because the new ASU is powered by a renewable energy source at the site - and is therefore explicitly intended to appeal to companies looking for sustainable solutions for their business. The integration of the McGregor site into Messer’s ASU network will also further increase the security of supply for customers in the region.

## Products and Applications for Welding and Cutting

### Increasing process reliability in laser cutting

The trend towards higher laser power in laser cutting has an impact on the entire process. For example, the higher energy density can lead to particles being burnt onto the surface of the cutting optics. Nitrogen, an inert cutting gas, protects the cutting surfaces of modern high-performance machines from oxidation. In addition, a particle filter installed as close as possible to the cutting head can provide effective protection and remove harmful impurities from the gas. Messer works with proven suppliers to find optimum solutions for all aspects of laser cutting - including Messer Cutting Systems, for example.

### Cutting and welding gases for fitness equipment

The Hungarian company BeStrong not only manufactures fitness equipment, but it also designs and builds entire outdoor fitness parks. When manufacturing the metal components for its equipment, the fitness specialist from Debrecen in Hungary attaches great importance to quality. Messer supplies the company with the necessary gases - nitrogen and oxygen for laser cutting and Ferroline C8 for MAG welding.

### Welding gases for equipping workshop trolleys

Sortimo Walter Rüegg AG from Switzerland specializes in the individual outfitting of workshop vehicles. Sortimo completely equips up to 150 such service vehicles per week. The Aluline He15N and Ferroline C18 mixtures as well as argon and liquid nitrogen from Messer are used for welding to produce the dimensionally accurate installation systems.

## Products and Applications for Food

### “Coca-Cola Best Quality of the Year 2023” award

In December 2023 Sichuan Messer Gas Products Co., Ltd. received a great honor at the “Coca-Cola Sichuan Supplier Conference”: the company was awarded the “2023 Best Quality Award”. This award is a high recognition of Sichuan Messer’s high-quality gas products and stable, efficient services. As a leading supplier of industrial gases in China Sichuan Messer consistently focuses on the needs of its customers, strictly controls the quality of its own products, and finds ways to constantly improve the level of service.

## Interaction with our Customers

Our information offerings and the opportunities for collaboration with our customers are diverse. Communication and information offerings, as well as increased trade fair appearances following the end of the Covid-19 pandemic, play a major role in this.

In Asia Messer used trade fairs of international importance in China to present its gases and application technologies.

The following examples include leading international trade fairs and events with high regional significance that took place in China.

### “PM China”, Shanghai

Messer presented its technologies in China for the first time at “PM China” (Powder Metallurgy China), the world’s most important trade fair for the powder metallurgy industry.

### “Seafood Shanghai”, Shanghai

Another premiere for Messer in China was its participation in the “Seafood Shanghai” trade fair. This is one of the most important trade fairs for ready-to-cook foods and the fishing industry in China.

### "Fishing Expo" Shanghai

Based on Messer’s global brand "Gourmet®" for food gases, "Meixinbao®" offers the corresponding solutions for the Chinese market. These include products such as nitrogen, carbon dioxide, oxygen, nitrous oxide (laughing gas), hydrogen and argon. The

"Fishing Expo" trade fair, which took place in August 2023, provided an excellent opportunity to present the "Meixinbao®" brand to the target group. Messer was represented there for the first time.

In Europe, numerous national companies presented their products, applications, and services at over 30 trade fairs. Ten of these focused on food, six on medicine and four on welding and cutting. Messer’s other trade fair appearances focused on automotive, additive manufacturing, engineering, industry, logistics, metallurgy, and water treatment.

The following examples include leading international trade fairs and events of high regional importance that took place in Europe.

### "Tech Industry", Latvia

Tech Industry” is the largest trade fair for mechanical engineering, metalworking, automation, electronics, and new technologies in the Baltic States and brings together more than 250 companies from at least 18 countries every year. Elme Messer Gaas took the opportunity to present gases and gas applications.

### “KOMOT”, Slovenia

In February 2023 Messer took part in “KOMOT” in Slovenia, a trade fair for the demonstration of industrial solutions and innovations in the fields of municipal services, drinking water supply, wastewater treatment and waste management. “KOMOT” promotes the cross-organizational transfer of knowledge and experience, showcasing new concepts, methods, technologies, and tools in the industrial environment as well as real-life projects.

### “Automotiv Hungary”, Hungary

This international trade fair for the automotive supplier industry is a unique forum for all domestic and foreign suppliers and service providers in the automotive sector. Messer was represented as a co-exhibitor on the stand of the Hungarian Hydrogen Technology Association and presented its expertise in hydrogen technology to the specialist audience.

### “Food Business Days”, Hungary

Messer appeared at the most important domestic event for the food trade together with Kärcher, a global supplier of cleaning technology, and presented Messer’s own Siber technology for dry ice refrigerated transport and cleaning applications with dry ice.

### “European trade fair of Pediatric Anesthesiology”, Czech Republic

At the European Congress for Pediatric Anesthesiology, Messer Technogas focused on the presentation of the new product Serynox®.

### “MSV - International Engineering Fair”, Czech Republic

MSV is one of the most important industrial trade fairs in Central Europe. The majority of the visitors are professionals. Almost 80 percent of them have an influence on corporate investments, and a third belong to the top management of their companies. Messer Technogas presented itself at this trade fair at a joint stand with Messer Cutting Systems from Slovakia.



**“Steel Construction Day”, Austria**

This meeting of the steel construction industry offered lectures from the fields of technology, sustainability, business, and steel construction research as well as presentations of outstanding steel construction projects. The event was accompanied by a trade exhibition. Twenty-nine companies presented their products and services to the conference participants.

**“Salon du Brasseur”, France**

The “Salon du Brasseur” is France’s leading trade fair for professional and amateur brewers. It was launched over 20 years ago in Saint-Nicolas-de-Port and has established itself as the flagship event for the 1,300 French brewers and associated suppliers of raw materials and equipment.

**“CFIA”, France**

At this trade fair, which is one of the most important in the European agricultural and food industry, around 1,700 exhibitors presented the latest trends and innovations relating to ingredients & principal adverse effects (PAI), equipment and processes as well as packaging.

**“MetalMadrid”, Spain**

As part of “Advanced Manufacturing Madrid”, this trade fair is regarded throughout the country as the leading event in the field of metal manufacturing, machining, and processing. Messer presented gases and gas applications.

**“National Congress of Hospital Engineering”, Spain**

Messer Ibérica took part in this event for the seventh time. In 2023 the theme was “Blue economy: sustainability in the healthcare sector”. This congress brings together the key players in the sector at a national level.

In the Americas region trade fair appearances focusing on food and environmental protection should be highlighted for 2023.

**“Seafood Expo”, Boston**

At Seafood Expo 2023 in Boston, Massachusetts, Messer presented technologies that help the fish farming and processing industry “swim upstream” with greater throughput, less effort, and a safer cryogenic supply. Messer’s team of experts supports the seafood industry in delivering its high-quality products safely from fish farm to freezer. This is done by using the latest technologies for individually quick-frozen products (IQF) and oxygen supply systems, which increase production by up to 20 to 50 percent. The “Messer Wave Impingement Freezer”, the range of spiral freezers, nitrogen mixing refrigeration systems and FARMOX oxygen feed solutions were presented at the Seafood Expo.

**“International Production & Processing Expo”, Atlanta**

At the International Production and Processing Expo (IPPE) 2023 in Atlanta, Georgia, Messer used an augmented reality application that enabled trade visitors to discover our portfolio of freezing application technologies.

Messer also celebrated the 100th installation of our Nitrogen Bottom Injection Cooling System, demonstrating that we are developing differentiated technologies that support temperature control at every step of the customer process.

**“Sustainability Summit”**

In July 2023 Messer’s ESG team took part in the “Sustainability Summit”. The theme of the summit, organized by The Conference Board, was “Succeeding in the Global Energy Transition”. The event brought together company executives and other business professionals to learn about new products and services, discover innovative ways of operating and find better ways to communicate with employees, investors, and customers.

As a representative of Messer, Patricia Hargil, Vice President Performance Transformation, took part in a panel discussion and also moderated a round table discussion.

The summit was an excellent opportunity for Messer in America to keep its finger on the pulse of market developments, discuss ESG issues and promote the continuous improvement of its own sustainability program.





# Social Commitment

Messer sees itself as part of society and has made social commitment an integral part of its corporate activities since its foundation.

The international Messer team acts in a helpful and socially committed manner. What makes Messer so special is that we look at the needs in our neighborhood and support local aid projects. A total of 191 Messer locations worldwide were involved in 2023 in the form of monetary and material donations, social events and for social institutes. Our teams supported a total of 382 social projects. In 2022, the figure was 298.

In this report, we look at individual campaigns.

*Messer in Spain and Portugal*



### MesserAid relief fund

Messer employees around the world share in the suffering of people affected by war and displacement, especially in Ukraine. Therefore, Messer set up the international internal aid fund “MesserAid” in 2022 for private donations from employees, the management and Supervisory Board as well as people associated with Messer and will continue to do so in 2023. The company doubles the amount when 40,000 euros in private donations are received. In total, almost 120,000 euros were donated, of which around 100,000 were paid out until now. The money donated from the relief fund will benefit our employees in Ukraine and their families, as well as other people affected by the war. Part of the donation will be used to help our employees rebuild and resume their lives in the country after the war hopefully ends soon.

Our employees in Kharkiv, Ukraine, have started to rebuild or repair their apartments and houses despite the ongoing war - thanks to everyone who supports our MesserAid fund.

## Commitment of Education, Training or Science

In Thailand, Messer presented a donation program aimed at strengthening education for children. “Gases for Children” is a simple but effective model in which 1 baht was donated for every gas cylinder sold throughout 2023. Messer has used it to support the construction of a school building for young children at the Ban Khok Kung School in the Na Pho district of Buriram Province, for example. Messer has as well donated sports equipment and food for the children at the Ban Khok Kung school.

In 2023 in Spain, Messer continued the collaboration with the Rovira I Virgili University in Tarragona close to the company’s main production sites. One of the lines of cooperation consists of the “Messer Award” to undergraduate students of chemical engineering and food bioprocesses for the best integrated project for which students of both careers compete in teams. We also present an annual award to the MBA student with the best record. Another specific activity to attract and select talent is the Work Experience award for chemical engineering master’s degree students. The company finances the master’s degree enrollment of the winning student, who has the possibility to do the internship and master’s thesis in the work environment. Messer has also sponsored the URVoltage Racing team project that has participated in the Moto-Student 2023, a race in which universities from all over the world participate. The students designed and built an electric motorcycle to compete in the race.

In 2023 Messer in the Czech Republic focused on the education, research, and science of young talents in the field of chemistry by supporting the event, “Chemistry at Silesian Ostrava Castle 2023”, where participants could see interesting facts from the field of chemistry, physics, mathematics, and technics. Messer also sponsored the conference of the University of Chemical Technology in Prague, which supported students in research activities. Messer was as well an official partner of “The Evening with Czech Chemistry”, which included the presentation of numerous awards and expressions of appreciation in the field of chemistry.

In Bulgaria, Messer supported the 4th edition of the “Science Me Up” competition for middle school students organized by the Uni4Kids research center for young scientists and the University of Sofia “St. Kilment Ohridski”. The aim of the competition is to encourage the research interest of 5th to 7th grade students in four scientific fields - mathematics, physics, chemistry, and biology. Under the guidance of academic teachers, the finalists carried out practical application tasks, solved scientific problems and worked on experimental equipment in the fields of mathematics and computer science, chemistry, and pharmacy as well as physics and biology. Uni4Kids is a social initiative of teachers, academia, and businesses with the aim of inspiring students of all ages to discover and develop their talents in various fields of science, arts and crafts.

Primary school children visited Messer in Hungary as part of an annual theme day. Spectacular experiments allowed the little ones to familiarize themselves with gases and their various states in a playful way for the first time. They crushed flowers frozen with nitrogen



using a hammer, and they were able to see how dry ice “steams” in warm water. In the plant and laboratory, they learned, among other things, how important it is to check cylinders that have already been filled. Also in Krefeld, Germany, children visited the Technical Center for a career exploration day and learned about the professional fields of media, engineering, production, application technology and logistics.

Science students from Könyves Kálmán High School in Újpest, Hungary, also learned about the many different uses of gases at Messer in Hungary. Topics included the extraction of oxygen, nitrogen, and noble gases from the air as well as the operation of a filling plant, the labeling of gas cylinders and all the special features of industrial gas production. Following last year’s success, BSc students from the ELTE Environmental Science Center, who chose Messer in Hungary as part of the “Chemical Technology, plant visit” course, visited us again this year. During the tour of the air separation plant, the students were able to get to know the technology of cryogenic air separation in practice. They then viewed the operation of the cylinder filling plant and dry ice production. Finally, our colleagues in the gas analysis laboratory presented the processes and our analysis equipment. They also gave practical tips on the calibration of gases and gas mixtures and the safe handling of gases in a laboratory environment.

As part of its commitment to social responsibility Messer in Serbia provided support to the non-governmental organization 'Životna Pomoć' from Vranje with the amount of 30,000 euros. The donation was facilitated through the German organization 'Help' and is intended to purchase the equipment for initiatives in the field

of bakery and agriculture for unemployed women from socially vulnerable families. These women are often single mothers and victims of domestic violence, empowering them to become financially independent and self-reliant. The donation to the Association 'Životna Pomoć' is more than a financial contribution for us; it is an investment in the future of many women and families striving to overcome challenging life circumstances. Economic empowerment and independence not only transform their lives but also have an impact on the entire community. Messer in Serbia also donated €5,000 for students of Mathematical Gymnasium in Belgrade for traveling abroad to take a part in mathematics, physics, and informatics competitions.

## Commitment against Poverty and for Social Justice

Xianggang Messer in Hunan, China, is a well-known company in the region. While expanding its market, Xianggang Messer has not forgotten to take care of the needs of the community and has continuously participated in social activities. In 2023, Xianggang Messer launched the “Help for the People with disabilities” campaign with the help of a local charity institute. Ten people with disabilities and financial difficulties were selected and will receive long-term support from Xianggang Messer in their daily lives by providing them with vehicles, accompanying them to the doctor,

helping them to buy essential items online and offline, regularly supplying them with daily necessities such as rice, flour, and oil, or accompanying them to parks and exhibitions.

Messer is supporting a project in Spain to raise awareness of diversity. Messer has been involved in an innovative educational project developed by two special education centers in Tarragona and the GamLab cooperative, which aims to explain the everyday lives of people with disabilities to primary school pupils in an original and encouraging way. For this reason, several learning boxes on different skills have been created, containing materials and challenges so that students can work on these topics in a competent, collaborative, and fun way. The boxes were initially distributed to elementary schools in the neighborhood of the Estela and La Muntanyeta special education centers. Thanks to the commitment of the social and health foundation Xarxa Santa Tecla and Messer, this material is free of charge for all participating schools.

Furthermore, at the end of 2023, Messer in Spain has made financial donations to two local charities to help some of the neediest people in the area. The company has collaborated with the Bonanit Foundation in Tarragona, which cares for the homeless, and with the soup kitchen run by the Joventut i Vida Association in the Bonavista neighborhood of Tarragona.

Messer has donated money to the DRK Children’s Hospital in Siegen, Germany. This will be used to build a new sports field for the children and adolescent psychiatry department (KJP), which will include a multifunctional court with basketball hoops, a soccer pitch, and a tartan track.

Within a charitable team building, the Volunteer Team from Messer in Budapest, Hungary painted a social home for homeless families in the neighborhood of the head office, thus creating a more livable home for families in need. In addition to the volunteering, Messer in Hungary also provided financial help to the foundation home.

Messer supported the Czech Open 2023 para table tennis tournament in the city of Ostrava in the Czech Republic. It was the 17th Czech Open of the international table tennis tournament for athletes with physical and mental disabilities. A total of 285 disabled table tennis players from 29 countries took part. Thanks to Messer Aid, our company was able to financially support the Ukrainian team's participation in this extraordinary event. This event is one of the world-class tournaments of its kind.

In 2023, Messer in the Czech Republic made a total of 11 financial donations either directly to individuals in difficult situations (e. g., to purchase a wheelchair for a little girl or to pay the rent for a person in a wheelchair after a serious car accident) or to charities dealing with people in need in the Czech Republic and abroad, for example, or to support disabled artists drawing with their mouths or feet. Most of these financial donations were directed to areas where our company is active.

Messer in Serbia donated a nitric oxide (NO) inhalation therapy device to the University Children Hospital in Belgrade. The device was donated to the Cardio Surgery Department, including all necessary connecting parts and consumables for one year of use, for direct installation on compatible respirators. Messer also donated two refrigerators for storing pharmaceutical and diagnostic products to the Serbian Gynecology Clinic "Narodni front". Messer also purchased 35 baby cribs for the maternity hospital of the University Clinical Centre of Serbia.

Messer sites in the US came together to spread joy to children through their collection initiative with the Marine Corps Toys for Tots. Our colleagues rallied together to donate hundreds of toys to help ensure that local children experienced the magic of the holiday season. At the Bridgewater, New Jersey American headquarters toys collected as part of the toy drive were presented to a member of the US Marines at the end-of-year holiday luncheon. Messer Americas President and CEO and Member of the Executive Management Board Elena Skvortsova presented the toys and a monetary donation on behalf of the company to the representative from the Marine Corps Toys for Tots program.

In the US, employees from the Bridgewater corporate office also came together in true Messer spirit to make a positive impact on the lives of at-risk youth at a local youth shelter. The home, which helps abused, neglected and homeless youth and serves as a refuge for this vulnerable population, is facing increasing challenges to meet the needs of its residents due to limited resources and a growing demand for its services. The Corporate Communications team launched a collection campaign as part of the company's 125 Year celebration. Employees were given a wish list of the items they wanted most and donated an impressive number of items, including hygiene products, school supplies, recreational items and household products. The response was more than impressive with over 1,000 items donated, underlining our commitment to making a positive impact on the local community.

One of the key pillars of the community relations framework in the US is addressing food insecurity. With a significant part of our business serving the food and beverage industry, we are committed to addressing food insecurities in the communities where we live and work. Employees at the Bridgewater office donated canned goods to the local Somerset County Food Bank in New Jersey. Messer hosted a "SOUPer Bowl" food drive, collecting canned goods to support the local Somerset County Food Bank. The food bank assists local residents and helps feed and care for those in need until they can provide for themselves. Messer delivered over 160 pounds of canned goods including beans, fruit, meat and more to benefit the local community. Employees at the National Operating Center in Stewartsville, New Jersey, also helped people in their local community by hosting the "Let's Take a Bite Out of Hunger"



food drive for the River of Life Food Pantry, an organization that has been serving the community for more than 20 years. Over a three-week period, the team collected 40 bags of non-perishable food, personal hygiene items and pet food.

Messer Canada employees at branches and plants across Canada donated non-perishable food items to various charitable organizations throughout the country. Messer Canada matched the value of the donations by presenting a corresponding check to the Breakfast Club of Canada, Messer Canada's charity of choice. Throughout 2023, the team held multiple fundraisers to benefit the Breakfast Club and proudly donated a higher sum to the charity whose programs ensure that all students have reliable access to nutritious food to positively impact health and learning.

In Colombia an earthquake and its aftershocks caused widespread damage and destruction on August 17, 2023, including a landslide that closed the main road between Bogota and the city of Villavicencio. Villavicencio is located in central Colombia, about 45 miles from Bogota, and is the main commercial center in the Llanos Orientales region with a population of about 532,000. The road closure is much more than just an inconvenience, as it has disrupted the road that supplies medical oxygen to regional hospitals. The local authorities, together with the Red Cross, responded to the situation by quickly organizing and leading a humanitarian caravan to bring the necessary supplies to the affected region via alternative routes.

Messer Colombia was able to supply clinics and hospitals with vital oxygen supplies while the main road was cleared. The rapid support is largely thanks to the dedication of Messer's logistics teams, who worked tirelessly for the whole weekend, Messer's drivers and the specially equipped trucks, which were prepared for the challenges of the alternative routes.

On two separate occasions Messer Americas employees participated in the Build-A-Bike® program to assemble and donate bikes to children in need. In Colombia, for the annual sales meeting Messer employees gathered 12 assembled bicycles for children and collected private donations from employees to purchase protective bicycle helmets for the children. Later in the year the US Bulk Sales Team's Annual Meeting, attendees participated in a similar event. The team built a total of 16 bikes for donation to students who attend New York Avenue School in Atlantic City, NJ. The activity provided an opportunity to network with colleagues, collaborate for a good cause and embrace Messer's sustainability values. The best part of the activity was watching the students walk through the row of blue and red bicycles to select the one they wanted. The children were very happy, and their parents were also very appreciative.

## The Foundations

On April 6, 1978, Dr. Hans Messer and his family established a private charitable foundation, today's Dr. Hans Messer Foundation. The independent foundation is a shareholder of the Messer Group and promotes education, science, and research throughout Germany.

In 2004, Ria Messer established a second charitable foundation in the area of social and healthcare in memory of her husband Dr. Hans Messer, today's Ria Messer Foundation.

Both charitable foundations operate independently of Messer.

### Dr. Hans Messer Foundation

The task of every foundation should be to support projects and ideas that are not at all considered or not sufficiently considered within the framework of basic state provision. The Dr. Hans Messer Foundation also pursues this idea by promoting and honoring scientists who have drawn attention to themselves through special or outstanding achievements, awarding scholarships, sponsorship prizes and supporting scientific and educational institutions.

The Dr. Hans Messer Foundation is active in both a promotional and operational capacity. It is a non-profit foundation with legal capacity under private law and makes a continuous contribution in a variety of ways to the promotion of science and research, as well as to the promotion of education in schools and at work.

These tasks are becoming increasingly important in today's world, as it is not often possible for the state to provide sufficient funding. In this way, the thirst for education, innovative strength, scientific curiosity and pioneering spirit are rewarded.

The purpose of the Dr. Hans Messer Foundation is the driving force behind education and science. In accordance with its statutes, the Dr. Hans Messer Foundation supports science and research, education and vocational training as well as student aid. To date, a total of more than 20 million euros have been spent on foundation purposes.

The focus of the foundation's work is determined by the Board of Trustees of the Dr. Hans Messer Foundation, which aims to set a certain direction. However, the priorities may change or only apply for a certain period of time. At present, the focus of funding for science and research is mainly in the STEM fields, i. e., mathematics, information technology, natural sciences and technology. The field of medicine is also regularly supported. The Dr. Hans Messer Foundation awards a range of different scholarships to school pupils, students, doctoral candidates and professionals. Special scholarship programs are also set up.

### Ria Messer Foundation

The purpose of the Ria Messer Foundation is to support the weakest members of our society. In accordance with its statutes, the foundation supports charitable and welfare projects.

Even in this day and age, there are many people who are weaker than others. Those who are ill or in need of care, who do not receive sufficient support in our society, but who urgently need help. This is precisely where the Ria Messer Foundation would like to provide help and, in keeping with the times, realizes its social mission to help other people, which is a duty imposed on it by the founder's will.

The Ria Messer Foundation treats all people with respect and tolerance. It is active in both a promotional and operational capacity and has been a dependent, charitable foundation under private law since its establishment. It is administered in trust by the Dr. Hans Messer Foundation.

The purpose of the foundation is to support certain persons within the terms of Section 53 AO (German tax code) and to promote welfare. The purpose is primarily to be realized regionally by helping persons who are dependent on the help of others as a result of their physical, mental or emotional condition (§ 53 no. 1 AO of the German tax code). Or persons in need through no fault of their own, for example as a result of natural disasters, who are in need within the terms of § 53 no. 2 sentence 3 AO of the German tax code, to grant one-off or ongoing subsidies in order to alleviate their hardship in the long term or to help the umbrella organizations of independent charities or other tax-privileged corporations active in the charitable field or other tax-privileged institutions for the care and treatment of serious illnesses through no fault of their own to carry out their work.

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