



Global Mining Standards
and Guidelines Group

Building a Common Vision for Open Mobile Mining Equipment

Presented by

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OSIsoft.

USERS CONFERENCE 2015

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Mandate: Global mining collaboration on solutions to common industry problems, needs and technology through standards, guidelines and best practices.

Key Roles

- Centre of facilitation
- Drive/Support Stds & Guidelines
- Bridge to Standards Organizations
- Knowledge Hub
- Library Existing Stds & Practices



Industry Partners:5; Corporate Members: 60;
Industry R&D Associates: 12 Participants: 500;



Partner Organizations (5)



The Southern African Institute of Mining and Metallurgy
Founded in 1894



Suncor, BHP Billiton, SMART Systems, Desert Falcon Consulting



Collaborative Industry R&D Associates



Mine Safety Roundtable Group



Working Groups

8 Active Working Groups

- Data Access & Usage
- Situation Awareness
- Technology & Connectivity
- Underground Mining
- Operational Safety & Risk Management
- Industrial Comminution Efficiency
- Collision Avoidance
- Integrated Operations Centers

5 Pending Working Groups

- Occupational Standards & Skills/Training
- Mine Planning & Engineering
- Mining Education
- Maintenance Reliability
- Industry Operational and Data Model





Mining Evolution from Iron to Intelligence



400+t



120t

70yd



15yd



*Drive to maximize Availability, Utilization, and Productivity
via Automation, Efficiency, and Optimization
+ Key Technologies*

1993



1997

Unleashed a wave of intelligent computing applications





HOUSTON WE HAVE A PROBLEM!!



Incompatible Islands of Equipment Systems & Technology

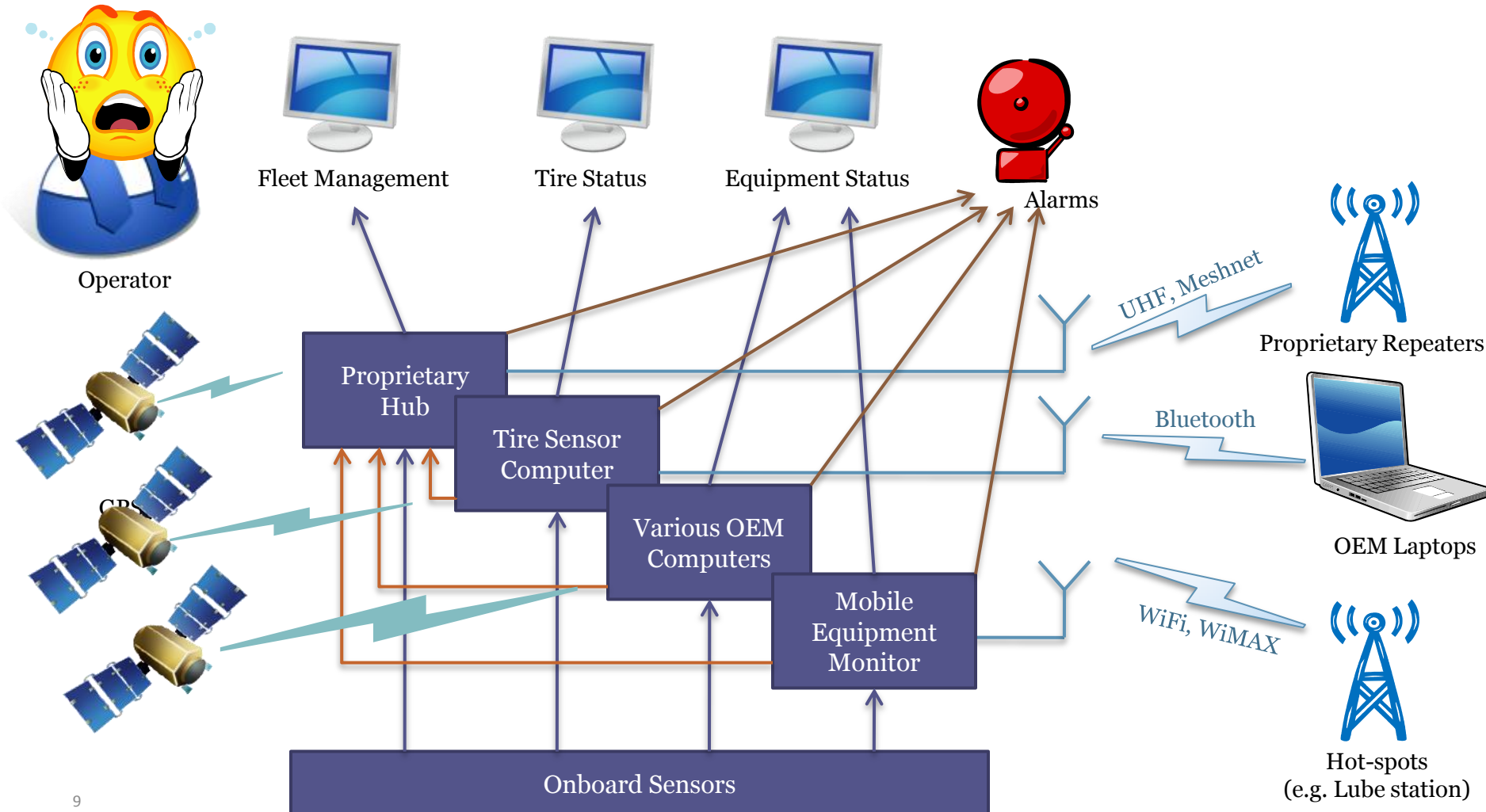
- High Cost & Time
- Vendor Barriers
- Data Access Restriction
- Operator Impact
- Safety
- Stifling performance, Opportunities & Innovation

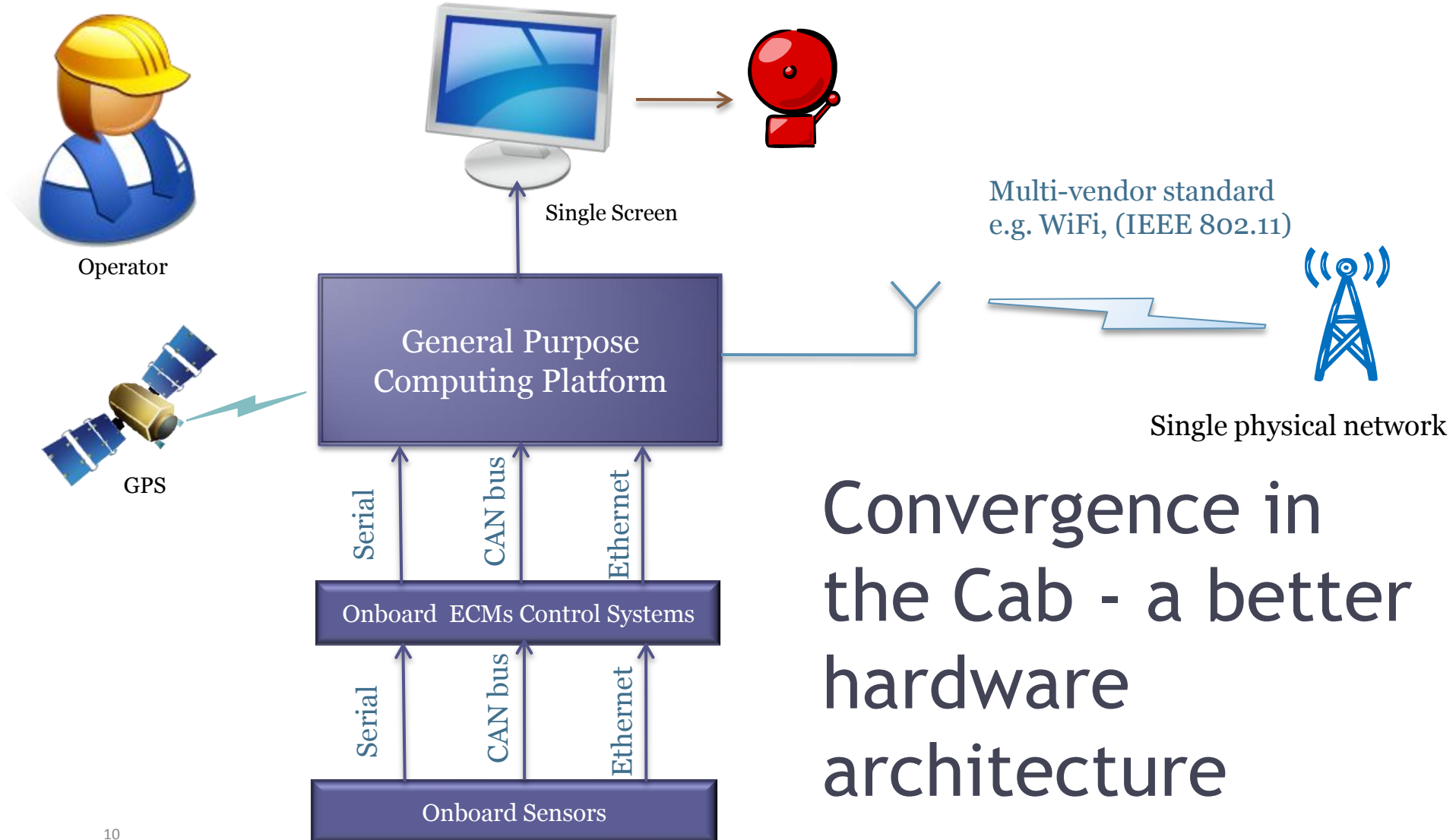


Unsustainable - Mine Operators future at risk



Status Quo multiple devices, systems & technologies







The Legacy GMSG Working Group

Mobile Mining Equipment Onboard Data Access

Mine Operator/Owner requires unfettered read only access to onboard real time data.

This is, consistently, both surface and underground mine operators highest priority objective/issue.



Mine owner/operators utilizing GMSG to address this as an industry issue with “One Voice”

Real Time Equipment Data Access is prohibited (variably) by OEM, due to:

- ✓ Proprietary Systems
- ✓ Business Agenda
- ✓ Intellectual Property

There has been a disconnect between the mine operator/owner and OEM



The Legacy GMSG Working Group

Mobile Mining Equipment Onboard Data Access

Real Time Read Only Data is needed by the Mine Operator/Owner for advanced automation and integration for :

Increase Availability, Utilization, Productivity

Reduce Operating Costs,

Safety,

Asset Health,

Energy Reduction,

Innovation – Mine Operator, OEM, OTM, 3rd party, R&D

Real Time ➡ Future Time ➡ Autonomy

Standards and the Regulator

- Have no interest in: Algorithms, supervisory and control data and proprietary data that may be sensitive for competitive reasons.



High Value Integrated Operations Data Need





The Legacy GMSG Working Group

Mobile Mining Equipment Onboard Data Access

Status:

- Achievements: OTMs, network, data ownership, system & technology industry awareness
- OEMs are recognizing the industry progress, need, and mutual benefit

Current Objective/Mission:

The working group will focus on determining and facilitating agreement on the real time equipment data that both Mine Operator and OEM agree should be openly accessible for use by all parties, and draft industry principles and access standard for the supply of onboard data by end of 2015.



The Legacy GMSG Working Group

Mobile Mining Equipment Onboard Data Access

Activity:

- Working group has reconfigured its participation and activity
- OSI agreed to take an mining industry agnostic lead and facilitation
- Emphasis has been on getting mine operator and OEM to the table, which has been successful:
 - OEM: Caterpillar, Komatsu, Hitachi, Liebherr, Sandvik, Atlas Copco, Joy Global
 - Operator: Teck, Barrick, BHP, Rio Tinto, Anglo American, Newmont, FMI, GoldCorp, Peabody, Gibraltar
- Successful first work shop in February SME Denver Conference
 - Identification of agreed data sets, both open and closed due to OEM IP
 - Outcomes were documents and distributed to participants for next steps
- Next Steps
 - 2nd workshop at Montreal CIM conference, UG, align data and equipment
 - 3rd session in Australia coincide with AUSIMM event
 - 4th and final session for South America in Q4



Future Vision – Onboard Value of a Converged Experience - one integrated system, many “apps”

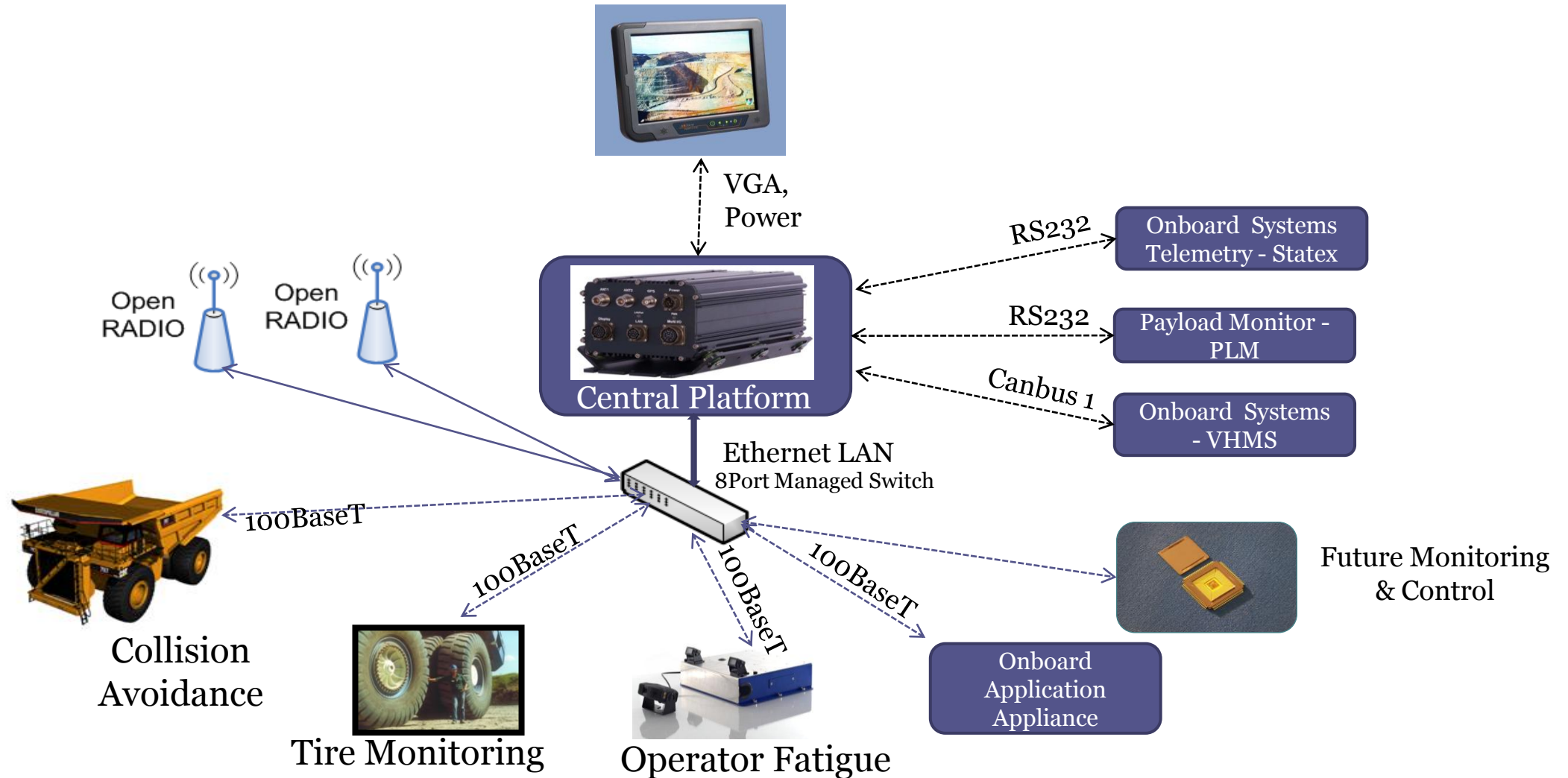


VS



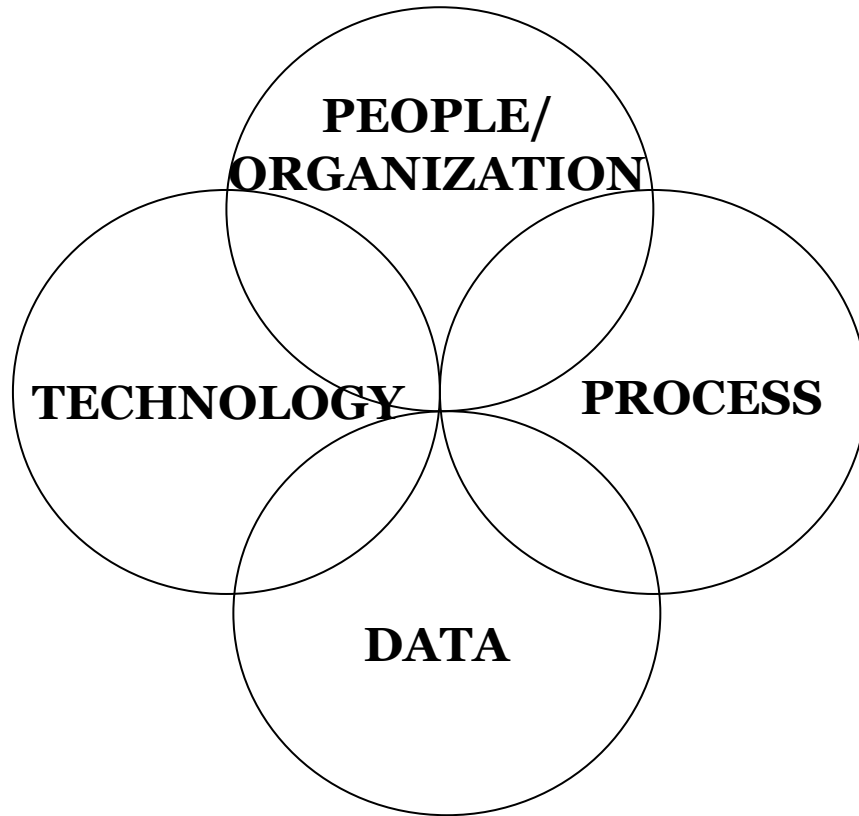


Future Vision - Integrated Onboard System Architecture





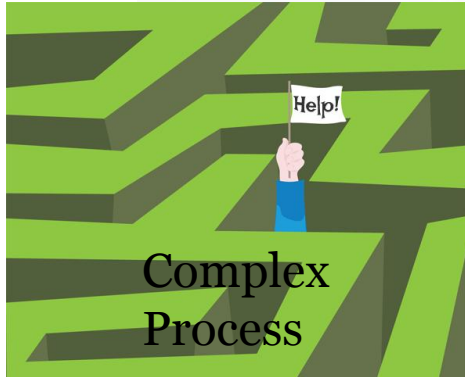
Future Vision – Integrated Operations and Centers



TOTAL SYSTEMS THINKING



Autonomous Mining - Not Yet



Limited Technology
Architecture



Operational
Constraints & Risks



Immature



Information and to get involved

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Questions

Please wait for the **microphone**
before asking your questions

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name & company





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