



Messer moves forward

Company Presentation

Contents



Short profile: Messer in brief



Company

Messer is the world's largest privately held specialist for industrial, medical and specialty gases and a highly professional and sustainable global player.



Products

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.

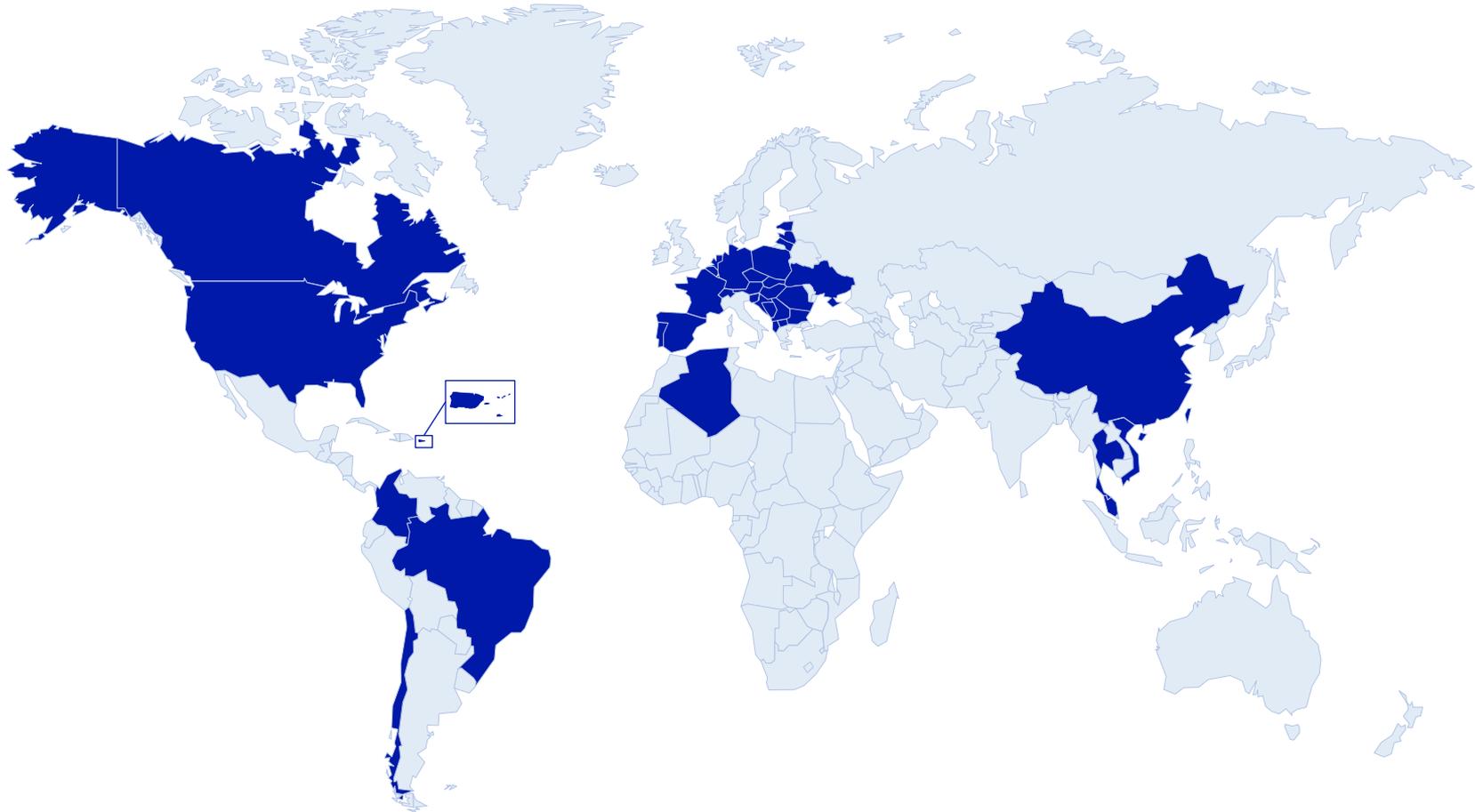


Customers

Our products are used in industry, environmental protection, medicine, the food and beverage sector, electronics industry, welding and cutting technology, 3D printing, construction, and research and science.



Successful in Asia, Europe and the Americas



Optimal division of responsibilities: The Executive Management Board of Messer *



Bernd Eulitz
CEO



Helmut Kaschenz
CFO



Dr. Werner Hickel
COO Asia



Virginia Esly
COO Europe



Elena Skvortsova
COO Americas

* Executive Management Board of Messer Management SE as General Partner

Sustainable and responsible

Bernd Eulitz, CEO, and **Stefan Messer**, Chairman of the Supervisory Board, rely on many years of experience and mutual trust.

The management is supported by a diverse and confident team in the relevant markets in Asia, Europe and the Americas.

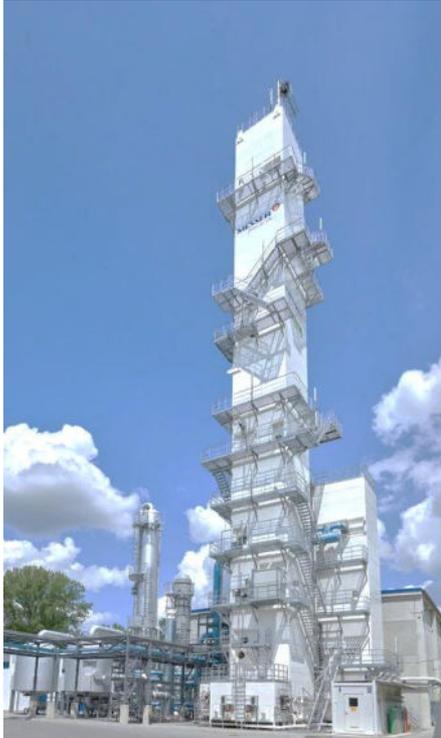




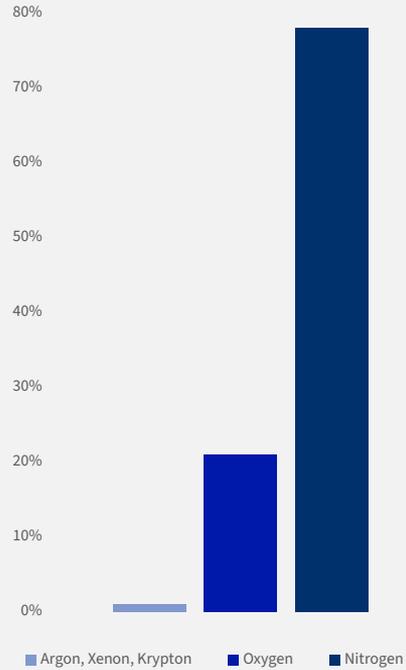
We make the most
out of air

We do this all along the line

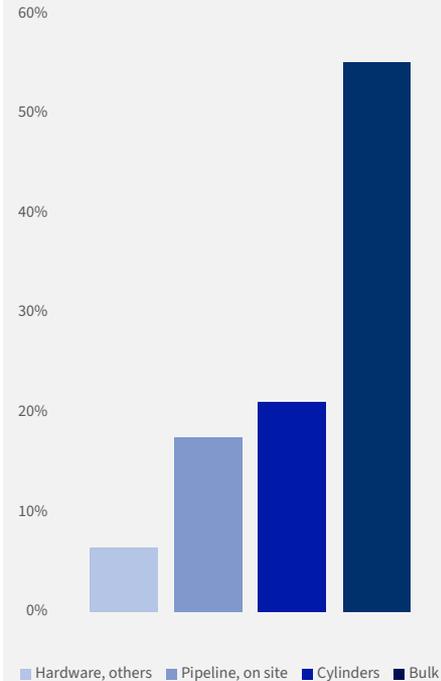
Air separation unit



Products



Sales



Customer segments



Asia



China

Chengdu/Miayang/Leshan/Meishan/Zigong

Nanjing/Chuzhou

Zhangjiagang

Shanghai/Wujiang/Suzhou

Xichang

Chongqing

Ningbo/Shaoxing/Hangzhou

Panzhuhua

Haikou/Anning/Kunming/Qujing

Xiangtan/Hengyang/Ningxiang

Yuxi

Foshan/Shunde/Dongguan

Hai Duong/Thai Nguyen

Yangjiang

Thailand

Dung Quat

Bangkok

Bin Phuc

Vietnam

Ho Chi Minh City

Malaysia

Johor



Existing
air separation units

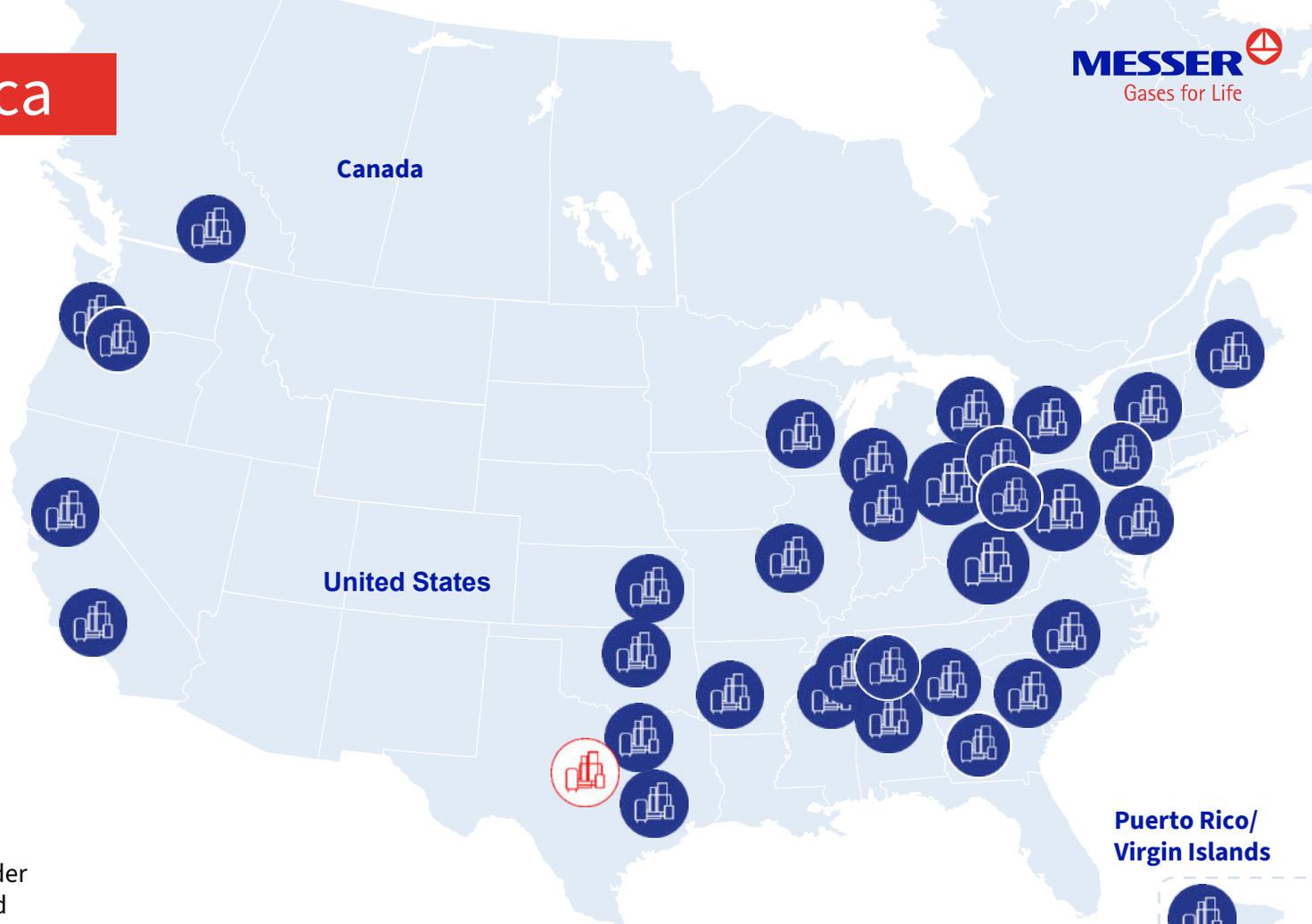


Air separation units under
construction or planned

Europe



North America



Existing
air separation units



Air separation units under
construction or planned

South America





We supply gas
just the way you need it

The right solution for every application

Reliable

for smaller jobs

- ✓ Gas cylinders or cylinder bundles
- ✓ Local distribution partners or directly from the filling plant



Effective

for medium-sized jobs

- ✓ Storage tank on site with gas supply from a road tanker
- ✓ Small dewar solution, supplied by Messer service vehicles



Optimal

for large jobs

- ✓ Gas production at the customer's site
- ✓ Air separation units
- ✓ PSA, VPSA or membrane plants
- ✓ Hydrogen and synthesis gas production facilities



Perfect

for the biggest jobs of all

- ✓ Pipeline systems with a direct connection to the business park or bulk consumer

We make the gases which life can't do without



Shielding and fuel gases, highly developed welding gas mixtures

Welding and cutting gases

- ✓ TIG, MIG and MAG welding
- ✓ Forming
- ✓ Laser welding and cutting
- ✓ Gases for additive manufacturing
- ✓ Gases for oxyfuel technology
- ✓ Gases for surface treatment such as thermal spraying

Specialty gases

- ✓ Liquid helium for cooling superconducting magnets in MRI scanners
- ✓ High purity process and calibration gases for analytics
- ✓ Gases for the electronics industry
- ✓ Krypton and Xenon for ion engines
- ✓ Specialty gases fittings and supply systems



Our wide range of specialty gases



Medical gases for clinical treatment

Medical and pharmaceutical gases

- ✓ Anesthesia
- ✓ Pain management
- ✓ Diagnosis
- ✓ Respiratory therapy
- ✓ Surgery
- ✓ Cryotherapy
- ✓ Biobanks

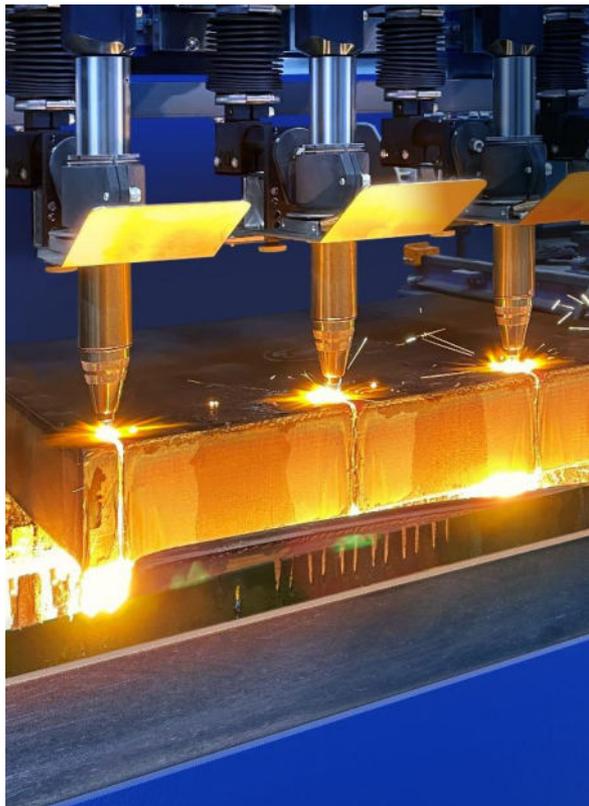
Food gases

- ✓ Cryogenic freezing
- ✓ Transport refrigeration systems
- ✓ Modified atmosphere packaging
- ✓ System solutions to optimize mixing and kneading processes
- ✓ High pressure extraction
- ✓ CO₂ enrichment in greenhouses



Pure gases and gas mixtures under the Gourmet brand

In detail: welding and cutting gases



Shielding gases for welding

are distributed under standardized, group-wide names which are based on the materials being worked:

Ferroline

for plain and low-alloy steels

Inoxline

for high-alloy steels and Ni-based alloys

Aluline

for aluminum and non-ferrous metals

Addline

for additive manufacturing of metals

Other

welding and cutting gases:

Forming gas

protects the back of the weld against oxidation

Lasline

for processing laser material and generating the laser beam

Hycut, Nitrocut, Oxycut

for laser cutting

Combustion gases

for oxyfuel technology

In detail: specialty gases

Messer offers an extensive range of pure gases, standard mixtures and (on request) individual gas mixtures produced to each customer's specification.

- ✓ Liquid helium (in dewars)
- ✓ High purity gases (helium, argon, oxygen, nitrogen, hydrogen)
- ✓ Noble gases (krypton, xenon, neon)
- ✓ Standard mixtures (argon/methane, laser mixtures, etc.)
- ✓ Custom-made mixtures (calibration gases)
- ✓ Electronic gases for the manufacture of semiconductors
- ✓ Hydrocarbons (methane, acetylene, ethylene, etc.)
- ✓ Carbon dioxide and carbon monoxide
- ✓ Inorganic gases (ammonia, chlorine, sulphur dioxide, etc.)
- ✓ Classical and natural refrigerants
- ✓ Pressure cans
- ✓ Specialty gases fittings and supply systems



In detail: medical gases



The most important medical gases at a glance:

- ✓ Oxygen
- ✓ Nitrous oxide
- ✓ Carbon dioxide
- ✓ Nitrous oxide/oxygen mixture (50% / 50%)
- ✓ Nitric oxide

Further medical gases are amongst others:

- ✓ Argon
- ✓ Gas mixtures
- ✓ Helium
- ✓ Air
- ✓ Nitric oxide in nitrogen
- ✓ Nitrogen

Use in these important areas of expertise:

- ✓ Anesthesia
- ✓ Intensive care/emergency medicine
- ✓ Pulmonology
- ✓ Gynecology

In detail: medical gases



In addition, medical gases are used in the following areas of expertise:

- ✓ Occupational medicine
- ✓ Nursing Outpatient Clinics
- ✓ Biobanks/cryobanks and research institutes
- ✓ Surgery
- ✓ Dermatology
- ✓ Diabetology

- ✓ Gynaecology
- ✓ Obstetrics
- ✓ Haematology
- ✓ Cardiology
- ✓ Neonatology
- ✓ Ophthalmology
- ✓ Endoscopy

- ✓ Rheumatology
- ✓ Sports medicine
- ✓ Veterinary medicine
- ✓ Dentistry
- ✓ Pediatrics
- ✓ Radiology
- ✓ Gastroenterology

In detail: gases for pharmaceutical industry



Pharmaline: gases for the pharmaceutical industry:

Messer's Pharmaline range includes specially tested gases that are geared to the needs of the pharmaceutical industry. They are designed to help manufacturers of medicinal products comply with the stipulations of EU Directive 2001/83 and adhere to GMP guidelines (good manufacturing practice).

The most important gases and applications:

Pharmaline A: Argon (Ar)

e.g. for inertisation

Pharmaline C: Carbon dioxide (CO₂)

e.g. for the production of drugs in powder form

Pharmaline N: Nitrogen (N₂)

e.g. for packing in modified atmosphere

Many more, highly diverse applications exist for gases in the pharmaceutical industry in addition to those mentioned here.

In detail: food gases

Gourmet is the brand name under which Messer supplies pure gases and gas mixtures for the food industry.

Gourmet gases meet the highest quality requirements and fulfill all food regulations, such as those contained in the European regulations for EU countries or the FDA guidelines for the USA. In addition to the above examples, a wide range of food-grade gas mixtures is available.



Name	Gas	E-No.
Gourmet C	Carbon dioxide	E 290
Gourmet A	Argon	E 938
Gourmet He	Helium	E 939
Gourmet N	Nitrogen	E 941
Gourmet L	N ₂ O, Nitrous oxide	E 942
Gourmet B-n/iso	n/Isobutane	E 943 a/b
Gourmet P	Propane	E 944
Gourmet O	Oxygen	E 948
Gourmet H	Hydrogen	E 949



Hydrogen: climate-friendly energy supplier

We focus on developing technologies that make our customers' production processes more efficient and environmentally friendly. This includes clean (green, renewable) **hydrogen (H₂)** as a key lever for decarbonizing industry and mobility.

Our solutions for the use of hydrogen

- ✓ H₂ On Site Concept
Demand-driven, cost-effective on site H₂ generation, including use/marketing of all by-products (e.g. O₂ as well as network services) for optimized plant operation.
- ✓ H₂ One-Stop Shop
Comprehensive operating solution for hydrogen-powered buses in collaboration with the Toyota Group
- ✓ H₂ Refueling Solution
Comprehensive services and high-performance technology for refueling fuel cell-powered vehicle fleets (e.g. buses and industrial trucks)
- ✓ On-demand delivery of green, blue and gray H₂ by trailer



Hydrogen: Examples of applications

Emissions-free logistics processes

Since 2004, Messer has been the technology and hydrogen supplier for one of the largest fleets of forklift trucks and other industrial handling equipment in the USA.



Emissions-free inner cities

Since 2011, Messer has been the technology and hydrogen supplier for one of the largest fleets of fuel cell-powered electric buses (FCEBs) in the USA.



All about CO₂:

ASCO CARBON DIOXIDE



Provider of individual and complete CO₂ solutions

CO₂-Recovery Plants (“Carbon Capture”):

- ✓ CO₂-Recovery from Stack Gas
- ✓ CO₂-Recovery from Gas-By-Products
- ✓ CO₂-Recovery from Dry Ice Productions

CO₂ equipment and accessories:

- ✓ Transfer pumps, vaporizers
- ✓ Detectors, flowmeters
- ✓ CO₂ testers
- ✓ CO₂ storage tanks, both stationary and transportable

Dry Ice technologies

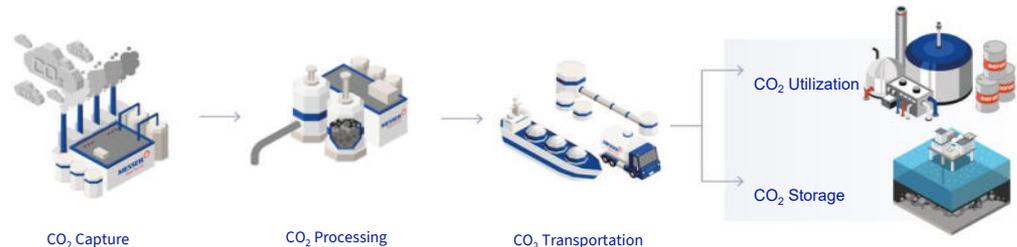
- ✓ Dry ice production technologies for pellets, slices and blocks
- ✓ Automated dry ice packaging and dosing solutions
- ✓ ASCO dry ice blasting equipment and accessories

ZeCarb: Carbon Capture as a Service



“ZeCarb” is our service brand for “Carbon Capture as a Service” (CCaaS) solutions.

- ✓ At a time when the urgency of climate change is becoming increasingly apparent, it is essential that companies around the world take action to drastically reduce their CO₂ emissions. With “ZeCarb”, Messer is responding to the growing global demand for solutions to decarbonize industrial processes, also known as "Carbon Capture Utilization & Storage" (CCUS). We cover the entire CCUS value chain and offer customers single source approach.
- ✓ With ZeCarb, we help various industries such as steel, cement, glass, paper or chemical production or from fossil-fired power plants to achieve their "net zero" climate targets by capturing CO₂ emissions at the source. Here we can rely on decades of experience in the field of CO₂ recovery.



Gases are present in almost all industries



Environmental Technology

Our technologies and gases help with decarbonization, wastewater treatment in sewage treatment plants, recycling yards, or exhaust air purification in large industrial facilities.



Chemical industry

Messer supplies gases for chemical and synthetic processes, for example for reactor cooling and inerting.



Paper production

Carbon dioxide from Messer reduces chemicals in pulp washing, pH control and is used for environmentally friendly removal of stickies. Ozone helps with pulp bleaching and reduces wastewater pollution.



Plastics, rubber

Messer supplies gases for the processing, refining and recycling of plastics, for the rubber-producing industry and liquid nitrogen for the production of ultra-fine plastic powders for 3D printing.



Gases are present in almost all industries



Construction industry

To cool down fresh concrete and cement before processing or to reliably stabilize soil during drilling work, we supply the liquid nitrogen.



Mobility

We supply gases for airbags, air conditioning and tires, for emission control and cleaning, and for fuel cell powered electric buses (FCEB) and industrial trucks.



Research

We support research institutes, universities and development centers with our high purity and laboratory gases, test gases, operating gases and gas mixtures.



Microtechnology

Our portfolio also includes gases that are used as filling or protective gases in tablet displays or processor boards.



Gases are present in almost all industries



Food

Under a modified atmosphere, foodstuffs in their packaging retain their shelf life for longer. In addition, gases preserve optimum product properties during cooling and freezing, and ensure a perfect cold chain during transport and delivery of food "to the door".



Beverage industry

Messer supplies carbon dioxide to make lemonade or beer fizz refreshingly and keep for longer.



Medicine and pharmaceuticals

Gases of the highest purity are needed for a wide variety of medical applications. Ultra-pure gases are also required for pharmaceuticals and medical products, for applications in the pharmaceutical industry, as process aids and inactive ingredients. Messer supplies them.



Gases are present in almost all industries



Metalworking industry

Messer supplies, for example, shielding gases and gas mixtures for material processing and finishing, 3D printing of metals, thermal spraying, laser welding and cutting, and MAG welding of unalloyed steels.



With a wide range of gases and applications, Messer helps improve productivity in the production of iron, glass, steel, copper and aluminum, as well as other non-ferrous metals. Our Oxipyr burners, with both oxyfuel and H_2-O_2 combustion, help decarbonize processes.

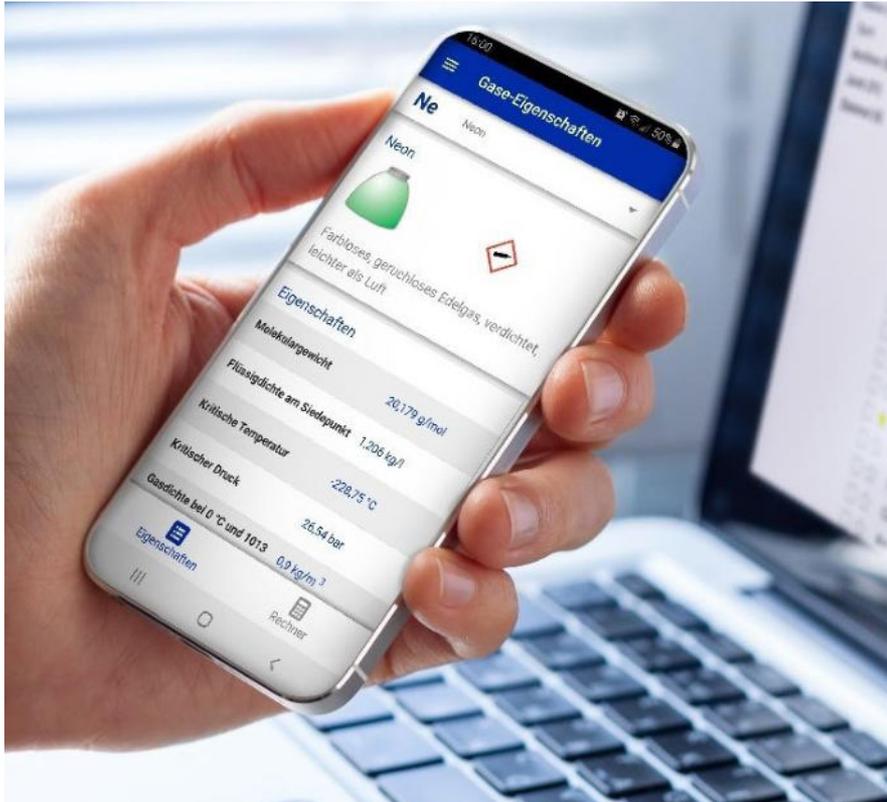


Annealing, hardening, tempering, carburizing or sintering - processes based mainly on the application of nitrogen - give metals the properties required by the stringent standards in this industry.

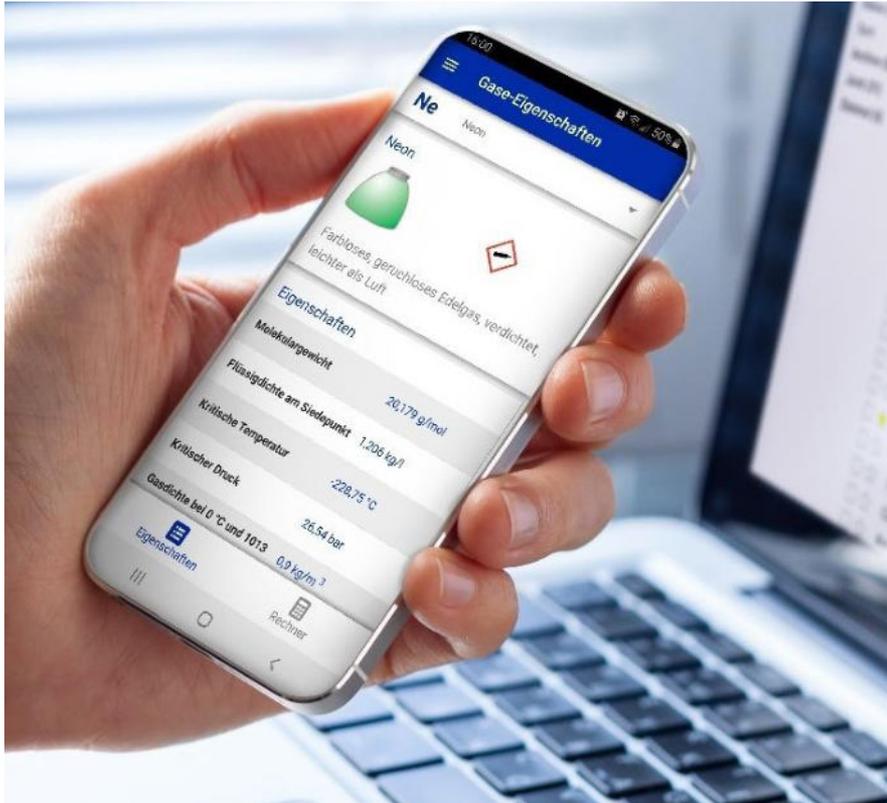


Concentration on competence





- ✓ **E-Order:** Easy reordering of gases, anytime and anywhere, on the web or via app
- ✓ **E-Invoice:** Personal portal for paperless invoicing processes
- ✓ **E-Connect:** EDI solution for exchanging all relevant information
- ✓ **E-Stock:** Messer-internal solution for monitoring cylinder and bundle movements as well as warehouse management on the network or via app
- ✓ **E-ccts:** Customer Cylinder Tracking System for cylinder and bundle movements also on customer side
- ✓ **E-Monitor:** Monitoring the fill level of gas tanks
- ✓ **MyLab:** Customer portal for specialty gases
- ✓ **E-Profiles:** Online management of your customer profiles
- ✓ **E-Reminder:** The "Messer thought support" for your orders
- ✓ **E-Shop:** Online offers for selected product areas



- ✓ **E-feedback:** Online solution for feedbacks, questions, complaints or callback requests
- ✓ **Shareview:** Use of smartphone camera to remotely review and resolve technical concerns
- ✓ **Other online tools and apps:** e.g. from the areas of welding & cutting, food technology, specialty gases or general safety topics
- ✓ **Newsletter:** Product & Technology information by mail

Sustainability

Mission statement and ESG commitments

If you work with gases essential for life
you need enduring values

Our Mission Statement

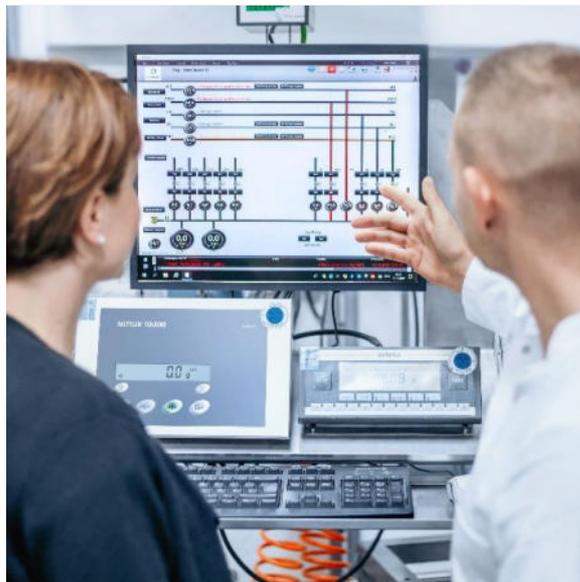
Messer is the largest privately-owned industrial gas specialist and present in the relevant markets in Asia, Europe and the Americas.

We act sustainably to meet our customers' needs in accordance with our collective responsibility for people, progress and the environment.

Our values

Customer orientation

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



Excellence

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

Employee orientation

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



Our values



Corporate responsibility

By managing our resources responsibly and applying the talents of our employees, we add to the value of our company in the long term.

Mutual trust and respect

We believe that cooperation is based on dependability, sincerity, transparency and frank communication. We respect and abide by the cultural and social customs of the countries in which we work.



Responsible behavior

We take our responsibility towards our employees and towards society in general very seriously.

Diversity and inclusion

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 are strongly committed to diversity and inclusion. We also send a clear signal that all our employees are valued irrespective of:

- ✓ Generation (also called "age")
- ✓ Gender and gender identity
- ✓ Sexual orientation
- ✓ Physical and mental abilities (also known as "disability")
- ✓ Ethnic origin/nationality
- ✓ Religion/caste/worldview
- ✓ Social origin

At Messer, diversity also encompasses various ideas, perspectives, and ways of working. We treat one another with respect and nurture an environment where everyone can thrive. This approach supports our entrepreneurial culture and makes us a partner of choice for our customers.

Our ESG commitments



How we help protect our planet

Environment

- ✓ Reduce Scopes 1 and 2 emissions intensity worldwide by 40 percent by 2030 compared with 2019. This ratio is expressed in kg of CO₂e per euro of EBITDA and calculated using the market-based method.
- ✓ Improve energy efficiency in our plants and processes.
- ✓ Increase our share of renewable energy.
- ✓ Increase fuel efficiency and reduce the distance driven.
- ✓ Develop innovative gas solutions that support a circular economy and help our customers reduce their carbon footprint.



How we value people

Social

- ✓ Focus on safety and achieve zero accidents among our employees, in logistics and among our customers.
- ✓ Support employee health and well-being.
- ✓ Promote diversity and inclusion.
- ✓ Increase the proportion of women to 30 percent at first and second management levels by 2030.
- ✓ Provide employees with opportunities for education, training and skills development.
- ✓ Be a dependable and responsible member of the communities in which we operate.



How we operate

Governance

- ✓ Promote compliance, good governance and ethical business conduct.
- ✓ Ensure mechanisms are in place to report incidents and protect whistleblowers.
- ✓ Safeguard data and promote cybersecurity.
- ✓ Handle personal and business data in a legally compliant manner.
- ✓ Provide timely and accurate disclosures.



Messer is more

than you expect

Sales and number of employees 2023



		Total*
Sales	in billion euro	4.4
EBITDA	in billion euro	1.3
EBITDA-Margin	in percentage	29
Investments	in million. euro incl. IFRIC4	636
Employees	Contractual employment relationships in FTE**	11,519

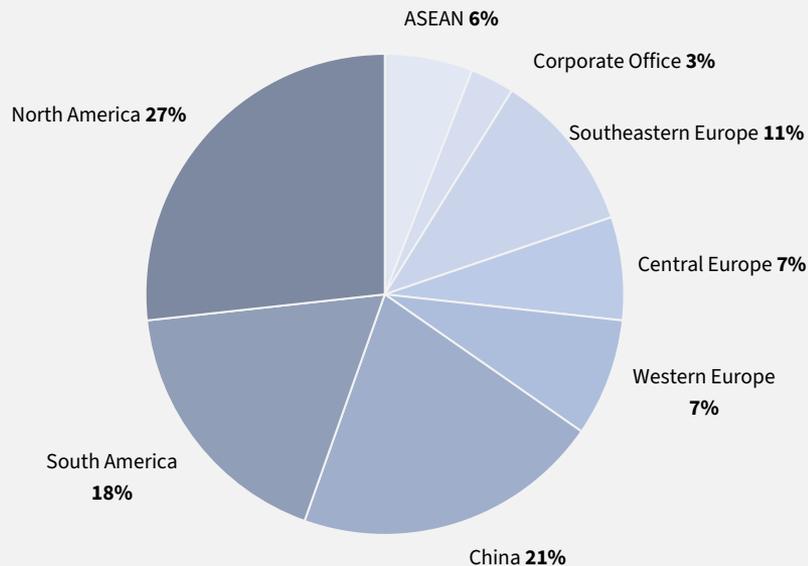
* Consolidated presentation of Messer (formerly Messer Group and Messer Industries), which includes the former 100 percent equity-accounted investment in Messer Industries and was adjusted for the effects of the acquisition of Messer Industries in November 2023.

** Full Time Equivalent

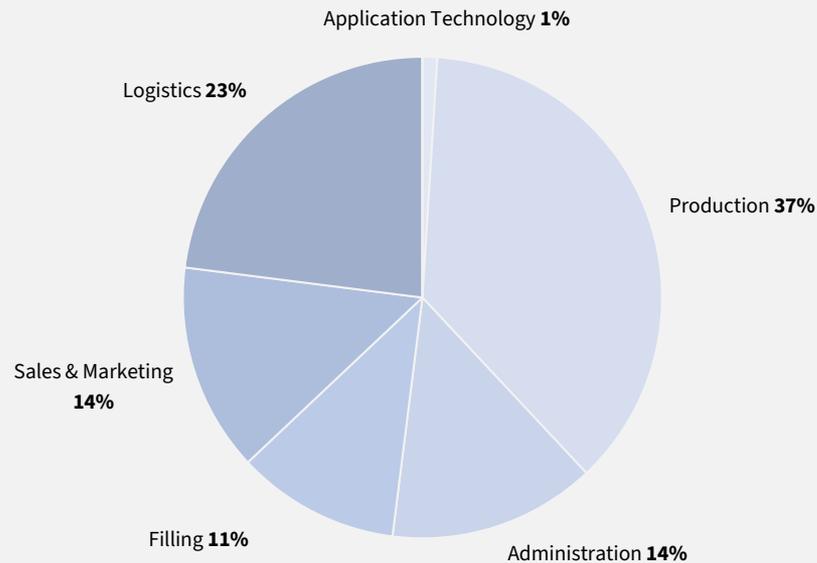
Good employees are essential everywhere

2023: 11,519 employees total worldwide*

by region:



by activity:

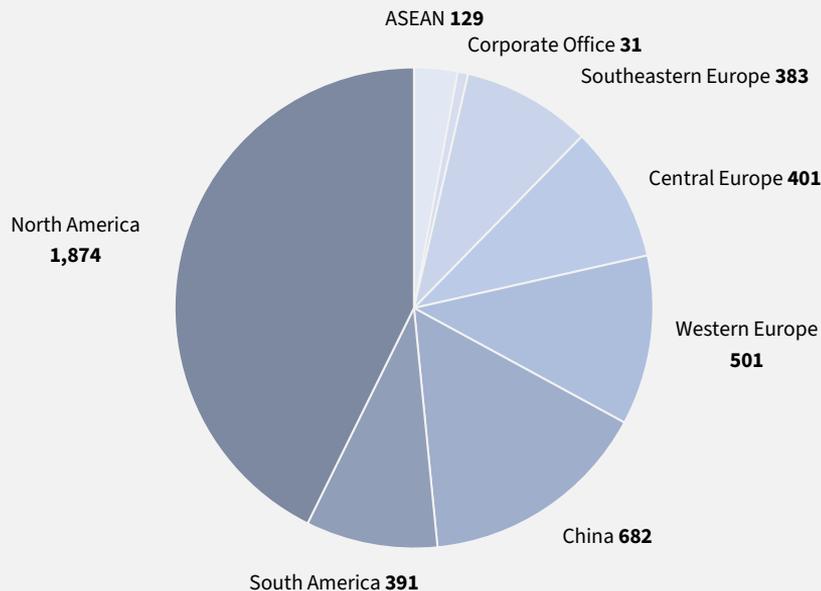


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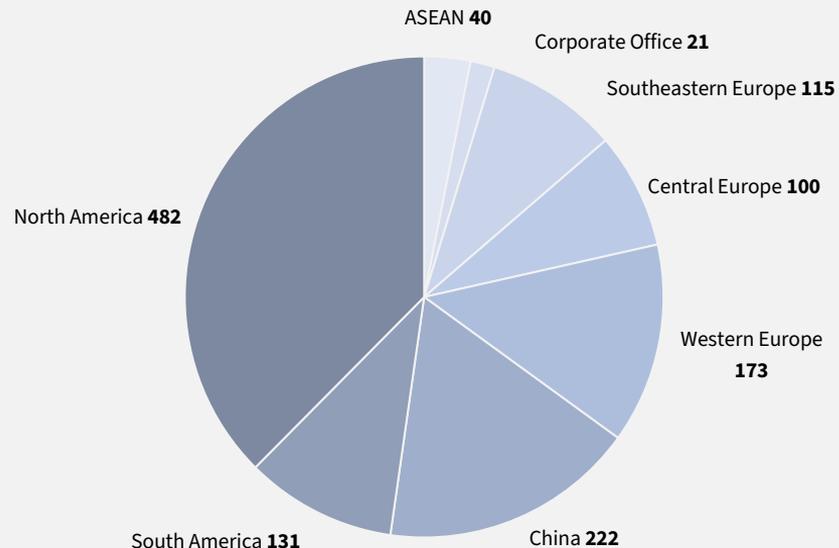
Messer sales – breakdown

2023: Sales and EBITDA total*

Sales: approx. 4.4 billion € overall
(regional figures in millions)



EBITDA: approx. 1.3 billion € overall
(regional figures in millions)

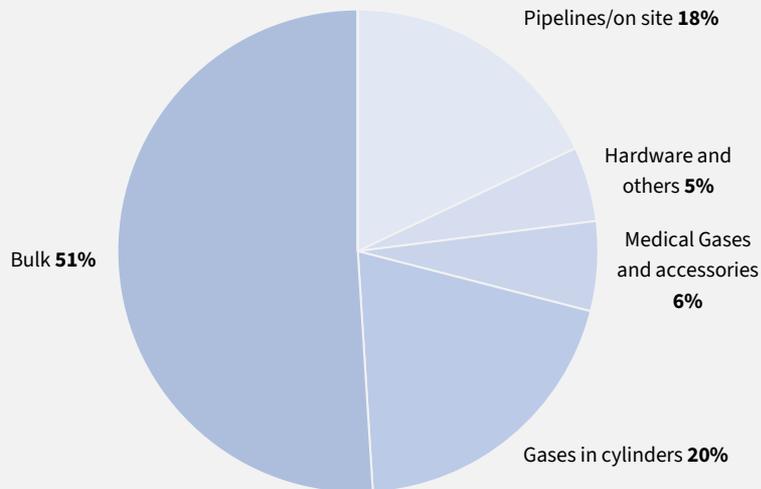


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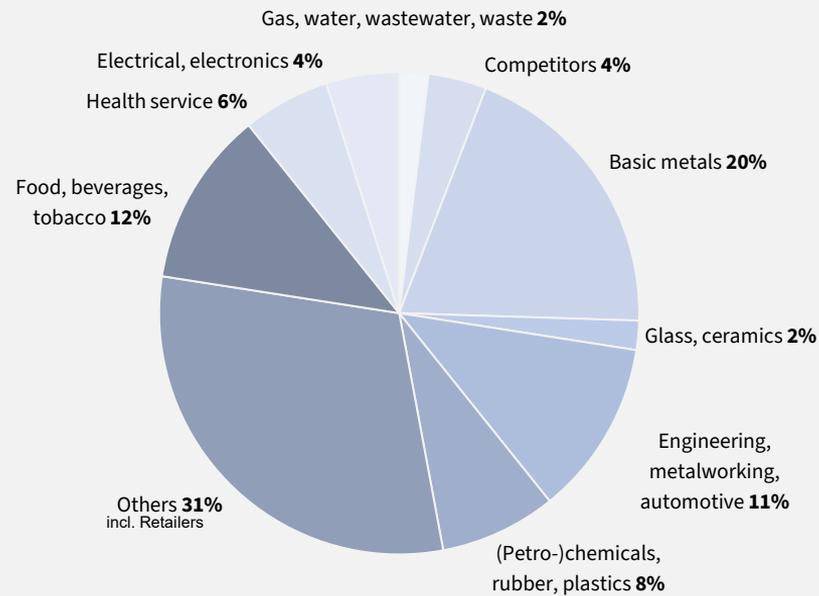
Messer sales – breakdown

2023: Sales approx. 4.4 billion € overall*

by segment:



by industry:



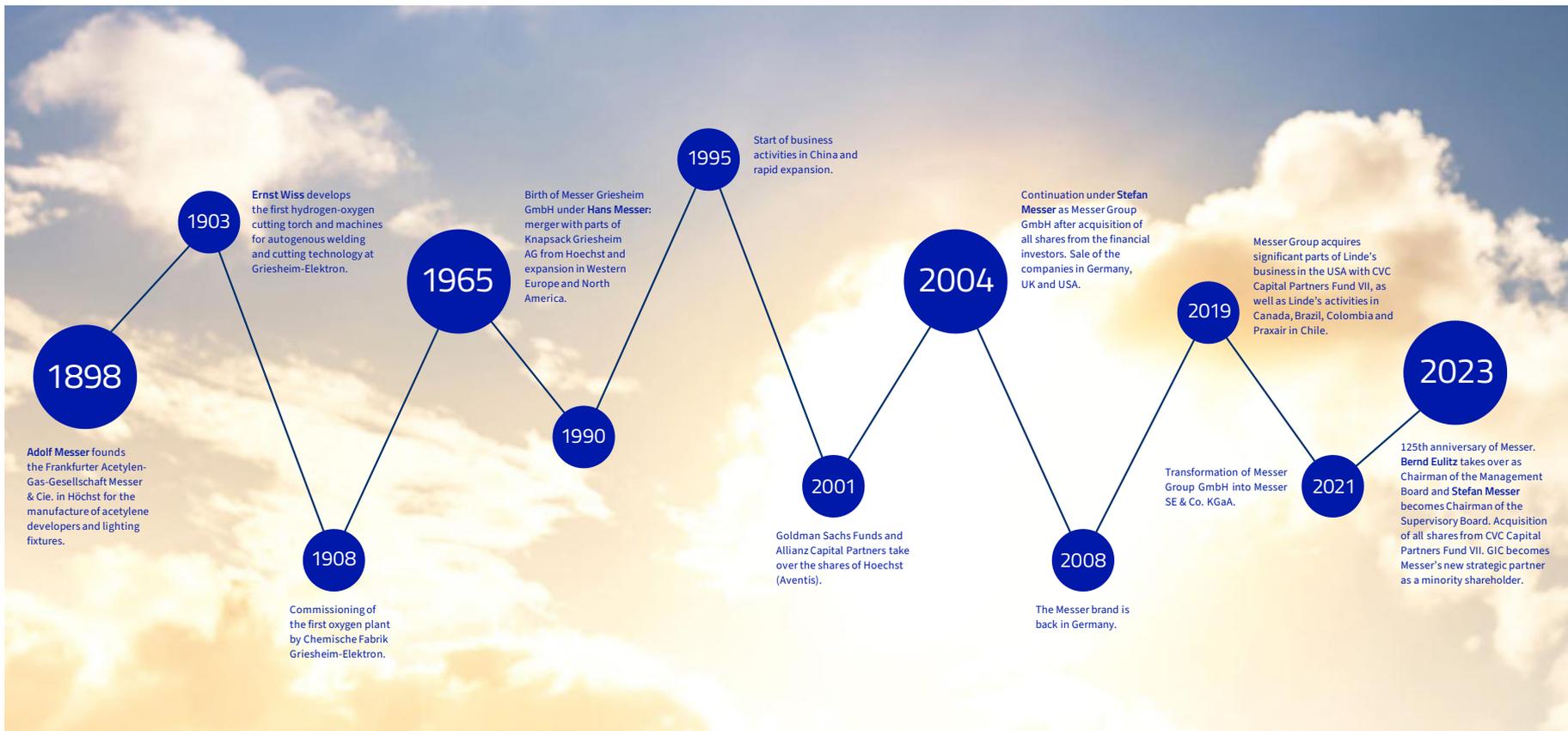
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MESSER
Gases for Life

A global player

Since 1898: This history has a future





Stefan Messer
Chairman



Dr. Johannes Fritz
Deputy Chairman

Ready to meet any challenge:
The Supervisory Board of Messer



**Dr. Werner
Breuers**



**Elisabeth
Dong**



**Heike
Niehues**



**Sabine
Scheunert**



**Dr. Nathalie
von Siemens**



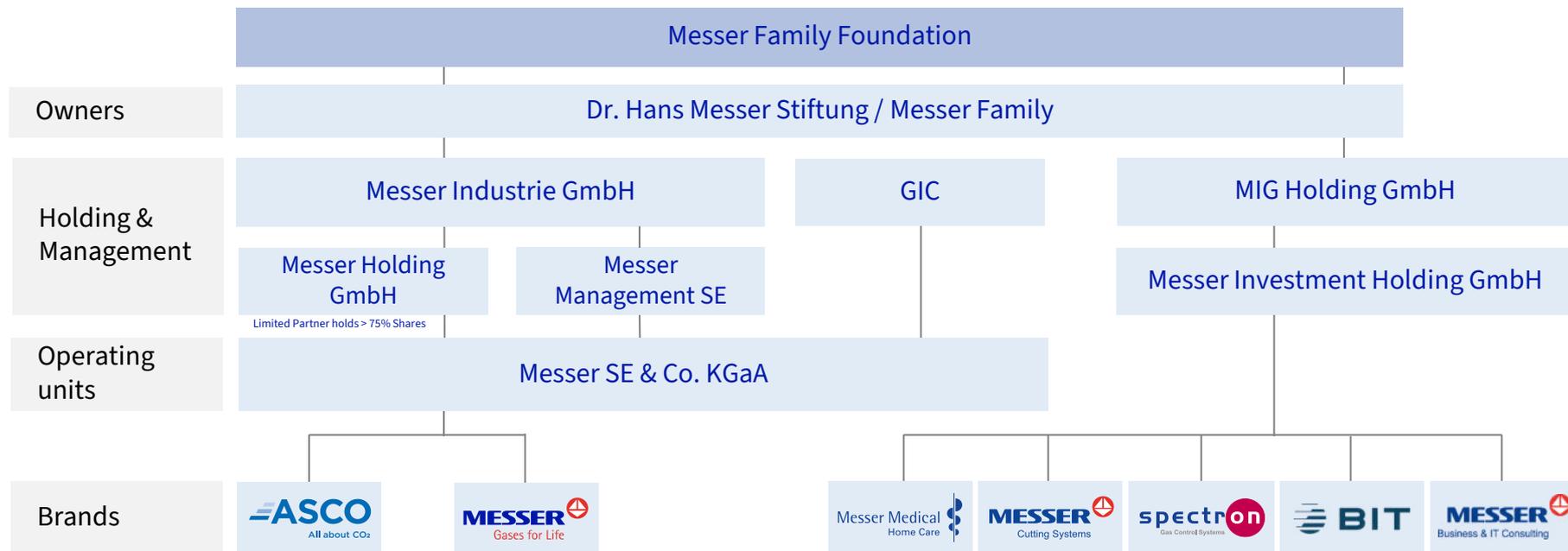
**Geoff
Wild**

**Maureen
Messer-Casamayou**

**Observer Messer:
Marcel Messer**

**Observer GIC:
Henry Ormond**

Shareholder Structure*

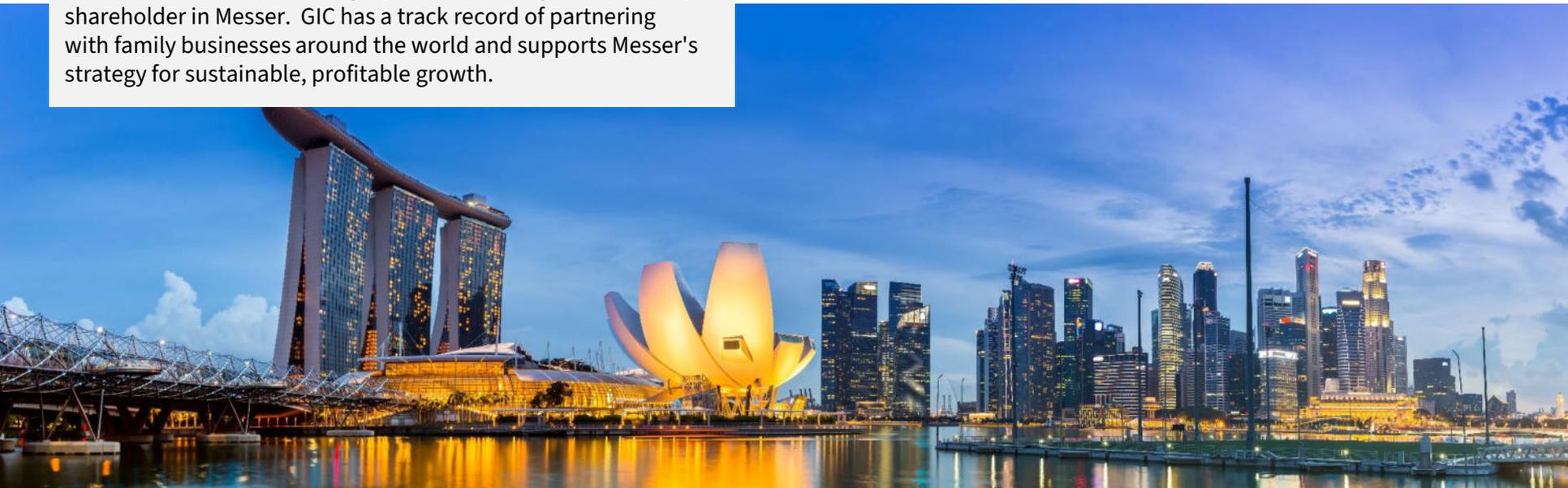


* Simplified presentation as for general information

Partnership for profitable Growth

GIC is a leading global investment firm established in 1981 to secure Singapore's financial future. As the manager of Singapore's foreign reserves, GIC takes a long-term, disciplined approach to investing and is uniquely positioned across a wide range of asset classes and active strategies globally.

In 2023, GIC became a strategic partner and long-term minority shareholder in Messer. GIC has a track record of partnering with family businesses around the world and supports Messer's strategy for sustainable, profitable growth.





Messer moves on:

We look forward to working with you
