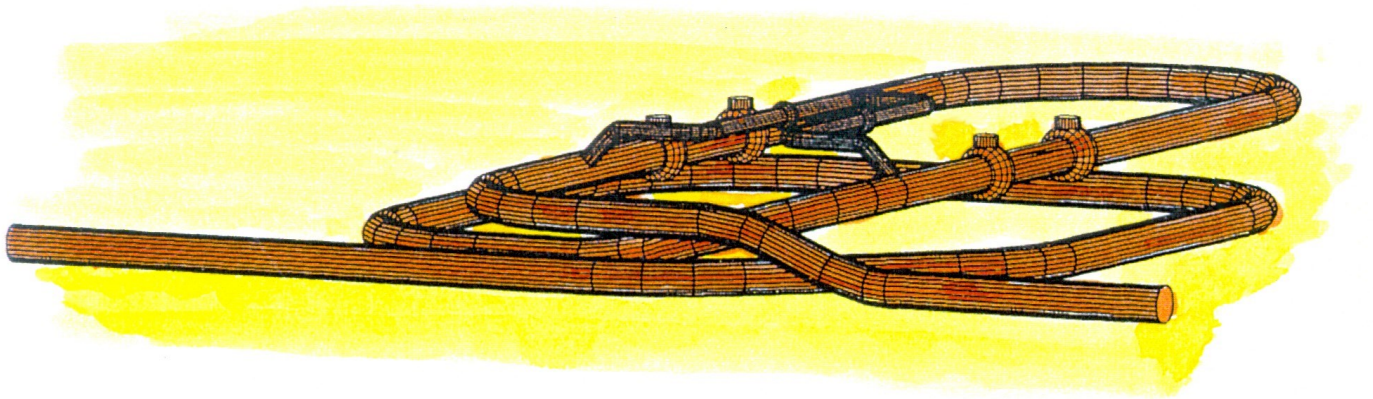




Europipe

March 2015

Europipe is a 40" pipeline between the Norwegian oil and gas fields and Germany, and is being carried out by Statoil. There is a subsea connection point for connection of spur lines in 36 meters of water. The structure is a dense array of pipes, valves, and tubular members which create a large flow resistance. The effect from the point of view of large waves is a grossly increased bottom friction giving a local increase in the wave and current boundary layer.



LICENGINEERING A/S's scope was to:

- Give tables of the effective reduction in drag coefficient for the various tubulars for different flow directions.
- Calculate the effect of scour on the surrounding seabed.
- Examine the proposed scour protection measures.
- Recommend effective scour protection measures.



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