



Vallourec, FORSSEA Robotics and iXblue join forces to facilitate the inspection of subsea pipelines using drones and digital technology

Boulogne-Billancourt (France), 24 September 2020 - Vallourec, a world leader in premium tubular solutions, is working with FORSSEA Robotics, a startup specializing in smart robotics and visual positioning, and iXblue, a company recognized for its expertise in inertial navigation, subsea positioning and autonomous technologies – to develop a pipeline inspection solution combining subsea drones and the use of visual markers, removing the need for surface vessels.

Traditionally, the inspection of subsea pipelines and structures requires the use of a surface vessel (manned or unmanned) with acoustic positioning used to monitor the deployment of Autonomous Underwater Vehicles (AUVs) or Remotely Operated Vehicles (ROVs). These subsea vehicles then collect the required information – such as a pipeline’s general aspect and route, anode consumption, free span, burial and crossing areas – using observation sensors.

In order to reduce pipeline inspection operational costs, Vallourec, iXblue and FORSSEA decided to develop a solution using visual markers directly integrated on subsea pipelines that enables vessel-free subsea navigation.

The project relies on barcodes placed on installed pipes, resulting in many passive positioning references logged with their own coordinates during the laying operation which will remain accessible throughout the life of the field. These markers would be used as navigation aids for subsea drones equipped with FORSSEA cameras and iXblue’s inertial navigation system that easily relay the pipelines’ locations to the operators thus removing the need for acoustic positioning systems and costly mother vessels. To remain visible to divers and subsea drones throughout the project’s lifespan, these markers are long-term resistant to marine growth and erosion.

“This technology had already proven itself on large structures in the field”, said Jean-Guillaume Besse, Vallourec R&D project leader. “Back in January of this year, we did a first sea trial on much smaller surfaces – down to pipes of 6” in diameter – in the South of France. The tests were a success, proving that these markers, combined with iXblue’s and FORSSEA’s expertise, can be used to provide accurate subsea positioning without the need of acoustic systems”.

This innovative inspection technology could be further enhanced when combined with existing digital solutions from Vallourec.smart’s services portfolio. For example, the Smartengo Best Fit digital solution already associates a unique tag on each pipe to ease traceability, fit-up and pipeline construction.

The advanced solution developed with FORSSEA and iXblue is a key milestone for future pipeline inspection and could be considered as a next step in the Vallourec.smart offering, further facilitating operators' asset management.

About FORSSEA Robotics

FORSSEA is a subsea robotics and vision company launched in May 2016 that operates in the offshore energy markets. FORSSEA was awarded numerous innovation prizes, including the "top 5 to watch in 2019" awarded by the Marine Technology Reporter. After 3 years of R&D, FORSSEA started the qualification of its technologies in 2019 and formed commercial partnerships with several offshore service contractors.

About iXblue

iXblue is a global high-tech company specializing in the design and manufacturing of advanced marine, photonics and autonomy technologies. The group in-house expertise includes innovative systems and solutions devoted to inertial navigation, subsea positioning, underwater imaging, as well as shipbuilding and test & simulation. iXblue technologies support Civil and Defense customers in carrying out their sea, land and space operations with maximum safety, efficiency and reliability. Employing a workforce of 650 people worldwide, iXblue conducts its business in over 60 countries. www.ixblue.com

About Vallourec

Vallourec is a world leader in premium tubular solutions for the energy markets and for demanding industrial applications such as oil & gas wells in harsh environments, new generation power plants, challenging architectural projects, and high-performance mechanical equipment. Vallourec's pioneering spirit and cutting-edge R&D open new technological frontiers. With close to 19,000 dedicated and passionate employees in more than 20 countries, Vallourec works hand-in-hand with its customers to offer more than just tubes: Vallourec delivers innovative, safe, competitive and smart tubular solutions, to make every project possible.

Listed on Euronext in Paris (ISIN code: FR0013506730, Ticker VK) and eligible for the Deferred Settlement System (SRD), Vallourec is included in the following indices: SBF 120 and Next 150.

In the United States, Vallourec has established a sponsored Level 1 American Depositary Receipt (ADR) program (ISIN code: US92023R2094, Ticker: VLOWY). Parity between ADR and a Vallourec ordinary share has been set at 5:1.

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