



## COTS technology from HIMA safeguards level crossings on a main line in Athens

(Bruehl, October 15, 2018)

Compact, standardized Commercial-off-the-Shelf (COTS) controllers from HIMA safeguard level crossings on the busy line between Athens and the nearby port of Piraeus. Based on the HIMA components, the internationally active system integrator AKTOR designed a signaling solution conforming to the CENELEC SIL4 safety level, which is installed in compact electrical enclosures next to the track. The result is enhanced safety for rail and road traffic, as well as shorter train intervals and correspondingly higher passenger capacity. At the same time, the open, modular COTS components contribute to a considerable reduction in total operating costs.

The eight kilometers line between Athens and Piraeus is very busy. About 20 million tourists per year use the passenger terminal at the port of Piraeus – one of the largest of its kind in Europe – and many of them travel by train from there to Athens. Heavy freight trains from the nearby container terminal also travel on this line. For the railway operators Hellenic Railways and Train OSE, the top priority is reliable and above all safe train traffic on this line. Previously the barriers of three level crossings were still operated manually, making an upgrade of the infrastructure urgently necessary. The company AKTOR was entrusted with management of the upgrade project. As part of the ERMIS-LX project, the level crossings were equipped with high-performance COTS safety controllers from HIMA.

This new COTS solution provides comprehensive information on the status of the barriers, as well as considerably improved signal control capabilities – for example, using the ARTEMMIS monitoring system developed by AKTOR. It collects all data from the trackside equipment and displays their status in real time on a monitor. This allows the station manager to issue specific orders remotely, such as closing the barriers in an emergency

situation. The open architecture of the HIMA controllers additionally ensures a high degree of flexibility for programming by AKTOR, whose function blocks developed in-house can be reused and regularly updated in the interest of continuous improvement.

"Many specialized interlocking system suppliers do not support peripheral devices from other manufacturers," explains Athanassios Zacharatos, Signal Technology Project Manager at AKTOR. "That can lead to very high costs and sometimes the system is also not flexible enough to meet the desired requirements. Including the cost savings we were able to achieve thanks to the freedom of choice for peripheral component suppliers, we estimate that with the use of COTS controllers from HIMA we managed to achieve overall savings of about 40 percent."



Image 1: The new level crossings on a main line in the Athens region are equipped with high-performance safety controllers from HIMA.

Image © ERGOSE



Image 2: Electrical enclosure temperatures in Greece can rise to 60°C or more – the HIMatrix modules with expanded temperature range used here are designed for temperatures up to 70°C.

Image © HIMA Paul Hildebrandt GmbH



Transforming Safety

2018 is a special anniversary year for HIMA. For many decades, the safety specialist – founded in 1908 – has played a major role in shaping safety standards and has driven innovations to develop the market for industrial safety. Drawing on 110 years of experience, HIMA develops solutions for the digital industrial age and is ready for the challenges of the future.

## About HIMA

The HIMA Group is the world's leading independent provider of smart safety solutions for industrial applications. With more than 35,000 installed TUV-certified safety systems worldwide, HIMA qualifies as the technology leader in this sector. Its expert engineers develop customized solutions that help increase safety, cyber security and profitability of plants and factories in the digital age. For over 45 years, HIMA has been a trusted partner to the world's largest oil, gas, chemical, and energy-producing companies. These rely on HIMA solutions, services and consultancy for uninterrupted plant operation and protection of assets, people and the environment. HIMA's offering includes smart safety solutions that help increase safety and uptime by turning data into business-relevant information. HIMA also provides comprehensive solutions for the efficient control and monitoring of turbomachinery (TMC), burners and boilers (BMC) and pipelines (PMC). In the global rail industry, HIMA's CENELEC-certified SIL4 COTS safety controllers are leading the way to increased safety, security and profitability. Founded in 1908, the family-owned company operates from over 50 locations worldwide with its headquarters in Bruehl, Germany. With a workforce of approximately 800 employees, HIMA generated a turnover of approximately €126 million in 2016.

For more information, please visit: www.hima.com

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