

## **ELTEC Elektronik offers a complete digital solution for predictive maintenance in trains**

### *Efficient maintenance and reduced downtime*

Mainz, February 28, 2019 – With predictive maintenance, train maintenance cycles can be optimized based on usage and problems can be identified before they occur. This minimizes downtimes, reduces operating costs and increases operational safety in rail traffic. Against this background, ELTEC Elektronik, Splunk and ESE Engineering with DRIVE 1.0 offer a solution for the efficient, fast and safe acquisition and communication of train operating data and their transmission to higher-level systems. A starter kit with all necessary components is available for simple system implementation of "Condition-Based Monitoring".

DRIVE 1.0 combines the components and know-how of three companies: The Ethernet Data Concentrator CyBox ED-S from ELTEC connects to the train via a configurable interface, collects and processes the relevant data as an onboard-computer and enables real-time remote access. The read-out train data is processed by the Splunk Big Data and IoT Analytics platform. ESE acts as an integrator for DRIVE in the train as well as on the landside systems and adapts dashboards and evaluations to customer-specific requirements. The user benefits from the clear processing of complex data, real-time analysis and the availability of forecast data.

The DRIVE 1.0 starter kit includes the following items supporting design and implementation:

- CyBox ED-S with UIC559 forwarder and all cables and antennas
- three-month license for the use of the Splunk software
- Integration of the system including initial customer-specific evaluations and hosting for three months

The robust data concentrators of the CyBox ED line with a powerful ARM CPU are equipped with a large number of interfaces (Gigabit Ethernet, 4 x serial, 4 x digital, relay) through which vehicle or machine-internal sensor data can be collected and transmitted to higher-level systems or control centers for condition-oriented maintenance. The device data can be transmitted wirelessly via mobile radio/WAN or via Gigabit Ethernet cable.

With the EN 50155-compatible wide-range power supply, the compact dimensions, the wide temperature range (-40 °C to +85 °C) and the robust housing (IP67), the CyBox ED-S can be used in a wide variety of train types and also in narrow and harsh environments.

The data read-out in the train is processed with Splunk's software platform – a generic solution for all text-based machine data. The connection between the CyBox ED-S computer and the Splunk software is encrypted, while access to the computer is automatically monitored. This approach provides a simple and clear view of complex data. Personalized notifications and real-time diagnostic alarms enable fast and targeted action.

As a part of the DRIVE 1.0 solution, ESE offers development support for system integration. This also includes the realization of evaluations according to customer requirements. The scope of delivery of the DRIVE 1.0 kit includes the development of two customer-specific dashboards for displaying machine data as well as consulting on possible customer-specific use cases.

More information about DRIVE 1.0 can be found at: <https://www.train-monitoring.com/>



#### ELTEC Elektronik AG

ELTEC Elektronik offers tailor-made client solutions for a wide range of embedded designs with their specific criteria and tasks. To achieve this, the enterprise draws from its vast expertise in disciplines such as FPGA and CPU design, operating systems and drivers, as well as application software, bus concepts for all commonly used form factors, industrial PCs and industrial image processing.

#### CONTACT

ELTEC Elektronik AG  
Daniela Höhn  
Galileo-Galilei-Str. 11  
55129 Mainz  
Germany

Fon +49 6131 918 100  
Fax +49 6131 918 195  
Email [dhoehn@eltec.com](mailto:dhoehn@eltec.com)  
www [eltec.com](http://eltec.com)

#### CONTACT AGENCY

MEXPERTS AG  
Rolf Bach  
Trimbургstraße 2  
81249 München  
Germany

Fon +49 89 897361 14  
Fax +49 89 897361 29  
Email [rolf.bach@mexperts.de](mailto:rolf.bach@mexperts.de)  
www [mexperts.de](http://mexperts.de)

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