Managing risks

Levels of obsolescence management (OM)

<table>
<thead>
<tr>
<th>Reactive OM:</th>
<th>Proactive OM:</th>
<th>Strategic OM:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Taking action before receiving an EOL* notification</td>
<td>Taking action after receiving an EOL* notification</td>
<td>Long-term strategy:</td>
</tr>
<tr>
<td>• Increased risk</td>
<td>• More time to respond</td>
<td>Regular forecasting and cost analysis across entire life cycle right from the developmental stage</td>
</tr>
<tr>
<td>Measures:</td>
<td>Measures:</td>
<td>Measures:</td>
</tr>
<tr>
<td>• Last time buy</td>
<td>• Second-source strategy</td>
<td>• Preventative action</td>
</tr>
<tr>
<td>• Long-term storage</td>
<td>• Risk assessment of components</td>
<td>• Risk assessment of components</td>
</tr>
<tr>
<td>• Aftermarket supply</td>
<td>• Lifecycle analysis of list of materials already in the developmental stage</td>
<td>• Lifecycle analysis of bill of materials already in the developmental stage</td>
</tr>
<tr>
<td>• Redesign</td>
<td>• Partnerships and contracts with manufacturers and suppliers</td>
<td>• Partnerships and contracts with manufacturers and suppliers</td>
</tr>
<tr>
<td></td>
<td>• Electronic monitoring of key components</td>
<td>• Electronic monitoring of key components</td>
</tr>
<tr>
<td></td>
<td>• Regular consultations with customers</td>
<td>• Regular consultations with customers</td>
</tr>
<tr>
<td>The selected EMS partner is able to satisfy the agreed OM requirements.</td>
<td>Reactive OM</td>
<td>Reactive OM</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Proactive OM</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Strategic OM</td>
</tr>
</tbody>
</table>

Obsolescence Management
The key to the long-term availability of electronic systems

The following ZVEI members ...
• offer services tailored to customers’ requirements.
• have the expertise required to perform the services.
• are committed to quality and environment management.
• determine the desired results and performance indicators together with the customer.

ZVEI - German Electrical and Electronic Manufacturers’ Association e. V.
PCB and Electronic Systems Division
Lyoner Strasse 9 • 60528 Frankfurt am Main • Germany
Phone: +49 69 6302-437 • Fax: +49 69 6302-480
E-mail: pcb-es@zvei.org • www.zvei.org
What is obsolescence?

Obsolescence describes the state which occurs when an item or process is no longer available.

Causes of obsolescence

- Innovation cycles – technological developments
- Market adjustments to meet customer requirements
- Environment: legislative requirements and standards (e.g. RoHS* Directive, substance bans)
- Political demands and compliance (e.g. REACH** regulations, Dodd Frank Act)
- Environmental disasters

Obsolescence risk factors

- Risk rating for components
- Substitute and use second-source manufacturers
- Customer contracts to specify stocking levels and deadlines
- Agreement stipulating prompt communication of PCN/PDN as per JEDEC standard
- Preference given to components with low risk of obsolescence
- Design for long-life cycle/anti-obsolescence
- Regular OM analysis of product components and obsolescence notifications
- Long-term storage of key components for semifinished and finished products
- Product care and modification
- Development of alternative solutions
- Suppliers and developers collaborate to find substitutes

Obsolescence management in the supply chain

Involving suppliers in OM

- Supplier contracts to include obligation to report scheduled discontinuations in good time in accordance with JEDEC* standard as per JESD46d and JESD48d
- Prompt conclusion of contracts with as yet unregistered suppliers
- Preference given to suppliers bound by contract
- Establishing a basis of trust for a long-term relationship
- Auditing suppliers through reviews and visits
- Prompt notification of PCN/PDN** (up to two years after the last order)
- Consignment warehouse

OM in customer relationships

- Risk rating for components
- Substitute and use second-source manufacturers
- Customer contracts to specify stocking levels and deadlines
- Agreement stipulating prompt communication of PCN/PDN as per JEDEC standard
- Preference given to components with low risk of obsolescence
- Design for long-life cycle/anti-obsolescence
- Regular OM analysis of product components and obsolescence notifications
- Long-term storage of key components for semifinished and finished products
- Product care and modification
- Development of alternative solutions
- Suppliers and developers collaborate to find substitutes

OM aims to identify items that are at risk in good time (DIN 62402*)

Objectives:

- Long-term product availability
- Cost savings
- Prompt information from customers regarding discontinued products
- Sustainable design, selection of components and use of resources and raw materials
- Identifying obsolescence and minimizing its impact in the best possible way

OM is a worthwhile investment to ensure the long-term availability of electronic systems. Active OM enables all stakeholders to benefit from the EMS partner’s expertise.

Existing agreements between customer and supplier must be taken into account.

OM enables EMS partners to guarantee the long-term availability of products in the required quantity at minimum costs.

Obsolescence management is an implicit part of our service.

Ongoing communication within the supply chain inspires confidence.

PRODUCTION LIFE CYCLE

OM is a worthwhile investment to ensure the long-term availability of electronic systems. Active OM enables all stakeholders to benefit from the EMS partner’s expertise.

Existing agreements between customer and supplier must be taken into account.

OM enables EMS partners to guarantee the long-term availability of products in the required quantity at minimum costs.

Obsolescence management is an implicit part of our service.

Ongoing communication within the supply chain inspires confidence.

PRODUCTION LIFE CYCLE

OM is a worthwhile investment to ensure the long-term availability of electronic systems. Active OM enables all stakeholders to benefit from the EMS partner’s expertise.

Existing agreements between customer and supplier must be taken into account.

OM enables EMS partners to guarantee the long-term availability of products in the required quantity at minimum costs.

Obsolescence management is an implicit part of our service.

Ongoing communication within the supply chain inspires confidence.

PRODUCTION LIFE CYCLE

OM is a worthwhile investment to ensure the long-term availability of electronic systems. Active OM enables all stakeholders to benefit from the EMS partner’s expertise.

Existing agreements between customer and supplier must be taken into account.

OM enables EMS partners to guarantee the long-term availability of products in the required quantity at minimum costs.

Obsolescence management is an implicit part of our service.

Ongoing communication within the supply chain inspires confidence.

PRODUCTION LIFE CYCLE

OM is a worthwhile investment to ensure the long-term availability of electronic systems. Active OM enables all stakeholders to benefit from the EMS partner’s expertise.

Existing agreements between customer and supplier must be taken into account.

OM enables EMS partners to guarantee the long-term availability of products in the required quantity at minimum costs.

Obsolescence management is an implicit part of our service.

Ongoing communication within the supply chain inspires confidence.

PRODUCTION LIFE CYCLE

OM is a worthwhile investment to ensure the long-term availability of electronic systems. Active OM enables all stakeholders to benefit from the EMS partner’s expertise.

Existing agreements between customer and supplier must be taken into account.

OM enables EMS partners to guarantee the long-term availability of products in the required quantity at minimum costs.