How Advancing the Materials Management Process through Standards and Technology can contribute to common Emissions reporting

CLEAN DATA IS GREEN DATA
So who is Tom Cave?

- My first introduction to O&G E&P – North Sea, February 1979…
- Founding in Maintenance Repair and Operations working in the aerospace industry
- First data management project was with Shell in the 90s working with POSC Caesar
- From Noughties to Now in Master Data Management
- Overseen many millions of lines/Tens of $M data optimisation projects
- Chaired the PIDX Catalog & Classification Workgroup
- Been honoured to have been asked to act as event facilitator for PiDX events
- And also available for Bar Mitzvahs and Weddings…
And who are Prospecta? Builders of Data Culture

Founded in 2002 | MDO Launched in 2008

Focussed on Data Management & Automation

HQ Sydney | Global Presence | 200+ Employees

Consumption based SaaS Product Suite

SAP Endorsed Partner

Recognised by Gartner & Forrester

Forrester MDM WAVE 2021

Customers liked the comprehensive solution to manage data governance in SAP ERP, its ease of use, technical support, and native integration with the SAP ecosystem.

“Prospecta is a good fit for customers looking for a low-cost MDM solution that integrates with SAP systems”

-Forrester MDM Wave 2021
The issue we face

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

“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.”

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;
- Are your assets fully utilized, as efficiently as possible;
- 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 your Scope 3 emissions?
Solution – Turn Data Into Information

Stop buying equipment and spares you already own

Establish a single source of optimized, accessible, trustworthy source of material data:
- Standardized, enhanced, rationalized and maintained
- Link all stocked spares to Bills of Materials to remove unrequired stock

Optimize asset utilization

De-dupe vendor lists, rationalize and rank

Add CO2-eq to procurement evaluation criteria and price book data

Remove duplicates from stock and rationalize bins to reduce warehousing
Case Study Background

- The operator recognized the need for a data standard and technology to manage their materials master data.
- Through participation in the PIDX Catalog & Classification workgroup, settled on two standards and one technology:
  - PIDX’s Petroleum Industry Data Dictionary (PIDD) – open standard, designed and maintained by the industry to cover Up and Downstream
  - United Nations Standard Products and Services Code (UNSPSC) – also open standard, designed to enable the grouping of families of items for catalogue management and spend analysis
  - Conscious that 75% of manual data improvement projects fail, they selected Prospecta as a specialist software and services company to leverage these standards and their corporate master data governance rules
What does specialist technology look like?

Source Systems Data:
- Master Data
- Reference Data
- Conditional Masters

MDO Enterprise MDM Platform (FUSE)

DATA QUALITY - DIW

<table>
<thead>
<tr>
<th>HARMONIZATION</th>
<th>DATA QUALITY</th>
<th>COMPLIANCE</th>
<th>REMEDIATE</th>
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</thead>
<tbody>
<tr>
<td>De-duplication, consistency and consolidation – based on the data model</td>
<td>Master Data Standards and data quality parameters based on industry / corporate standards</td>
<td>Validate against rules required from compliance and additional checks</td>
<td>Data Correction and Approvals by Specialists, Department Heads base on Roles – Sync/Write Back</td>
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Business Rules & Workflows

Data Driven Guided Governance Process

- Final Approval can be done before it is sent to source systems
- Data Specialists (SME) – Requests can be routed to the relevant SME based on roles
- Data Approvers – Requests can be approved and validated
- Data Requestors – Online and Mass Templates – based on templates

Easy to Deploy and Maintain
Adapt to Changes – Business & Technology Low Code
Pre-Defined Data Models /Accelerators & Integration Lean Deployment – In weeks
Cloud Based – Faster ROI
One Solution – Data Quality & Governance
Data Standards - UNSPSC

- A binomial nomenclature system – A what!?
- Resolves down to two words, a Noun and Modifier, to group items into families; think Linnaeus and kingdoms to species…
- Allows grouping of ‘families’ of items from Segments to Commodity level
- Importantly – it’s NOT a data dictionary/taxonomy
- Structured descriptive templates based on NOUN;MODIFIER:ATTRIBUTE 1 to n
- Includes Universal Standard Products and Service Classification (UNSPSC) to commodity level – i.e., Liner Hanger
- Adding GHG attributes for data collection
- GHG data captured here can be used in ERP systems, like SAP Sustainability Control Tower and for vendor and item selection and use.
Case Study

Fortune 500 American global E&P independent, they recognized the issue they had with ungoverned asset and spares master data. Their aims were to:

• Create cost and time benefits across inventory management procurement, maintenance & reliability, and IT
• Establish “plans for every part”,
• Improve user experience,

Their next step was applying these capabilities to emission and sustainability goals.
## Key Benefits & Expected Results

<table>
<thead>
<tr>
<th>Key Benefits (People)</th>
<th>MM workflow allowing for a “Plan for every part” (Process)</th>
<th>Advanced platform functionality (Systems / Tools)</th>
</tr>
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<tbody>
<tr>
<td>• Broader user base, elimination (MM) request spreadsheets</td>
<td>• Ensure BoM connection</td>
<td>• Tools to govern taxonomy, descriptions, duplicate prevention and business rules.</td>
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<td>• Superior search functionality</td>
<td>• Connect MM’s to the procurement process to increase contract reference</td>
<td>• Self-service supplier portal</td>
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<tr>
<td>• Connections to external master data cloud to help enrich MM characteristics</td>
<td>• Ensure MM supply strategies resulting in optimized inventory levels</td>
<td>• Supplier RFI functionality</td>
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<tr>
<td>• Reduced duplicate materials</td>
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<td>• Mobile functionality</td>
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### Key Benefits

- Improved Efficiency
- Decreased MM creation time
- Reduction of MM duplicates
- Increased PO accuracy leading to improved P2P efficiency

### Results Achieved

- Improved Minimized down time, aiding in safe / reliable operations
- Faster, more accurate part ID leading to lower WO cycle time
- More automated procurement
- Optimized stock and pick rates
- Higher use of analytical insights
- Vendor managed data
- Easier MM catalog and business rule stewardship
- Track emission goals/sustainability
Clean data is green data

Optimizing materials and asset data is one of the very few areas where “going green” does not incur a net cost:-

- Reduced working capital tied up in MRO
- Simplified and improved user experience
- Reduced waste diverted from landfill through reuse programs
- Reduced Scope 3 emissions by purchasing only what is needed
- Reduced demand for warehousing
- Improved pick rates, even with lower inventory levels
- Improved procurement efficiencies
- More able to calculate impact on asset utilization and optimisation
- Better ‘wrench time’
- Aggregated purchasing to achieve volume discounts
- Staff morale and retention
ANY QUESTIONS?

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