

## CASE STUDY

### ENABLING MANUFACTURING DIGITALIZATION WITH MACHINE AUTHENTICATION



Machine  
Authentication

**Operator identity is an important data point for production monitoring, quality control and process optimization. ELATEC worked with Digitop Ltd. to develop a customized machine authentication solution for a Hungarian food manufacturer that would integrate with their Overall Equipment Effectiveness (OEE) software.**

#### CHALLENGE: COLLECTING OPERATOR DATA FOR OEE



A Hungarian food industry manufacturing group wanted to modernize and digitize manufacturing processes and enable data collection for quality assurance. They reached out to Digitop, a leading IT solution provider with expertise in manufacturing digitalization, to implement an OEE solution that would allow collection and analysis of operator and equipment data for production optimization. Overall Equipment Effectiveness (OEE) is an important production efficiency indicator, allowing manufacturers to measure the percentage of time production lines are operating at maximum capacity and efficiency, identify areas of improvement, and drive productivity gains.



One of the critical data elements they needed to collect was operator identity. This required a machine authentication solution to track who was operating each machine and at what times. Collecting operator identity data in addition to equipment data would allow them to match operators with production outcomes. This information could be used to trouble-

shoot quality issues, track operator performance and productivity, and identify training needs.

The machine authentication solution needed to work with the manufacturer's existing employee ID badges, which utilized special codes. It also needed to integrate with OEE, Digitop's OEE solution.



## DIGITOP LTD: ENABLING PRODUCTION OPTIMIZATION THROUGH OEE DATA

Digitop Ltd. is a Hungarian IT specialist providing outsourced IT services and software for building automation, manufacturing production monitoring, and more. They work with manufacturers of all sizes to digitize production operations and drive productivity improvements through data.

Their Overall Equipment Effectiveness (OEE) solution for manufacturers, **OEE**, enables real-time monitoring and analysis of key metrics such as raw materials utilization, production machine load capacity, and employee capacity.

[www.oee.eu](http://www.oee.eu)

## REQUIREMENTS

The readers needed to support a non-standard, customized ID badge technology in use by the food manufacturer. They also needed to allow firmware customization for integration with Digitop's OEE software.

## SOLUTION

Digitop turned to ELATEC to find a reader that would meet their requirements. The TWN4 Multi-Tech 2 LF/HF provided the flexibility they needed for the application. The multi-technology readers support virtually any RFID transponder technology, including both HF (13.56 MHz) and LF (125 kHz) RFID and mobile authentication using Near-field Communication (NFC). The readers were configured to support the transponder technology currently in use, so employees can use the same badge for machine authentication they use for building access. The readers also give the company flexibility should they change transponder technologies in the future.

The engineers from ELATEC worked with the Digitop team to rewrite the reader firmware to make it compatible with the OEE software. After multiple consultations and testing, they successfully delivered a card reader that worked flawlessly with their systems. The card readers were shipped with modified and customized firmware, relieving Digitop of the burden of updating the card reader software.

Remote update capabilities will allow firmware to be easily kept up to date to accommodate changing security requirements, new transponder technologies or additional requirements.

Integrating the ELATEC readers into production machines allows the food manufacturer to collect the operator data essential for manufacturing optimization and quality control. Operators simply log into the machine with their ID cards. The system collects both operator and equipment data within the OEE system for analysis and reporting. As a result, the manufacturer was able to streamline its quality assurance processes, enhancing both product quality and production efficiency.

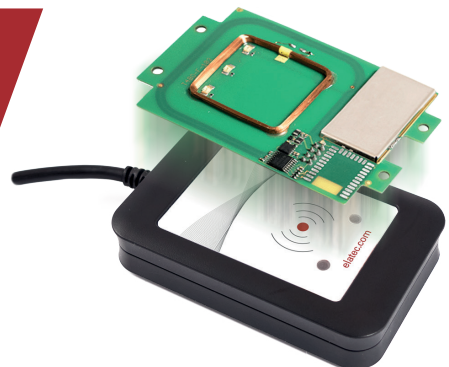
## BENEFITS

- + Supports all common LF (125 kHz) and HF (13.56 MHz) transponder technologies and NFC
- + Powerful software development kit for custom firmware and apps
- + Supports contactless or remote configuration and updates

The specialized solution required extensive collaboration between ELATEC, Digitop and the end client to ensure it would fully meet their needs. The resulting IT and hardware solution is a powerful element of manufacturing modernization and optimization.

## ELATEC TWN4 MULTITECH 2 LF/HF

An all-in-one multi-frequency reader that supports virtually all 125 kHz or 13.56 MHz technologies, including mobile credentialing via Near-field Communication (NFC). A powerful software development kit enables writing of custom firmware and apps directly on the reader.



**Want to know more about machine authentication for manufacturing optimization?  
Talk to our application experts.**

[elatec.com](http://elatec.com)

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