MRO Master Data; Roadblock, or Expressway to Net Zero?
Buckle up, we’re encountering turbulence!

1. Our sector is responsible for 75% of the emissions that have taken us to 1.1ºC
2. However, energy is vital for a population of some 10 billion by 2050
3. Global electricity demand is expected to double by 2050
4. Potential annual market >USD 1 trillion by 2050 for low emissions energy
5. The complexities of regional conflict
6. So, what can the Oil & Gas market expect?
   • Peak demand for oil by 2025
   • Oil demand down to 25 mb/d by 2050
   • Increase in gas demand for 5 years, with significant regional variations
   • Disruption, from an industry pivoting on its axis
Measure to Manage

“To reach net zero emissions before 2050, we need all business to measure, account for and disclose carbon emissions as a first step to reducing them. We cannot solve what we cannot measure.”

“But measuring carbon and other greenhouse gas (GHG) emissions across product value chains today is almost impossible”.

World Business Council for Sustainable Development (WBCSD) May 2021
Difficult questions

• What is your department doing to reduce the company's carbon footprint;
• How will you get to net-zero if you have no control over materials procurement or stock;
• How will you go about flat-lining (then reducing) the constant rise in warehouse volume required;
• Do you have the information you need and can trust to help you reduce the carbon tied up in materials, without hitting your pick-rates/production targets;
• And where does digitization play a role in reducing our Scope 3, Supply Chain emissions?
So, what is this master data stuff?

- Master data is the core data essential for running operations within a business.

- Comes in a number of flavours:
  - Vendor
  - Asset
  - MRO spares

- Often the opposite of Big-Data
  - Low volume
  - Low volatility
  - Complex and valuable.

- Should be “The Golden Record”. Standardised, accurate, trusted and accessible across an enterprise.

- ACME Inc, ACME plc, ACME S.A., Art Cave Mech Eng
- Leman; 49/26AD1; Leman Drilling 1
- Stop cock, Kelly cock, Valve
Why the MRO Three-Legged Stool?

- Asset data
- Parts Data
- Vendor Data
Circular Economy: Ambition v Reality

Unable to find item due to poor description or stock-out

Pressure on Procurement

Ad hoc, off-book order

Unable to set up correct MRP details

Received and stored against ad hoc description

Manufacture & Shipping

Reduce

Recycle/Reuse

Ship

Use

Produce
Solution – Turn data into information

- Establish a single source of optimised, accessible, trustworthy material data:
  - Standardised, enhanced, rationalized and maintained
- Link all stocked spares to Bills of Materials to remove unrequired stock
- De-dupe vendor lists, rationalize and rank
- Stop buying equipment you already own
- Start adding CO2-eq to procurement evaluation criteria and price book data
- Remove duplicates from stock and rationalize bins to reduce warehouse growth
PIDX – Emissions Transparency Data eXchange

MINING AND WELL DRILLING MACHINERY AND ACCESSORIES
OIL AND GAS DRILLING AND EXPLORATION EQUIPMENT
COMPLETION TOOLS AND EQUIPMENT
LINER HANGERS

Segment Family Class Commodity

Noun HANGER
Modifier LINER

Attribute 1 TYPE
Attribute 2 LINER SIZE
Attribute 3 CASING SIZE
Attribute 4 CASING WEIGHT
Attribute 5 LENGTH
Attribute 6 MAXIMUM OD
Attribute 7 MODEL DESIGNATION
Attribute 8 MATERIAL
Attribute 9 SETTING PRESSURE
Attribute 10 TOP CONNECTION
Attribute 11 BOTTOM CONNECTION
Attribute 12 SPECIAL FEATURES
Attribute 13 APPLICATION
Attribute 14 MFG Material OSDU Key
Attribute 15 MFG GHG Rating
Attribute 16 MFG GHG Total
Attribute 17 OPQ GHG Rating/Hour
Attribute 18 OPQ GHG Rating2/Hour
Attribute ...n ???????

UNSPSC Code 20 12 14 17

PIDX PIDD HANGER:LINER

PIDX PIDD Detailed Attributes

Workgroup to extend PIDX PIDD for GHG
Benefits

- Emission transparency across supply chains reduces emissions:
  - Reduced CO2-eq tied up in buying and storing spares
  - Improved reuse and recycling
- Savings across the business:
  - Reduced working capital tied up in MRO
  - Improved pick rates, even with lower inventory levels
    - Better 'wrench time'
  - Improved procurement efficiencies
    - Strategic v Tail-spend
    - Aggregated purchasing to achieve volume discounts
Alternatively...

WHAT DOES THE DATA TELL US TO DO?
WE ONLY HAVE BAD DATA ON THIS.

DOES THE BAD DATA SUGGEST WE SHOULD DO WHAT WE WANTED TO DO ANYWAY?

THAT'S CALLED "GOOD DATA."

WELL, YES.
Any questions, or stuck in the slow lane?

Contact:
Tom Cave
+44 (0)7736 672 416
mdm@fraser-cave.com