Russian developers and German engineers: Industrial IoT synergy for digital transformation.

Andrey Suvorov, CEO, Aprotech (Kaspersky IIoT company)

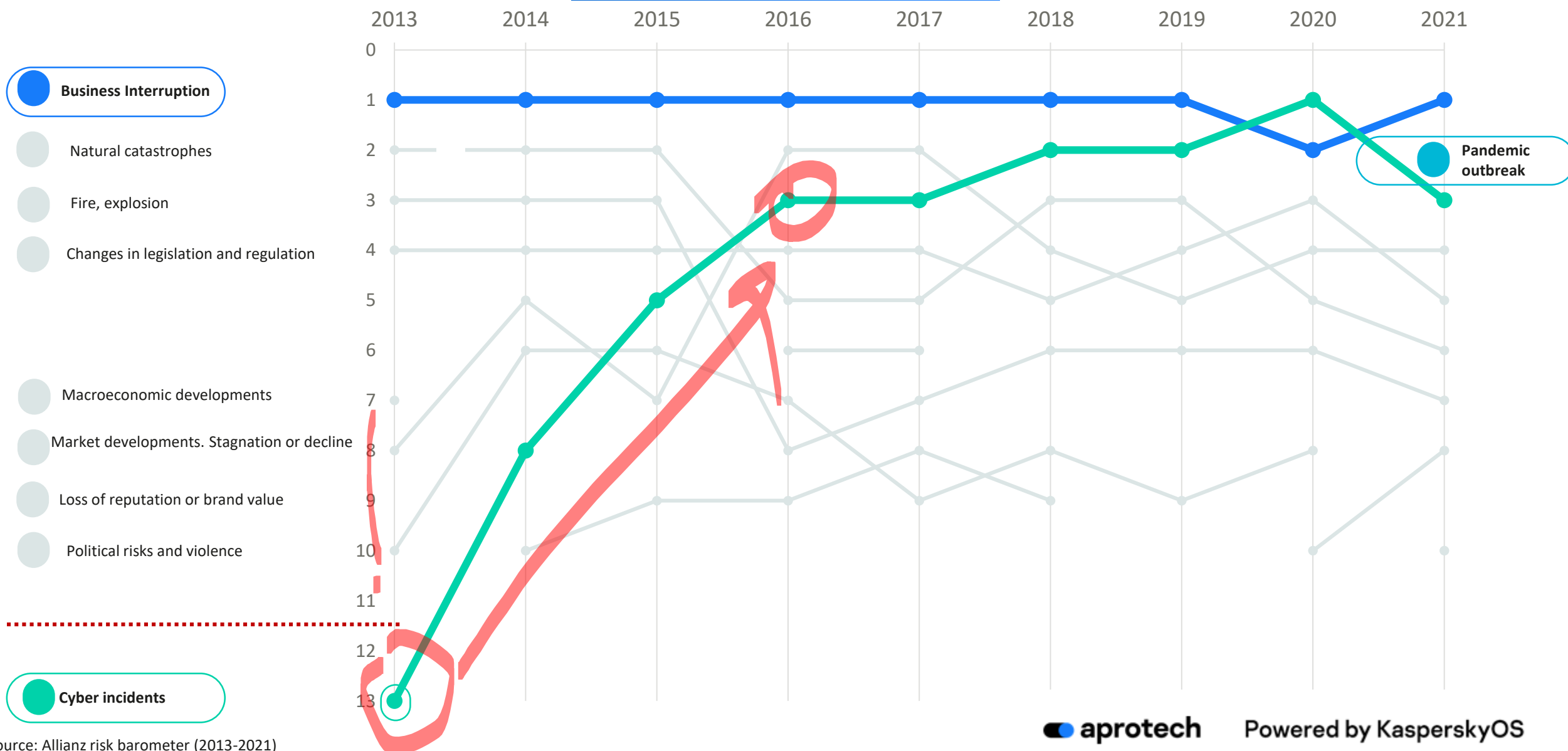aprotech

KasperskyOS
Be Immune

IIoT first Cyber Immune gateway

KISG 100

Part I. Cyber Immunity

Top 3 business risks today

2013 2014 2015 2016 2017 2018 2019 2020 2021

- Business Interruption
- Natural catastrophes
- Fire, explosion
- Changes in legislation and regulation
- Macroeconomic developments
- Market developments. Stagnation or decline
- Loss of reputation or brand value
- Political risks and violence
- Cyber incidents
- Pandemic outbreak

Source: Allianz risk barometer (2013-2021)

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Number of new IoT threats Identified

IoTropper Reaper

SATORI

MIRAI

BASH LITE

350 000

300 000

250 000

200 000

150 000

100 000

50 000

0

| 2015 | 2016 | 2017 | 2018 | 2019 | 2020 |

483   2 551   34 100   201 558   269 515   331 401

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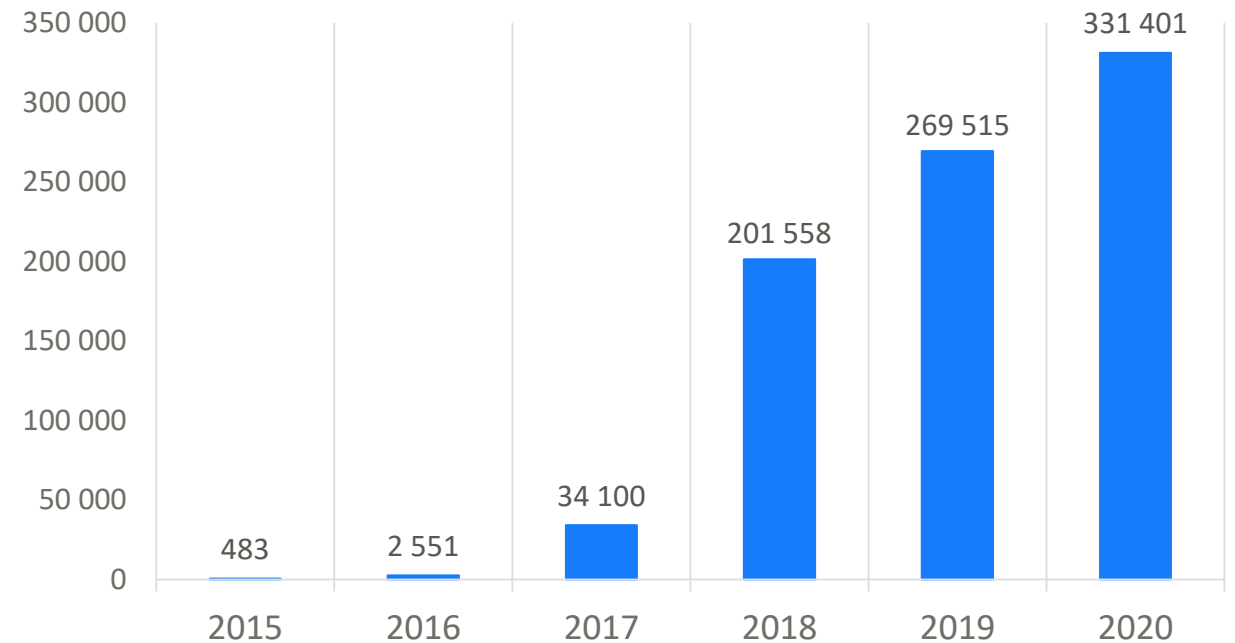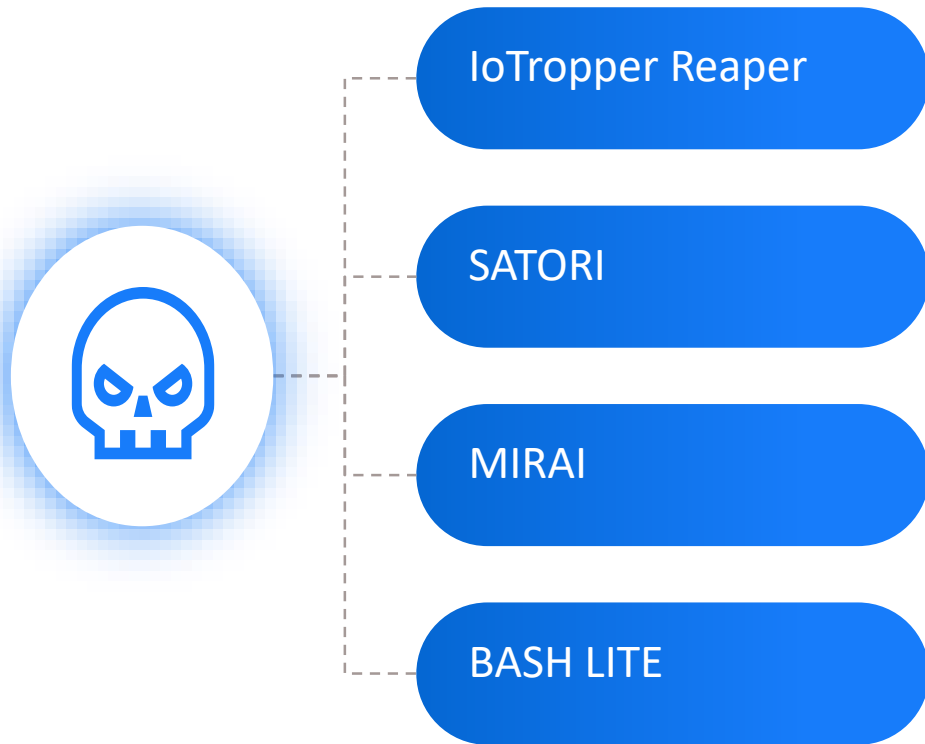
From cybersecurity to Cyber Immunity

Traditional
(cybersecurity)

Secure-By-Design
(Cyber Immunity)

Endless vulnerability / antidot race

Defined by product goal and security objective

Virus/antivirus, USB attack/device control, email fishing /email protection, DDoS/DDoS prevention

Microkernel, isolated domains, security policies

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To assess and implement
scientific heritage

TCB

Kernel μ

MILS

Driver   App   App

App / Driver   MILS   App

Kernel μ

FLASK

Enforcement   Policy

Client

Object request

Object Manager

Policy Enforcement

Query

Decision

Security Server

Security Policy

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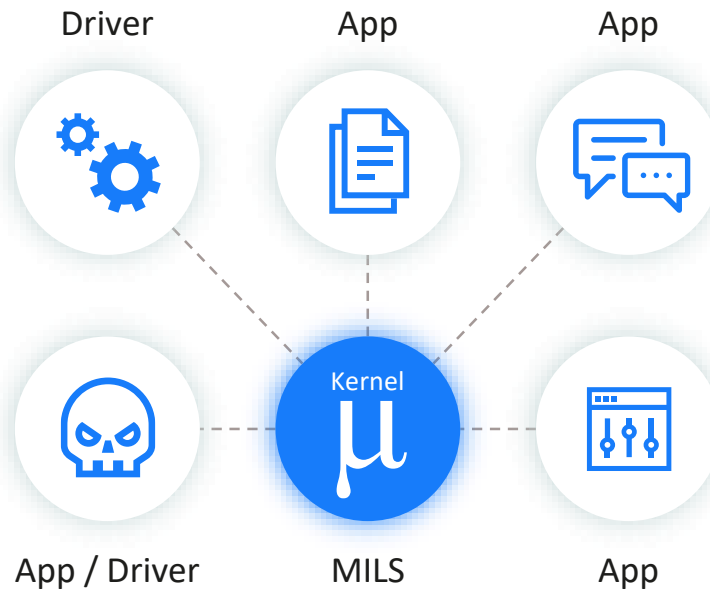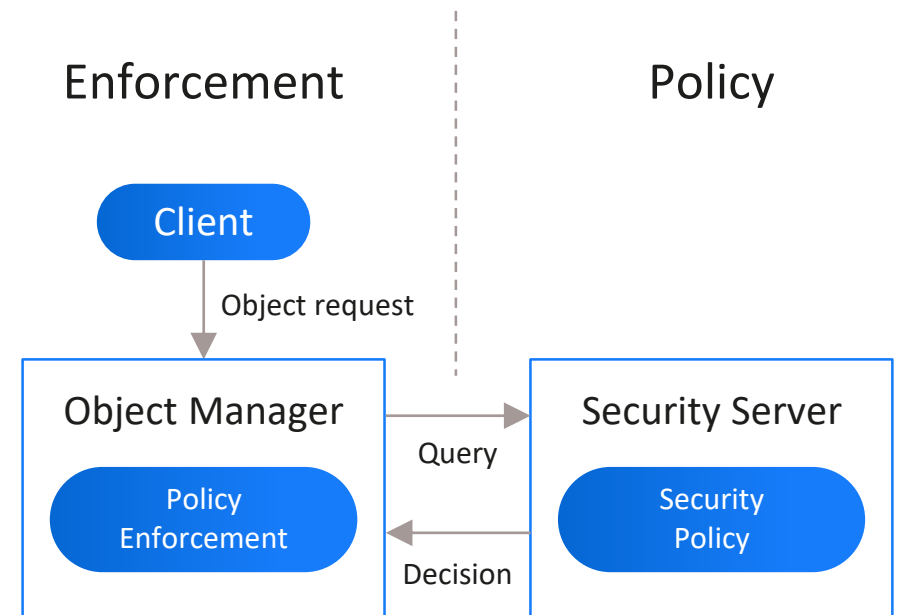
KasperskyOS vs traditional OS

TCB

17K   9M

MILS

20x   X

FLASK

KSS   X

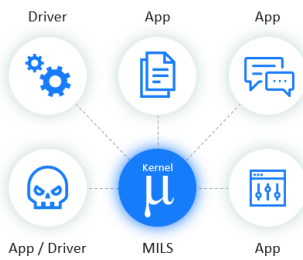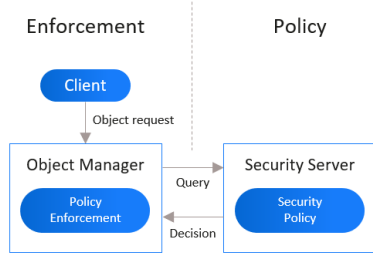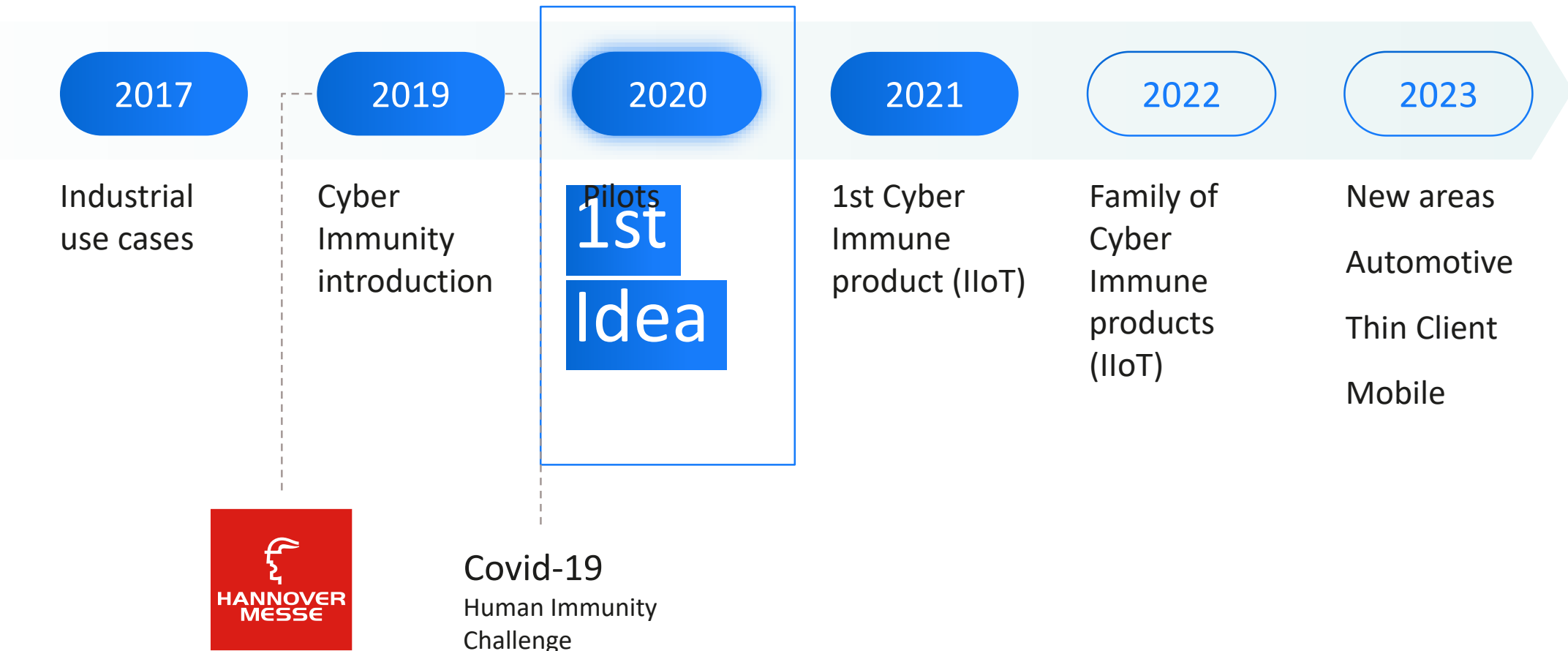| TCB	MILS	FLASK
Kernel μ	Driver — App — App · App / Driver — Kernel MILS — App	Enforcement / Policy · Client · Object request · Object Manager — Query — Security Server · Policy Enforcement — Decision — Security Policy

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Cyber Immunity is strategic investment

Prediction & investments = Cyber Immunity history

2017

Industrial use cases

2019

Cyber Immunity introduction

2020

Pilots

1st Idea

2021

1st Cyber Immune product (IIoT)

2022

Family of Cyber Immune products (IIoT)

2023

New areas

Automotive

Thin Client

Mobile

HANNOVER MESSE

Covid-19
Human Immunity Challenge

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industrial internet ® CONSORTIUM

ARC Advisory Group

Vision, Experience, Answers for industry

IIC Whitepaper

MILS Architectural Approach Supporting

Trustworthiness of the IIoT Solutions

Rance J. DeLong (The Open Group); Ekaterina Rudina (Kaspersky)

ARC Whitepaper

From cyber security to cyber immunity in IIoT

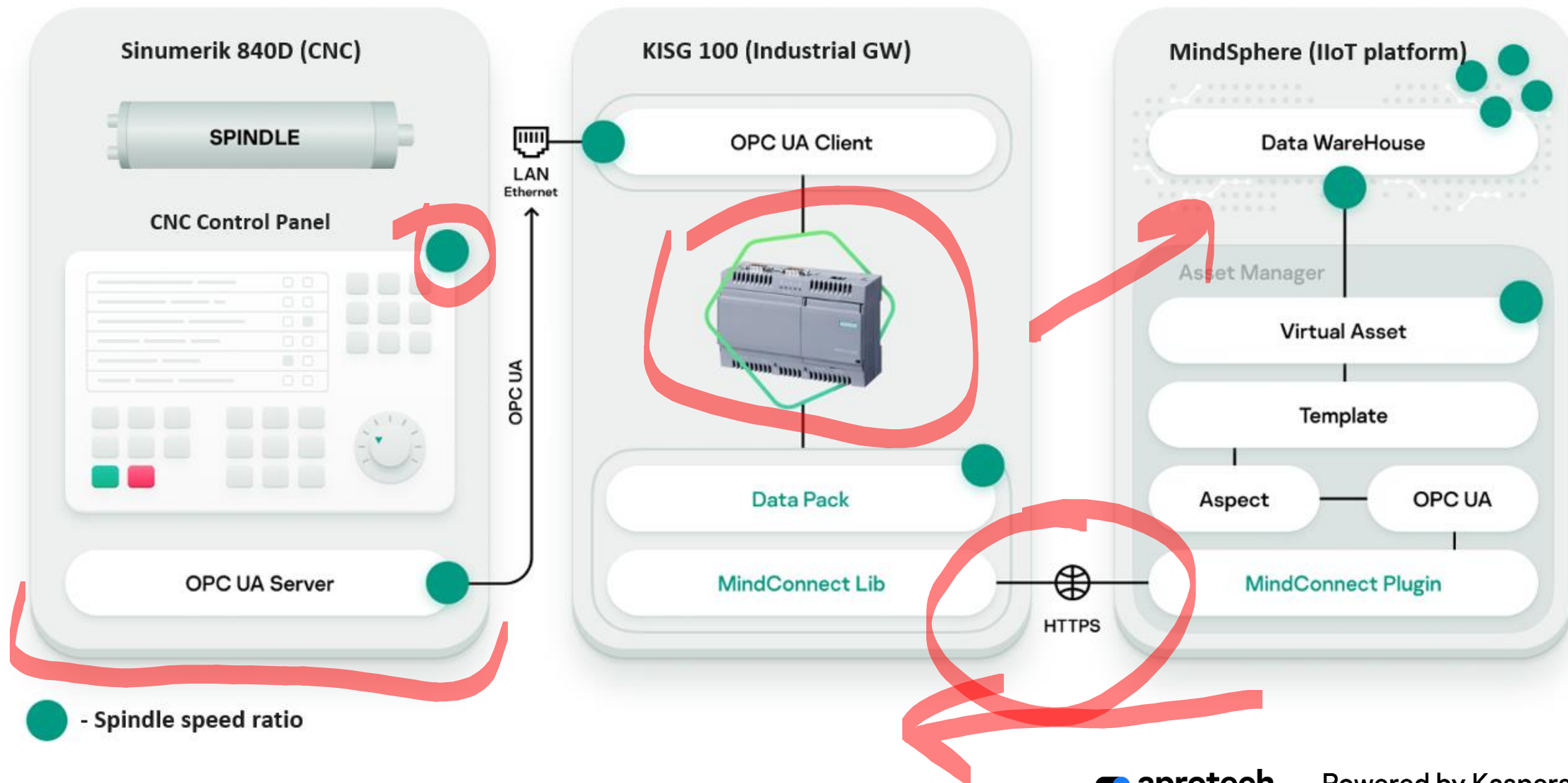**"Cyber Immunity could be the foundation to unleash secure digital transformation in the industry."**

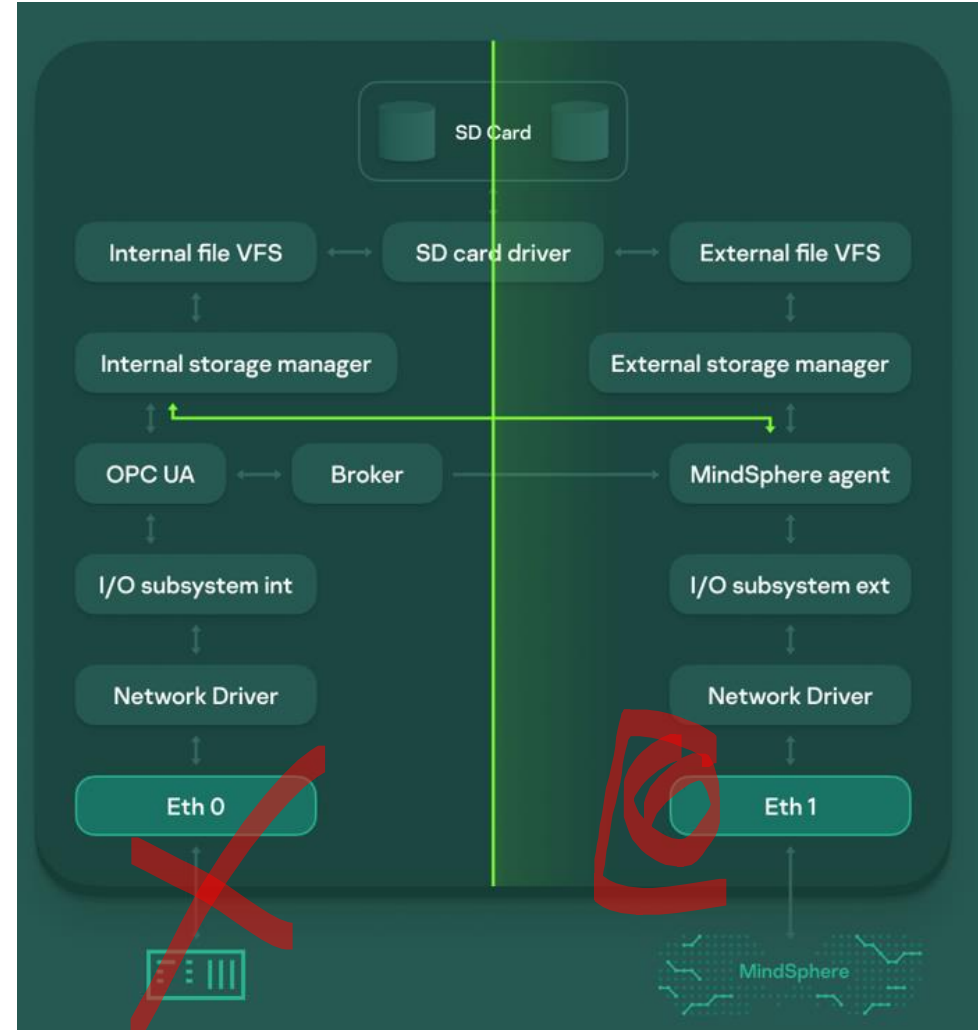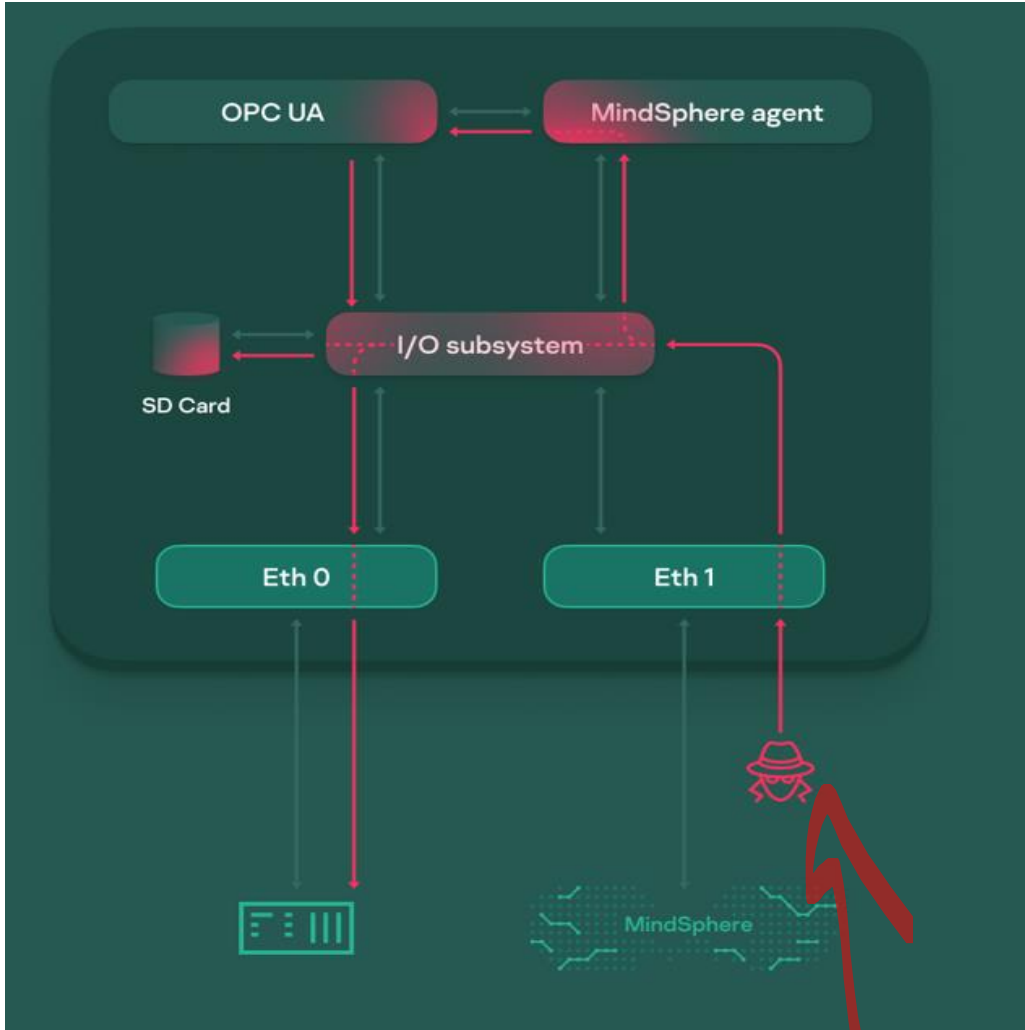Thomas Menze, Senior Consultant Industrial

aprotech   Powered by KasperskyOS

Part II. Trusted data

One ration   lifecycle in era of 4.0

Sinumerik 840D (CNC)
- SPINDLE
- CNC Control Panel
- OPC UA Server

KISG 100 (Industrial GW)
- OPC UA Client
- Data Pack
- MindConnect Lib

MindSphere (IIoT platform)
- Data WareHouse
- Asset Manager
  - Virtual Asset
  - Template
  - Aspect
  - OPC UA
- MindConnect Plugin

LAN Ethernet

OPC UA

HTTPS

● - Spindle speed ratio

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Potential IIoT risk vectors

Part III. Business value

Digital evolution

Client-centric production

CNC tooling stableness

OEE monitor
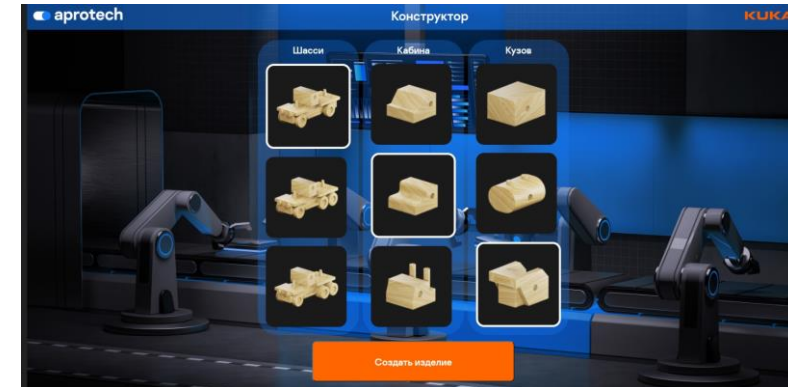
Stage1. Advanced monitoring **Stage 2.** Predictive services **Step 3.** New business model

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Digital transformation (based on trusted data) in action

Full video 25 min

https://www.youtube.com/watch?v=ABQfxLQ6cpc

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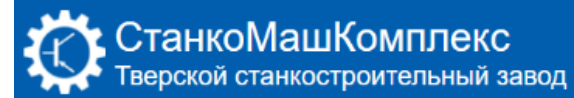
Next steps for your digital journey

STEP 1 Connection

Industrial data examination,

MindSphere access,

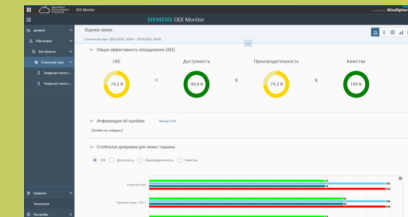KISG 100 connection to industrial assets

STEP 2 Configuration
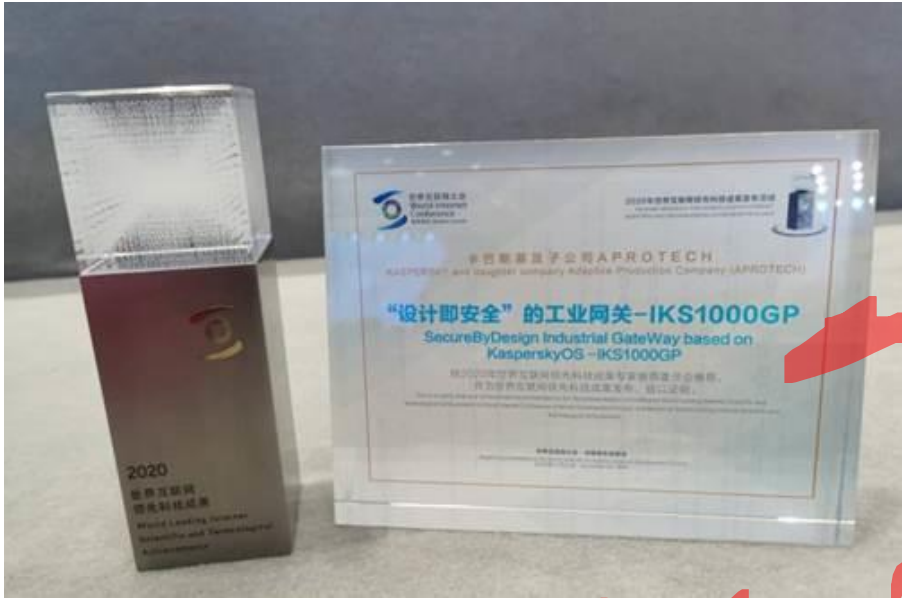
Connection settings up,

Industrial sources linkage with IIoT platform

STEP 3 Digital App. start

Advanced monitoring, predictive maintenance, anomaly detection, etc.

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Thank you!

aprotech

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