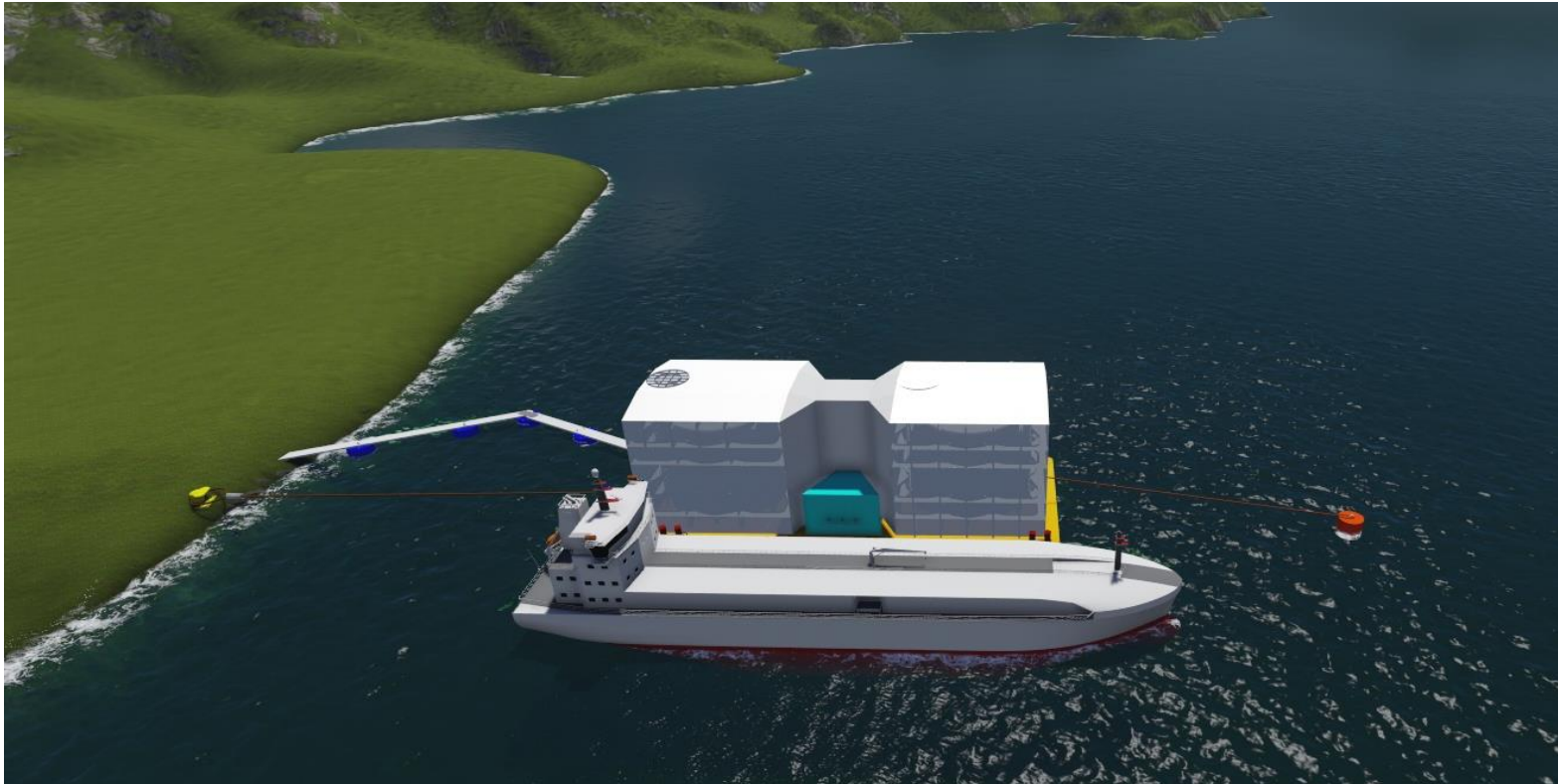


## SeaWalk – General Presentation

### SeaWalk Vard - LNG Storage Barge / LNG Terminal



# SeaWalk Vard – LNG Technology

## Potentials for Greece

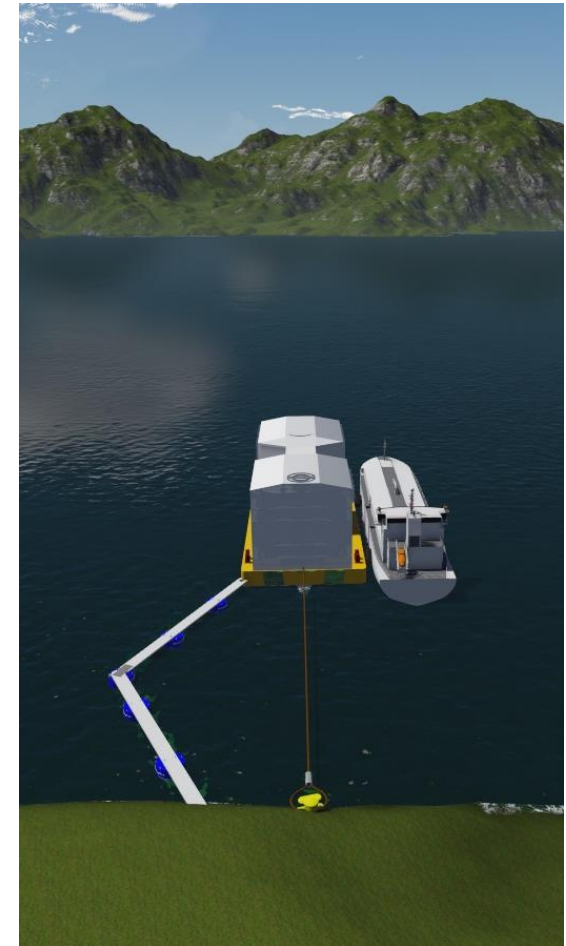
- What SeaWalk and VARD can offer to DESFA
- We appreciate DESFA is seeking for

## Poseidon Med II

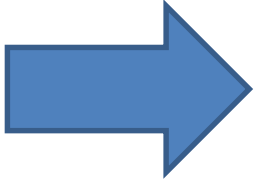
- a) LNG bunkering
- b) LNG fuelled feeder vessel
- c) ports infrastructures for bunkering operations

## Small scale LNG Projects and others

- d) LNG loading and offloading
- e) LNG storage
- f) Power generation



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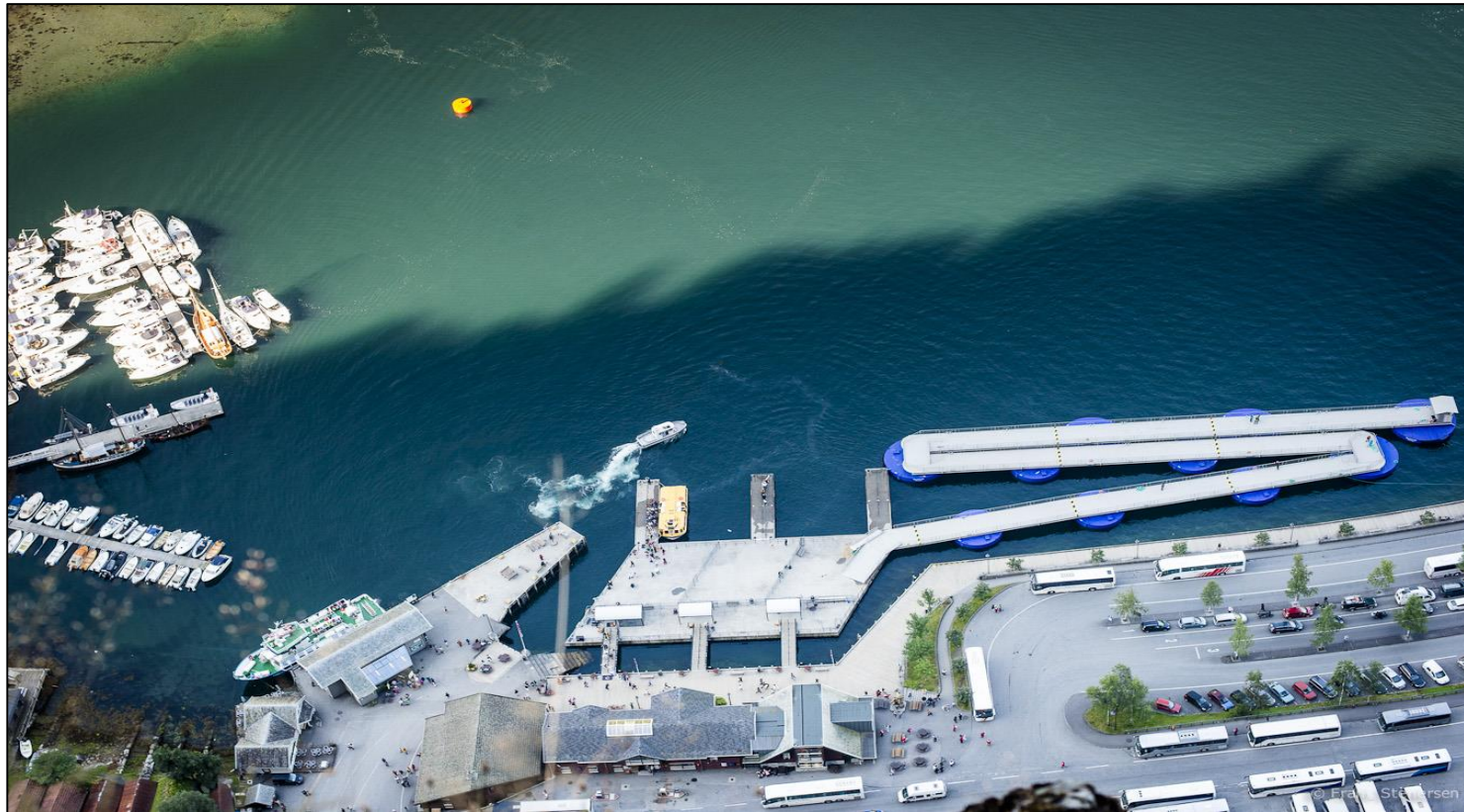
## SeaWalk Skjolden

*Supported by Innovation Norway*



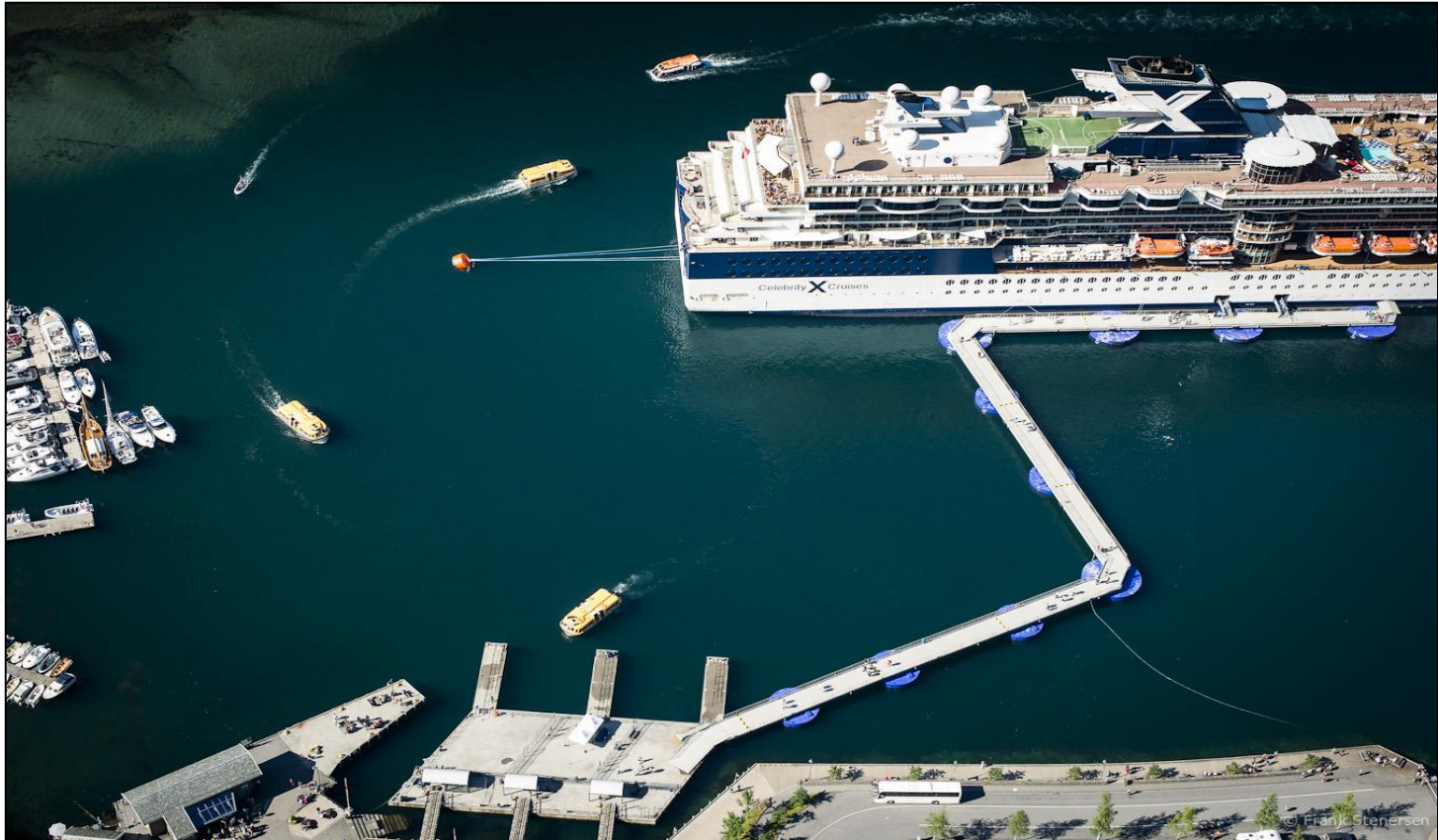


## SeaWalk Geiranger (in parked position at tender pier )



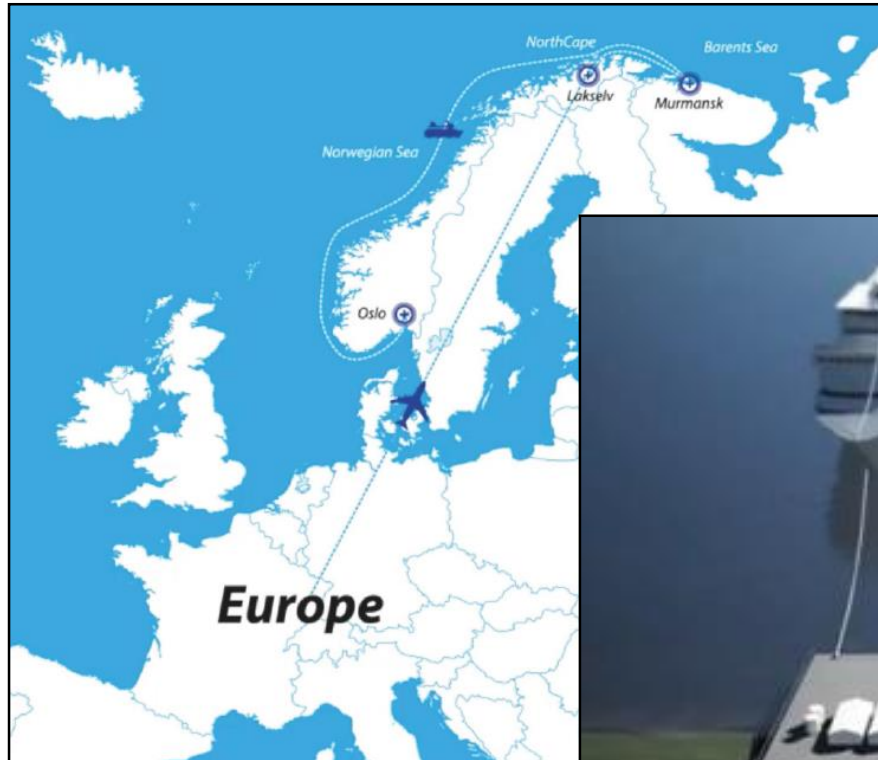
***Geiranger – a UNESCO World Heritage Site***

## SeaWalk Geiranger in operation



***Geiranger – a UNESCO World Heritage Site***

## SeaWalk NorthCape Turnaround Port





## SeaWalk Nynäshamn, Stockholms Hamn AB



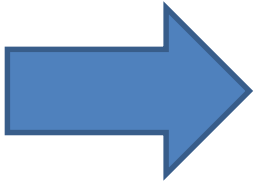


## SeaWalk Nynäshamn, Stockholms Hamn AB



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# About VARD

- VARD is one of the major global designers and shipbuilders of offshore and specialized vessels
- Headquartered in Ålesund, Norway
- Delivered more than 300 vessels since 2000
- Listed on the Main Board of Singapore Exchange (SGX)
- VARD's major owner is Fincantieri



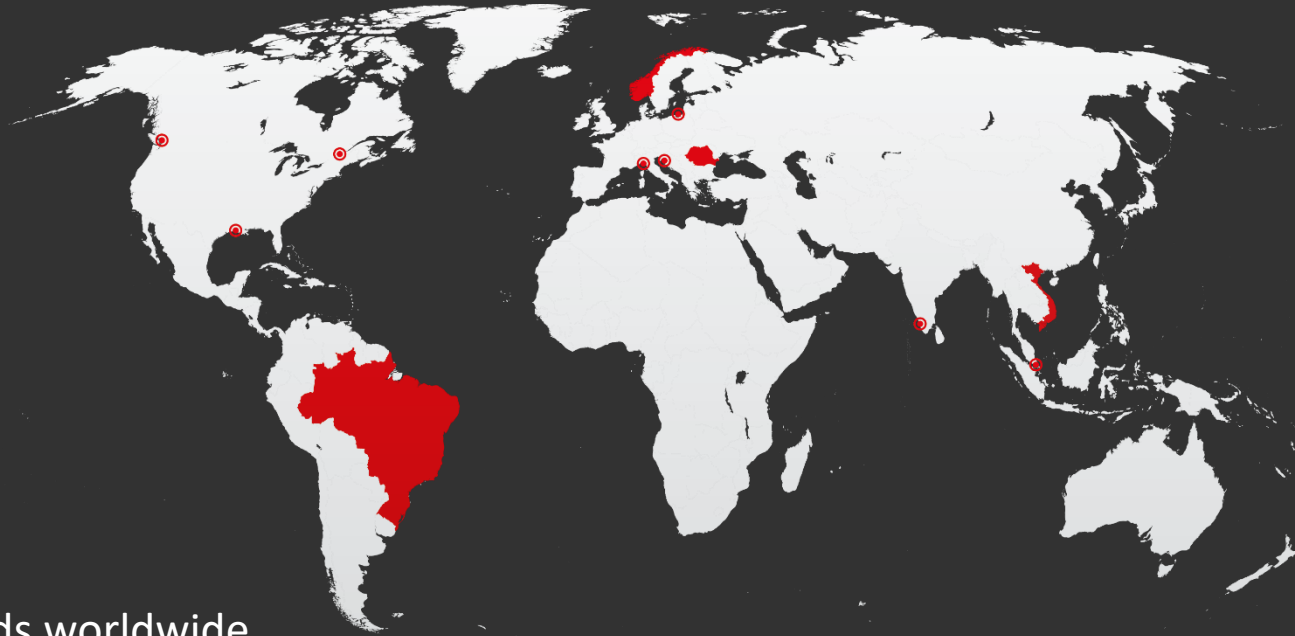
**9 353** employees  
worldwide



**10 shipyards**  
located worldwide



# Global operations



## 10 Shipyards worldwide

### Norway

Vard Aukra  
Vard Brattvaag  
Vard Brevik  
Vard Langsten  
Vard Søviknes



### Brazil

Vard Niterói  
Vard Promar



### Romania

Vard Braila  
Vard Tulcea



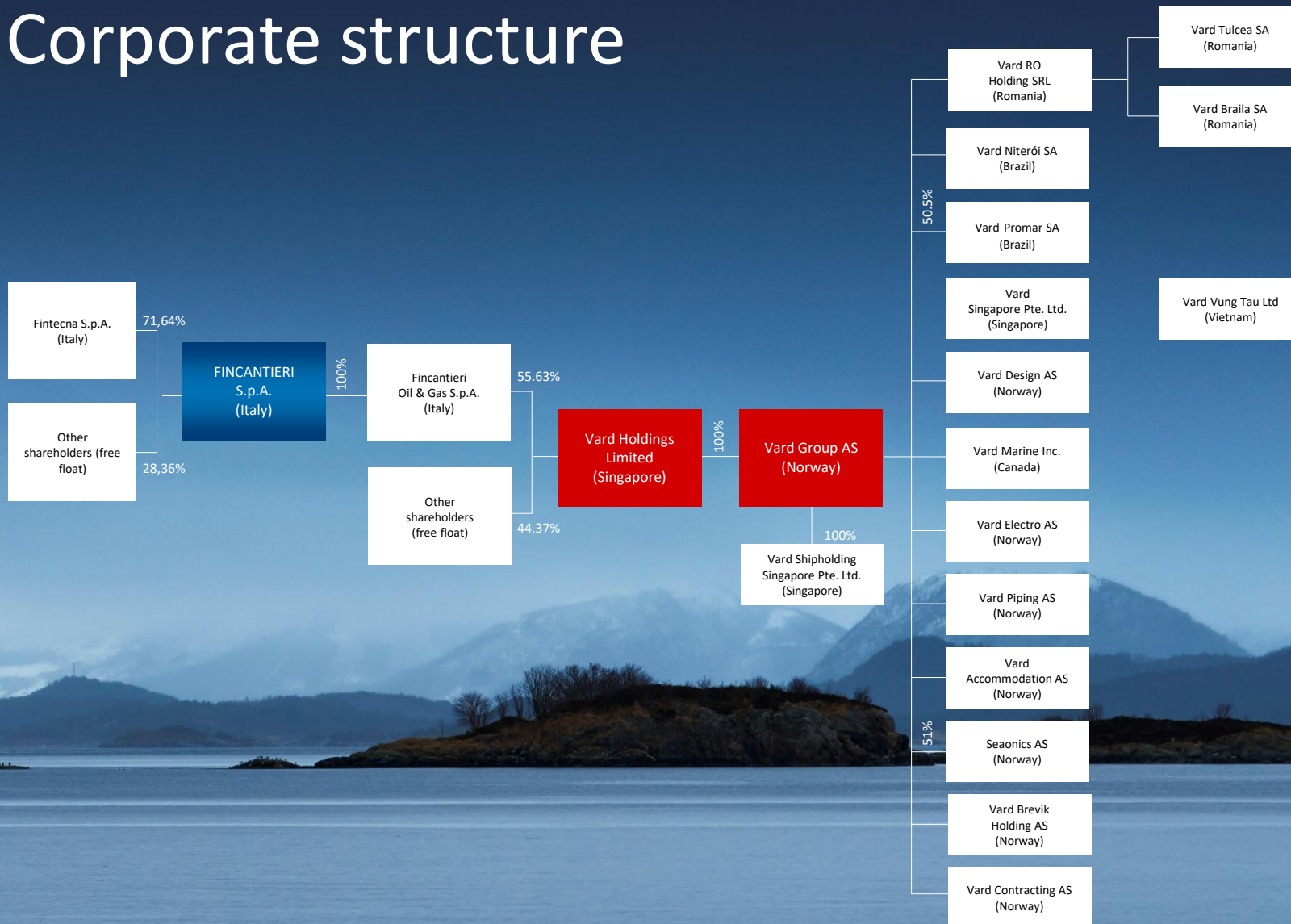
### Vietnam

Vard Vung Tau



VARD is present in Norway, Romania, Vietnam, Brazil, Croatia, Italy, Poland, Canada, US, India and Singapore with various entities supporting the shipbuilding process.

# Corporate structure



Simplified shareholding structure.

Does not include dormant subsidiaries, minority shareholdings and non-core businesses.

In case of split ownership within the group, only major shareholders are shown.

Shareholding structure as of 30 March 2016.



# About our largest shareholder, Fincantieri

- One of the world's largest shipbuilding groups
- Over 200 years of maritime history
- Built more than 7,000 vessels
- A world leader in cruise ship construction, and a reference player in other sectors, such as naval vessels, mega yachts, offshore and marine systems.
- Headquartered in Trieste, Italy
- Nearly 10,000 employees





# Shipyards



Vard Aukra



Vard Brattvaag



Vard Brevik



Vard Langsten



Vard Søviknes



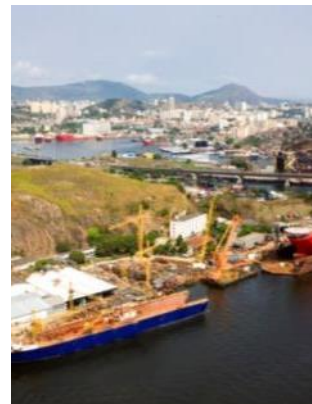
Vard Braila



Vard Tulcea



Vard Vung Tau



Vard Niterói



Vard Promar

# Deliveries 2015



791 | Troms Mira



827 | Stril Barents



777 | Marjata



800 | Skandi Africa



822 | Far Sleipner



757 | Island Clipper



792 | Troms Hera



PRO 31 | Skandi Angra



828 | BB Power



# New Contracts 2016



Stern Trawler | VARD 8 02  
for HAVFISK

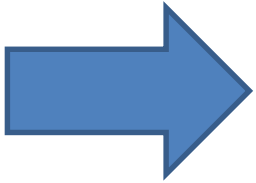


15 Module Carrier Vessels | VARD 9 21  
for Topaz Energy and Marine

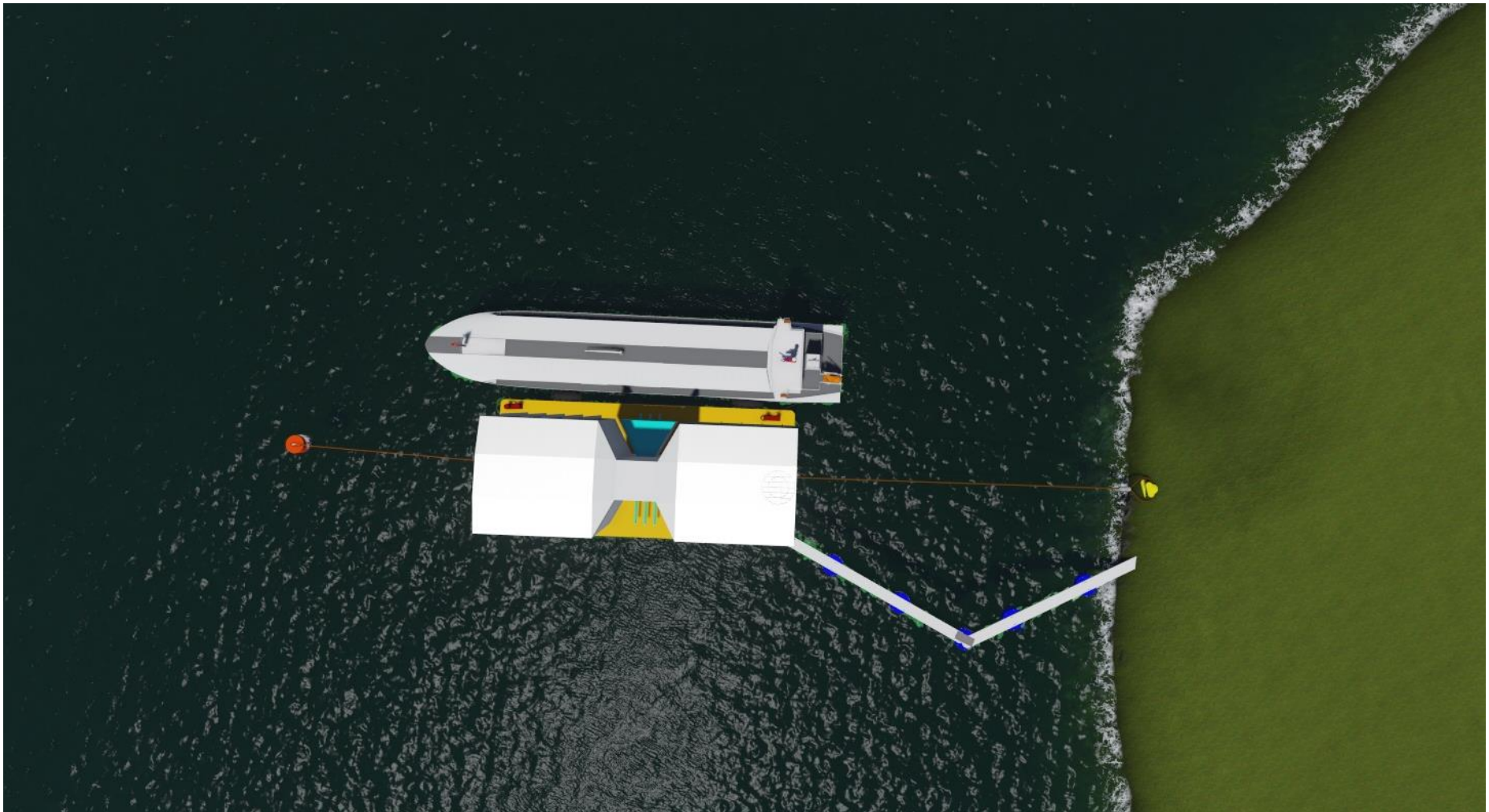


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# LNG – Storage Barge Solution

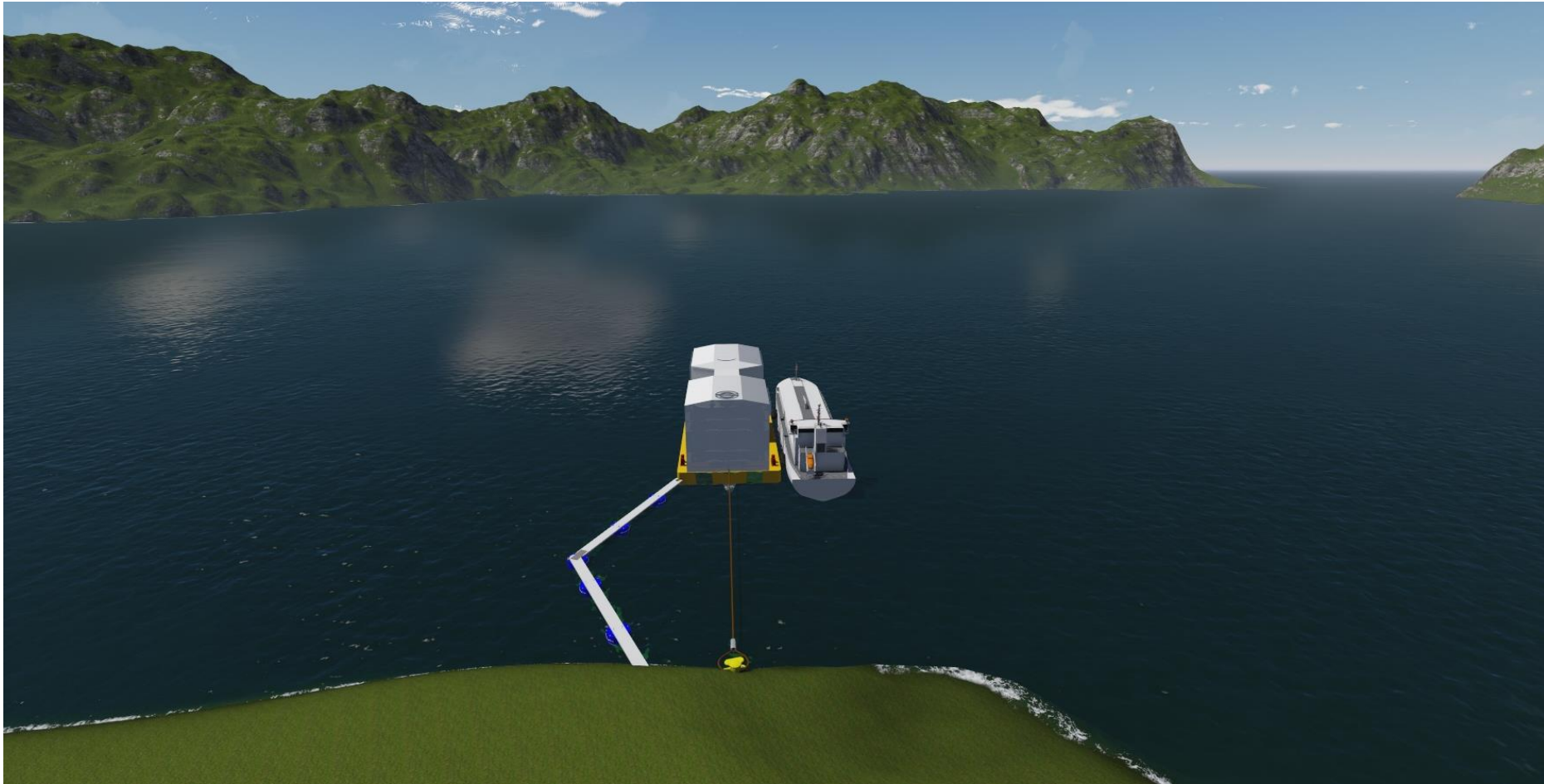


# LNG – Storage Barge Solution



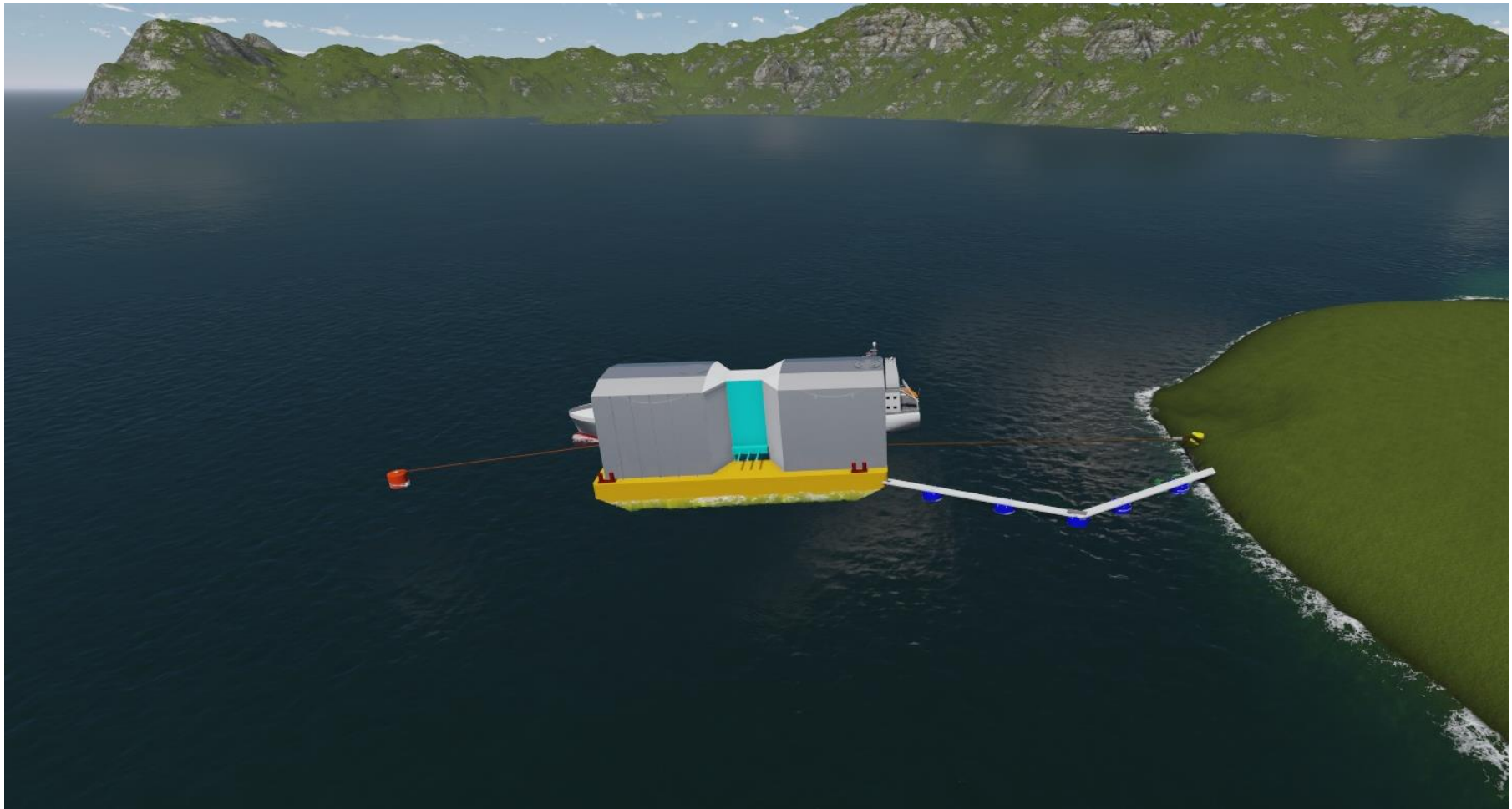


# LNG – Storage Barge Solution

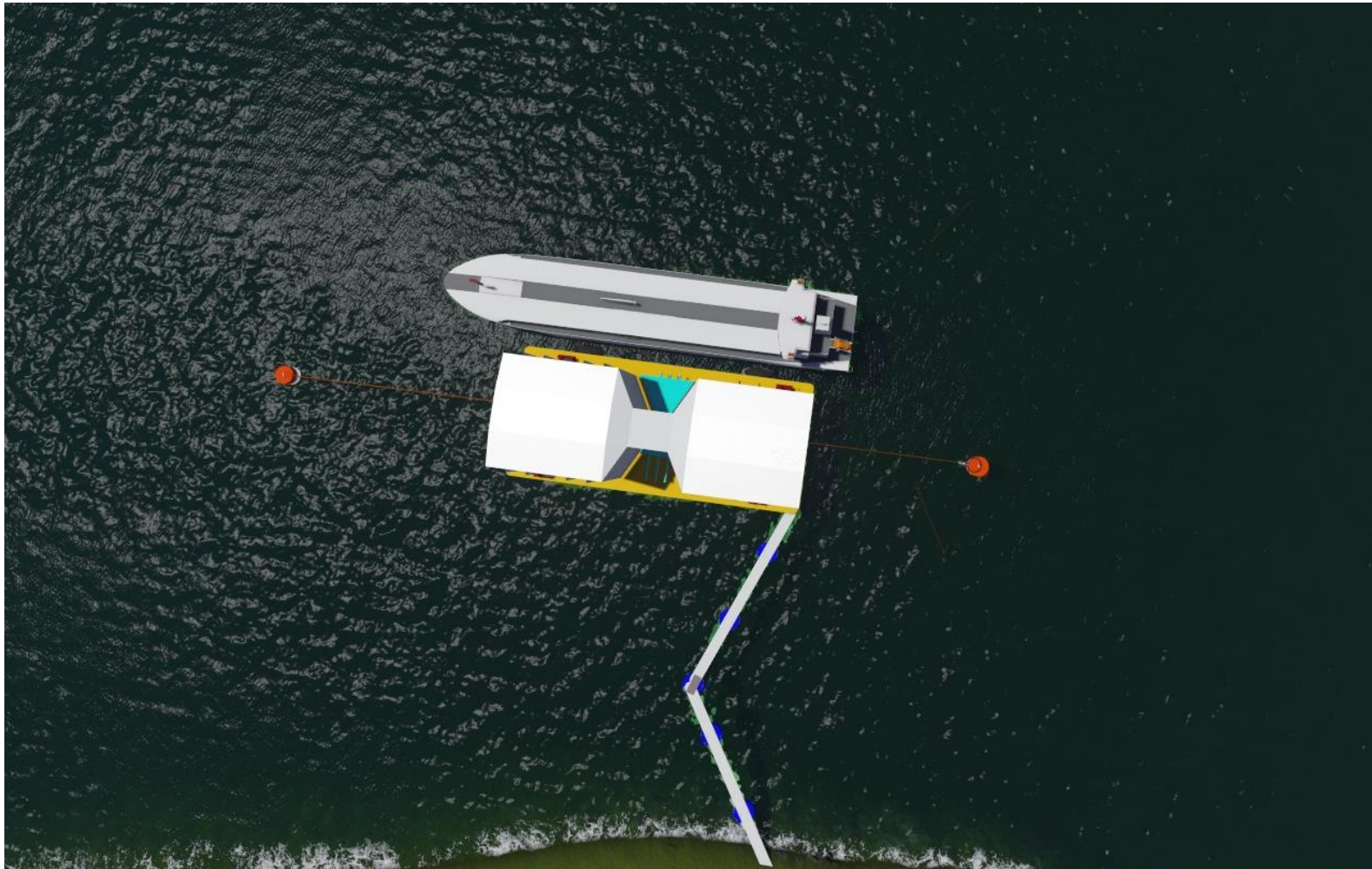




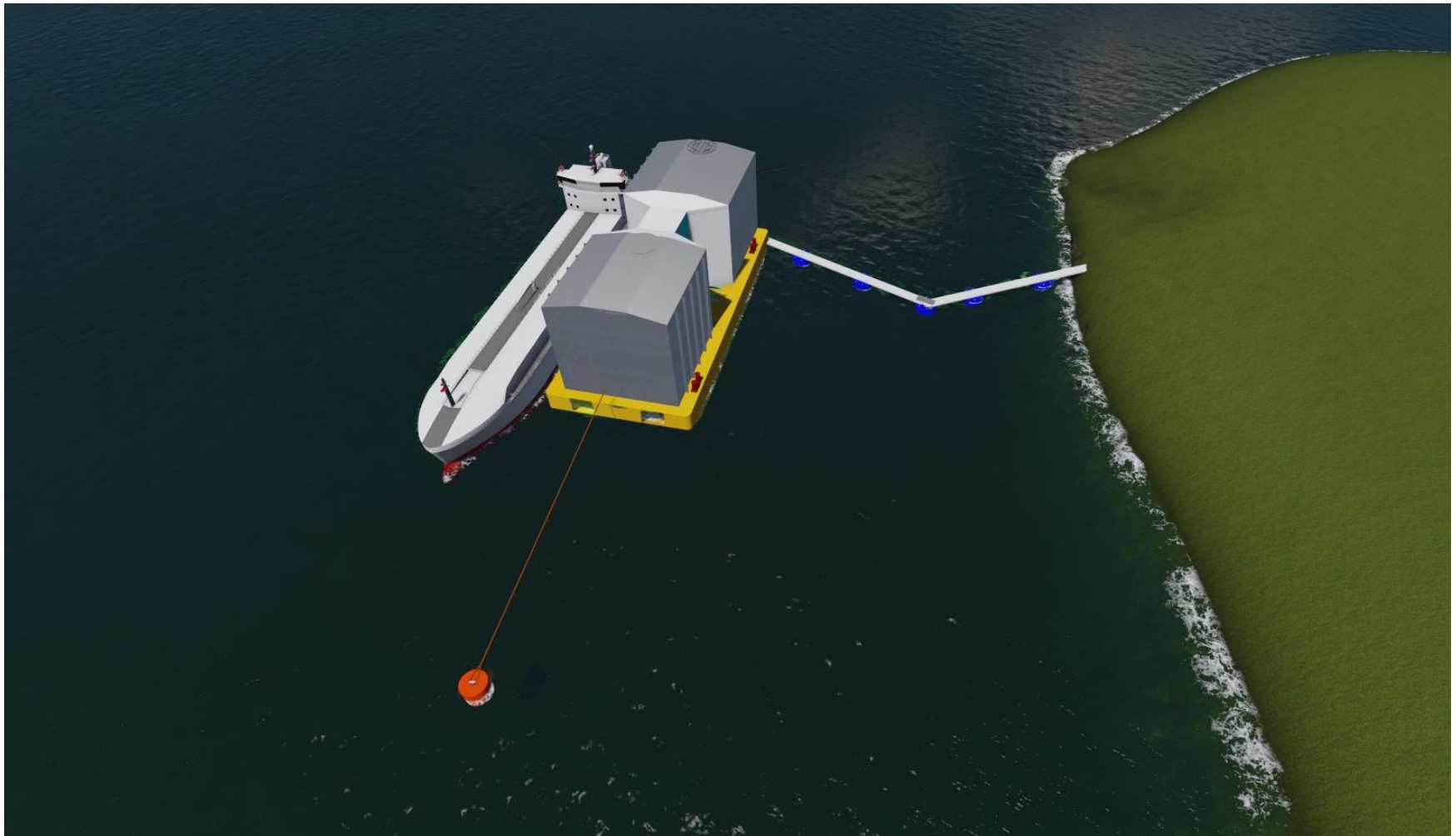
# LNG – Storage Barge Solution



# LNG – Storage Barge Solution with 2 buoys

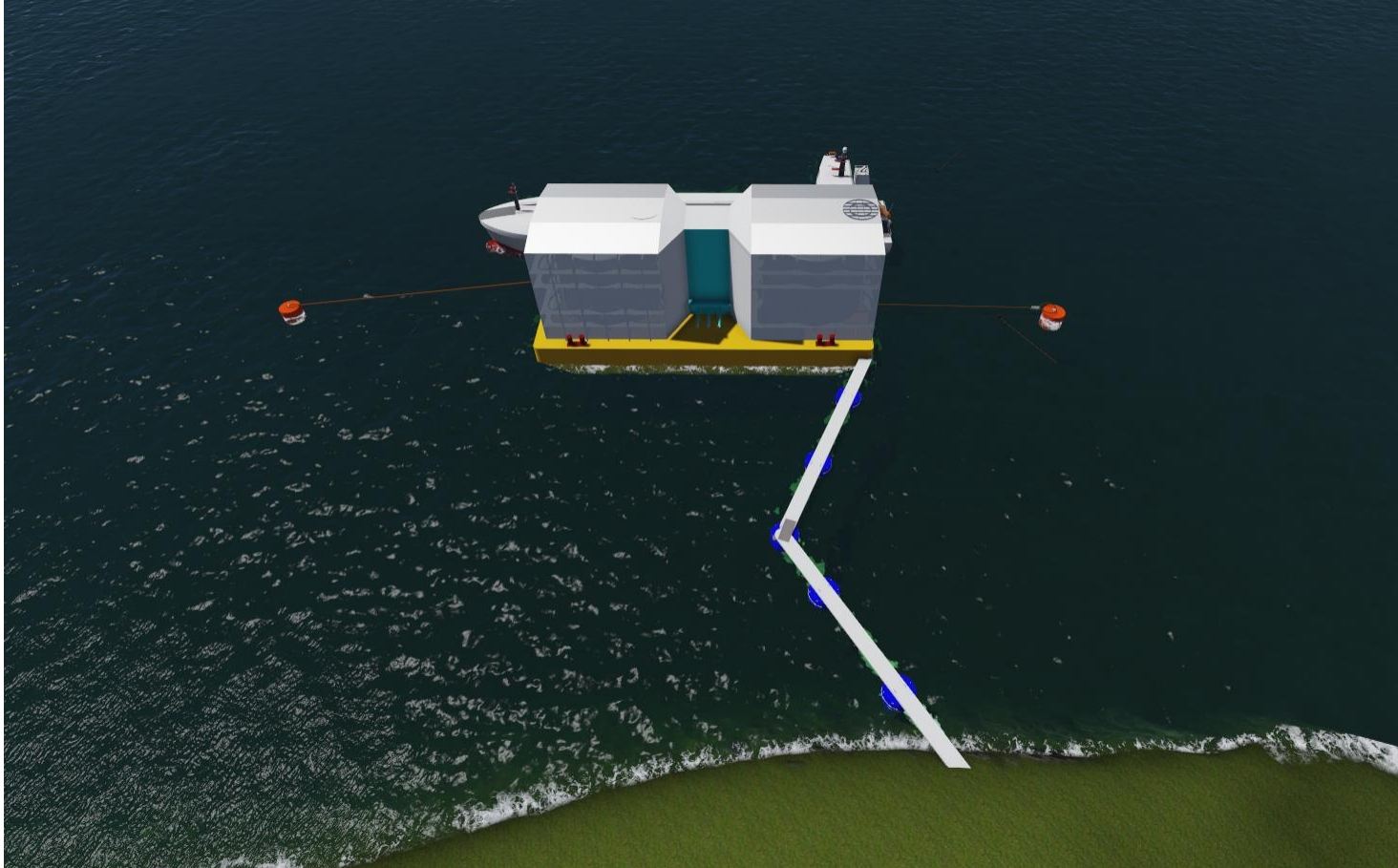


# LNG – Storage Barge Solution with 2 buoys





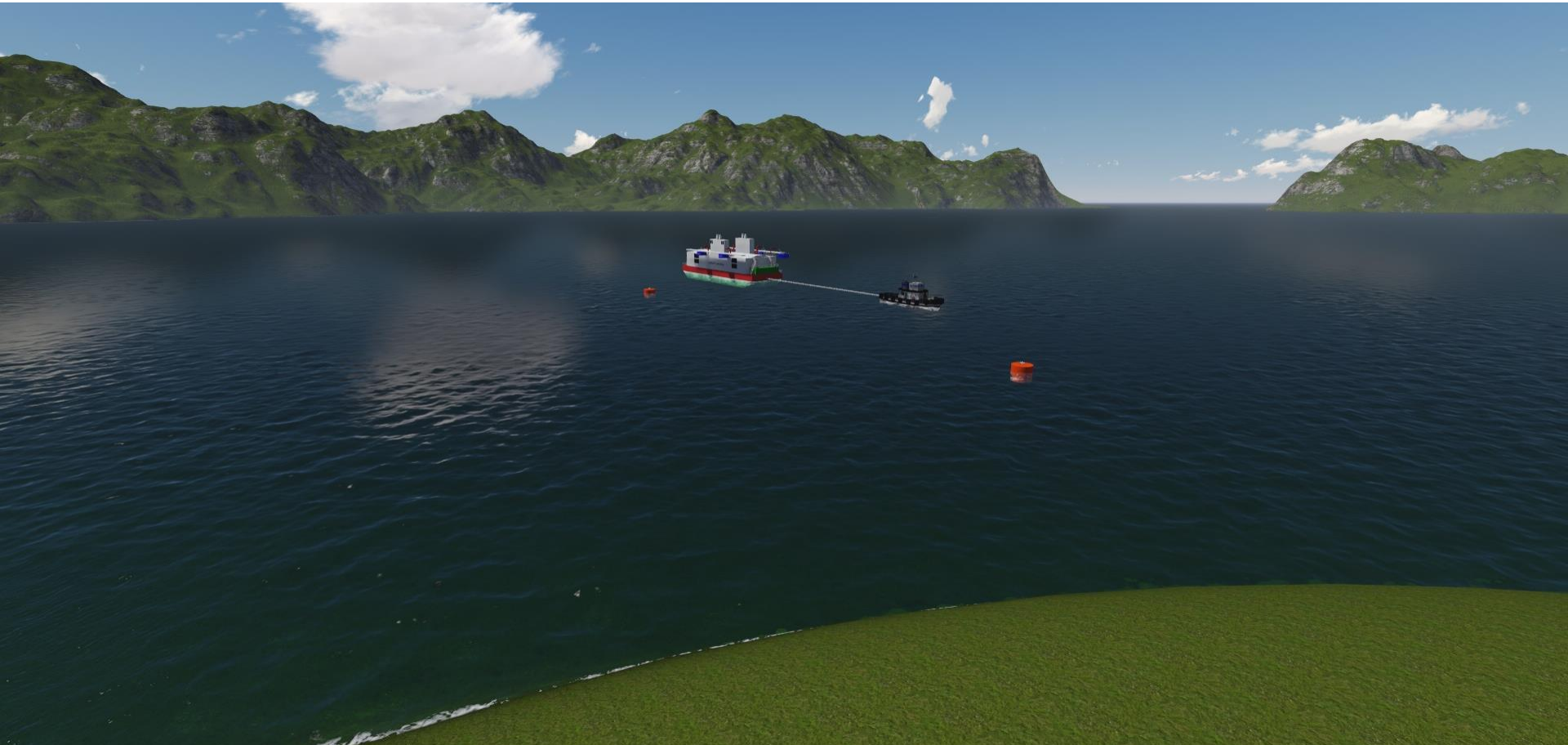
# LNG – Storage Barge Solution with 2 buoys



# LNG – Storage Barge Solution with 2 buoys

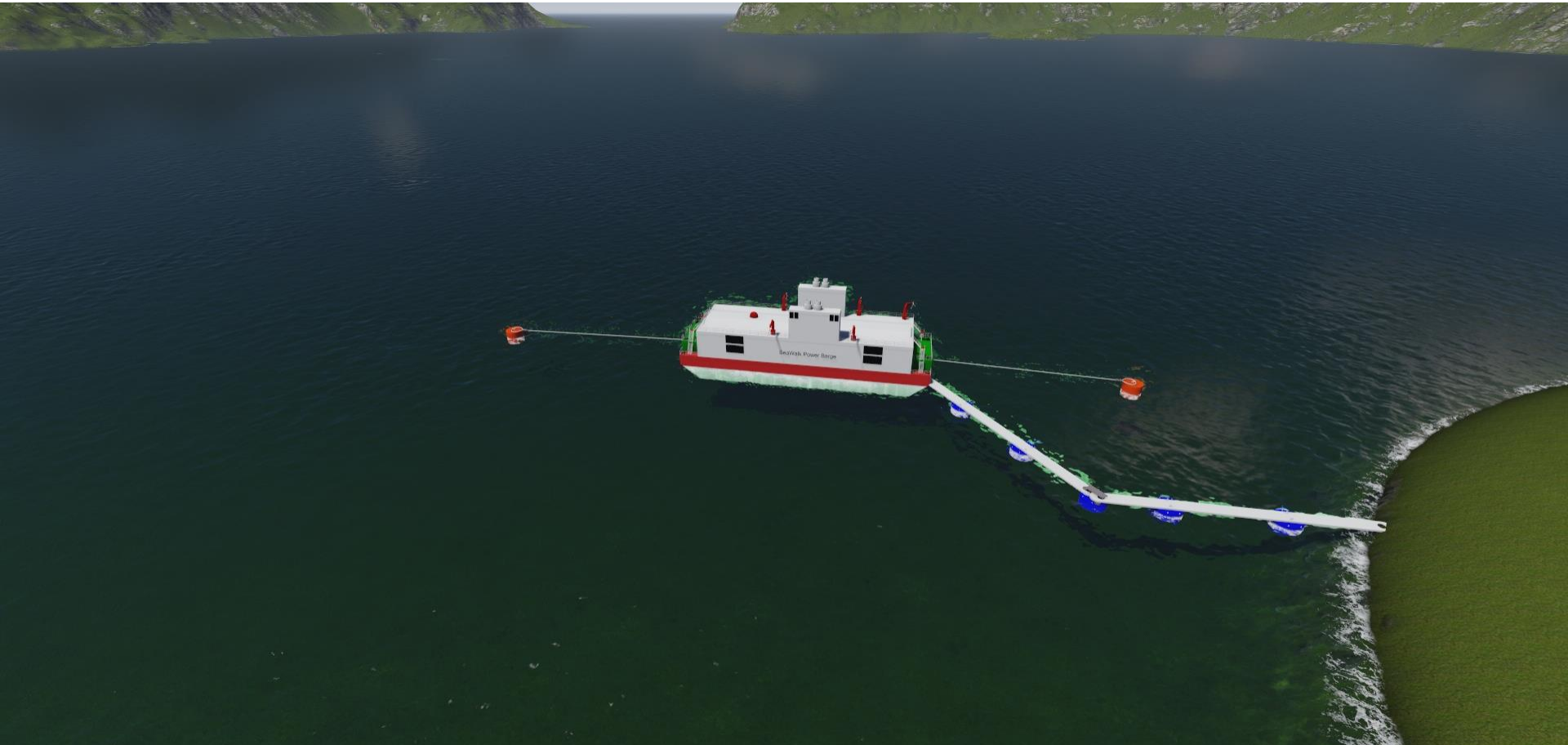


# LNG – Power Barge Solution with 2 buoys





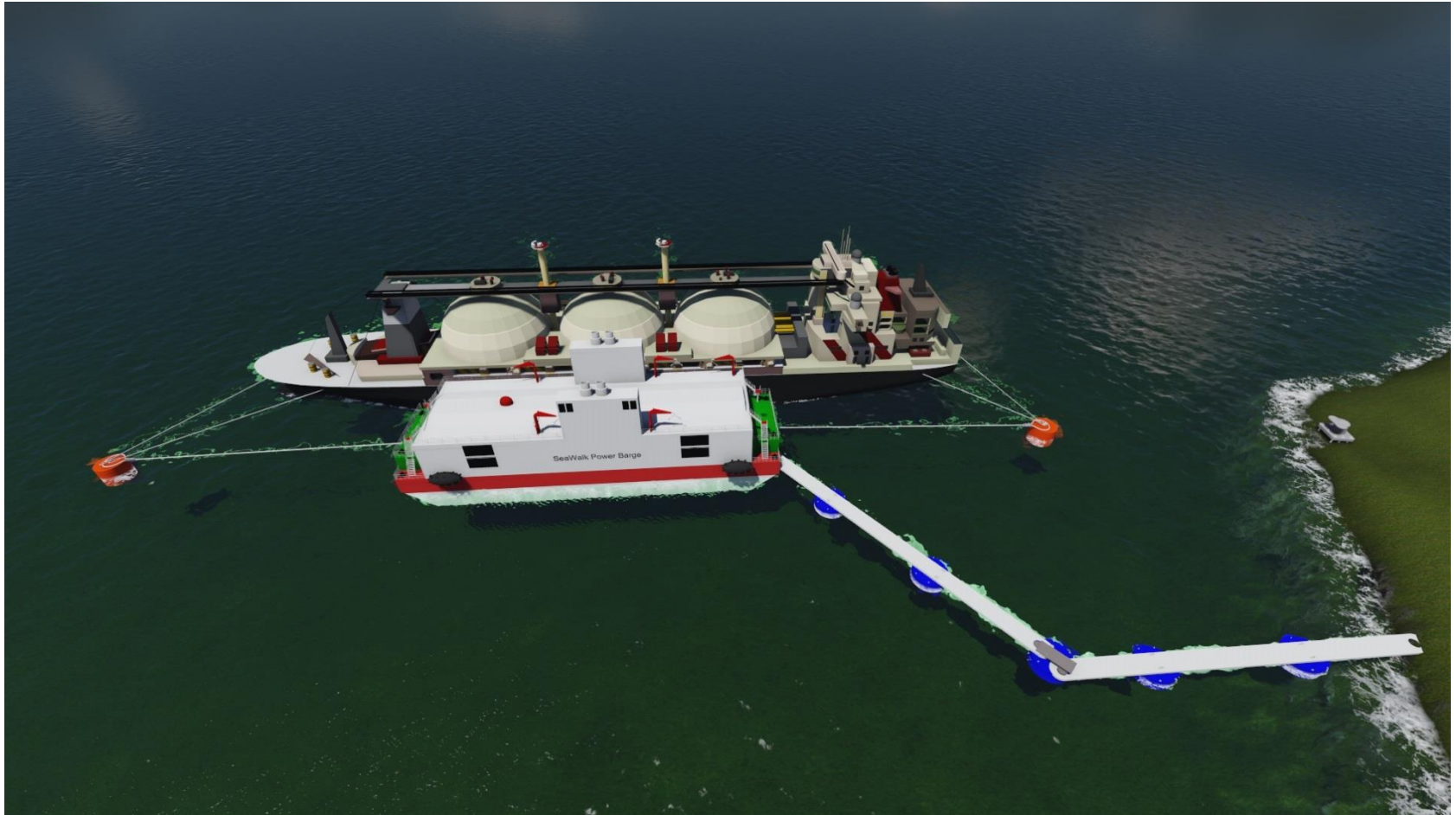
# LNG – Power Barge Solution with 2 buoys



# LNG – Power Barge Solution with 2 buoys



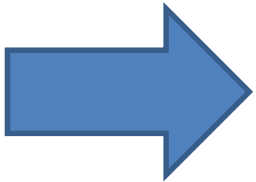
# LNG – Power Barge Solution with 2 buoys



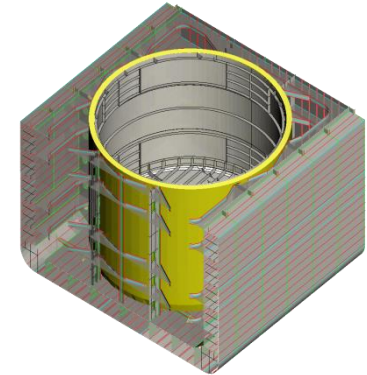
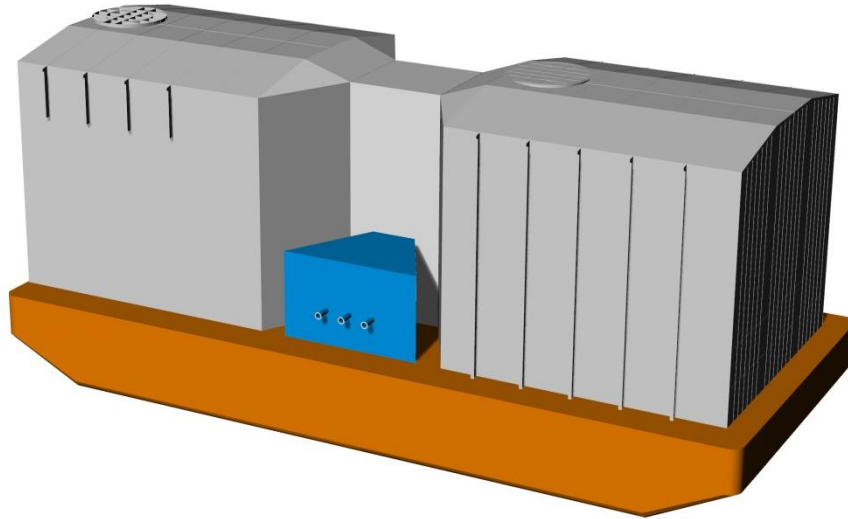


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# VARD LNG STORAGE BARGE



## TANK INTEGRATION

Patent Granted and Class Approved

### MAIN DIMENSIONS

Length Overall	45.0	m
Breadth	20.0	m
Draught, design	3.0	m

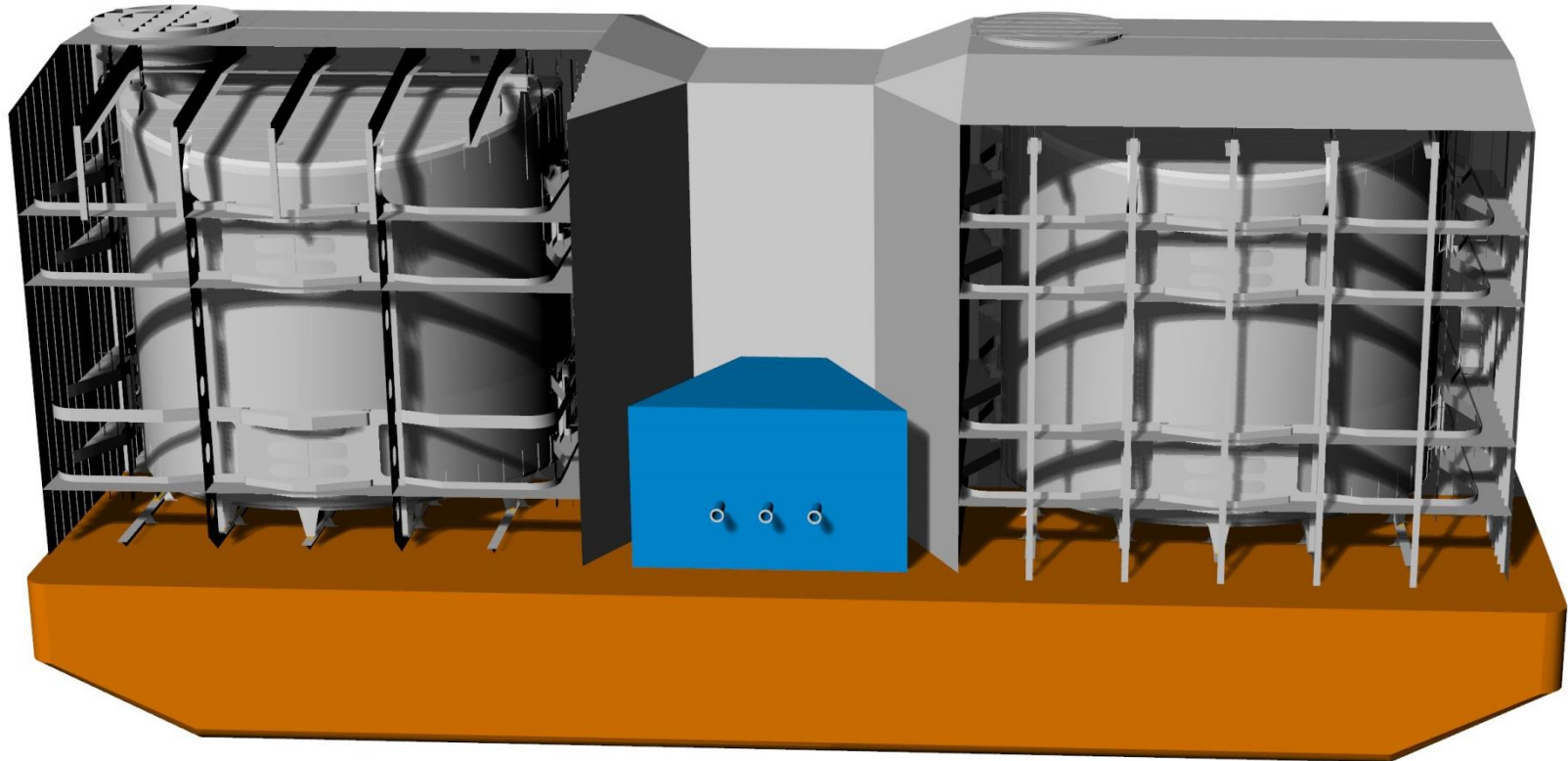
### CARGO SYSTEM

Tanks, 2 off	Cylindrical IMO B	
Pump type	Deepwell	
Cargo pumps	4x100	m3/h
Insulation	PU Panels	
Cargo Cap.	3000	m3

### OTHER / CLASS

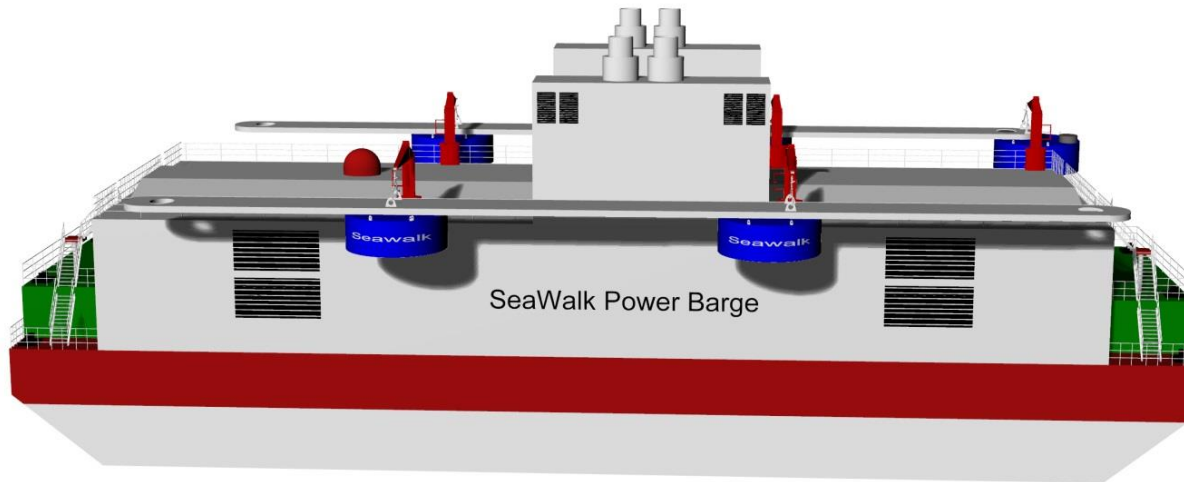
- PS/ SB on/offloading
- Isolated Compressor Room
- Full Re-gasification facilities
- CLASS; To Be Nominated

# Storage Barge





# VARD SEAWALK POWER BARGE



## MAIN DIMENSIONS

Length Overall	90.0	m
Breadth	22.0	m
Draught, design	5.0	m

## POWER SYSTEM & TANKS

RRM Gas Eng, 4 off	4 x 9000	ekW
Option; RRM 2x4 off	8 x 9000	ekW
Misc. tanks		
Cargo Cap.	Optional x 3000	m3

## Power Barge

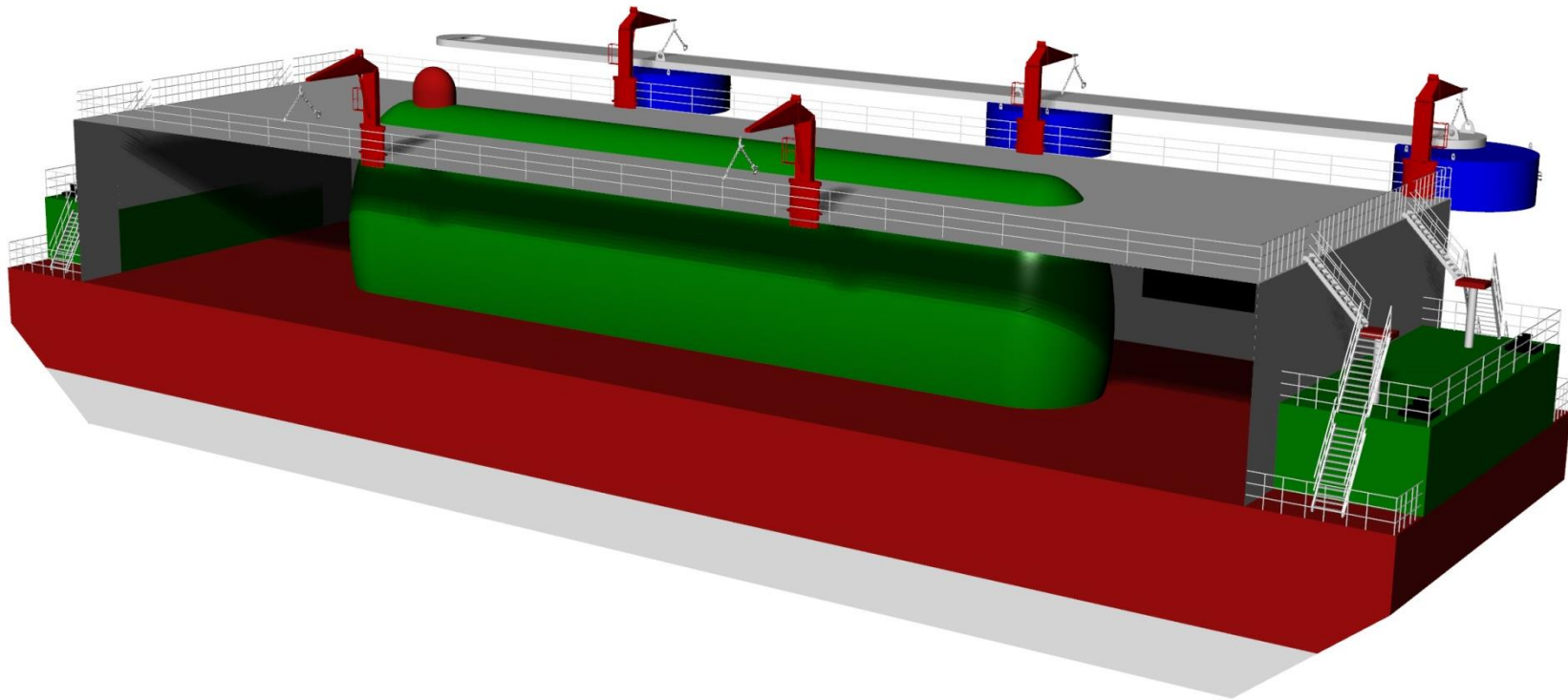
### Typical un-propelled barge

- One LNG storage tank on board
- Four LNG fuelled generator sets
- Available in a power range from 20 to 200MWe

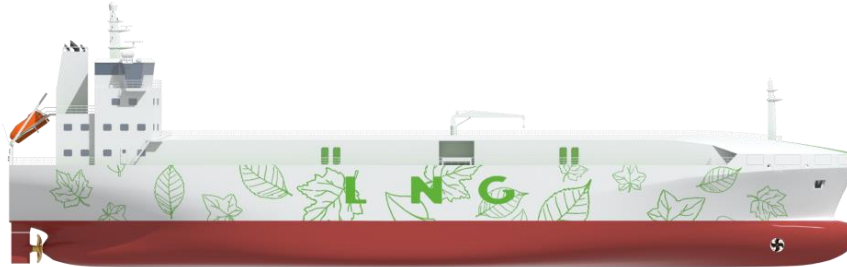
## OTHER / CLASS

- SeaWalk connection to shore
- Aux Machinery & System Rooms
- Gas fuel header PS above main deck
- Utility, Stores and control rooms
- CLASS; DNVGL +1A1, Barge, BIS

# VARD SEAWALK POWER BARGE



# VARD 7.500 m<sup>3</sup> LNG BUNKER VESSEL



## MAIN DIMENSIONS

Length Overall	100.5	m
Length between p.p.	96.60	m
Breadth	18.8	m
Depth	12.0	m
Draught, design	5.9	m
Service Speed	13	kn

## GENERAL DESCRIPTION

- High Cargo Capacity vessel with aligned BOR/fuel consumption
- Fitted with independent cargo tanks
- Able to bunker LNG STS
- Cost efficient total solution
- High maneuverability

## CARGO & CAPACITY

Cargo tanks	4	
Cargo tanks IMO type	B	
Cargo tanks volume	7,500	m <sup>3</sup>
Fuel Oil	175	m <sup>3</sup>
Ballast Water	3,100	m <sup>3</sup>
Fresh Water	100	m <sup>3</sup>

## CLASS

BV +Hull+Mach, Liquified Gas Carrier (LNG)  
IMO type 2G (-163°C, 500 kg/m<sup>3</sup>, 0,7 barg)  
Unrestricted Navigation, AUT-UMS, SYS-NEQ  
ICE CLASS C, INWATERSURVEY, LNG  
Bunkering ship,  
Alternatively any Class Society member of IACS can be selected

## CARGO HANDLING EQUIPMENT

Deepwell Cargo pumps (8x)	100	m <sup>3</sup>
Offloading Capacity	800	m <sup>3</sup> /h
Forced fuel pumps (5x)	4	m <sup>3</sup> /h
Boil of gas compressor	2x100%	kW
Manifold (Port & Stbd)	LVL	
Gas Combustion Unit	1x100%	

## MACHINERY & EQUIPMENT

Main engine type (2x)	DFDE	
Main engine power (ea)	1,500	kW
Propeller	Azimuth	
Auxiliary generator	350	kW
Emergency generator	150	kW
Bow thruster (tunnel)	500	kW

## DECK Machinery

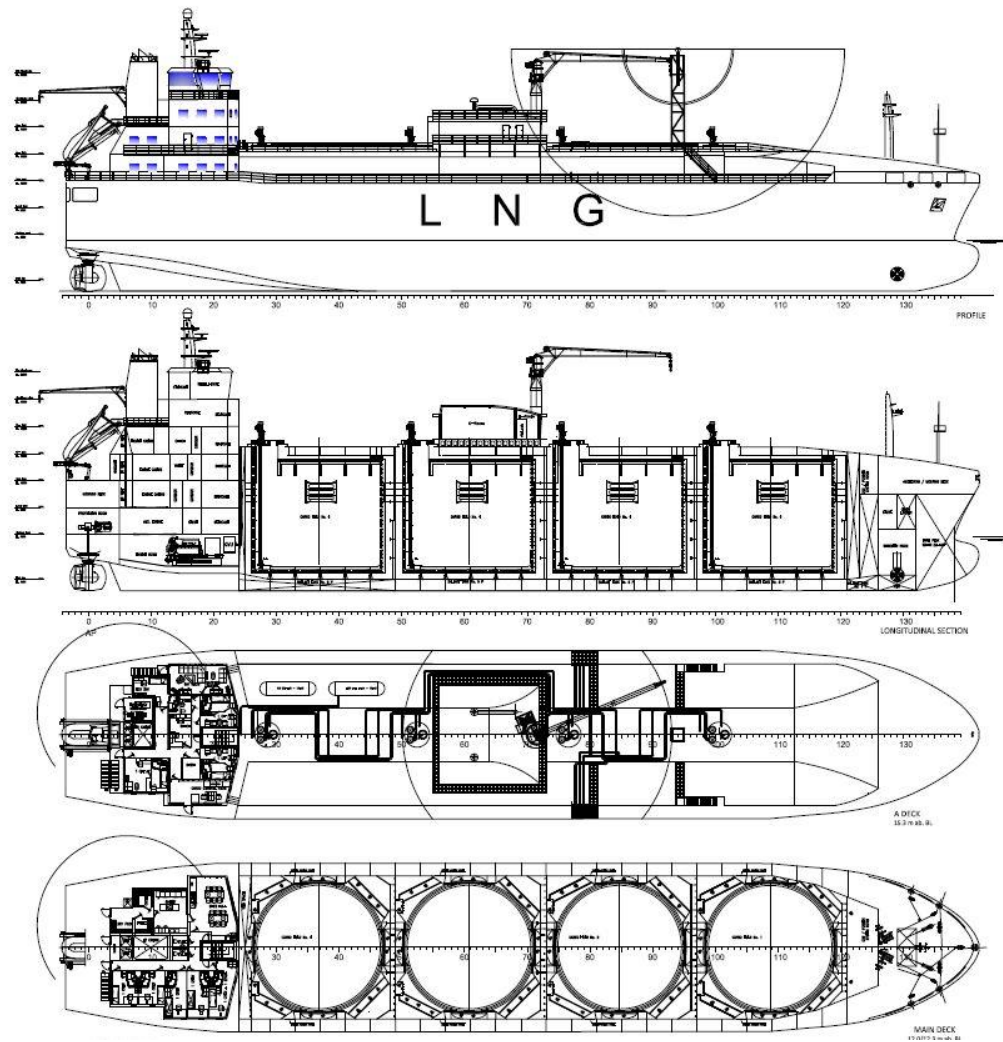
Hose handling crane cap.	5	T
Hose handling crane reach	25	m
Windlass/Mooring winch	2	Off
Mooring winches	2	Off

## Accommodation & Equipment for Crew

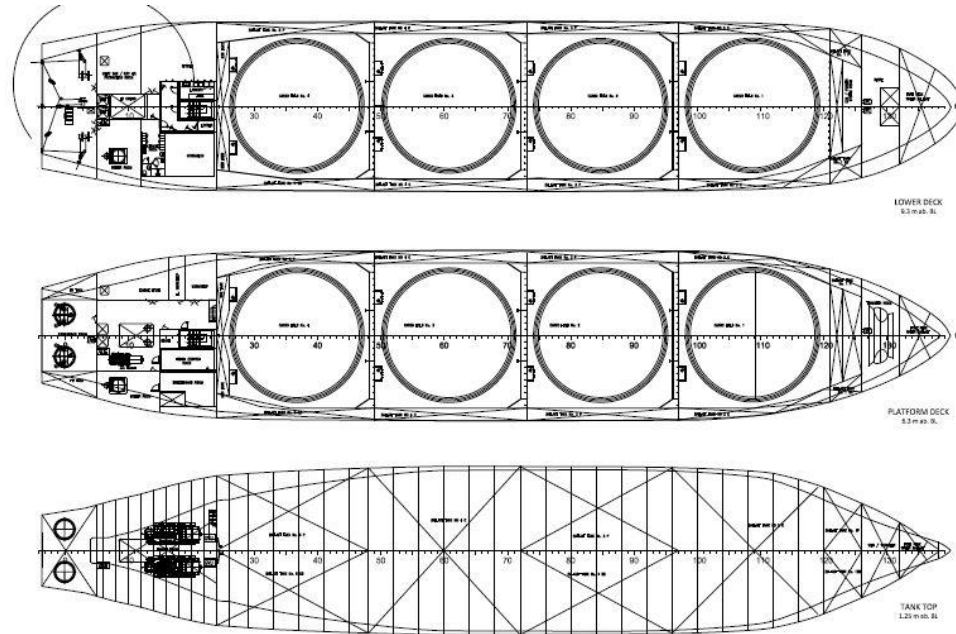
Accommodation	10	POB
Lifeboats	1	aft
Liferafts	2	off



# VARD 7.500 m<sup>3</sup> LNG BUNKER VESSEL



# VARD 7.500 m<sup>3</sup> LNG BUNKER VESSEL



# LNG Ship

