Demystifying Asset Management in Critical Infrastructure

Craig Morris

About Me

- Director – KPMG Australia
- Ex-CISO
- Ex-Asset Owner

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SLIDO

How confident are you in your OT asset management efforts and OT asset visibility?

Do you know where your OT assets are, and in what condition?

- **Very confident** – We have complete visibility across our OT assets
- **Moderately confident** – Pretty good, may have some unknown and unmanaged assets in the environment
- **Not confident** – We don’t have a good understanding at all, we have a lot of work to do/just starting

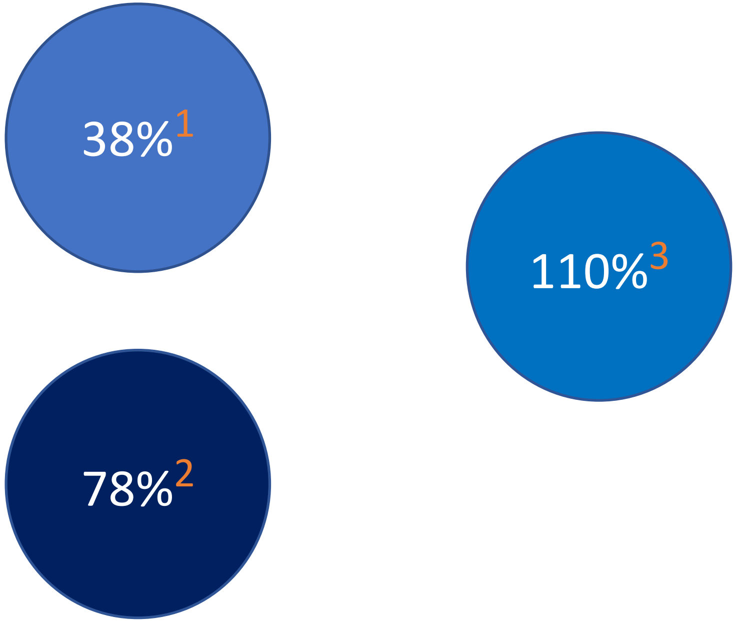
GOALS

- Understand asset management for OT Cyber Assets
- Enterprise Asset Management alignment
- Implementation approach

Drivers for OT Asset Management

What is driving the need for OT Cyber Asset Management?

- Standards and Frameworks
- Regulation (and best practice)



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1. [KPMG & CS2AI Control System Cyber Security Annual Report 2022](#)
2. [SANS 2021 Survey: OT/ICS Cybersecurity](#)
3. https://claroty.com/press-releases/ics-vulnerability-disclosures-grew-110-over-last-four-years

Managing Assets v Asset Management

ISO 55000 aligned definition

Asset – Anything that has potential or actual **Value** and for which the organisation has **responsibility**

Managing Assets

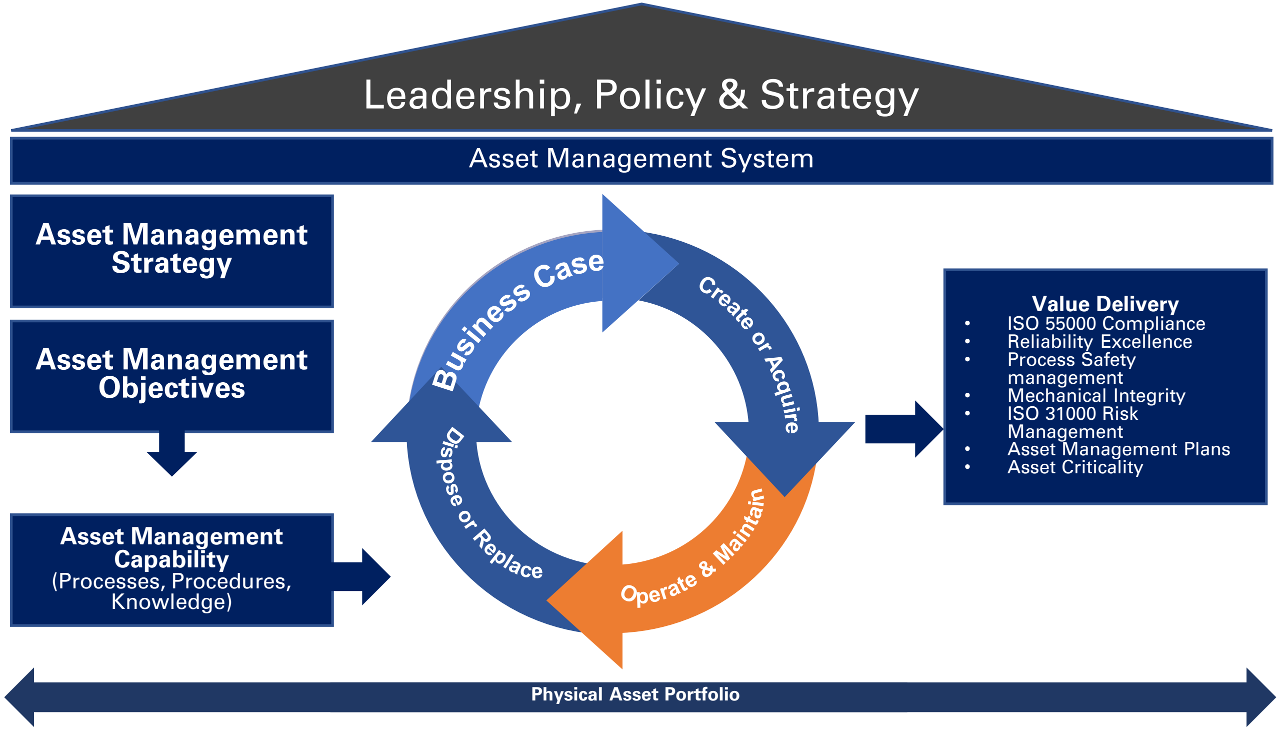
- Things done TO assets
- Tactical
- Maintain & Operate, Protect

Asset Management

- Structured, systematic, co-ordinated
- Strategic, purpose-led
- Maximises the value of assets - Lifecycle

Enterprise Asset Management

ISO 55000 Asset management lifecycle, Benefits



Leadership, Policy & Strategy

Asset Management System

Asset Management Strategy

Asset Management Objectives

Asset Management Capability
(Processes, Procedures, Knowledge)

Value Delivery

- ISO 55000 Compliance
- Reliability Excellence
- Process Safety management
- Mechanical Integrity
- ISO 31000 Risk Management
- Asset Management Plans
- Asset Criticality

Physical Asset Portfolio

1. Optimisation & visibility of assets throughout their lifecycle
2. Better risk management
3. Informed investment & decision making
4. Demonstrated security & regulatory compliance
5. Improved Resilience

Who, in your organisation, is responsible for OT cyber asset management ?

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Do you have the structures, processes in place?

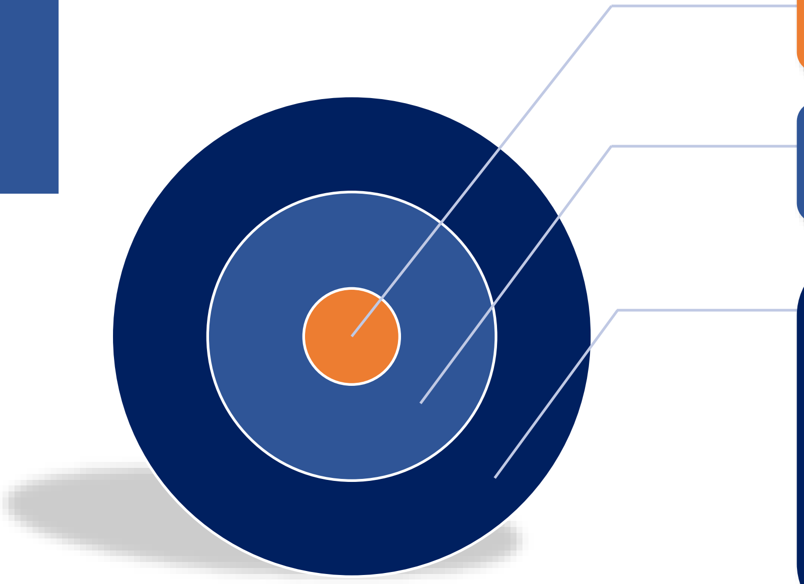
- **IT owned** – CIO, CTO, CISO
- **OT owned** – COO, Engineering Manager
- **Hybrid ownership** – Jointly managed
- **No Idea** – Hint: It might be you…

Australian Government
Department of Home Affairs

CRITICAL INFRASTRUCTURE CENTRE

SOCI Requirements

Drive uplift in security and resilience of Australia's critical infrastructure



Provide **ownership and operational information** to Register of Critical Assets (*8th Oct 2022)*

Mandatory reporting of serious cyber incidents – 12hrs Significant Impact, 72hrs relevant impact. *(8th July 2022)*

Adopt and maintain an **all-hazards** critical infrastructure **risk management program (RMP)** inc annual reporting

- Physical & Natural Hazards
- Cyber & Information
- Personnel
- Supply Chain

(Consultation until 22nd Nov 2022)

All assets are equal, some are more equal than others

George Orwell – mid-20th Century Asset manager (and author)

Asset Types

What gets reported to the DHA Asset Register?

How are you currently performing OT cyber asset detection?

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- **Manual** – Excel all the way
- **Semi-Automated** – Scans and scripts
- **Continuous** – 24*7, Automated

Approaches to Asset Management in OT

Manual

- Excel & Visio
- Resource intensive
- No integration
- Point in time
- Site walk downs
- Often neglected ☹

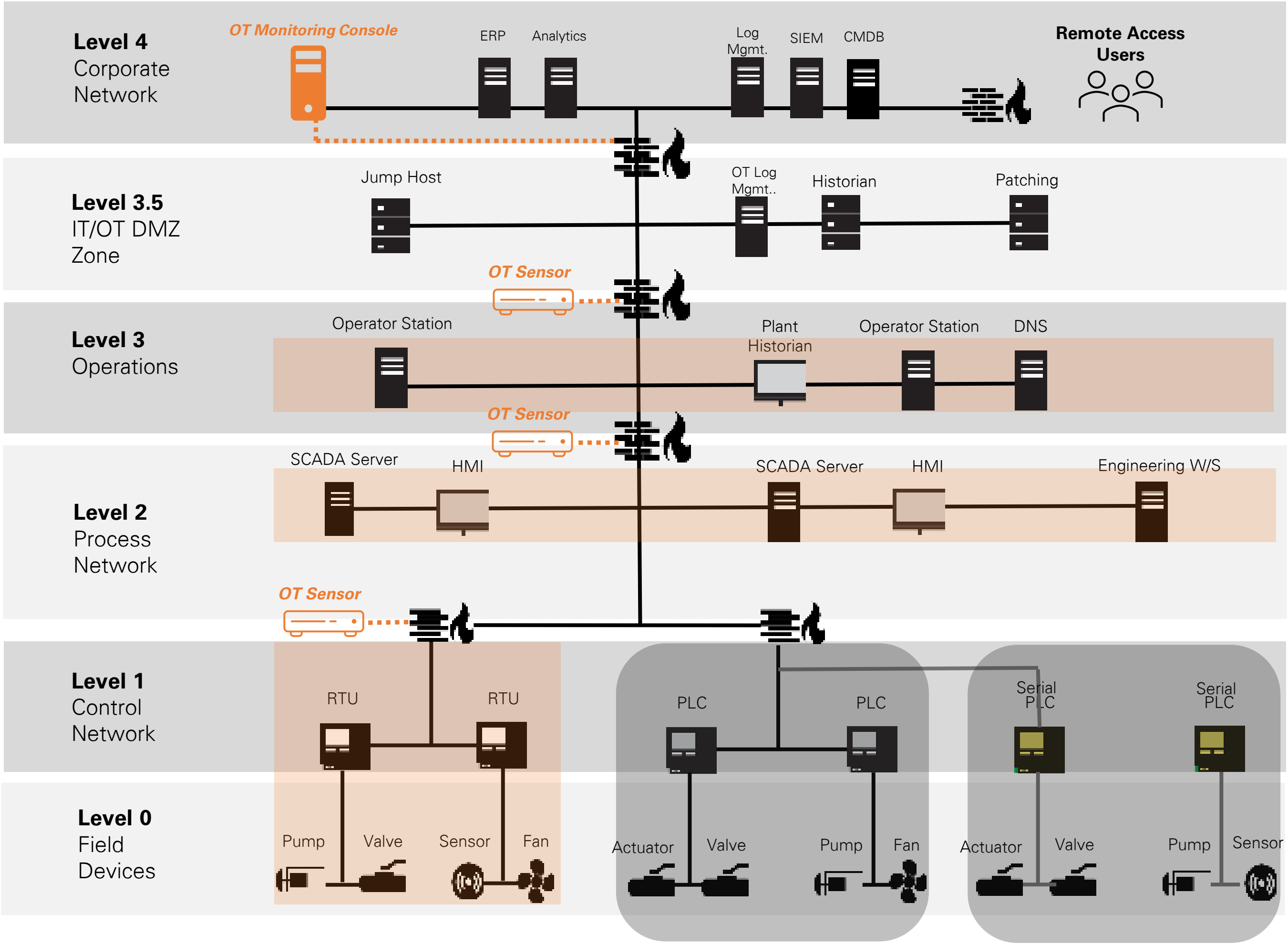
Semi-Automated

- Excel, Visio, Nmap, scripts
- Scheduled
- Some integration
- Misses devices
- Site walk downs

Continuous

- 24*7, Automatic
- On network = Detected
- Multiple Integration options, API’s etc
- Reduced workload for field staff
- + Additional Benefits

Implementing Continuous Asset Monitoring



Benefits

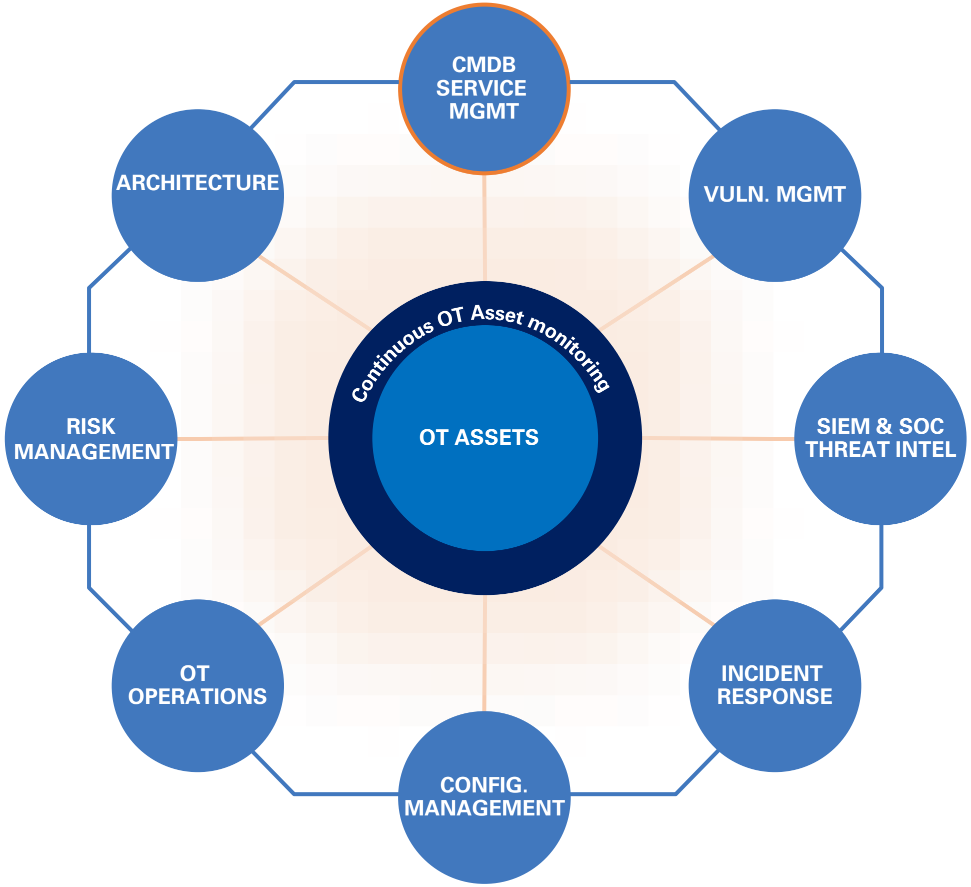
- Asset Visibility (Passive)
- Vulnerability Detection
- Anomaly detection
- Contextual Threat Intel
- Support for I&C and Engineers
- Reduce workload to maintain registers, diagrams etc

Implementation Challenges

- Management of Change
- Asset planning Schedules
- Network Architecture
- Non-IP Devices
- Standalone devices

OT Cyber Asset Management – Model

What can we do with the asset data?



- SOCI Enterprise Asset Management (Lifecycle)
- SOCI Governance & Reporting
- SOCI Business Resilience
- SOCI Crisis Management
- ● Data Visualisation & BI
- ● Workforce Planning & Work orders (ERP)

Implementation Approach

High level approach to implement OT Cyber Asset management in your organisation

Assess & Design

- Assess Network Capability & decide
- Deployment design & schedule
- ISO 55000 alignment (or other EAM)
- Governance framework (inc policies, Roles etc)
- **Management of Change**

Implement

- Deploy monitoring , tune & verify
- Process integration – IR, SOC/SIEM, ERP, Vuln Mgmt. etc
- Governance framework
- Reports & Dashboards

Run & Maintain

- Governance
- Reporting & Compliance
- Improve processes
- **Don't Forget: System upgrade and maintenance!**

Takeaways

1. Adopt/Align **Enterprise Asset Management**
2. **Continuous**, Automated approach
3. Integrate with other processes – **leverage your data!**
4. Address **regulatory requirements**

Thank You