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Rising Data Security Risks in the Chemical Industry

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Using technology to automate factories has the **potential to revolutionize biochemical and pharmaceutica**l industries.

These same **smart factory methods** that allow more efficient manufacturing also open the facilities to new vulnerabilities in the form of undesired modifications.

This is known colloquially as **hacking.**

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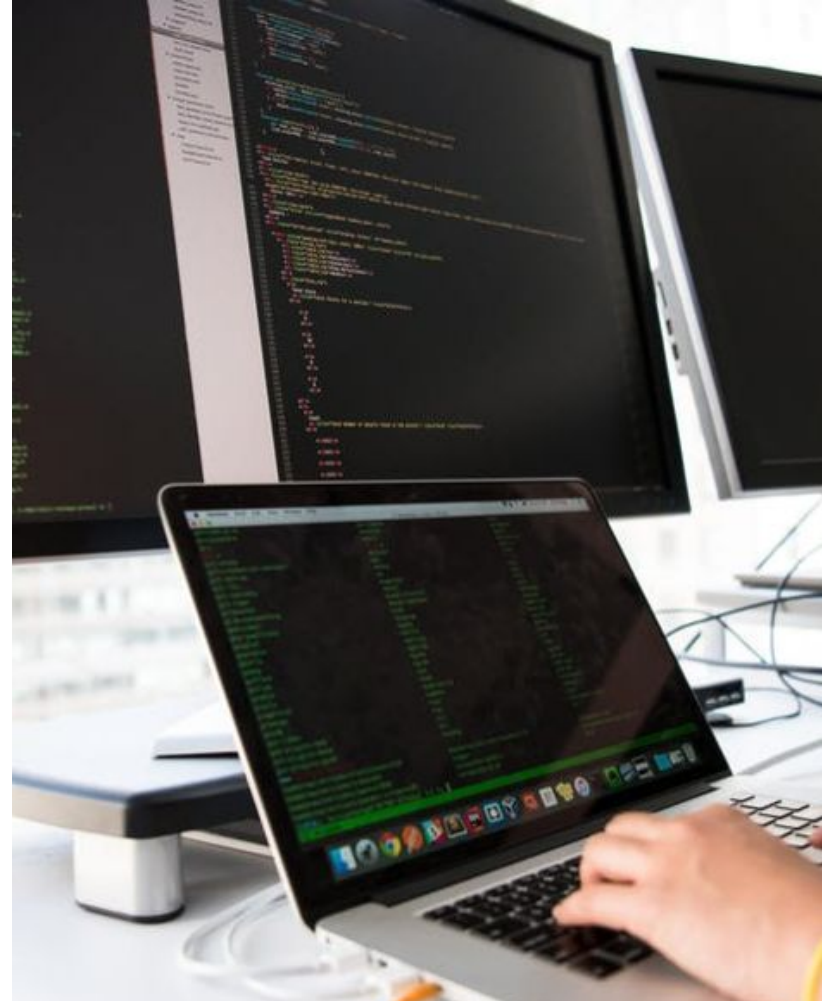
Potential Threats to Production Facilities

'Connecting all of these sensors and devices to our industrial control systems (ICS), and the increase in remote work and monitoring, **results in manufacturing networks with greater vulnerabilities to cyberattack.**'

Dr. Michael Powell | **NIST**

Original Article https://www.nist.gov/blogs/manufacturing-innovation-blog/detecting-abnormal-cyber-behavior-cyberattack

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Different Types of Cyber Attacks

1	**Damage** to production control systems
2	**Theft** of sensitive and important information, including patents and formulas.
3	**Installation** of **malicious software** that allows attackers to control critical systems.

3700

Customer Records
Taken from **LC Industries** in June 2015

900,000

Customer Records
Stolen from **Hanes** in mid 2015

40,000

Research Files
Taken from **DuPont** by a former employee

$54

Million Dollars
Stolen from aircraft manufacturer **FACC** in early 2016

Source: **Digital Guardian**

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Monitoring Industrial Systems

Behavioral Anomaly Detection (BAD)

1 The **National Institute of Standards and Technology** (**NIST**) released a report on Behavioral Anomaly Detection (BAD) capabilities which enable the **monitoring of industrial systems for anomalous conditions.**

2 Using smart factory technology **BAD tools** let human workers monitor industrial control systems for **unusual events and trends** that could lead to a compromised system.

3 BAD tools monitor the **PLCs** in industrial machines to determine what communications are allowed, and what might lead to **compromise**.

4 Unauthorized connections **generate an alert**, prompting **human operators** to take appropriate action.

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Tools for the Chemical Sector

"Securing these chemicals against growing and evolving threats **requires vigilance from both the private and public sector**"

Cybersecurity & Infrastructure Security Agency **(CISA)**

While many small and mid-sized businesses might think they lack the financial resources to fight cyber attacks, a number of commercial options exist

One of the top products of this type is **Microsoft Azure**, a cloud computing platform with services including **Infrastructure as a Service (IaaS), Platform as a Service (PaaS) and Software as a Service (SaaS).**

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The Azure data security platform provides a number of useful security features

Structured query language (SQL) authentication

Multi Factor authentication by users

The ability to lock various computer resources

Constant security updates automatically applied by Microsoft

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Azure has its own Security Center

This provides an overview and recommendations for making each subscriber's virtual network and virtual machines more secure.

Microsoft's Azure Security Center also provides

Details on security incidents with recommended actions to prevent similar issues

Built-in remediation proposals, requiring only a mouse click to activate

A wealth of **information based on industry-specific policies** for specific regions

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Final Thoughts

Cyber attacks on industries are **increasing worldwide** and a better infrastructure **without the maintenance** hassle is the direction that more companies are taking.

Azure cloud computing platform includes numerous security features designed to **protect data** when using a distributed workforce.

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About Xcelpros

XcelPros is a Microsoft Direct Cloud Solutions Provider (CSP), Systems Integrator (SI) and Microsoft Gold Certified Partner for Microsoft Dynamics offering software licensing and services in the Microsoft line of products.

We specialize in the deployment of on-premise, cloud and mobility solutions in industry leading technologies such as Microsoft Dynamics 365, AX, NAV, Microsoft Dynamics CRM, Business Intelligence, intelligent Business Process Management (iBPM), SharePoint and Azure.

Our team is comprised of forward-thinking, experienced Subject Matter Experts (SMEs) and Technology Consultants with decades of business, industry, and regulatory experience.

Original Article https://xcelpros.com/rising-data-security-risks-in-chemical-plants/

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