

WELCOME

# Cyber Security in the Food & Drink Industry

3 March 2021

@foodanddrinkfed  
#FDFCyberSecurity



# Current risks to the entire Supply Chain

NCSC Representative

# 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

**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

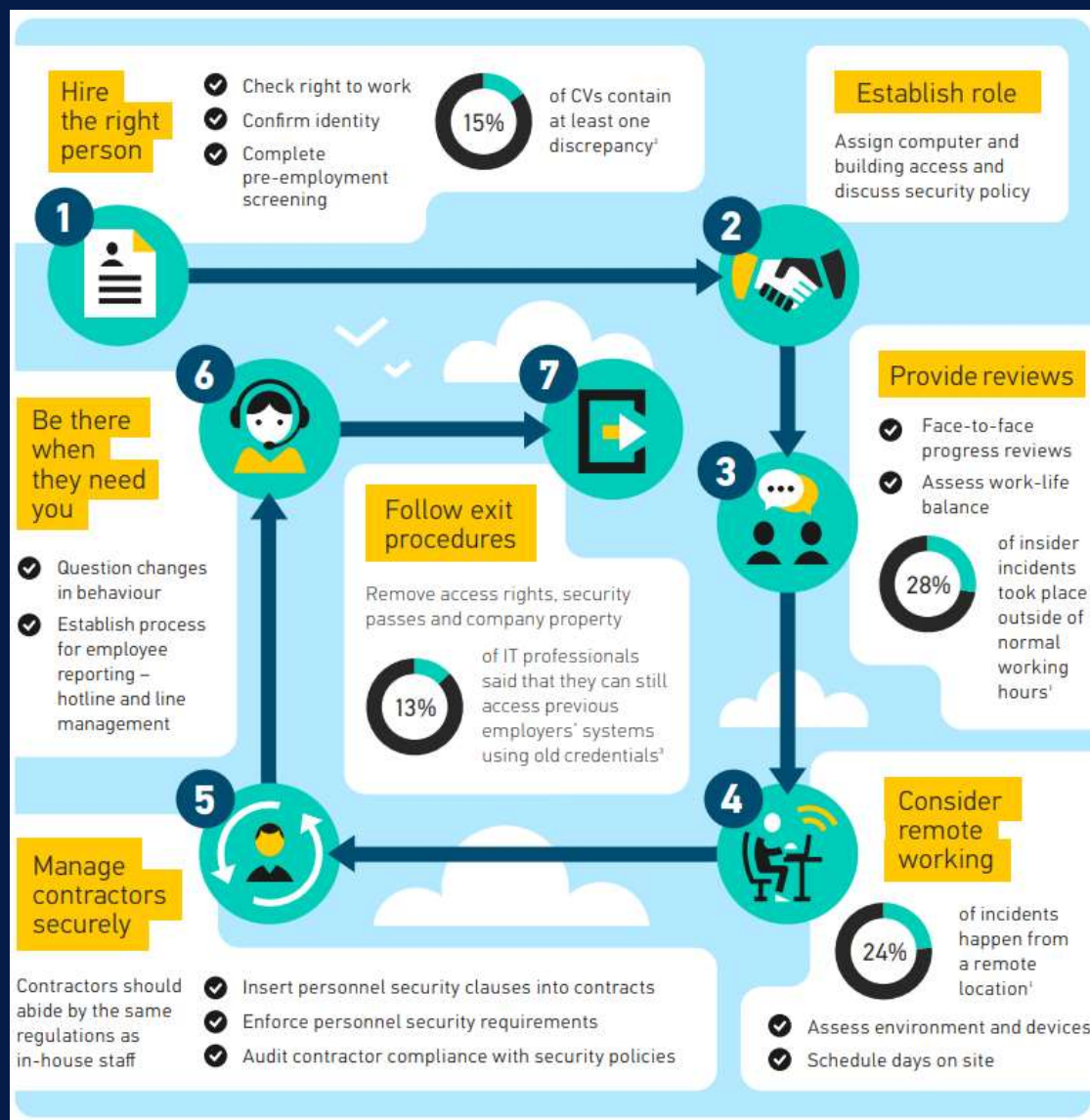
Tip 2: Prevent staff from downloading dodgy apps

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

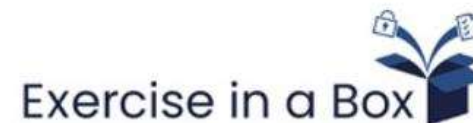
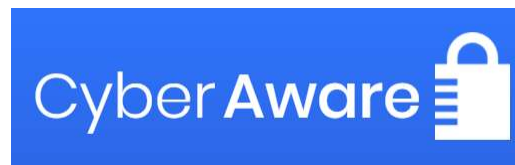


Small Business Guide & Actions

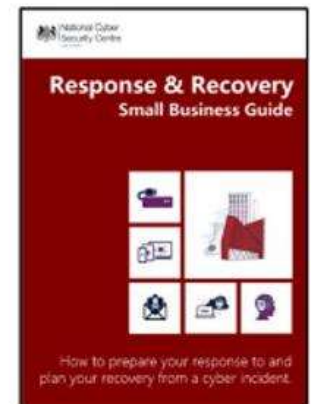
## SME Newsletter



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**



**@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





# Industrial Security

Driving Digitalisation for Food & Beverage

F&D Cyber Security Conference 2021

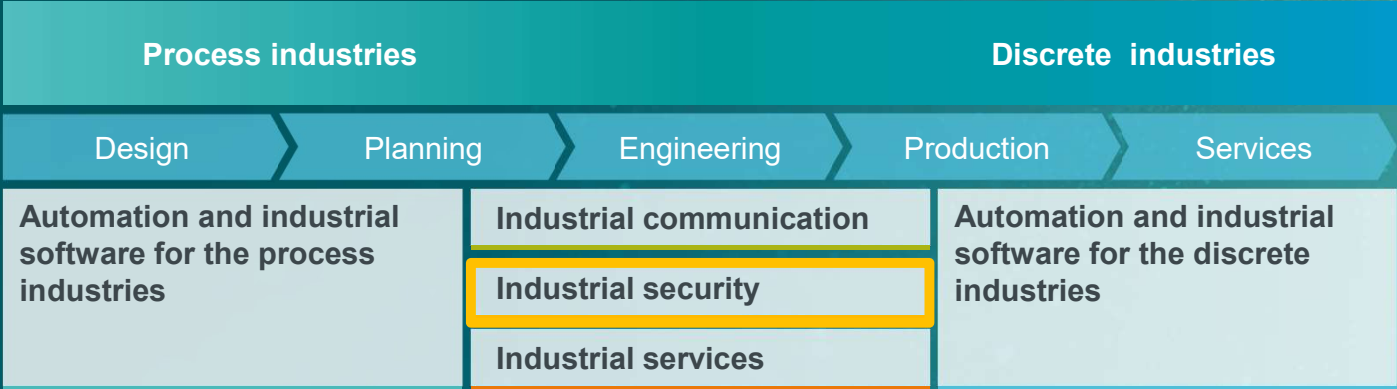
Siemens is with its Digital Enterprise, “The innovation leader” for discrete, hybrid and process industries

Digitalization

Automation

Electrification

# Digital Enterprise



> 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

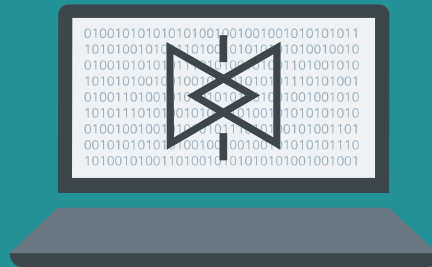


Right security measures avoid unplanned costs

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

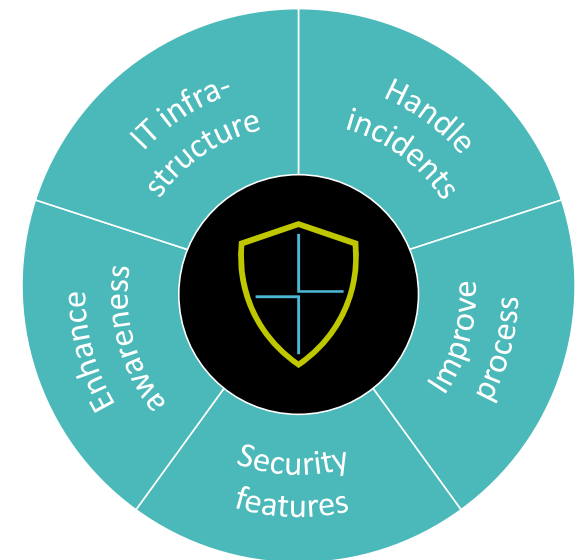
“What in my business do I need to protect?”

“Which level of security do I need?”

“How do I protect the specific assets?”



**SIEMENS**  
*Ingenuity for life*





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

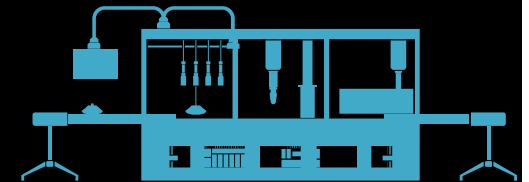
**SIEMENS**  
*Ingenuity for life*

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?

**SIEMENS**  
*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

**SIEMENS**  
*Ingenuity for life*



### 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

**SIEMENS**  
*Ingenuity for life*



### 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



## Industrial Security

Availability and Safety

3-5 years

Asset lifecycle

20-40 years

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

Software lifecycle

Usage as long as spare parts available

High (> 10 “agents” on office PCs)

Options to add security SW

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

Low (mainly Windows 10)

Heterogeneity

High (from Windows 95 up to 10)

Standards based (agents & forced patching)

Main protection concept

Case and risk based

A range in minutes is acceptable

Availability

Latency for control systems <300ms



# SAFETY

**SIEMENS**  
*Ingenuity for life*

Cyber Essentials / Plus  
BIS/14/697

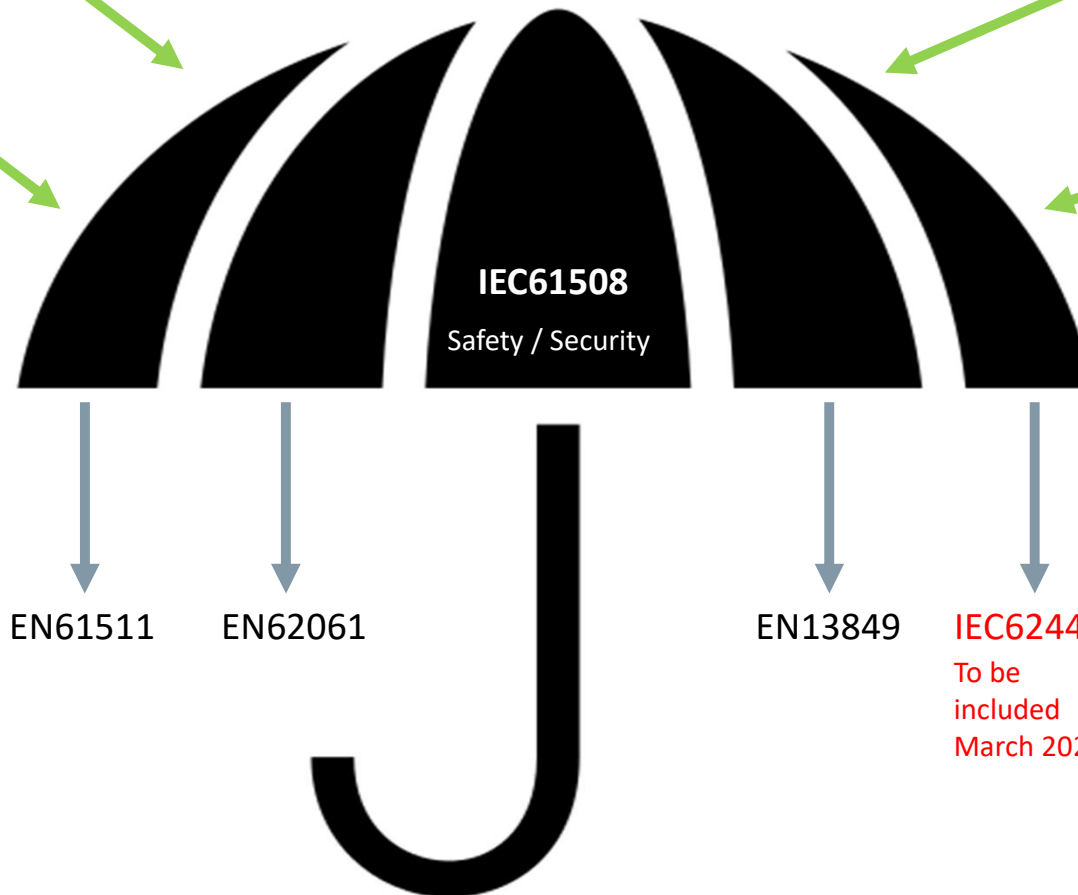
BS 10754  
New Standard  
describing Trust Model

ISO 22301 / 13

IEC18043

ISO 27000  
series

PAS 555



Unrestricted © Siemens AG 2020

Unrestricted

# Security standards are about technology, processes and people

What must be done?

Policies and procedures

Functional security measures

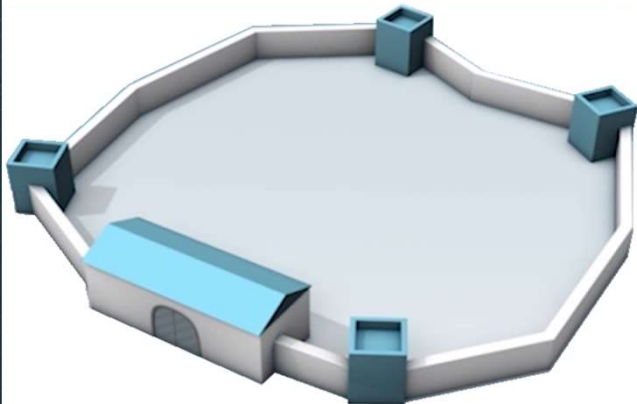


**A holistic security protection concept has to include technology, processes and people**

## 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!**

Restricted © Siemens 2020



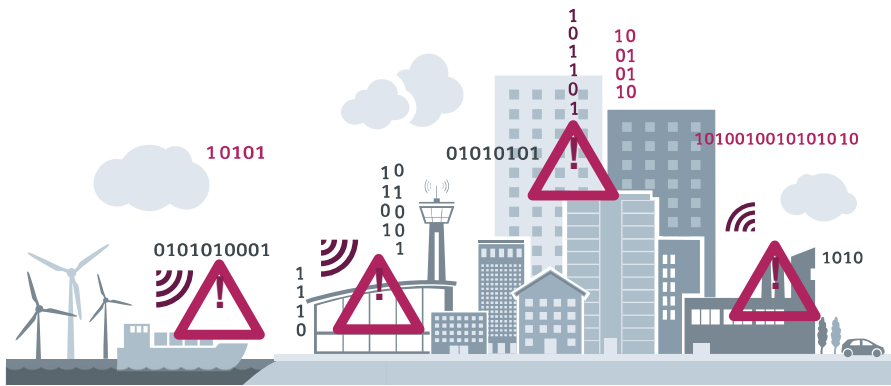
### Defense in depth

- 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

**SIEMENS**  
*Ingenuity for life*



## Unprotected business

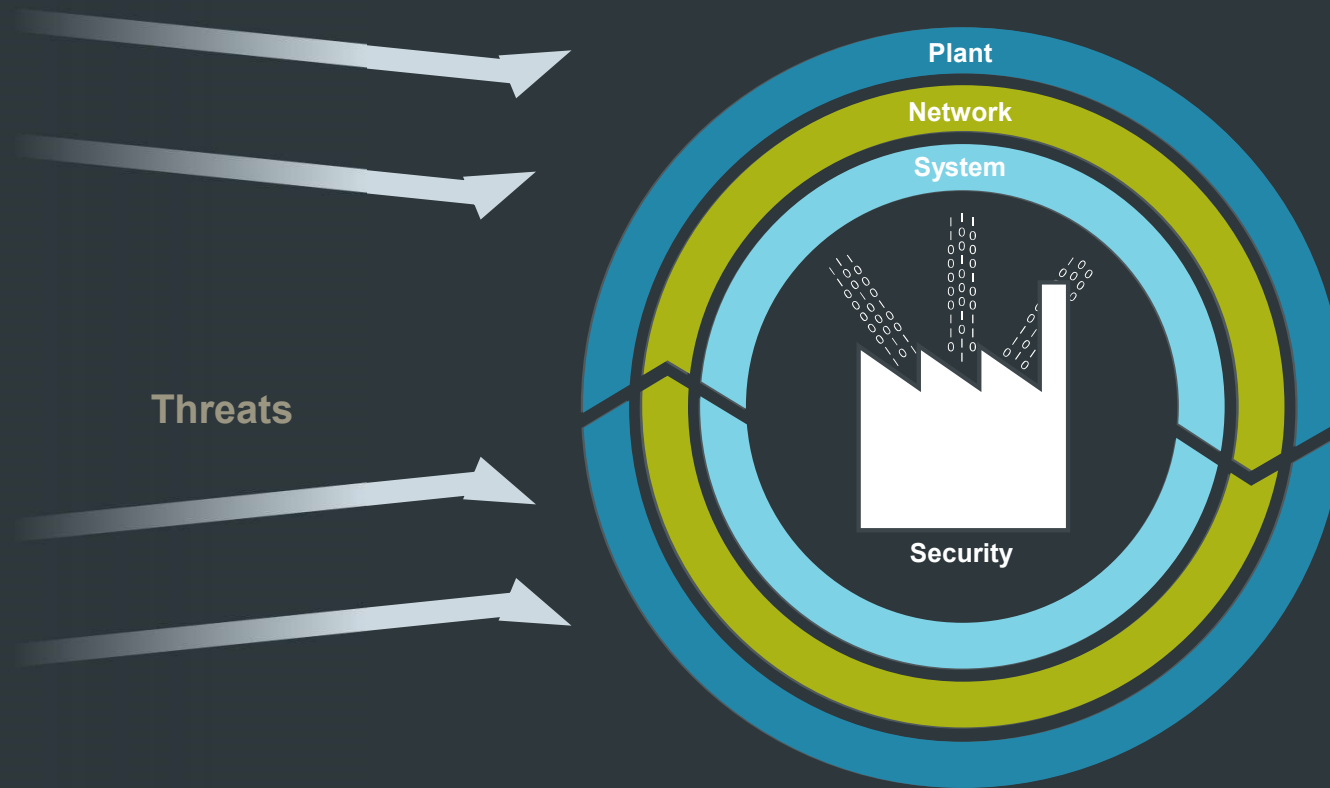
- People and assets exposed to risk
- Business vulnerable to disruptions, sabotage and theft
- Costs and liability
- Reputational damage

## 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



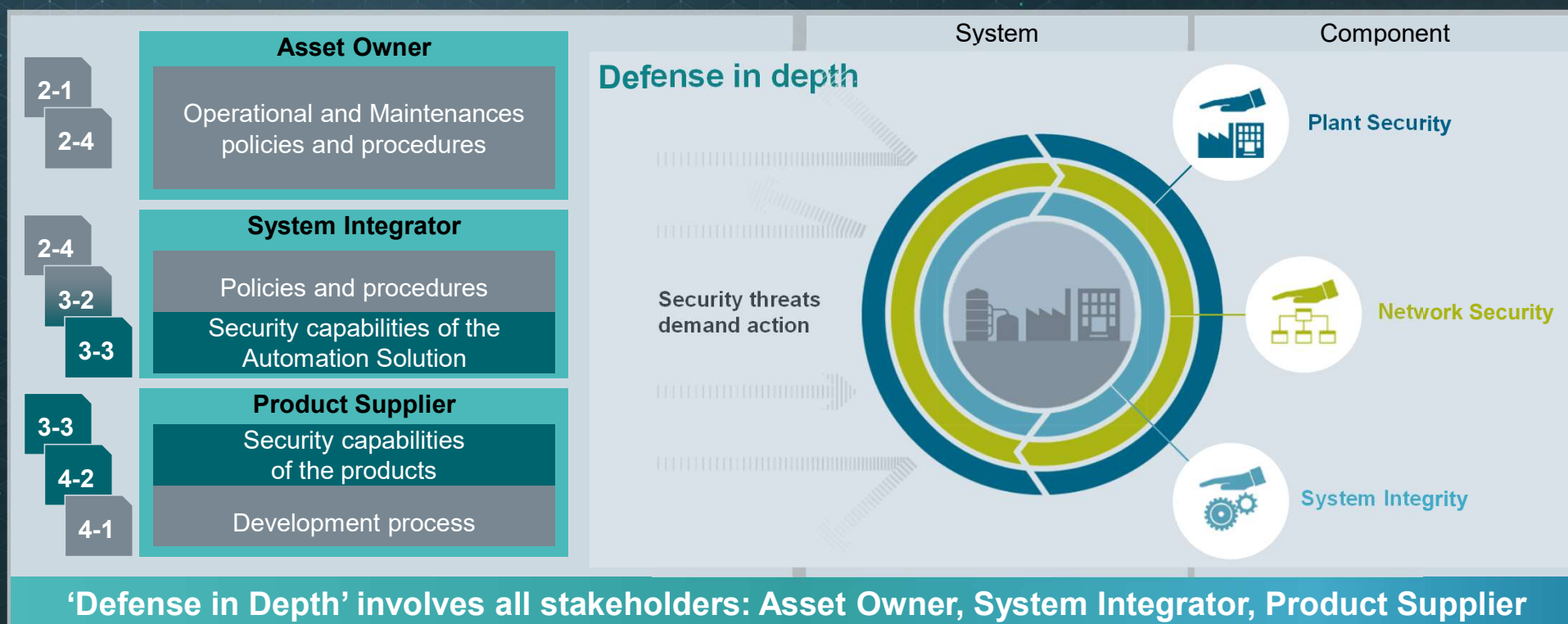
## System integrity

- 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

Main parts  
of IEC 62443

IEC 62443



# Security conformance

## What is the structure of IEC 62443?

Industrial communication networks – Network and system security

### IEC 62443

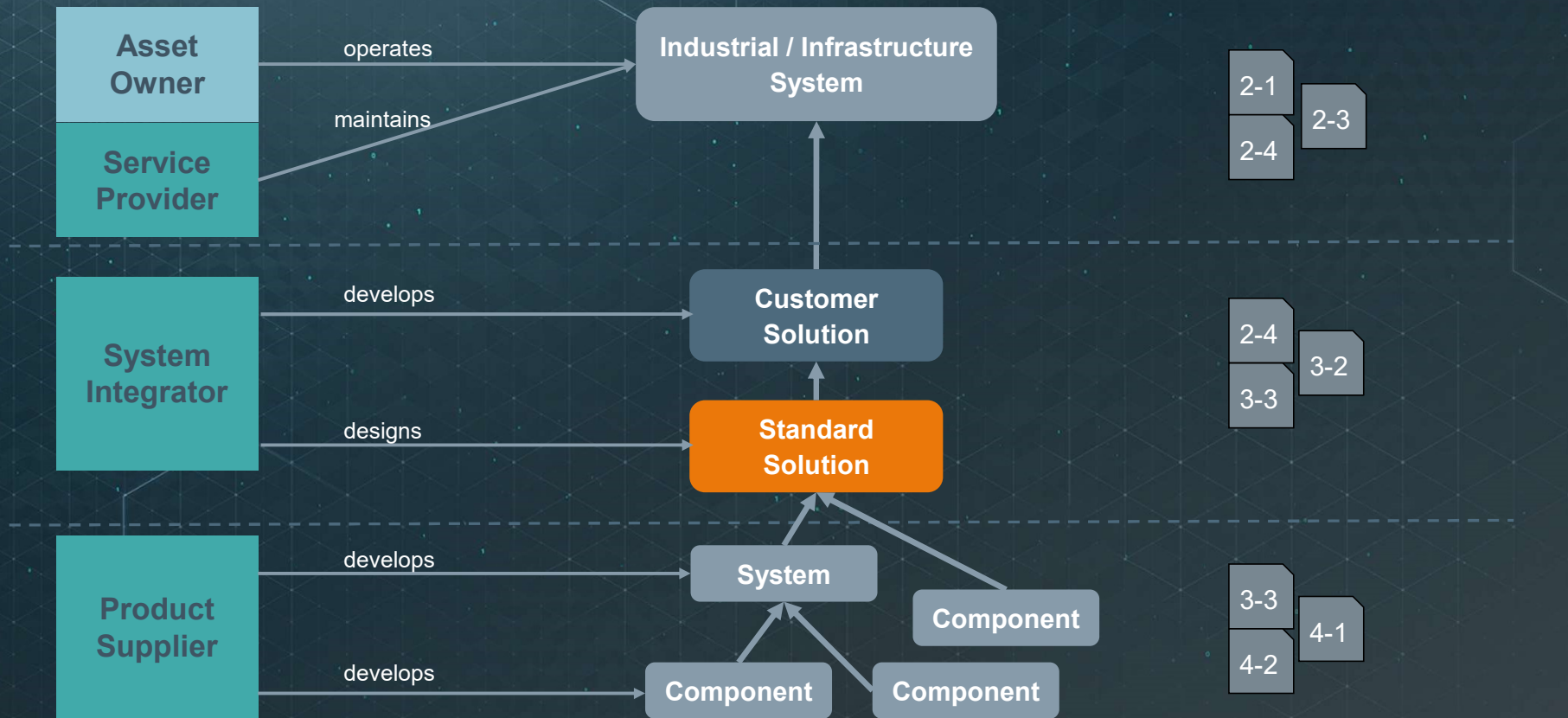




# IEC 62443 Roles and Responsibilities

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](#)

Restricted © Siemens 2020

**CERTIFICATE**  
No. Q4B 076903 0003 Rev. 00

Research & Development Sites:

- Siemens AG I  
Werner-von-Siemens-Str. 1  
Köln 50667
- Siemens AG I  
Siemensstr. 2  
Dachau 84048
- Siemens AG I  
Otische Rhein  
Leipzig 04109
- Siemens AG I  
Leipzig Str.
- Siemens Indu  
Siemensstr. 1  
Tampere 00101
- Siemens AG I  
Fraunhofer
- Siemens AG I  
Breslauer Str.
- ETM professo  
Merkel 3, 71
- Siemens Indu  
1 Internet Plaz
- Siemens AG I  
Siemensstr. 1
- Siemens AG I  
Fraunhofer
- Siemens AG I  
Breslauer Str.
- Siemens AG I  
Vary Road, C

Page 2 of 3  
TUV SUD Product Service GmbH • Certification

**CERTIFICATE**  
No. Q4B 076903 0003 Rev. 00

Holder of Certificate: Siemens AG  
DF TI QM  
Otische Rheinbrückenstr. 50  
70187 Karlsruhe  
Germany

Certification Mark: 

Scope of certificate: Secure Product Development Lifecycle Management Process for Division of DI and Process Industries an

The Certification Body of TÜV SUD Product Service GmbH certifies that the above has established and is maintaining a management system which meets the listed standards. The results are documented in a report. See also

Report No: SK05769C  
Valid until: 2021-07-26  
Date: 2018-07-30

Page 1 of 3  
TUV SUD Product Service GmbH • Certification Body • Rüdigerstraße 65 • 80339 Munich • Germany

**CERTIFICATE**  
No. Q4B 076903 0003 Rev. 00

Research & Development Sites:

- Siemens Numerical Control Ltd  
Siemens Road 18, 21100 Nanjing
- Siemens Industry Software S.r.l.  
Via Enrico Mattei, 83, 16152 Genova
- Siemens Industry Software SAS  
Park Avenue 9 - Bat 1 - RDC, Z  
Avenue du Général de Gaulle 1  
31100 Toulouse, France
- Siemens AG DF PL CAS  
Schulstr. 60, 91052 Erlangen, C
- Siemens AG DF PL CAS  
Otto-Hahn-Ring 6, 81739 Munich
- Siemens AG DF CS  
Gleiwitzer Str. 555, 90475 Nürnberg
- Siemens AG DF CS  
Siemensstr. 84, 76187 Karlsruhe
- Siemens AG PD PA AE  
Otische Rheinbrückenstr. 50, 70
- Siemens AG PD PA CI  
Otische Rheinbrückenstr. 50, 70
- Siemens AG PD PA CI  
Gleiwitzer Str. 555, 90475 Nürnberg
- Siemens Canada Limited PD PA  
300 Applewood Crescent, Concord

Applied Standard(s): IEC 62443-4-1:2018

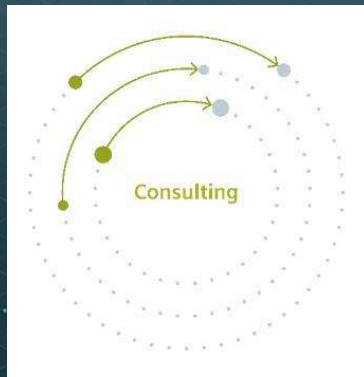
Page 3 of 3  
TUV SUD Product Service GmbH • Certification Body • Rüdigerstraße 65








## 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

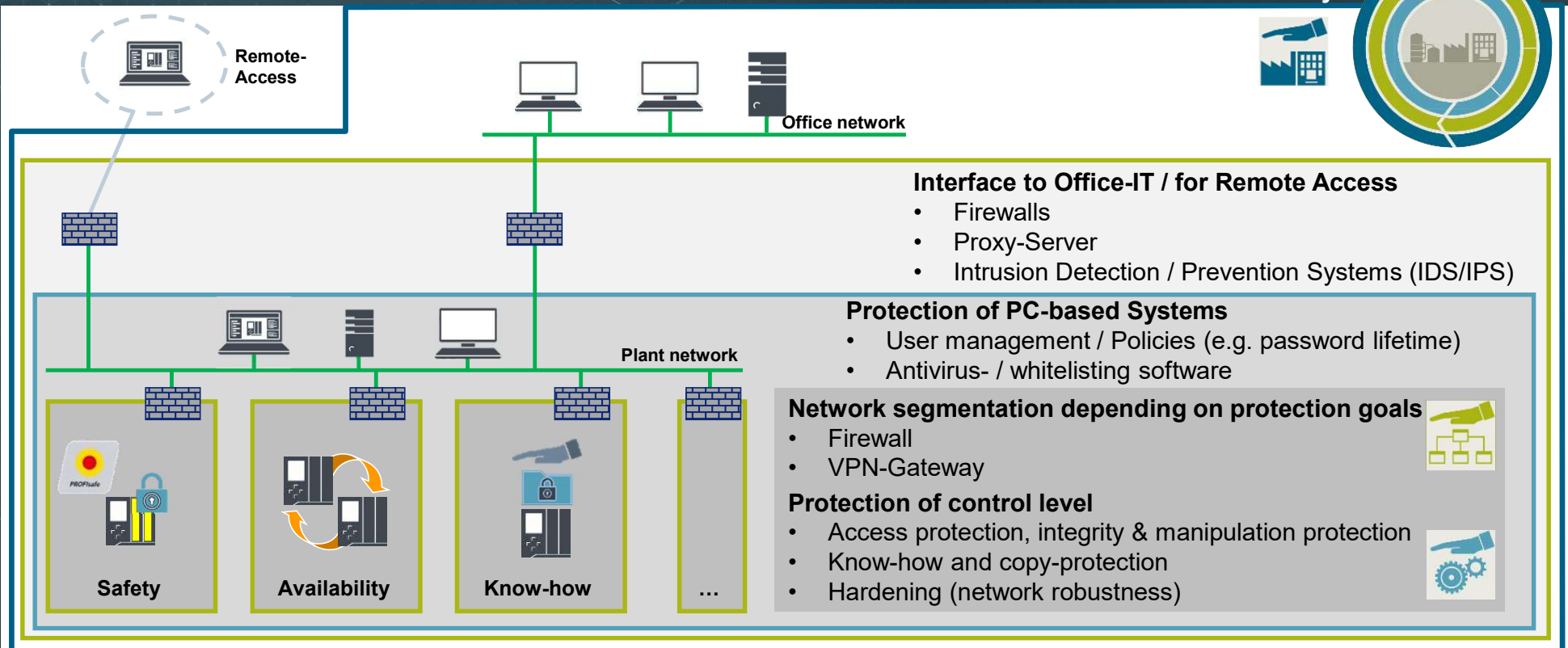
*Comprehensive security through managed services*

- 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

Plant Security



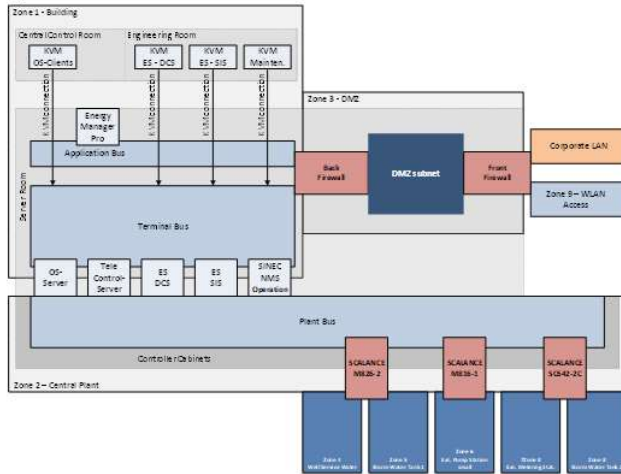


# Secure Solution Framework

## Security Design Specification

Document No. <b>E501</b>	Ver <b>1.0</b>	Date <b>2020-01-08</b>	Status <b>DRAFT</b>	Page <b>8 of 43</b>
Title <b>Security Design Specification</b>				

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.

Document No. <b>E501</b>	Ver <b>1.0</b>	Date <b>2020-01-08</b>	Status <b>DRAFT</b>	Page <b>11 of 43</b>
Title <b>Security Design Specification</b>				

The Wireless Access Points are located where required throughout the site and provide wireless access for Tablet PCs. The tablet PC's are Siemens SPX 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

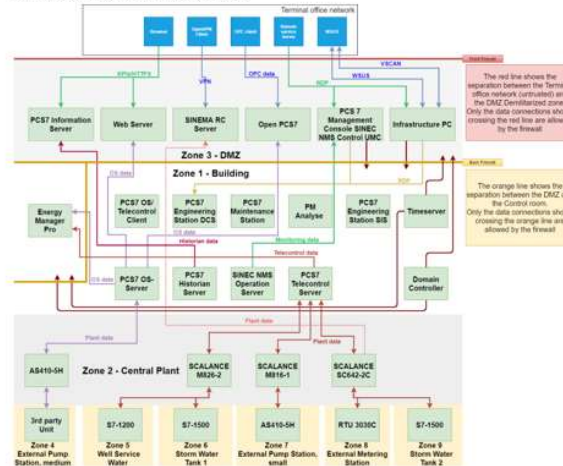
The Blueprint Wastewater Treatment Plant has only one external zone: The Corporate LAN.

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.

Document No. <b>E501</b>	Ver <b>1.0</b>	Date <b>2020-01-08</b>	Status <b>DRAFT</b>	Page <b>24 of 43</b>
Title <b>Security Design Specification</b>				

### 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 PCS7 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 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_vvwp_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.

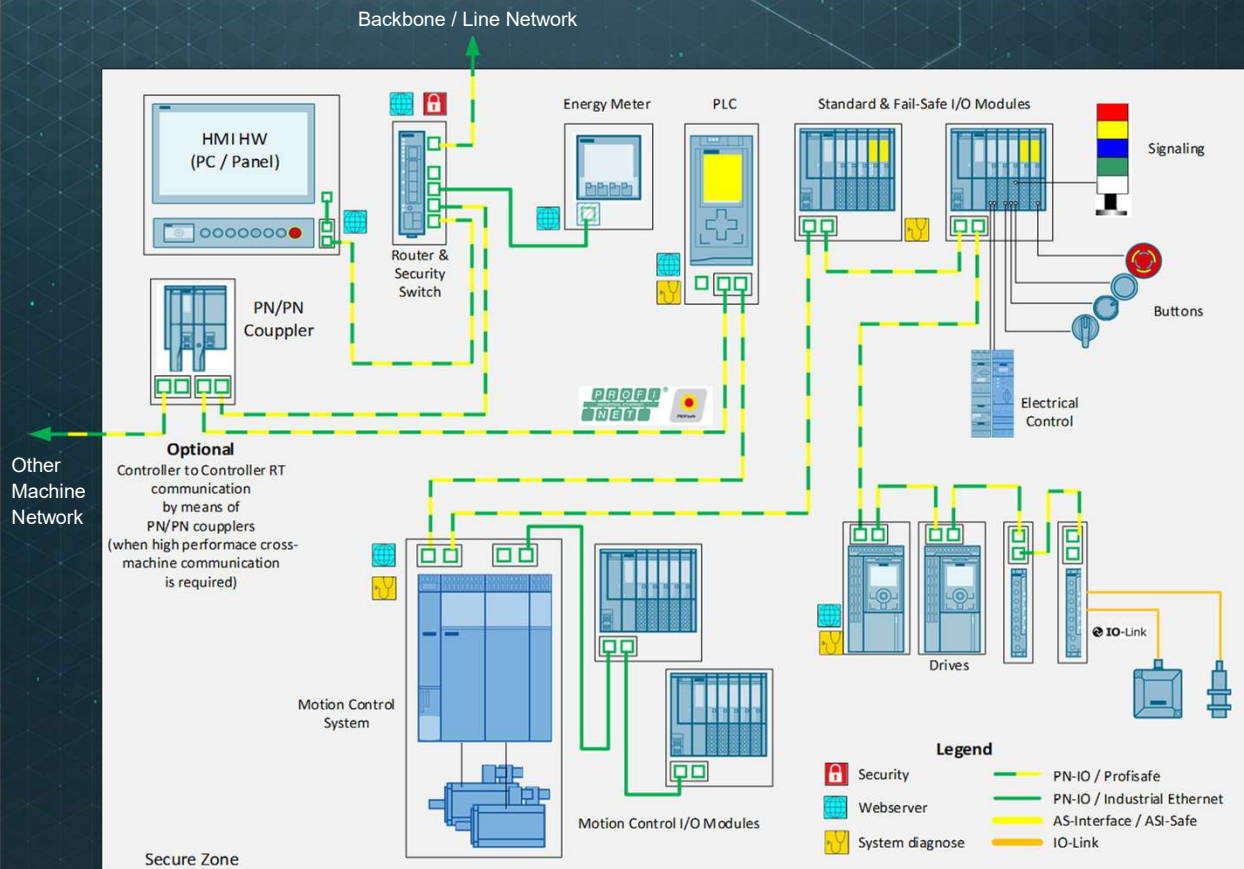
Exceptions to personalized (unique) accounts depend on configuration and operational procedures. These typically include accounts for machines that must be permanently operational and are used by several persons. An example could be an OS client, for operator control and monitoring.

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.



# Network Security – F&B Use Case Cell Protection at Machine Level

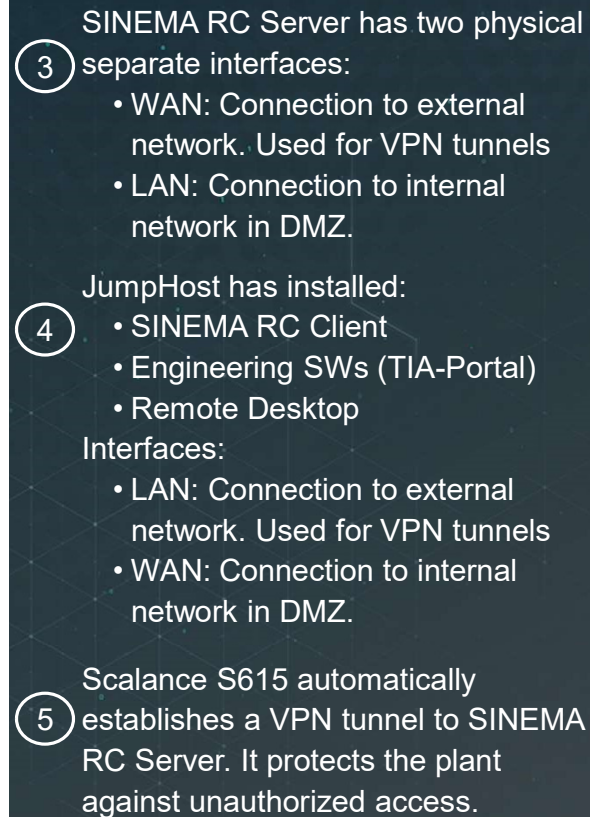


## Machine Network Security Concept

### 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





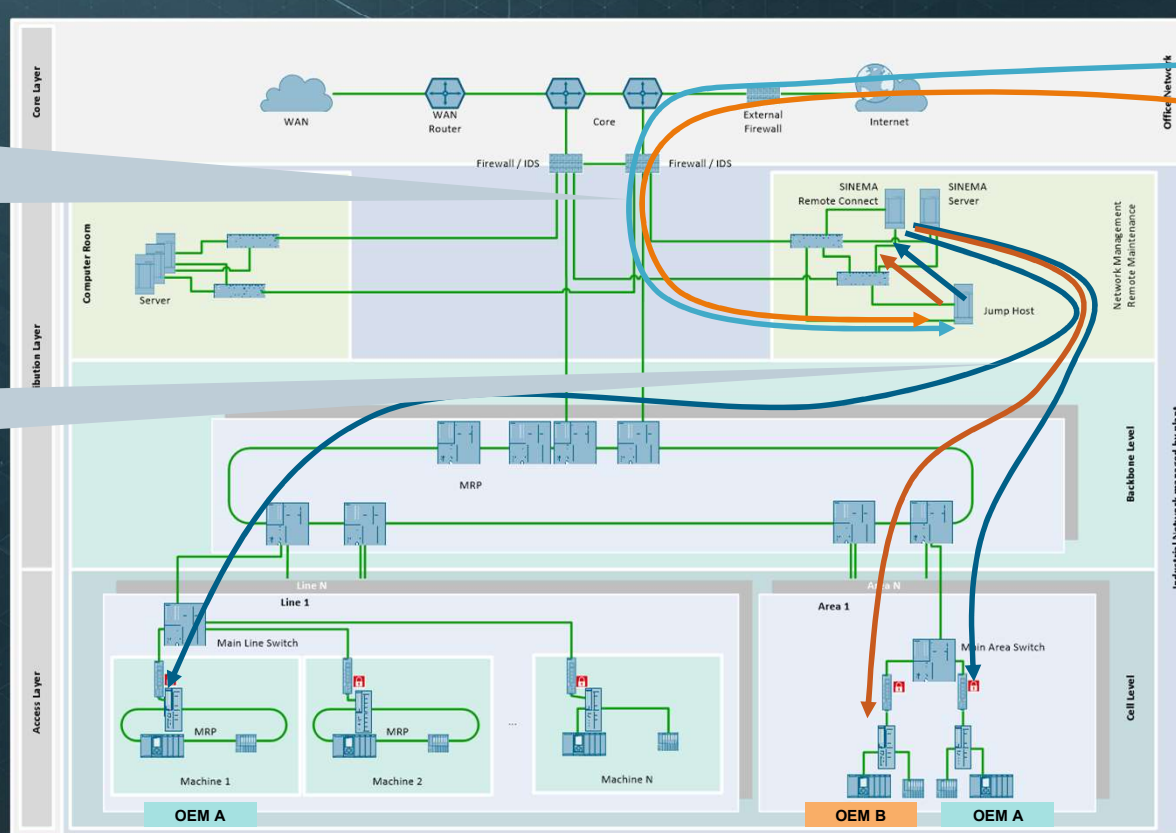


# Network Security – F&B Use Case

## 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

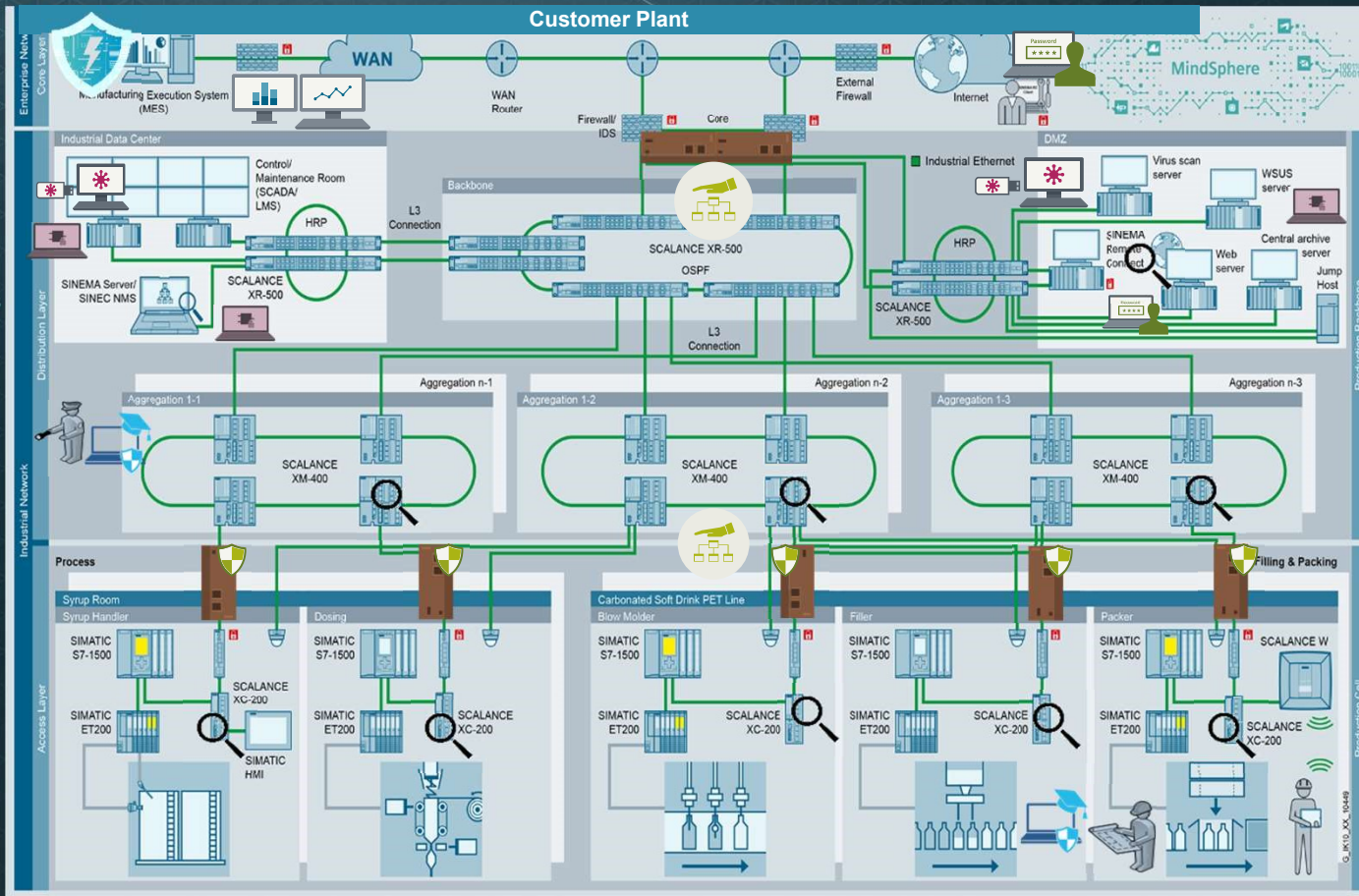


Cell protection concept, remote maintenance solution and network management





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



Restricted © Siemens 2020

## Implementation Elements



Vulnerability Management



Security Monitoring



Remote Incident Handling



Security Zones and DMZ



Firewalls and VPN



Patch Management



System Hardening



Endpoint Protection



Industrial Anomaly Detection



Training and Processes

- **Cybersecurity in the dairy and soft drink industry**



- IEC 62343 is aimed at manufacturers and formulators, procedures for protecting the development process and other activities.

This division of information shows that cybersecurity is seen as a comprehensive process and that security standards must be complied with while components are under development.

The FDA Food Safety Modernization Act (FSMA) in the U.S. includes similar standards that comprise a combination of monitoring, intervention options, and verification of cybersecurity measures, among other things. In Great Britain, PAS 96:2017 regulates security and preventive measures against attacks on the food and beverage industry.

Basically, what all the laws and standards have in common is that they're composed of a mixture of technical standards to report incidents, and monitoring of compliance with standards.

General	ISA-ETHES-1-1	ISA-ETHES-2-1	ISA-ETHES-3-1	ISA-ETHES-2-4
	Formulating concepts and models	Mastering degrees of terms and abbreviations	System security compliance metrics	HC2 security: Relying and on-site use
Policies and procedures	ISA-ETHES-2-1-1	ISA-ETHES-2-2-1	ISA-ETHES-2-3-1	ISA-ETHES-2-4-2-1
	Requirements for an ISACS security management system	Implementation guides for the ISACS security management system	Path management in the ISACS environment	Installation and maintenance requirements for ISACS suppliers
System	ISA-ETHES-3-1-1	ISA-ETHES-3-2-1	ISA-ETHES-3-3-1	
	Security technologies for ISACS	Security tasks for zones and conduits	Security security requirements and security tests	
Component	ISA-ETHES-4-1-1	ISA-ETHES-4-2-1		
	Product development requirements for ISACS components	Technical security requirements for ISACS components		

**Security concept**  
Because threats differ in terms of their nature, they can originate internally or externally, and different attackers have different levels of expertise, it's important to create a multilayer security concept in order to provide a process delivering the best possible protection. For example, even if the firewall has been breached because the attacker has physically entered the plant, additional security mechanisms exist to protect the tunnelled data.



## Network segmentation

Fig. 5. Network segmentation according to IEC 62463-2

In this example, the configuration creates three defense walls for the automation cells that control the process. The office network, which is potentially affected by the most frequent introduction of malware (for example, USB sticks), is separated from the automation cell by two firewalls. The closer an employee works to the automation cell, the more important it is that they constantly be made aware of cybersecurity issues.



## 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.

All product designations, product names, etc. may contain trademarks or other rights of Siemens AG, its affiliated companies or third parties. Their unauthorized use may infringe the rights of the respective owner.

# 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



# 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)

## 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”

# 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.

Life Is On

**Schneider**  
Electric



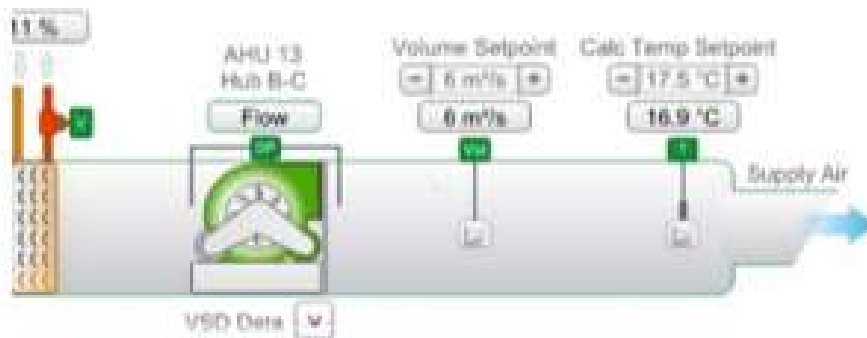
# Sustainability is not achieved with an Air Gap



“ 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 ...”

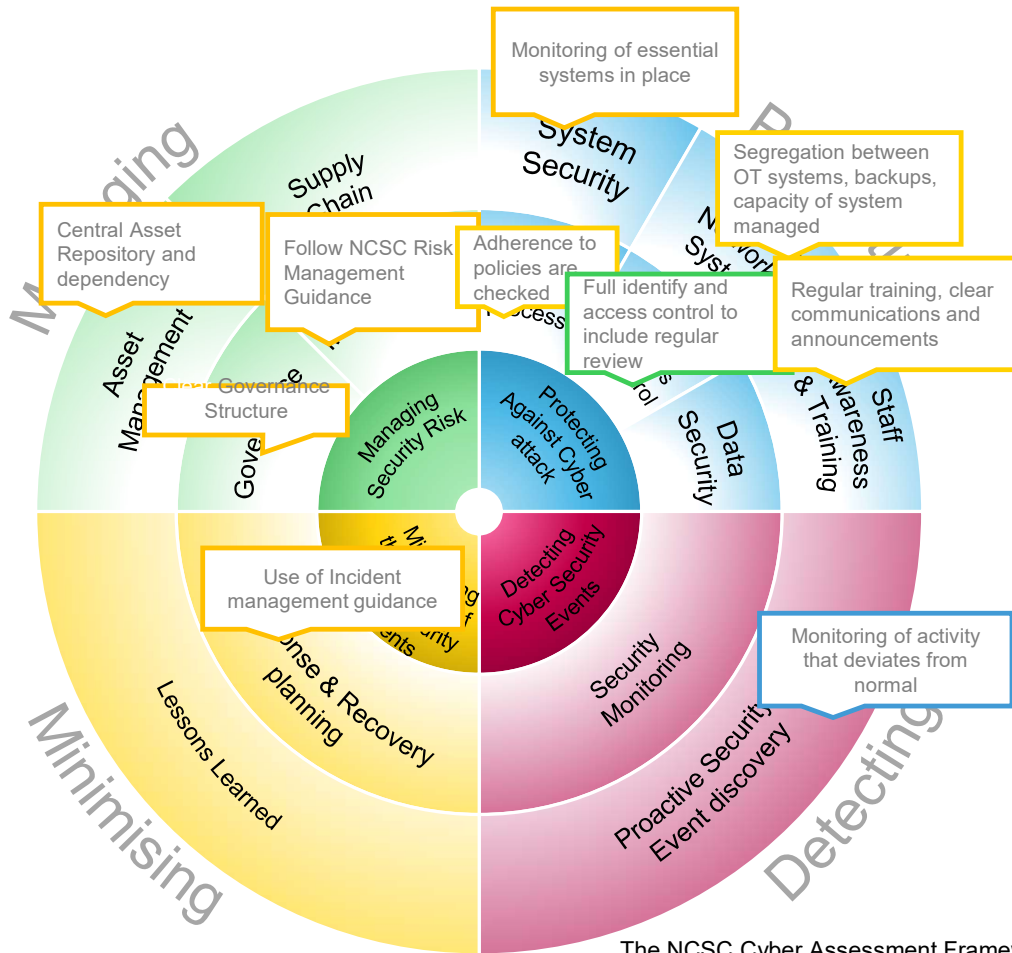
“The web-browser access shall be totally robust and the possibility of remote 'Hacking' into the system shall be completely eliminated. ”

EU “Nearly Zero 20/10/31/ Directive

Life Is On

Schneider  
Electric

# 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

Life Is On

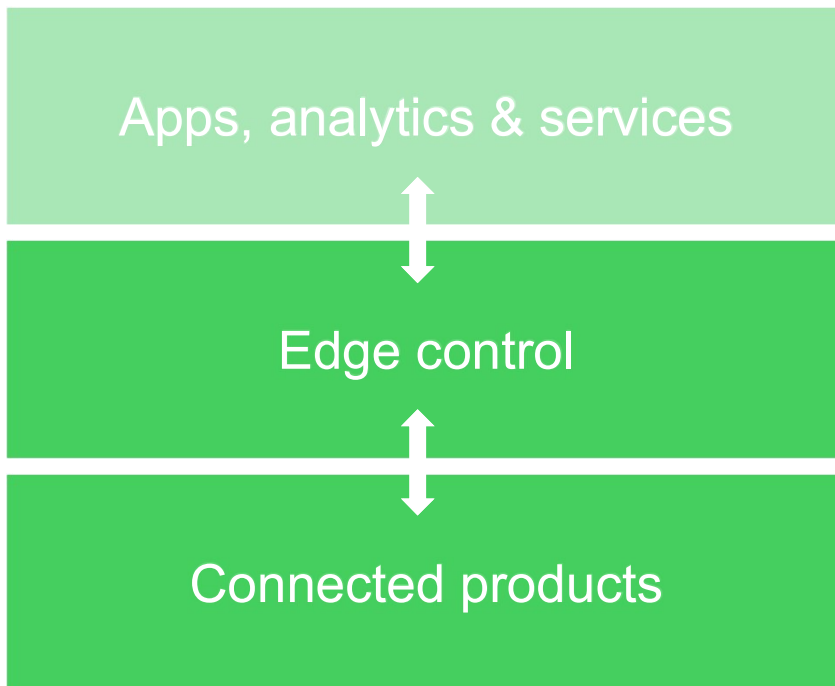
Schneider  
Electric

# Standards for Products and Networked Solutions

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



## EcoStruxure layers



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

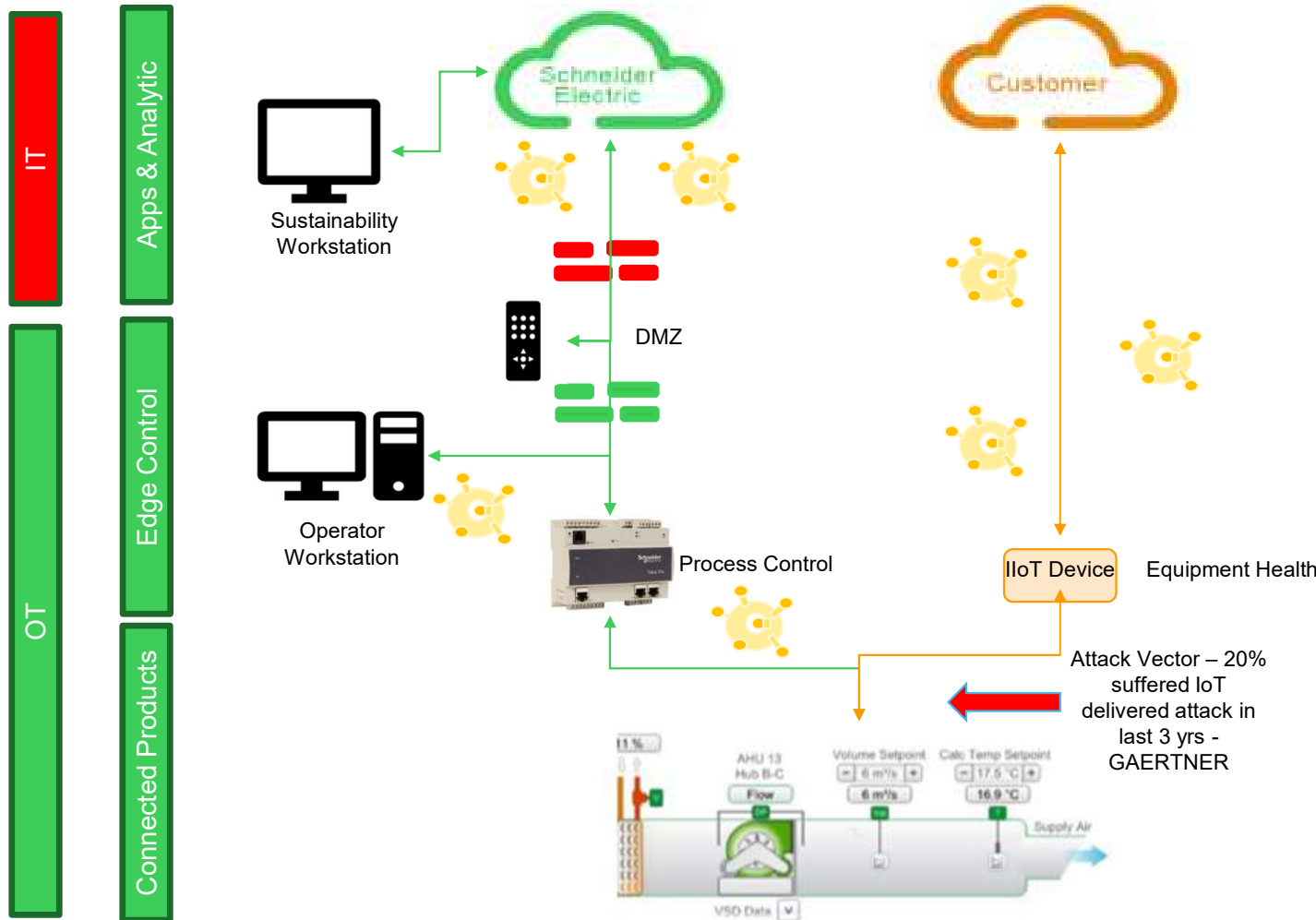
IEC 62443	Asset owner Operator	Sections 2-1, 2-3, 2-4
	System Integrator	Sections 2-4, 3-2, 3-3
	Product/Solution Provider	Sections 3-3, 4-1, 4-2

Life Is On

**Schneider**  
Electric



# IloT can bypass your Defence in Depth

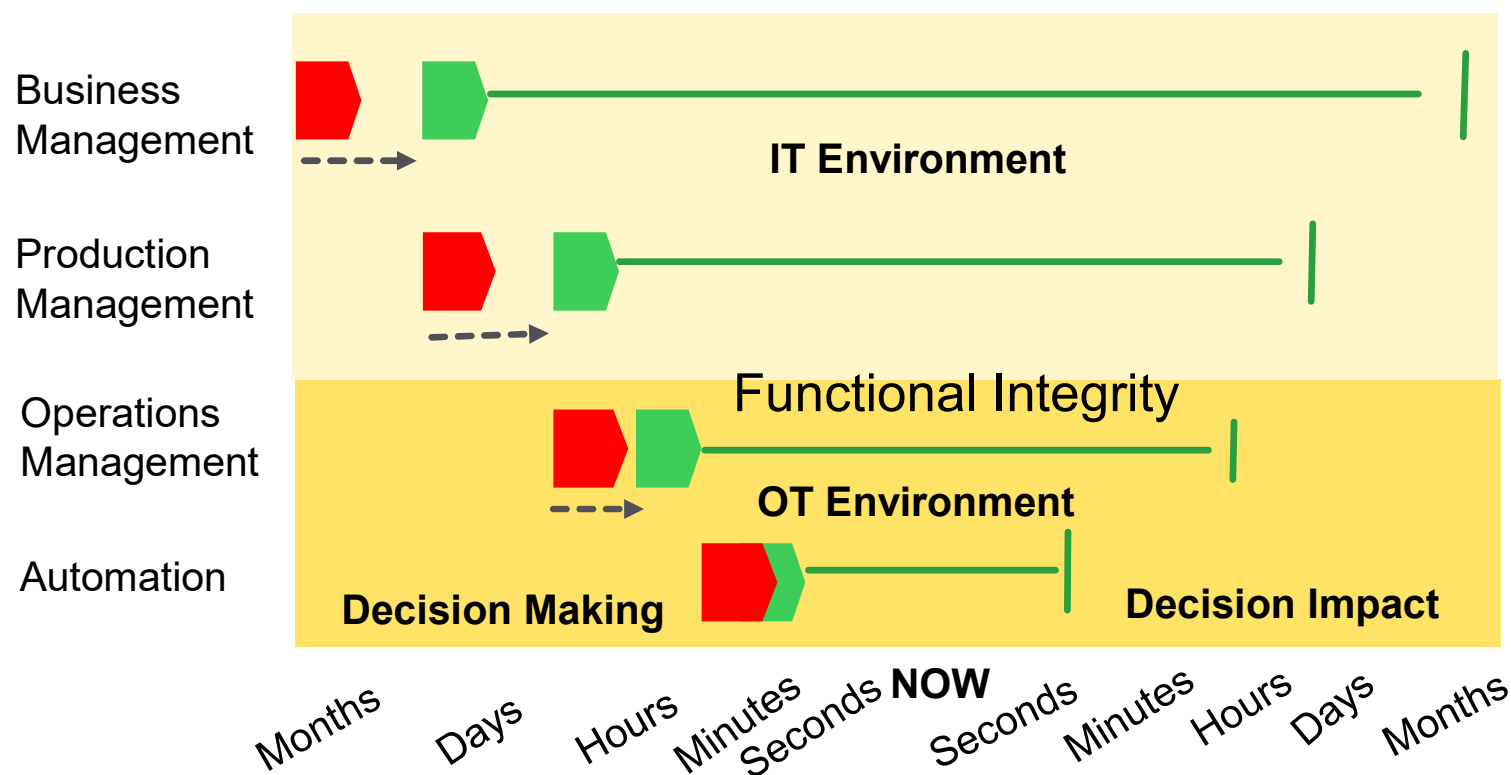


IloT Device has more processing power than a 750 Lb DEC VAX

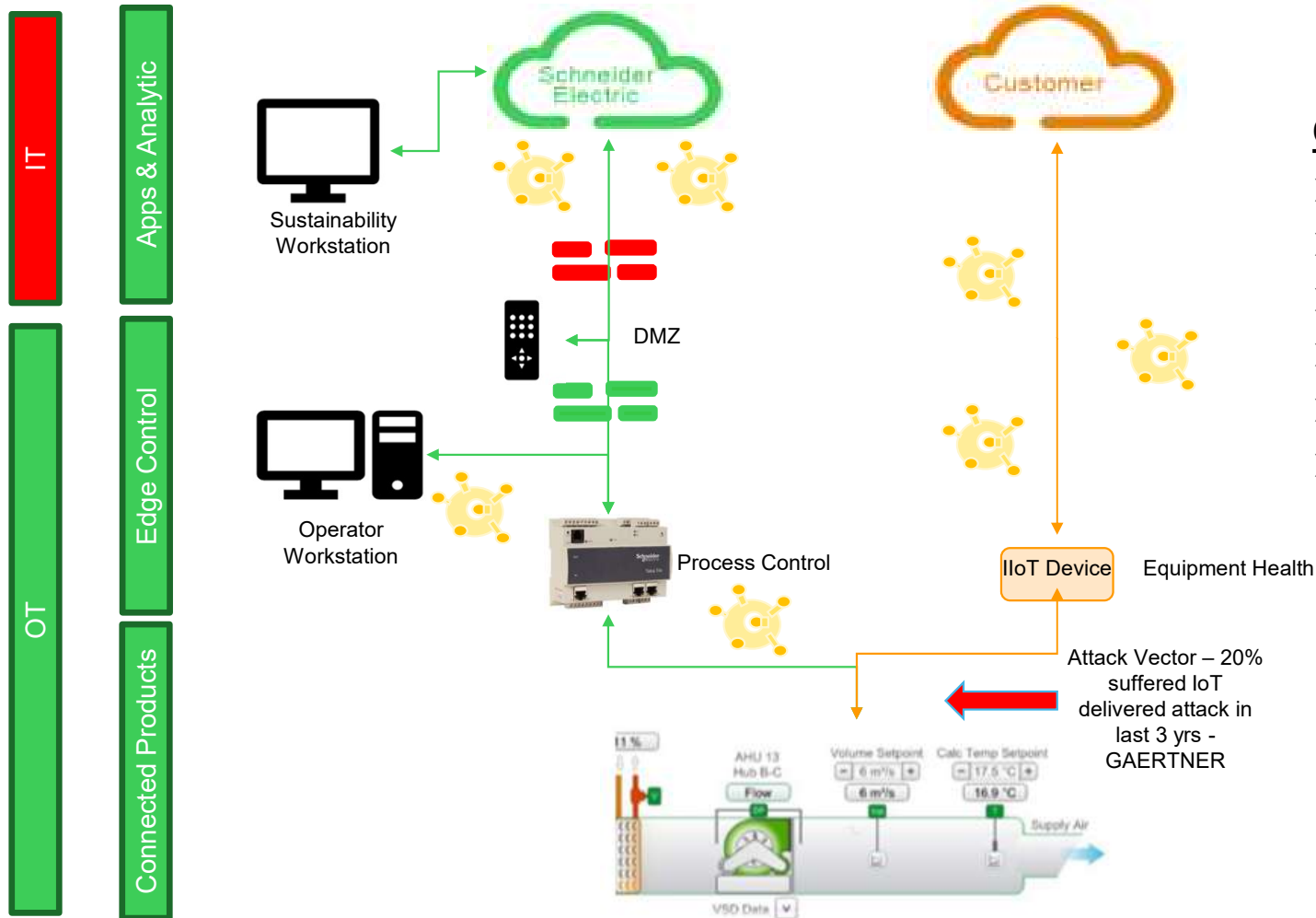
Life Is On

Schneider Electric

# Why IIoT is a closed control loop safety concern ?



# IloT can bypass your Defence in Depth



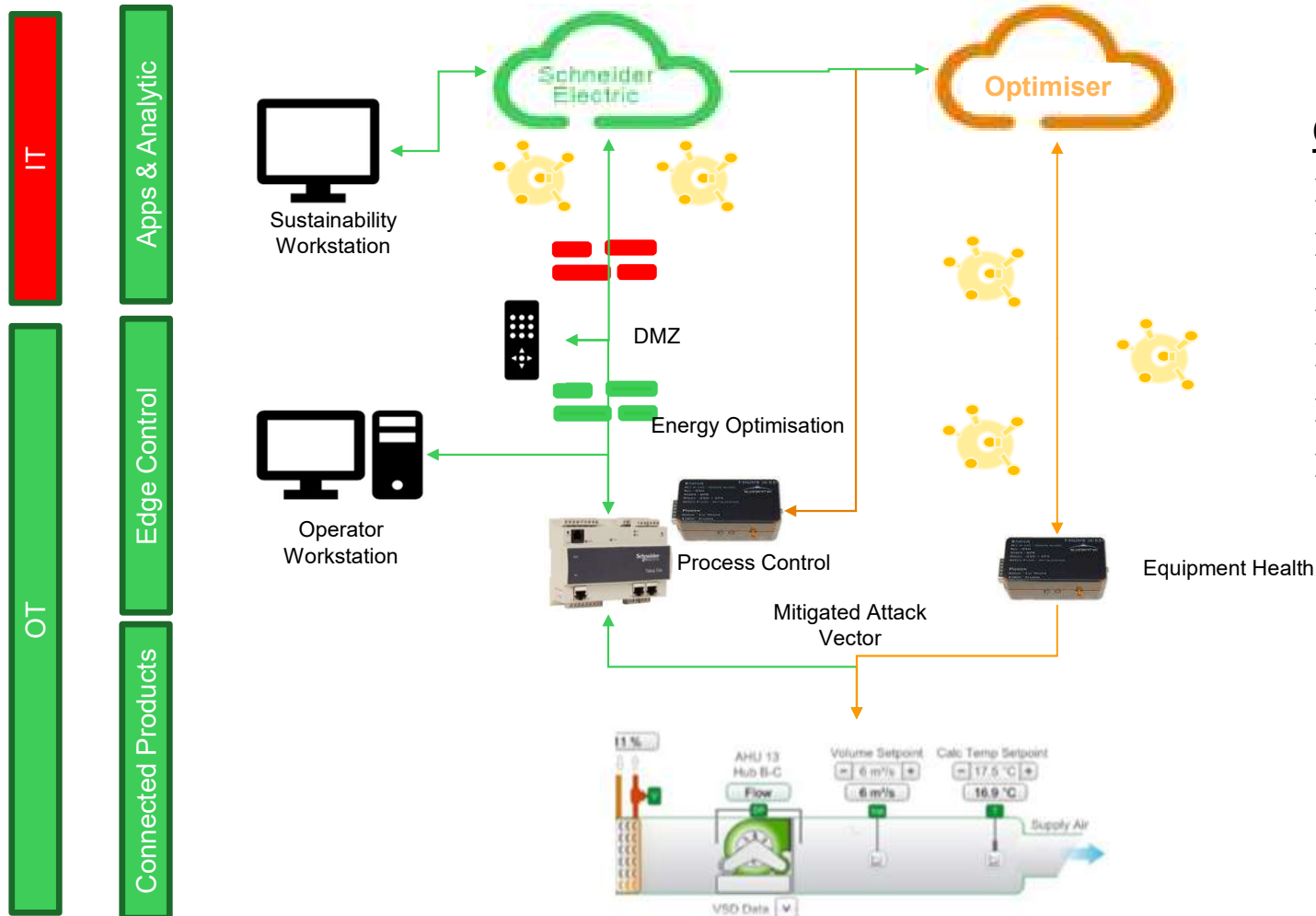
## OT IEC-62443 Standards

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

Life Is On

**Schneider**  
Electric

# The IIoT platform for your Sustainability



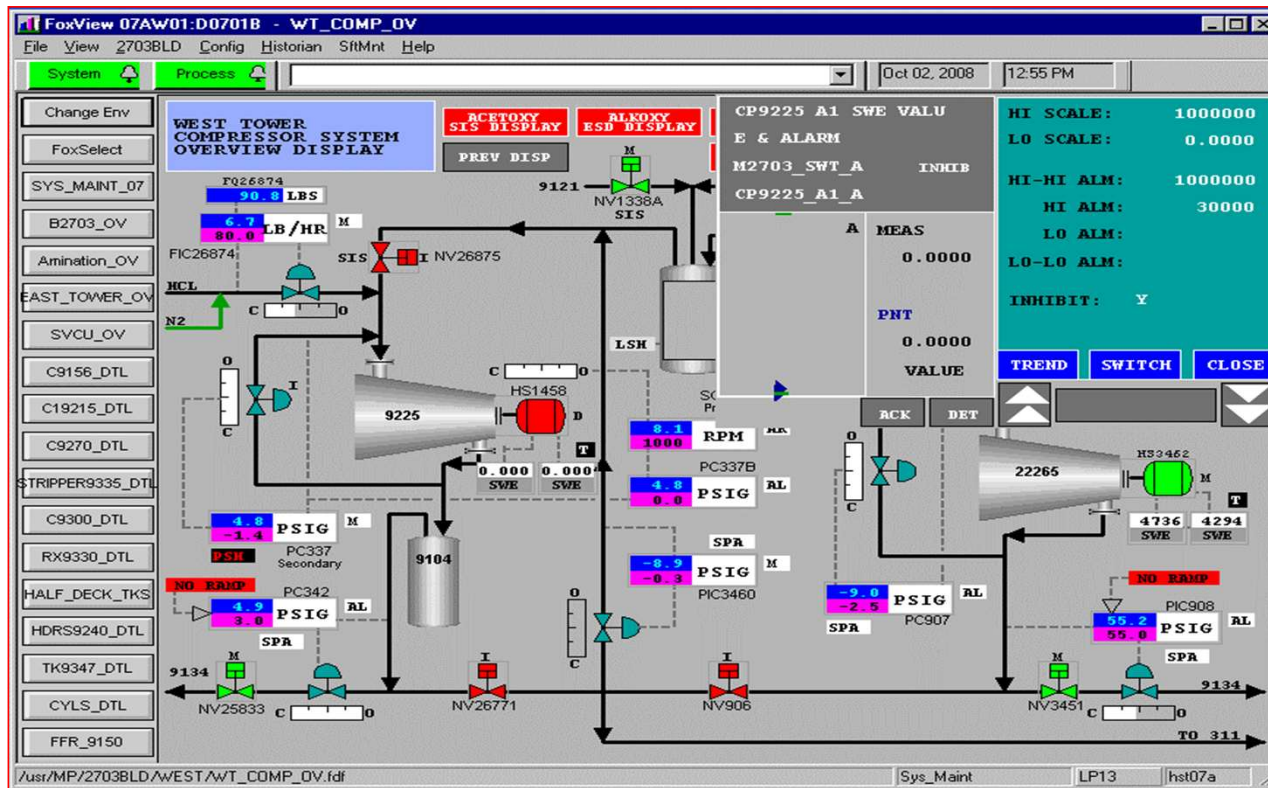
## OT IEC-62443 Standards

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

Life Is On

**Schneider**  
Electric

# Sustainable Operations based on Condition

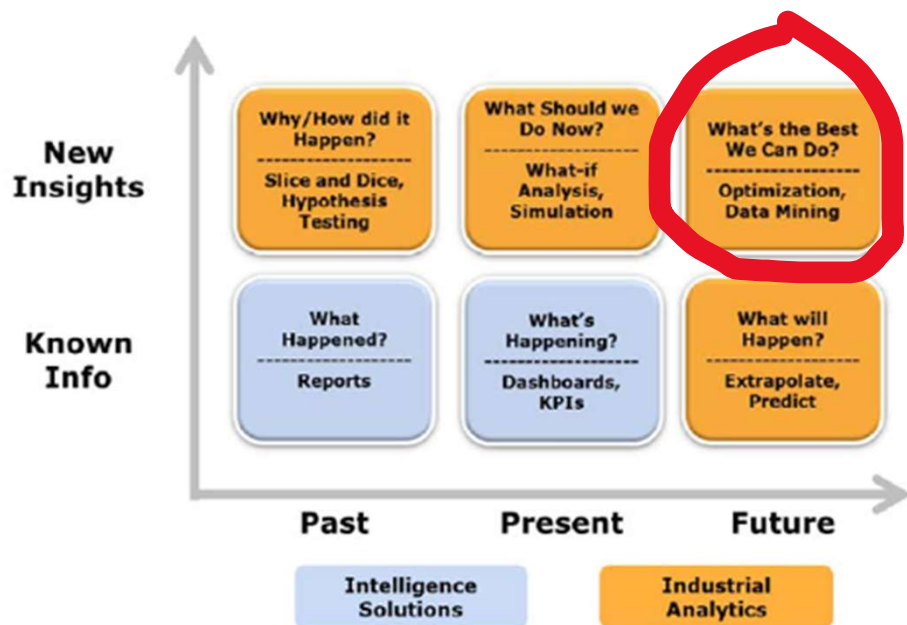


- Proactively ensures high value asset achieves design life.
- Helped Define the operational sweet spot for the compressor
- Alerts Operator on breach of limit so that they can ACT in real-time.
- Operator can click on HMI tag for more detailed analysis (Trend etc)

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

# Key Takeaways– Sustained Network Infrastructure

## Industrial Analytics



Tim Sowell Blog – March 31, 2014

- 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

Victor.Lough@SE.com

Life Is On



# Mitigating against a Cyber Breach



Tristan Hall

Partner  
CMS



Loretta Pugh

Partner  
CMS



Cyber Team

**C/M/S/**

Law . Tax

## Mitigating against a Cyber Breach

Tristan Hall | Partner, Insurance | CMS

Loretta Pugh | Partner, Data Protection | CMS

---

## Your speakers today

---



**Tristan Hall**

**CMS Partner  
Insurance**

[tristan.hall@cms-cmno.com](mailto:tristan.hall@cms-cmno.com)



**Loretta Pugh**

**CMS Partner  
Data Protection**

[loretta.pugh@cms-cmno.com](mailto:loretta.pugh@cms-cmno.com)

---

## Today's agenda

---



Overview



Incident Response Plan



Other Mitigants



Security



Insurance



Conclusions



---

## Overview

---

- Why is this important?
  - Legal obligations
  - Disruption
  - Reputation

---

## Incident Response Plan

---

Benefits

Length

Audience

Checklist

Testing and review

---

## Incident Response Plan Contents

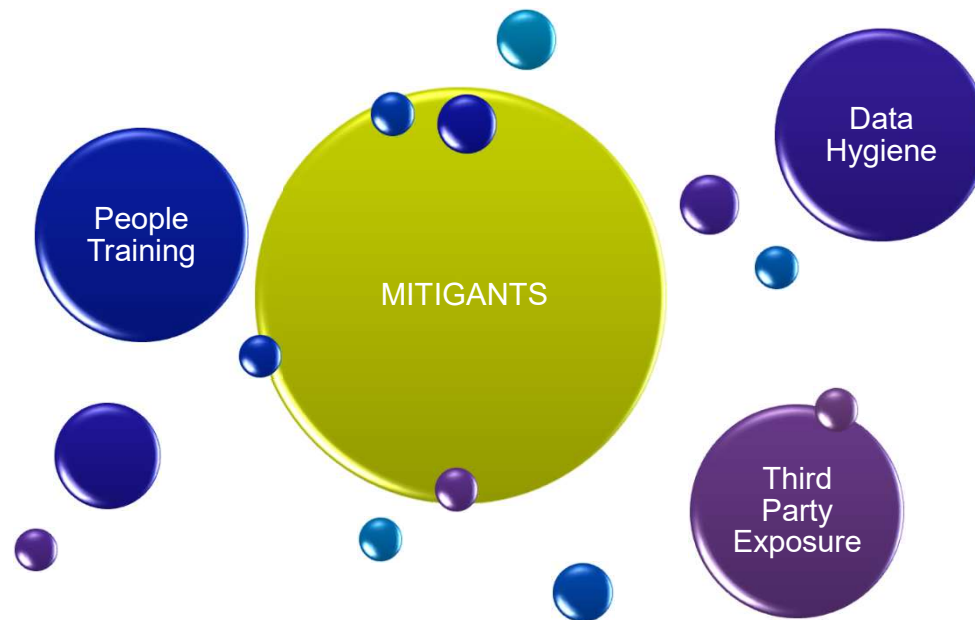
---



---

## Other Mitigants

---



---

# Security

---

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



---

## Insurance

---

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

---

## Conclusions

---





**Your free online legal information service.**

A subscription service for legal articles  
on a variety of topics delivered by email.  
**[cms-lawnow.com](http://cms-lawnow.com)**

-----  
The information held in this publication is for general purposes and guidance only and does not purport to constitute legal or professional advice.

CMS Legal Services EEIG (CMS EEIG) is a European Economic Interest Grouping that coordinates an organisation of independent law firms. CMS EEIG provides no client services. Such services are solely provided by CMS EEIG's member firms in their respective jurisdictions. CMS EEIG and each of its member firms are separate and legally distinct entities, and no such entity has any authority to bind any other. CMS EEIG and each member firm are liable only for their own acts or omissions and not those of each other. The brand name "CMS" and the term "firm" are used to refer to some or all of the member firms or their offices.

**CMS locations:**

Aberdeen, Abu Dhabi, Algiers, Amsterdam, Antwerp, Barcelona, Beijing, Beirut, Belgrade, Berlin, Bogotá, Bratislava, Bristol, Brussels, Bucharest, Budapest, Casablanca, Cologne, Dubai, Duesseldorf, Edinburgh, Frankfurt, Funchal, Geneva, Glasgow, Hamburg, Hong Kong, Istanbul, Johannesburg, Kyiv, Leipzig, Lima, Lisbon, Ljubljana, London, Luanda, Luxembourg, Lyon, Madrid, Manchester, Mexico City, Milan, Mombasa, Monaco, Moscow, Munich, Muscat, Nairobi, Paris, Podgorica, Poznan, Prague, Reading, Rio de Janeiro, Rome, Santiago de Chile, Sarajevo, Seville, Shanghai, Sheffield, Singapore, Skopje, Sofia, Strasbourg, Stuttgart, Tirana, Utrecht, Vienna, Warsaw, Zagreb and Zurich.

**[cms.law](http://cms.law)**  
-----

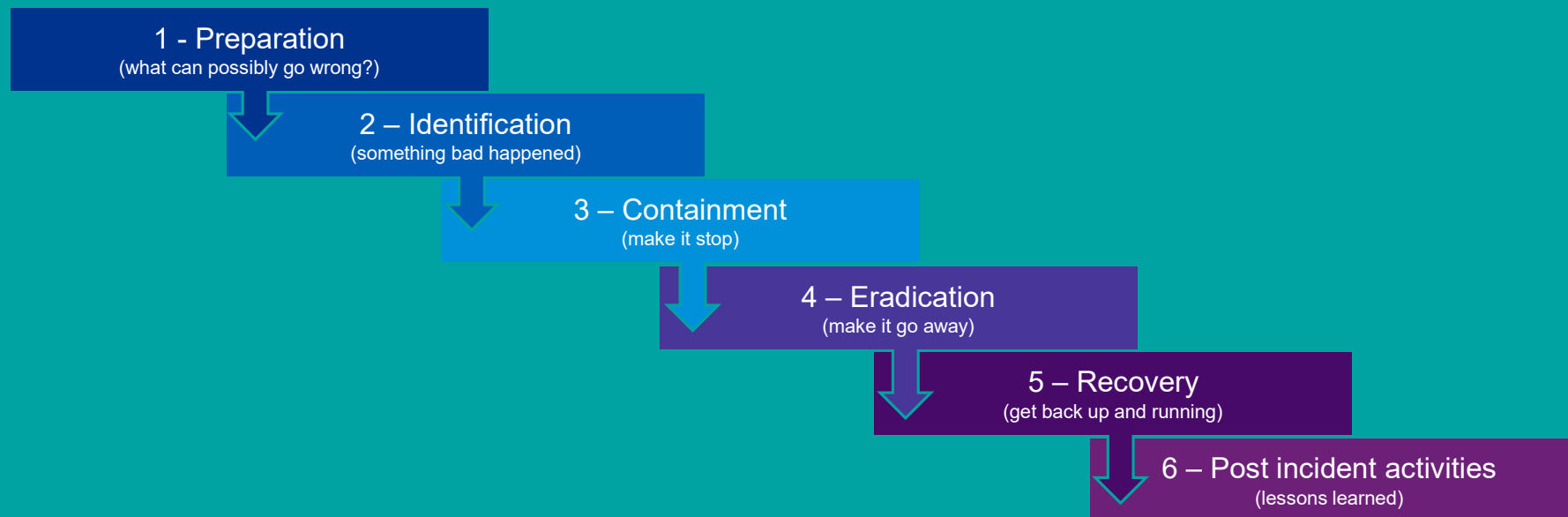
# Cyber breach lifecycle



**Martijn Verbree**

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

# Cyber breach lifecycle







The information contained herein is of a general nature and is not intended to address the circumstances of any particular individual or entity. Although we endeavour to provide accurate and timely information, there can be no guarantee that such information is accurate as of the date it is received or that it will continue to be accurate in the future. No one should act on such information without appropriate professional advice after a thorough examination of the particular situation.

© 2021 KPMG LLP, a UK limited liability partnership and a member firm of the KPMG global organisation of independent member firms affiliated with KPMG International Limited, a private English company limited by guarantee. All rights reserved.

The KPMG name and logo are trademarks used under license by the independent member firms of the KPMG global organisation.

# Panel Discussion and Q&A

**Thank you for  
attending our  
event!**

@foodanddrinkfed  
#FDFCyberSecurity





Join us for our next event...

**AUTOMATION &  
DIGITALISATION  
IN THE FOOD &  
DRINK INDUSTRY**

**24 – 25 MARCH 2021**

**fdf** food & drink  
federation  
passionate about food & drink