Application for the manufacturing industry

Predictive maintenance helps to extend the lifecycle of industrial machines and establish efficient maintenance cycles. Data regarding the reliability of individual components and the condition of the foundation structures can be collected automatically, evaluated easily, and used for the maintenance concept. Maintenance costs are reduced.

Today’s automated production facilities use a large number of sensors, actuators and other components to manufacture products. If individual components need to be replaced (due to a defect, for example), this interrupts production. Installation is followed by the time-intensive process of adapting the control software, as the components are not generally available as a digital twin.

The global industry standard eCl@ss is implemented effectively as the universal semantics standard. In the IO-Link, the device descriptions of the production facility’s components are mapped in real time directly to eCl@ss with the help of the ISO/IEC-compliant eCl@ss structure. All communication takes place via eCl@ss; missing properties can be requested directly. This means that, following the commissioning of new sensors or actuators, the automatic facility can resume operation without loss of time thanks to the real-time eCl@ss mapping.

The following standards are used:
- IO-Link IODD
- eCl@ss

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References
https://www.youtube.com/watch?v=WYbww7Ps63Y

Industry 4.0 Features
- Semantic and manufacturer-independent description of components
- Standardized information description
- Dynamic mapping in real time in an automated production facility

Standardization Approaches