

Project Reference List



Project Overviews

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Project Overviews

Synectics is a world leader providing integrated surveillance solutions to the Marine sector. We have 30 years' experience designing, manufacturing and deploying turnkey systems for the world's largest and most demanding applications.

Q-Max

The Q-Max vessels were first ordered by Qatar Gas Transport Company in 2005, built by DSME and the first delivered in 2007. It is estimated that Q-Max carriers have about 40% lower energy requirements and carbon emissions than conventional LNG carriers. Q-Max vessels are equipped with an onboard re-liquefaction system to handle the boil-off gas, liquefy it and return the LNG to the cargo tanks. The onboard re-liquefaction system allows for a reduction in LNG losses, which produces economic and environmental benefits.

Q-Flex

Until the first service of the Q-Max LNG vessels, the Q-Flex LNG Carriers were the largest in the world with a capacity of 1.5 times greater than a typical LNG carrier. They are built using the same technology and specification as the Q-Max ensuring energy efficiency and economic savings.

KOGAS

KOGAS LNG Carriers are used to bulk ship LNG between Yemen and Russia's Sakhalin-2 project to KOGAS import terminals at Pyong Taek, Incheon and Tong Yeong.

FSRU Toscana

This LNG carrier has been converted into a Floating Storage and Re-Gasification Unit (FSRU) turning the vessel into a floating terminal that can be situated offshore or at a new or purpose-built jetty or pier. The FSRU will receive liquid natural gas (LNG) from offloading LNG carriers, and the onboard regasification system provides gas send-out through flexible risers and pipeline to shore.

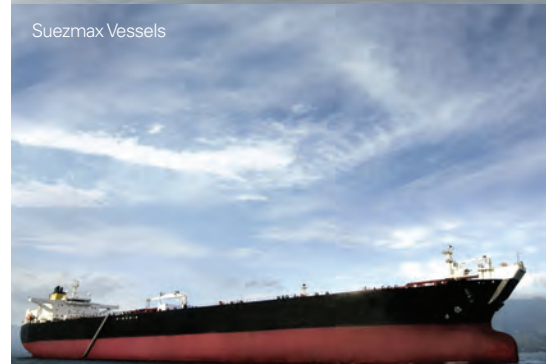
Saipem 10000 Drillship

The Saipem 10000 is Saipem's innovative highly technological drillship for the exploration and development of hydrocarbon reservoirs in deep and ultradeep waters. Its position is controlled in realtime by a dynamic positioning system based upon a satellite (GPS) and a hydro-acoustic reference system. It maintains a steady operating position by using six azimuth thrusters and a computerised system that corrects the effects of wind, wave, and current, also in realtime. The vessel is capable of operating in water depths of up to 3,000 m and can drill wells to 10,000 m. The Saipem 10000 has a crude oil storage of 140,000 bbl and process facilities capacity of 20,000 b/d.

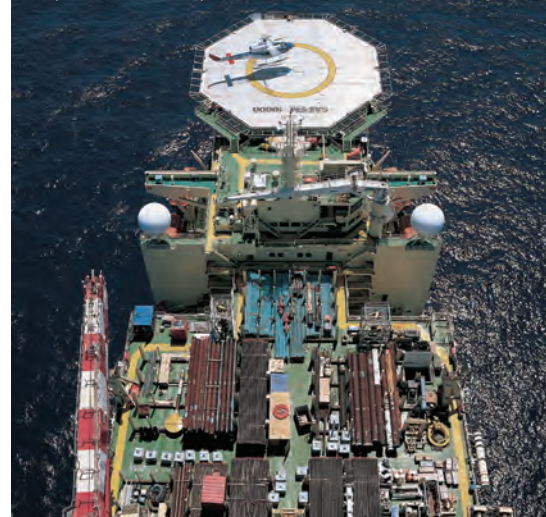
KOGAS LNG



Suezmax Vessels



Saipem 10000 Drillship



Container Vessels -
Hapag Lloyd



Valle Bianca



James Clark Ross



Suezmax Oil Tankers

Atlântico Sul Shipyard was established in November 2005 to rejuvenate the Brazil shipbuilding industry. It is the biggest and most modern naval and offshore construction and repair shipyard in the Southern hemisphere. These vessels were the first to be manufactured at the shipyard.

Oil Product Carriers

Valverde, Valle Bianca, Valle Azzura, Valrossa are oil product carriers owned by Navigazione Montanari. These highly specialised vessels, built by SPP Shipyard, Korea, have features such as double hull longitudinal bulkheads and high pumping capacity. These features make the vessels reliable and safe, complying with the latest requirements for oil pollution prevention.

Oil Carriers – VLCC

Samco America, Europa, Asia, Scandinavia and China are Very Large Crude Carriers (VLCC) with a length of 333 m, width 60 m, draught 22.5 m and a deadweight capacity of 318,000 tonnes. These vessels can transport up to 346,261 tonnes of crude oil.

Container Vessels – Hapag Lloyd

Prague, Sofia, Vienna, Basle, Budapest and Frankfurt Express are container vessels operated by Hapag Lloyd with a capacity of 100,000 tonnes of freight.

Isle of Wight Ferries

Wightlink's three fuel efficient vessels (Wight Light, Wight Sky and Wight Sun), which were built in the Brodogadiliste Kraljevica shipyard in Croatia, provide better passenger facilities on route between Lymington and Yarmouth. Each vessel can carry 350 pedestrian passengers and 13 cars.

TI Asia / Africa FSO's

These Floating Storage and Offloading vessels (FSO) were originally constructed as Ultra Large Crude Carriers in 2002 / 2003 by DSME and were the largest double-hulled supertankers in the world (named Alhambra and Metropolis). Tankers International LLC purchased and converted these vessels to FSO's in 2009 / 2010. They are currently located in the Al Shaheen oilfield, offshore Qatar.

Ice Class Vessels

RS James Clark Ross is a research vessel owned by British Antarctic Survey. The vessel can steam at a steady two knots through level sea ice one metre thick. To assist passage through heavy pack ice, a compressed air system rolls the ship from side to side freeing the passage. The ship is designed with an extremely low noise signature to allow sensitive underwater acoustic equipment to operate effectively.

Marine Project List

| Client | Owner | Country | Project |
|--|--------------------------|--------------|---|
| Daewoo Shipbuilding and Marine Engineering (DSME) | Maran Gas Maritime | Greece | H2288, H2291-2292 & H2295-2296 Maran LNG Carriers |
| DSME | Awilco LNG | Norway | H2289-2290 Awilco LNG Carrier |
| DSME | TMS Tankers | Greece | H2297-2298 H2400-2401 Oceanus LNG Carrier |
| DSME | Excelerate LNG | USA | H2402 LNG Carrier |
| DSME | Sonangol | Angola | H2280-2282 LNG Carriers |
| DSME | RasGas / MOL | Japan | H2249-2253 LNG Carriers Q-Flex LNG Carriers |
| DSME | QatarGas | Qatar | H2255-2257 LNG Carriers Q-Max LNG Carriers |
| DSME | Stena Bulk Gothenburg | Sweden | H2268 "Stena Crystalsky" & H2278 "Stena Clearsky" LNG Carriers |
| Hyundai Samho | Golar LNG | Norway | S658 "Golar Glacier" & S659 "Golar Kelvin" LNG Carrier |
| DSME / Hyundai Heavy Industries (HHI) / Hanjin Heavy Industries | KOGAS | Korea | H2260-2261 LNG Carriers H1903 LNG Carrier N192-193 LNG Carrier |
| HHI | Shell Nigeria | Nigeria | H1295-1296 LNG Carriers |
| HHI | Brunei Gas Carriers | Brunei | H2606 LNG Carrier |
| HHI | NLNG Bonny Gas Transport | Nigeria | H2636-2637 LNG Carrier |
| DSME | Sovcomflot | Russia | H2241-2242 LNG Carriers |

| Client | Owner | Country | Project |
|---------------------------------|---------------------------------|--------------|---|
| DSME | MOL | Japan | H2419 FSRU |
| Elsag Datamat SpA | OLT Offshore LNG Toscana | Italy | FSRU Toscana |
| Samsung Heavy Industries | Saipem | Italy | Saipem 10000 Drillship and Upgrade |

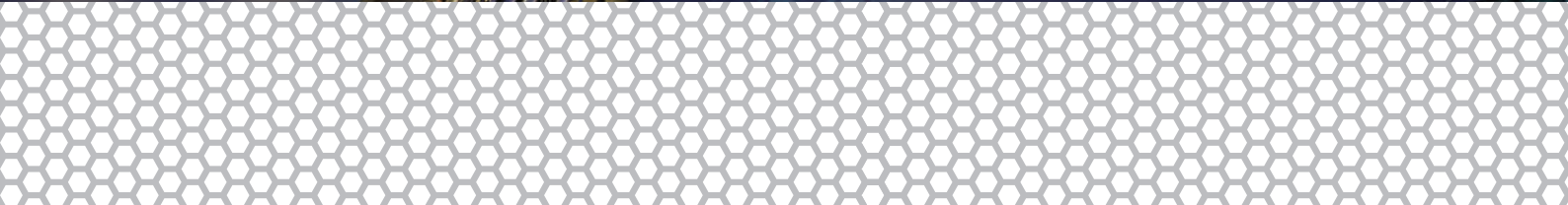
| Client | Owner | Country | Project |
|--------------------------------|-------------------|-----------------------|---|
| Esteleiro Atlantico Sul | Transpetro | Brazil | Suezmax Oil Tankers x 10 |
| Tesma | Samco | Korea | Samco Oil Carrier x 5 |
| DSME | Hellespont | Greece | H5183-5184 "Alhambra" and "Metropolis" 402,000 Ultra Large Crude Carriers (ULCC) Tankers (now TI Asia and Africa FSOs) |
| Yangfan | Essberger | Germany / Netherlands | H2181-2183 Bulk Carriers |
| HHI | Knutsen | Norway | 157,000 Shuttle Oil Tanker |
| HHI | Pertamina | Panama | H1540-1541 260,000 DWT Oil Carriers |
| SPP Shipyard | Montanari | Italy | HN1009-1012 Oil Product Tankers |

Marine Project List

| Client | Owner | Country | Project |
|------------------------------------|-----------|---------|---|
| Valles Steamship | Valles | Canada | "Sea Frontier" & "Sea Meridian" Chemical Tankers |
| Hyundai Mipo Dockyard (HMD) | Montanari | Italy | H0032-0033 and H0103-0104 35,000 Chemical Tanker |
| HMD | D'Alesio | Italy | H0353-354 35,000 DWT Product / Chemical Tankers |
| Protobase | Total | Congo | N'Kossa Production Barge |

| Client | Owner | Country | Project |
|-------------------------|----------------------|----------------|---|
| DSME | Neptune Orient Lines | Singapore | H4240-4249 H4260-4261 9,200 TEU Container Vessels |
| HHI | Hapag Lloyd | Germany | H2497-2500 Container Vessels |
| VT Halter Marine | Pasha Hawaii | USA | Hull No 433-2005 "MV Marjorie C" |
| Uljanik Shipyard | Inarme | Italy | NB482 "Grande Togo" & NB483 "Grande Costa d'Avorio" Container / Car Carriers |
| Uljanik Shipyard | Grimaldi Group | Italy | NB472-476 Container / Car Carriers |
| Uljanik Shipyard | Ray Car Carriers | UK | NB466 "Opal Leader" Car Carrier |
| AMO Safety | Cosco Shipyard | China | Cargo Vessels x 5 |
| HHI | Hapag Lloyd | Germany | H1793-95 8,600 TEU Container Carriers |

| Client | Owner | Country | Project |
|------------------------------------|-----------------------------------|-------------------|--|
| DSME | Technip / Odebrecht / Petrobras | Brazil | H3403-3404 Multipurpose Subsea Construction Vessels |
| Brodogradiliste Kraljevica | WightLink | UK | Isle of Wight Ferries x 3 |
| Remontowa Shipyard | Caledonian MacBrayne | UK | Calmac 3 Ferry |
| JSC SAIT Marine | GosMorSpasSlujba | Russia / Far East | Multipurpose Salvage Vessels x 2 |
| Acergy | Acergy | Asia Pacific | Toisa Proteus Expansion (Heavy Construction and Dive Support Vessel) |
| Radio Holland Singapore | BP Shipping Ltd | Singapore | H145-148 Platform Support Vessels |
| Vard Braila | Caspian Offshore Construction | Kazakhstan | Mangystau 1/2/3 Fire Fighting Vessels |
| SCAN Geophysical | SCAN Geophysical | Norway | "Stigandi" Research Vessel |
| INP Heavy Industries Co Ltd | Swire Pacific Offshore | Singapore | H1126-1129 Supply Boat |
| HMD | Alcatel | France | H0001-0003 Cable Layer Ship |
| Technip | Technip Offshore UK Ltd | UK | "Deep Blue" Pipelay Vessel |
| British Antarctic Shipping | British Antarctic Shipping | UK | James Clark Ross Ice Class Research Vessel |



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