

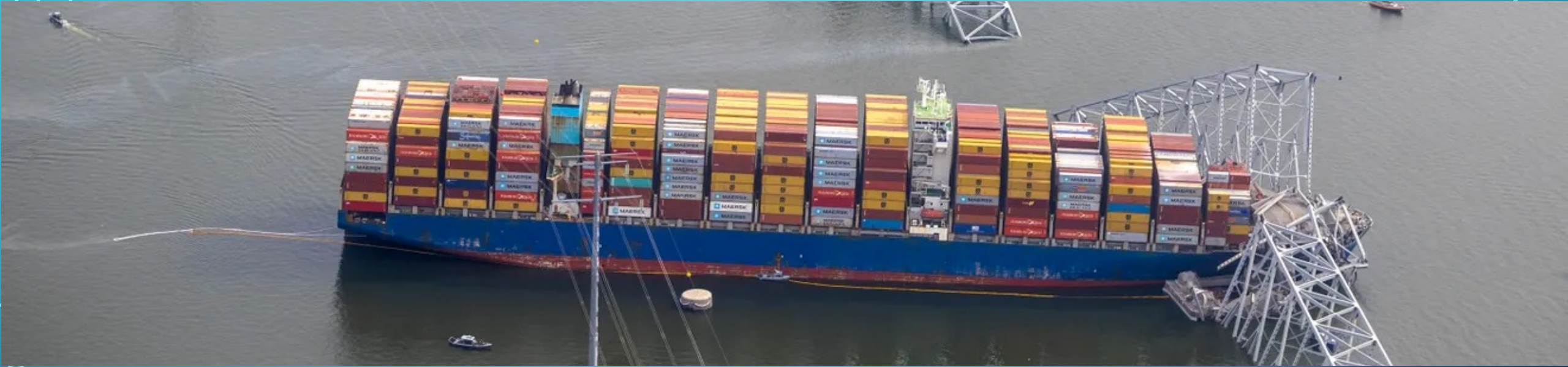


OT IN LOGISTIEK EN ROBOTICA

PETER SKOV, PARTNER UC GROUP

OT =





WHAT IF THIS WAS A CYBER SECURITY ATTACK OF OT?

FACT: IT WAS A DUAL POWER FAILURE THAT CAUSED THE SHIP TO LOSE CONTROL

CAUSE: JUST BAD SYSTEMS OR...?

PETER SKOV

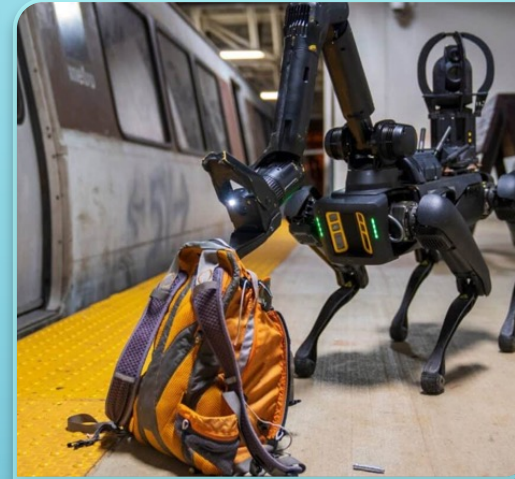
- Danish citizen living in the Netherlands since 1991
- Executed multiple IT, automation, robot & computer vision purchases & projects and always in full alignment with the Cyber Security team in my former company
- Now Partner at the Logistics Consultancy company UC Group



A decorative graphic consisting of blue circuit-like lines with small circles at the ends, extending horizontally from the left and right sides of the central text box.

MODERN (I)OT

WHAT IS THAT?



ROBOTS ARE ALSO OT
WITH MANY FORMS, EARS & EYES

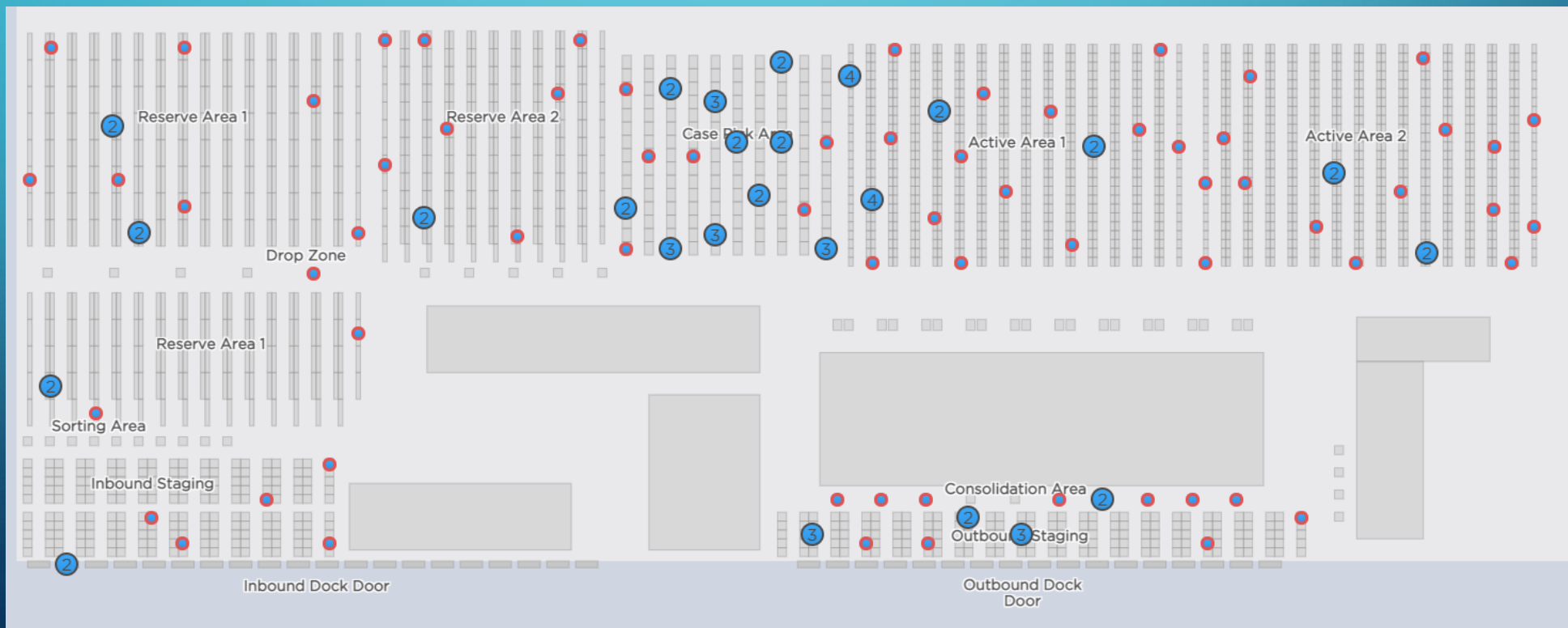
DIGITAL TWIN LAYOUT

Not Just Visualization

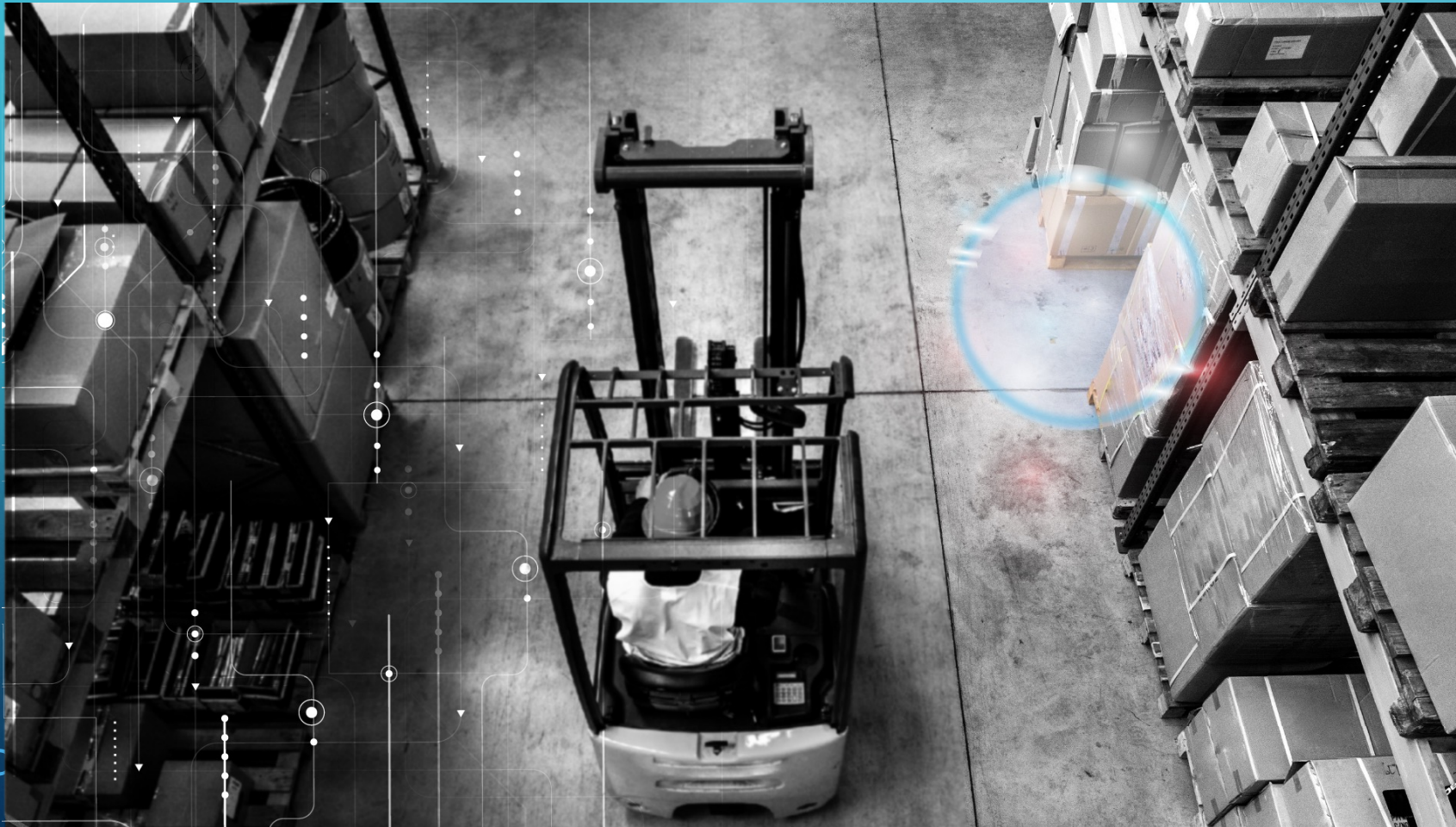
Knowing where everyone is good for management & predictive / prescriptive AI suggestions

Good for efficient people management

But unauthorized people could know how to move around unseen **and** find the expensive products



COMPUTER VISION SIB SOLUTION – SEEING IS BELIEVING



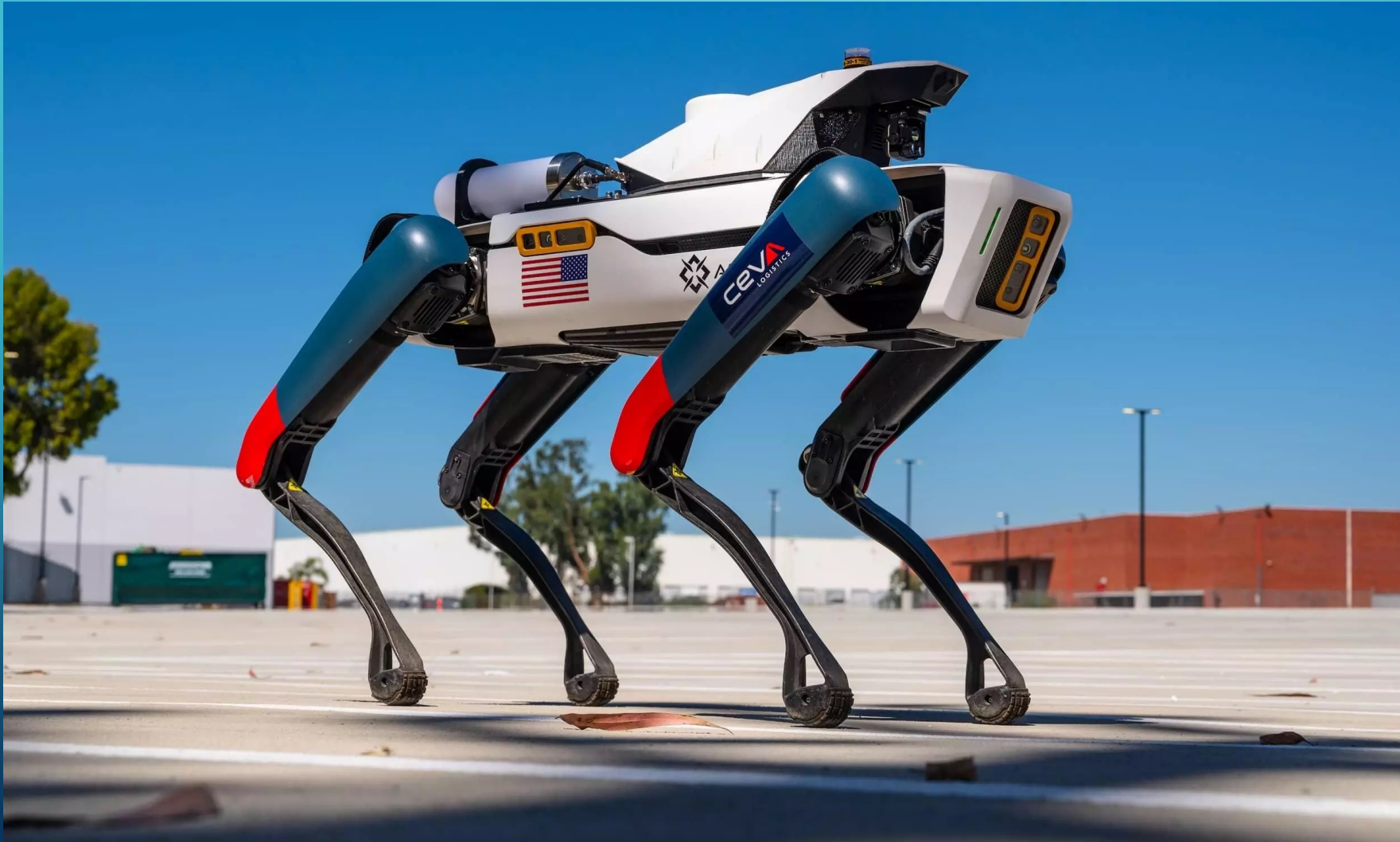
Enable flawless picking and packing. Seeing what was picked and packed is believing.

Good for order & stock management

But unsecure people could know where expensive things are

SECURITY “DOGS”

BOSTON DYNAMICS SPOT



Knowing if there are unauthorized people on the compound while we can't get people to surveil is great

Good for efficient security control without getting people in harms way

But unauthorized people could know how to move around unseen

AUTONOMOUS DRIVING / FLYING NOT EVEN SCIENCE FICTION ANYMORE



DHL test "car" in Estonia can cover up to 100 kilometers on a single charge, making them "perfect for urban parcel transport" while reducing emissions and noise pollution.

Good for environmentally friendly last-mile

But unauthorized people could redirect goods or influence driving behavior

I IMPLEMENTED AUTONOMOUS DRIVING 3 YEARS AGO IN THE US

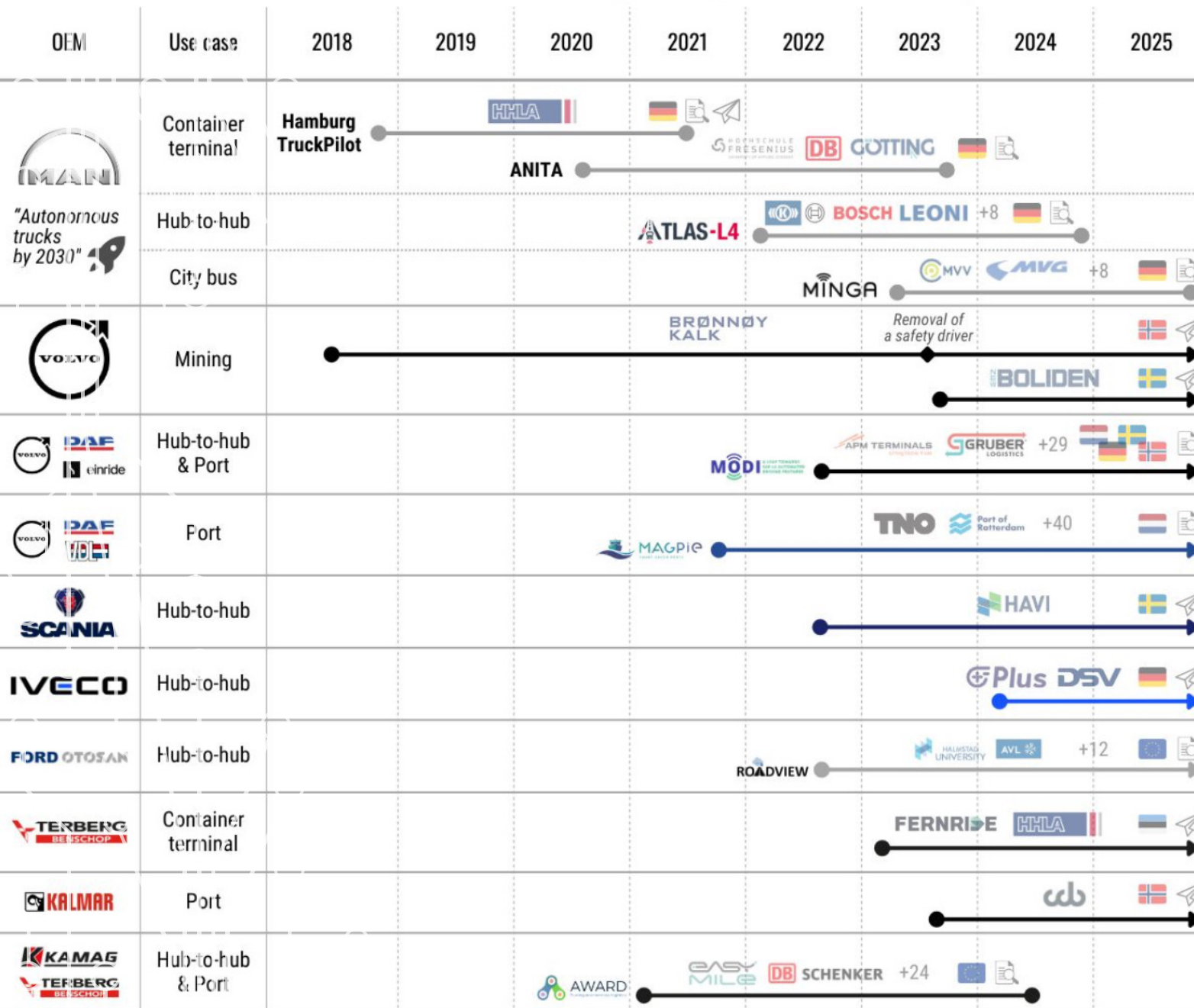


Kodiak Robotics is running from coast to coast. Their commercial network incorporates more than 18,000 miles of the nation's most freight-dense lanes.

Human-operated for local pickup and delivery.
Autonomous trucks complete the 24-32 hours drives

But unauthorized people could influence driving behavior

Autonomous Trucking Projects in Europe



AUTONOMOUS
DRIVING IS LIVE &
HOT IN THE US

BUT IT WILL SOON
BE IN EUROPE AND
IN VARIOUS FORMS

The background is a blue gradient. In the corners, there are white line-art illustrations of circuit boards or neural networks, with lines and small circles representing nodes.

SO
WHAT DOES THAT ENTAIL

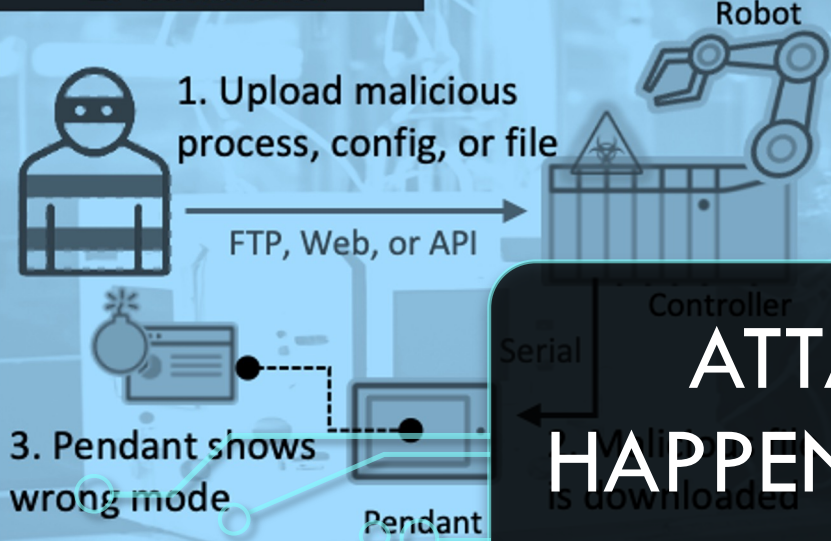


Root Cause

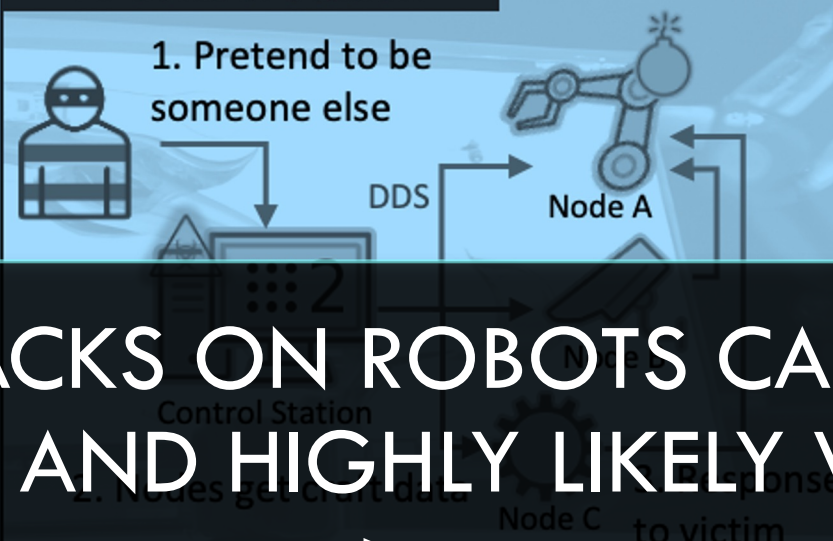


Impact

1. Controller



2. Control Station



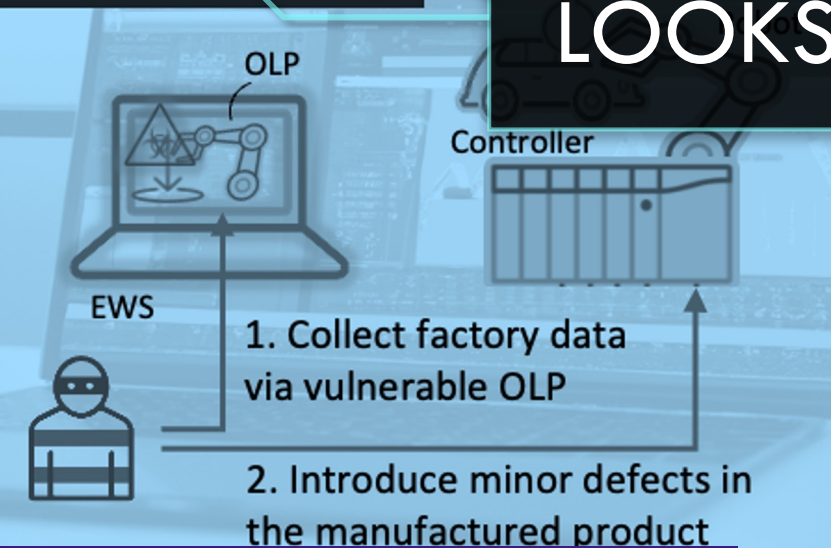
3. Pendant



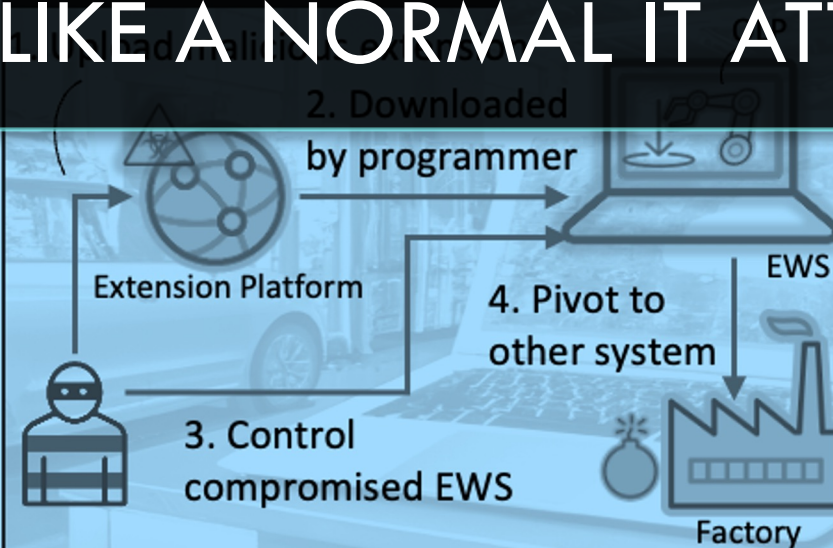
ATTACKS ON ROBOTS CAN
HAPPEN AND HIGHLY LIKELY VIA IT
=>

LOOKS LIKE A NORMAL IT ATTACK

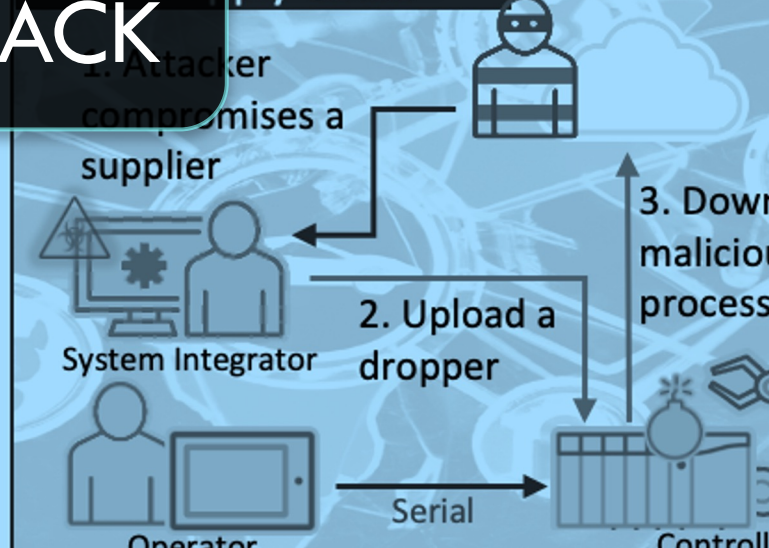
4. OLP



5. Extension Platform



6. Supply Chain



MCKINSEY'S KEY FACTORS TO SUCCEED WITH OT CYBERSECURITY

Strengthen technological foundations

- Segmentation of OT networks from other networks and within
- Asset, threat detection, and cybersecurity controls and capabilities
- Configuration of security solutions

Ensure value-driven OT operations

- Rightly configured OT and IT teams
- Risk-based operational approaches
- Standardized processes across sites

Increase cyber-aware capabilities and mindsets

- Expert-driven internal OT capabilities
- Well-incentivized set of vendors
- Programmed cybersecurity awareness

MY CONCLUSION FOR THE CYBER SECURITY TEAMS

There are 4 immediate areas that should be assessed and addressed:

1. Find & record all (i)OT in use by both the company and all users of their facilities & services
2. Endpoint protection of OT assets
3. Perimeter firewalls around OT assets
4. Network segmentation, within OT and between OT/IT