Open Industrial Interoperability Ecosystem (OIIE) Australian Working Group (AuWG)

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Need

- Leverage the efficiency from digital services.
- Maintain interconnections
- Improve security and sovereign risk
- Improve decisions
- Maintain **Digital Diversity** and a Healthy Digital Ecosystem
 - Improve Risk
 - Improve Cost
 - Improve Sustainability

VENDOR NEUTRAL DIGITAL ECOSYSTEM

Large players are part of the ecosystem, not the ecosystem SME are part of the digital diversity to keep the health









OIIE AuWG purpose

- Ensure the OIIE supports Australian requirements in OIIE Use Cases
- Reduce the cost of solution by eliminating waste and lock-in
 - Benefits suppliers of services
 Benefits consumers of services
 Vendor neutral 2-sided market-place
- Future proof solution for industry
- New markets for Australian businesses





Business Value To Australian Stakeholder How The OIIE Supports It

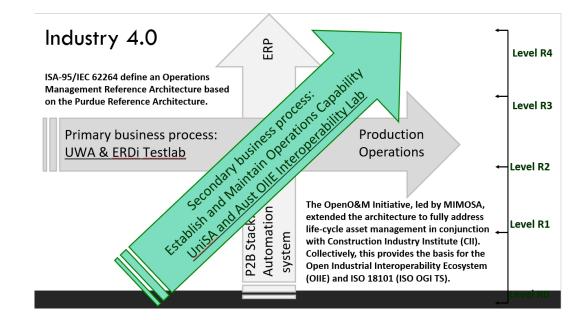
- Digital collaboration (Humans and Machines)
- No single vendor lock-in
- Anyone (quality controlled) can contribute at lower cost
 - o Data
 - o Knowledge
 - o Infrastructure
- Anyone (quality controlled) can use at lower risk
 - Multiple services in parallel
 - Low switching costs
 - No single point of failure
- More value to supplier and consumers of services





Why now

- ISO standards maturity
- Australian voice into standard development
 - ISO 55001 Asset Institute
 - ISO 18101 OIIE Australia Working Group
 - AS EL-069 Automation systems and integrations
 - Voting input ISO TC184/WG 6 and ISO 18101
- Australian Industry 4.0 Interoperability Labs
 - o University WA ERDi Industry 4.0 testlab
 - o Uni SA OIIE testlab
- · Local best of breed components available
- Local and global market opportunity
- Government support (3 of 6 growth centres are supporting the initiative)
- Major interest from large asset owners
 - o Defence
 - Transport
 - Mining
 - Energy



Growth centres onboard	Opportunity to get onboard
NERA	AMGC
METS	FIAL
AusCyber	



Success

Success =
$$\int \left\{ \frac{\text{External Integration}}{\text{Internal DIS integration}} \right\}$$



Business Management System Business goals and objectives

Alignment

vices		Asset Management System (ISO 55001 Framework) Asset goals and objectives						
ulting ser		Asset Risk Management	Assets Performance Management	Digital Twin	Asset Portfolio Investment	Real-time Asset Consumption	Asset Lifecycle Optimisation	Asset Threats and Opportunities
Cons	Asset Management digital services Interoperability (ISO 18101 OIIE Framework)							
		Field Force Optimisation	Planning and Scheduling	Centralised Configuration	lloT	MES	Logistic Optimisation	Real-time Optimisation
Operations Management ISA-95/IEC 62264								
	Plant data and execution Business data and execution DCS (O-PAS) connectivity framework ERP							

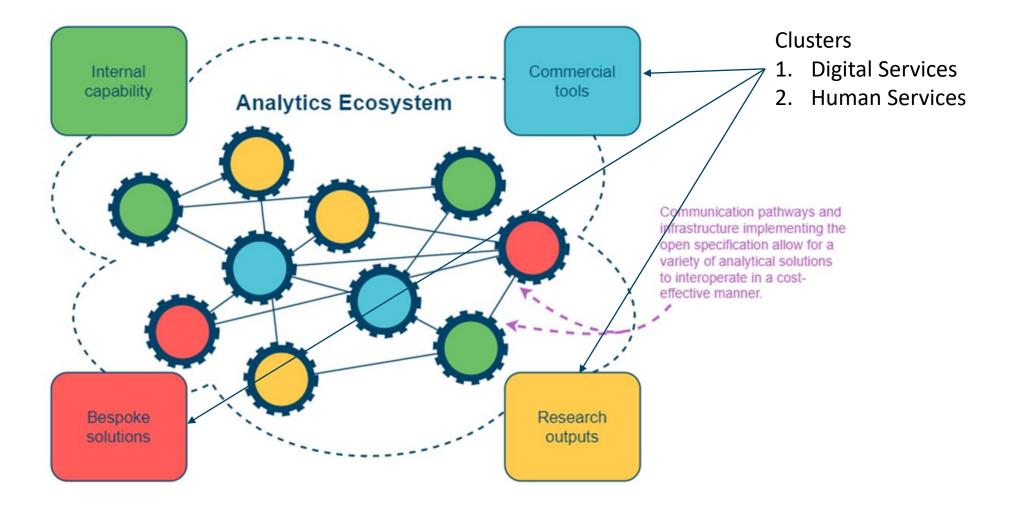
Asset Management

DCS ICMS	(O-PAS) connectivity framework	ERP CMMS Proj M	
Plant		Stakeholder	

Olle AuWG

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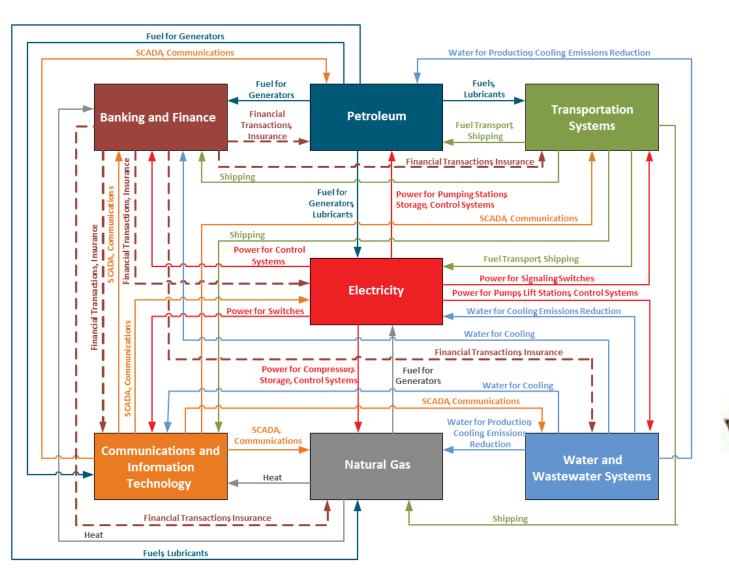
Asset Institute FEnEx Project





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Critical Infrastructure Interdependencies





Incorporating Prioritization in Critical Infrastructure Security and Resilience Programs Homeland Security Affairs 13, Article 7 (https://www.hsaj.org/articles/14091) October 2017

Duane Verner, Frederic Petit, and Kibaek Kim



CENTER FOR HOMELAND DEFENSE AND SECURITY

NAVAL POSTGRADUATE SCHOOL



Questions

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