

Advanced engineering and reliable gas solutions



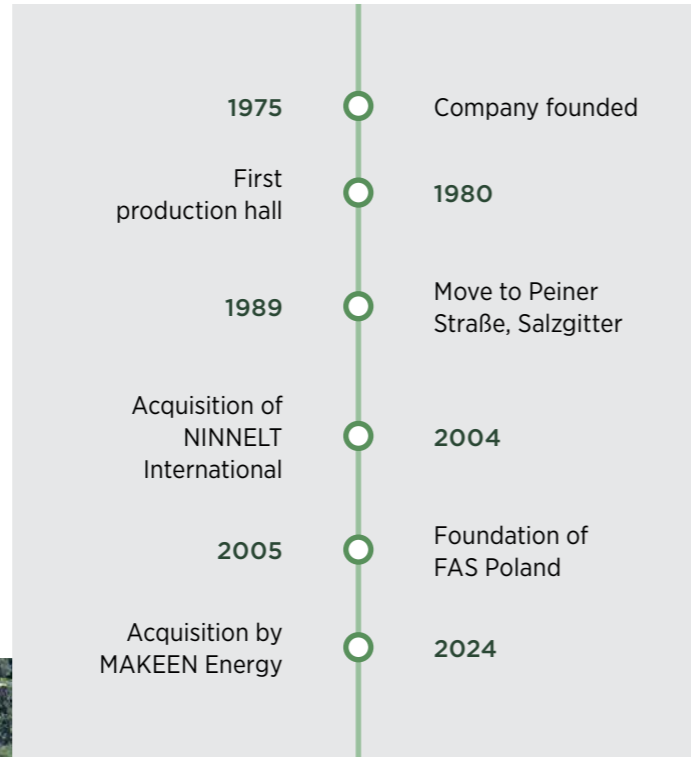
Flüssiggas-Anlagen GmbH (FAS) is your one-stop shop and partner for reliable solutions in the fields of LPG, SNG, DME and industrial applications

Company history

Today, we are part of a strong community – with around 130 employees in Germany and over 4,000 colleagues across the entire MAKEEN Group.

Our presence spans six continents and more than 140 countries. Through this global reach and our local proximity, we ensure that our customers can always count on the support of a dedicated MAKEEN employee.

Our motto is: Wherever our customers are, we are there too.



Our vision

Our goal, together with the MAKEEN organisation, is to become the leading company in the LPG industry. Through close integration into the MAKEEN Group and our shared commitment to safe, reliable, and sustainable solutions, we aim to set new standards.

With first-class product quality, innovative technologies and responsible actions, we make a significant contribution to the global energy supply.

Our mission

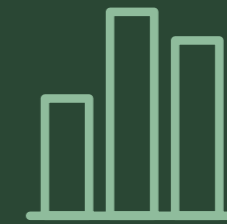
We are committed to providing first-class LPG products and services that meet the highest standards of safety, environmental friendliness and efficiency. Through continuous optimization of our processes, the deployment of qualified and committed employees and close partnerships with customers and suppliers, we ensure a sustainable and future-oriented energy supply.

Corporate policy

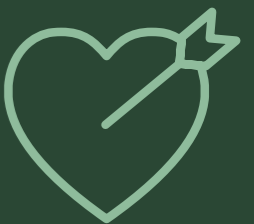
Our actions are based on clear values and a future-oriented strategy that focuses on sustainable growth, economic stability, and a strong corporate structure.

The company's values

Our values are not just guidelines. They shape our daily actions and are the foundation of our success.



Be proactive and take ownership



Be passionately involved



Understand and help your customers



Don't leave anybody behind



Share your knowledge – make others good



Put the fish on the table

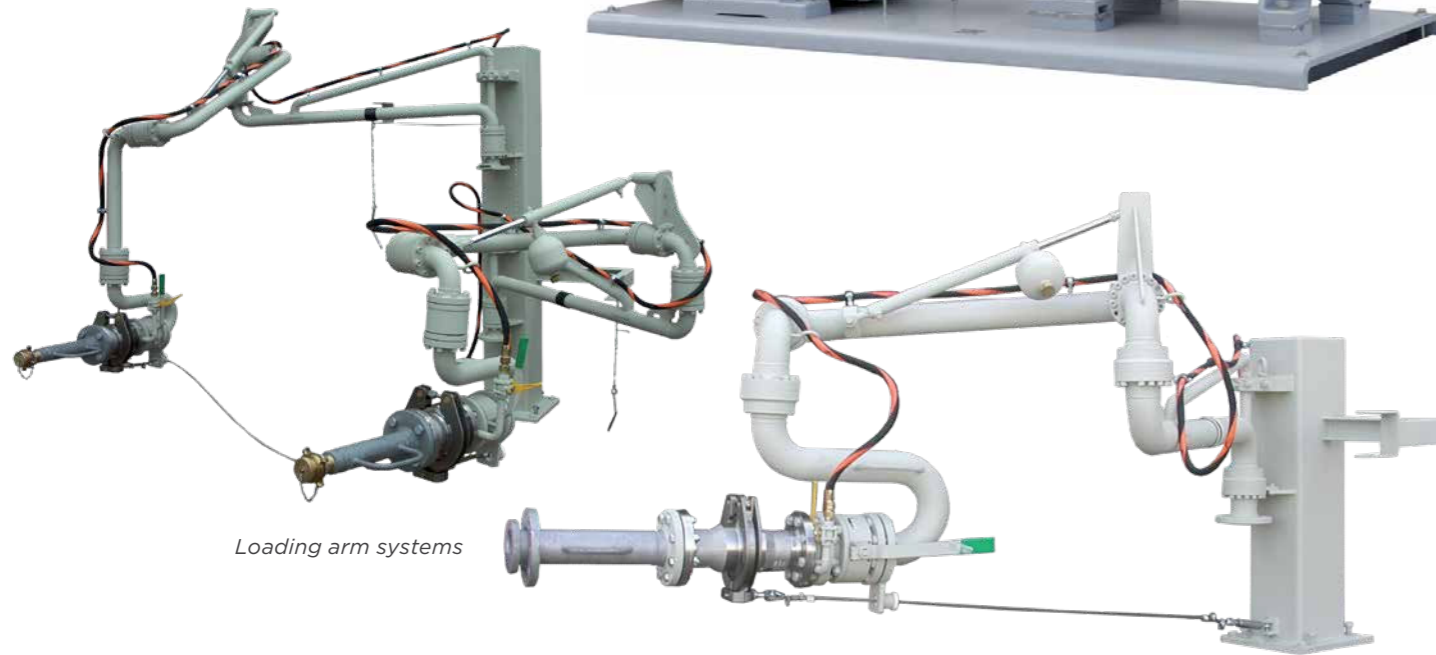
Over decades of experience and work in the LPG business, FAS has specialised in the planning, engineering, production and supply of complex systems and today offers reliable and individual solutions in the field of LPG, SNG and DME as well as for industrial applications. FAS has established itself on the market as a complete system provider.

Our engineers develop customised and energy-efficient solutions for your special applications:

- Pump units
- Compressor units
- Regulator stations
- Measuring systems
- Loading arm systems

- Vaporizers and vaporizer systems
 - Dry type vaporizers as single vaporizer or as compact unit in cabinet construction or as compact skid unit
 - Hot water-heated vaporizer units for higher consumption
- SNG/propane-air mixing units
- Cylinder evacuation units
- Cylinder filling systems
- Dispensers and autogas filling stations
- In-house production of valves and fittings for LPG:
 - Flanged excess flow valves and back pressure check valves
 - Bypass valves, internal valves, swivel joints, adapter parts and connecting pieces

Pump unit type FAS-NZ



Loading arm systems

Horizontal compressor unit



Our own machine shop contains CNC lathes such as milling and folding machines. Pressure and leak test equipment as well as an in-house paint shop enable the in-house production of valves and fittings for LPG. We are a specialist welding company with the appropriate authorisation.

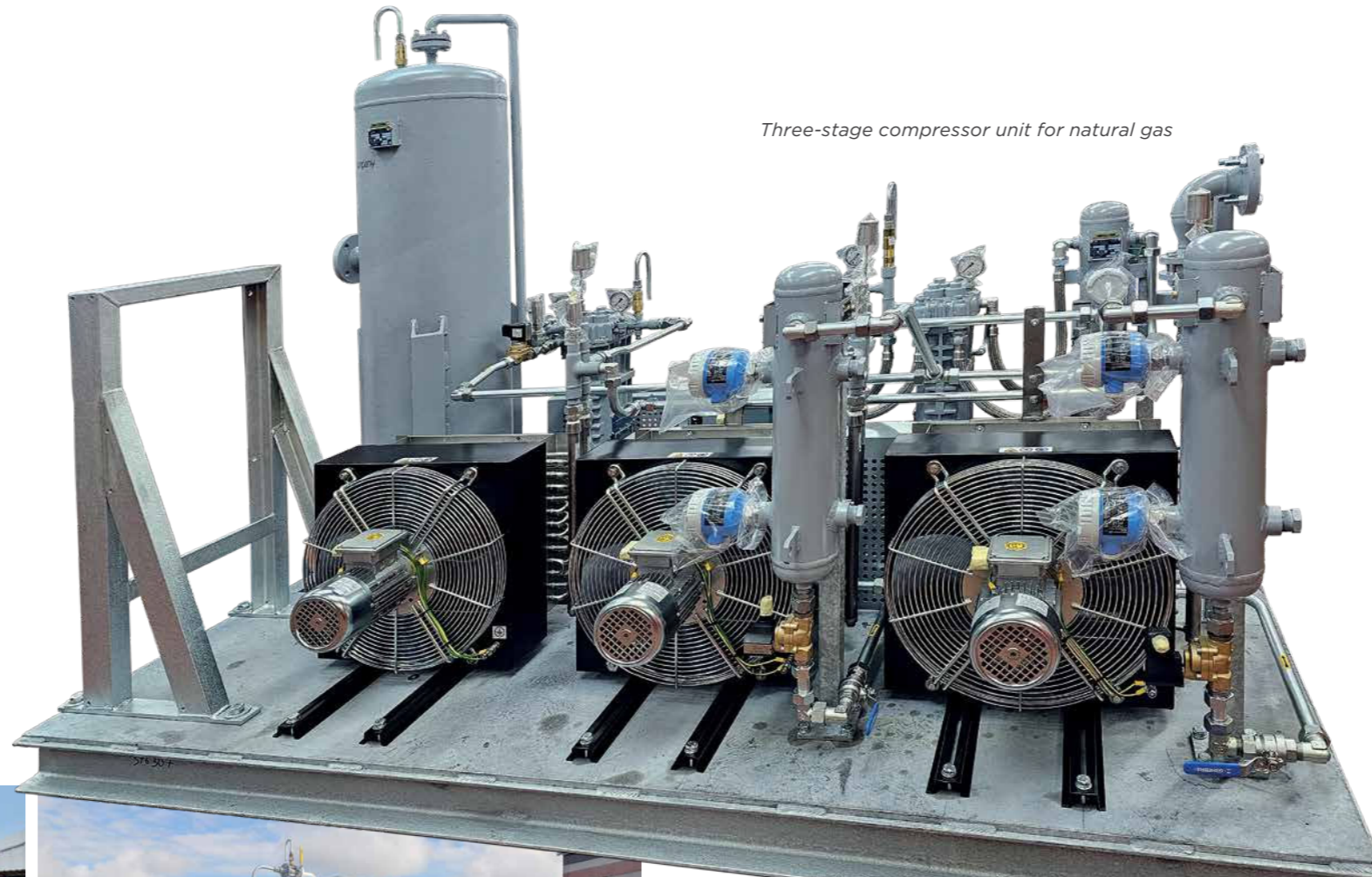
With our calibration-approved test bench, we carry out calibrations in-house.

Thanks to our very extensive stock of over 30,000 items from various manufacturers, we can react and deliver quickly: an important basis for our global success as a system provider and reliable supplier of complex equipment for the liquefied gas industry.



Our engineers undertake the complete system and detailed planning with approval planning and execute, together with you, projects of any size. Our services at a glance:

- Consulting and requirement analysis
- Profitability assessment
- Engineering including feasibility studies
- Customer-specific, innovative product or application development
- Project management including installation, pipeline and electrical planning
- CAD design, R&I diagrams
- Authorisation and approval procedures
- Construction progress scheduling



Three-stage compressor unit for natural gas

To maintain the high-quality standard and to always be able to achieve a competitive advantage with our customers, we hold the following licences and certifications:

- Quality Management System according to ISO 9001:2015 by DEKRA
- Pressure Equipment Directive 2014/68/EU Module H1 by DEKRA
- Specialised welding company according to DIN EN ISO 3834-2:2005 by DEKRA
- SCC** system according to SCC-VAZ 2021 (Management System for Safety, Health and Environmental protection) by TÜV Süd
- ATEX Directive 2014/34/EU



Compact refuelling system with supply pump and aboveground storage tank



Compact vaporizer skid unit incl. storage tank



We have various country-specific product authorisations.



Dry-type vaporizers type FAS 2000

Your one-stop shop for high-quality gas components and equipment

FAS offers you a wide range of benefits:

- One place to go for any type of gas equipment
- High-quality products from the most renowned suppliers
- Expert guidance on choice of equipment
- Full engineering capability and technical support
- Large stock and quick order handling
- Customised engineering and stocking solutions
- Flexible delivery or one single shipment



Germany's energy landscape is shifting and biogas has become very important. What was once an industry focused on electricity production is now helping to fill the country's gas grid. This is also due to the move away from fossil fuels and the need for a stable and independent energy infrastructure.

As the biogas does not have the necessary calorific value to be fed directly into the distribution grid, it often must be enriched with propane before it can be fed into the grid.

For this purpose, FAS has designed a standardised supply system in collaboration with a large, supraregional natural gas supplier.

Our turnkey solution

Based on our decades of experience in the field of LPG technology, our engineers have developed a concept that considers the specific requirements of gas suppliers: a reliable, ready-to-install equipment package (LPG tank, piping, vaporizer) that has been specially designed for propane enrichment in biogas plants and is customised for each project.

With these biogas injection systems, grid operators can effectively increase the calorific value of their gas to ensure that it meets grid standards.

A market on the rise

The demand for propane enrichment systems has risen sharply. Many biogas producers have quickly realised that upgrading their plants with these systems is a way of compensating for the loss of subsidies from electricity generation. The trend is increasing from year to year. In 2023, FAS completed 3 such biogas projects. This figure rose to 8 in 2024, and up to 15 projects are



Tank equipment: redundant pump system

expected for 2025 - with more already in the pipeline for the years after that!

FAS's collaboration with major gas network operators has contributed significantly to this success story.

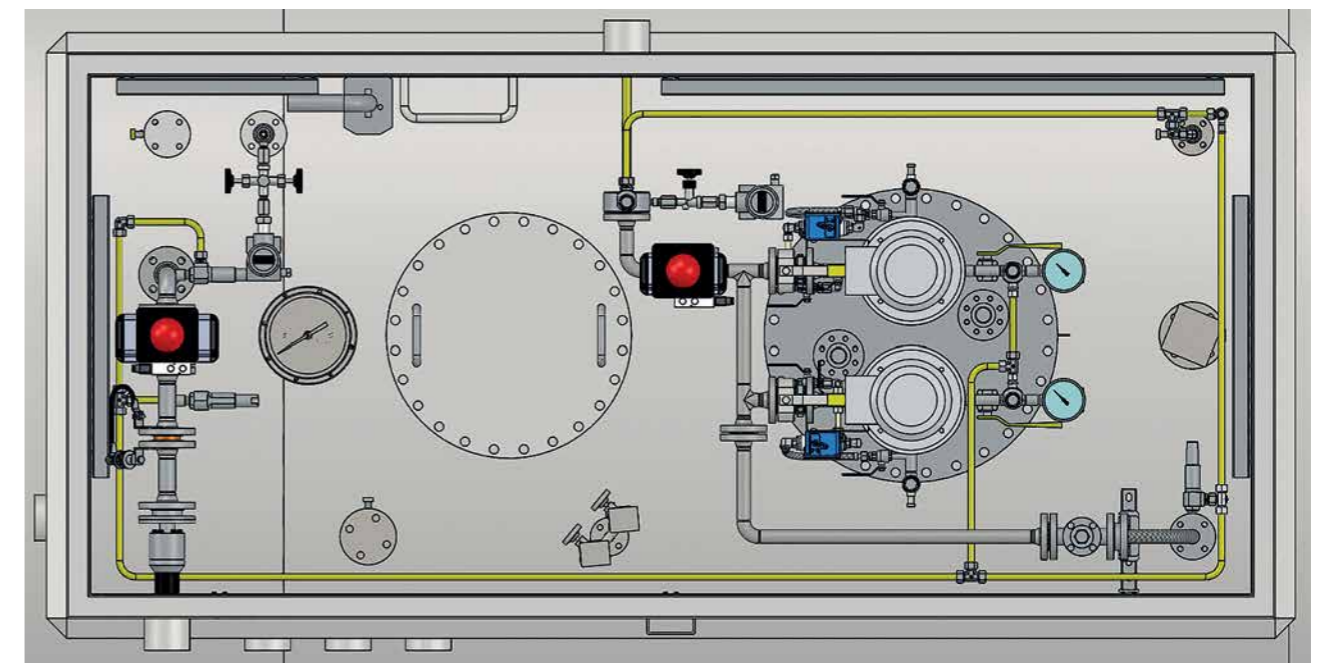
As a highlight, FAS was tasked with delivering to supply the largest propane enrichment plant in Europe with two storage tanks of 162 m³ each. This plant was commissioned in March 2025 and represents an important milestone in the German biogas industry.



Tank equipment: distributor in the dome shaft



Friesoythe biogas feed-in plant



Tank equipment: 3D planning

Rely on our certified FAS service team, which has been ensuring the safety and operational reliability of your systems for 50 years. With over 20 highly qualified technicians, 18 service vehicles and 3 calibration vehicles, we operate from 11 bases – fast, flexible and always there for you.

Our innovative FAS service and maintenance management helps prevent downtime and ensure the safe operation of your systems. And if a malfunction does occur, our 24/7 service hotline is available 365 days a year – so you can always count on us.

Benefit from our comprehensive services:

- Repairs, maintenance, and service on-site or at the Salzgitter plant
- All-round, worry-free service agreements including inspection management
- 24-hour telephone support and emergency service

- Technical help desk and online access to your documentation
- Large warehouse with over 30,000 items, including a dedicated service warehouse
- Calibration on-site and at the plant for autogas pumps

We offer service and installation for a wide range of products, including LPG, SNG, NH3, biogas and much more – even for systems from other manufacturers. Our services include:

- Autogas filling stations & internal LPG refuelling systems
- Vaporizer systems & biogas plants
- Cylinder filling systems (e.g. MAKEEN & NINNELT)
- Compressors (e.g. BLACKMER & CORKEN)
- Storage tanks including loading equipment & internal container inspections
- Pumps, measuring equipment and much more



Our mission is to provide you with first-class products and services that meet the highest safety, environmental and efficiency standards. Through continuous optimization, dedicated employees and close partnerships, we ensure a sustainable and future-oriented energy supply.

Rely on MAKEEN Energy – your partner for safe, efficient and innovative energy solutions!



The FAS service team - ready to serve you!

MAKEEN ENERGY

Find more information about your local MAKEEN Gas Equipment contact on makeengasequipment.com/get-in-touch or scan the QR-code.



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MAKEEN Gas Equipment offers a wide range of high-quality gas equipment and components along with expert guidance from the beginning to the end of your project. In that way, our one-stop shop philosophy – and many warehouses around the world – provide you with much more than just a product. MAKEEN Gas Equipment is a company under MAKEEN Energy.

MAKEEN Energy is a global, market-leading corporation that delivers technological solutions, equipment, and customer support to the energy industry. We employ approx. 4,000 people across 6 continents and operate in over 140 countries. With our global reach, local presence, and decades of experience, we can deliver responsible solutions that make a difference to people and planet.

