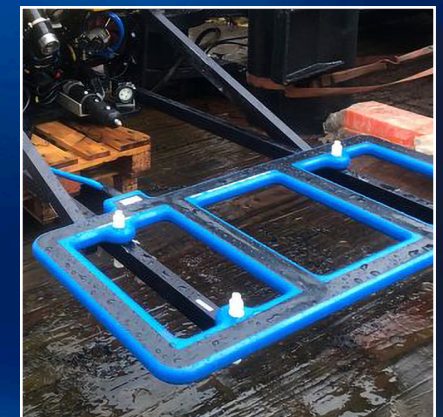
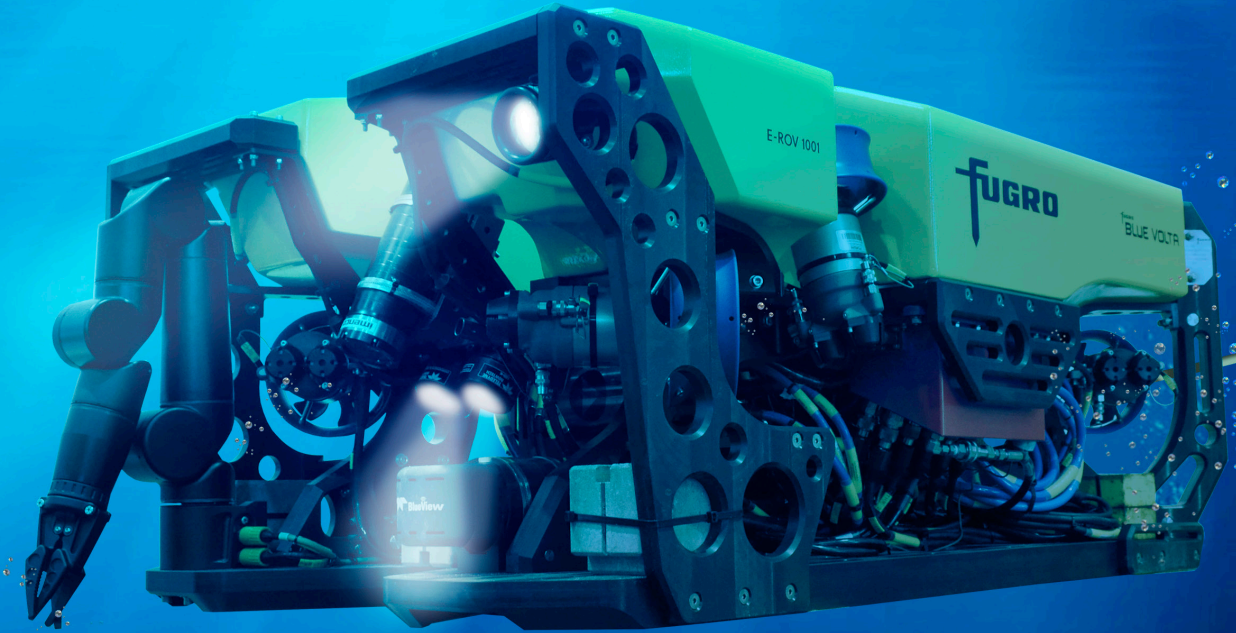


# Fugro Uses the Teledyne TSS 660E Pipe and Cable Tracker to Increase Efficiency and Accuracy in Subsea Pipeline Inspections



TELEDYNE MARINE  
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**Product:** Teledyne Marine TSS HydroPACT TSS 660E Pipe and Cable Tracker

**Application:** Subsea Pipeline Inspections

**Project:** Sea Trials—Teledyne TSS 660E Pipe and Cable Tracker

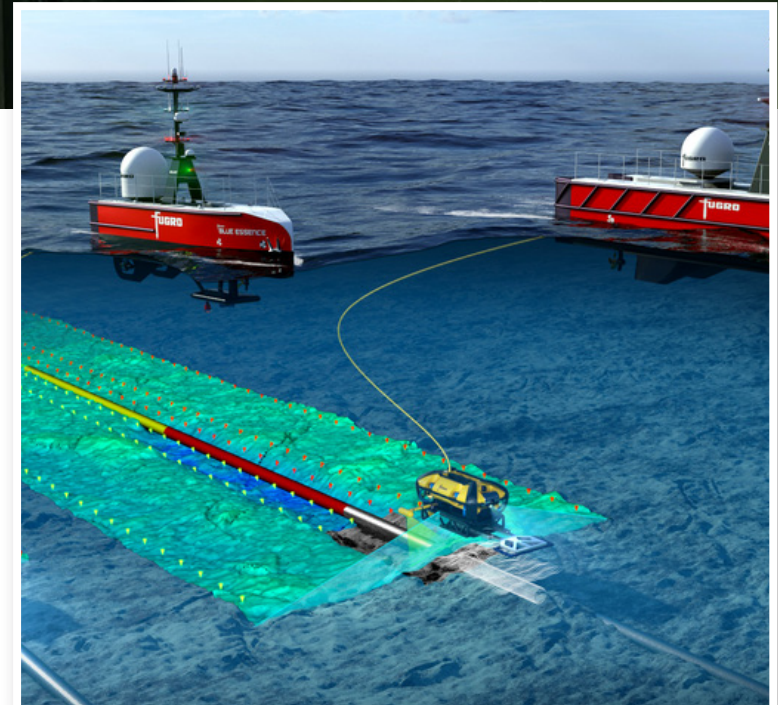
**Location:** North Sea

Fugro needed a solution and they needed one fast. The team wanted to fit their new eROV with a pipe tracker for some challenging projects that would see some perilous conditions. They were running out of time in the middle of the winter in the Dutch sector of the North Sea. The team set out and fit the new Fugro eROV dubbed *Blue Volta*<sup>®</sup> with the **Teledyne TSS 660E** pipe tracker. Known for its accuracy and durability the Teledyne TSS 660E more than stepped up to the occasion.

The solution was a faster more cost-effective way to get the job done. In the end, even under extreme conditions, the team was able to collect high-quality data around the clock, completing the mission.

## The Overview

Depth of burial (DOB) inspections and subsea pipeline surveys are serious business. Subsea pipelines used around the world are exposed to harsh conditions and therefore vulnerable to environmental impacts. Corrosion, high internal pressure, and temperature or bending can lead to hydrocarbon explosions and fires. A burst pipeline can result in an oil or gas spill having negative impacts on the environment and the local economy. There can also be significant downtime for maintenance and repair. Risk management and pipeline integrity maintenance can be time-consuming and costly. The data collected for DOB and pipeline surveys must be accurate for long-term management control of pipeline assets. Historically standard survey techniques have been done from large vessels which can be costly and take multiple passes. Recently a team from Fugro was looking for a small system that could be used on their observational class electric-powered ROV the *Blue Volta*<sup>®</sup> (eROV). The team decided to trial the *Blue Volta*<sup>®</sup>, the first ROV developed for deployment from an uncrewed surface vessel (USV), using the Teledyne TSS 660E pipe and cable tracker.



Using the Fugro eROV *Blue Volta*<sup>®</sup> fit with the Teledyne TSS 660E pipe and cable tracker the team collected pipeline data around the clock. The Teledyne TSS 660E showed accurate data collection in challenging conditions.

“ We decided to use the Teledyne TSS 660E pipe and cable tracker on our observation-class sized next-generation eROV, *Blue Volta*®. Over the winter season in 2021/22 we successfully integrated and deployed our eROV from our 12-metre Uncrewed Surface Vessel, in the harsh sea conditions of the Dutch sector. By doing this we were able to gather the data we required for our client, becoming the first remote solution eROV/USV combination to complete a commercial depth of burial work scope. The TSS 660E was a real enabler for us to do this.”

—Mark Bruce,  
Global Product Owner,  
Next Generation  
ROV Systems Fugro

## The Challenge

The team was operating in the Dutch sector of the North Sea during the winter of 2021. They were deploying the *Blue Volta*® from their 12m USV the *Blue Essence*®. Fugro knew that if they could deploy their system fitted with the Teledyne TSS 660E pipe and cable tracker, they could have a faster, safer, more cost-effective solution to pipeline inspections. The pressure was on for the team to get this done with a short weather window, in a part of the world that can see intense weather patterns, including powerful winds and devastating waves. Clients require accurate and precise positioning, DOB, and multibeam data of the seafloor. Large, crewed vessels are costly and require multiple passes. They needed an option that was designed specifically for use on a larger ROV.

## The Solution

Fugro selected the TSS 660E and in 2021 deployed the *Blue Volta*® eROV from the *Blue Essence*® in the Dutch sector of the North Sea. Once the pilots of the USV and eROV aligned the systems regarding the nuances of piloting the systems together they were able to gather high-quality data on the pipeline surveys. In Holland, the onshore remote operations center ran a day shift, while another onshore remote operations center in Aberdeen ran the night shift. The sea trials took place during the harsh winter months with severe weather conditions, and the teams were still able to gather accurate, high-quality data around the clock completing multiple pipelines DOB data.

