



Asset Performance, Operational Technology & Digitalisation

Michael Joinson
GDH Instrumentation, Control & Electrical



*...Creating an environment where our engineers are valued,
appreciated
and recognized for the commitment to see our industry succeed...*

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World Class Engineering

It's about:

- *Us. Safety comes first; commercially minded, we guide our own development in pursuit of personal and business needs*
- *Leveraging a diversified and competent engineering community*
- *Ensuring the basics are executed extremely well*
- *Celebrating our successes, sharing our challenges and learning from each other*
- *Reducing the risk to people, removing them from harm's way by automating the process*
- *Pursuing goal zero by reducing our process safety incident rate to the lowest in industry, our safety systems working in harmony with other barriers*
- *Our automation and power systems presenting a hard target to potential cyber attackers and demonstrating resilience if compromised*

The Energy Transition & Sustainable Solutions Today

- *Facilitating a low carbon future for our existing facilities and emerging markets, enabling us to thrive in the energy transition through the automation and electrification that we drive*
- *Building technical expertise for a profitable new energies business*
- *Leading discipline Engineering through the energy transition, and creating sustainable solutions today*




Digitalization & Technology

- *Leading the digitalization agenda, creating and leveraging a positive disruption in the automation and power systems world*
- *Maximising our production operations value through smart control, modelling and optimisation*
- *Continually striving to improve our systems, service and capabilities. Empowered to try new ideas, we either succeed or fail fast*
- *Actively seeking new automation and power technologies with tangible benefits and getting them deployed in an agile and timely manner*






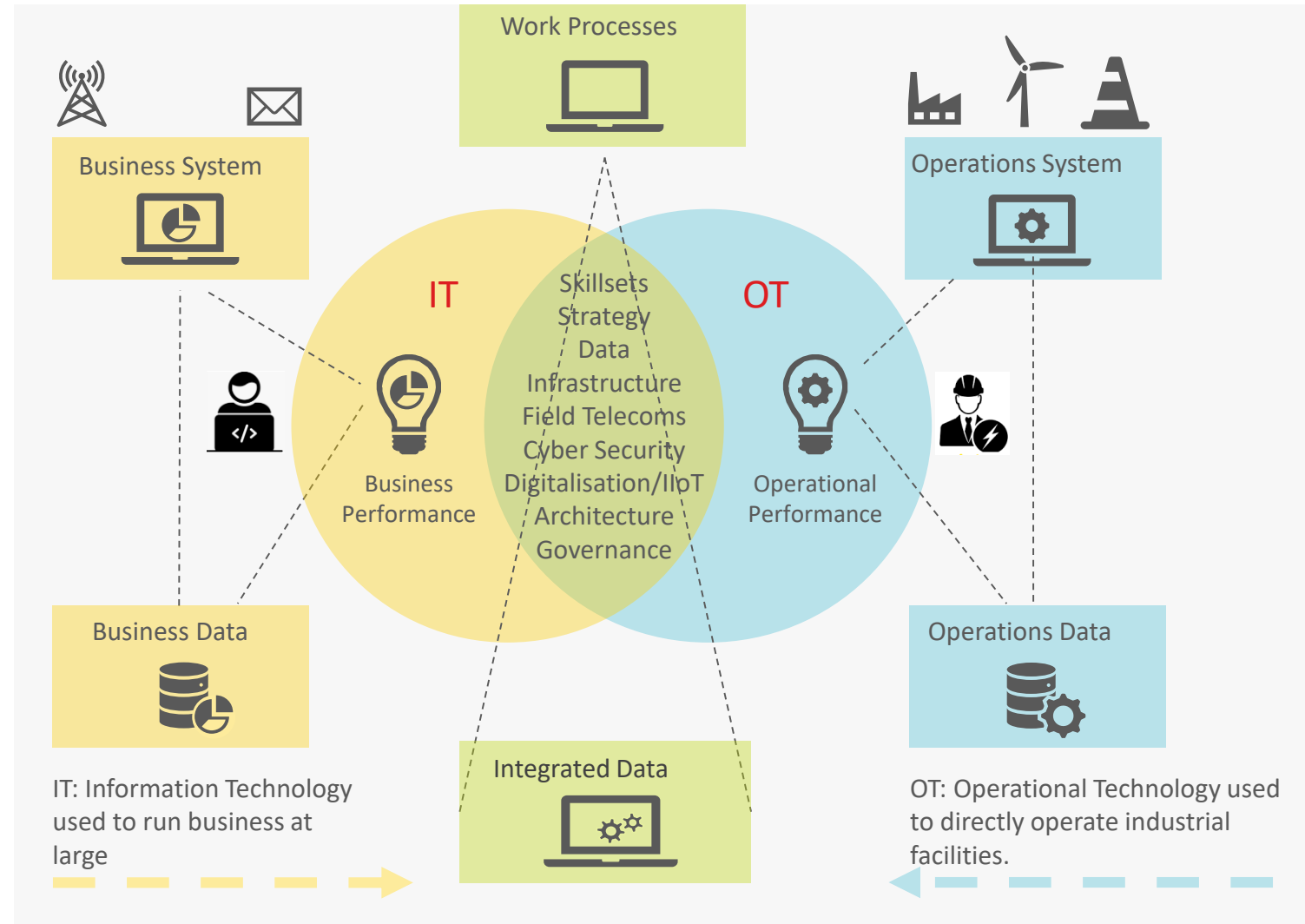
Global IT-OT (Operational Technology) Perspective

What is Changing?

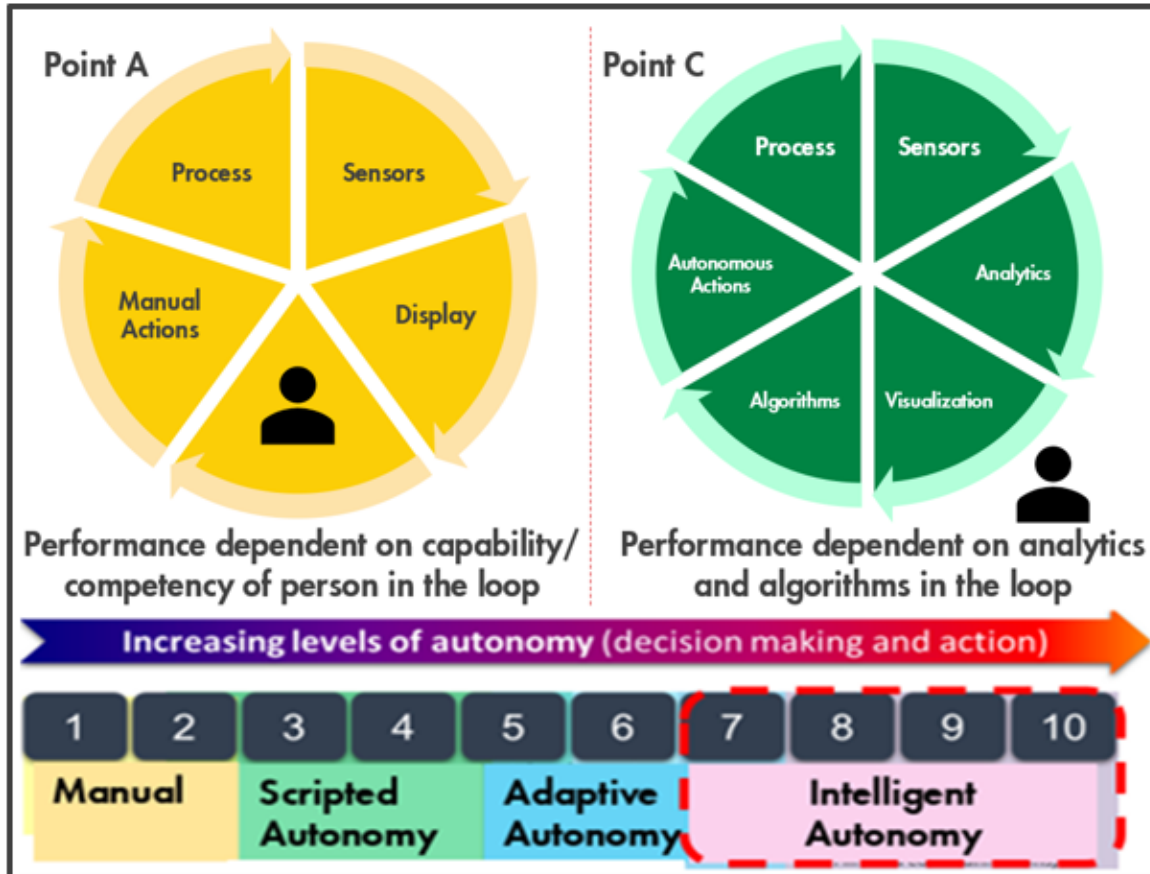
-  Technology distinctions between IT & OT are reducing
-  Accelerated growth in the quantity of both Business and Operational data, in addition to data management needs
-  New methodologies to achieve improvements in reliability of equipment

Why is it important?

-  Critical enabler to **close the** asset performance gap & increase autonomy
-  **Avoids cost & risk** of OT transformation while enabling the Asset of the Future
-  Leverage synergies into **decarbonization** efforts and **new energy opportunities**



IT-OT - Pursuing Autonomous Operations



- **Moving to Autonomous Operations requires:**
 - Site assessment of the current level of autonomy with aspirations for both the availability and optimization
 - Work processes as the basis for delivery and deployment
 - A strategy & plan to implement increased levels of autonomy
 - Parallel tracks for different timelines (e.g. aspects of Intelligent autonomy may require research & an OPAF/IT-OT/MPDS playground)

Delivering the optimal desired level of autonomy.

External data point - IOGP (International Association of Oil & Gas Producers) Business Case: Risk reduction due to elimination of personnel during normal operations

Digitalisation and AI

Driving efficiency in our existing businesses



Helping our frontline use data to drive a better value outcome



Maximising availability



Digital twin

Key enablers

1

Data
enables AI

2

Culture and
Learning

3

Access
to talent

Now is the time to Think Bigger



