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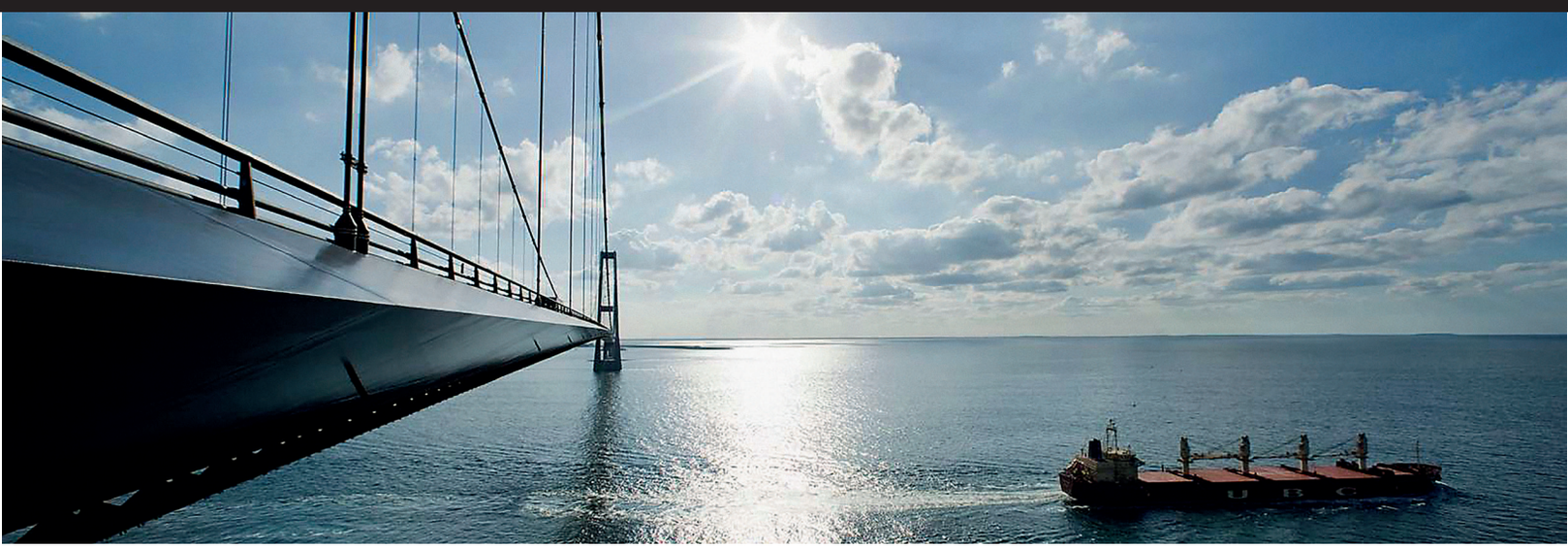

# **Case study:** Encryption secures the Storebaelt Bridge's system-critical data

A/S Storebaelt has several times experienced disruptions on their local data connections in Zealand Denmark, due to a network failure in Hamburg, Germany. With this experience A/S Storebaelt decided to secure their data in motion with encryption.

More than 13 million vehicles cross the Storebaelt bridge annually, but data traffic generated from the bridge is at least as massive. The bridge is equipped with several measurement-, control- and monitoring systems, which extends beyond the Great Belt territory. External connections are used by the police authorities in the Danish cities of Naestved and Odense acting as road authority, to Banedanmark, which monitors national railway traffic, and to Vessel Traffic Service (VTS) at the naval base in Korsoer, which monitors ship traffic in the Great Belt. These connections are established as leased point-to-point lines supplied by various fiber suppliers. This means that customers do not know where their data travels during transmission. A/S Storebaelt's operational management has experienced several disruptions on data connections between two points in Zealand, Denmark due to a network failure in Hamburg, Germany. These experiences led to A/S Storebaelts decision to encrypt data connections.

> **"I've been looking for a safe and simple solution that works, without being necessary with continuous updates and configuration.**

## 'Set it and forget it'

Previously, A/S Storebaelt used traditional firewalls for encrypting the external connections, but there has always been a desire to acquire more dedicated encryption equipment specifically for the leased point-to-point fiber connections. "When Zybersafe approached us, they hit the spot with their solution. I have searched for a safe and simple solution that works without continuous updates and new configurations. A "Set it and forget it" solution, and it's exactly, what we got," says Jens Vesterdahl, who is the operations manager for low-voltage systems at A/S Storebaelt. "It provides great security to know that the system is unbreakable. When data is out of our control, there is a risk of compromise or attack. For point-to-point connections this solution is very suitable for us," says Jens Vesterdahl.

## Unbreakable encryption

Zybersafe's hardware solution is encrypted according to the AES 256 GCM standard, a so-called block encryption algorithm, where encryption keys can be up to 256 bits in length. In principle, AES 256 can only be compromised with the brute-force method, but according to Zybersafe it would take the world's most powerful computer thousands of years to crack this algorithm. Even quantum computers will, once they come, not be capable of decrypt this algorithm.

**JENS VESTERDAHL**

- Operator of low-voltage systems at A/S Storebaelt.
- Responsible for secure transfer of system-critical and person sensitive data to, among other things, Vessel Traffic Service, Banedanmark and the Danish police authorities.

## ADVANTAGE

**Maintenance-free:** No continuous updates and configuration.

**Security:** The AES 256 encrypted connection is practically impossible to compromise.

**Speed:** The interface of A/S Storebaelt's connections are today 1 Gb/s, but Zybersafe provides equipment that can encrypt data connections at 100Gb/s.

## SOLUTION REQUIREMENTS

Secure encryption of point-to-point connections without the need for firewall configuration.

## ABOUT ZYBERSAFE

Zybersafe focuses on the design of security products that secure the strongest possible data protection in motion.

Zybersafe wants to deliver products, that are easy to implement and protects customers valuable and private information against wiretapping without compromising performance.

## KEY FEATURES

- **Strongest encryption technology, AES 256-GCM**
- **Secured against Man-In-the-Middle attacks (Data Integrity Control)**
- **1, 10 and 100 Gb/s encrypted ethernet capacity**
- **Minimum latency (<5 microseconds)**
- **Transparent data encryption**
- **Keys are not user-accessible**