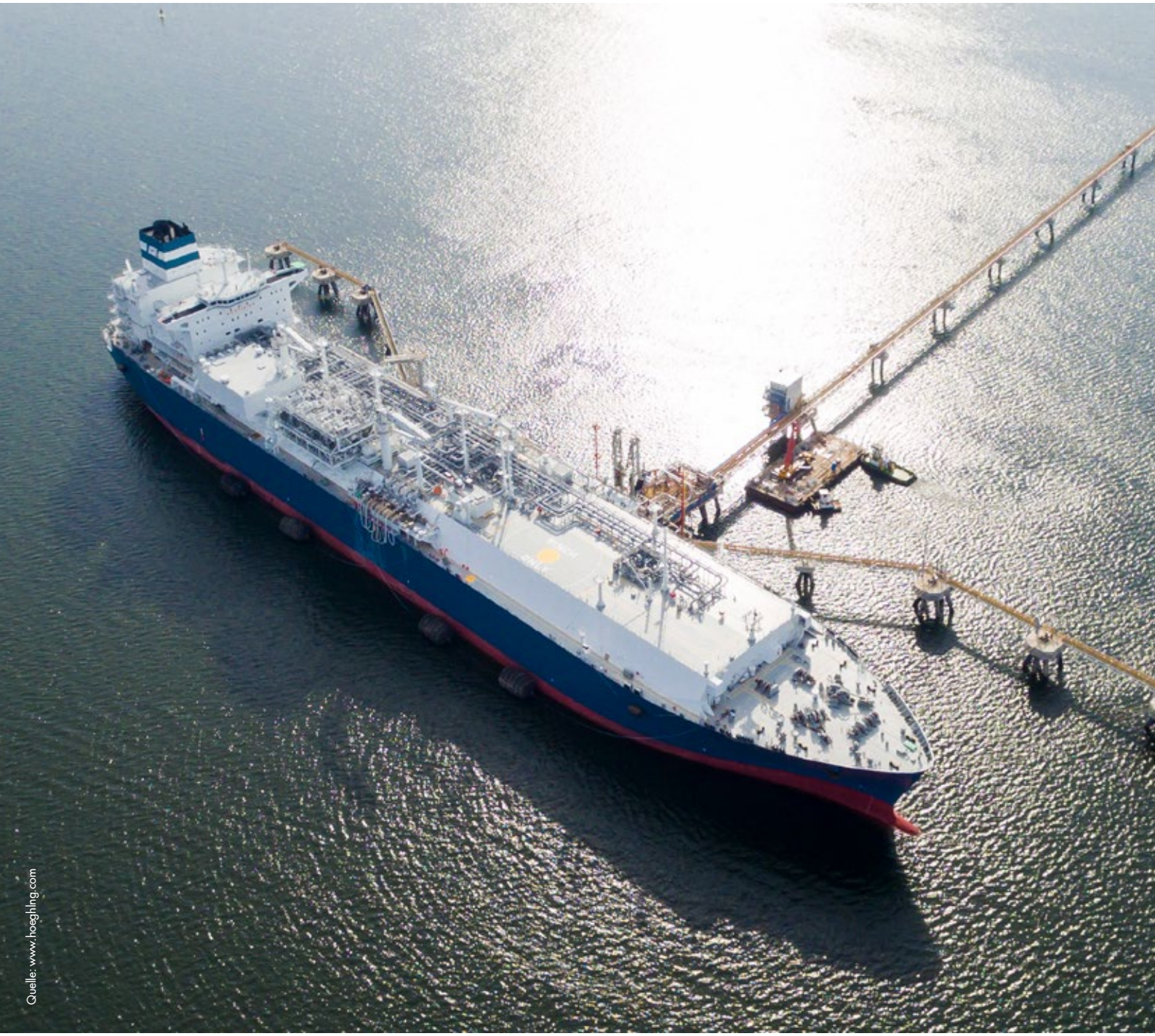
OIL AND GAS

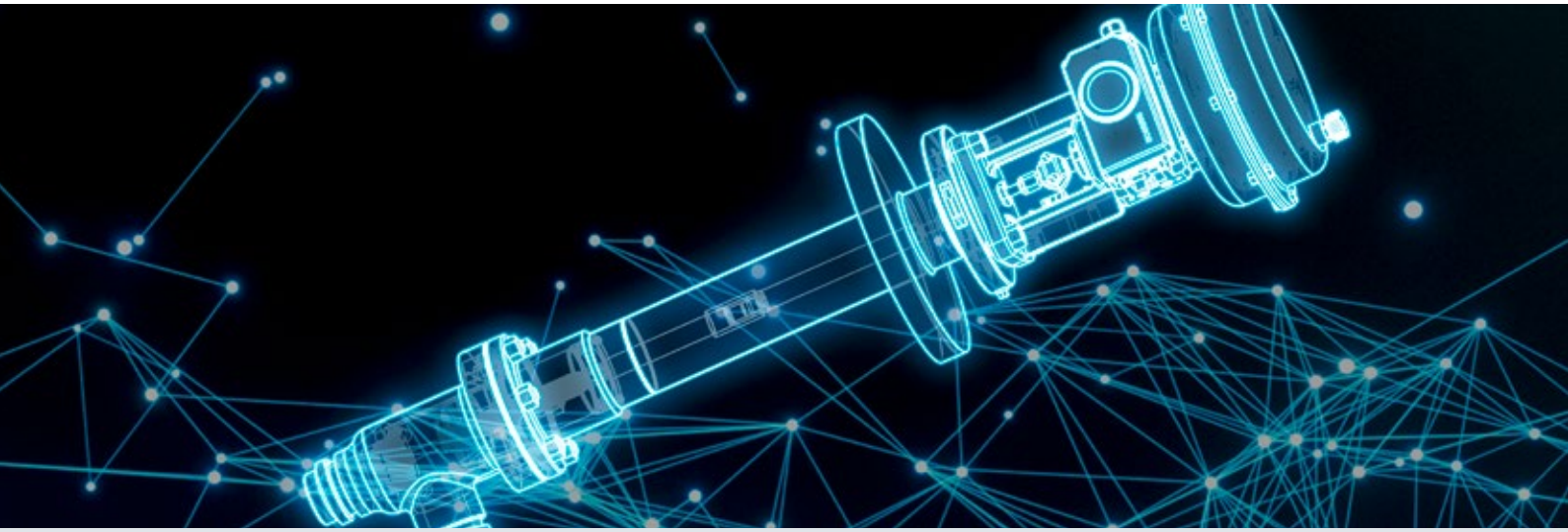


Quelle: www.hoeghlng.com

Solutions

for your LNG market

INTELLIGENT, COMPREHENSIVE SOLUTIONS



Valves

- Control and on/off valves used extensively in the most demanding conditions
- Suitable for extreme pressures and temperatures in severe service
- Designs include globe, ball, butterfly, and rotary plug valves

Actuators

- Solutions for pneumatic, hydraulic, and gas-over-oil applications
- Designs include scotch yoke, rack-and-pinion, and linear actuators
- Available in a wide variety of materials suitable for use in demanding applications

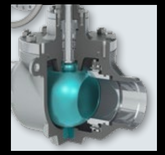
SAM DIGITAL

- Access final control elements and sensors anywhere at any time regardless of the process control system
- Fully web-based solution, which complies with strictest security standards
- All device data are saved, managed, analyzed and clearly visualized in the cloud

LIQUEFIED NATURAL GAS

OUR PORTFOLIO

FOR THE ENTIRE LNG VALUE CHAIN



GAS PROCESSING AND LIQUEFACTION

After natural gas has been extracted out of the ground, it is processed and transported in liquefied form. Liquefaction involves cooling down the natural gas to transform it into a liquid (LNG) at –160 °C to reduce its volume.

Typical applications include wellhead valves, amine letdown valves, compressor anti-surge valves, cryogenic valves, Joule-Thomson/expander bypass valves.

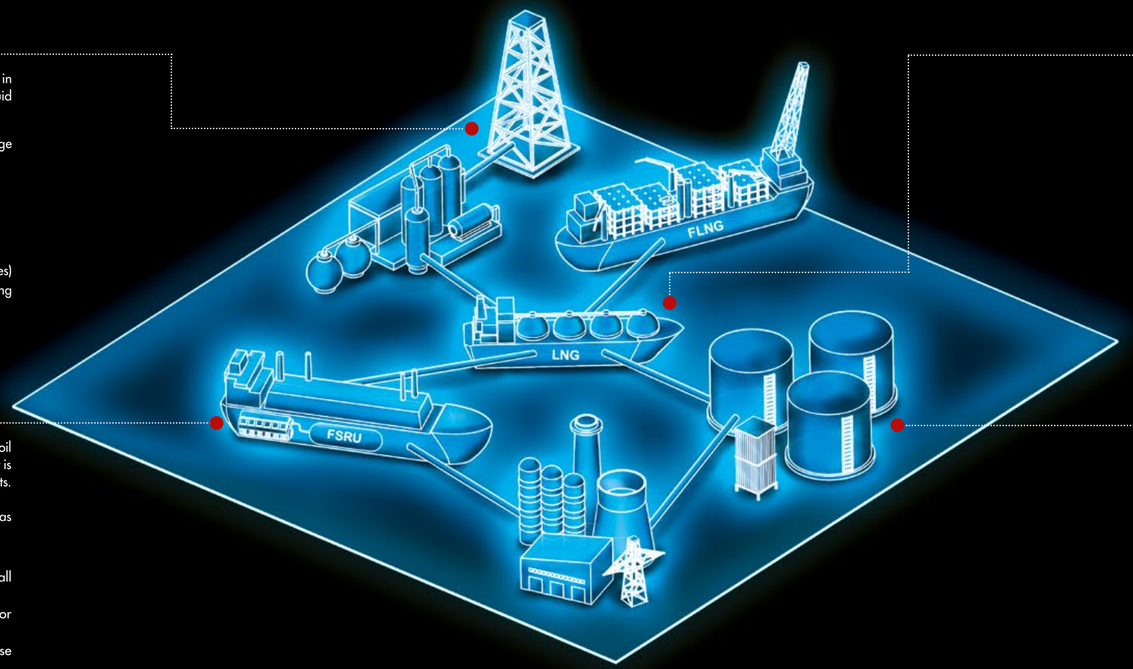
- Upstream valves complying with API requirements for on/off or throttling service
- Expertise in manufacturing, assembly and testing of valves to comply with national and international cryogenic standards
- Customized valve trims for severe service suitable for any liquefaction technology
- Cryogenic valves with top-entry design to facilitate in-line maintenance (e.g. in cold boxes)
- Globe, butterfly, double-eccentric rotary plug and ball valves with type-approved engineering designs for cryogenic service

LNG AS MARINE FUEL

Stricter emission standards in maritime transport necessitate a changeover from heavy fuel oil (HFO) to LNG. LNG is a superior marine fuel providing the best option to improve air quality. It is the only scalable marine fuel that can cut the greenhouse gas emissions of ships in line with targets.

Typical applications include BOG valves, vaporizer bypass/depressurization valves, fuel gas valves and shut-off valves in LNG fuel gas systems.

- Valves suitable to control the supply gas within a range from 4 to 350 bar(g) in all major engine types and makes
- Type-approved cryogenic valves to meet the requirements stipulated by all major marine classification societies
- Reliable severe service solutions for challenging flow conditions such as two-phase flows, flashing or cavitation
- Proven in use with more than 50 fuel gas systems in operation worldwide
- Globe and angle valves with type-approved engineering designs



LNG STORAGE AND SHIPPING

The transportation of liquefied natural gas (LNG) involves any movement or shipping of natural gas while in its liquid form. LNG carriers are commonly used to ship LNG. These tank ships are specially designed to handle and ship LNG.

Typical applications include storage tank valves, cryogenic cargo valves, BOG (boil-off gas) valves in LNG carriers.

- Valve sealing systems with long-term sealing performance at cryogenic temperatures and during thermal cycling of LNG
- Type-approved cryogenic valves to meet the requirements stipulated by marine classification societies (ABS, DNV-GL, Lloyds, BV, CCS, Class NK, RINA etc.)
- Cryogenic valves with butt-weld ends and top-entry design to facilitate maintenance
- Butterfly, ball and globe valves with type-approved engineering designs for cryogenic service

STORAGE AND REGASIFICATION

LNG is delivered to marine import terminals/LNG regasification vessels where it is reheated and converted back into a gas through a regasification process before it is fed into the gas pipeline network.

Typical applications include vaporizer valves, high-pressure pump valves, metering valve and ESD valves in floating storage regasification units (FSRU).

- Design suitable for corrosive environments on ships and onshore terminals
- Compact design suitable in applications where space and weight are limited (e.g. LNG carrier, FSRU conversion ships)
- Trim designs for severe service for applications involving high differential pressures, cavitation, flashing etc.
- Globe, butterfly, double-eccentric rotary plug and ball valves with type-approved engineering designs for cryogenic service

SAMSON AT A GLANCE

STAFF

- Worldwide 4,000
- Europe 3,300
- Asia 500
- Americas 200
- Frankfurt am Main, Germany 1,600

MARKETS

- Chemicals and petrochemicals
- Power and energy
- District heating and cooling, building automation
- General industry
- Industrial gases
- Food and beverages
- Metallurgy and mining
- Oil and gas
- Pharmaceuticals and biotechnology
- Marine equipment
- Water and wastewater
- Pulp and paper

PRODUCTS

- Valves
- Self-operated regulators
- Actuators
- Valve accessories
- Signal converters
- Controllers and automation systems
- Sensors and thermostats
- Digital solutions

SALES SITES

- More than 50 subsidiaries in over 40 countries
- More than 200 representatives

PRODUCTION SITES

- SAMSON Germany, Frankfurt, established 1916
  Total plot and production area: 150,000 m²
- SAMSON France, Lyon, established 1962
  Total plot and production area: 23,400 m²
- SAMSON Turkey, Istanbul established 1984
  Total plot and production area: 11,053 m²
- SAMSON USA, Baytown, TX, established 1992
  Total plot and production area: 9,200 m²
- SAMSON China, Beijing, established 1998
  Total plot and production area: 10,138 m²
- SAMSON India, Pune district, established 1999
  Total plot and production area: 18,000 m²
- SAMSON Russia, Rostov-on-Don, established 2015
  Total plot and production area: 5,000 m²
- SAMSON AIR TORQUE, Bergamo, Italy
  Total plot and production area: 27,684 m²
- SAMSON CERA SYSTEM, Hermsdorf, Germany
  Total plot and production area: 14,700 m²
- SAMSON KT-ELEKTRONIK, Berlin, Germany
  Total plot and production area: 1,060 m²
- SAMSON LEUSCH, Neuss, Germany
  Total plot and production area: 18,400 m²
- SAMSON PFEIFFER, Kempen, Germany
  Total plot and production area: 35,400 m²
- SAMSON RINGO, Zaragoza, Spain
  Total plot and production area: 18,270 m²
- SAMSON SED, Bad Rappenau, Germany
  Total plot and production area: 10,370 m²
- SAMSON STARLINE, Bergamo, Italy
  Total plot and production area: 26,409 m²
- SAMSON VETEC, Speyer, Germany
  Total plot and production area: 27,090 m²

SAMSON AKTIENGESELLSCHAFT
Weismuellerstrasse 3 · 60314 Frankfurt am Main, Germany
Phone: +49 69 4009-0 · Fax: +49 69 4009-1507
E-mail: samson@samson.de · Internet: www.samson.de

2019-09 · WA425 EN