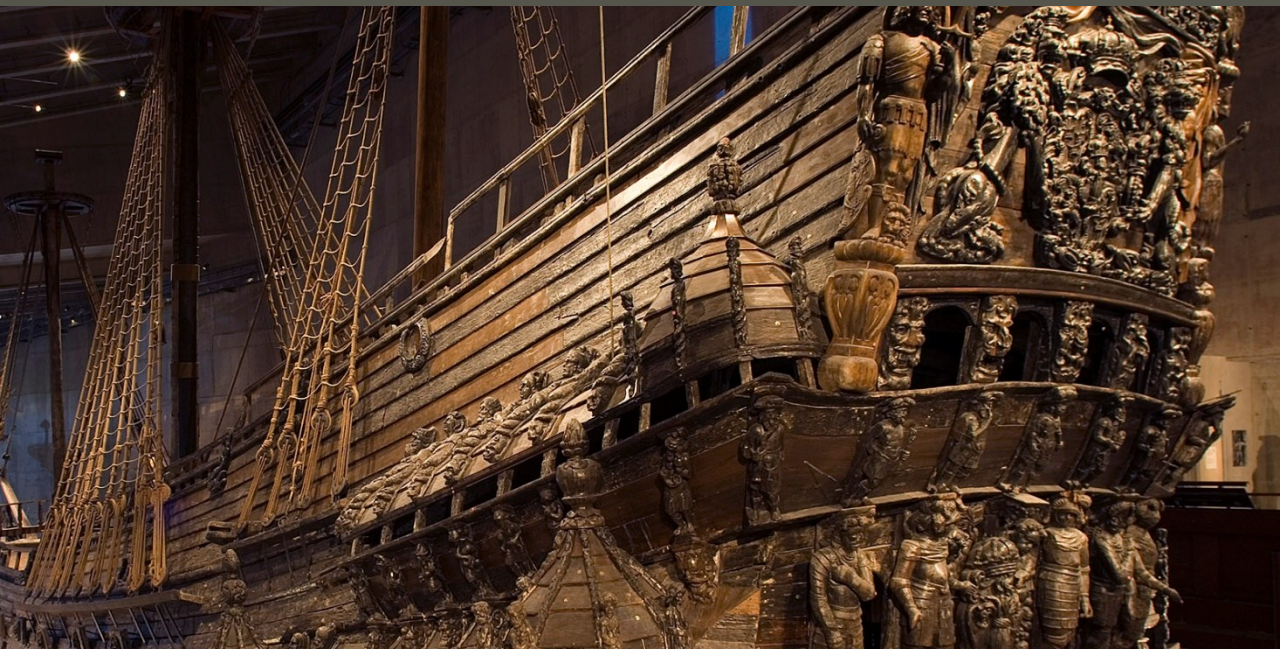
PROJECT

# Real-Time Force Monitoring Safeguards Sweden's Legendary Warship



CUSTOMER
The Vasa Museum

COUNTRY
Sweden

APPLICATION
Structural Health Monitoring

MARKET
Civil Engineering

SHORT DESCRIPTION
The Vasa Museum has installed a sensor-based steel support structure to protect Sweden's 17th-century warship and preserve its shape. A network of 182 LISAB load cells monitors forces in real time, feeding data into a 3D model that detects torsion or bending. Measurements are captured via a Q.bloxx XL DAQ system and visualized on GI.bench dashboards on a portable tablet, supporting precise manual adjustments to the support structure. This advanced monitoring ensures the Vasa is safeguarded for generations.

PROJECT

# Real-Time Force Monitoring Safeguards Sweden's Legendary Warship

## CUSTOMER

The Vasa Museum in Stockholm houses the 17th-century warship Vasa, showcasing Sweden's maritime heritage while using advanced technology to preserve this historic treasure..

## APPLICATION

To preserve the Vasa, Sweden's 17th-century warship, the Vasa Museum has implemented a state-of-the-art steel support structure to protect the ship from damage and maintain its original shape. The old support system, in place since the 1960s, was causing hull deformations due to the weakening of the ship's wooden structure.

The new support system is equipped with 182 LISAB load cells that continuously monitor the forces exerted by the ship, keeping them within safe limits. Data from the load cells is also used to generate a 3D digital model, enabling experts to detect any abnormal torsion or bending in real time.

All measurements are collected using a Q.bloxx XL series data acquisition system, consisting of 25 strategically placed A116 strain gage modules to minimize cable lengths and maximize accuracy. Data is securely transmitted to a remote server, allowing real-time monitoring from anywhere.

During manual adjustments to the support structure, museum staff use GI.bench dashboards on a portable tablet, giving precise control over force measurements as the structure is fine-tuned. This combination of advanced sensors, real-time monitoring, and intuitive dashboards ensures the Vasa is safeguarded for generations to come.

## SALES PARTNER

Load Indicator System AB, Sweden

## COMPONENTS

- 25 x Q.bloxx XL A116
- 25 x Q.station 101
- 1 x Q.station XB
- 2 x GI.bench DAQ Software
- 184 x load cells (by LISAB)
- Electrical cabinets (by LISAB)

## KEY BENEFITS

1. **Smart Installation**
   No messy cables in sight, modules are placed close to sensor for shorter, cleaner wiring.
2. **Real-Time Dashboard**
   Browser-based dashboard provides live data visualization for instant insight and precise monitoring.
3. **Turnkey System**
   From sensors to DAQ to software, a complete solution delivered by GI's trusted partner LISAB.