



Marine Service GmbH

LNG

Technical Services

Commercial Advisory Services

Offshore Wind Power

Siemens presspicture

# Pioneering Solutions





Marine Service GmbH



Pioneering Solutions for:

# LNG

Since the 1960's Marine Service has been involved in the LNG business with LNG carrier design consultancy, plan approval and construction supervision as well as floating and land-based LNG terminal consultancy services for a wide range of international clients. In the last few years there has been growing interest in LNG as an environmentally friendly fuel for trucks, trains and ships. To this end,

Marine Service has been leveraging its LNG consultancy and engineering experience in many 'LNG as marine fuel' projects worldwide. Marine Service designs and delivers turn-key LNG as marine fuel solutions for a wide range of commercial vessels, both for newbuildings and existing vessels. As a quick fix to ensure ECA compliance with upcoming marine emission regulations, Marine Service designed the world's first LNG fuel tank container. This LNG fuel tank container allows ship operators to use LNG, stored and transported in LNG containers, to fuel their vessels using the existing container distribution infrastructure.



**Dr. Ing. Jochen Schmidt-Lübmann,**  
Senior Cryogenic Engineer, Marine Service:  
*"More than 50 years of experience in LNG make us pushing the boundaries every day, a little further to provide you with the solution you need."*



- Gas as marine fuel solutions for commercial vessels
- LNG fuel tank containers
- LNG-fuelled power barge design
- Gas tanker designs with various propulsion options
- LNG terminal design and ship/shore interfaces
- Small bunkering solutions
- LNG FS(R)U conversions of existing LNG carriers
- FEED (Front End Engineering and Design) studies

$$BOR = \frac{\sum BOR_i / (TK_i \cdot \sqrt{V_i})}{\sum \sqrt{V_i}}$$



Marine Service GmbH

*Pioneering Solutions for:*

# Technical Services

Marine Service has vast experience in the design, engineering and construction of a wide range of ship types and marine equipment. The Marine Service engineering staff consists of highly qualified and experienced naval architects and mechanical, marine and electric engineers. With the customer's requirements as a starting point, MS engineers design solu-

tions compliant with the complex marine regulatory framework. Reliability, operability, maintainability and value for money define the Marine Service solutions for the marine industry.

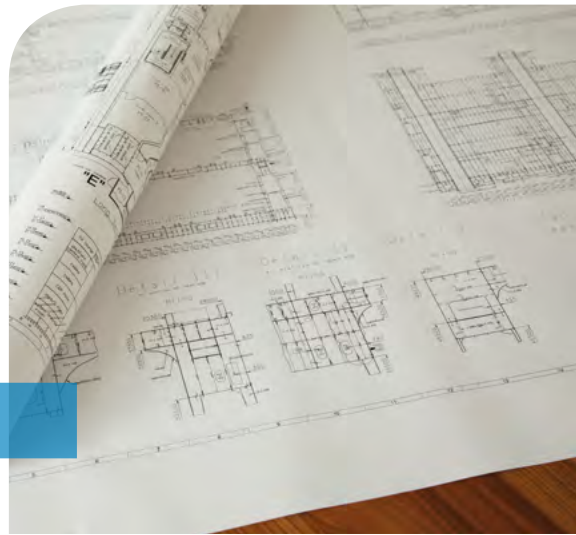
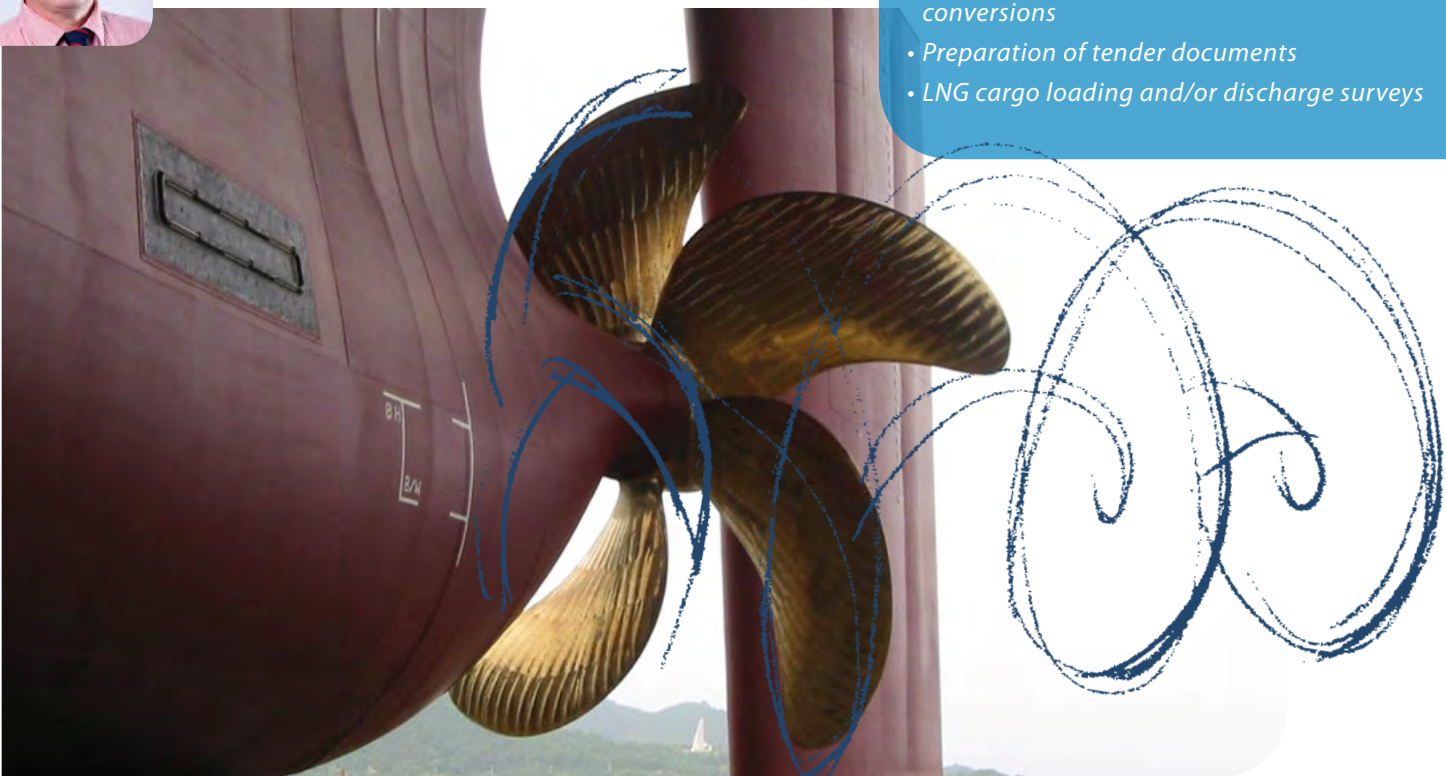
*Our services include, but are not limited to:*

- *Project management*
- *Plan approval*
- *Construction supervision*
- *Ship inspections and lay-up surveys*
- *Mooring calculations/ship-shore interfaces*
- *Initial designs for new-buildings and conversions*
- *Preparation of tender documents*
- *LNG cargo loading and/or discharge surveys*



**Dipl. Ing. Christian Gayer,**  
Technical Director, Marine Service:

*"Pioneering means to discover new continents and have the courage to lose sight of the coast."*





Marine Service GmbH

*Pioneering Solutions for:*



# Commercial Advisory Services

From the initial feasibility study to the final realisation of the project, Marine Service provides a wide range of commercial advisory services. Marine Service acts as commercial and technical advisor to shipyards, ship owners, charterers, banks and other interested parties involved in the marine industry. The commercial and technical experience of Marine Service, com-

bined with the operational background of the shipping company Chemikalien Seetransport, also a member of the KHK Group (Dr. Karl-Heinz Krämer GmbH) makes Marine Service a one stop shop for consultancy services in the marine business.



**Dipl.-Ing. Rainer Olbricht,**  
Sales Director, Marine Service:

*"Even the longest way starts with the first step – we help you stay on the right track and reach your goal."*

- *Commercial/technical studies and research*
- *Feasibility studies*
- *Transportation arrangements*
- *Fleet optimization studies*
- *Due diligence for investors*
- *Tendering and tender evaluations*
- *Shipbuilding contracts*
- *Advisory services for charter parties and LNG sales & purchase agreements*





Marine Service GmbH

*Pioneering Solutions for:*



# Offshore Wind Power

Offshore wind power is one of the most promising green energies worldwide. With its know-how in the maritime technology Marine Service is pioneering in the sector of offshore platforms from the concept design phase up to certification and guaranty period. The 360° service and competence makes Marine Service a reliable and highly skilled partner for offshore wind power projects worldwide.



**Dr. Ing. Glenn Bannister,**  
Senior Engineer, Marine Service:

*"There will be no energy turnaround without offshore wind energy. We support you in finding solutions to bring the energy back onshore."*

- *Tendering services*
- *Project management for complex offshore structures and installations*
- *Design reviews and plan approval*
- *Risk analysis, HAZID, HAZOP, FMEA*
- *RAM studies (reliability, accessibility and maintainability)*
- *Platform operation & maintenance concept development*
- *Construction supervision in the assembly yard*
- *Installation, transport & commissioning supervision*



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Marine Service GmbH

# From Hamburg... to the World

Hamburg based Marine Service GmbH is part of the family owned Dr. Karl-Heinz Krämer GmbH. Founded in 1958 as a marine engineering company for the development, design, plan approval and construction supervision of seagoing vessels, Marine Service is today also specialized in energy transportation, offshore wind power transformer and converter platforms and develops sophisticated technical and economical solutions for its

customers. Marine Service is pioneering in the development of alternative fuel and propulsion technologies and is a leading contributor in facilitating the implementation of offshore wind power projects and complex ships like carriers for LNG / LPG / LEG or chemicals, special vessels, ferries or yachts.



**Dipl.-Ing. Karsten Fach,**  
Managing Director, Marine Service:

*"Hamburg is the gate to the world and we are proud to call it home – nevertheless we will be with you wherever you need us to be."*

## Global Business

**US East Coast:**  
3 LNG carriers  
Plan approval & supervision

**US Great Lakes:**  
FEED study LNG conversion

**Mexico:**  
Molten sulphur carrier  
Plan approval & supervision

**Trinidad and Tobago:**  
LPG carrier  
Plan approval & supervision

**Venezuela:**  
Dredger refurbishment consultancy

**Argentina:**  
Design of hydrographic  
research vessel

**Algeria:**  
LNG carriers  
Plan approval & supervision

**Finland:**  
4 LNG carriers  
Plan approval & supervision

**Germany:**  
LPG carriers  
Plan approval & supervision  
Plan approval for North Sea  
AC/DC converter platforms

**Italy:**  
LNG FSRU  
Plan approval & supervision  
Project management

**Russia:**  
LNG transportation study  
LNG consultancy

**India:**  
Petronet, 3 LNG carriers  
Plan approval & supervision

**Abu Dhabi:**  
8 LNG carriers  
Plan approval & supervision

**Kuwait:**  
Livestock carrier  
Plan approval & supervision

**China:**  
Design assistance to a  
Chinese shipyard for LNG carriers

**Singapore:**  
Tugs  
Plan approval & supervision

**Korea:**  
Supervision for LNG carriers,  
LPG carriers and chemical tankers

**Japan:**  
Supervision for LNG carriers

**Indonesia:**  
Plan approval for LNG carrier

Marine Service projects worldwide:

- LNG
- Technical Services
- Commercial Advisory Services
- Offshore Wind Power



unicef

Peter Krämer Stiftung