Big Data meets Smart Safety

HIMA showcased new methodologies for transforming available data into beneficial information at ARC Forum, Orlando 2017

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The challenges surrounding Big Data, the Industrial Internet of Things and how to secure the plant floor are some of the biggest hurdles facing industry today. At the ARC Industry Forum in Orlando, HIMA introduced smart safety solutions that turn data into information that can be used to reduce downtime, increase security and, potentially, prevent outages.

Safety systems in the process industry are intended to take the plant to a safe state in case of a process event. Currently, that function represents not only the last resort to protect employees and equipment but also the limit of what traditional safety systems are expected to do. While large amounts of beneficial data are resident in HIMA safety systems, that data has traditionally gone unused. With newly developed smart solutions, this process, diagnostic and instrument data can be used to increase security and uptime.

Steffen Philipp, Managing Partner of HIMA, comments, “Safety does not end with emergency shutdown. As an independent safety specialist with more than 45 years of experience in safety-critical applications, we are proud to present at ARC Forum our smart safety solutions that make efficient and beneficial use of available data. This is a new concept, reflecting how HIMA is always driving innovation to make plants more safe, secure and profitable.”

The new solution ensures that the huge amount of safety-relevant data a process produces is presented visually. Operators in the process industry experience alarm overloads, which make it difficult to prioritize. A Critical Alarm system, based on information provided by the safety system, ensures that critical events are recognized and addressed.

Additionally, the traditional error codes generated by safety systems are displayed as a series of characters. The operator or maintenance engineer then must search for the meaning of these codes. The new visualization solution converts critical diagnostic data from the safety PLC into plain English, thereby turning error codes into understandable, actionable information.

An integrated feature of the HIMax safety PLC is the ability to automatically diagnose up to 20,000 safety-critical events. This sequence-of-events data can be used to evaluate process events and help determine the root cause, which can be used to prevent future events.

According to Buddy Creef, Sales Director, HIMA Americas, “It has always been our intent to keep customers’ plants running. Leveraging this data helps to reduce downtime. The information can even be used to anticipate and eliminate downtime. The unique capability of the HIMax system provides value to the user beyond what has traditionally been expected.”

Another innovation is the ability to monitor and protect HART-enabled devices. These instruments have long been used in safety applications. Typically, though, the HART is stripped from the process variable before the information gets to the safety system. The possibility that someone could use existing HART solutions to reconfigure field devices via the Asset Management System is a cybersecurity and safety risk.

New HIMax functionality will allow the safety system to use HART diagnostic data while also providing a firewall against unauthorized reconfiguration of devices, making the safety function more reliable and secure. The access to the HART parameters also enables operators to use this data for predictive maintenance purposes and to monitor configuration changes made to the devices, both of which can contribute to increased plant safety.

Video Interview:

https://youtu.be/C9AEaW_KDXw