

Corrosion monitoring of connected assets, the Industrial IoT and Analytics perspective

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Abstract

Assets in refining and petrochemical industry have been equipped with sensors and remote monitoring ever since it became possible, decades ago. It is not immediately clear what the Industrial Internet of Things (IIoT) hype would add for an application like corrosion monitoring on these assets. This also applies for analytics, the analysis of collected data.

The IIoT promise encompasses that by combining various sensors and actuators new valuable solutions are possible. The open structure that IIoT propagates is not welcomed at high security installations like a refinery or petrochemical plant. And the advances in analytics, including artificial intelligence, are hard to validate for application in a safety-critical domain. It is however still possible to leverage the combination of sensors, various other data sources and modern day analytics to improve the way corrosion is monitored.

Corrosion monitoring examples are discussed with novel sensors and connectivity, like non-intrusive ultrasonic corrosion measurement and fiber-optics, as well as the challenges and advantages of connecting various data sources for advanced analytics.

Keywords

Monitoring, Industrial IoT, Analytics, Refinery

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