

WELCOME

# Cyber Security in the Food & Drink Industry

3 March 2021

@foodanddrinkfed  
#FDFCyberSecurity



# Current risks to the entire Supply Chain

NCSC Representative

#FDFCyberSecurity

# National Cyber Security Centre

UK National Technical Authority for Cyber Security

Helping to Make the UK the Safest Place to Live and Work Online



National Cyber  
Security Centre



Connections from your networks to the Internet, and other partner networks, expose your systems and technologies to attack.

By creating and implementing some simple policies and appropriate architectural and technical responses, you can reduce the chances of these attacks succeeding (or causing harm to your organisation).

Rather than focusing purely on physical connections, think also about where your data is stored and processed, and where an attacker would have the opportunity to interfere with it.

## What is the risk?

Networks need to be protected against both internal and external threats. Organisations that fail to protect their networks appropriately could be subject to a number of risks, including:

- Exploitation of systems
- Compromise of Information
- Import and export of malware
- Denial of service
- Damage or defacement of corporate resources

Most organisations will have a number of suppliers to deliver products, systems, and services but do you know what security systems they use?

Very few UK businesses set minimum security standards for their suppliers

Be aware of who may contract out to 3<sup>rd</sup> Parties

# Organisations Online

**New Dependencies**- placing more reliance on digital technology, including online services

**Service agreements** - It's worth reading these to be sure you have the resources in place that you think you do.

**Securing devices and services** - staff may need to use their own devices to access services and data, which will present new risks

Our Small Business Guide gives you five tips that will help protect your business from malware attacks. For larger organisations, the NCSC also provides detailed guidance on mobile device management, which includes BYOD approaches.

# five tips that will help protect your business from malware attacks

Tip 1: Install (and turn on) antivirus software

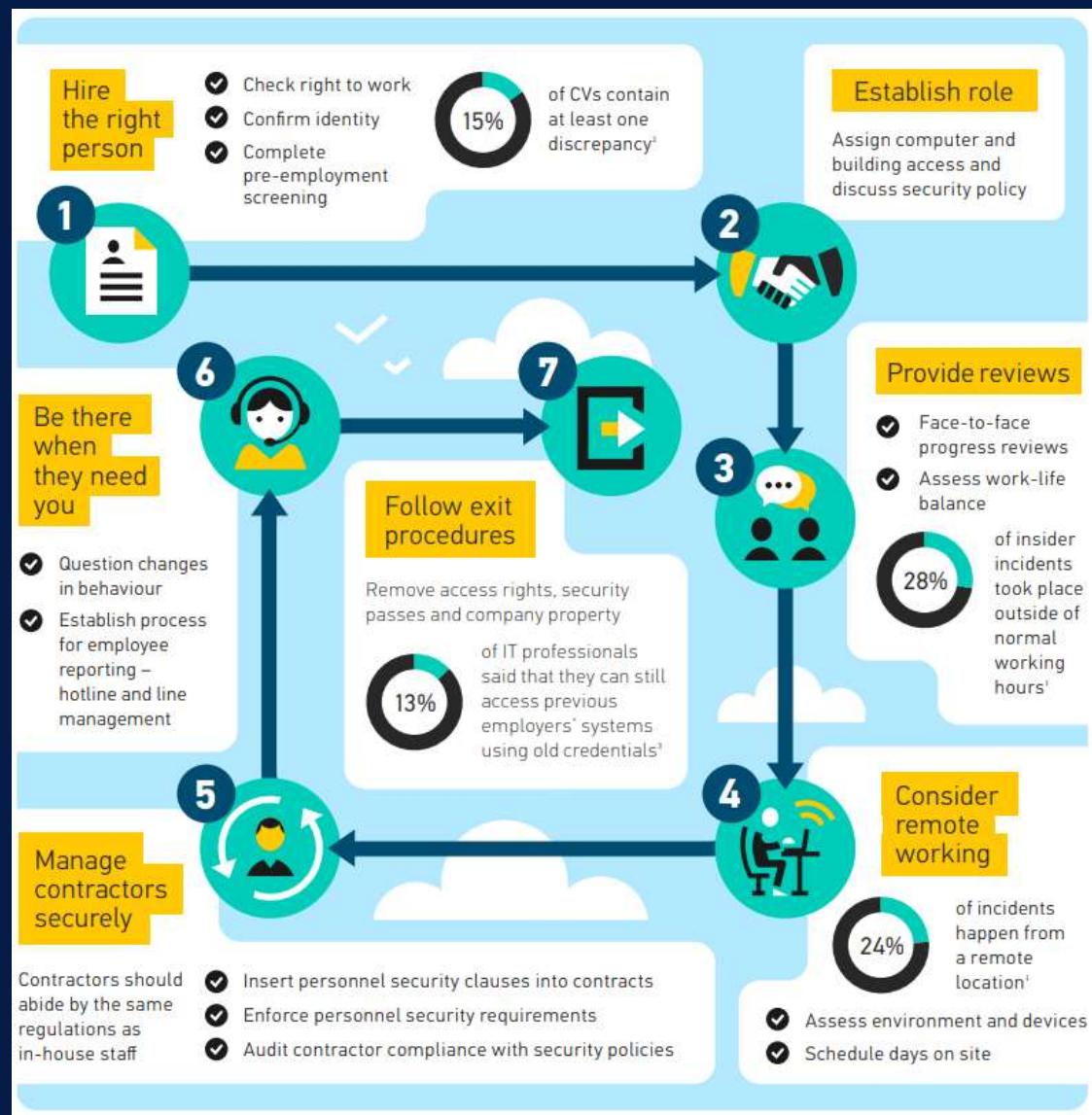
Tip 2: Prevent staff from downloading dodgy apps

Tip 3: Keep all your IT equipment up to date (patching)

Tip 4: Control how USB drives (and memory cards) can be used

Tip 5: Switch on your firewall

# Personnel Security



# What are the benefits to good cyber security?

- Better protect yourself, your employees and business against cyber crime
- Provide your customers with more confidence
- Empower staff to raise concerns

And....

- Everyone can do it

## OFFICIAL



Top Tips for Staff



Board Toolkit

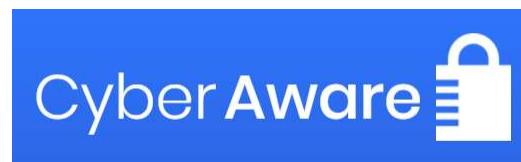
A graphic titled 'Cyber Security: Small Business Guide Actions' featuring a 3x3 grid of icons representing various cybersecurity measures. Below the grid, text reads: 'How to improve cyber security within your organisation – quickly, easily and at low cost.'

Small Business Guide & Actions

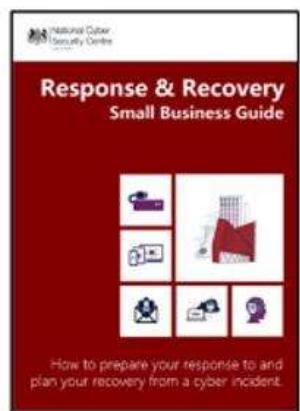
## SME Newsletter



Cyber Essentials (Plus)



NCSC Website



Response & Recovery Small Business Guide

**Small Business Guide** - How to improve your cyber security; affordable, practical advice for businesses.

**Response & Recovery Guide** - Guidance that helps small to medium sized organisations prepare their response to and plan their recovery from a cyber incident.

**Top Tips for Staff** - The NCSC's e-learning package 'Top Tips For Staff' can be completed online, or built into your own training platform.

**Exercise in a Box** – A free online tool which helps organisations find out how resilient they are to cyber-attacks and practise their response in a safe environment

**Cyber Essentials** – Cyber Essentials government backed certification scheme helps you to guard against the most common cyber threats and demonstrate your commitment to cyber security.

# Thank you.

[www.ncsc.gov.uk](http://www.ncsc.gov.uk)



[enquiries@ncsc.gov.uk](mailto:enquiries@ncsc.gov.uk)



@NCSC



**National Cyber Security  
Centre**



**CyberHQ**

# Industrial Security

## Driving Digitalisation for Food & Beverage



**Paul Hingley**

Principal Product Security &  
Solution Officer  
Siemens Digital Industries GB&I

#FDFCyberSecurity

# Industrial Security

Driving Digitalisation for Food & Beverage

F&D Cyber Security Conference 2021

Siemens is with its Digital Enterprise, “The innovation leader” for discrete, hybrid and process industries

Digitalization

Automation

Electrification

# Digital Enterprise

## Process industries

Design

Planning

Engineering

Production

Services

Automation and industrial software for the process industries

Industrial communication

Industrial security

Industrial services

## Discrete industries

Automation and industrial software for the discrete industries



> 10 billion investment in M&A since 2007

# Why is Industrial Security so important?

Internet of Things



Benefits of Industry 4.0 must be ensured with industrial security

Vulnerabilities  
in processes and systems

Reduce

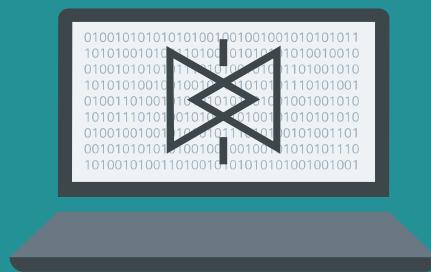


Right security measures avoid unplanned costs

Professional  
Attacker



Protect from



Productivity and assets must be protected from external threats

Security integrated in  
Regulations



Comply



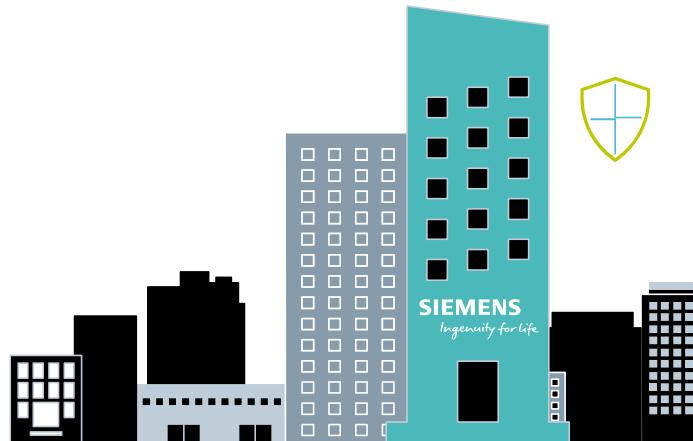
Industry must comply security norms and regulations

## Key Decisions To Be Made.....



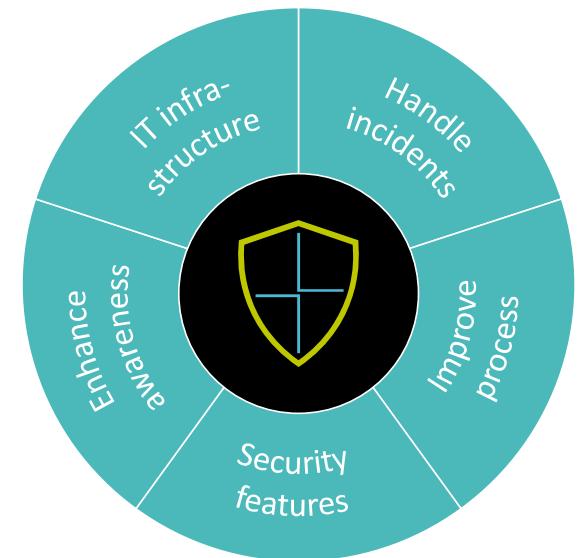
... by answering key questions and addressing five levers for security in business including IT

**“What in my business do I need to protect?”**



**“Which level of security do I need?”**

**“How do I protect the specific assets?”**



## A view from the industry specific perspective What is important for F&B customers?

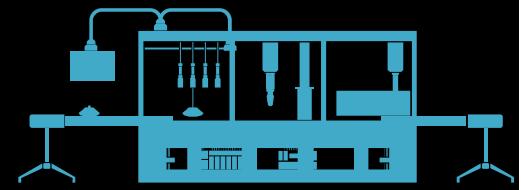
**SIEMENS**  
Ingenuity for life

Food and beverage



Secure all assets to ensure:

- Food safety and product integrity
- Plant availability
- Traceability throughout the entire production process
- Productivity, efficiency and flexibility
- Time to market reduction



# Industrial Security

## From what to be protected?

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*Ingenuity for life*



### Protect from cyberattacks trends (e.g. Ransomware)



Deploy ransomware on  
a PC via mail, USB, etc.

Lock the system with  
the ransomware

Claim money from  
PC owner for unlocking

Deliver key to unlock  
the system

## Food & Beverage Industry – is also a “Prime Target” for Cyberattacks exploiting Vulnerabilities

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Reduce unplanned costs and losses





**Production halted at a Cadbury factory in Tasmania**

- Cadbury - Mondelez infected by ransomware („NotPetya attack“)
- The attack impacted on company growth - drop in a 3% in second quarter of 2017 meaning \$100 M in losses

**Ransomware attack to Arizona Beverages (iEncrypt)**

- Caused over 200 networked computers and servers offline
- The attack halted sales operations for days costing millions of USD
- The company struggle to recover still two weeks later

## Food & Beverage Industry – is also regulated and must comply with Security Standards



### Comply with industry regulations



- Regional government regulation authorities:
  - BSI / KRITIS in Germany
  - DHS / NIPP in USA
  - NCSC in UK
- Security Standards:
  - ISA/IEC-62443, ISO-27001, NIST



Challenges are similar but reality is very different  
in IT and Industrial (OT) Security

## IT Security

Confidentiality

3-5 years

Forced migration (e.g. PCs, smart phone)

High (> 10 “agents” on office PCs)

Low (mainly Windows 10)

Standards based (agents & forced patching)

A range in minutes is acceptable



## Industrial Security

Availability and Safety

20-40 years

Usage as long as spare parts available

Low (old systems w/o “free” performance)

High (from Windows 95 up to 10)

Case and risk based

Latency for control systems <300ms

Asset lifecycle

Software lifecycle

Options to add security SW

Heterogeneity

Main protection concept

Availability

# SAFETY

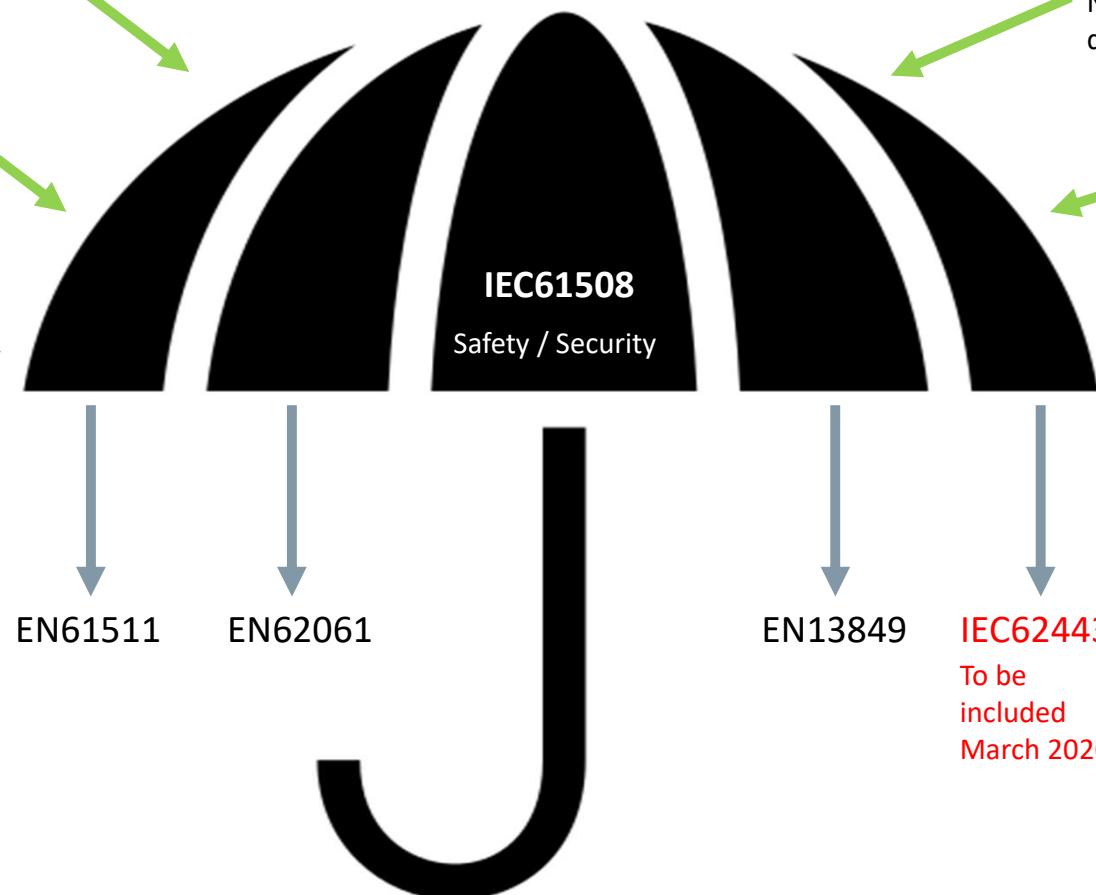
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Cyber Essentials / Plus  
BIS/14/697

ISO 22301 / 13

ISO 27000  
series

**IEC61508**  
Safety / Security

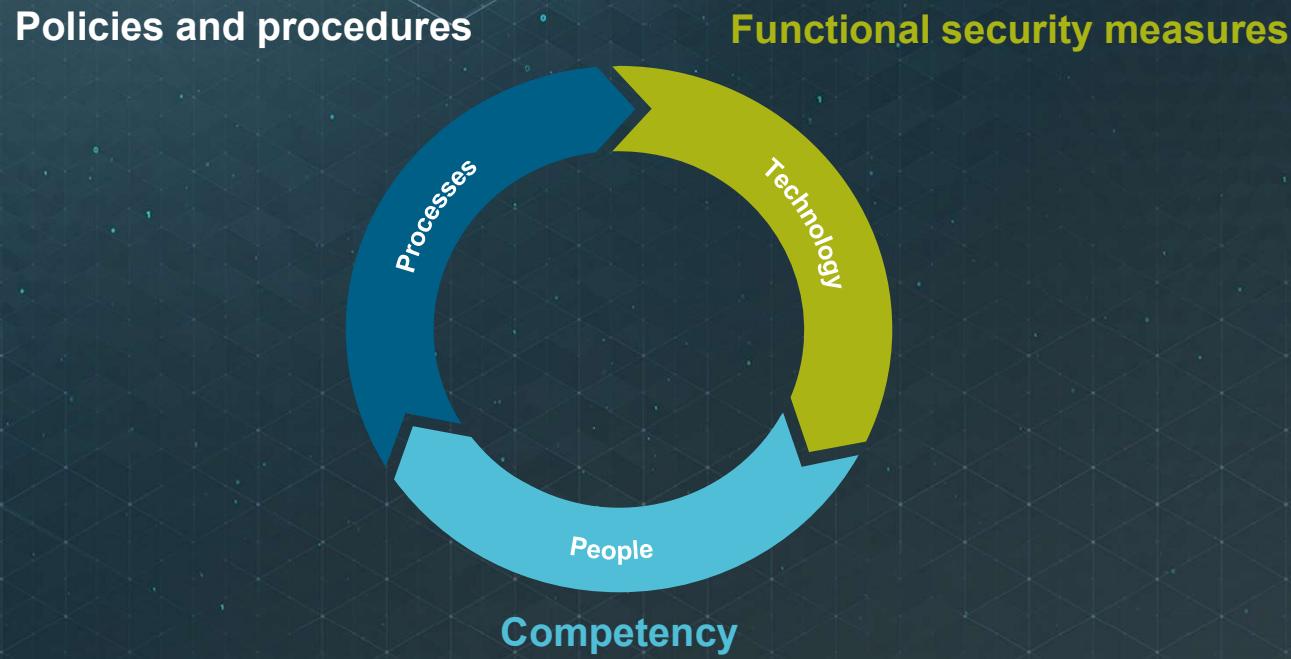


BS 10754  
New Standard  
describing Trust Model

IEC18043

PAS 555

**Security standards are about technology, processes and people**  
What must be done?

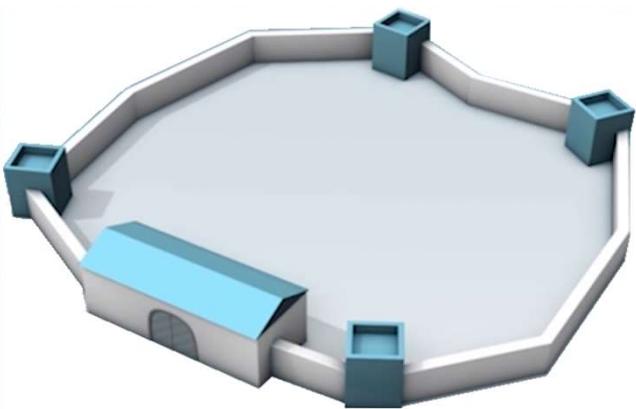


**A holistic security protection concept has to include technology, processes and people**

## The key to a secure infrastructure: Defense in depth

### Great wall

- Impenetrable wall
- One-layer protection
- One point of attack



**A single layer of defense does not provide adequate protection!**



### Defense in depth

- Multi-layer protection
- Each layer protects the other layers
- An attacker must spend time and effort at each transition

# Industrial Security – from risk to resilience

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## Unprotected business

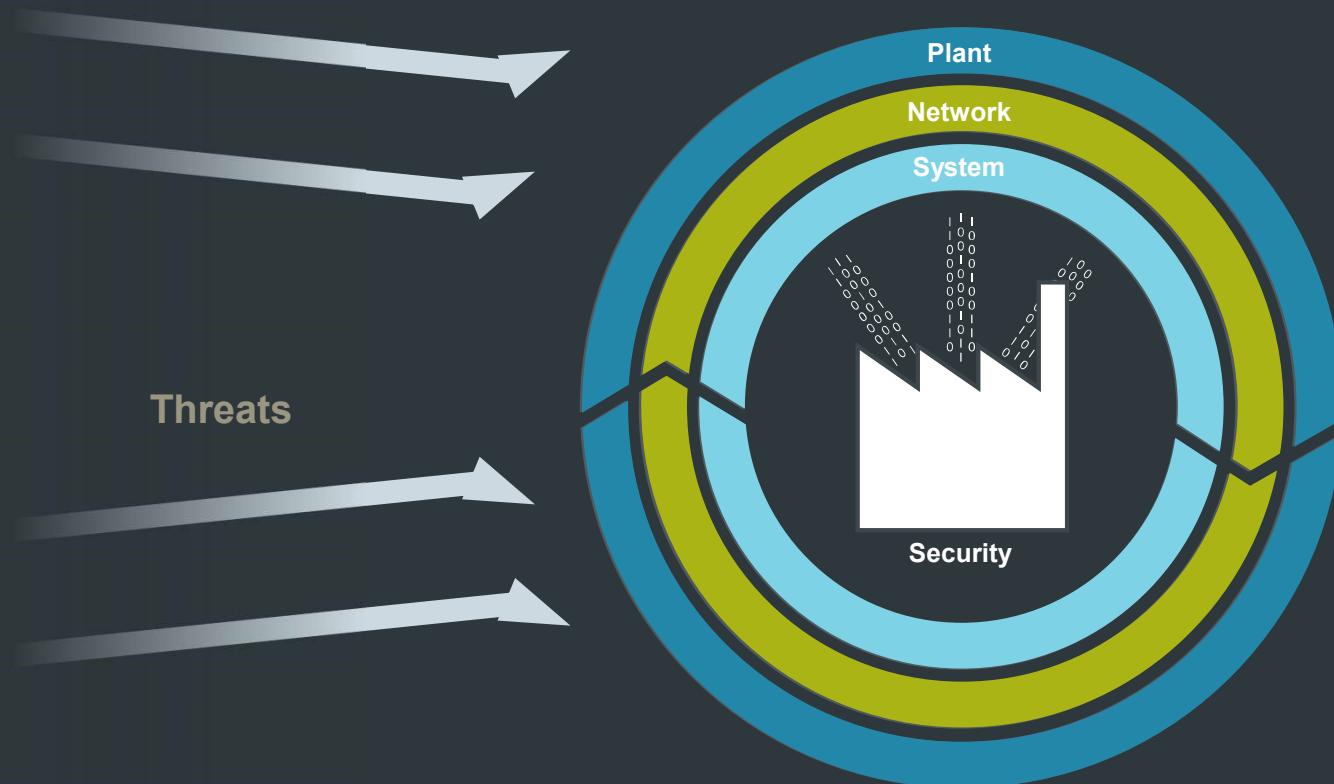
- People and assets exposed to risk
- Business vulnerable to disruptions, sabotage and theft
- Costs and liability
- Reputational damage

## Secure business

- Safer and more resilient environments
- More sustainable business, resume operations faster
- Improved plant uptime to maximize profitability
- Trust with customers and shareholders

# Industrial Security

SIEMENS Defense-in-Depth-Concept (based on IEC 62443)



## Plant security

- Physical access protection
- Processes and guidelines
- Holistic security monitoring



## Network security

- Cell protection
- Perimeter protection
- Firewalls and VPN



## System integrity

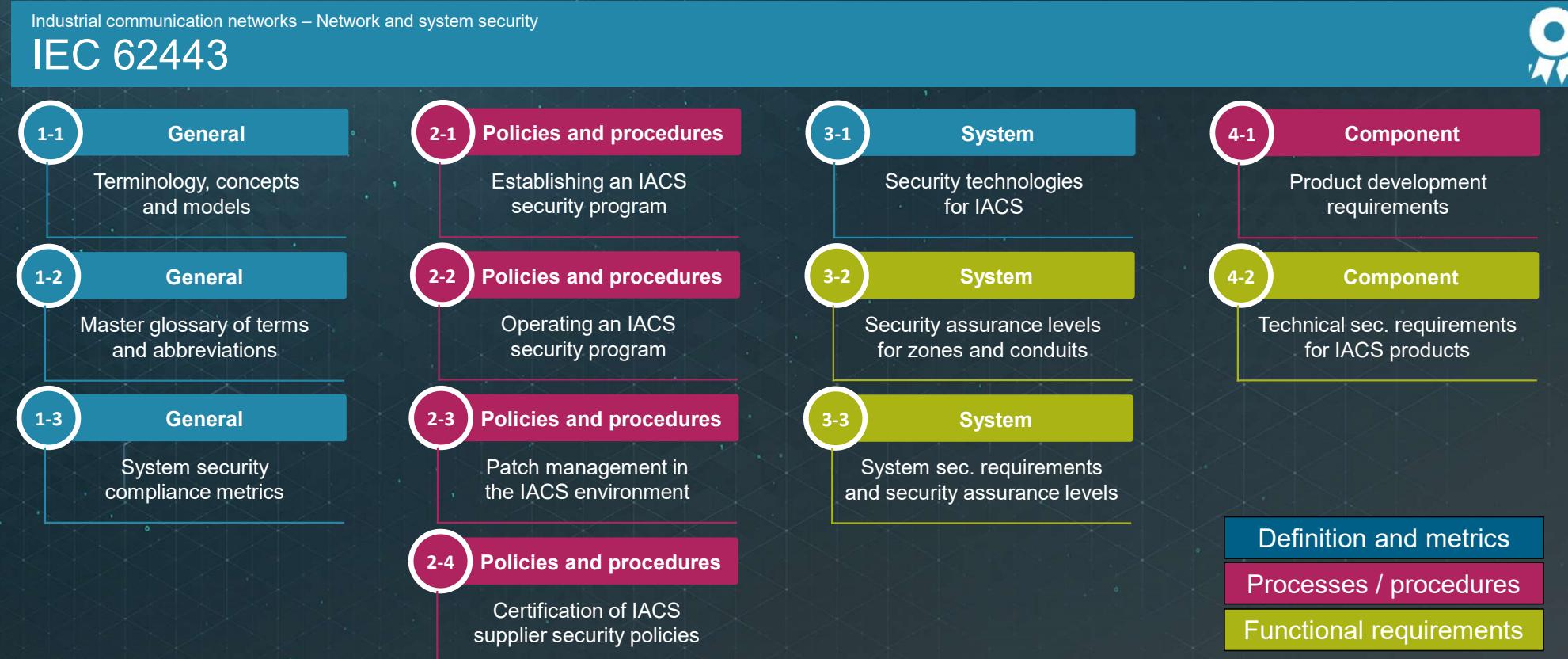
- System hardening
- Patch management
- Detection of attacks
- Authentication and access protection

# Siemens Industrial Security approach based on IEC 62443 addressing the Defense in Depth concept



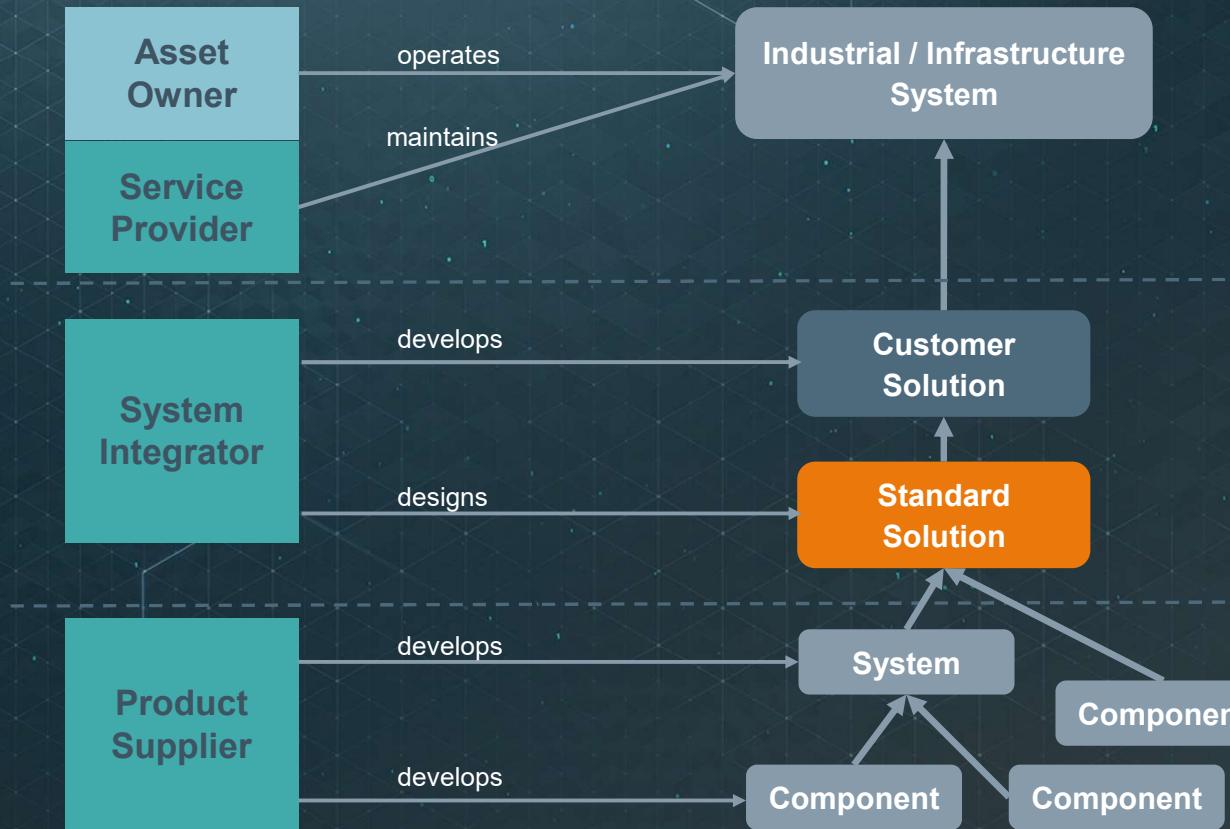
# Security conformance

## What is the structure of IEC 62443?



# IEC 62443 Roles and Responsibilities

Roles according to IEC 62443



Relevant parts of IEC 62443



# Industrial Security

- Already starts in R&D

IEC 62443-4-1 and  
IEC 62443-4-2 proven

**Read more**  
Practical standards  
for Industrial Security

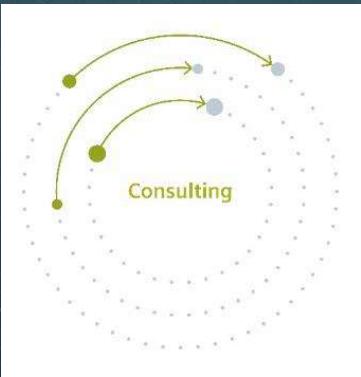
Further info click here: [LINK](#)

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## Plant Security – Comprehensive Industrial Security Services



### Security Consulting

*Evaluation of the current security status of an industrial environment*

- Security Assessments
- Scanning Services
- Industrial Security Consulting



### Security Implementation

*Risk mitigation through implementation of security measures*

- Security Awareness Training
- Automation Firewall
- Endpoint Protection

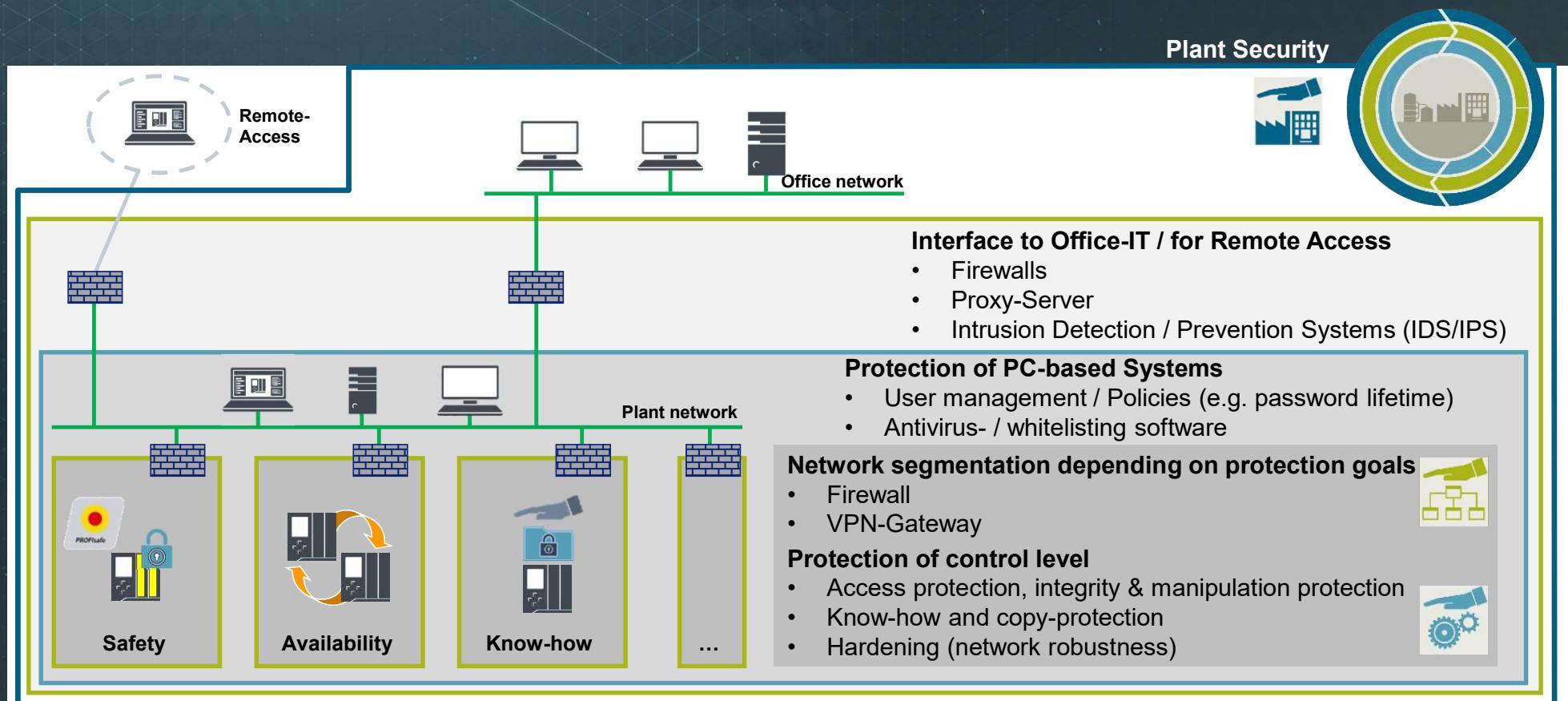


### Security Optimization

*Comprehensive security through managed services*

- Industrial Anomaly Detection
- Industrial Security Monitoring
- Remote Incident Handling
- Industrial Vulnerability Manager
- Patch Management
- SIMATIC Security Service Packages

# Defense-in-Depth security architecture to protect automated production plants

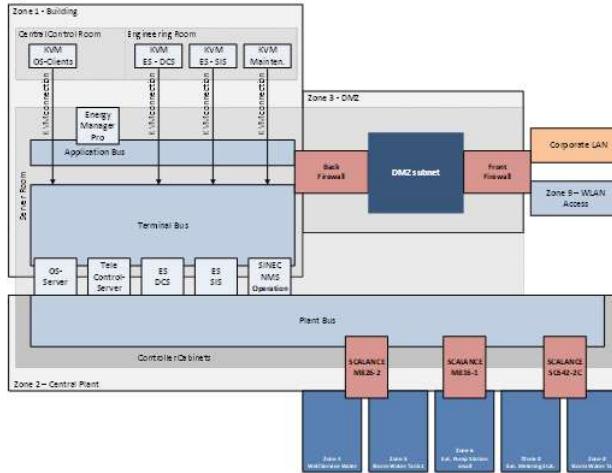


# Secure Solution Framework

## Security Design Specification

SIEMENS Ingenuity for life	Document No. E501	Ver 1.0	Date 2020-01-08	Status DRAFT	Page 8 of 43
Title Security Design Specification					

Figure 2-1- Overview of the Zones



### 2.2.1 Zone 1 - Building

The Zone 1 - Building is located on the Central Plant (zone 2) and contain the Central Control Room and the server room. The Terminal bus and the Application are installed only in this building. Access to Zone 1 - Building is restricted to authorised personnel only.

### 2.2.2 Central Control Room

The central control room contains the Operator Workstations (OS-Client 1 - 2). The Workstations are screens that are connected via KVM extender to the respective HMI Client CPU (physical machine), as shown in the system overview. The workstations in the central control room are not connected to any IP network.

Access to the central control room is restricted to authorised personnel only.

### 2.2.3 Engineering Room

The engineering room contains the Engineering Stations (ES) for DCS and SIS and the Maintenance Station (MS). The Workstations are screens that are connected via KVM extender to the respective ES and MS CPU (physical machine), as shown in the system overview. The workstations in the engineering room are not connected to any IP network.

Access to the central control room is restricted to authorised personnel only.

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Title Security Design Specification					

The Wireless Access Points are located where required throughout the site and provide wireless access for Tablet PCs. The tablet PC's are Siemens SPIX clients and used for monitor and control of the plant.

Connection to the Wireless Access Points will be encrypted and require wireless clients to have knowledge of the specific wireless "key". The user authentication is realized with SIMATIC Logon.

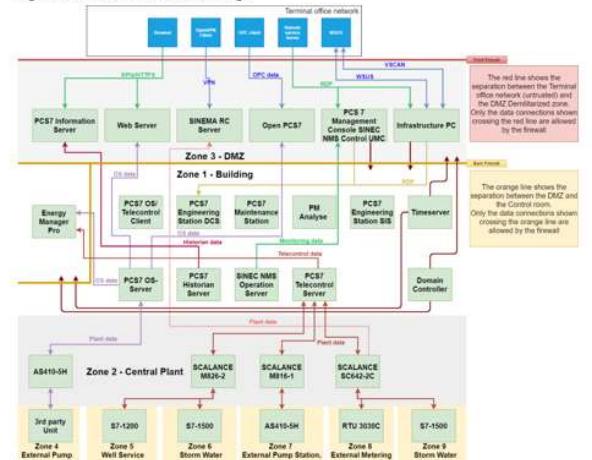
### 2.2.17 External Zones

The Blueprint Wastewater Treatment Plant has only one external zone: The Corporate LAN. This zone conventionally provides update services to the applications running in the DMZ. The associated network connections for these services are, by convention, initiated (sourced) from the DMZ to the appropriate provider (destination) in the company network. A few, limited services are initiated from the company network, to the DMZ.

### 2.3 DATA EXCHANGE BETWEEN ZONES

The overview of the connections and data traffic between the previously defined zones is provided in the tables that follow. An overview of the data exchange across the network zones provides figure 2.2.

Figure 2.2 - Overview of Data Exchange



Each of the zones listed in the tables below correspond to Figure 2-1.

SIEMENS Ingenuity for life	Document No. E501	Ver 1.0	Date 2020-01-08	Status DRAFT	Page 24 of 43
Title Security Design Specification					

### 5 IDENTITY AND ACCESS MANAGEMENT

Human user identification and authentication is provided and enforced on all interfaces which provide human user access. The human user interfaces include

- Applications with user interfaces (e.g. HMI client, web interfaces)
- Operating system accounts
- Accounts for administrative access to network devices
- Access to web interfaces of embedded devices

Centralization of account management across the solution is supported through the use of MS Active Directory Domain Controllers where personalized accounts for the Windows based machines are covered and where PCST application accounts are integrated with Simatic Logon. Network devices are central managed through SINEC NMS. UMC on SINEC NMS allows integration into the centralized account management.

Windows user accounts and application user accounts are managed with Active Directory and Simatic Logon. The domain controller is located on the Server panels on the terminal bus and a domain controller in the DMZ. The domain password policy is configured by Group Policy Object (GPO) scoped to the domain and rolled out to the managed Windows PCs. Password policies include e.g. password lifetime, minimum length, and minimum complexity requirements.

The password must contain at least three of four character types:

- Uppercase—for example, A to Z
- Lowercase—for example, a to z
- Numeric—0 to 9
- Nonalphanumeric—symbols such as !, #, %, or &

The Group Policy Objects (GPO's) for the project are defined in the document

Table 4-3 - Firewall rules

No.	Document No.	Description
1	E504_wvtp_gpo_wins2016_v1.1.0_hardening	Group Policy Objects (GPO's)
2		

### 5.1 AUTHENTICATION MECHANISMS FOR USERS AND COMPONENTS

For application level access (e.g. to PCS 7 Runtime), user authentication and account management is handled by SIMATIC Logon. SIMATIC Logon authentication is based on Windows domain groups, managed with Active Directory. All personal user accounts at components are assigned to domain groups.

For operating system access, personalized Windows accounts and groups are used. These can be centrally managed by a domain controller where all PC based machines in the terminal bus, application bus, and DMZ networks are covered.

Exceptions to personalized (unique) accounts depend on configuration and operational procedures. These typically include accounts for machines that must be permanently operational and are used by several persons. An example could be an OS client, for operator control and monitoring.

Secure access to network devices is described in section 4.4 and can be integrated with the Active Directory managed groups and users through SINEC NMS and UMC. This covers administrative access to the SCALANCE devices.

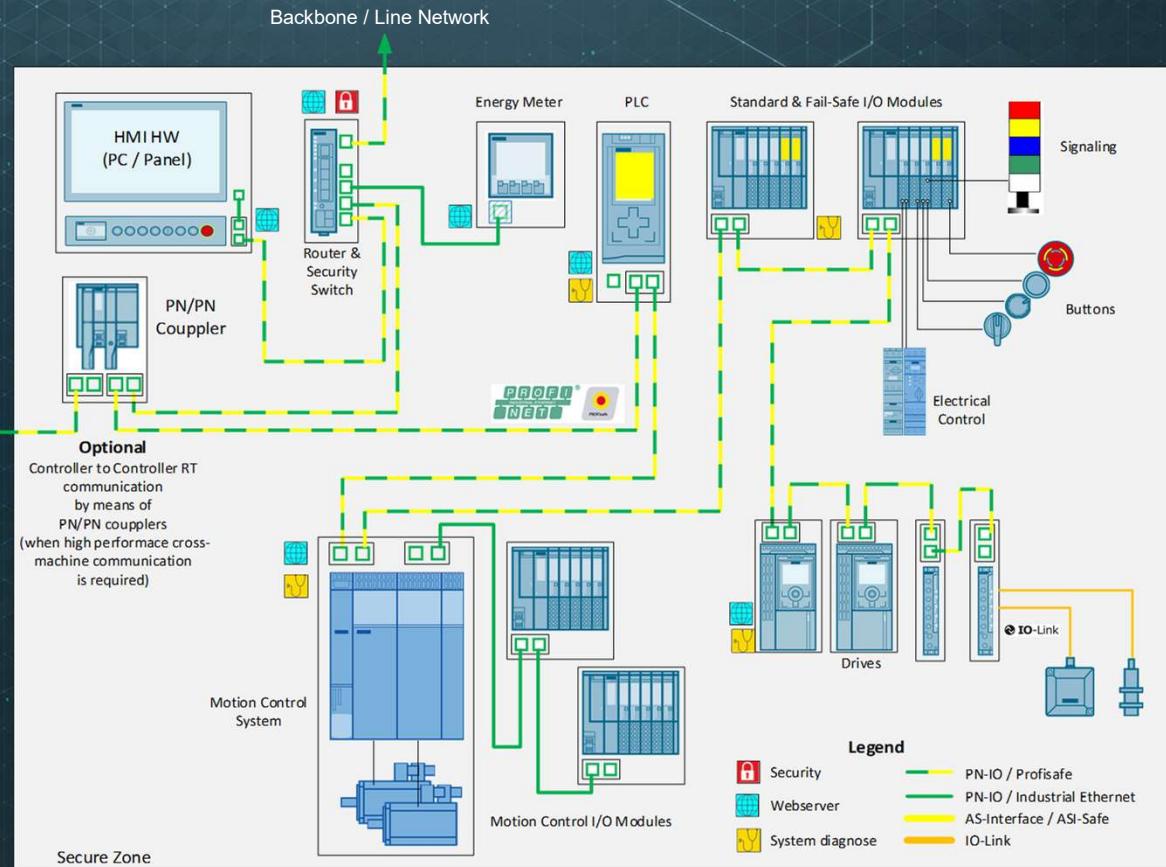
For centralizing authenticated user access to SCALANCE network devices SINEC NMS is used. SINEC NMS supports a UMC feature for user management with capability to integrate with the overall Active Directory service.

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# Network Security – F&B Use Case

## Cell Protection at Machine Level



## Machine Network Security Concept

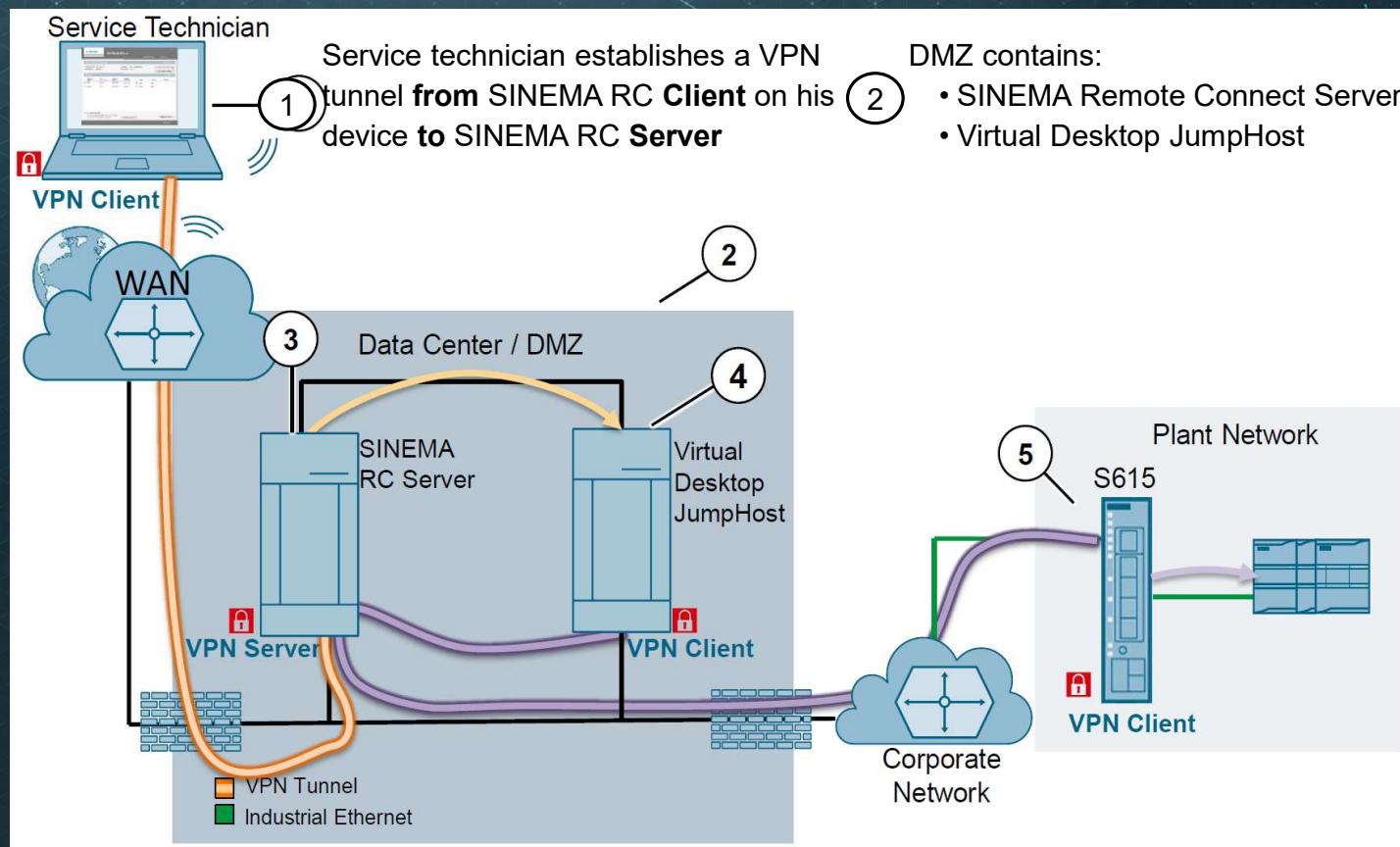
### Considered Aspects:

- Security – Cell Protection Concept
- Security – Remote Access, Access Protection
- Security – Norms Compliance, KRITIS
- Functional Security - Local
- Functional Security – Machines Interconnection
- C2C<sup>1</sup> – Realtime (PN/PN-Coupler)
- C2C<sup>1</sup> – Semi-Realtime (Application dependent)
- C2C<sup>1</sup> – Acyclic (OPC UA Client/Server)
- Standardized
- System Diagnose
- Cost-effective



## Network Security – F&B Use Case

### Cell Protection with SINEMA Remote Connect



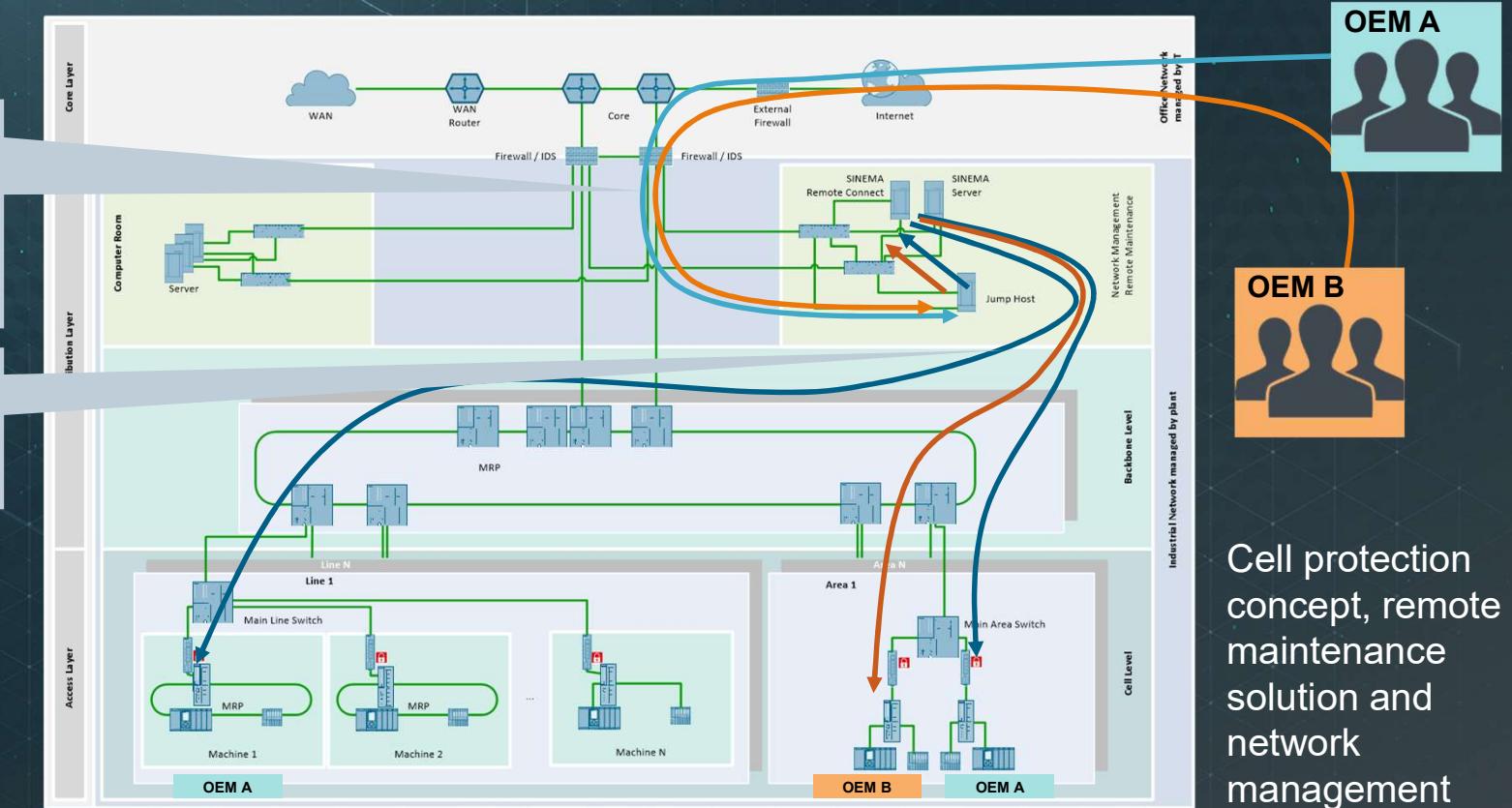


# Network Security – F&B Use Case

## Remote Access based on Cell Protection Concept

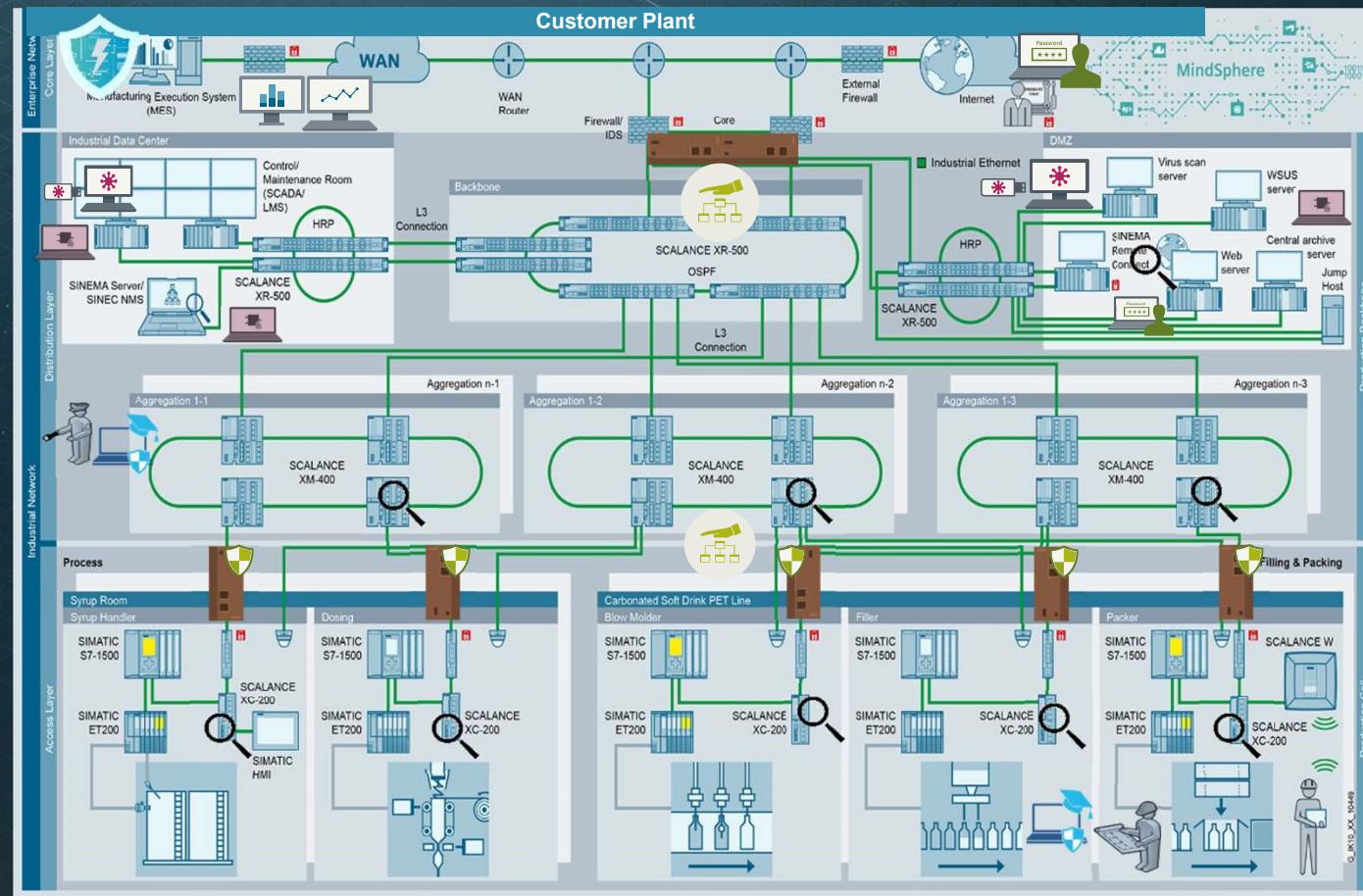
OEM A sets up a tunnel based on IT departments VPN solution and connects to the jump host

OEM A connects to specific machines using SINEMA RC





# Industrial Security Services – Security Measures in F&B Plants



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# Whitepaper

## Cybersecurity in the dairy and soft drink industry

The cover of the Siemens Whitepaper features a photograph of a dairy or soft drink production line with workers in the background. The Siemens logo and tagline 'Ingenuity for Life' are at the top. The title 'Cybersecurity in the dairy and soft drink industry' is in the center, with 'Risk minimization according to CRITIS' below it. A small text box on the left discusses the increasing digitalization of companies and its impact on the industry.

The increasing digitalization of companies and the associated networking of nearly all sectors are generating tremendous economic potential. Today over 100 million companies worldwide are connected to the Internet. By 2020 this number will grow to almost half a billion. Digitalization and connectivity can be drivers for growth and prosperity, but increasing connectivity also creates new risks for companies.

This also applies to companies in the food and beverage industry. The food and beverage industry is one of the most important segments of the global food and drink market. The "Dairy & Beverage" industry systems market is the largest in the world and locking these assets out in order to extract ransom money. According to the latest data from the FBI, ransomware attacks on the food and beverage industry are increasing rapidly. In 2017, there were 100 ransomware attacks on the food and beverage industry, amounting to roughly \$140 million. It was several days before the most important systems were back up.

Thus and similar incidents over the past few years have prompted operators in the food and beverage industry to take action. The following recommendations are intended to protect critical infrastructures as far as possible: the supply availability for the country's citizens and stability for the countries.

In Germany, for example, the "Gesetz zur Erhöhung der Sicherheit informationstechnischer Systeme" (GesIC) to Enhance the Security of Information Technology Systems (IT) was passed in 2015. The law applies to operators of critical infrastructure in the food and beverage industry. The main plant production of a factory, plant or industrial facility.

Since 2015, Germany's IT Security Act has required the reporting of information security incidents to the Federal Office for Information Security (BSI). Over time, CRITIS operators will also be required to comply with minimum cybersecurity standards.

The IEC 62443 standard is based on the particularities of the food and beverage industry (IEC 27001 and IEC 62443). Manufacturers of automation and network components and plant operators must implement the standard. The standard is based on the legal term "state of the art" it is used because experience has shown that technological development progresses faster than legal development. The time when a standard can be considered as being up to date can be determined on the basis of existing national or international standards like DIN and IEC or based on best practices for the specific industry.

Table 1: Structure of the IEC 62443

The IEC 62443 documents are organized as follows:

- IEC 62443-1: Includes terminology, concepts, use cases, and models.
- IEC 62443-2: Aimed at plant operators and describes activities like the implementation of a security management system and plant management.
- IEC 62443-3: Includes security technologies for controllers and network components.
- IEC 62443-4: Includes security requirements for controllers and network components.

General	IEC 62443-1.1 Firmiology, concepts and models	IEC 62443-2.2 Master glossary of terms and abbreviations	IEC 62443-3.2 System security compliance metrics	IEC 62443-3.4 IACS security lifecycle and use-case
Policies and procedures	IEC 62443-2.1 Requirements for an IACS security management system	IEC 62443-2.3 Implementation guidance for an IACS security management system	IEC 62443-2.9 Patch management in the IACS environment	IEC 62443-3.6 Installation and maintenance requirements for IACS suppliers
System	IEC 62443-3.1 Security technologies for IACS	IEC 62443-3.2 Security levels for zones and controllers	IEC 62443-3.7 System security requirements and security levels	
Component	IEC 62443-4.1 Product development requirements	IEC 62443-4.2 Technical security requirements for IACS components		

Fig. 1: Documents of the IEC 62443 standard

### Cybersecurity: Step-by-step procedure

1. A process to determine necessary measures defines concrete options that are described in detail in the next section.
2. Threats are derived from a selection of use cases: as a result, the entire plant can be attacked via a remote maintenance access.
3. The threat assessment identifies the threats for each use case and defines the maintenance access can be used by an unauthorized person.
4. The risk analysis involves identifying potential threats based on a risk matrix.
5. The list of threats shows that very different methods can be used to launch attacks, and the process needs to be protected from this wide range of threats. The German industry standard IEC 62443-2 defines a multi-step process for implementing cybersecurity.
6. Threats are derived from a selection of use cases: as a result, the entire plant can be attacked via a remote maintenance access.
7. For the audit, the measures must be verified, plant documentation must be complete, and checklists must be used to verify the measures. The measures must be verified at regular intervals. If faults are detected – for example, from changed risks or new types of vulnerabilities – the measures must be restarted, beginning with the threat assessment.

Because threats differ in terms of their nature, they can originate internally or externally, and different attackers have different motives. Therefore, it is necessary to have a multi-layer security concept in order to provide a process delivering the best possible protection. For example, even if a threat has been identified and mitigated, it is possible that it has physically entered the plant; additional security mechanisms need to protect the terminal devices.

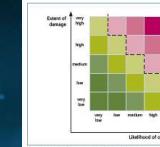


Fig. 3: Risk matrix based on IEC 62443-2



Fig. 4: "Defense in Depth" security concept

The figure shows a multi-layer security concept that defines plant security, network security, and system integrity as the three essential layers of effective security.

### Network segmentation

Network segmentation using firewalls provides protection against attacks. The network is divided into functional groups – for example, production networks, plant networks, and office network – and access is precisely controlled by firewalls.

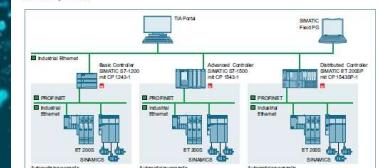


Fig. 5: Network segmentation according to IEC 62443-2.1

Desalination Zone (DMZ)

In this example, the configuration creates three defensive walls for the automation cells that control the process. The first wall is the office network, which is separated from the plant-wide network by a firewall. The plant network at the top contains all the higher-level devices that are important for the plant's operation, such as the SIMATIC 300. The interface between the plant network and the office network is protected by a second firewall. The interface between the plant network and the office network is protected by a third firewall. The SIMATIC 300 is connected to the plant network via a demarcated zone (DMZ). The devices from the higher- and lower-level networks don't communicate directly with each other. Instead, they communicate via a server that, for example, relieves the SIMATIC 300 of the task of sending large amounts of data information available to the higher-level network. The office network is also protected from the internet by one or more firewalls.

## Disclaimer

Subject to changes and errors. The information given in this document only contains general descriptions and/or performance features which may not always specifically reflect those described, or which may undergo modification in the course of further development of the products. The requested performance features are binding only when they are expressly agreed upon in the concluded contract.

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## Security information

Siemens provides products and solutions with industrial security functions that support the secure operation of plants, systems, machines and networks.

In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial security concept. Siemens' products and solutions constitute one element of such a concept.

Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place.

For additional information on industrial security measures that may be implemented, please visit <https://www.siemens.com/industrialsecurity>.

Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats.

To stay informed about product updates, subscribe to the Siemens Industrial Security RSS Feed under <https://www.siemens.com/industrialsecurity>.

# Protecting Networks for Secure and Sustainable Operations



**Victor Lough**

Business Lead Cyber Security  
Nessa Cluster  
Schneider Electric

#FDFCyberSecurity



# Protecting Networks for Secure & Sustainable Operations

FDF Cybersecurity Conference.

Victor Lough B.Sc., MIAM

NESSA Cluster Cybersecurity Business Lead Contact [Victor.lough@se.com](mailto:Victor.lough@se.com)

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electric

## Your Speaker today – Victor Lough Cyber Security Business Lead.



### **~ 35 + yrs in OT, 20 yrs with Schneider-Electric**

- Lead Technician Marine Seismic Exploration
- Program Manager & Regional Sales Manager Strategic Solutions
- 2006 Performance Services incl Cyber & Wireless solutions
- Information Assurance for CNI Networks
- Chair E3CC Schneider-Electric collaboration Subgroup
- **2019** Schneider-Electric announced “Net Zero by 2025 Sustainability challenge”

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Electric

# Cyber Security & Sustainability What is it?



Assess

Act

Manage

- The collection of **PEOPLE, PROCESSES, TECHNOLOGY AND PREPAREDNESS** that can be used to sustain the user, the organization, its assets, the cyber environment and the wider public.

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Re-purposed from ONR Office for Nuclear Regulation Security statement

# Sustainability is not achieved with an Air Gap



“ After we implemented the wireless solution, we went up to 75% shift occupation – this resulted in a 25% increase in production.”

Mike Spronkmans,  
Manager, Technical Operations, Arkema Rotterdam  
Arkema Rotterdam 2012

# Sustainability Drives Connectivity



“The plant can be operated remotely ... with site wide web access”.



“The BMS shall operate over the clients IT Network ...”

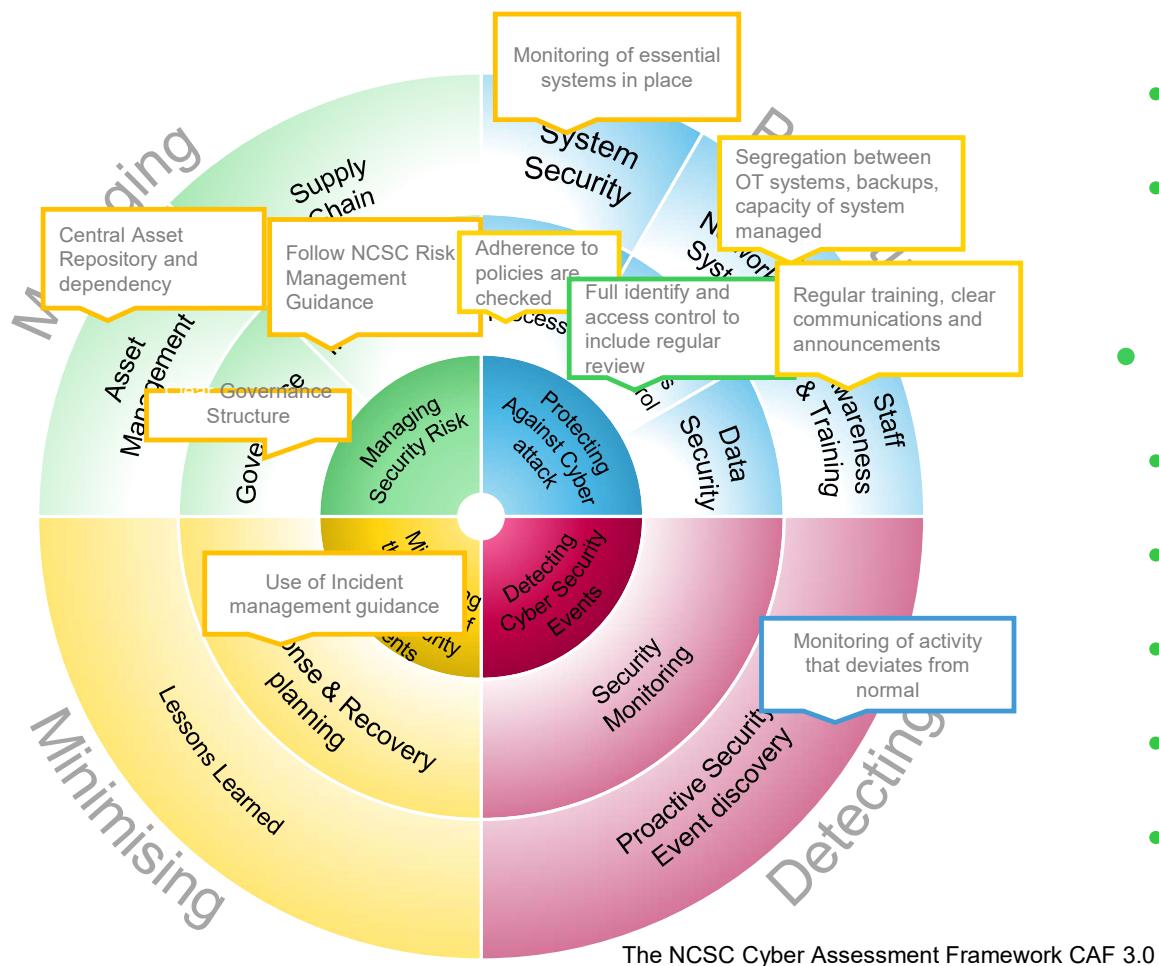
“The web-browser access shall be totally robust and the possibility of remote 'Hacking' into the system shall be completely eliminated.”

EU “Nearly Zero 20/10/31/ Directive

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# Why Regulation is helping ?



## The **OBJECTIVE**

- Supports duty holder capability.
- Delivered through Defence in Depth philosophy (IEC-62443)

## The **EFFECT**

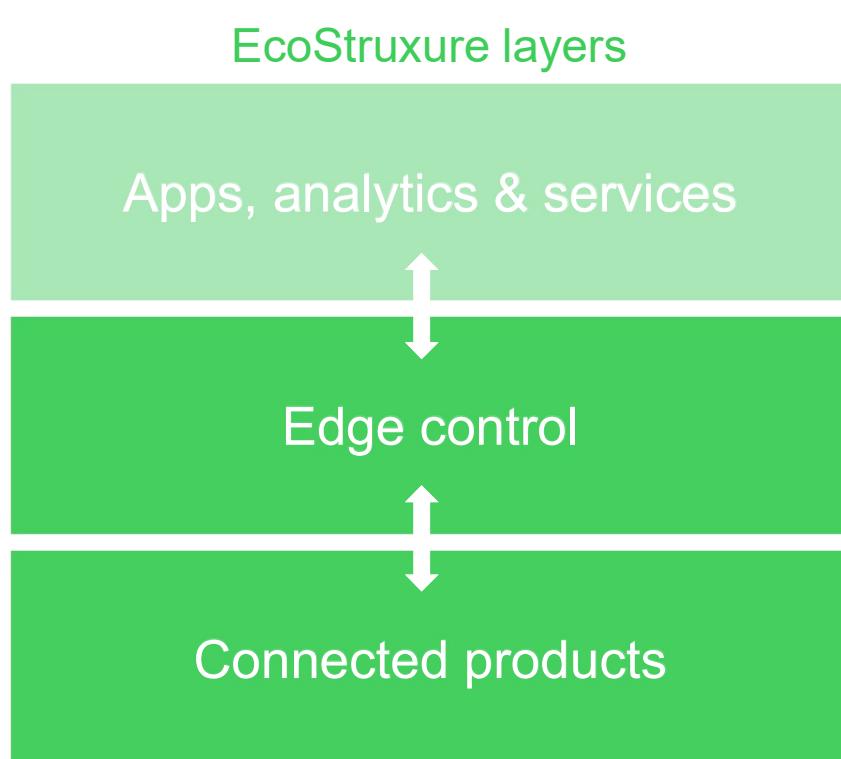
- Establish Content
- Make Detection Easier
- Make Compromise Difficult
- Make Disruption Difficult
- Reduce Impact

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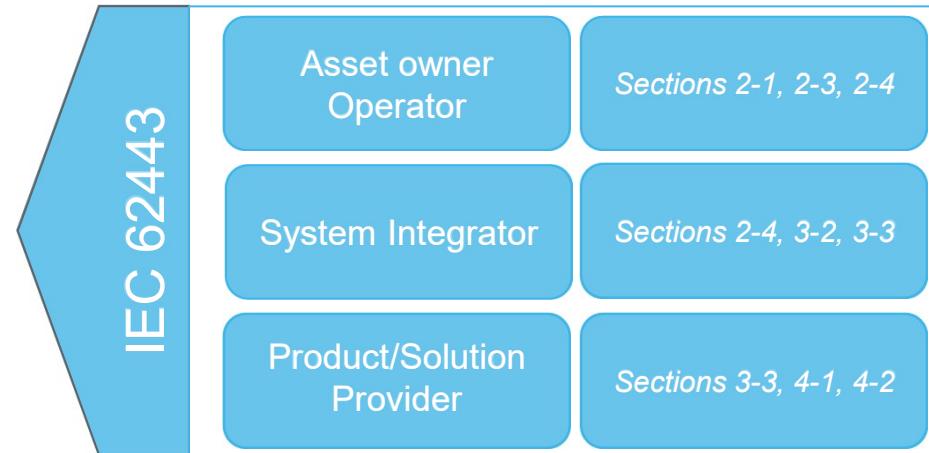
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# Standards for Products and Networked Solutions

**IEC - 62443** : *Security for industrial automation and control systems*



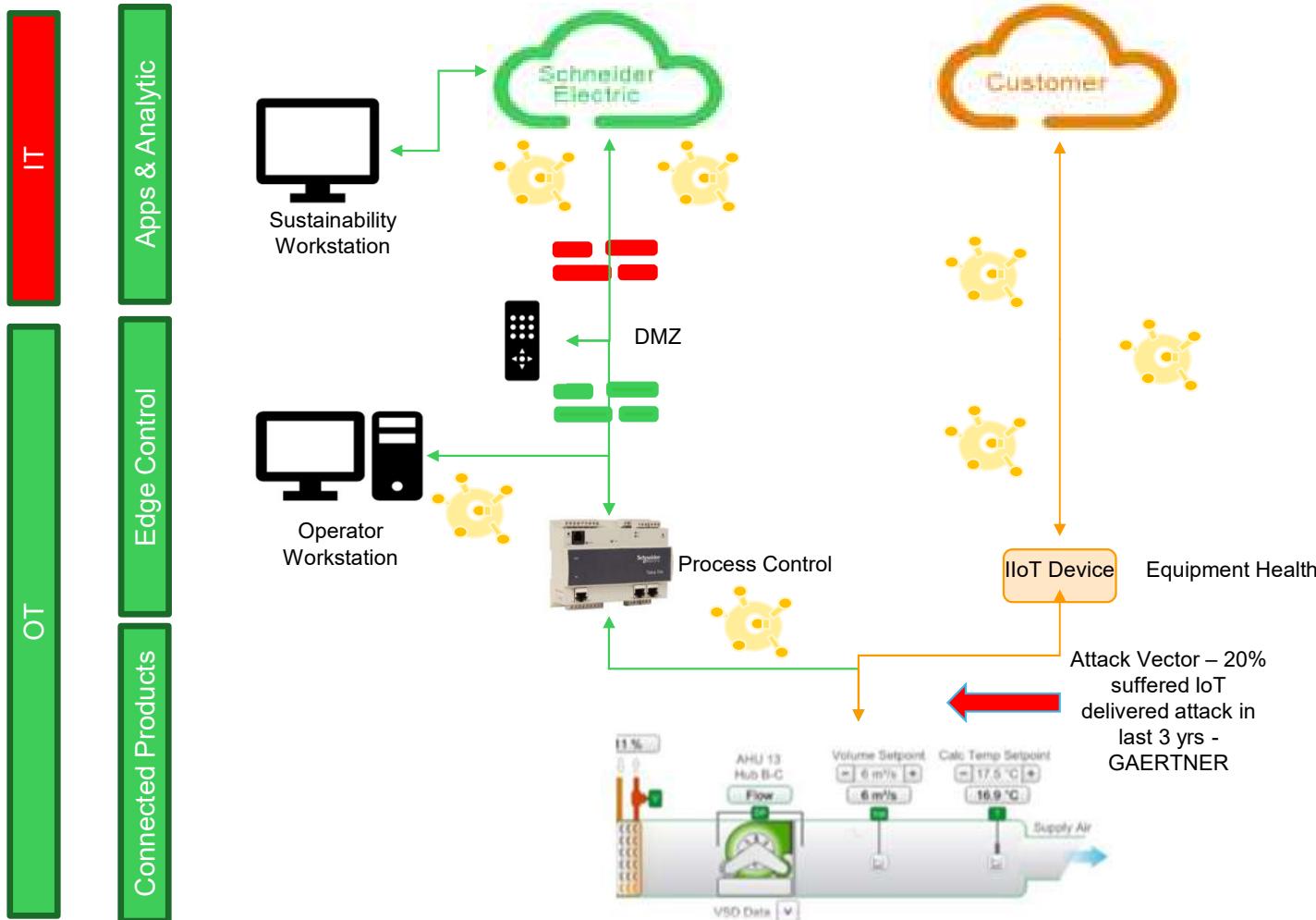
Schneider Electric selected the IEC 62443 as its core cybersecurity standard at **OT System and Product level**



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# IIoT can bypass your Defence in Depth

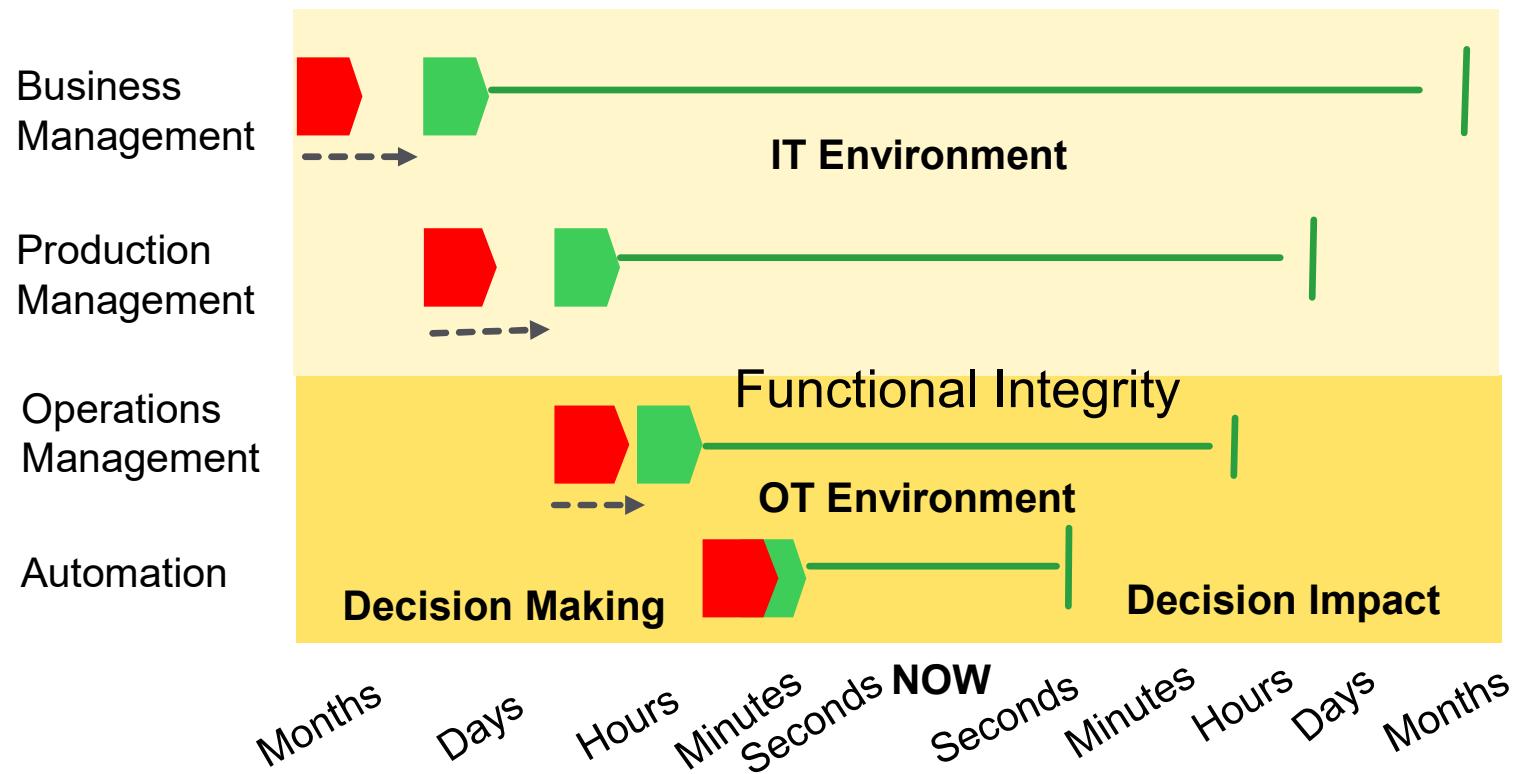


IIoT Device has more processing power than a 750 Lb DEC VAX

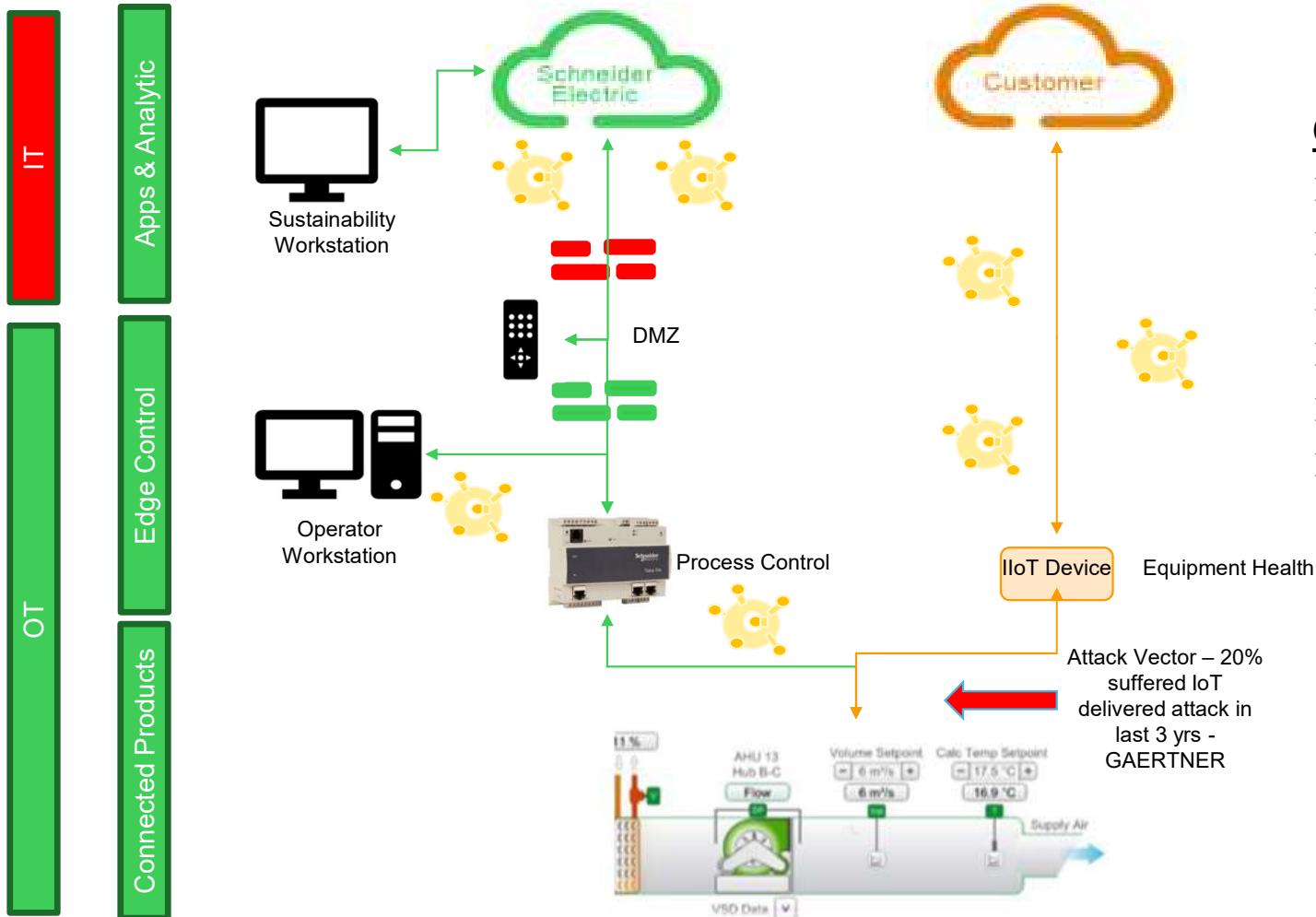
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# Why IIoT is a closed control loop safety concern ?



# IIoT can bypass your Defence in Depth



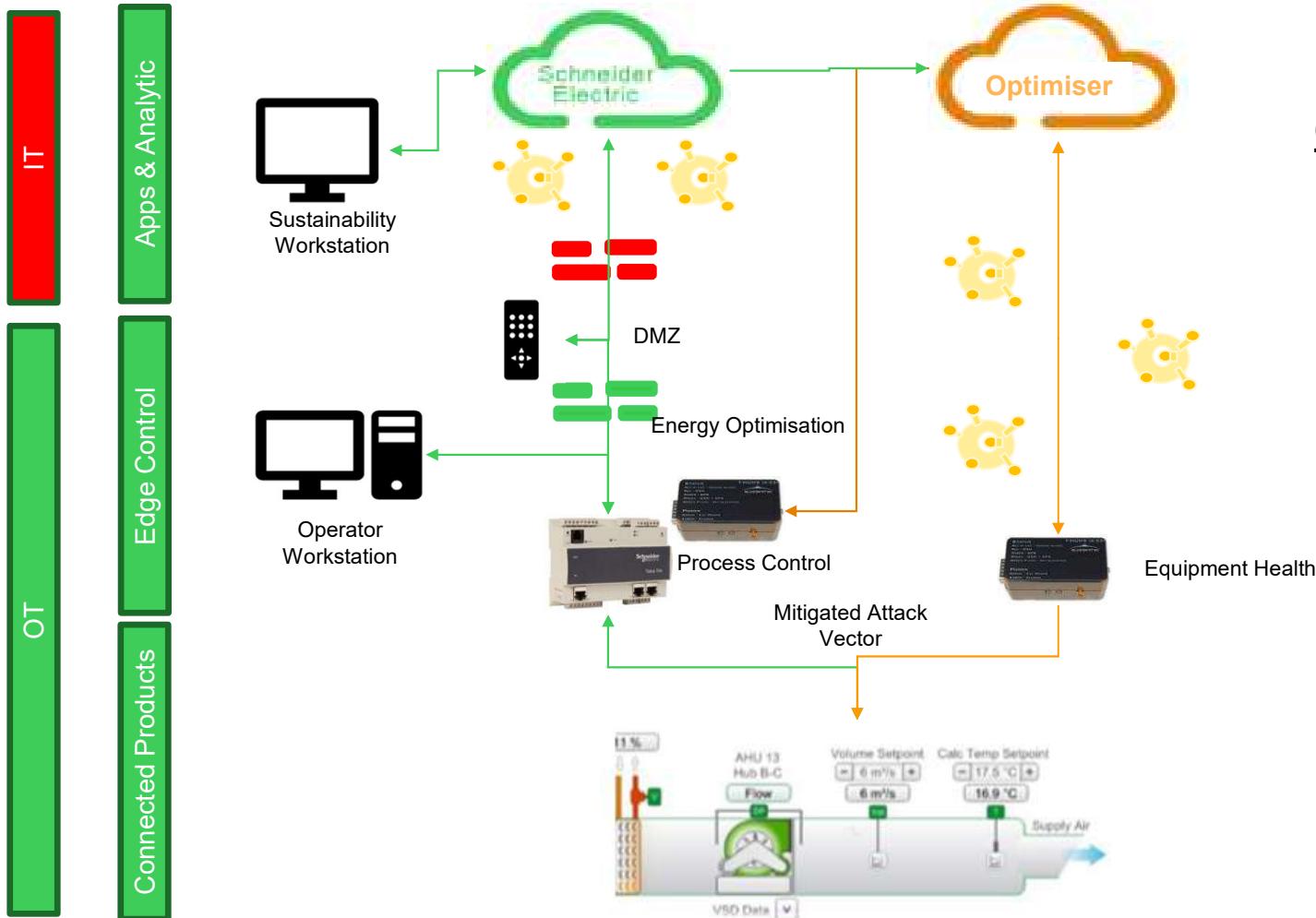
## OT IEC-62443 Standards

- Role based access control
- Patch Management
- Encryption of data in transit
- Encryption of data at rest
- Physical security
- Legacy Support

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# The IIoT platform for your Sustainability



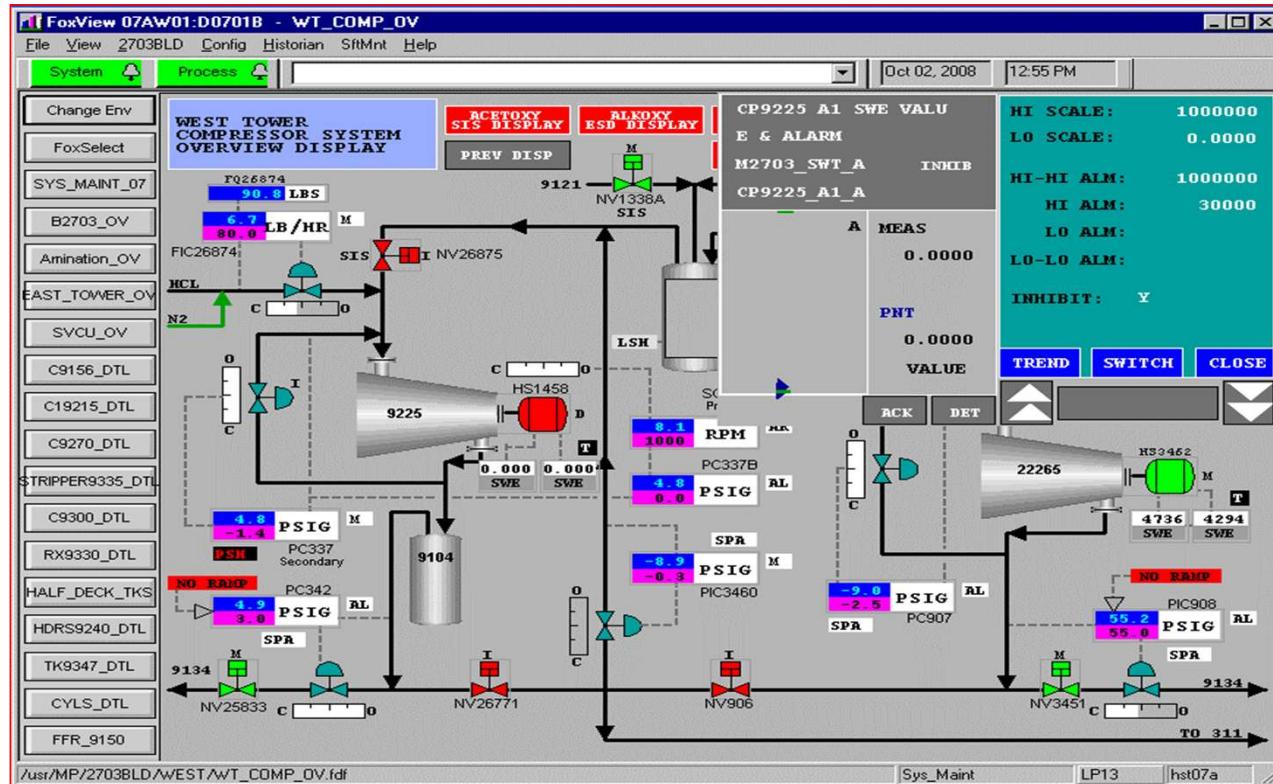
## OT IEC-62443 Standards

- Role based access control ✓
- Patch Management ✓
- Encryption of data in transit ✓
- Encryption of data at rest ✓
- Physical security ✓
- Legacy Support ✓

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# Sustainable Operations based on Condition



- Proactively ensures high value asset achieves design life.
- Helped Define the operational sweet spot for the compressor
- Alerts Operator on breach of limit so that they can ACT in real-time.
- Operator can click on HMI tag for more detailed analysis (Trend etc)

The reduction in compressor loading delivered a \$7,500 /Month in energy savings.

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Electric

# Key Takeaways— Sustained Network Infrastructure



- 1) Shorten deployment time with **secure reference designs**
- 2) Create efficiencies and reduce complexity in hybrid network with **standards**
- 3) Increase sustainability with **energy effective** solutions.
- 4) Security is a **benefit** not a burden



## **Schneider - Electric Cyber Security Services**

Victor Lough

Business Lead

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# Mitigating against a Cyber Breach



**Tristan Hall**  
Partner  
CMS



**Loretta Pugh**  
Partner  
CMS

#FDFCyberSecurity



## Mitigating against a Cyber Breach

Tristan Hall | Partner, Insurance | CMS

Loretta Pugh | Partner, Data Protection | CMS

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## Your speakers today

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**CMS Partner**  
**Data Protection**

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# Today's agenda

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Overview



Incident Response Plan



Other Mitigants



Security



Insurance



Conclusions

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## Overview

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- Why is this important?

- Legal obligations
- Disruption
- Reputation

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# Incident Response Plan

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Benefits

Length

Audience

Checklist

Testing and review

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## Incident Response Plan Contents

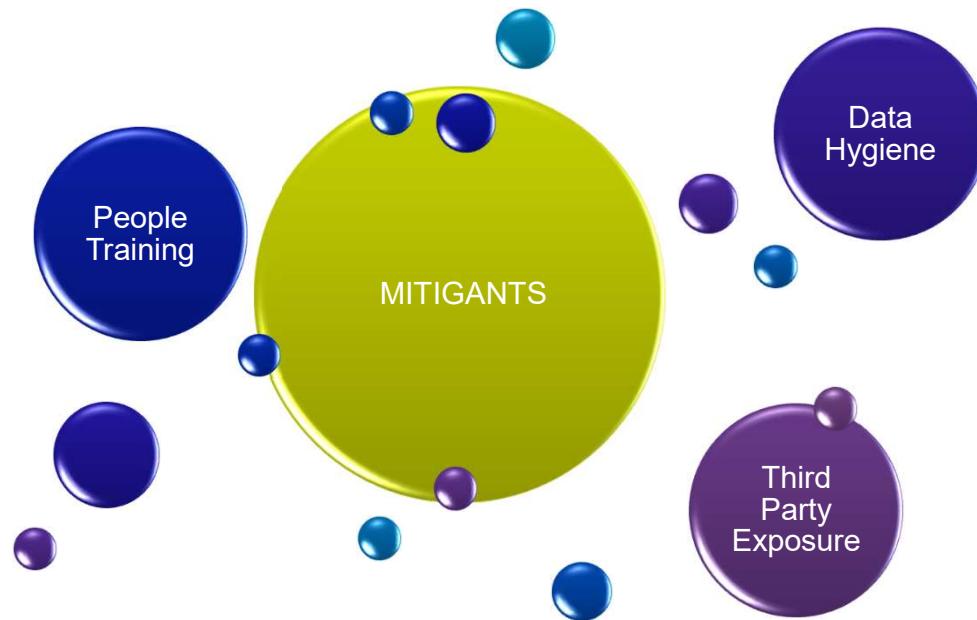
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## Other Mitigants

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## Security

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- Expert advice
- Investment
- Quick wins:
  - Passwords
  - MFA
  - Offline backups

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## Insurance

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- Pre-breach services
- Incident response solution
- Business interruption
- Civil claims

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## Conclusions

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# Cyber breach lifecycle

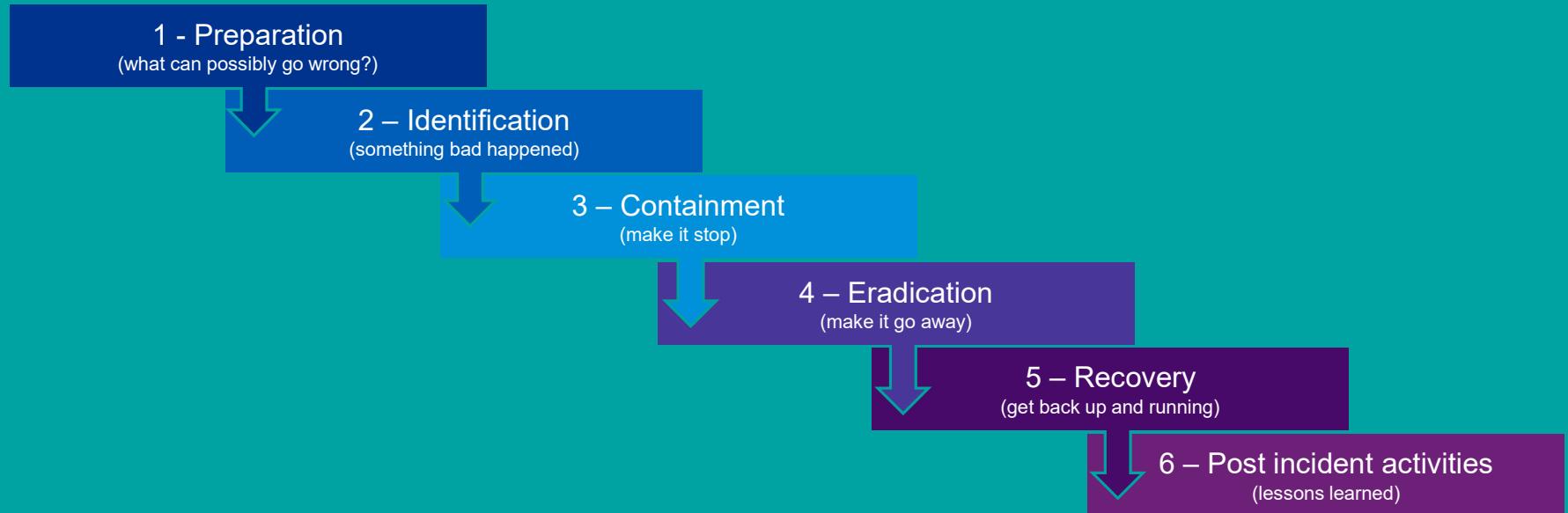


**Martijn Verbree**

Partner and Lead of KPMG UK's  
Corporates Cyber Security  
business  
**KPMG**

#FDFCyberSecurity

# Cyber breach lifecycle





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CYBER SECURITY IN THE FOOD & DRINK INDUSTRY



# Panel Discussion and Q&A

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# Thank you for attending our event!

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