

3X Engineering,

Monaco, booth 4049

3X Engineering is a company specialised in pipeline maintenance by external application of composite products in onshore and offshore environments. To answer to these specific services, the company has developed a complete range of products dedicated to subsea operations: REINFORCEKIT® 4D SUBSEA (R4D-S), a composite repair for underwater damaged pipes and STOPKIT® OFFSHORE, a unique product that stops a leak online and underwater. To apply the products, technicians and engineers are trained and certified to work offshore. The company provides subsea operation supervision and the co-ordination of technical repair divers (including saturation divers).



Figure 1. REINFORCEKIT 4D reinforcement (offshore platform).

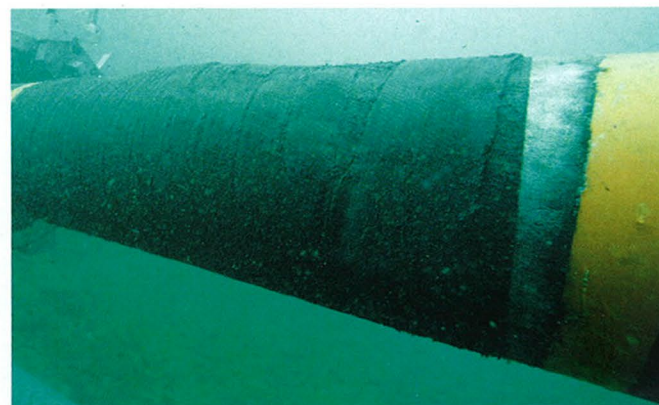



Figure 2. REINFORCEKIT 4D subsea wrapping.

This year, 3X Engineering confirmed its experience and know-how in subsea services by carrying out several repairs around the world, including India and Vietnam. At the end of 2014, the company had performed – in partnership with its distributor in India – a job for ONGC, to reinforce 11 leaking defects over 1.7 m length of a subsea pipe section due to severe corrosion. In August 2015, 3X Engineering successfully repaired PV Gas 3 dented damages on a 16 in. subsea pipe located at a water depth of 44 m. A second operation was performed in September 2015 for the same client, to reinforce a 16 in. subsea pipe suffering from two dents (seabed depth approximately 20 m). These two jobs have been conducted with success in collaboration with the company's distributor in Vietnam. Additionally, 3X Engineering and its local distributor in Colombia recently performed a repair on a 24 in. subsea dented pipe in February.

The company is completely dependant on its customer's request, but is very confident for next year's schedule. 3X Engineering has recently been awarded qualification by ADMA/OPCO (UAE).

The company also has numerous riser reinforcements planned in Iran. 3X Engineering is skilled and efficient in performing complicated repairs in such sensitive environments.

The company performs maintenance for subsea pipes and risers suffering from internal or external corrosion and dents; it offers a complete range of services. Not only does the company manufacture and put its products on the market, but it also provides a complete integrated service with installation onsite. 3X Engineering provides highly qualified engineers and technicians to perform and supervise all subsea repair operations. Through its large network of distributors, it has certified applicators situated close to its clients facilities, which enables a quick provision of 3X products. 

Looking to the year ahead

“One of our challenges at 3X Engineering is to automate the composite application underwater. We are focusing our energy to develop high technical solutions for repairing pipes in extreme conditions of deep offshore and low temperatures. These ambitious technical projects are a result of a closed partnership between Total and 3X Engineering's R&D team. We have already developed a special offshore machine to help divers apply composite products as efficiently as possible, but we are now concentrating all our efforts to adapt this innovative technology for deepwater environments.”

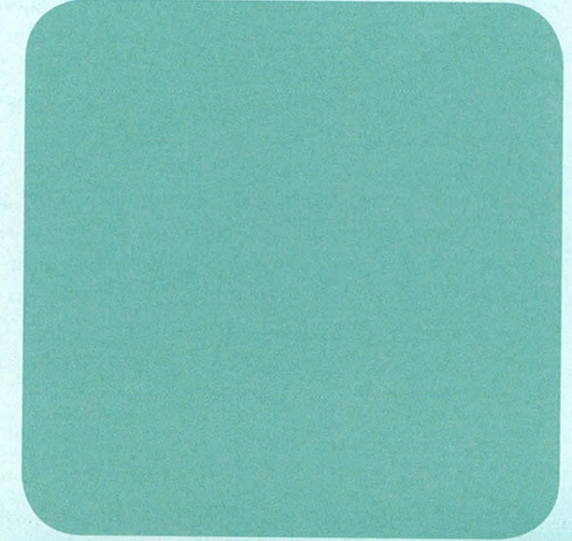


Figure 4. STOPKIT Offshore (online leak sealing).

Figure 3. 3X subsea repair machine (BOBiWRAP®).

