

# CASE STUDY

## TRIDENT-2600

Ocean Buoy

*Bjørnafjord, Norway*



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# Project Overview

## Application:

World's largest floating bridge. Large robust buoys with meteorological equipment to measure weather factors

## Product:

TRIDENT-2600 Buoys

## Date:

April 2015

## Location:

Bjørnafjord, Norway



## Background

Planning is underway to build the world's longest floating bridge over Bjørnafjord, Norway. The bridge will be around 5km long, the longest of its type in the world and will carry a four-lane motorway. This mega project is to establish a ferry-free coastal highway along the west coast of Norway. The combination of depths up to 550m and length of 5km make conventional bridges impossible, floating bridges and submerged tubular bridges are the only options to build a road link this wide. The design of the floating bridge is extremely challenging as the passage is wide, deep and exposed to the harsh environment of wind, waves and currents.

## Solution

Five TRIDENT-2600 rotationally moulded buoys with AIS and wind sensors are being used to support floating measurement and meteorological equipment placed 50 meters under the buoys. The buoys are deployed at an unprecedented 550 meters water depth, so the contractor can measure all weather factors to determine exact planning of the bridge construction. The TRIDENT-2600 was selected for its robust construction, proven performance in such severe environments and ease of deployment.

Sealite UK manufactured and delivered the buoys economically and within strict project deadlines to ensure the contractor could get underway with weather testing as soon as possible.

## Buoy Design

The TRIDENT-2600 buoy is built from four rotationally moulded quadrants, which fasten together to form an incredibly robust 2.6 meter wide floating section, providing a huge visual area for navaid recognition. It was specifically designed to provide an easy solution to customers worldwide through its safe and easy handling features. The unique design of the mooring post with flat base means the buoy can be stored upright in service yards and transported via truck and service vessels for increased handling safety.

A steel mooring post runs through the centre of the assembly, to which the tower section is fastened. An integrated ladder with harness attachment points runs vertically up the tower to the top of the platform and two large lifting eyes aid the buoy mooring and servicing. A large counterweight is fitted to the base of the mooring post offering stability in a variety of exposed regions.



### Partnership

Sealite's danish partner Maritim Consult headed up the project, including technical integration and project management.

“ The buoys needed to carry measuring equipment above and under water and it was very important that the buoys were stable and strong, especially in the rough conditions in Bjørnafjord. The TRIDENT buoy was ideal for this purpose due to its robust construction and we fulfilled the client's needs and requirements by customizing the buoys to their needs. Sealite did an excellent job in manufacturing the buoys in a short time, to meet the clients' deadline

- Rasmus Bohsen  
Maritim Consult

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