

# INNOVATION EVENT 2026

Tijd: 20:00 - 20:40  
Zaal 3 beneden

IT IN ACTIE:

VAN TOOLBOX NAAR TOEPASSING

Break-Out sessie

THE  
FUTURE  
GROUP



Martin van der Linden &  
Martijn Janssen

Enterprise Architect. IT/OT  
Convergence & Solution  
Architect, IT/OT Convergence

"IT/OT-convergentie:  
de controle terugkrijgen"

Powered by

THE  
FUTURE  
GROUP

KNVB  
CAMPUS



# IT/OT Convergence

Twee werelden die botsen

Martin van der Linden

Martijn Janssen

Elke industriële  
organisatie heeft IT  
en OT geconnecteerd.

Bijna geen enkele  
bewaakt de interactie.





# Beschrijft de werkelijkheid

Dynamisch

Continue verandering  
patches, updates etc

Adaptief

Aanpassen aan  
veranderingen

Automatisering

Actieve controle en reactie



OT

# Reageert op de werkelijkheid

Deterministisch

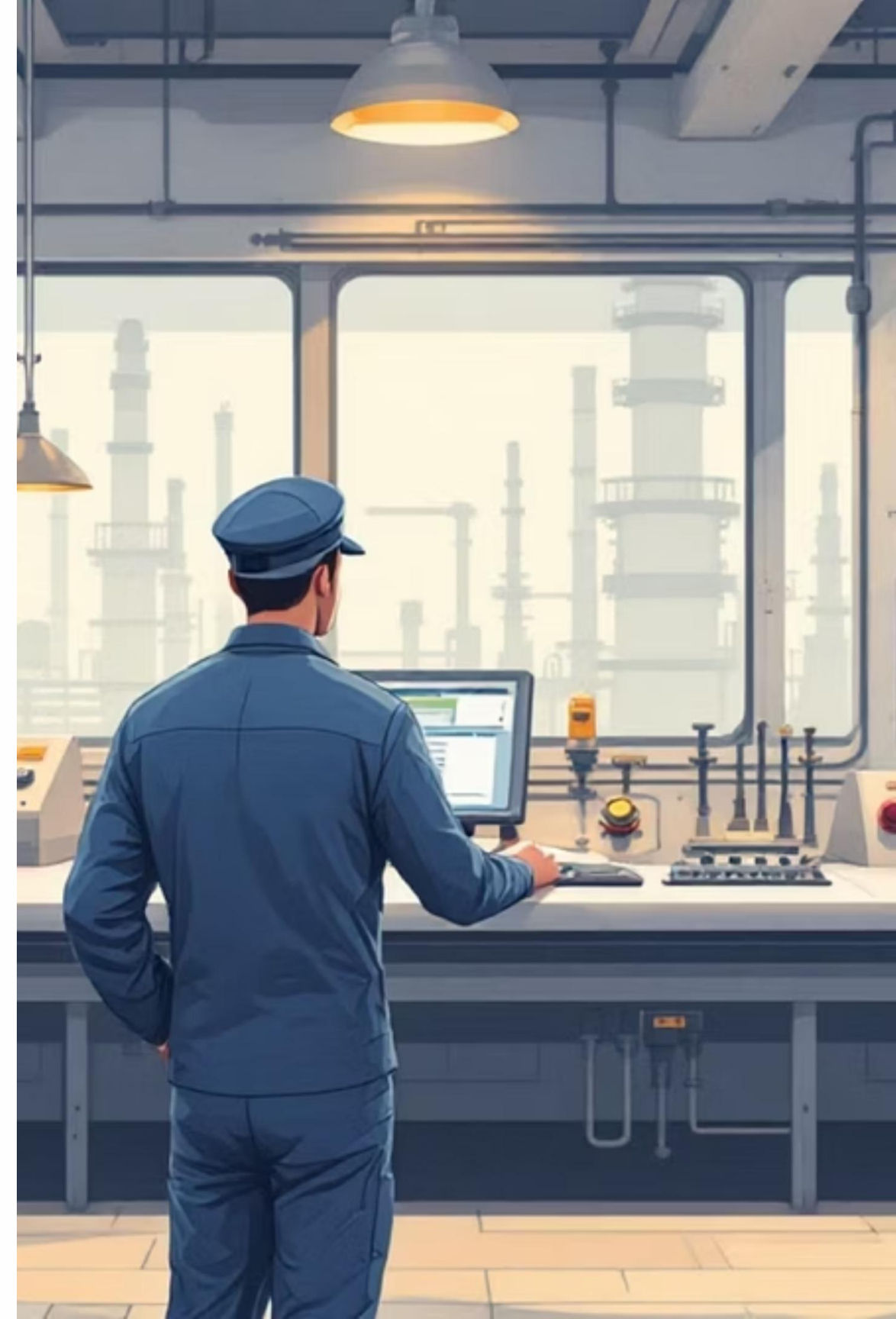
Uitkomsten zijn vooraf bepaald

Stabiel

Weining verandering en verandering is doordacht

Consequentie gebonden

Veiligheid, beschikbaarheid en deterministisch

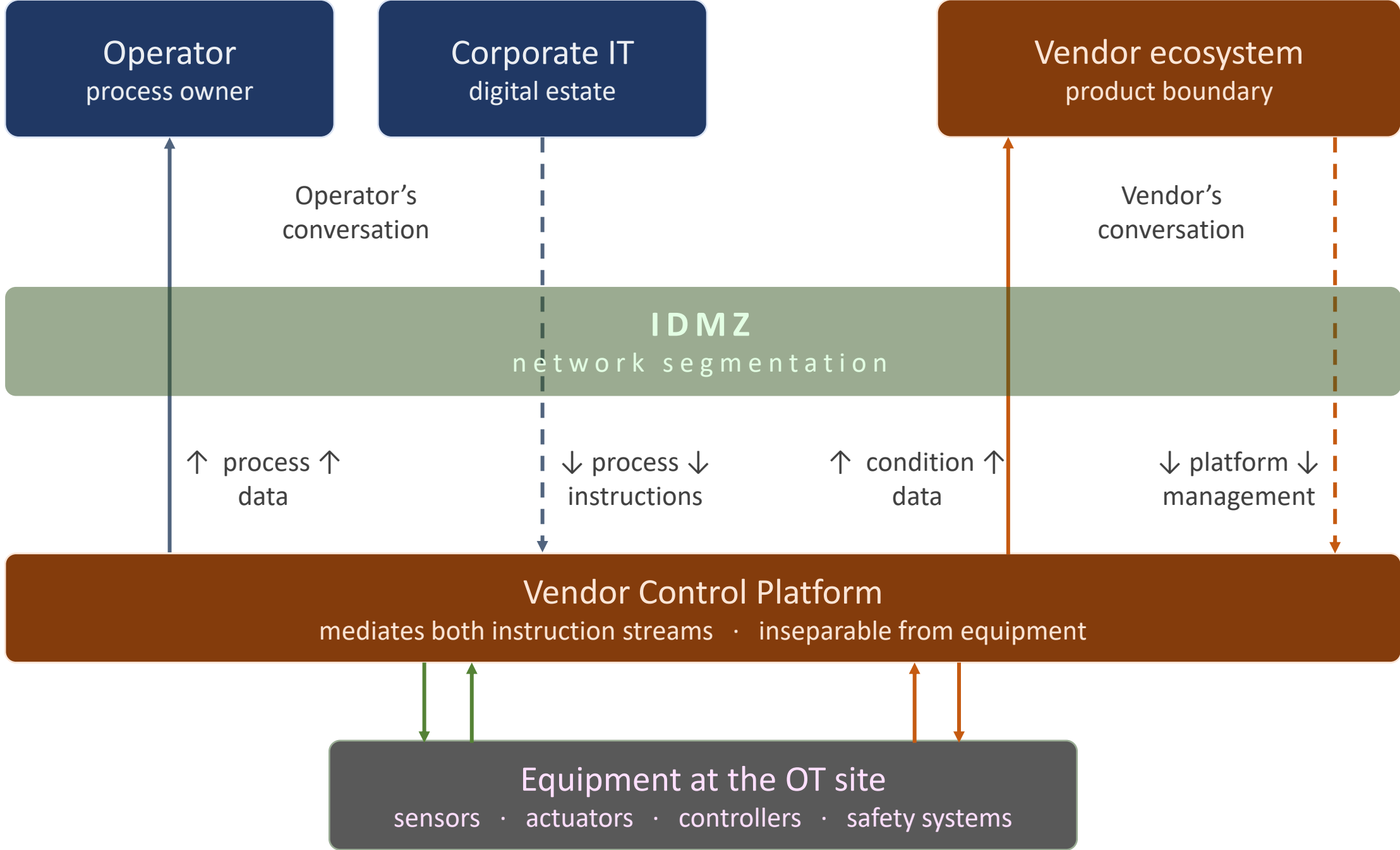




# Samenkomst in de OT installaties en machinerie

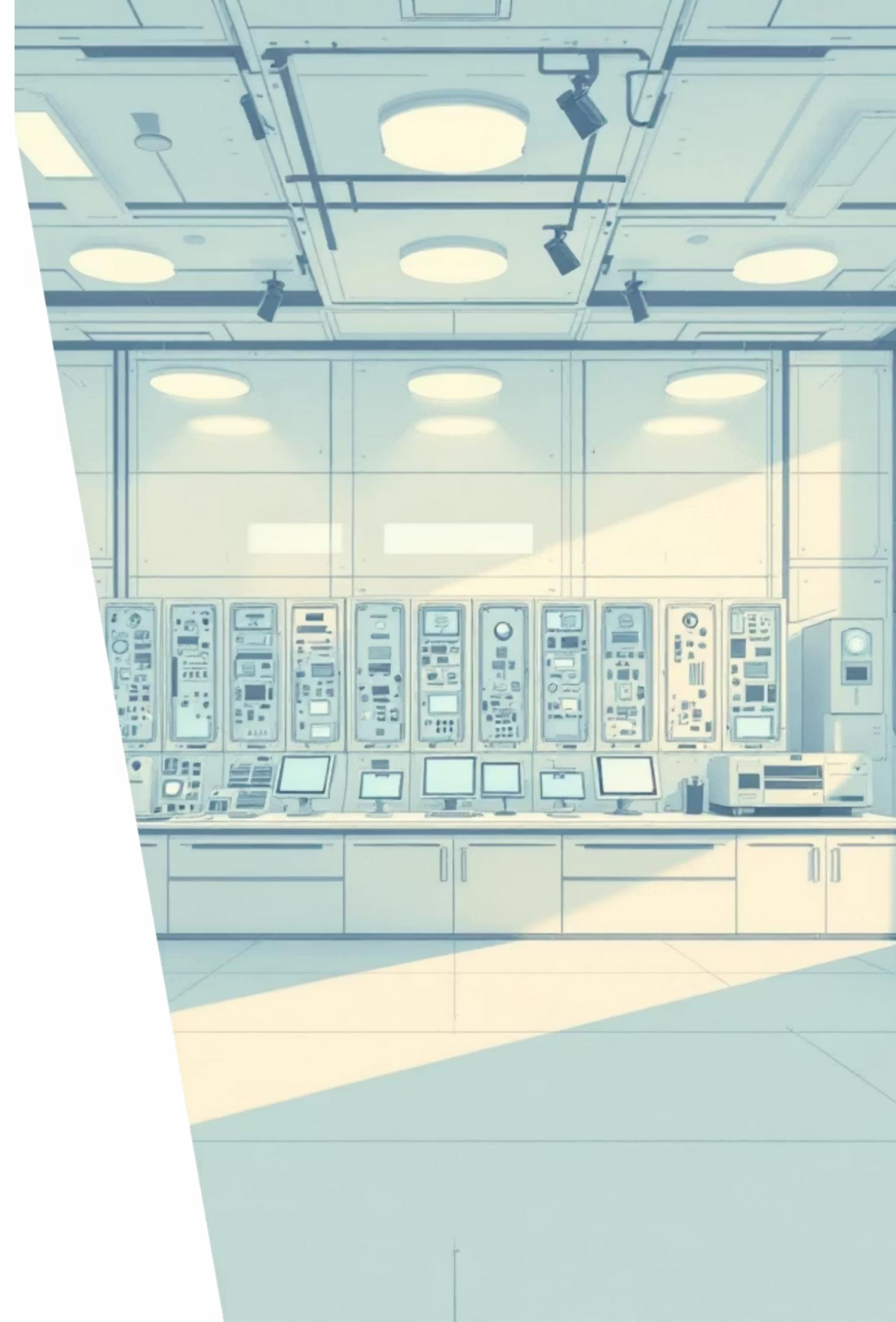
Twee gesprekken. Een product.

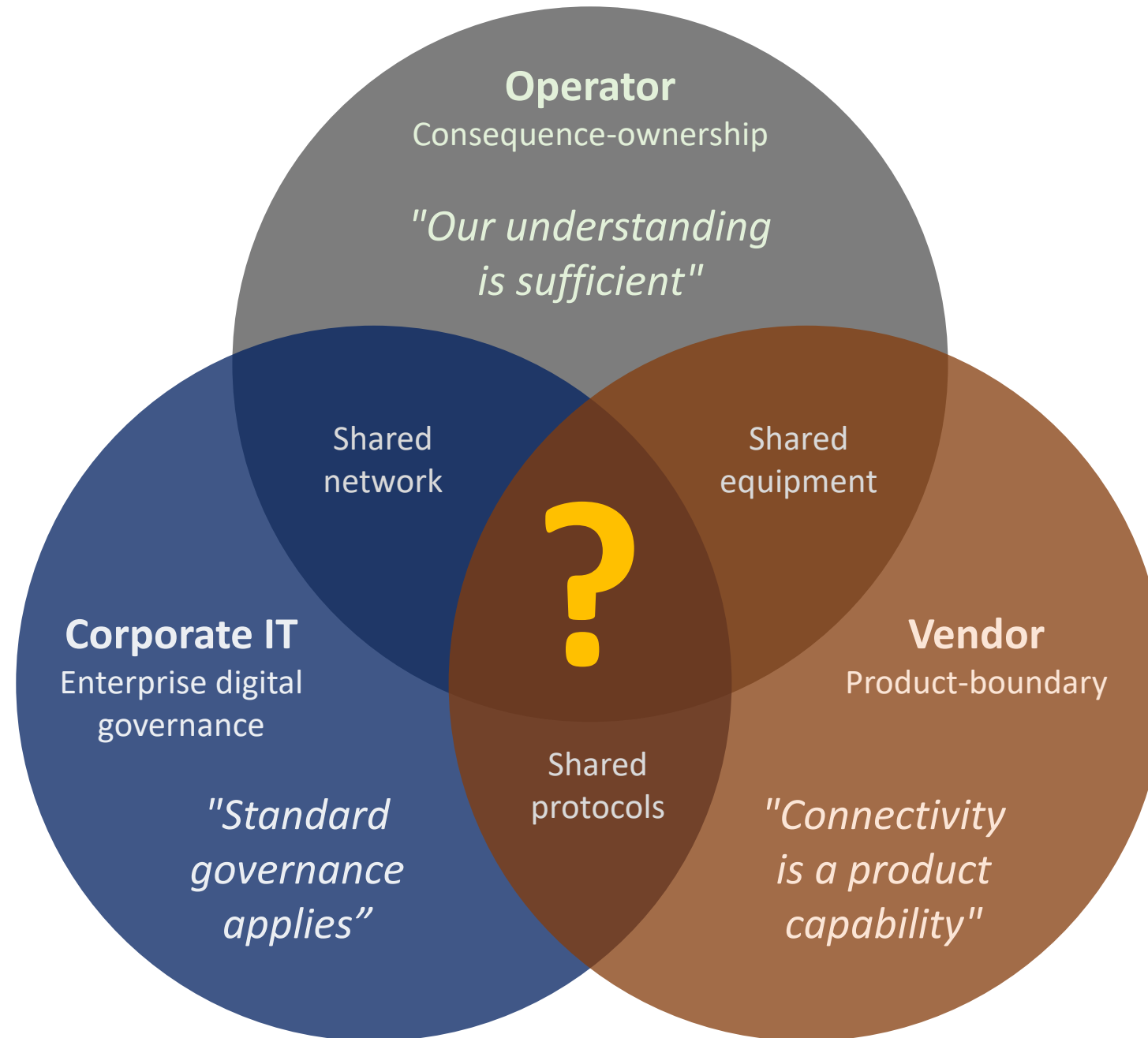
# Een typische OT site verbonden met een enterprise netwerk



Drie actoren actief in de  
convergentie van IT en OT.

Niemand heeft de controle.





*Each assumption is internally coherent. Each produces rational behaviour.  
None encompasses the boundary where all three meet.*

# Real Life Failure Cases

**CP** Colonial Pipeline  
Pipeline — critical infrastructure, USA

Ransomware (DarkSide) IT pivot → OT shutdown

Regulatory response

**6 days**  
pipeline offline

**\$4.4M**  
ransom paid

**East Coast**  
fuel shortage

**2021**  
incident year

May 2021 [dragos.com](https://dragos.com) [controlglobal.com](https://controlglobal.com)

**NH** Norsk Hydro  
Aluminium manufacturing, Norway

Ransomware (LockerGoga) IT→OT lateral threat

Transparent response

**\$70M+**  
total loss

**160 sites**  
compromised

**20,000+**  
systems affected

**Months**  
recovery period

March 2019 [forescout.com](https://forescout.com) [time.com](https://time.com)

**PR** Petro Rabigh  
Petrochemical refinery, Saudi Arabia

TRITON/TRISIS malware Safety system attack

Nation-state actor

**SIS disabled**  
last line of defence

**90+ days**  
IT dwell time

**H<sub>2</sub>S risk**  
potential gas release

**2017**  
incident year

Aug 2017 [technologyreview.com](https://technologyreview.com) [eenews.net](https://eenews.net)

**AP** A.P. Møller-Maersk  
Shipping & logistics, Denmark

NotPetya wiper Port OT shutdown

Supply chain cascade

**\$250–300M**  
loss (est.)

**76 ports**  
disrupted globally

**800 ships**  
in-service fleet

**2 weeks**  
to restore bookings

June 2017 [controleng.com](https://controleng.com) [cnbc.com](https://cnbc.com)

**SG** Saint-Gobain  
Construction materials, France

NotPetya wiper IT/OT downtime

Supply chain impact

**\$180M**  
total losses

**-5%**  
Q2 net revenue

**\$100M**  
insurance claim

**Settled**  
2022 vs. Zurich

June 2017 [ciab.com](https://ciab.com) [helpnetsecurity.com](https://helpnetsecurity.com)

**MK** Merck & Co.  
Pharmaceuticals, USA

NotPetya wiper Manufacturing OT down

Insurance litigation

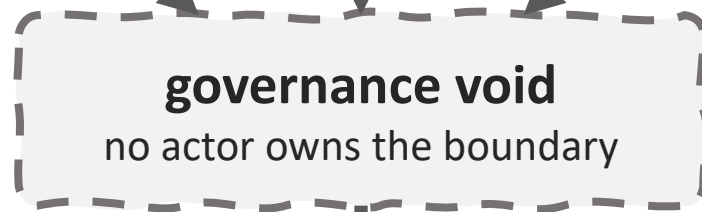
**\$870M**  
total losses

**40,000+**  
machines infected

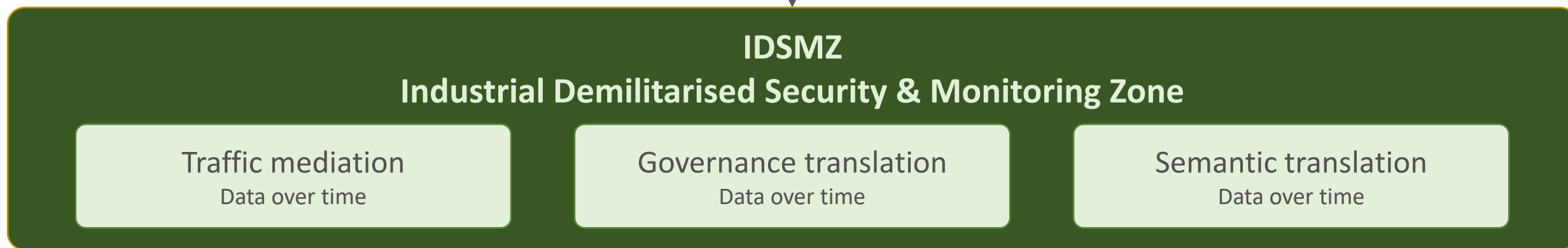
**Vaccines**  
production halted

**NJ court win**  
vs. insurers 2022

June 2017 [dda.ndus.edu](https://dda.ndus.edu) [cshub.com](https://cshub.com)



resolved by...



# Business Enabler

Zonder een duidelijk governance model

De keuze: accepteer ongecontroleerde connectiviteit of verlies de waarde van convergence.

Met de IDSMZ

Predictive maintenance, digital twins, process optimisation, enterprise dashboards – allen met gevalideerde en gecontroleerde informatie.

De IDSMZ is geen cost centre. Het is de infrastructuur waarmee de waarde van OT digitalisering wordt gerealiseerd.



IT/OT-convergentie is geen integratieprobleem. Het is een governanceprobleem op de grens van IT en OT."

Kijk voor meer informatie en inspiratie over  
IT/OT Convergence en het governance probleem op

[www.thegovernedboundary.com](http://www.thegovernedboundary.com)

## **Governance and Architecture for the Cyber-Physical Enterprise**

Martin van der Linden  
Martijn Janssen  
Peter Spruijt

[martin.vanderlinden@the-future-group.com](mailto:martin.vanderlinden@the-future-group.com)

[martijn.janssen@the-future-group.com](mailto:martijn.janssen@the-future-group.com)

[peter.spruijt@the-future-group.com](mailto:peter.spruijt@the-future-group.com)



# INNOVATION EVENT 2026

IT IN ACTIE:

✓ VAN TOOLBOX NAAR TOEPASSING

## Upcoming next:



Marco van Hurne

20:50 - 21:35 | Oranjeplein KNVB Campus

Closing Keynote

**“Wat een AI factory bouwer ziet dat Sam en Dario liever verbergen.”**

Powered by



**1. Firewall IT–IDSMZ**  
Filter and control all traffic entering the IDSMZ from the IT domain, admitting only authorised services to specified components  
Allow only named protocols and ports (HTTPS to historian, RDP to jump server), deny all else by default

**3. Intrusion Detection / Prevention Systems (IDS/IPS)**  
Inline or tapped to monitor and alert on all traffic entering the zone from the IT side

**5. Jump Servers / Bastion Hosts**  
Provide controlled, auditable remote access for administrators and vendors

**10. South-Side Governance Interface**  
Mediate contested-middle decisions between the IDSMZ and the vendor's control platform

**15. API Manager & Endpoints**  
Govern and control programmatic access between IT, OT and IDSMZ services

**6. SIEM Collectors**  
Collect and forward security logs from IDSMZ components to the central SOC

**11. Data historians / Brokers**  
Collect OT data and make it available to IT systems

**16. Lifecycle & Digital Twin Service**  
Maintain OT configuration baselines, asset metadata and telemetry mappings

**7. Certificate Authority**  
Issue and manage TLS certificates, PKI trust chains and code-signing credentials

**12. ODES (IT↔OT Integration)**  
Broker real-time, validated IT↔OT data exchanges

**17. Time Synchronisation**  
Deliver trusted, precise time signals to keep OT equipment, events and audit timelines aligned

**8. Patch Mgmt Servers / AV Updates**  
Stage and deliver approved updates to OT systems in a controlled, validated manner

**13. Operational Data Model Semantics**  
Enforce consistent naming, structure and meaning across OT data

**18. Ops Safety & Interlock Validation**  
Validate all OT-bound commands against OT safety constraints

**9. Monitoring & Asset Inventory**  
Discover, classify and track all OT assets – maintaining visibility across the OT zone

**14. Protocol Gateways**  
Translate between industrial protocols and IT protocols without exposing native OT traffic

10 Mandatory Fully Deployed Capabilities  
5 Mandatory Scaled Deployed Capabilities  
3 OT-Site Specific Deployed Capabilities

**4. Intrusion Detection / Prevention Systems (IDS/IPS)**  
Inline or tapped to monitor and alert on all traffic heading into OT and enforce one-way data flows via data diodes where required

**2. Firewall IDSMZ–OT**  
Protect OT systems from any compromise or misconfiguration within the IDSMZ and enforce protocol-specific rules for all southbound traffic  
Whitelist-only for industrial protocols, with deep packet inspection (DPI) for Modbus/OPC UA where required