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Getting Practical with Addressing Risks in OT Networks: Where to Start?

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The Clean Slate Strategy

(aka "thank you, IT-OT Asymmetry")

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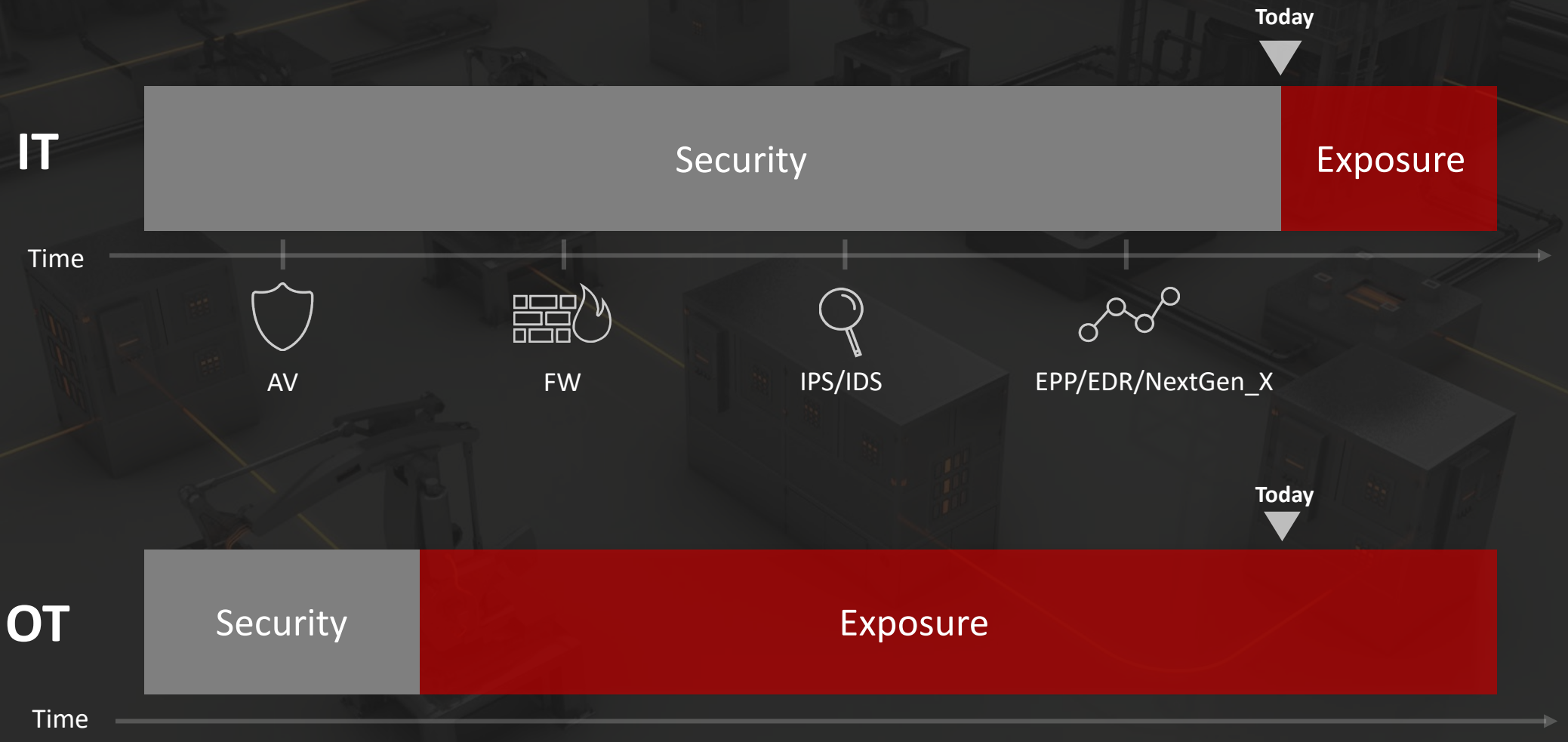
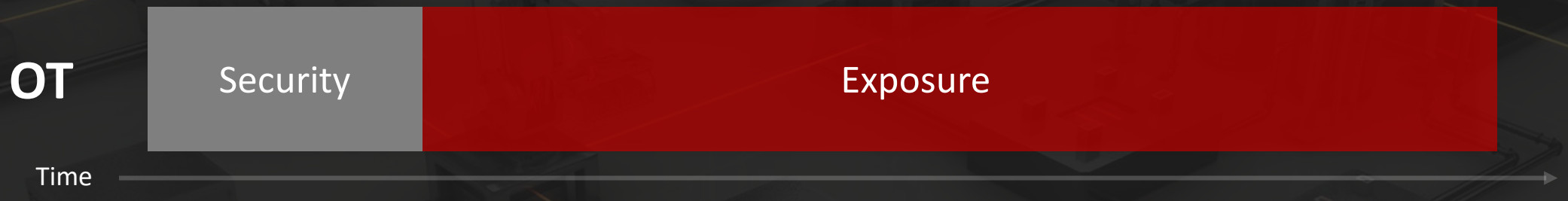
1. What you're learned in ITSEC will not serve our mission in securing OT networks
2. We don't have time to build the wall, we have to leap-frog
You've Been Investing
3. Some of the daunting challenges in ITSEC are remarkably simplify in OT
in IT Security for Decades

The IT-OT Asymmetry



It’s Challenging for a Reason

The Perfect Storm

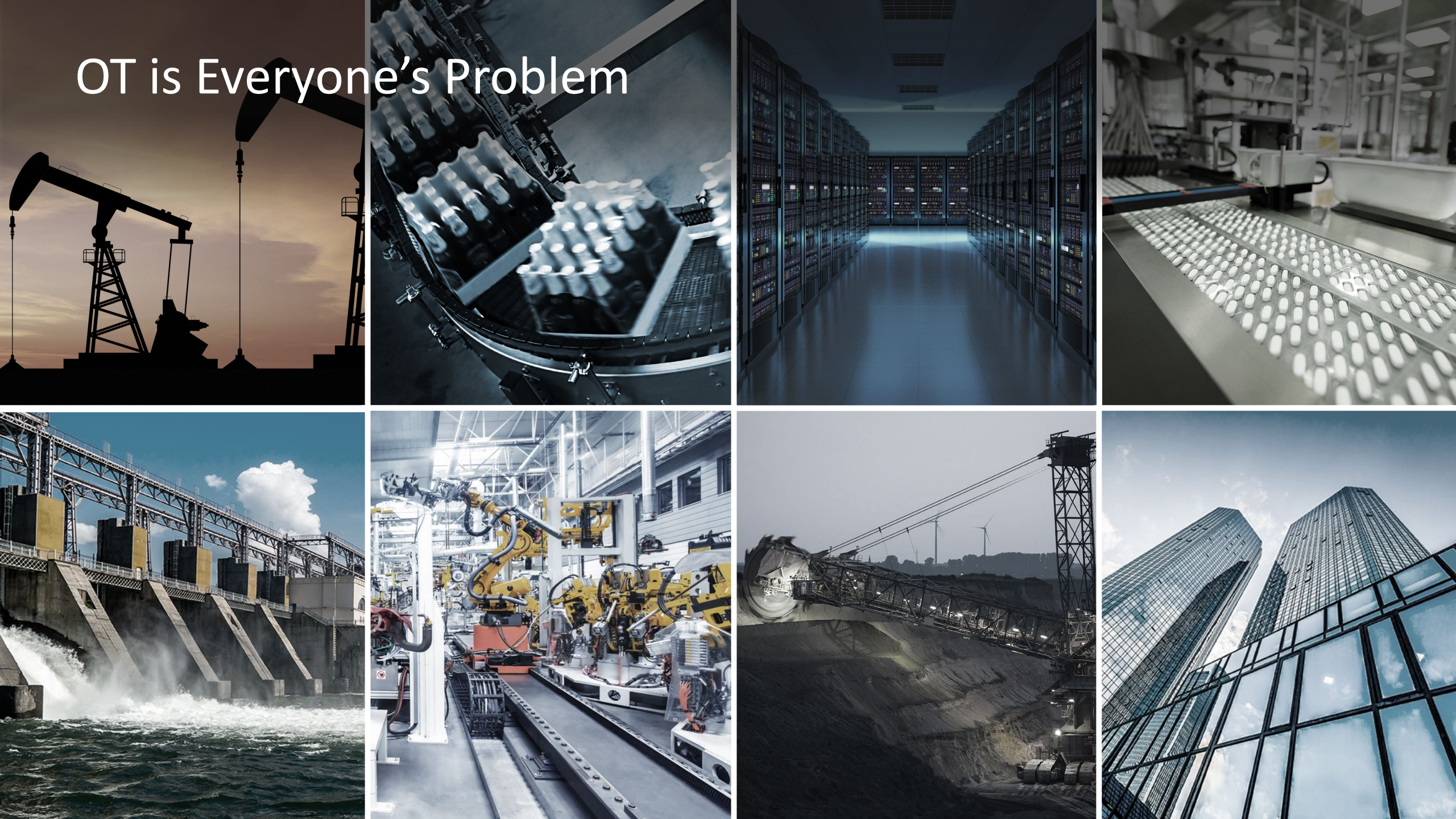


ICS Insecure due to legacy

Increasingly Connected IT/OT

Active Threat Landscape

OT is Everyone's Problem



Making the Impossible Jump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Where Do
We Even Start?
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Get Management On-Board

90% it's already a boardroom issue

F500 Companies already have an OT strategy

For most, OT is a **Top 5** priority

All started with an **assessment**:
how big is the OT gap?

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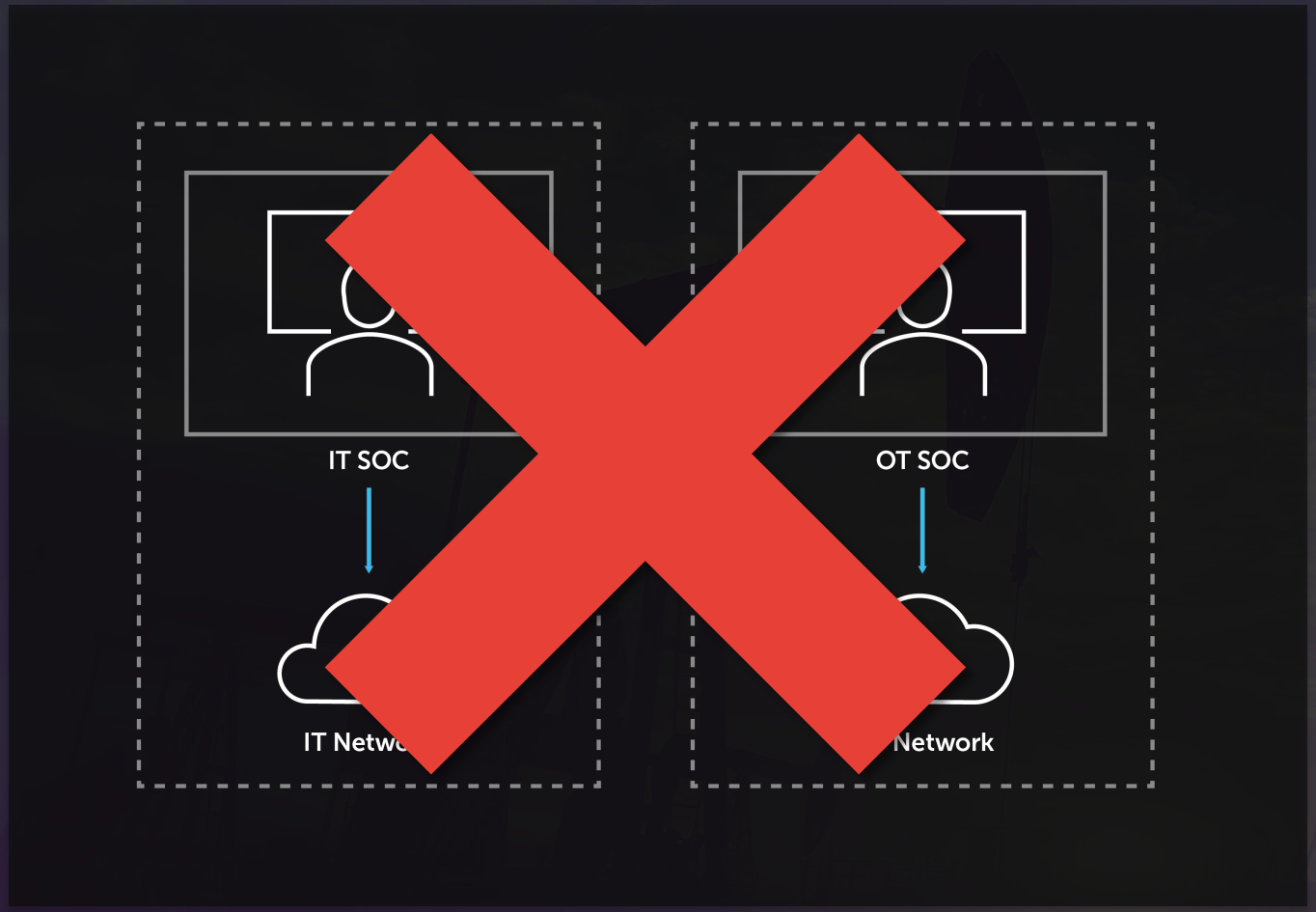
Lessons Learned

Case Study #1

Case Study #1



- Energy company, highly sophisticated in ITSEC , initially wanted to recreate the process for OT SEC
- Conclusion reached: Impractical and not cost-effective across tech stack, people, process
- Invest in best practices that leverage existing infrastructure
- Leverage technology to ”translate” niche domains

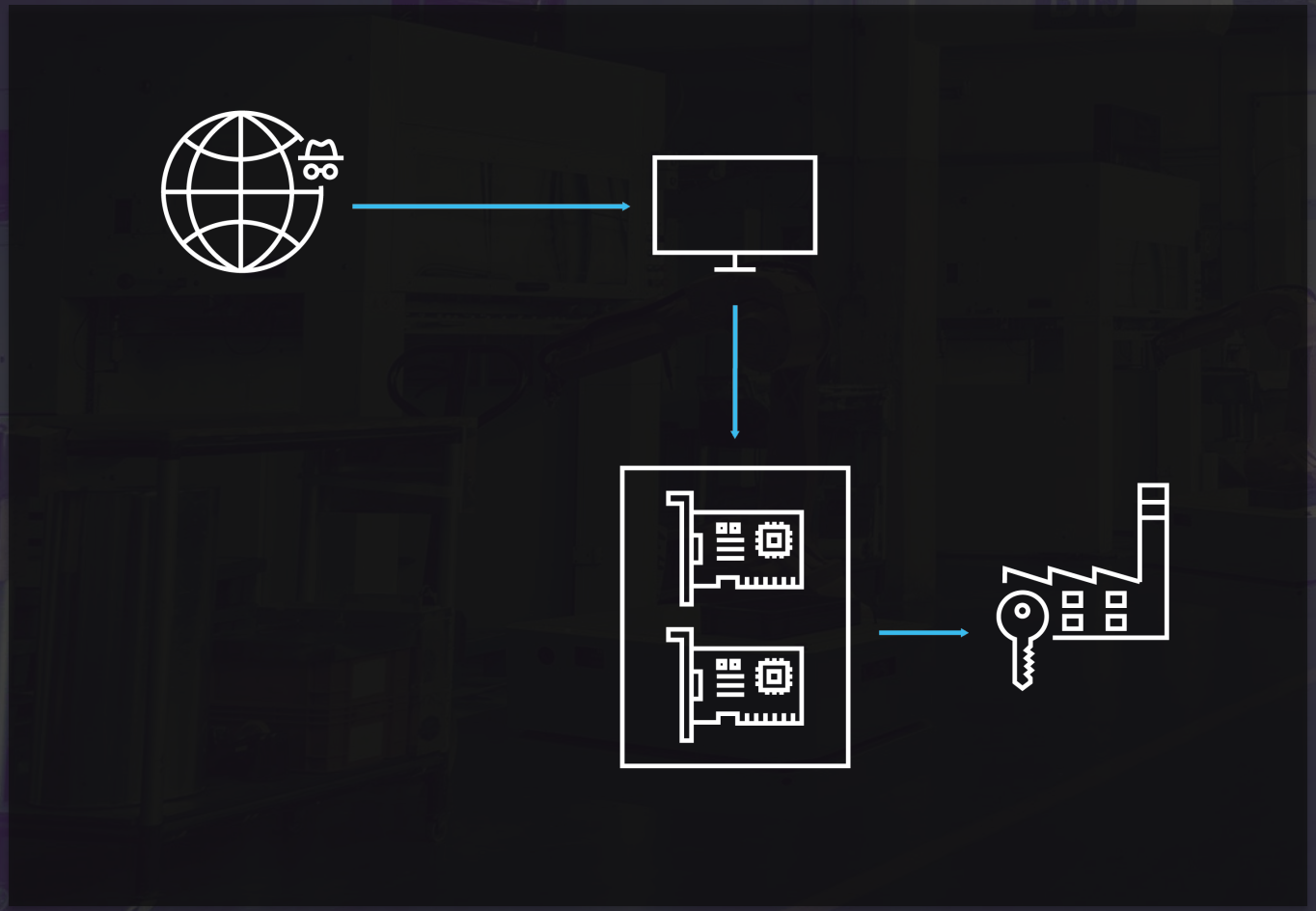
Use What You Already Have

Use What You Already Have

Lesson Learned #1

Case Study #2

Case Study #2



- Connectivity is needed and when not provided, people get creative
- OT network was a black box – no way to identify lateral movement
- No visibility into potential attack vectors
- No way to identify abnormal process-related behavior from the network

Visibility First. It's the Investment with the Highest RoI

Lesson Learned #2

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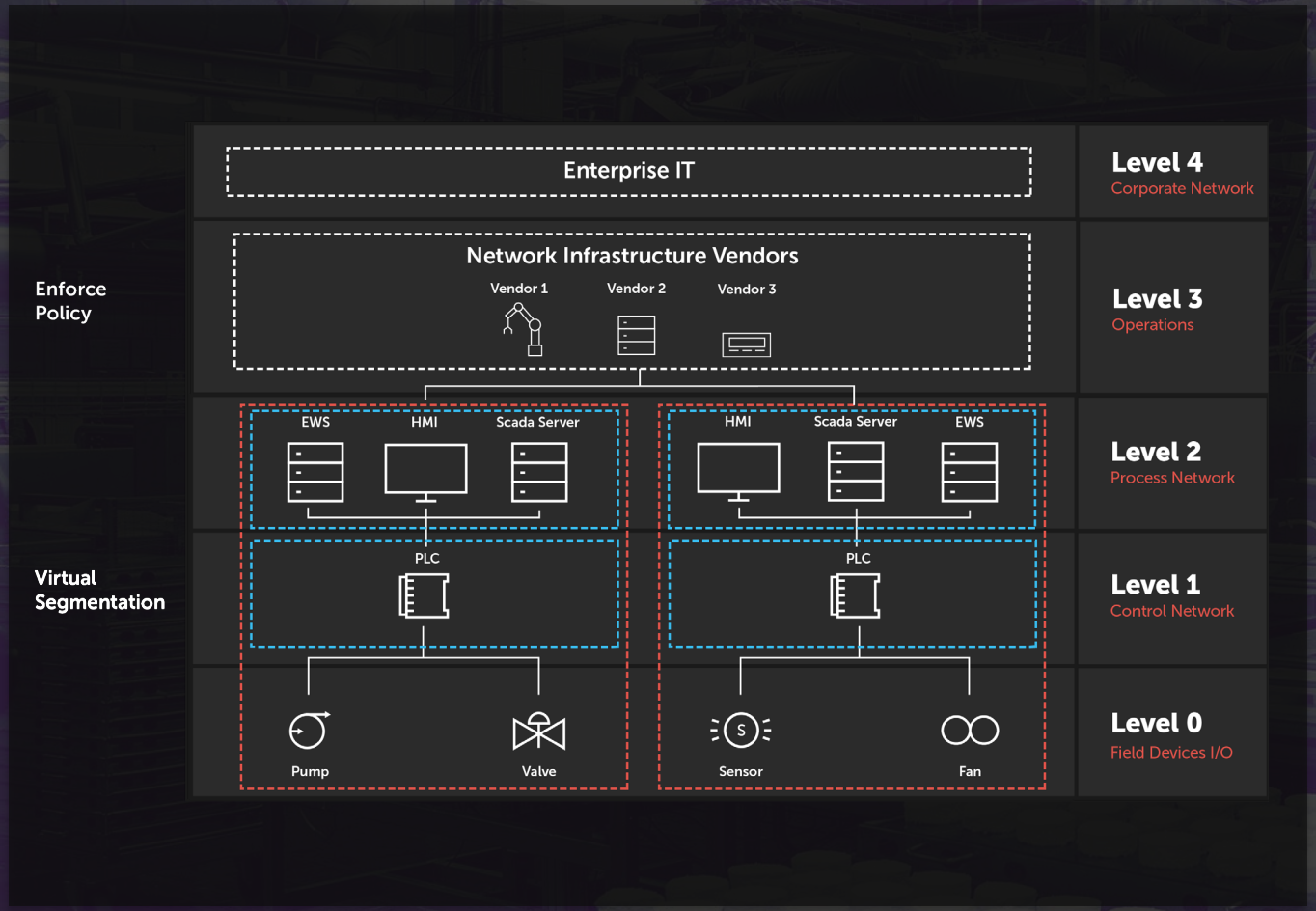
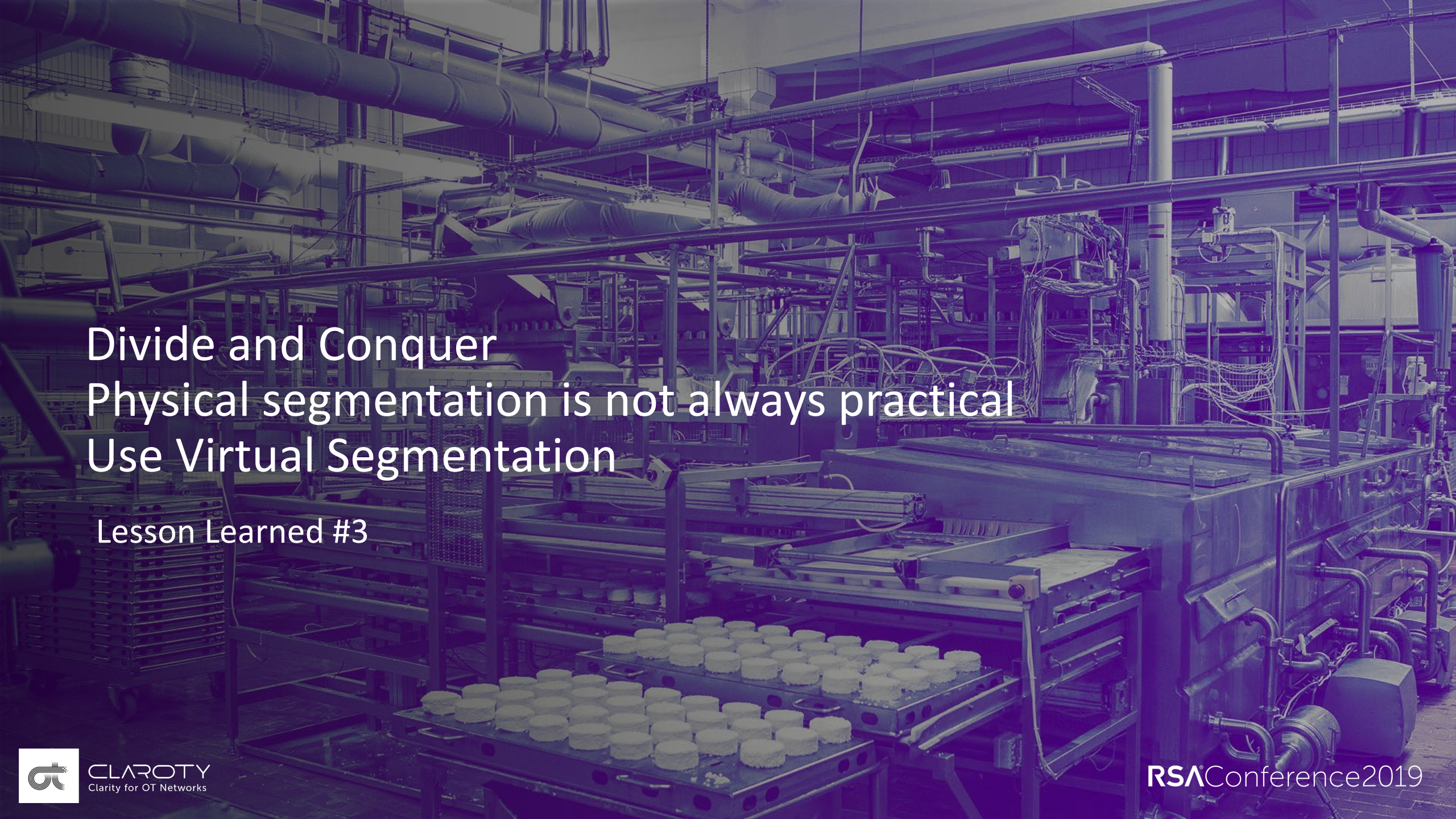
Case Study #3

Case Study #3



- Large manufacturing operation, initiated a physical segmentation project (Level 2 and below)
- Impractical to achieve – cost, downtime, personnel
- Virtual zones provide what's needed (alert, not block) without the downtime
- Enforcement policy implemented at a higher level
- Doesn't apply to every industry segment

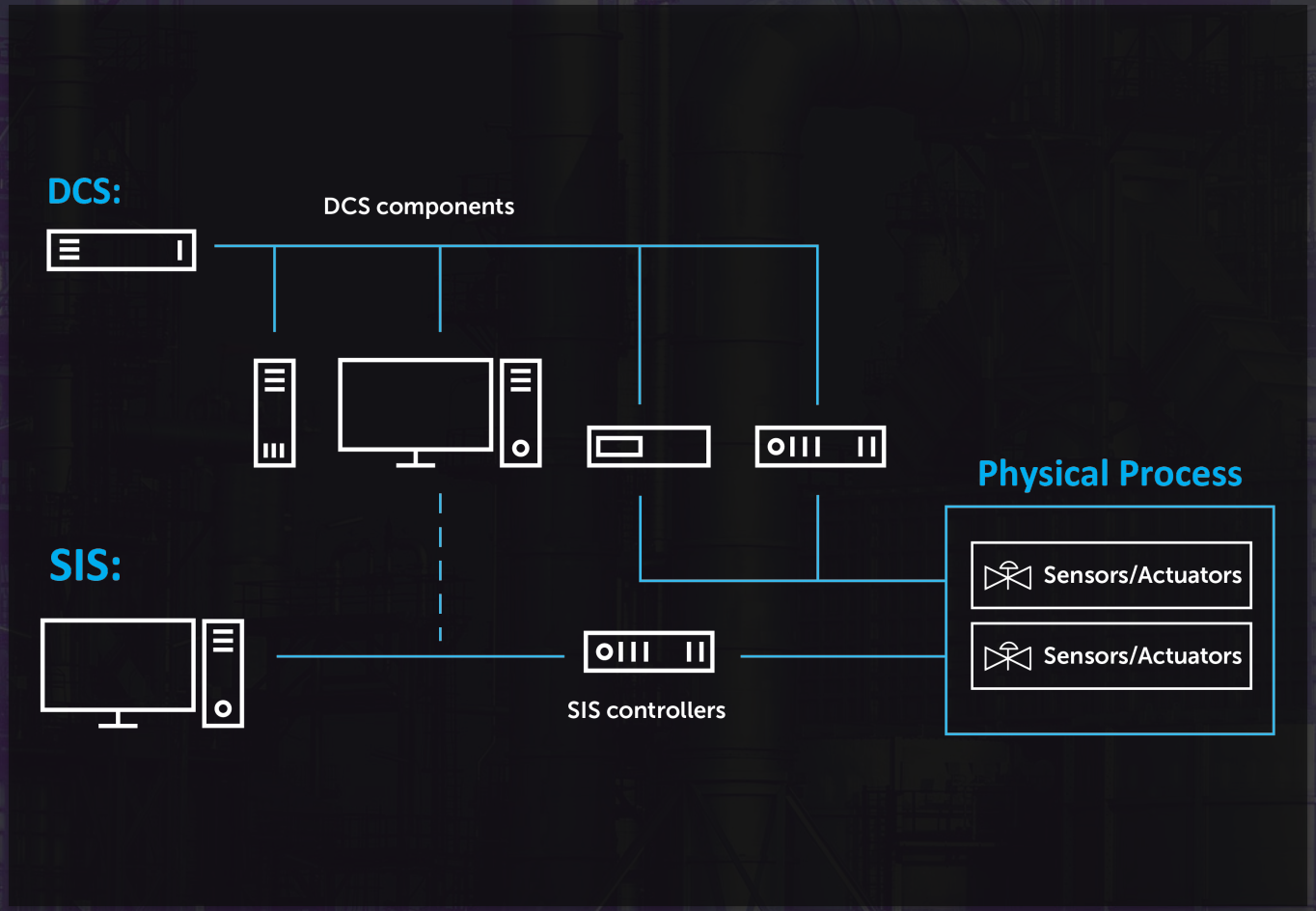


Divide and Conquer
Physical segmentation is not always practical
Use Virtual Segmentation

Lesson Learned #3


Case Study #4

Case Study #4



- Known case of Triton, applies to any critical infrastructure network
- No physical segmentation, no virtual segmentation
- Changing programing of Safety Instrumented System (SIS) is a different category of alert
- Measure everything through lenses of potential impact – that will inform prioritization

Prioritize Based on Risk
Understand the real risk based on OT-Specific Threat Monitoring

Lesson Learned #4

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Ultimately, It's All About Investing Smart

Prioritize Measures Based on the Highest ROI

In Summary

Best Visibility Yields Better Security:

- See and monitor nested devices that others cannot see
- Expedite alert triage with OT-related details for improved risk-based decisions
- Efficiently respond to threats with OT-specific context your existing SOC team can understand and act on
- Pinpoint the vulnerable devices in your OT network by identifying firmware versions, model

Ability to Detect Targeted OT Attacks

- Detect attacks Triton-style (0-Day) – without requiring signatures or
- The only way to efficiently detect hackers manipulating your data is by automatically monitoring which device allows altering specific tags

Ability to Prevent Attacks

- Eliminate a key OT attack vector – unmanaged remote access by employees and contractors
- Vitally segment OT network for early detection of likely malicious task
- Enable network segmentation - understand your current segmentation, assess weak points, and building mitigation plan

Improved TCO

- Integrated platform and integration with your technology stack reduces deployment and operational costs
- Capabilities that have no impact on existing headcount, process, and technology

“Apply” Slide – What you can do immediately

Establish clear ownership

- Communicate who owns OT network security
- Budget allocations and project timelines

Assess the current status

- Understand the true extent of the exposure
- Discover the blind spots and quantify the implications

“Apply” Slide – What you can do in the next 6-9 months

- Goal is to optimize Total Cost of Ownership (TCO)
  - Leverage existing technology stack
  - Plug and play with existing processes
  - Min impact on teams/habits
- Transform Opacity into Transparency
  - Leverage all available methods to get to 100% visibility: passive monitoring, active querying, config files dissection, etc.
- Enable network segmentation - understand your current segmentation, assess weak points, and building mitigation plan
  - Implement virtual segmentation for lower levels of the OT network
  - Leverage implementations with existing network infrastructure to implement policy and alert-based segmentation
- Deploy threat detection technology
  - Contextual OT-specific tech with the ability to detect the full spectrum of OT-relevant threats

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Thank you!

Questions?