

Subsea 7

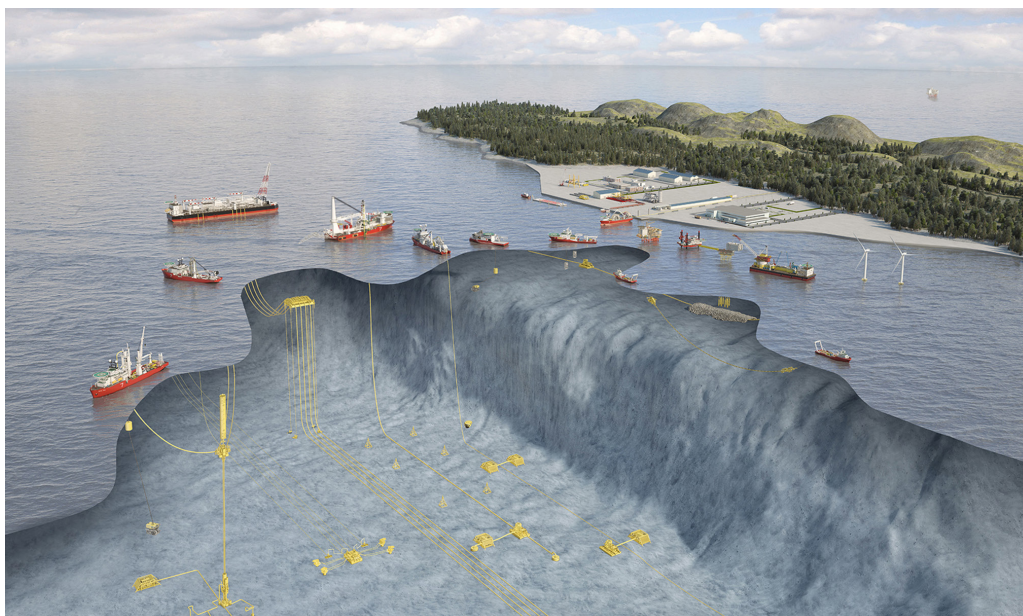
# They inspect absorbent materials

Cetim has developed an acoustic imaging system for Total and Subsea 7 to ensure the integrity of submarine Pipelines. Validation on a first test.

and conventional ultrasonic solutions are not suitable.

Therefore, Cetim developed a specific imaging and low-frequency ultrasonic sensor system for Total and Subsea 7, that is based upon medical ultrasonic imaging. This system, which uses acoustic imaging on attenuating composites was validated by the laboratory inspection of the coating on a Pipeline sample. At the same time, Subsea 7 proposed a test on an industrial part.

"Cetim has proven the relevance of its inspection design and we are considering the means to be implemented in order to ensure future mass production", added Olivier Lodeho.



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## OUR CLIENT

**Corporate name**  
Subsea 7

**Activity**  
Subsea 7, specialist in the design, manufacturing and implementation of submarine infrastructure for the offshore oil and gas fields

**2014 Turnover**  
6.87 billion dollars

**Workforce**  
14,000 employees distributed over five continents

The Pipelines, which are laid on the seabed, must withstand significant hydrostatic pressures in water that is at a temperature of 4°C. The temperature of the transported polyphasic fluids (water, gas and oil) must not fall below 30°C to prevent the formation of paraffins and hydrates that are harmful to the flow. To this end, before being submerged, the coating of the Pipelines, which is composed of several layers of plastic materials some of which include microscopic glass beads, must not feature any defect that may cause cracking and which would no longer guarantee the mechanical and thermal

integrity of the Pipelines during their 25-year service life.

## A relevant solution

"We called on Cetim because its engineers have acknowledged NDT expertise and, as they are not stakeholders in any technology, they are able to identify the best solutions suited to our needs" explained Olivier Lodeho, R&D manager at Subsea 7. The stated goal is a clear one, that of detecting air bubbles of approximately 10 mm in diameter at a depth, in the coating, of at least 50 mm with a technology that can be used in the industrial environment. Given the properties of the coating, x-ray

## Cetim's asset

Cetim has expertise in a large range of non-destructive testing techniques. Its experts



have all the skills required to adapt an existing NDT solution to

a specific industrial need.

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