Predictive maintenance with the Cooler Condition Monitoring Box

With increasingly competitive markets, companies are challenged to run their organizations with more output and greater efficiency. Knowing the health of a company's assets has become key to increasing productivity and profit. IKN's Cooler Condition Monitoring Box increases cooler performance by collecting important information of key equipment.

+ **Remote data analysis**

+ **Dynamic dashboards**

+ **Adjustable notifications**

+ **Remaining Useful Life (RUL) prediction -coming soon**

IKN technology in brief

Assessing the condition of technical installations requires a complex analysis of cause-effect relationships between structural designs, stresses, and changes in condition during operation while considering production and maintenance history.

These tasks require a solid foundation of machine sensor data. IKN's Cooler Condition Monitoring Box (CCM Box) provides this functionality using a state-of-the-art time-series database optimized for ingesting, storing and efficiently querying this data. This database stores the data directly on the CCM Box at site ensuring full sovereignty over this data on the customer's side. Using this technology, IKN has achieved real-time data ingestion rates from existing PLCs in the range of milliseconds. The data is automatically compressed at a later stage to enable the storage of decades worth of high precision data.

The CCM Box also offers several interfaces to receive data from various industrial communication protocols such as OPC UA or MQTT.
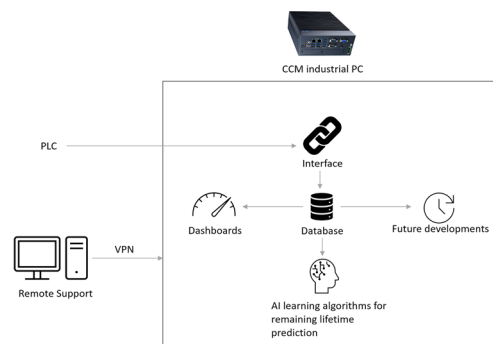

Schematic overview of the CCM data streams (NO CLOUD):

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The CCM Box uses IKN's **4G Data Transfer Box** to easily provide remote access to the CCM Box and its data. The **4G Data Transfer Box** implements a very high standard of internet security by using virtual private network (VPN) technology ensuring secure access to the data only by the customer and IKN Engineers.

Several dashboards to display the historical and current state of customer's machine sensor data have been developed by IKN. The CCM Box enables IKN engineers to access these dashboards via VPN to easily visualize the data in case assistance is required. Should a critical condition be detected, this dashboard software can also be configured to send automatic alerts via E-Mail, MS Teams or Slack.

IKN's vision is to provide all our customers an overview of the current state of the installed equipment in order to increase the plant's overall equipment efficiency (OEE). A new data analysis system using machine learning and deep learning technologies, is currently under development and will be installed over-the-air.
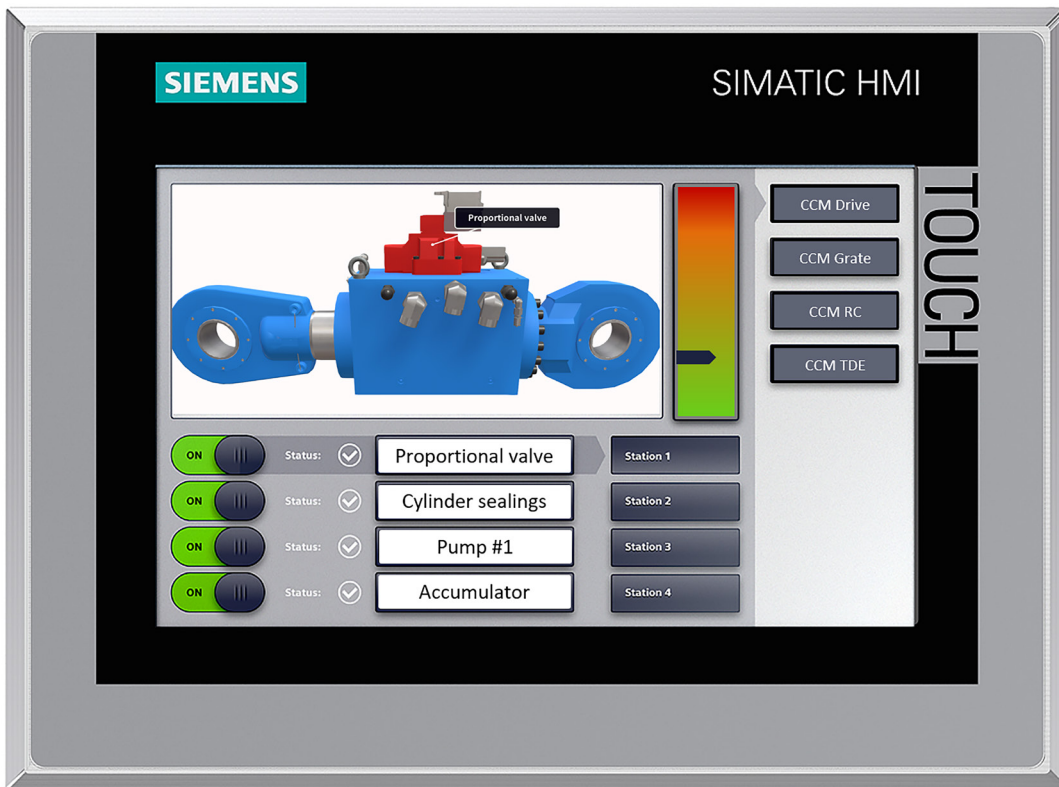
Displaying the status of components (remaining useful life) - coming soon

Contact

Please contact our after sales department for a customized offer at aftersales@ikn.eu.

www.ikn.eu