4th March 2020

PRESS RELEASE

RINA Awarded Structural Health Monitoring Contract for Storstrøm Bridge

RINA, a business at the forefront of infrastructure health monitoring solutions, has been awarded the structural health monitoring system (SHMS) and corrosion monitoring system (CMS) contract for the Storstrøm Bridge project in Denmark. The new system will provide comprehensive information about structure integrity along with analysis of bridge parameters and environmental conditions.

The construction of the Storstrøm Bridge is being carried out by SBJV, an Italian joint venture lead by Itinera SpA. The 3.84 km structure will become the third largest bridge in Denmark, connecting Zealand and the island Falster via Masnedø. The first phases of construction began in 2018 and the bridge is scheduled to be open to traffic in February 2022.

“The incorporation of digitalization into infrastructure projects is becoming more and more common place,” commented Domenico Donisi, Head of Smart Monitoring at RINA. “This will be the third large global bridge project where RINA has been selected to manage the SHMS.”

RINA was selected for the Storstrøm Bridge project based on its experience in infrastructure health monitoring and specifically its work over within the last three years on major bridge projects in Turkey and Romania. Following the award of the tender in January, it has started work on the detailed design of the health monitoring system, incorporating approval of sensors solution by the final client, sensor location, cable routing and interface to the bridge SCADA (Supervisory Control And Data Acquisition) system.

Donisi continued: “We have begun the design work for the bridge but the peak of the project for the SHMS / CMS will be in 2021, in line with the planned construction phases. We will be providing both hardware and software experts to create a fully customized system and operator dashboard based on the specific requirements for the bridge.”

The SHMS will use the latest fibre optic sensors to monitor parameters such as strain and temperature. These offer significant advantage over traditional electrical sensors as they are immune to electro-magnetic interference and data can be transmitted using the bridge telecommunications system, removing the need for additional cabling. Fibre optic technology also provides a more reliable solution for the bridge environment as it is resistant to humidity, corrosion and immune to electromagnetic field.

Donisi said: “Although our SHMS / CMS solutions are based on our previous experience, each system has to be specially designed for the individual bridge construction and environment. SHMS has become an essential part of infrastructure development over the past three to five years. The Storstrøm Bridge is in a particularly challenging location, which is prone to high winds and harsh weather conditions.”

The SHMS / CMS will correlate measured levels of corrosion with other parameters, such as temperature. Structural information will also be correlated with environmental conditions, such as wind speed. Comparing against a baseline and using fatigue analysis algorithms, the system will estimate the residual life of the bridge structures. It will be customized to interface

with the bridge SCADA, which, for security reasons, is a localized, closed system. Operators will have clear information about the status of the bridge, including alarming and alert systems, via the customized dashboard.

The RINA portion of the Storstrøm Bridge project will run until the end of the project. Alongside design and engineering services, RINA will also be providing installation supervision, test, commissioning and training for the systems. Testing of the SHMS / CMS is scheduled for the end of 2021 with handover completed in February 2022, following sign off by the Danish Road Directorate.

Donisi concluded: “We are delighted our SHMS / CMS solution has been selected for the Storstrøm Bridge project. Digitalization in infrastructure is an important and growing area of the RINA business and a vital part of improving the safety of these major constructions in modern society.”

RINA provides a wide range of services across the Energy, Marine, Certification, Transport & Infrastructure and Industry sectors. With an expected turnover in 2019 of 465 million Euros, over 3,900 employees and 200 offices in 70 countries worldwide, RINA is a member of key international organizations and an important contributor to the development of new legislative standards.

Contacts

Giulia Faravelli
Corporate Communication Director RINA
+39 010 5385505
giulia.faravelli@rina.org

Donata Astengo
Head of Corporate Communication RINA
+39 010 5385380
donata.astengo@rina.org

Victoria Silvestri
Media Relations RINA
+39 010 5385555
victoria.silvestri@rina.org