

LNG

Technical Services

Commercial Advisory Services

Offshore Wind Power



Marine Service GmbH



# Pioneering Solutions:

## Our new LNG Barge





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LNG

# New, unique, efficient: The MS LNG Barge

In a time when clean energy becomes more and more important and marine regulations become stricter and stricter, harbours and onshore facilities need to find affordable economic solutions to supply ships and facilities with low emission energy.

Resulting from this scenario Marine Service has developed the worldwide unique LNG barge – equipped with Marine Service's LNG Fuel Tank Containers (or Type C tanks), gas handling and service containers – all 40 feet ISO types. The customized barge is able to provide services to port stations and moored or anchored ships at any time.

## PUSHER BAR

- Installed at stern for barge pushing by tug

## SERVICE CONTAINER

- 12 feet container (aux. services)
- Power generation
- Power distribution
- LNG equipment monitoring



The barge itself is to be towed and provides a pusher bar at the stern for a pusher tug. There are self-propelled versions of the barge available as well.

Marine Service developed an easy to use custody transfer system, using a weighing cell system for the LNG tank containers, which allows easy training of operators on site.

## GAS HANDLING UNIT

- Equipped with LNG liquid, vapor and vent piping, PBU and LNG pump
- Transfer of LNG from barge to tug or other vessel
- Additionally equipped with cargo hose handling cranes

## BUNKER FLANGE

- Selectable on barge deck (sides/fore/aft)

## MAIN PARTICULARS OF BUNKER BARGE:

- Length over all: abt. 50 m
- Breadth over all: 15.40 m
- Height (main deck): 3.40 m
- Design draft: abt. 1.30 m
- Displacement: abt. 785 tons



## SPUD POLES

- Spud poles providing independent barge fixation during any LNG transfer operation



## MARINE SERVICE LNG FUEL TANK CONTAINERS

- 12 double hull stainless steel 40 feet containers (EN 13530-2, App. C 2003, Corr. 1 2007)
- Length: 12.192 m
- Total volume: 43,200 m<sup>3</sup>
- IMDG container approval
- Type C tank approval (IMO IGC-code)
- Other LNG tanks usable, too

## WEIGHING CELL SYSTEM

- Container weights are recorded and reported to/by discharge/loading control unit

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# From Hamburg... to the World

Hamburg-based Marine Service GmbH is part of the family owned Dr. Karl-Heinz Krämer Holding (KHK). MS was founded in 1958 as a marine consultancy firm engaged in design and construction of seagoing ships. From the mid 1960's Marine Service has become one of the leading consultants for marine transportation and handling of LNG, LPG and Ethylene. Leveraging its LNG experience, Marine Service is now pioneering LNG as marine fuel solutions

for a wide range of inland waterway craft and seagoing vessels. In the renewable energy sector, Marine Service provides consultancy and project management for offshore wind energy platforms. From initial feasibility studies and Front-End Engineering & Design to delivery of turn-key solutions, Marine Service delivers added value to its clients.



**Dipl. Ing. Michael Kraack,**  
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



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Peter Krämer Stiftung