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PCIXpert: boosting efficiency and resources utilization

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The paper presents the development and implementation of the Pulverized Coal Injection Monitoring Service (Paul Wurth PCIXpert), an innovative solution designed to enhance the operational efficiency and reliability of Pulverized Coal Injection (PCI) plants. Developed by SMS group, PCIXpert addresses the challenges faced by maintenance and process management personnel in monitoring complex PCI installations. The service provides a continuous evaluation of PCI transport performance through the use of key performance indicators (KPIs) and a smart alarm analysis tool.

Paul Wurth PCIXpert introduces a novel approach to the industry by offering a comprehensive, long-term analysis of the entire coal injection transport system, from storage bins to injection lances. This system is distinguished by its use of industrial dashboards and KPIs, enabling users to easily assess plant performance and identify deviations from optimal operation. The process-impact oriented alarm management system categorizes alarms by process and impact severity, facilitating targeted interventions.

The deployment of PCIXpert is currently underway, with full implementation at two PCI locations and partial implementation at another location, where further deployment is in progress. Initial results indicate significant improvements in plant availability and utility consumption. These improvements are attributed to the system's capability to highlight sub-optimal conditions within the plant process, thereby guiding process, maintenance, and operation personnel on where to focus their efforts and what specific issues to rectify.

The expected future benefits of the Paul Wurth PCIXpert include sustained operational efficiency, reduced costs, and enhanced decision-making capabilities for plant operators. By providing an easily accessible web-based service, it ensures that critical performance data is readily available to stakeholders, supporting continuous process optimization and contributing to the long-term success of PCI operations.

Primary author: Ms ICIRIDDIR, Yasmine (SMS group)

Co-authors: Mr CAUWENBERGHS, Bernard (SMS group); Mr GAIOLA, René (SMS group)

Presenter: Ms ICIRIDDIR, Yasmine (SMS group)

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