

SSLNG RECEIVING
TERMINAL
CARGO HANDLING
SYSTEM
FGSS FUEL GAS
SUPPLY SYSTEM
LNG4SPEED STT/TTS
CARGO TANKS

COMPANY  **PROFILE**





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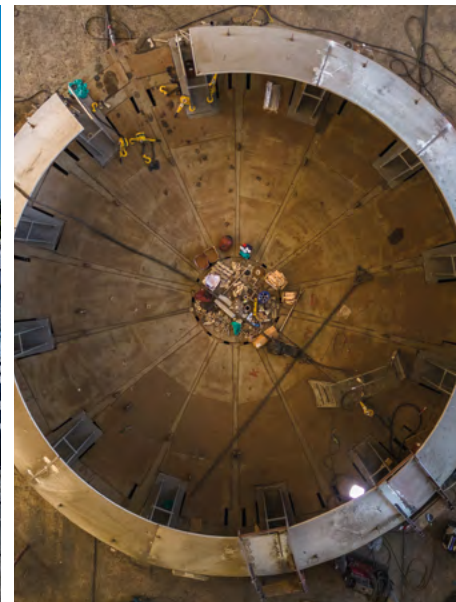
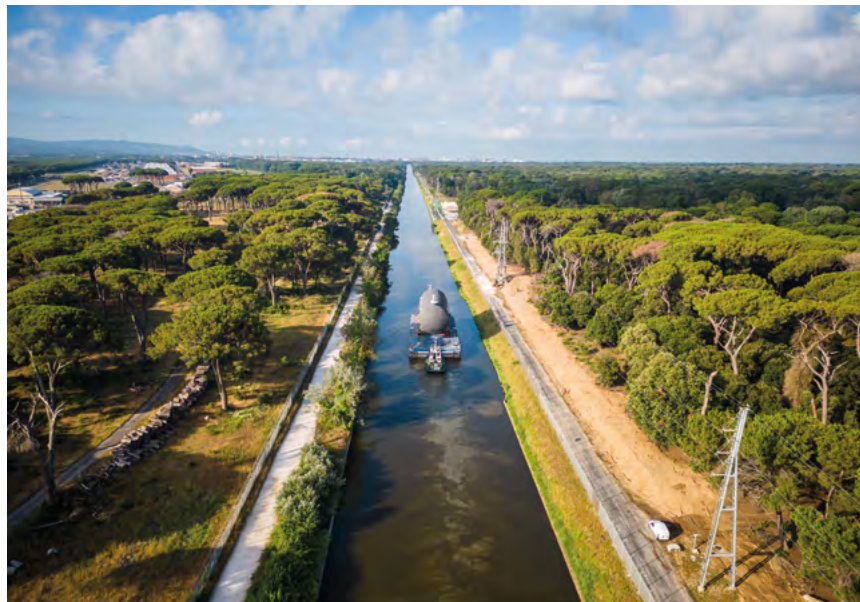
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FACILITY AND PRODUCTION SITE



Tombolo is home to our operational headquarters, in the heart of Tuscany, just minutes from the Port of Livorno and Pisa International Airport. The facility spans **38,000 m²**, with **11,000 m²** of covered space and two dedicated docks. Finished components reach the Port of Livorno by barge via the Canale dei Navicelli – the historic navigable canal linking Tombolo to the sea – which can accommodate loads of up to **1,000 tonnes**.

Continuous improvement that **never stops**.

OUR HISTORY

Gas and Heat has been designing and building cryogenic gas plants since 1996. In 2026, we celebrate our **first 30 years**. For three decades, we have faced every challenge with the same ambition: turning ideas into solutions and vision into reality, putting knowledge, innovation and forward thinking at the service of the energy industry's evolution. An important milestone, with our eyes already set on the future and the opportunities ahead.

Three generations of the same family have run the company for over 75 years. We are Europe's longest-standing builder of tanks and plants.



TIMELINE

1948

Officine Sanmarco was established

1978

We built our **first cargo tank**

1996

Gas and Heat was established

2026

Gas and Heat celebrates its first **30 years**

...

On going

WHAT WE DO

At Gas and Heat, innovation, continuous improvement and environmental responsibility are not just words: they are how we approach every project.

SERVICES



Design



Procurement



Construction



Shipment



Supervision
at the yard



Commissioning
and training



After-sales
service



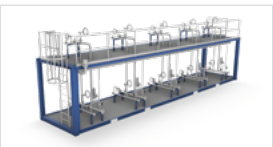
Gas trial

CH₃OH LNG NH₃ LCO₂

LNG 4 speed
STT / TTS



LNG 4 speed
CONNECTO
UP TO TEN UNITS AT ONCE.



LNG

SMALL-SCALE
RECEIVING TERMINAL
ONSHORE / OFFSHORE



LNG BIO
LNG LH₂ LCO₂ CH₃OH NH₃

RESEARCH AND
DEVELOPMENT



LNG LPG NH₃

FGSS FOR GAS
FUELLED VESSELS



LNG CH₃OH NH₃ LCO₂

LPG LEG LH₂

CARGO AND FUEL GAS CONTAINMENT
AND HANDLING SYSTEMS



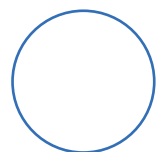
CARGO TANKS

We have gained extensive field experience, delivering more than 60 cargo handling systems for the transport of LNG, ammonia and liquefied ethylene gas (**LEG**).

We handle the basic and detailed design of the cargo system, together with the procurement of machinery, equipment, components and instrumentation.

Automation is developed in-house: the control panel is built and undergoes Factory Acceptance Testing (**FAT**) before shipment, in accordance with the Functional Design Specification (**FDS**) issued by our engineers.

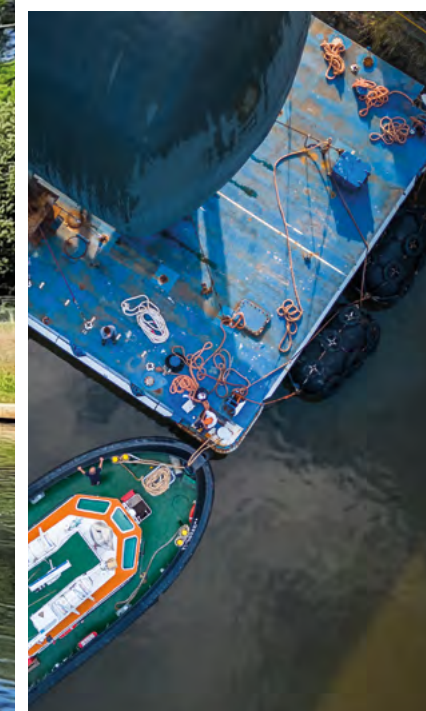
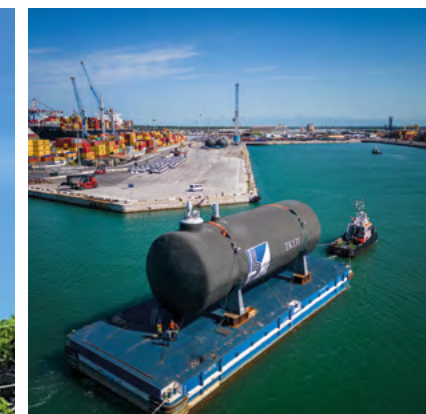
TYPE C DESIGN AVAILABLE:



Cylindrical



Bi-lobe



LNG

NH₃

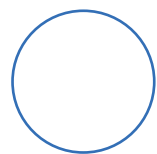
LEG

LCO₂

FGSS FOR GAS-FUELLED VESSELS

Gas and Heat designs and builds **Fuel Gas Supply Systems for gas-fuelled vessels** using LNG, ammonia and LPG, each requiring its own tailored approach. Adapting these solutions is not simply a matter of scaling down large-scale gas technologies: it requires purpose-built engineering innovation to deliver competitive and sustainable solutions that increase efficiency while reducing unnecessary costs and complexity.

TYPE C DESIGN AVAILABLE:



Cylindrical



Bi-lobe



LNG

NH₃

LPG

SCOPE OF SUPPLY – LNG SYSTEMS

- LNG evaporation, heating and boil-off gas handling systems
- Bunker stations
- Heating Media Skids
- Instrumentation
- Monitoring, alarm and control systems
- Fully insulated fuel tanks
- TCS (Tank Connection Space), connected to the fuel tank before shipment
- LNG/NG double-wall piping, including onboard installation and testing

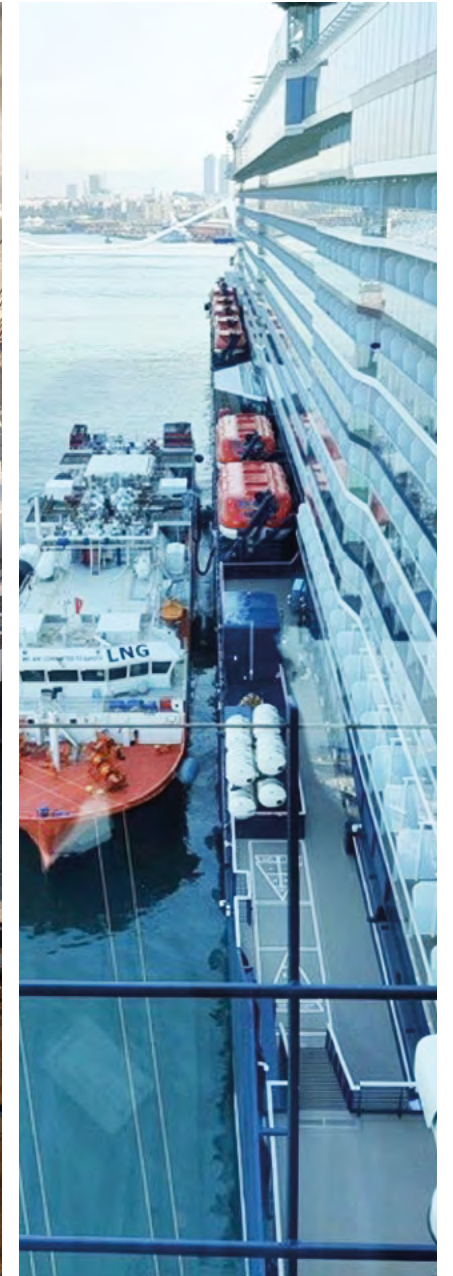
CARGO AND FUEL GAS CONTAINMENT AND HANDLING SYSTEMS

Engineering expertise across a broad range of molecules

LNG, LPG, ammonia, methanol, ethylene, liquid CO₂ and liquid hydrogen. Gas and Heat designs and builds integrated containment and handling systems for both cargo and fuel gas applications, combining cryogenic tanks, process systems, automation and instrumentation into solutions tailored to each project.

From onboard cargo handling to fuel supply for propulsion systems, every solution is built on the integration of specialist expertise, marine industry experience and the ability to meet the requirements of new energy molecules.

Engineered for efficiency. **Built for reliability.**



LNG

CH₃OH

NH₃

LPG

LEG

LH₂

LCO₂

SMALL-SCALE RECEIVING TERMINALS

Gas and Heat supports its clients through every stage of Small-Scale LNG projects, from the initial idea to full terminal operation. The experience gained through the development of the Mediterranean's first **Small-Scale LNG terminal** has built expertise that today enables us to support every phase of a project: from concept and business model definition to technology selection, from permitting and construction through to operator training and after-sales support. An integrated approach combining engineering expertise, knowledge of the LNG value chain and solutions developed around each project's specific requirements.



FROM INVESTMENT IDEA TO F.I.D.

- Analysis of the socio-economic conditions underlying the business case
- Concept design and technology selection across the entire LNG value chain, from the supply source to local off-takers
- Site selection
- Business model development
- Stakeholder, local authority and community engagement
- Safety and risk assessment: HAZID, HAZOP and FMECA
- Permitting for construction and operation

FROM F.I.D. TO OPERATION

- Support in identifying financing and incentives
- EPC contractor selection and coordination
- Support in obtaining the final terminal operating permit
- Operator training
- After-sales technical assistance
- Support in identifying off-takers and negotiating contracts

A

Type C tanks, IMO TYPE 2G, dual fuel, total cargo capacity approx. 7,500 m³

B

Mediterranean's first Small-Scale LNG terminal (Sardinia), capacity 9,000 m³

LNG4SPEED® TTS

LNG4SPEED® Truck-to-Ship (TTS) is the solution developed by Gas and Heat to make LNG bunkering from truck to ship faster, safer and more efficient.

Through integrated management of onboard BOG and truck pressure, the system streamlines transfer operations and significantly reduces bunkering time. The ability to connect and swap multiple trucks without interrupting the transfer also provides greater operational continuity and flexibility.

PERFORMANCE AND BENEFITS



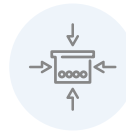
Integrated management of onboard BOG and truck pressure to reduce bunkering time



Electrical power available from ship or shore



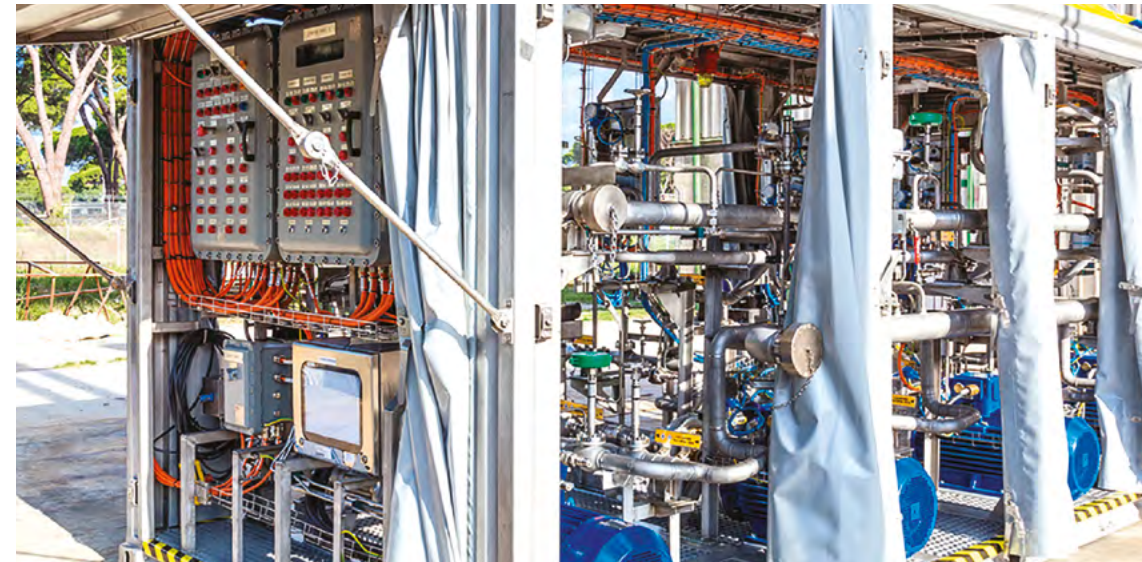
Designed to prevent methane releases to the atmosphere during transfer operations



Compact, lightweight design for easier installation, handling and use



Connection and disconnection of multiple trucks, from 1 to 4, without interrupting bunkering operations



Speed. Zero emissions.
Continuous bunkering.

LNG4SPEED® STT

LNG4SPEED® Ship-to-Truck (STT) is the solution developed by Gas and Heat for the safe and efficient transfer of LNG directly from ship to trucks and isocontainers.

Compact, mobile and easy to transport, the system enables breakbulk distribution operations across different port environments, providing the flexibility needed to adapt to each project's operational and infrastructure requirements.

INSTALLATION CONFIGURATIONS



Onboard ship, secured by a dedicated twist-lock system, so it travels with the vessel and is ready for use at different ports of call



Onshore, for permanent installations in dedicated truck-loading areas



On a trailer, secured by twist-lock, for easy transfer and use wherever required



On a flat-deck barge, to reach FSU and FSRU units moored in sheltered waters



CH₃OH

LNG

NH₃

LCO₂

LNG 4 speed[®]
STT

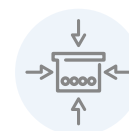
PERFORMANCE AND BENEFITS



Breakbulk distribution of LNG from ship-to-trucks or isocontainers



Designed to prevent methane releases to the atmosphere during transfer operations



Optimised weight and footprint for easier transport, handling and use



Dedicated devices for simple and safe connection and disconnection

Mobility. Flexibility.
Safe LNG transfer.

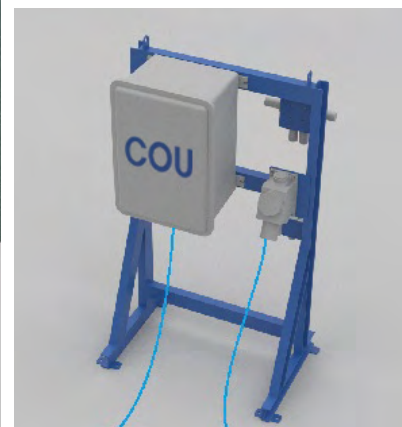
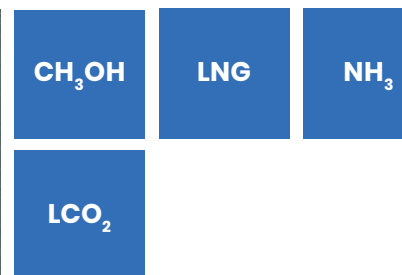
LNG4SPEED® STT+

SCALABILITY. CENTRALISED CONTROL. ZERO COMPROMISE.

LNG4SPEED® STT+ takes the flexibility of Ship to Truck transfer to a larger scale. Up to 6 units can operate simultaneously, independently feeding up to 30 trucks. The Centralized Operating Unit (COU) manages and monitors all connected skids from a single control point, integrating them into a coordinated safety system and acting as the central interface between the LNG4SPEED® STT+ units and the ship or FSU via a 37-pin SSL link. A modular, scalable solution designed to simplify the management of complex LNG operations while maintaining high standards of safety, control and efficiency.

PROJECT REFERENCE – BRAZIL

A configuration with two **LNG4SPEED® STT+** units installed on a floating pontoon is currently in operation in Brazil, serving an FSU/FSRU moored in sheltered waters. The two skids operate in parallel and are integrated through the **Centralized Operating Unit (COU)**, enabling coordinated management of both units from a single control point.



LNG logistics
made simple:
**fast to
connect,
safe to run.**

LNG4SPEED® CONNECTO

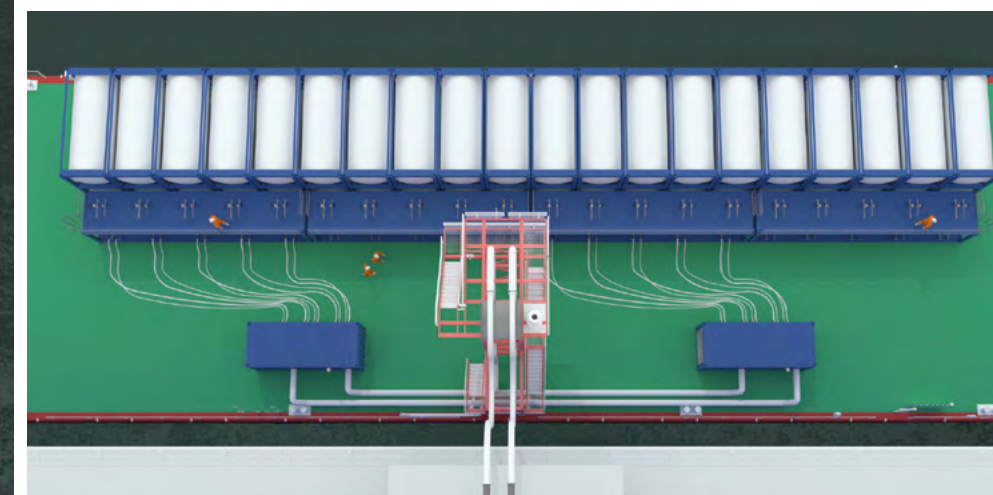
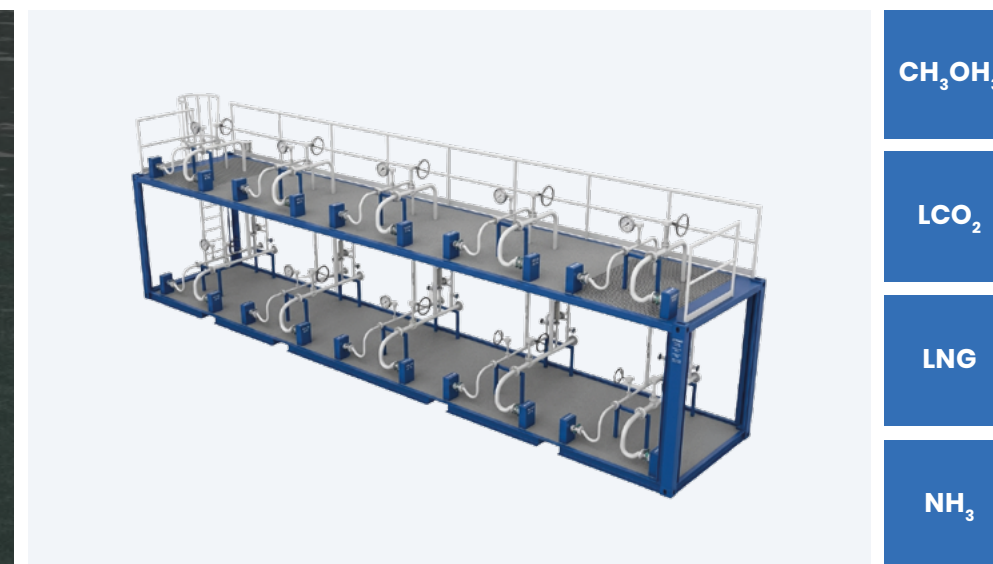
TEN CONNECTIONS. ONE SKID.
MAXIMUM CONTINUITY.

LNG4SPEED® CONNECTO is the solution developed by Gas and Heat to increase the capacity and speed of LNG distribution from FSU and FSRU units.

Built into a single 40-foot modular unit, the system can connect up to 10 isocontainers simultaneously, enabling multiple transfer operations to run in parallel.

Compact, modular and scalable, LNG4SPEED® CONNECTO reduces operating time and simplifies operations management, delivering high distribution capacity, operational continuity and flexibility even in large-scale applications.

Fuel the future, **ten at a time.**

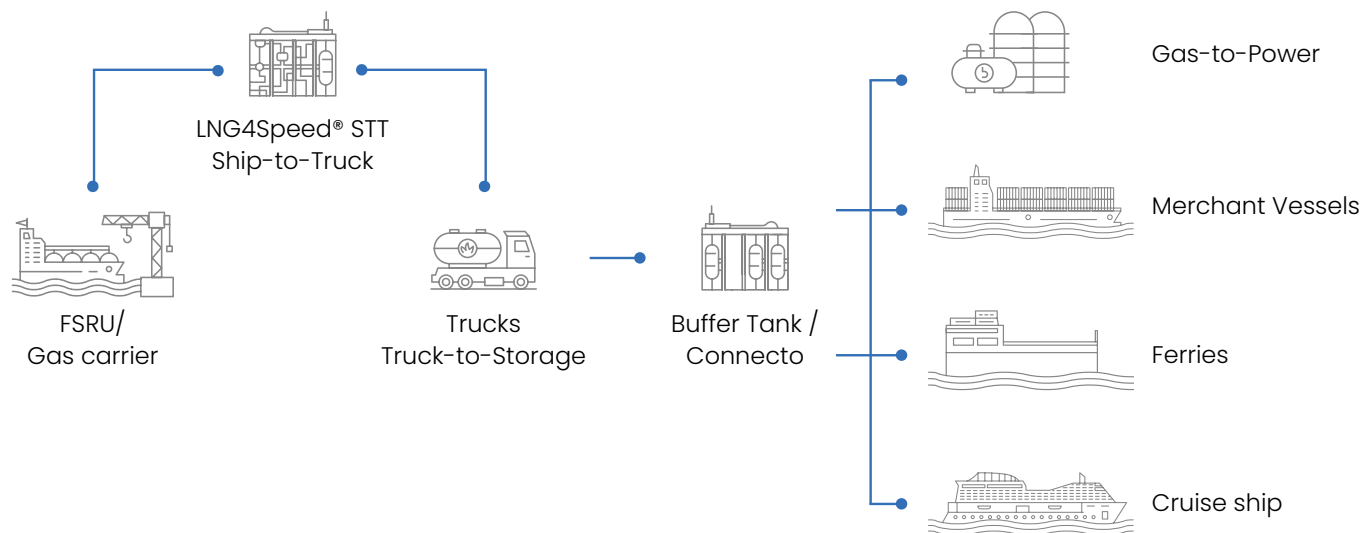


LNG 4 speed®
CONNECTO
UP TO TEN UNITS AT ONCE.

FLEXIBLE INFRASTRUCTURE IN LNG LOGISTICS

The **Connecto module** is at the heart of a flexible distribution system capable of linking ship, trucks and final destinations in a single logistics chain. From ship to distribution network — gas-to-power and bunkering for merchant vessels, ferries and cruise ships — **LNG4SPEED® STT and TTS** work to ensure continuity at every stage of the transfer, both upstream and downstream.

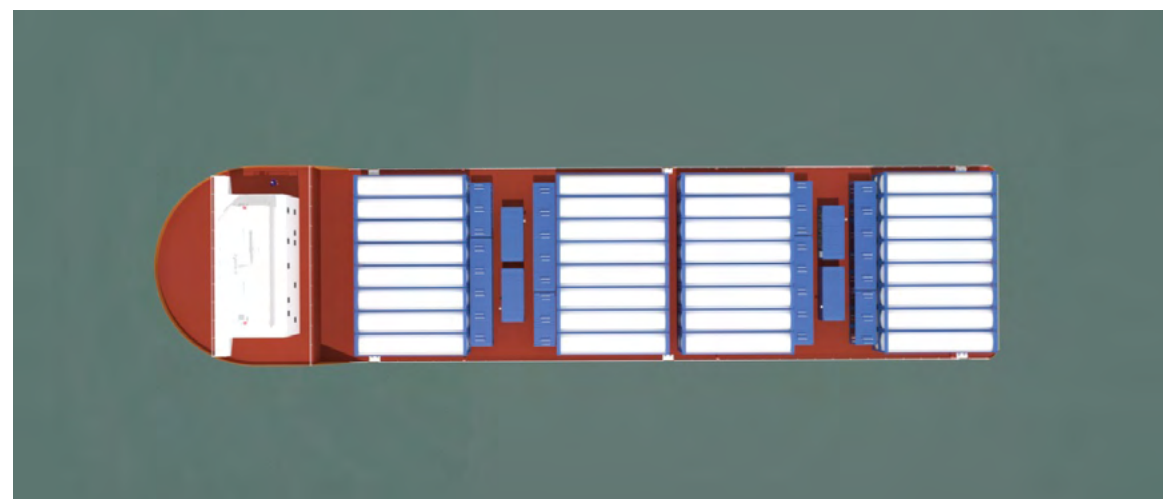
FLOW



THE 40-FOOT GAME CHANGER IN LNG LOGISTICS CONNECTO AT SCALE

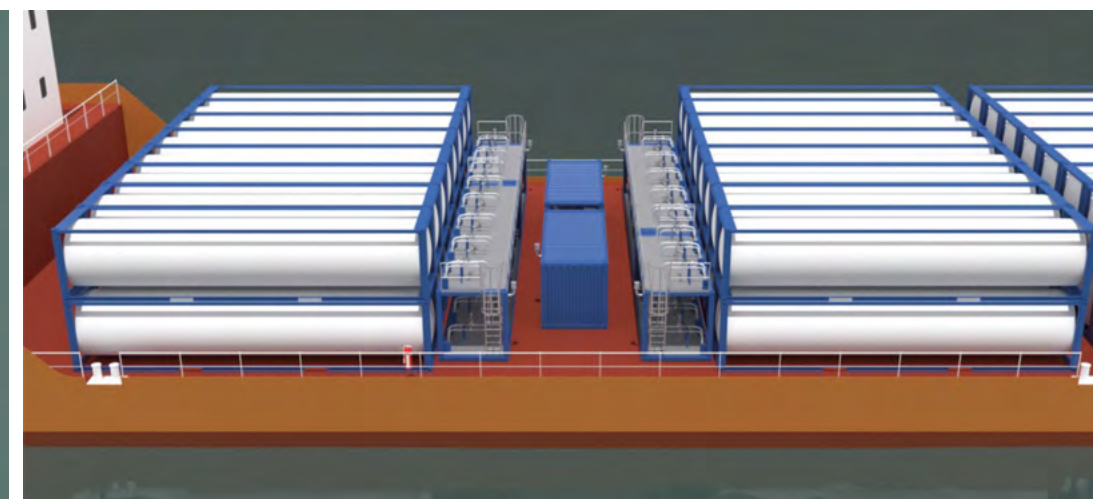
CONNECTO AT SCALE

Illustrative rendering of the **Connecto system's maximum capacity:** up to 64 isocontainers on a single barge, within just 70 × 22 m of deck space.



NO. OF ISO CONTAINERS: → 64

FREE DECK SPACE → 70X22 M



OUR R&D SUPPORTING THE ECOLOGICAL TRANSITION

Our R&D department develops highly engineered, low-impact solutions, applying decades of cryogenic expertise to the new challenges of the energy transition.

Alongside proven LNG technologies, Gas and Heat's research explores and develops solutions for bio-LNG, ammonia and hydrogen, contributing to the evolution towards increasingly efficient and sustainable energy systems.

Research is also driven by collaboration. Gas and Heat has built long-standing partnerships with **Italian and international universities** and works with research centres to develop and apply new technologies and fuels for decarbonisation.

This is how we chart the course to **decarbonisation**.



LCO ₂	BIO LNG	LH ₂	LNG	CH ₃ OH ₃	NH ₃
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ENGINEERING THE LIQUID HYDROGEN SUPPLY CHAIN

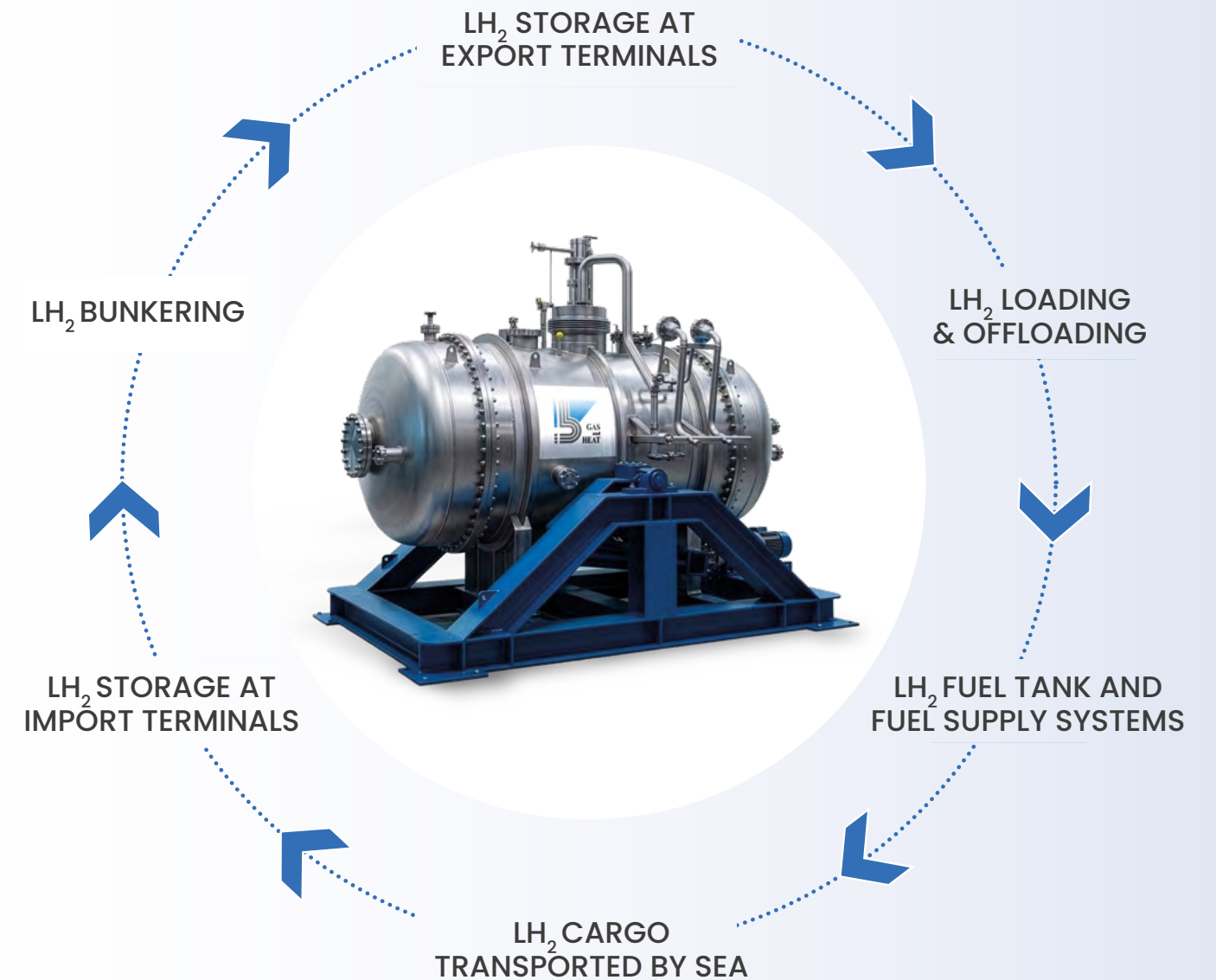
FROM STORAGE TO TRANSPORT. FROM BUNKERING TO ONBOARD FUEL SUPPLY.

Gas and Heat applies its cryogenic expertise to the development of liquid hydrogen solutions across the entire value chain, integrating capabilities in storage, transfer, maritime transport, bunkering and fuel supply.

An integrated engineering approach supporting the development of LH₂ infrastructure and new hydrogen applications for the maritime sector.



LH₂



AMMONIA PROJECT

ENGINEERING AMMONIA FOR MARITIME APPLICATIONS

Gas and Heat applies its expertise in gas containment and handling systems to the development of solutions for ammonia applications in the maritime sector.

R&D activities focus on the safe and efficient integration of NH_3 onboard vessels, developing technologies for both containment and fuel supply, with particular attention to engineering, safety and regulatory compliance.

FROM CONTAINMENT TO FUEL SUPPLY



LNG / NH_3 Cargo & Fuel Tank

Approval in Principle – Bureau Veritas

Development of an IMO Type C tank compatible with both LNG and ammonia, for cargo and fuel applications. Material compatibility with NH_3 was verified through dedicated Stress Corrosion Cracking tests and validated by Bureau Veritas.



NH_3 Fuel Supply System

Approval in Principle – RINA

Development of an innovative $2 \times 260 \text{ m}^3$ NH_3 Fuel Supply System for cargo vessels using ammonia as their main fuel, which has received Approval in Principle from RINA.

 NH_3


R&D PROJECTS

LIQUID CARBON DIOXIDE

ENGINEERING THE FUTURE OF LCO₂ MARINE TRANSPORT

Gas and Heat, in partnership with voestalpine Grobblech, has successfully completed field welding qualifications on **F550 TMCP toughcore**, an advanced carbon-manganese steel developed for applications including medium-pressure LCO₂ transport tanks.

The welding procedures were performed by Gas and Heat in accordance with MSC.1/Circ.1622 Guidelines for alternative metallic materials for cryogenic service, confirming the material's suitability for future liquid CO₂ marine transport applications.

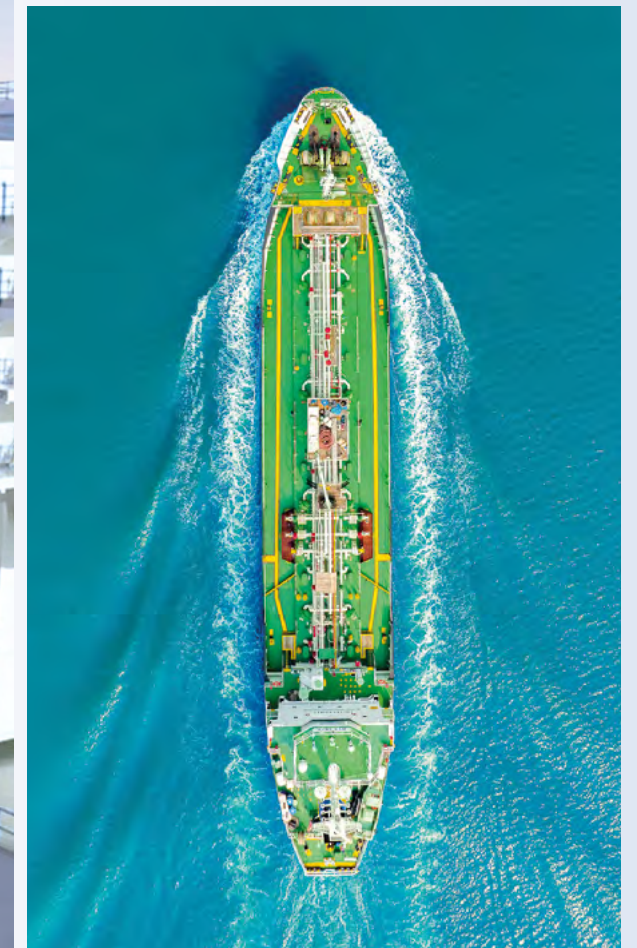
Material Qualification

Voestalpine F550 TMCP toughcore



LCO₂

Material innovation.
Proven weldability.
Ready for LCO₂.



NAVHYS PROJECT

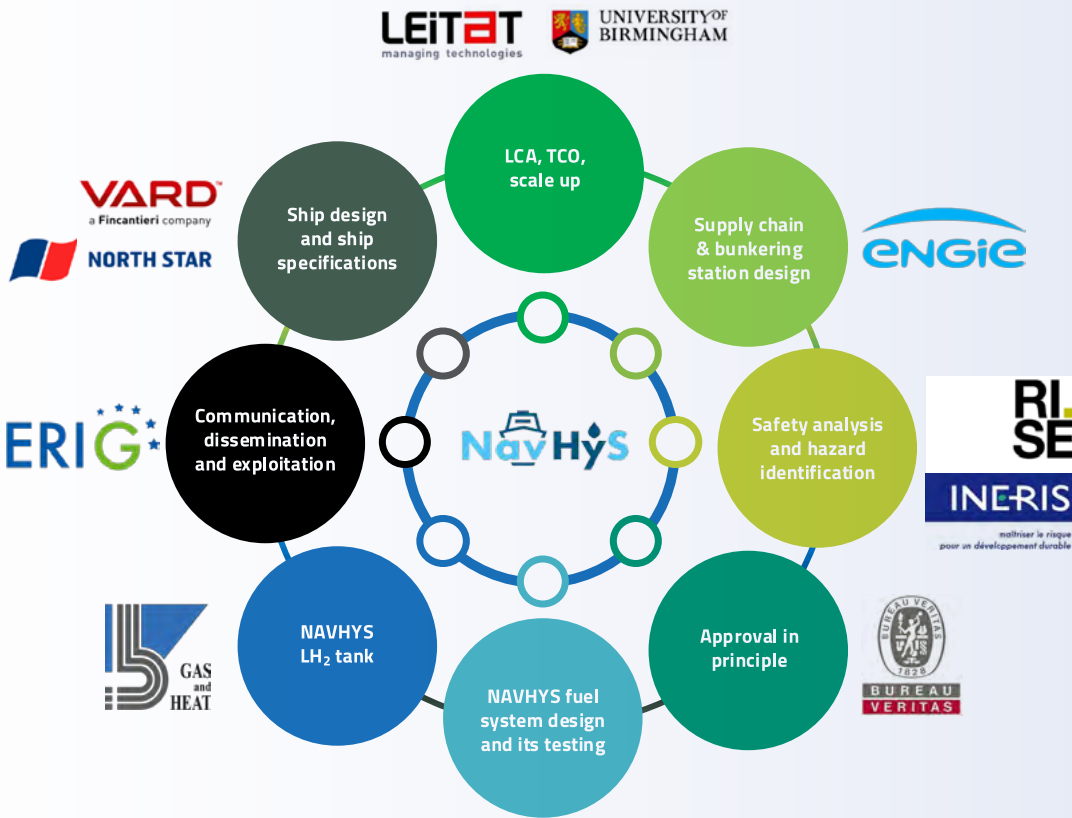
LIQUID HYDROGEN.
ENGINEERED
FOR LIFE AT SEA

HYDROGEN POWER FOR THE NEXT GENERATION OF SOVS

NavHyS is a European research project developing an innovative below-deck liquid hydrogen storage and fuel supply system for Service Operating Vessels (SOVs).

Designed for both newbuild and retrofit applications, the system will store liquid hydrogen onboard and deliver gaseous hydrogen at the conditions required by the propulsion system, supporting power applications ranging from 500 kW to 2 MW.

The project brings together 14 leading European partners from the space, shipbuilding, transport, energy and safety sectors to develop and validate the complete hydrogen fuel infrastructure - from LH₂ bunkering and onboard storage to distribution and fuel supply.



LCO₂

NAVHYS AT A GLANCE

OBJECTIVE	Below-deck LH ₂ storage and fuel supply system
APPLICATION	Service Operating Vessels (SOVs) – Newbuild & Retrofit
POWER RANGE	500 kW – 2 MW
COORDINATION	ArianeGroup Germany
FUNDING	Horizon Europe – Clean Hydrogen Partnership
DURATION	2025/2027
EU CONTRIBUTION	€ 5 million



Co-funded by the
European Union

REFERENCE LIST



Download our Reference List





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