

# KALMAR LEADS THE WAY IN CYBERSECURITY CERTIFICATION FOR THE TERMINAL INDUSTRY

**"KALMAR IS THE FIRST SOLUTION PROVIDER IN THE PORTS AND TERMINALS INDUSTRY TO RECEIVE THE CERTIFICATION FOR THE SOFTWARE DEVELOPMENT OF ITS AUTOMATION SYSTEM FOR ALL TERMINAL EQUIPMENT."**



**Timo Alho,**  
Director, Product Management Automation, Kalmar

In August 2023, the Kalmar Technology and Competence Center in Tampere, Finland, and its Automation Business Line received certification for IEC 62443-4-1, the international standard for cybersecurity for industrial automation and control systems. Kalmar is the first solution provider in the ports and terminals industry to receive the certification for the software development of its automation system for all terminal equipment.

Industrial automation and control systems have a direct effect on the physical world, while cybersecurity incidents can lead to financial, health, safety, and environmental impacts. Potential threat scenarios range from data security breaches and ransomware attacks to the theft of goods and even shutting down the operations of the entire port. Attacks may be carried out by various types of entities, including

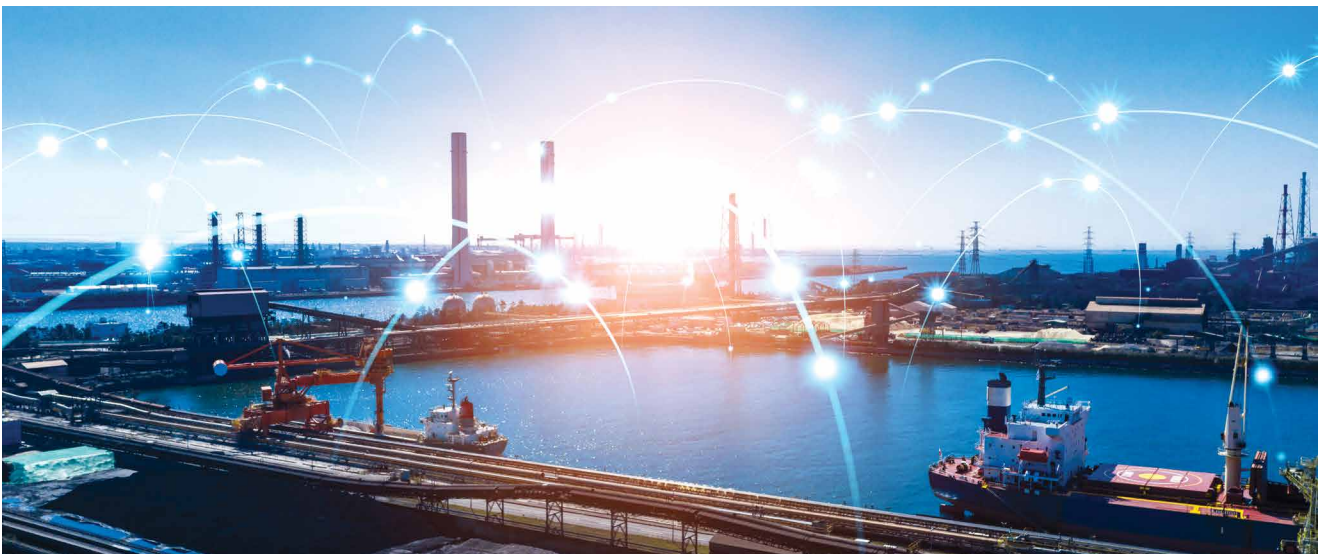
individual hackers, organized crime, and state-level actors. Due to the critical role that ports and terminals play in global supply chains, any security incidents can have serious consequences for the terminal operator, customers, and society at large.

IEC 62443-4-1 is an industrial standard that defines Secure Development Lifecycle (SDL) requirements and practices related to the development of products. The certification of the Kalmar One automation system to the standard demonstrates Kalmar's commitment to ensuring the highest level of security for its products and solutions. SDL includes practices such as security requirements definition, security training, secure design, secure implementation, verification and validation, defect management, patch management, and product end-of-life.

### SECURING THE DEVELOPMENT PROCESS

The Secure Development Lifecycle process of the Kalmar One automation system underwent an independent audit conducted by leading product certification company Exida, [click here](#) to see the Exida, Kalmar One Cybersecurity certificate and assessment report. The process met the requirements of maturity level 3 of the IEC 62443-4-1 standard.

Achieving this maturity level demonstrates that the organization has implemented a structured approach to industrial cybersecurity and is committed to improving its security capabilities. The processes have been practiced, and evidence exists to demonstrate that this has occurred.





To address cybersecurity in Kalmar One, we started implementing the security practices of the standard into our software development. We integrated several security tools into our software development process to provide enhanced visibility of what is going on under the hood of our product, and to reduce attack surfaces. We enforced mandatory security training courses for both software developers and testers and the onboarding process includes the courses.

#### LEADING BY EXAMPLE

The IEC 62443-4-1 standard does not define specific features in end products but is designed to help companies improve cybersecurity by improving the software development process and addressing best practices in managing the entire lifecycle of the software product. By following the IEC 62443-4-1 standard, companies can ensure that products and solutions are designed, developed, maintained, and retired with security in mind. The standard will also help Kalmar fulfill essential health

and safety requirements in the new Cyber Resiliency Act and Machinery Regulation of the European Union.

We are proud to be the first in the automated terminal industry to achieve this certificate for our product development process. Customers using our Kalmar One automation system can have the peace of mind of knowing that not only do they have access to the latest patches and updates to ensure the security of their systems, but also that the tools they use have been developed with the best practices available to the industry.

#### ABOUT THE AUTHOR:

Timo is the Head of the Product Management in Kalmar's Automation Business Line, part of Cargotec, a global leader in cargo handling solutions.

Timo has worked at Kalmar for almost 25 years, first in automation R&D, where his key project was the development of the AutoStrad solution. During the past years, he has held various positions in the terminal automation business from Product Management to the Head of the Cranes Business line and Terminal Design Services team.

He has been involved in most of the terminal automation projects by Kalmar. Currently he leads the Product Management function in Kalmar Automation business line, responsible for automation offering for all Kalmar products.

Timo has studied automation engineering (M.Sc., Automation Technology) at the Tampere University of Technology.

#### ABOUT THE COMPANY:

Kalmar is the global leader in sustainable cargo handling for ports, terminals, distribution centres and heavy industry. With our extensive electric portfolio and global service network, we help our customers move towards safer, more eco-efficient and productive operations. Together, we develop innovative solutions that shape the future of our industry, improving our customers' every move.

[www.kalmarglobal.com](http://www.kalmarglobal.com)

Kalmar is part of Cargotec. Cargotec's sales in 2022 totalled approximately EUR4.1 billion (\$4.99 billion) and it employs around 11,500 people.

[www.cargotec.com](http://www.cargotec.com)