Implementing Obsolescence Management Plans throughout the supply chain

Luciano Lustosa
Alstom
1. The problem
   * Complex systems are made of a long supply chain with many suppliers
   * Life cycles are incompatible
   * Customer requirements can be vague
   * Commitments from your Suppliers and to your Customers do not match
   * The risks

2. The solution
   * OMPs
   * OMP contents
   * Types of Obsolescence Management Plans
   * OMPs from suppliers to integrators to end-customers
     * Putting all pieces together
     * Back-to-back risk coverage

3. Conclusions
   * Check the linkage supplier to customer of OMP coverage
Complex systems are made of thousands of parts from several suppliers:

- Defence
- Medical
- Aerospace
- Nuclear
- Oil & Gas
- Rail
Obsolescence is inevitable!!

Technology Life Cycles are incompatible

Military, aerospace, nuclear and rail have long Operational Lives
Customer requirements can be vague

"... contractor shall...

... propose spares for xx years...

... manage obsolescence...

... propose a replacement solution..."
Commitments on obsolescence from Suppliers and to Customers rarely match

<table>
<thead>
<tr>
<th>Year</th>
<th>Year 2</th>
<th>Year 3</th>
<th>Year 4</th>
<th>Year 5</th>
<th>Year 6</th>
<th>Year 7</th>
<th>Year…</th>
<th>Year 20</th>
</tr>
</thead>
<tbody>
<tr>
<td>Customer requires</td>
<td>Resolution</td>
<td>Resolution</td>
<td>Resolution</td>
<td>Resolution</td>
<td>Alerts</td>
<td>Alerts</td>
<td>Alerts</td>
<td>Alerts</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Year</th>
<th>Year 2</th>
<th>Year 3</th>
<th>Year 4</th>
<th>Year 5</th>
<th>Year 6</th>
<th>Year 7</th>
<th>Year…</th>
<th>Year 20</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supplier A</td>
<td>Resolution</td>
<td>Resolution</td>
<td>Resolution</td>
<td>Resolution</td>
<td>Alerts</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Supplier B</td>
<td>Resolution</td>
<td>Resolution</td>
<td>Resolution</td>
<td>Resolution</td>
<td>Alerts</td>
<td>Alerts</td>
<td>Alerts</td>
<td></td>
</tr>
<tr>
<td>Supplier C</td>
<td>Resolution</td>
<td>Resolution</td>
<td>Resolution</td>
<td>Resolution</td>
<td>Alerts</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Supplier D</td>
<td>Resolution</td>
<td>Resolution</td>
<td>Resolution</td>
<td>Resolution</td>
<td>Alerts</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Check your exposure to risk of Obsolescence
Without clear visibility of commitments from Suppliers, we expose ourselves to:

* Obsolescence alerts not detected
* Lost opportunities of Last-Time-Buys
* Wrong stock management
* Expensive redesigns
* Poor planning of future system upgrades
* Contractual penalties
Obsolescence Management Planning

* Take into account the risks and contribution of the whole supply chain

* The IEC 62402:2019 defines the requirements for Obsolescence Management Plans where the risk of obsolescence is present.

"description of the strategies for the identification and mitigation of the effects of obsolescence through all stages of the life of a product"

IEC 62402:2007
Obsolescence Management Planning

1. Identify the requirements
2. Identify the parts in your project
3. Perform risk assessment
4. Select approach: Reactive / Proactive
5. Monitor and record: Deliverables
# Obsolescence Management Plans

A Supplier OMP is a detailed document on how resources & processes are put in place.

## Project Specific Requirements
- Customer requirements
- Global project scope & milestones

## Roles and Responsibilities
- Who does what in the organization (between the Customer, Project Manager, Sourcing, and Suppliers)

## PBS - Product Breakdown Structure
- Detailed, hierarchical structure of the system

## Risk assessment
- Risk assessment by sub-system
- Decision on Proactive & Reactive strategy

## Suppliers
- How Suppliers will manage obsolescence risk, including
  - Escrow agreement
  - Obsolescence Charter
  - Frame agreement with obsolescence clauses
  - Supplier OMP

## Software, development & maintenance tools
- Risk assessment and proactive/reactive strategy

## Deliverables
- Obsolescence monitoring, alerts and reports
- Obsolescence treatment
- Components storage
Types of Obsolescence Management Plans

**Product OMP**
- Risk assessment
- Mitigation & Resolution
- Generic, fits all projects
- Product roadmaps (estimated dates for end of sales & support)

**Project OMP**
- Risk assessment
- Mitigation & Resolution
- Project-specific
- Deliverables specified
Obsolescence Management Planning through Supply Chain

- Make risk assessment for the entire Project
- Collect OMPs regarding products with high risk of obsolescence (Proactive approach)
- No OMP required for low-risk items
- As a minimum, identify Supplier contractual clauses with guarantees in Obsolescence Management
# OMPs to know and improve your risk coverage

**Customer requires**

<table>
<thead>
<tr>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
<th>Year 4</th>
<th>Year 5</th>
<th>Year 6</th>
<th>Year 7</th>
<th>Year...</th>
<th>Year 20</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resolution</td>
<td>Resolution</td>
<td>Resolution</td>
<td>Resolution</td>
<td>Alerts</td>
<td>Alerts</td>
<td>Alerts</td>
<td>Alerts</td>
<td>Alerts</td>
</tr>
</tbody>
</table>

**Supplier A**

<table>
<thead>
<tr>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
<th>Year 4</th>
<th>Year 5</th>
<th>Year 6</th>
<th>Year 7</th>
<th>Year...</th>
<th>Year 20</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resolution</td>
<td>Resolution</td>
<td>Resolution</td>
<td>Resolution</td>
<td>Alerts</td>
<td>Alerts</td>
<td>Alerts</td>
<td>Alerts</td>
<td></td>
</tr>
</tbody>
</table>

**Supplier B**

<table>
<thead>
<tr>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
<th>Year 4</th>
<th>Year 5</th>
<th>Year 6</th>
<th>Year 7</th>
<th>Year...</th>
<th>Year 20</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resolution</td>
<td>Resolution</td>
<td>Resolution</td>
<td>Resolution</td>
<td>Alerts</td>
<td>Alerts</td>
<td>Alerts</td>
<td>Alerts</td>
<td></td>
</tr>
</tbody>
</table>

**Supplier C**

<table>
<thead>
<tr>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
<th>Year 4</th>
<th>Year 5</th>
<th>Year 6</th>
<th>Year 7</th>
<th>Year...</th>
<th>Year 20</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resolution</td>
<td>Resolution</td>
<td>Resolution</td>
<td>Resolution</td>
<td>Alerts</td>
<td>Alerts</td>
<td>Alerts</td>
<td>Alerts</td>
<td></td>
</tr>
</tbody>
</table>

**Supplier D**

<table>
<thead>
<tr>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
<th>Year 4</th>
<th>Year 5</th>
<th>Year 6</th>
<th>Year 7</th>
<th>Year...</th>
<th>Year 20</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resolution</td>
<td>Resolution</td>
<td>Resolution</td>
<td>Resolution</td>
<td>Alerts</td>
<td>Alerts</td>
<td>Alerts</td>
<td>Alerts</td>
<td></td>
</tr>
</tbody>
</table>

Better visibility of risks
Conclusion

- Obsolescence Management Plans are an effective way to define commitments and milestones
- Focus on items with high risk of obsolescence
- Managing **Supplier** commitments in the long term is essential

Do not hesitate to contact us for benchmarks and more information
Thank you