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Cyber Security In The Petrochemical World – Growing Threats & Actionable Solutions

Cyber security threats represent one of the biggest challenges for lubes and greases manufacturers or any organisation in the petrochemical world. From the theft of formulas and other IP to plant shutdowns, physical damage and demands for payment from ransomware, the threats are growing.

Protection from these threats are essential. This paper explains how defence against cyber attacks is achieved by people, processes and technology.

However cyber security should not be viewed simply as protection against external threats for existing systems – it is also a business enabler. Effective cyber security allows organisations not only to address their business challenges but also to meet their strategic initiatives. Digitisation and automation for plants and facilities are priority projects across the sector as organisations seek to become more efficient without effecting the safety and availability of their facilities.

As petrochemical organisations participate in what is often called the forth industrial revolution – although the more accurate term is Industry 4.0 as technology is constantly evolving – the need for effective cyber security to both protect and enable has never been greater. Driven by strategic business initiatives, digitisation and automation projects that utilise the Industrial Internet of Things to enable cyber-physical systems that communicate and cooperate with each other and humans in real time, require cyber security to enable them to operate without risking safety and availability.

This paper is written specifically for organisations in the petrochemical world and addresses the topics and challenges that are unique to this sector. The paper provides information on the risks and also actionable solutions for businesses across the sector.

Topics include:

- **PPT.** Cyber security is not achieved by simply deploying technology. Effective protection is achieved by the combination of People, Processes and Technology.
- **Securing the IP Chain.** The protection of IP is critical across the sector. Securing formulas and other IP involves cross functional effort across corporate and production functional and technology areas.
- **Product Manipulation.** With effects covering safety, availability and business performance product manipulation is a worrying trend in the petrochemical sector.
- **Corporate and Production.** Corporate and production systems are different in terms of design, priorities, technology and operation and yet they are becoming more connected. Unified Enterprise Wide Defence is only possible when the requirements for these different systems are understood and addressed.

- **Debunking Cyber Security Myths.** From air-gapped facilities to obscure systems and from contractor access to the 'under the radar' illusion, we shine a light on the most common myths around this most important topic.
- **Supply Chain.** As automation and digitisation drive the creation of process wide systems, more suppliers and facilities are connected to what were once systems contained within the walls of the plant. Never has the term 'you are as strong as your weakest link' been more fitting.
- **Industry 4.0:** Digitisation and Automation – Security as an enabler. (see above)
- **Threats.** To understand the risks we will review and analyse the current threat landscape.
- **Trends for 2018.** From a selection of industry experts, we look at a selection of the trends to look out for in 2018.
- **Actions and Solutions.** Throughout the paper, actions and solutions are provided to enable petrochemical organisations to achieve Unified Enterprise Wide Defence allowing them to address their business challenges and meet their Strategic initiatives.

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