

## FACT SHEET

November 2011

### Pipelay Vessel Solitaire

Allseas' Solitaire is the world's largest pipelay vessel. She was deployed for the construction of Nord Stream's parallel pipelines in the Gulf of Finland from KP (kilometre point) 7.5 to KP 350 from 1 September 2010 until 12 August 2011.

- Built in 1972 as bulk carrier vessel "Trentwood" by Mitsubishi Heavy Industries in Hiroshima, Japan
- Purchased by the Swiss-based Allseas Group S.A. in 1992 and converted to a pipelay vessel
- Port of registry: Panama
- First project: Statoil Europipe II in 1998
- Deepwater pipelay record: 2,775 metres
- Regular upgrades including doubling of S-Lay tension capacity to 1,050 tonnes in 2005
- Precise manoeuvring on full dynamic positioning allows the vessel to work without anchors, ensuring additional safety especially in congested areas and areas where anchoring is difficult due to e.g. historic sea mines

#### Pipe-laying Process

- Pipes are loaded onto the vessel by the pipe transfer crane and lowered onto cradles.
- Pipes are transported to one of the six storage holds or directly to the double-joint factory.
- Bevelling and preheating takes place before the pipe is moved into the line up station in the double-joint factory.
- Double joints are completed in consecutive welding stations.
- Each weld undergoes automatic ultrasonic testing to be accepted or rejected.
- Double-joint sections are then transported to the main firing line.
- Each double joint is cleaned inside and outside and preheated for welding.
- Pipes are welded to the pipeline at various welding stations in the firing line, employing Allseas' in-house developed Phoenix automatic welding system.
- At the end of the firing line, the sections which are welded in the main firing line undergo automatic ultrasonic testing. All welds have to be acceptable; otherwise they will be rejected and repaired.
- Field joint coating is applied to protect the weld from water and mechanical impacts.
- Pipeline exits the vessel over the stinger and is progressively lowered to its designated place on the seabed in an S-shaped curve.

### **Facts and Figures**

- Length excluding stinger: 300 metres
- Breadth: 40.6 metres
- Operating draft: 6.5-9.2 metres excluding thrusters; 14.3 metres including thrusters
- Transit speed: 13 knots
- Azimuth thrusters: 10 x 5,500 kW peak
- Accommodation: 420 crewmen
- Dynamic Positioning system: NMD Class 3/LR DP (AAA), type Simrad Kongsberg 2 x ADP702 and 1 X ADP701
- Cranes: Two pipe transfer cranes of 35 tonnes at 33 metres, whip hoist 18 tonnes at 42 metres; one special purpose crane, main hoist 300 tonnes at 17 metres, whip hoist 40 tonnes at 57 metres
- Working stations: 2 double-jointing plants, 5 welding stations for double joints, 1 NDT station, 4 coating stations
- Tensioner capacity: 1,050 (3 x 350) tonnes at 30 m/min
- Layrate for Nord Stream Pipeline: about 2.4 kilometres per day

More information at [www.nord-stream.com](http://www.nord-stream.com)

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