Telefónica Tech

Industrial Cybersecurity Challenges and Solutions

Helping our customers to securely embrace the next digital wave

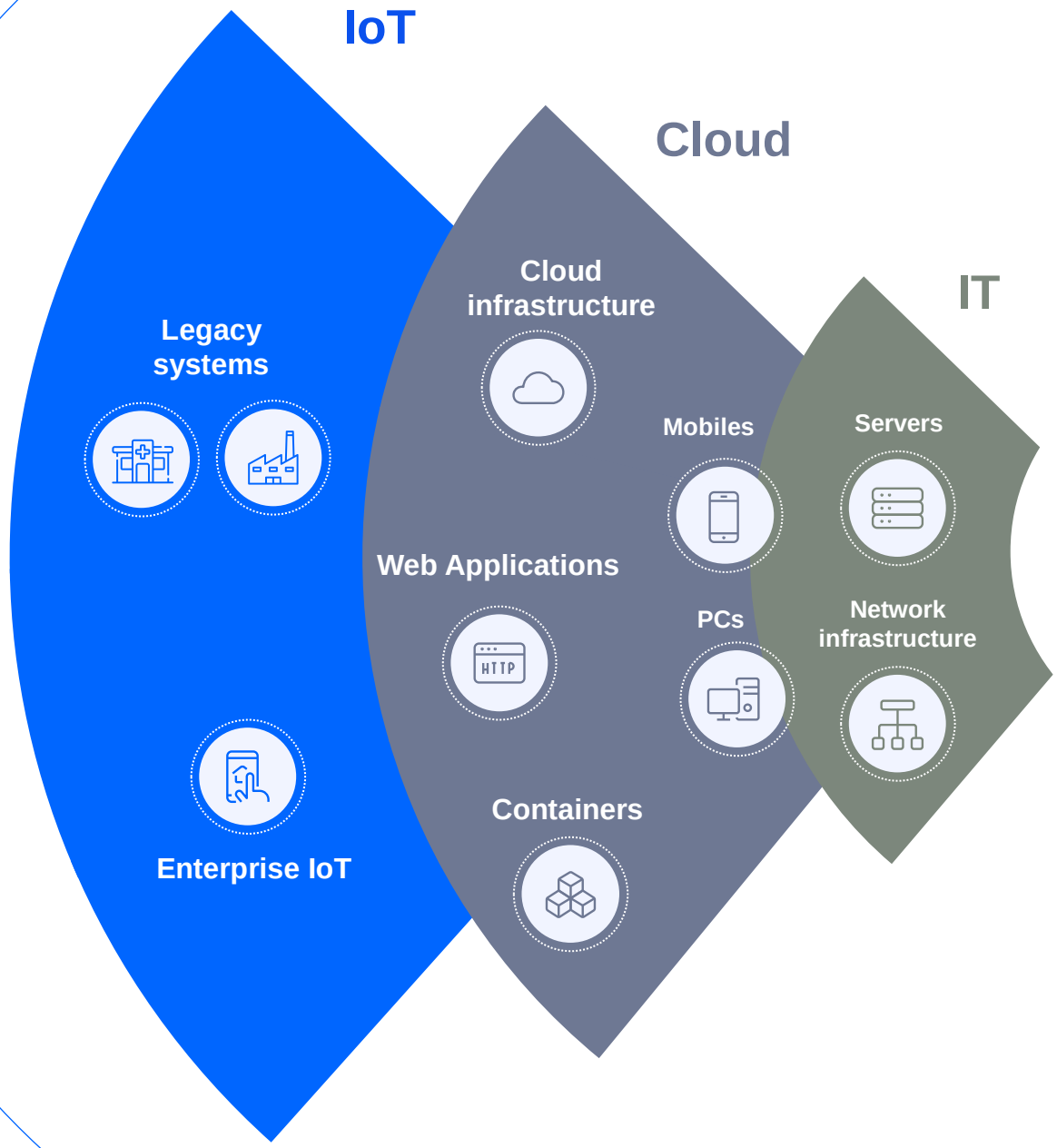
Telefónica Cybersecurity & Cloud Tech

Challenges

CYBERSECURITY CHALLENGES

Internet of Things

New wave in digital evolution... Increases your attack surface



CYBERSECURITY CHALLENGES

OT Systems Evolution

Fully Air-Gapped OT System

OT System Partially Connected to Each Other

"Retrofitted" Cyber-Physical System Through IT/OT Convergence

Newly Designed/ Engineered Cyber-Physical System

More Isolation → **More Connectivity**

Examples of Traditional OT Systems

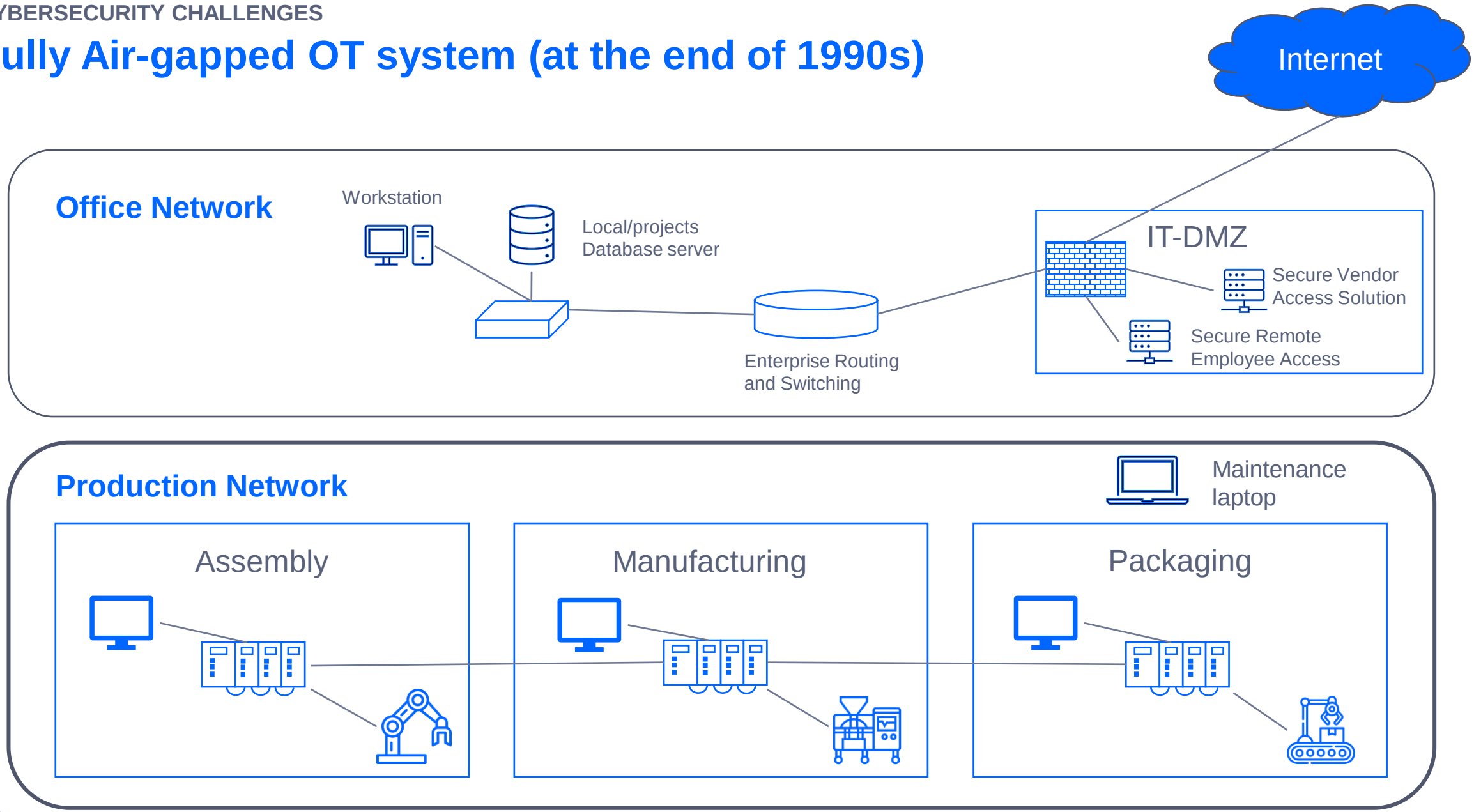
- Supervisory Control and Data Acquisition (SCADA)
- Industrial Control Systems (ICS)
- Programmable Logic Control (PLC)
- Process Control Networks (PCN) – Including Safety Instrumented Systems (SIS), Engineer Workstation and Human Machine Interface (HMI)
- Distributed Control Systems (DCS)
- Computer Numerical Control (CNC)

Examples of OT-Related Cyber-Physical Systems

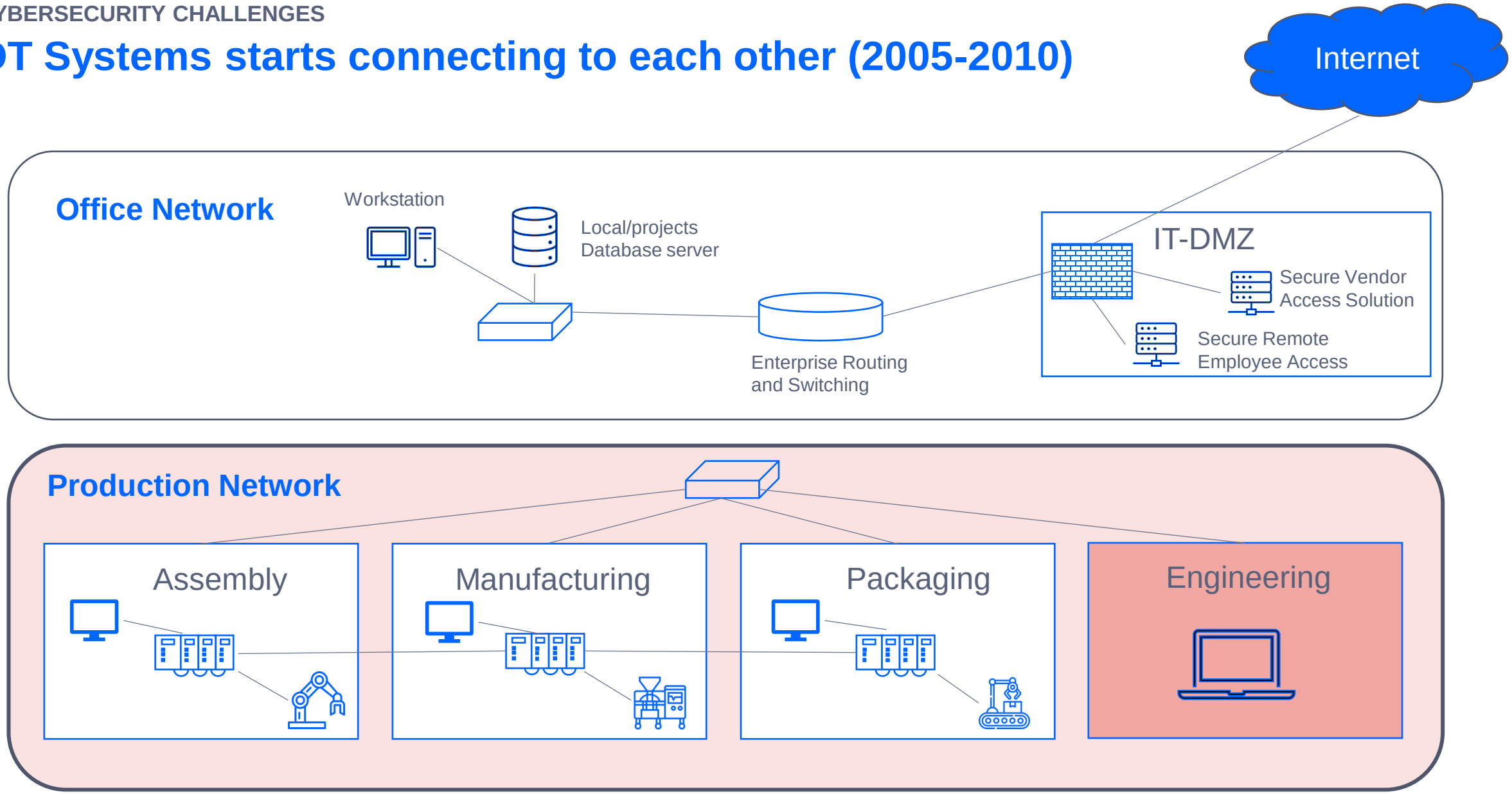
- Industrial Robots
- Virtual Reality Manufacturing Simulation Systems
- Self-Optimizing Press-Bending and Roll-Forming Machine
- Adaptable Production Systems
- Energy-Efficient Intralogistics Systems
- Connected 3D Printers
- Smart Grids

Source: Gartner

Fully Air-gapped OT system (at the end of 1990s)

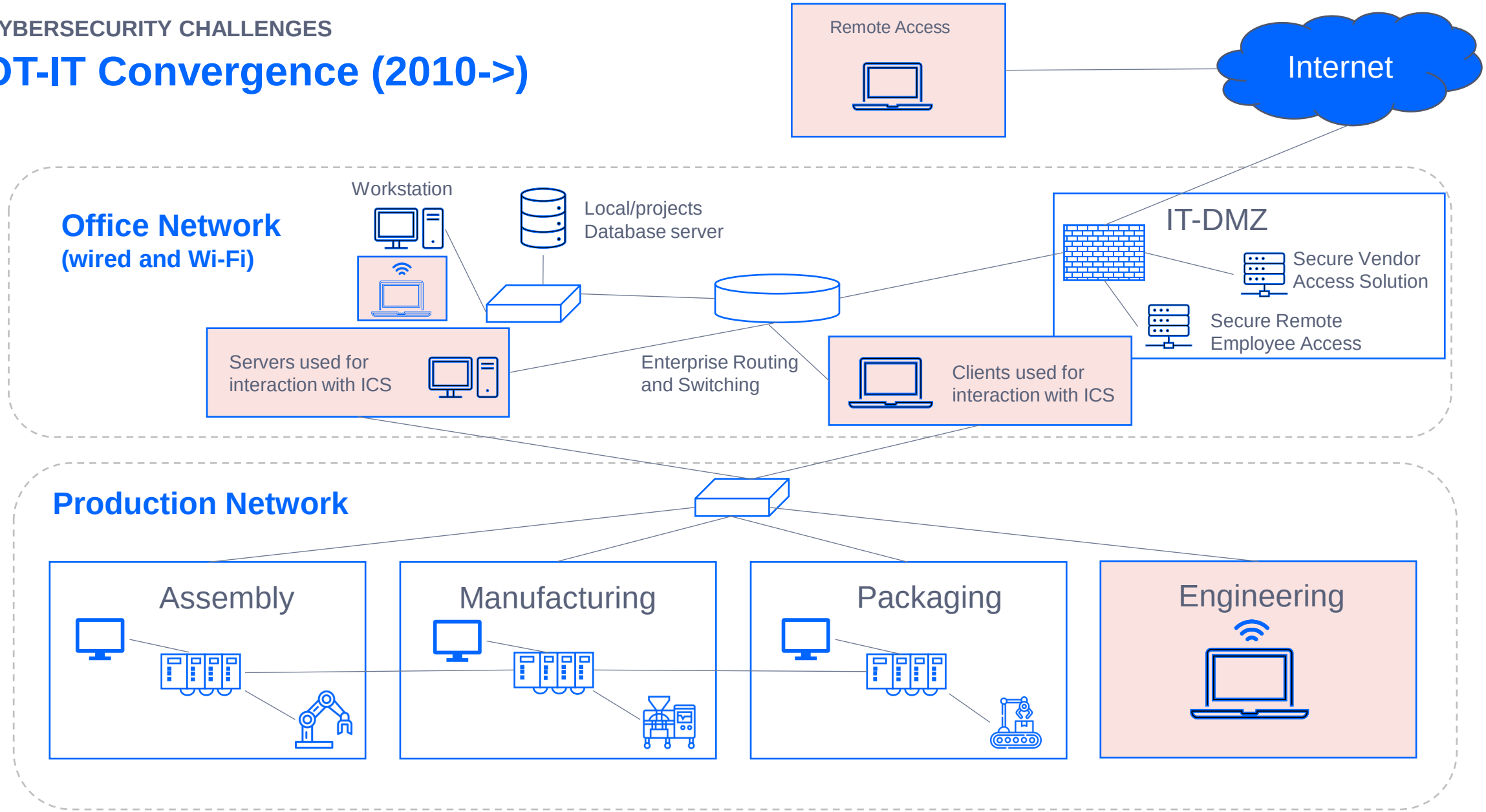


OT Systems starts connecting to each other (2005-2010)



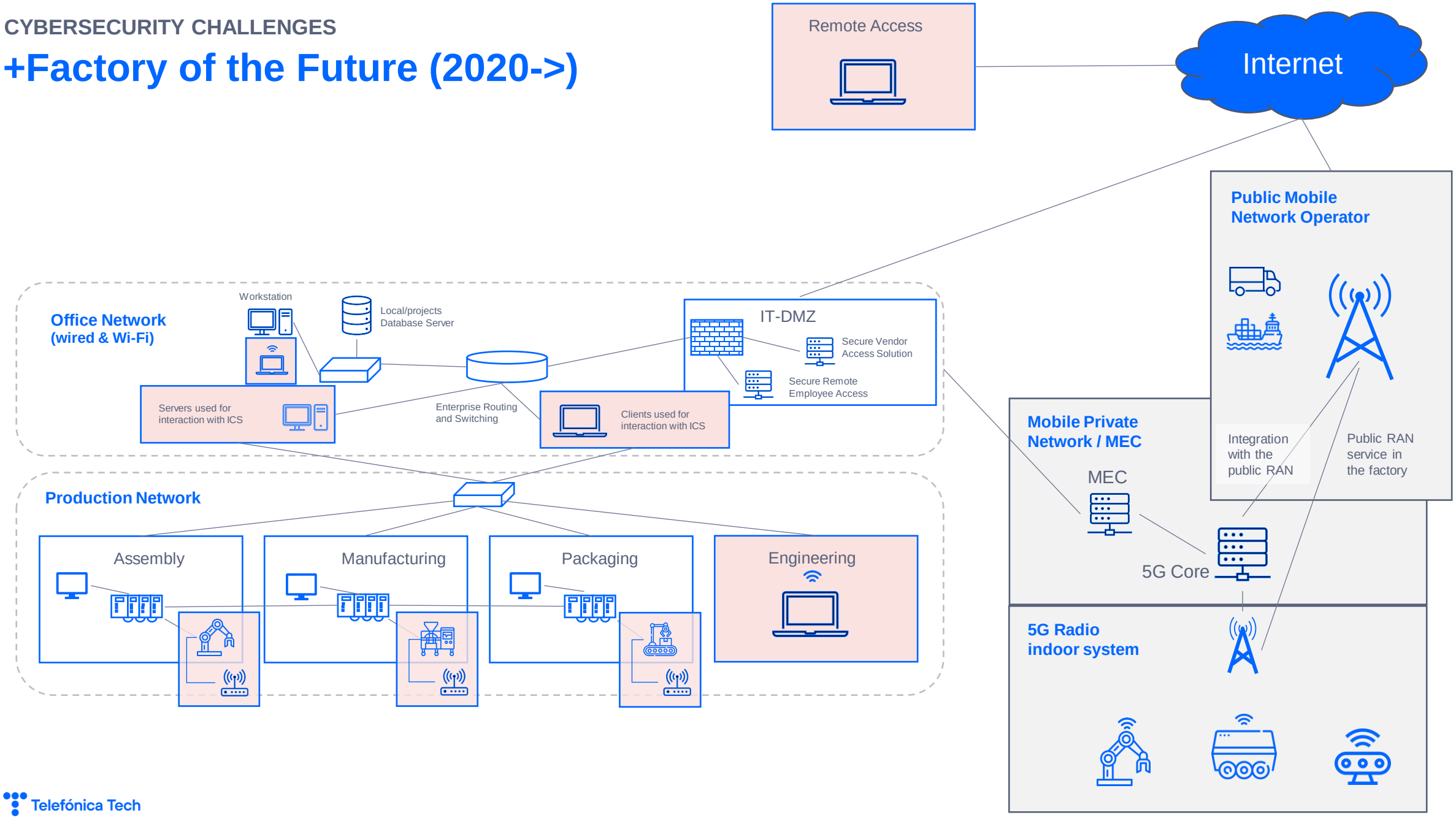
CYBERSECURITY CHALLENGES

OT-IT Convergence (2010->)

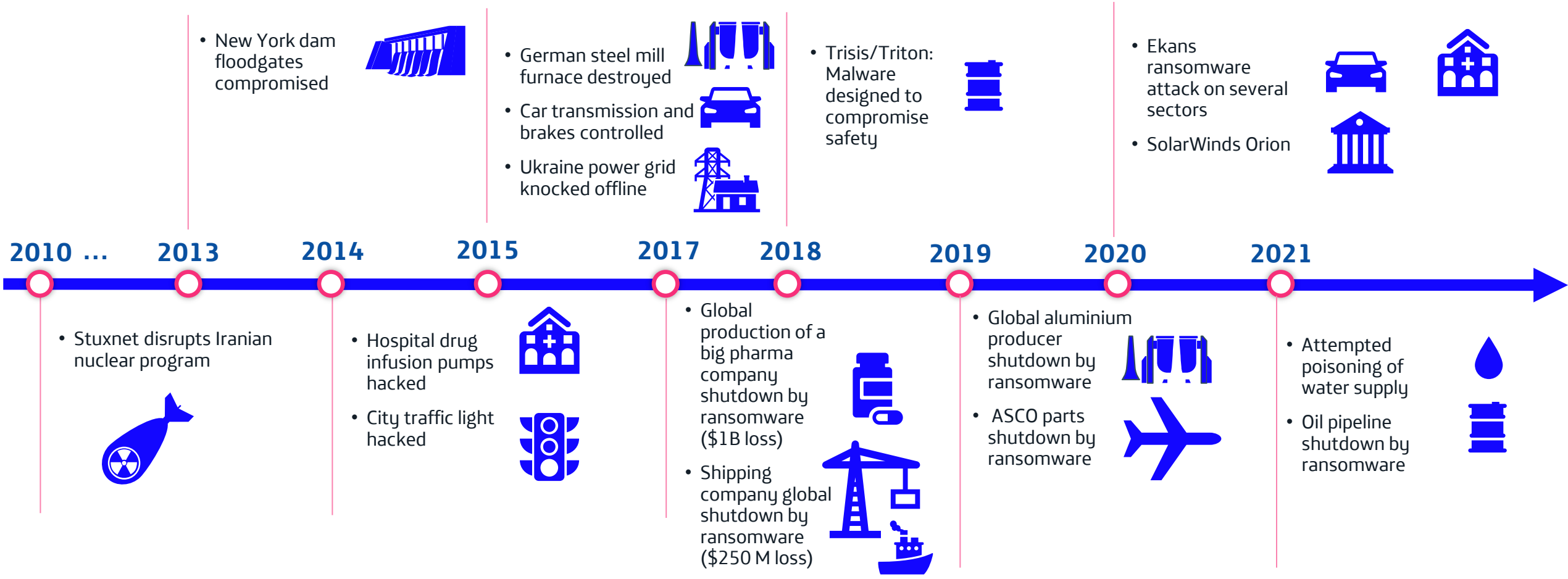


CYBERSECURITY CHALLENGES

+Factory of the Future (2020->)



Summary of the most relevant incidents affecting industrial infrastructures



Source: Original Fortinet slide completed with recent incidents

Cybersecurity challenges of industrial organizations: our experience

Short-term challenges

What do I have in the factories?

What risks is my organization exposed to?

Medium-term challenges

What can I do to be more resilient?

What cybersecurity solutions do I start with?

Long-term challenges

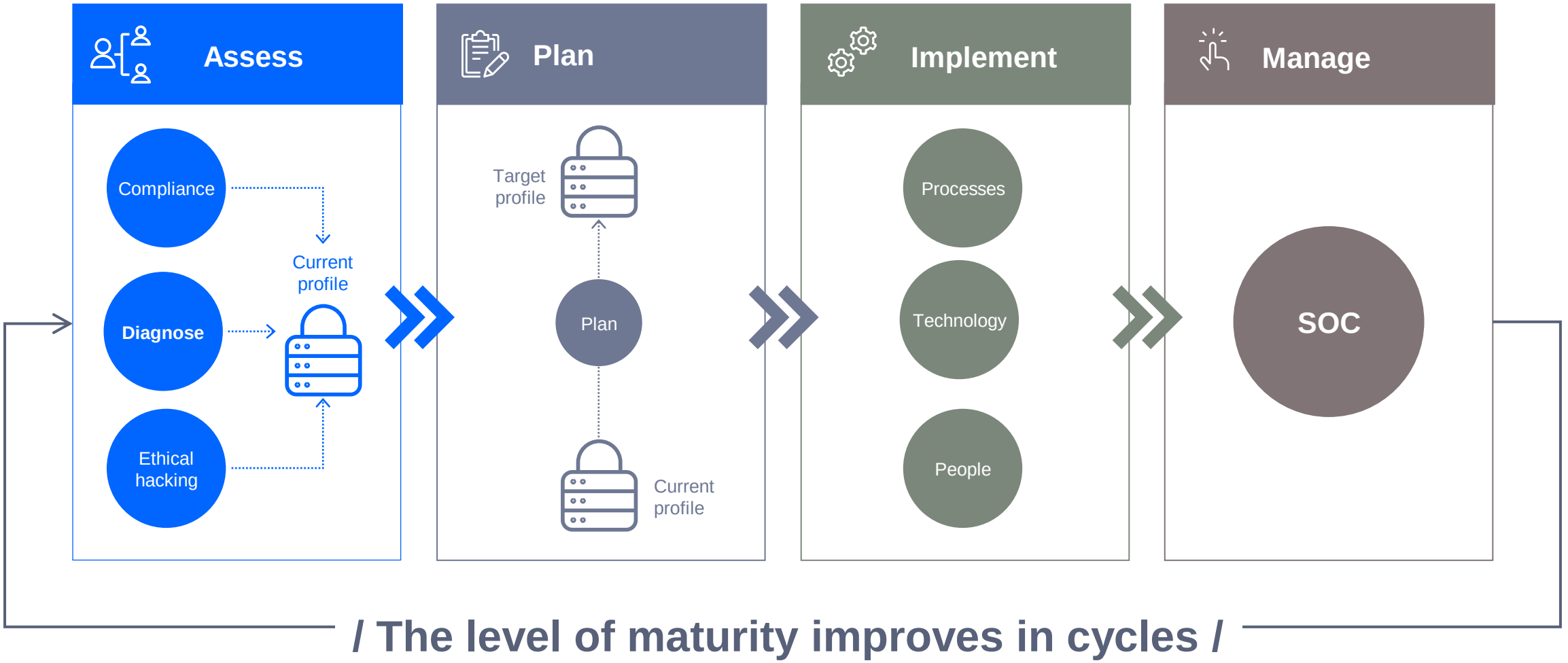
What security requirements must be met by these services that are not yet 100% defined?

How can I meet my budget?

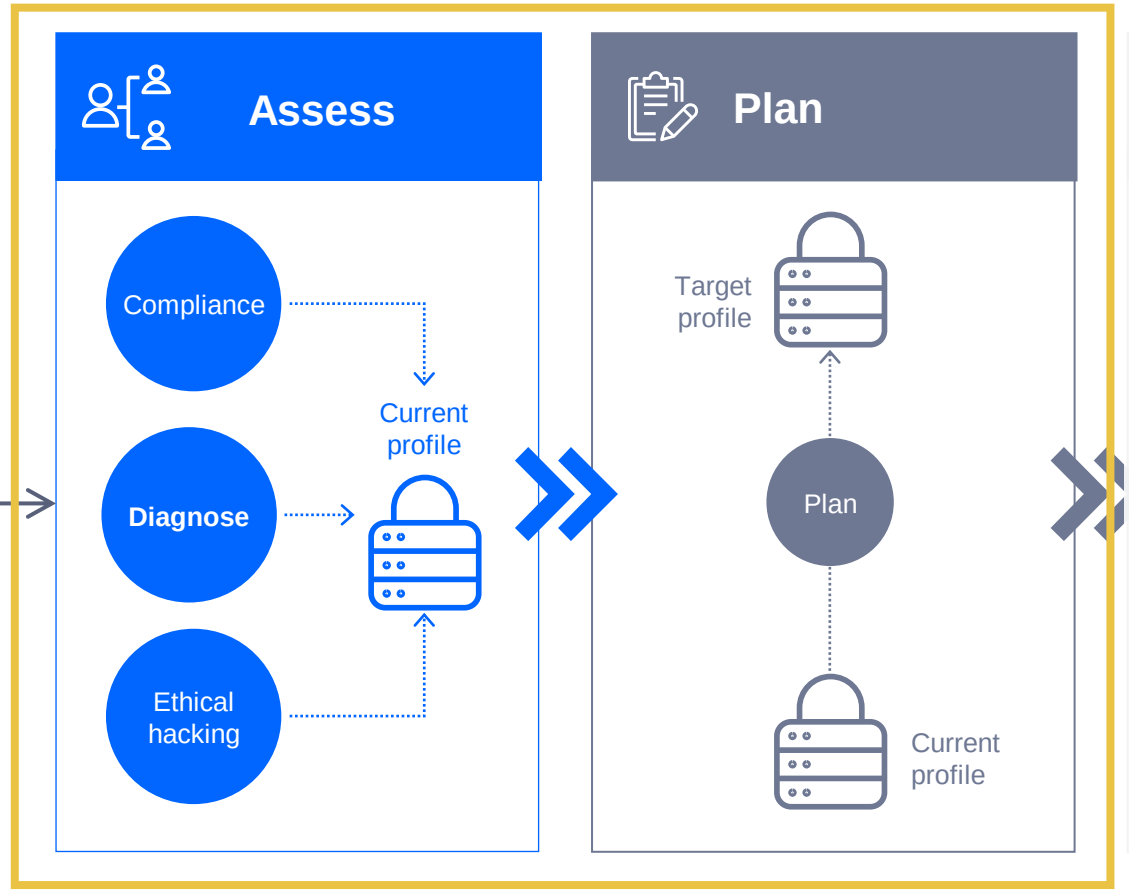
Solutions

CYBERSECURITY SOLUTIONS

How we approach cybersecurity in industrial sectors



Start by knowing your infrastructure and assessing your security posture



Publication:
Cybersecurity for Industrial Digitalisation

https://pro-cdo-web-resources.s3.eu-west-1.amazonaws.com/elevenpaths/uploads/2021/9/telefonica-tech-industrial-digitalisation-cybersecurity-en.pdf

/ The level of maturity improves in cycles /

An example of a Cybersecurity assessment report

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Asset inventory in the plant:

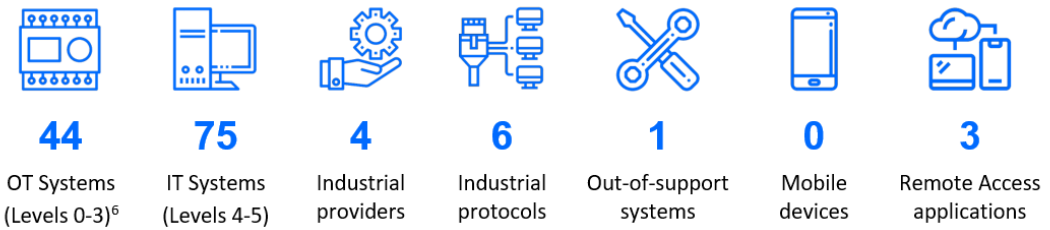


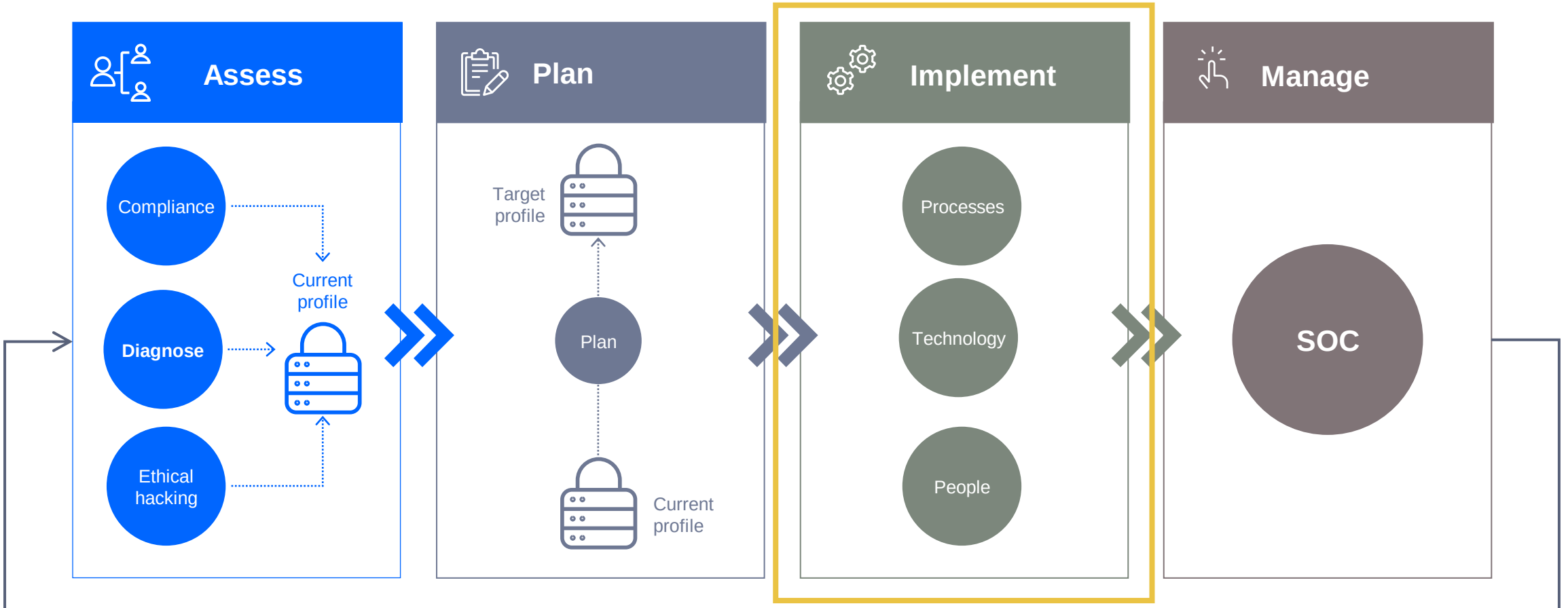
Figure 5. Collection of inventory and use of assets in the plant XXXX (Summary).

Security findings in the plant:

Figure 6. Collection of security findings in the plant (Summary).

CYBERSECURITY SOLUTIONS

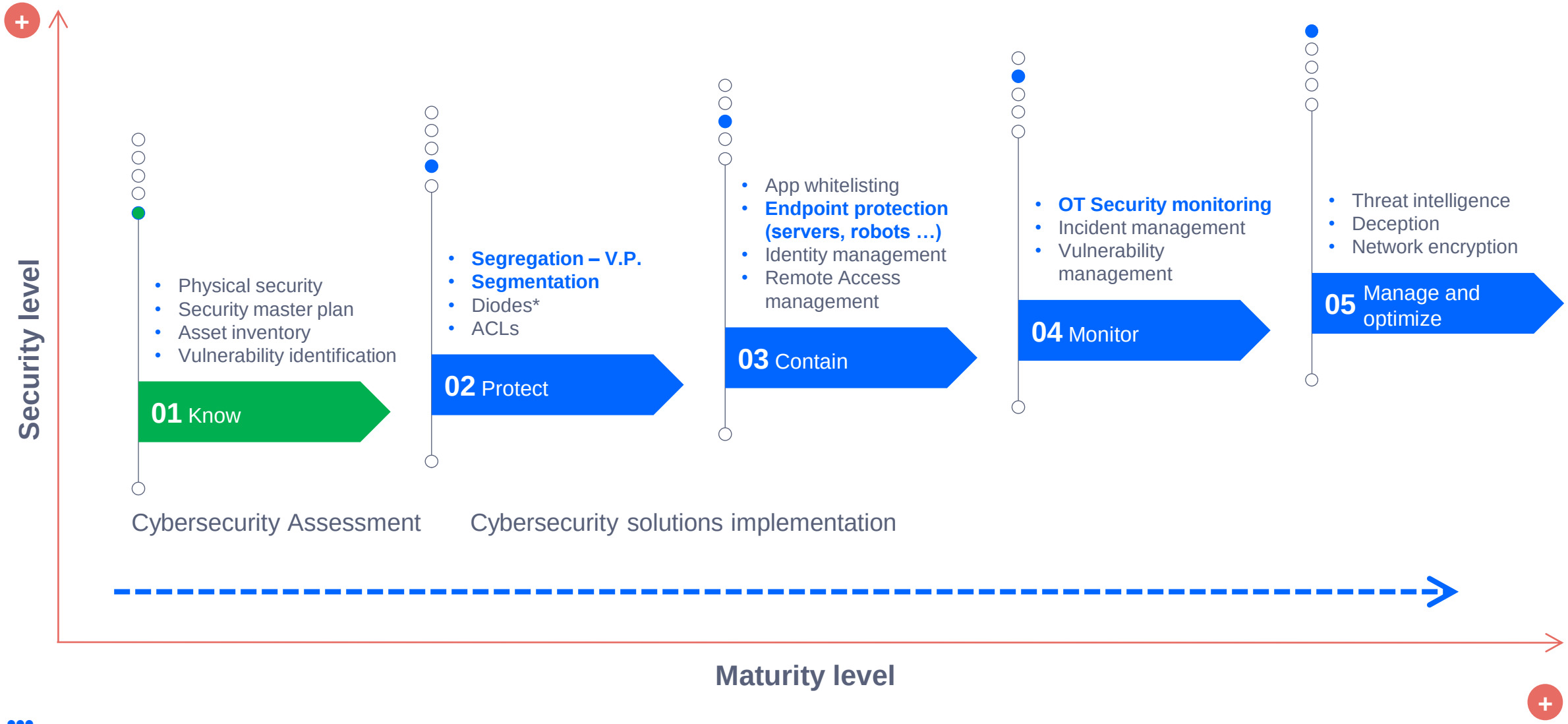
How we approach cybersecurity in industrial sectors



/ The level of maturity improves in cycles /

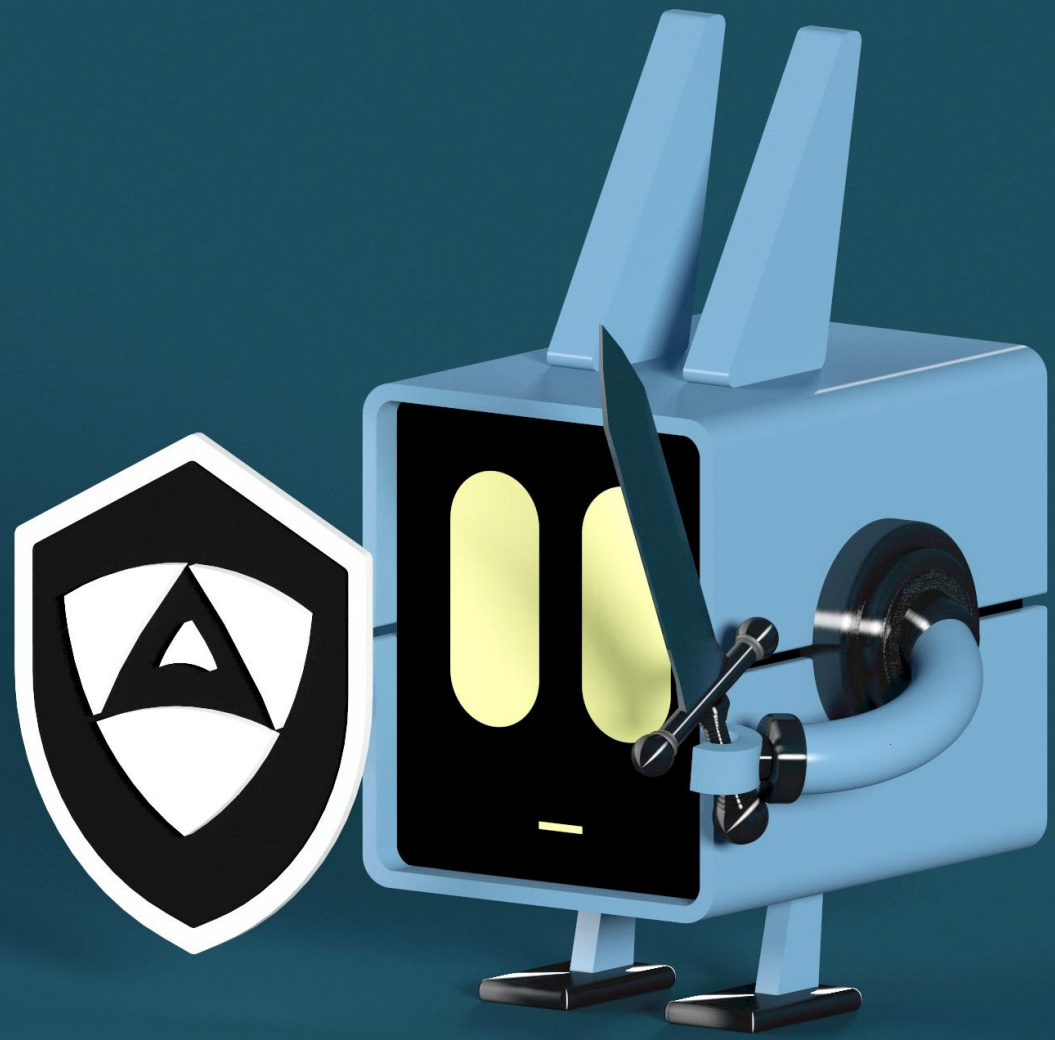
CYBERSECURITY SOLUTIONS

Define a plan that starts by “Fixing the basics”



ALIAS ROBOTICS

Alias Robotics is a robot cyber security firm. Founded upon previous experiences in robotics, we take a roboticists' approach to cyber security and deliver security solutions for robots and their components.



OUR JOURNEY

BIRTH OF ALIAS ROBOTICS

PRE-SEED ROUND

RIS ANNOUNCEMENT

RIS DEPLOYMENTS

PARTNERSHIP WITH TELEFÓNICA

CS4R INITIATIVES

PARTNERSHIPS AND LARGE CUSTOMERS

Clients Services EUROPE

Clients Services USA

Clients Services APAC

2018 | 2019 | 2020 | 2021

ACKNOWLEDGMENTS

2018

SOUTH SUMMIT WINNER
Among the 100 best startups in the world

2019

"EL REFERENTE" AWARD
Top 5 startups Spain

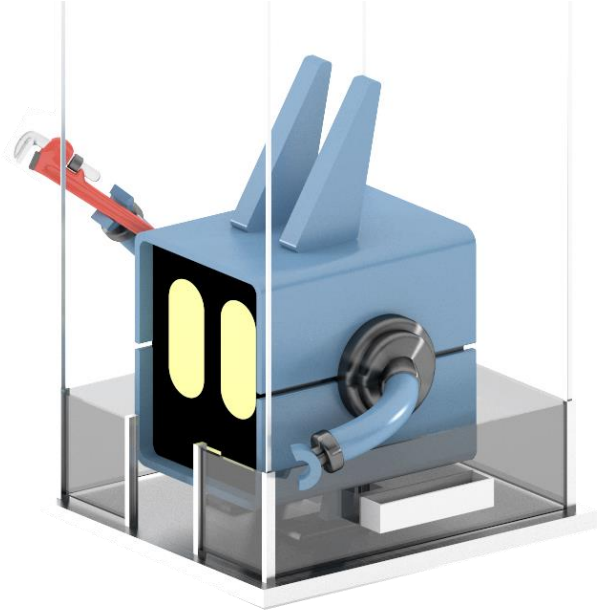
2020

CVE NUMBERING AUTHORITY (CNA)
Recognized as the only Spanish CNA, together with Incibe.

2021

QUALITY INNOVATION AWARD
International winner in the category "Innovation in SMEs".

LEADING ROBOT CYBERSECURITY



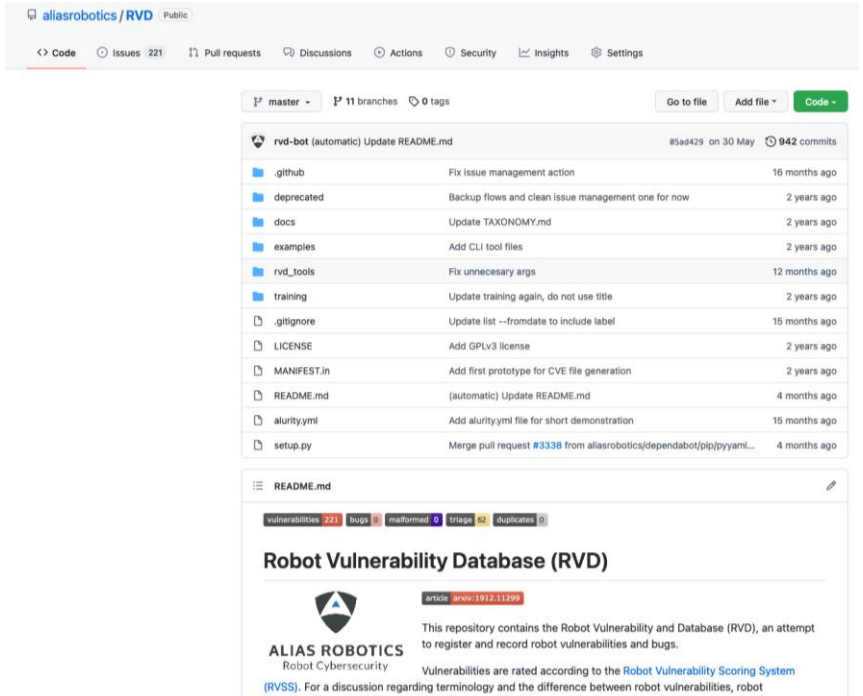
1K+

ACTIVE
VULNERABILITIES

20

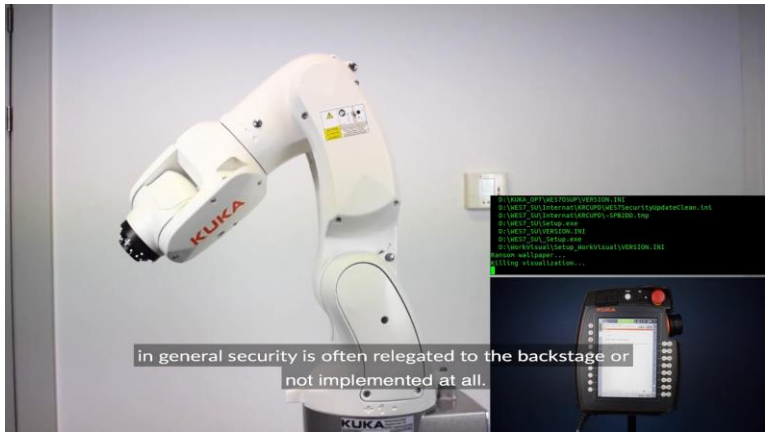
COMPANIES WHERE
WE HELP SECURE ROBOTS

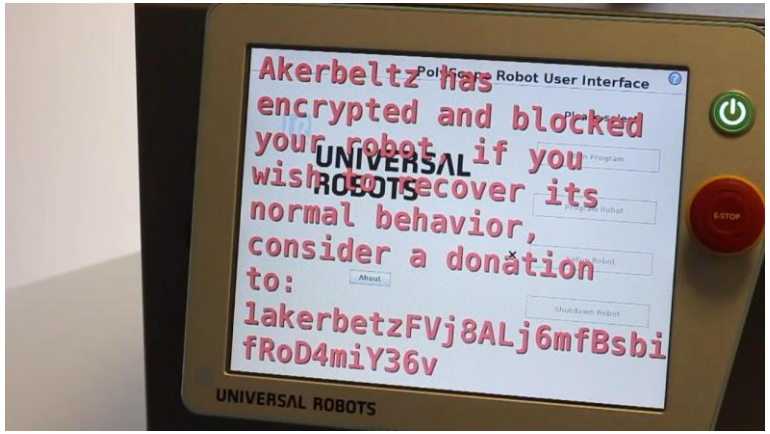
https://github.com/aliasrobotics/rvd



EUROPEAN REGIONAL DEVELOPMENT FUND
CDTI Centro para el Desarrollo Tecnológico Industrial
Arabako Foru Aldundia
Diputación Foral de Álava
Ayuntamiento de Vitoria-Gasteiz
Vitoria-Gasteizko Udala
ROSin
ROS-I
2-I

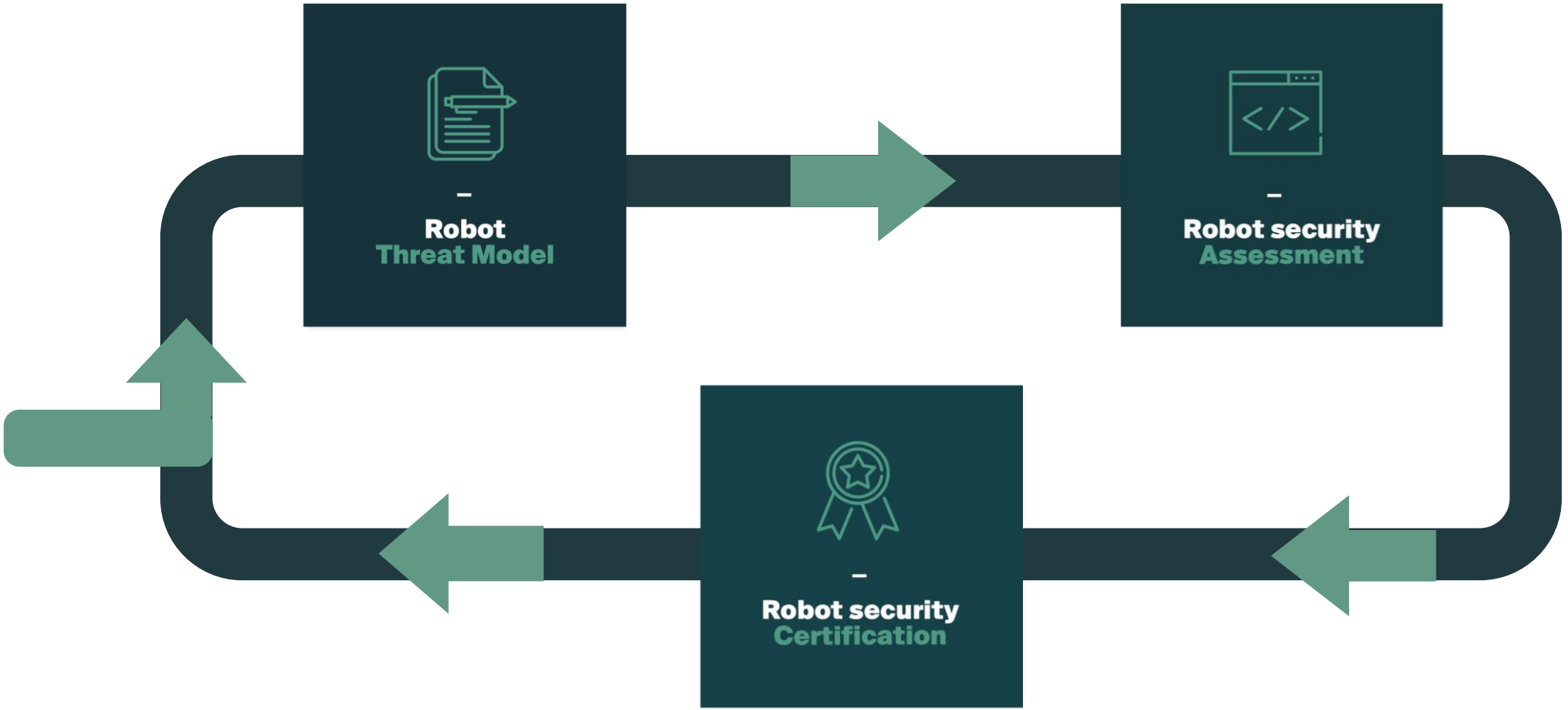
ONLY SAFE IF SECURE





OUR OFFERING

SECURITY IS A PROCESS



PRODUCT

RIS

by ALIAS ROBOTICS

The Robot Immune System (RIS) is a software solution that protects robots and robot components against malware.
Inspired by nature, it gets installed directly into your robotics systems delivering an integrated suite of protection technologies that protect them from the inside, as it evolves and adapts like the human immune system.

ROBOT IMMUNE SYSTEM

Robot cyberattacks & malfunctions

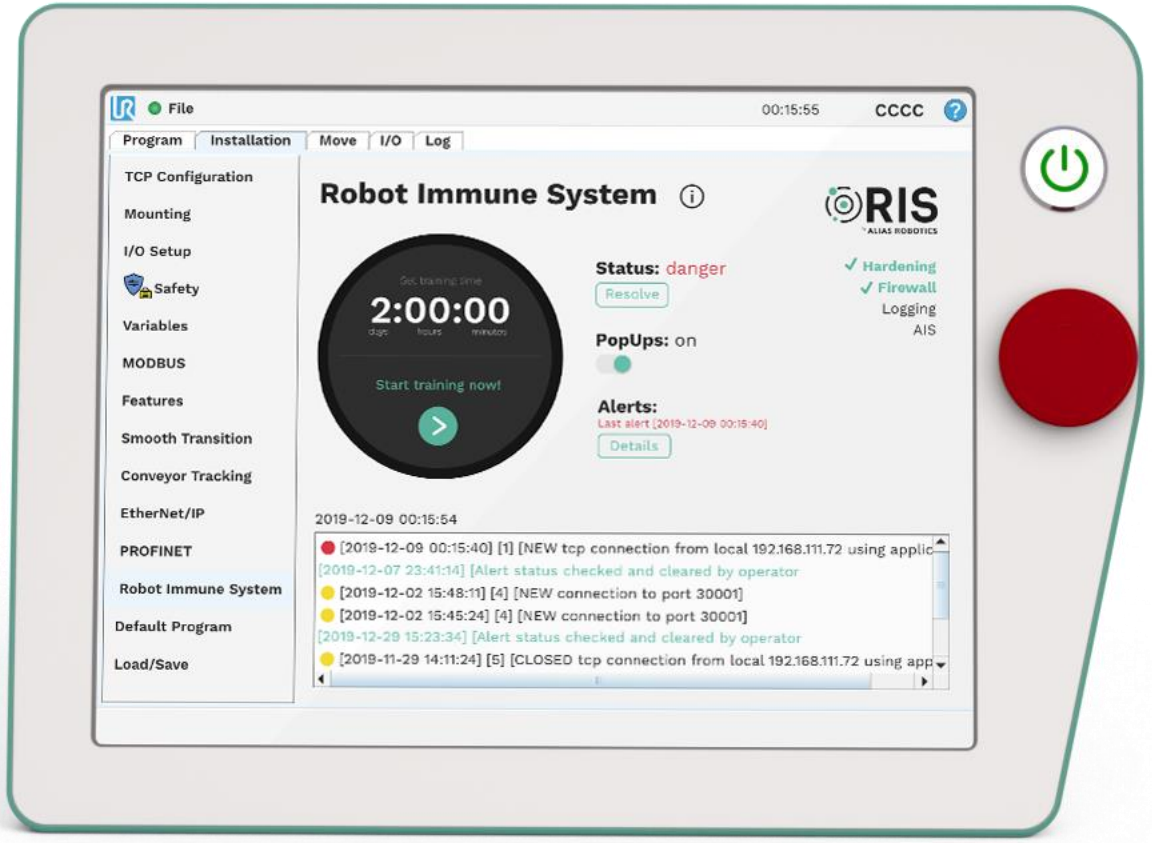
CONECTING…


ALIAS ROBOTICS

HOW DOES IT WORK

Robot Immune System (RIS)

RIS is a Robot Endpoint Protection Platform (REPP), an integrated suite of endpoint protection technologies for robots. RIS gets deployed directly into your robot or robot component. —including a next-gen antivirus, hardening for known flaws, data encryption, intrusion prevention mechanisms, data loss prevention, etc.— that detects, prevents, stops and informs on a variety of threats that affect the robotic system.



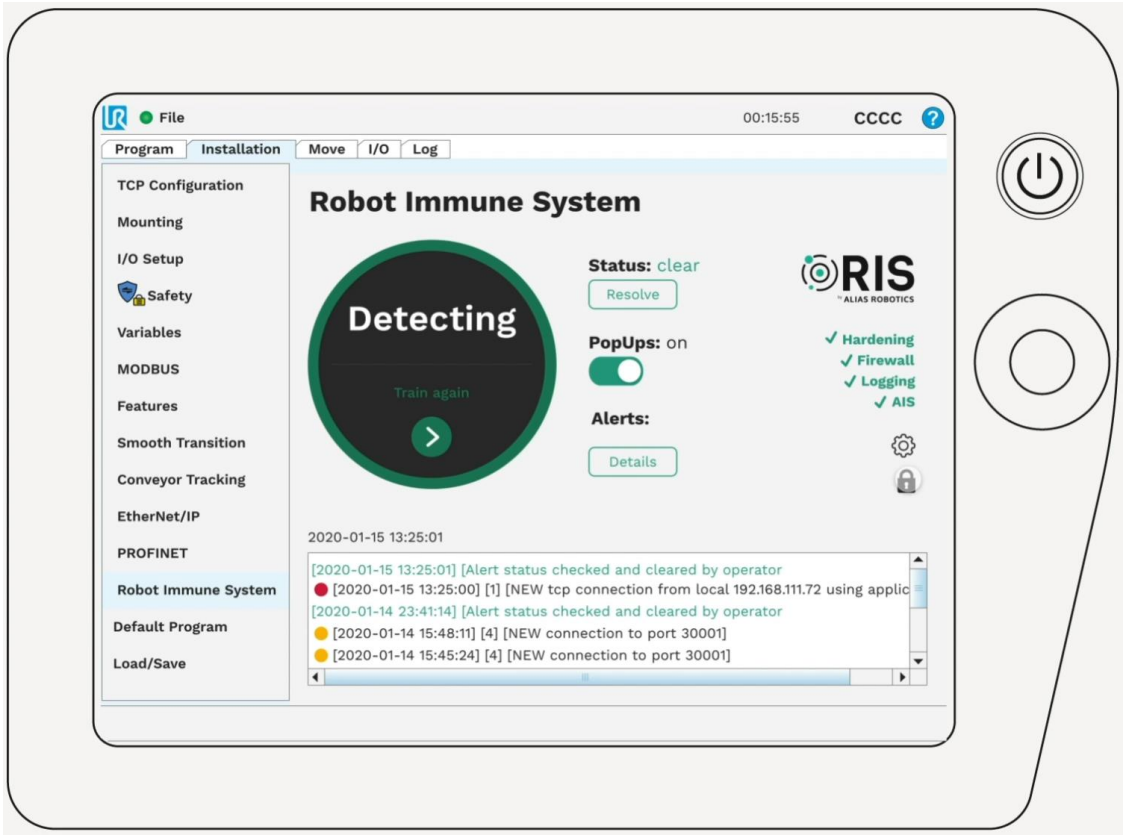
CONECTING…


ALIAS ROBOTICS

?

kaspersky

TREND MICRO™



Products

INDUSTRIAL ROBOT PROTECTION

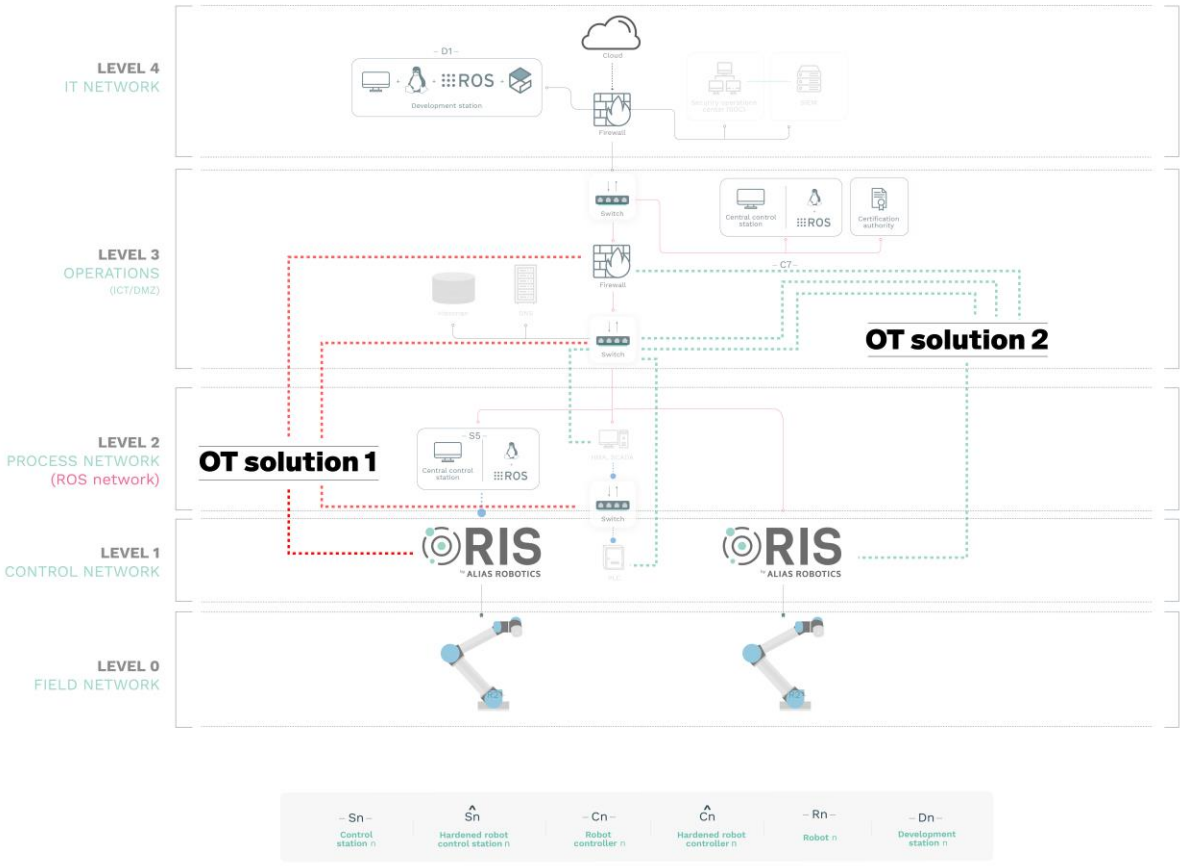
RIS by ALIAS ROBOTICS

RIS connects seamlessly to existing market lead OT security solutions

A dedicated layer to provide security and visibility to robots

Our product advocates for a **security in depth** paradigm and **zero -trust** robotics

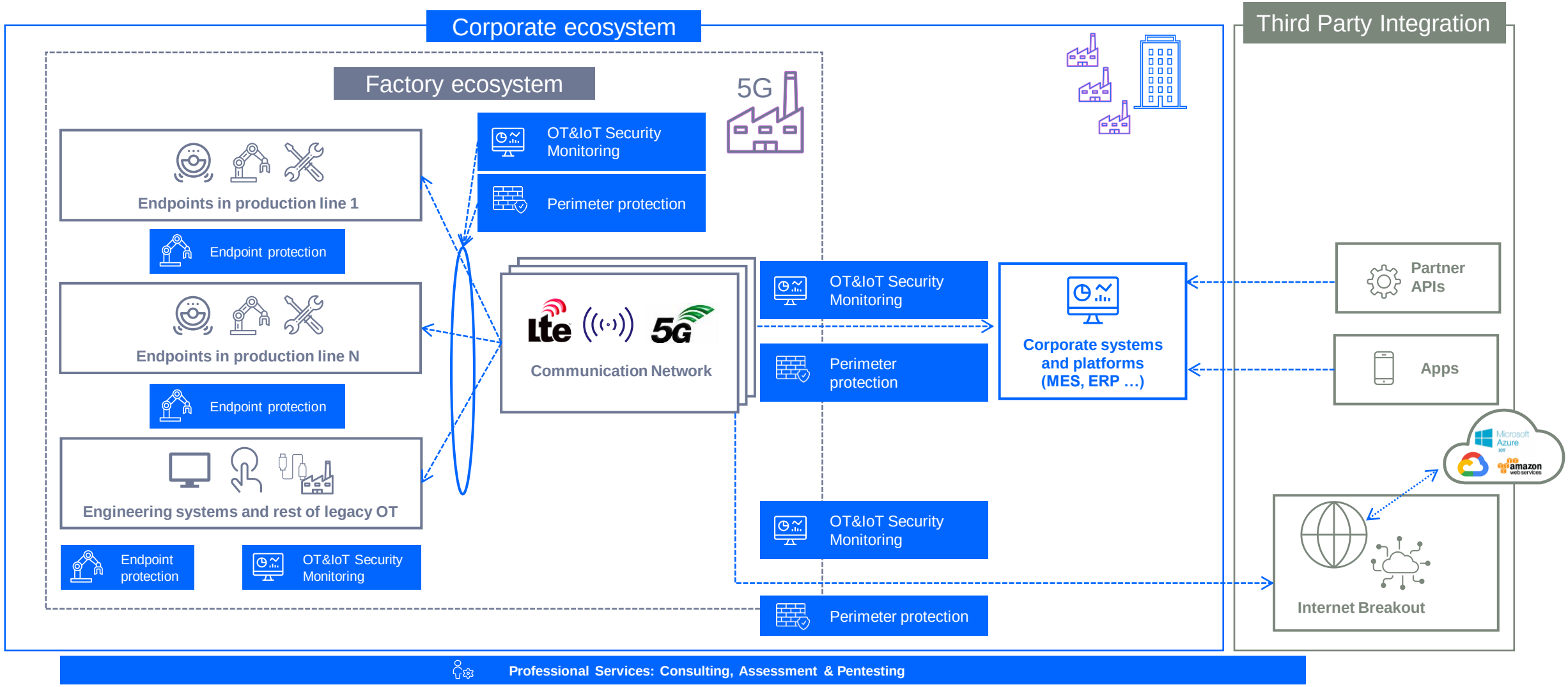
Increased compliance with IEC 62443



RIS
TIER 1 AUTOMOTIVE CLIENT

SUMMARY

An overview of the cybersecurity solutions for the Factory of the Future

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