Reference:

W. Heinbach, *Obsolescence Resilience - Managing the Unexpected,* 4th ESA REACH Workshop, ESA HQ Daumesnil, Paris, 18th October 2022

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COGD

Component Obsolescence Group Deutschland

Obsolescence – shared insight, shared action!

Obsolescence Resilience-

Managing the Unexpected

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Chairman COGD / Vice President IIOM
Managing partner Syliom Consulting

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iiom

Overview

- Obsolescence: general root causes and its business impact
- Obsolescence caused by legislation: REACH, SCIP
- Resilience by Obsolescence management: IEC 62402:2019
- The importance of Product Change and Discontinuation Notifications and smartPCN
- Examples and best practices on proactive and reactive obsolescence management
- The organizations on Obsolescence Management: IIOM and COGD (NGO organizations)

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Obsolescence Definition

Obsolescence is the transition of an item from available to unavailable from the manufacturer in accordance with the original specification.
(IEC 62402:2019)

Unavailable	Discontinuation, End of life
(original) Manufacturer	Change of manufacturing site licensed/unlicensed manufacturer, counterfeit
Original specification	Change of product

Obsolescence Root Causes

Operating permit, embargo, material legislation

High costs, market drop down, insolvency, business decisions, M&A

Technology, progress, change of technology

Certified, qualified products (parts not allowed, re-qualification not possible)

Obsolescence caused by

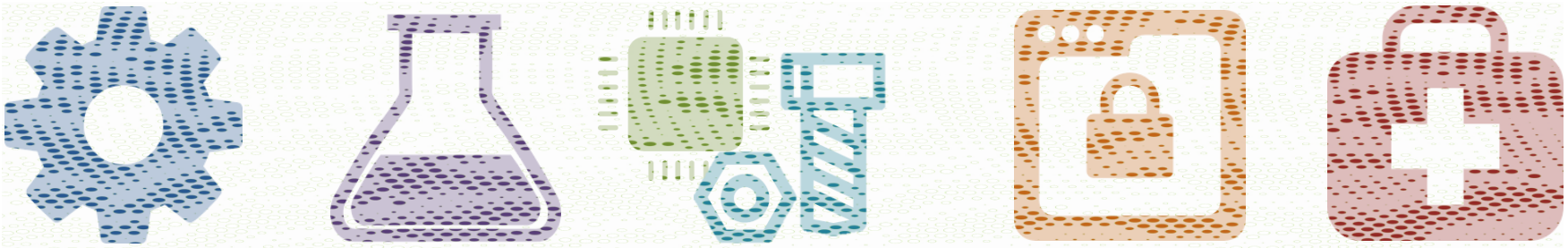
No more spare parts, production not possible, material unavailable

SW update not possible, Cyber security, change of data resp. communication protocols, incompatibilities

Disasters, pandemia

Copyright, patents, knowhow and skills

Obsolescence Impact



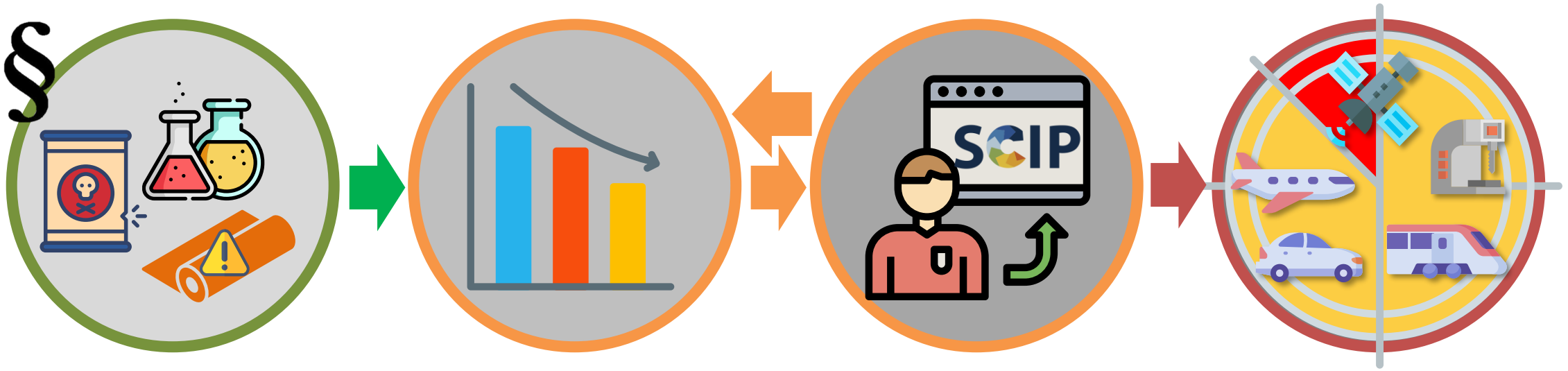
Product risks

Business risks

Time risks

Obsolescence by Material Legislation

Materials and substances, which are no more allowed and no more wanted (Green Products) create **obsolescence risks** for complex and certified **products** with a **long useful life**.



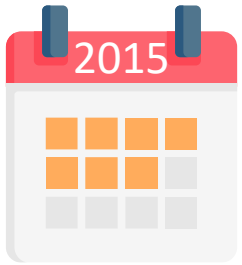
REACH
RoHS
……

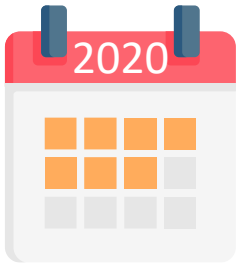
Reduction of:
- Demand
- Production output
- Business

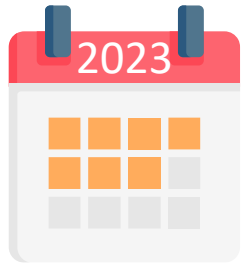
High effort for:
- Data acquisition
- Data maintenance
- Compliance

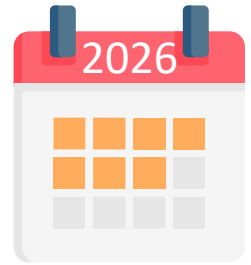
Obsolescence of:
- Production material
- Product spare parts
- Production spare parts

Obsolescence by Material Legislation









REACH

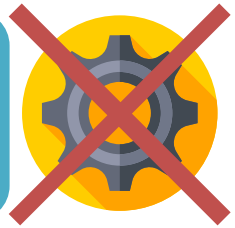
REACH
SVHC

REACH
SVHC

REACH
SVHC

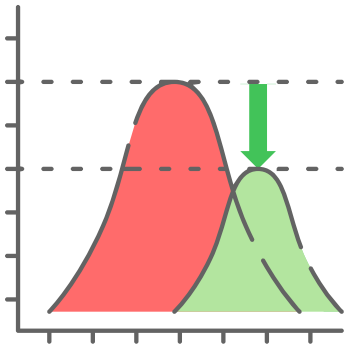
Spare parts produced in 2015
1 000 pieces on stock
REACH ok according to SVHC status
Or imported from outside EU (e.g. China)

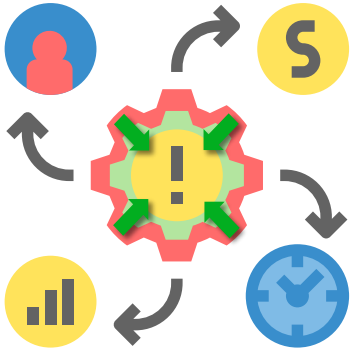
If the costs of material compliance exceed the remaining value, the remaining spare parts may be scrapped



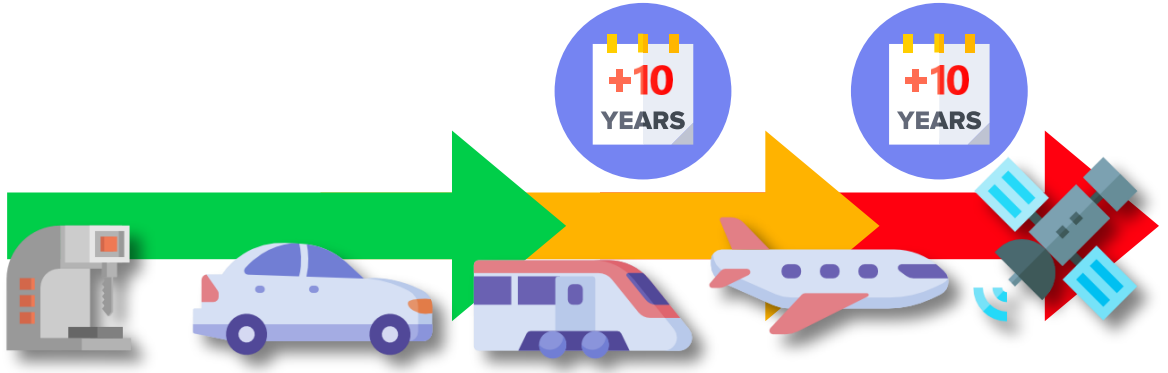
Obsolescence Management (OM) (IEC 62402:2019)

Obsolescence management treats risks associated with obsolescence by **reducing** the **likelihood** or **severity of impact**, or both.

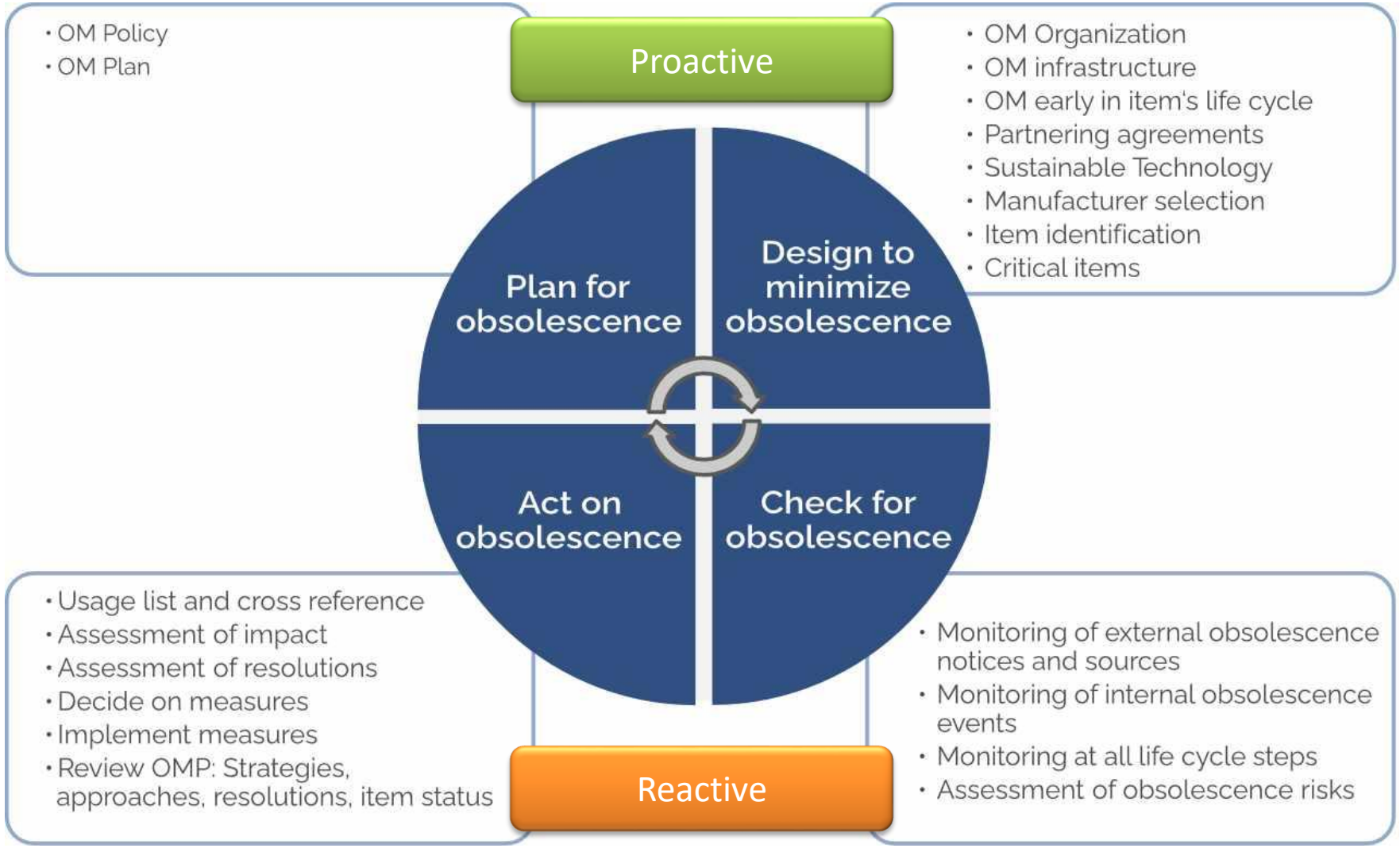




Obsolescence management activities ensure an item and its sub items can continue to fulfil their requirements over their **expected useful life**.



Obsolescence Management Process (IEC 62402:2019)



Obsolescence Resilience

Obsolescence resilience

Proactive

- Design rules
- Supplier contracts
- Life cycle management
- Obsolescence risk modelling
- Planning of redesigns
- Complete and updated BOM data

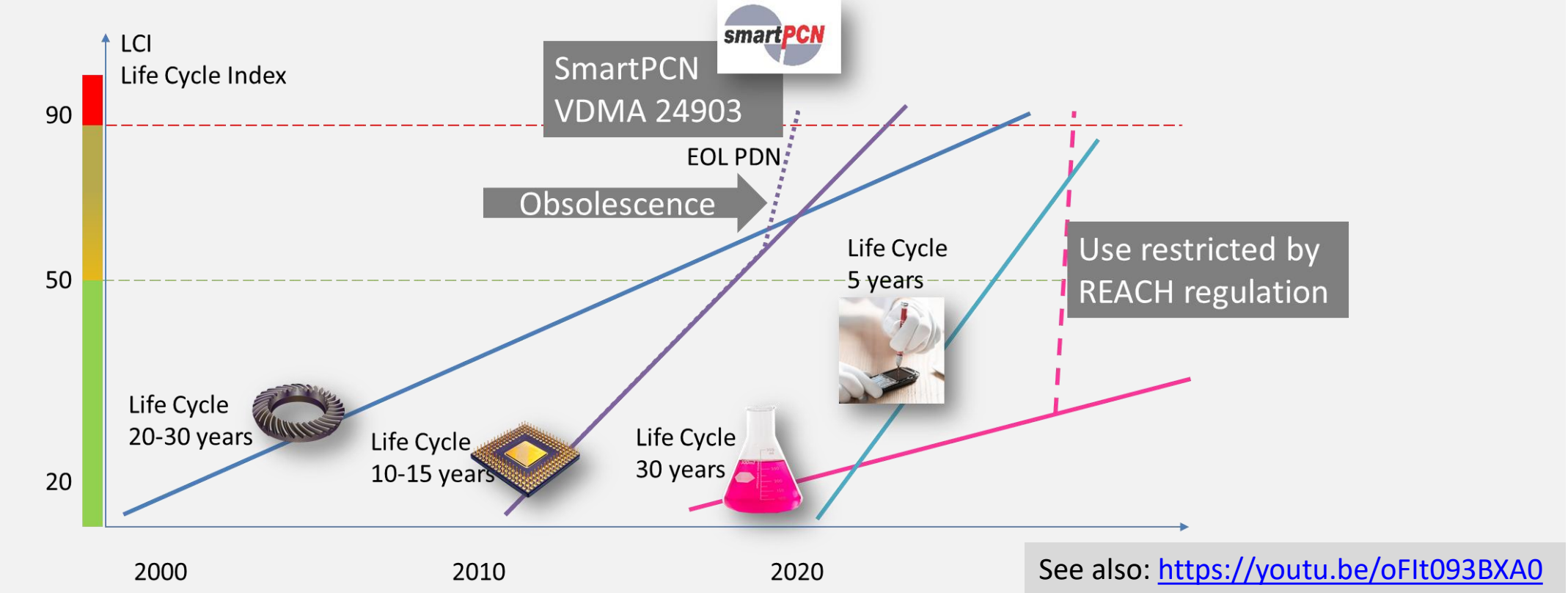
Reactive

- Monitoring of BOM parts
- PCN/PDN management
- Supplier inquiries
- Life time stock of critical parts

Overall

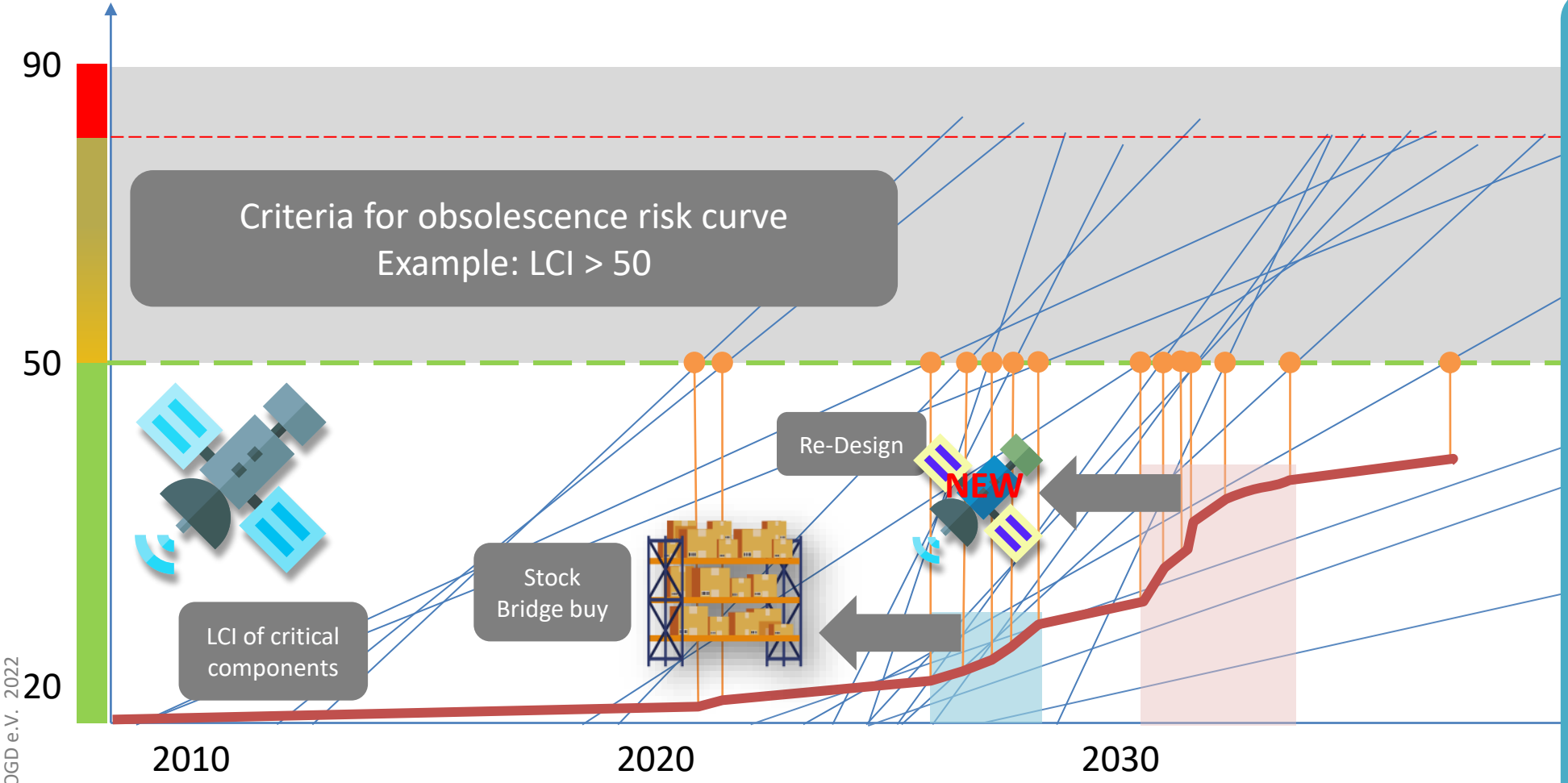
- Obsolescence management policy and plans
- Digitization of obsolescence management
- Organisational setup

Proactive Obsolescence Risk Modelling



The life cycle index (LCI) is a concept developed by Alstom. The LCI ranges from 0 to 99 and indicates the perceived age: e.g. 0=idea, 20=start of mass production, 50=not recommended for new design, 99=end of life.
The gradient indicates how fast a part ages over time and may be changed over time based on assumptions and facts.

Proactive Obsolescence Risk Modelling

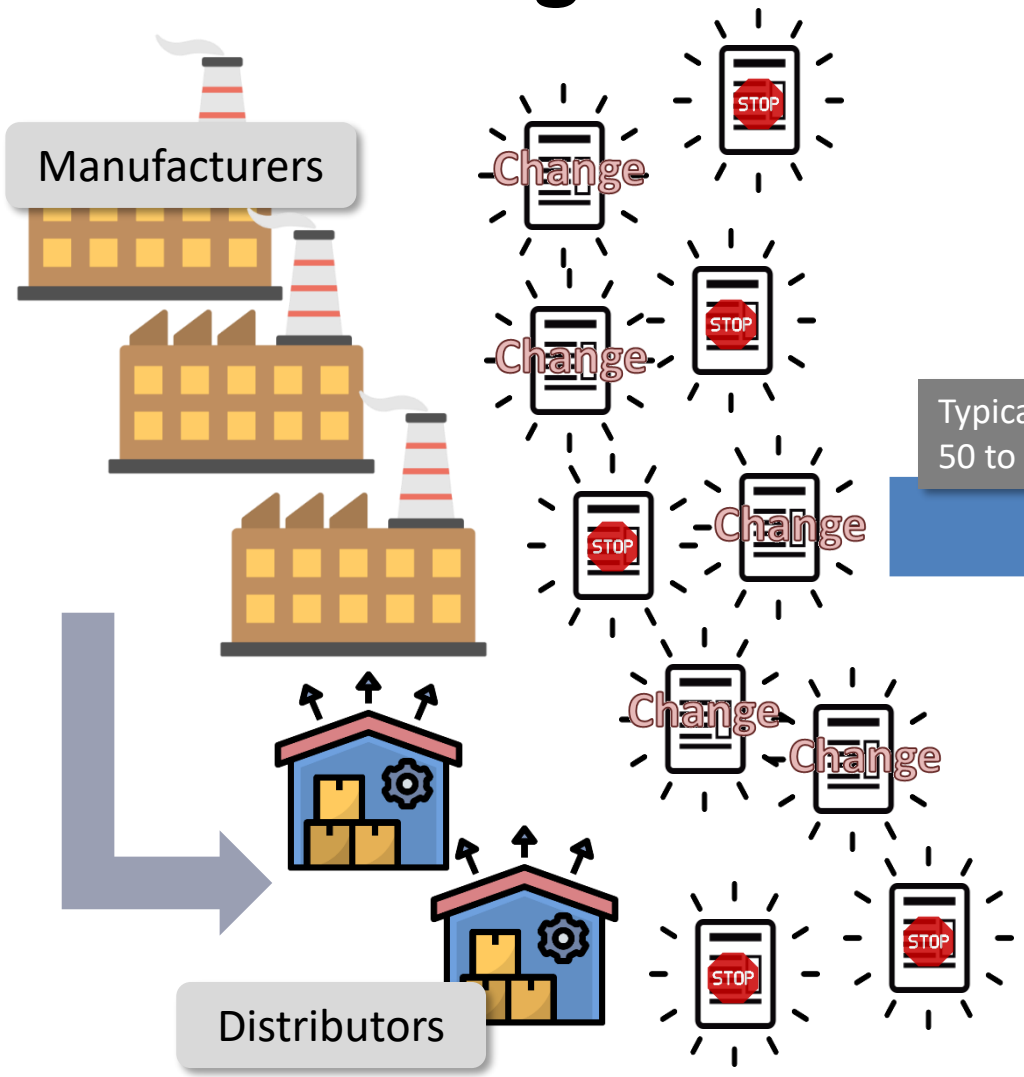


The red curve represents the obsolescence risk over time based on the number of LCI curves exceeding the threshold, e.g. LCI>50.

The first major increase may trigger life time and bridge buy.

The second major increase may trigger the redesign, which should start before.

Product Change and Discontinuation Notifications



Typical:
50 to >300 PCN/PDN per month

MANY to ONE

Producing company

The effort of processing different formats out of received emails is with the receiving companies which requires **time** and causes **costs**.

Different formats

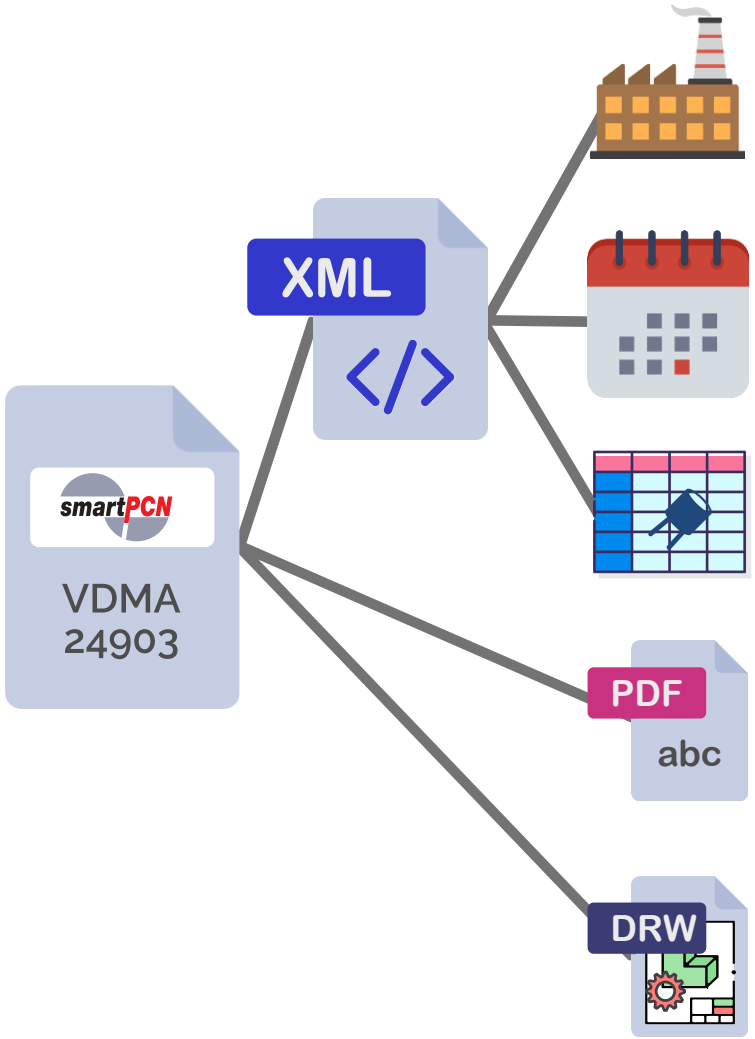
Multiple reception of same PCN

Manual processing

Slow, expensive and error prone

High number of PCN/PDN to be processed

smartPCN – the digital PCN/PDN Format



Format and data descriptions, not a tool

Definition of terms, categories and data fields aligned to IEC 62402 and other standards

XML based with file attachments in one ZIP file

smartPCN

Already standardized in Germany with VDMA 24903

Standardization in preparation as part of IEC 62402

Well proven with commercial applications

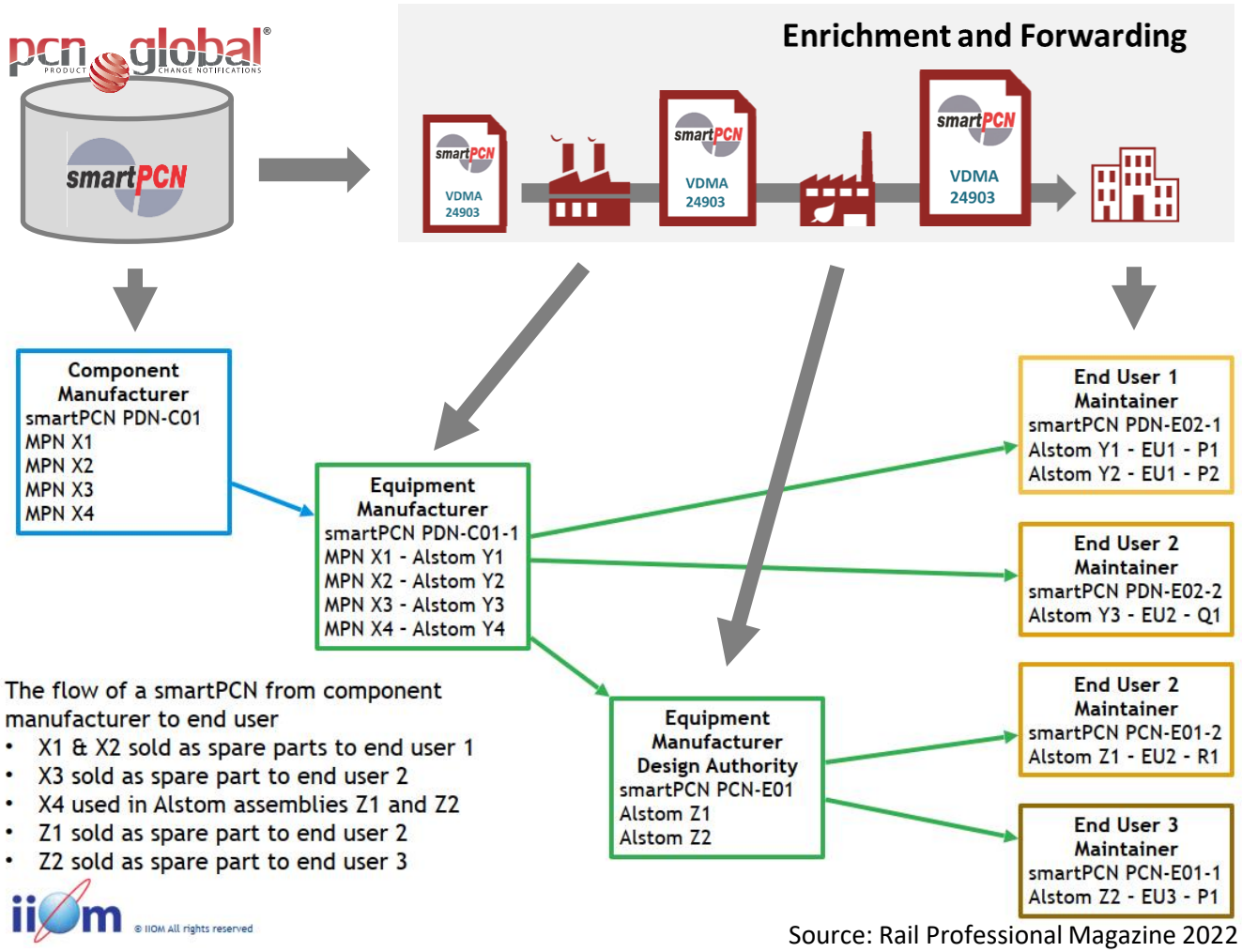
Royalty free, free usage including development of tools

Use of the smartPCN logo with registration at COGD

Example: Mobility Solutions and Railway Systems


Source: Alstom.com

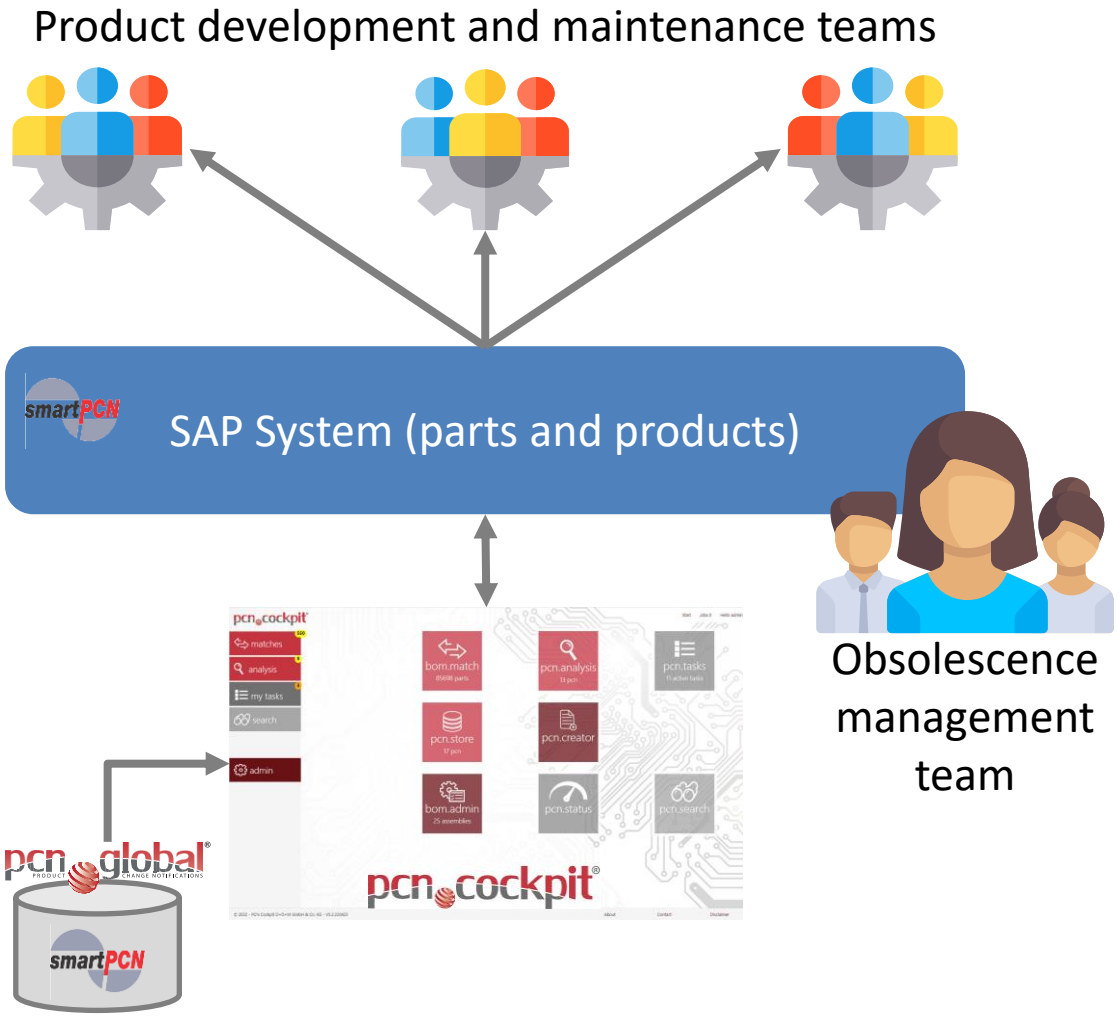
- Highly professional setup for obsolescence management with a dedicated organisation
- Internal training of all organisations involved and impacted by obsolescence
- Contracts with suppliers requesting a solid obsolescence management (future auditing planned)
- Consistent use of smartPCN throughout the supply chain internally/externally
- Fully digitized PCN/PDN management



Source: Rail Professional Magazine 2022

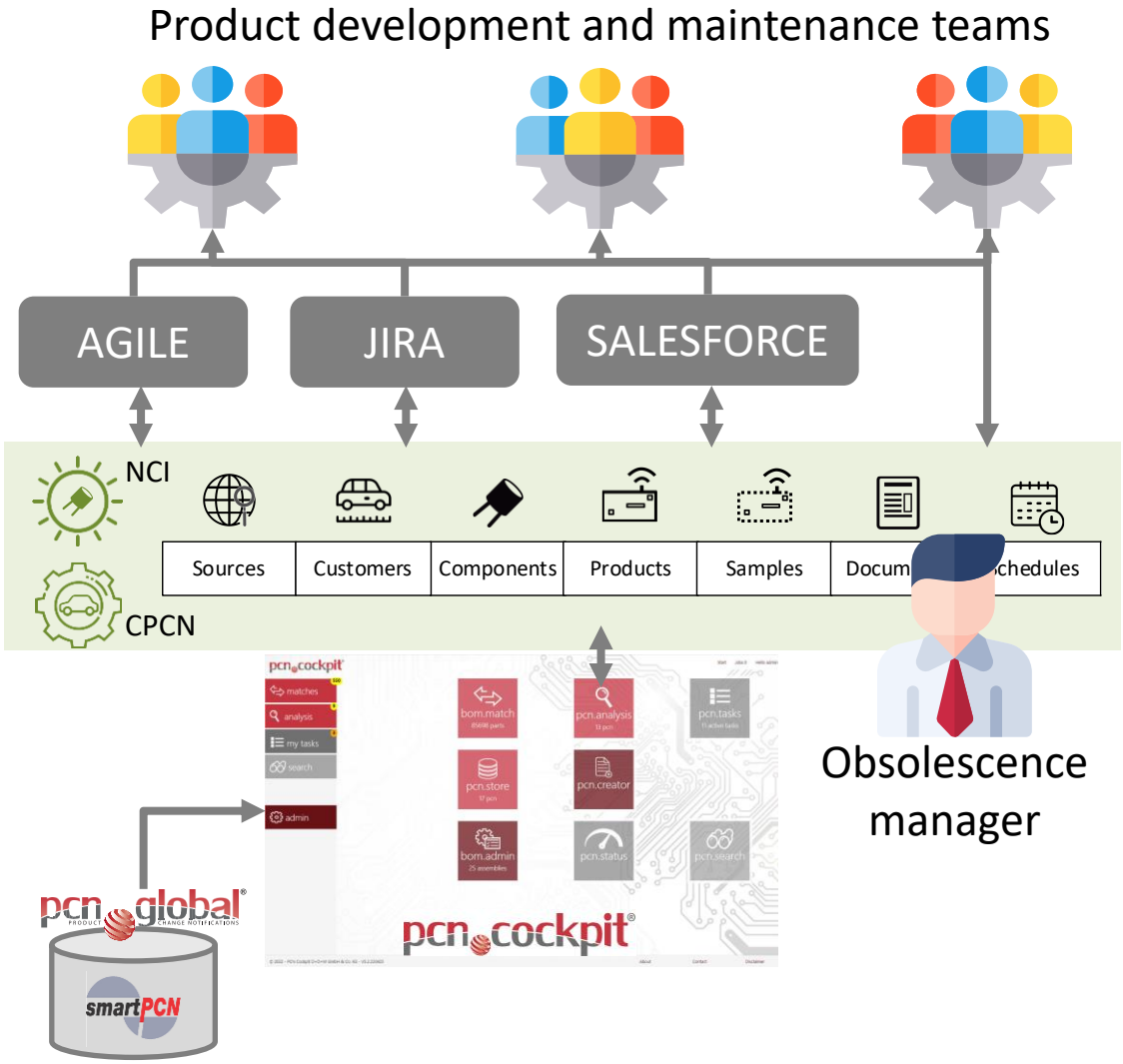
Example: Complex Sensors for Security and Aerospace

- Highly professional setup for obsolescence management with a dedicated organisation
- Dedicated team responsible to manage all obsolescence cases
- Consistent use of smartPCN for components
- Fully digitized PCN/PDN management with transfer of PCN information to SAP
- Accessible by all engineers involved
- Lower total costs and fast reaction on obsolete parts



Example: Automotive Supplier

- Highly professional setup for obsolescence management with a dedicated team
- Obsolescence manager controls all obsolescence cases and the processes
- Consistent use of smartPCN for components
- Fully digitized PCN/PDN management with links to other company systems
- Tools for Customer PCN (CPCN) and New Component Introduction (NCI)
- Accessible by all engineers involved



Organisations in Obsolescence Management (NGO organizations)

International Institute of Obsolescence Management

Vision to become the world's leading, recognized and accepted organization for Obsolescence Management

- Advance the science and practice of OM
- Increase professional competence
- Support personal development
- Create awareness and understanding
- Support OM service providers
- More than 1 000 members and interested parties

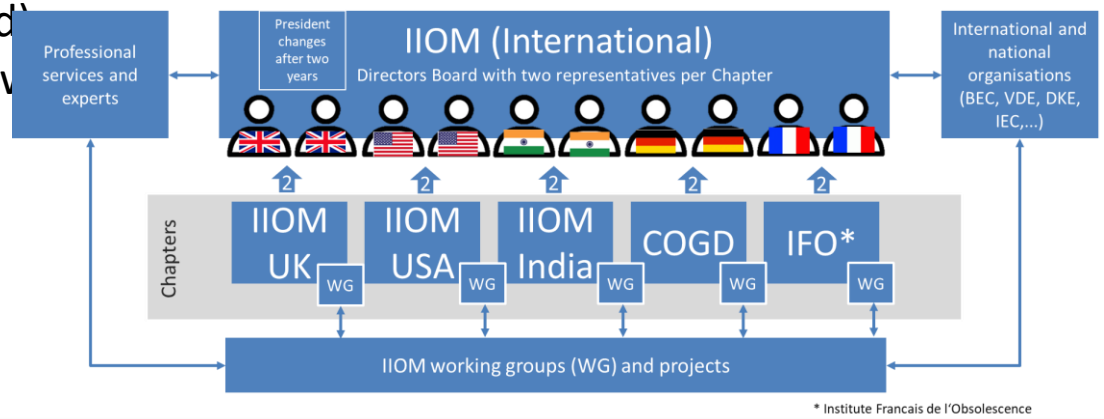
More info: www.theiiom.org (old)
www.iiom.global (new)

Component Obsolescence Group Deutschland

German chapter of IIOM (D, A, CH)
>160 member companies, four meetings per year

- Working groups on
  - smartPCN / IEC 62402 part 3
  - Obsolescence Management Plan
  - Costs and benefits of obsolescence management
  - Material compliance REACH, SCIP
- Cooperation with other industry associations

More info: www.cog-d.de



Standardisation

Sharing best practise

The SCIP Database – Good Idea with poor Implementation?

Work with COGD to induce (further) change
COGD Position on SCIP - and REACH Article 33(1) Declarations

SCIP has a great potential – challenges to be addressed

SCIP is a great idea, as far as it allows in future **automation of material declarations** (→ reduction of the efforts and costs with EU companies) and it is a useful application **way beyond WFD**, to support other duty holders in the supply chain and the whole REACH process. To this end, the acceptance of SCIP, as well as the data quality and reliability have to be increased.

However, we see a lot of **challenges** to get there, and they are not only **technical** points but will also have impact on the **legislative** side. 4 main points:

1. Handling and applicability
2. Responsibility for correctness of data
3. Costs of data research and entry
4. REACH Article 33 declaration

COGD

Source: Shutterstock

Key points for improvement

- Shift of SCIP legal responsibility to data holders
  - ✓ Non-EU component suppliers / their EU agents to become responsible
  - ✓ Data holders' responsibility
- Automation and digitalisation
  - ✓ API for SCIP data
  - ✓ REACH Article 33 declaration using SCIP number
- Representative Article Approach
  - ✓ Assuming the worst possible case (SVHC content) for SCIP notification

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Summary

- Obsolescence is here to stay and will increase
- Obsolescence is unavoidable, causes many troubles and high costs
- Material legislation is a new source of obsolescence
- Obsolescence management creates resilience against obsolescence
  - Proactive approach via organisation, design and data management
  - Reactive approach via monitoring, PCN management and risk assessment
- Best practice examples how to implement saving time, effort and costs
- IIOM and its chapters are industry organisations dedicated to the field of obsolescence management by sharing best practise and creating international standards

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Managing Partner of Syliom Consulting
Systemic **Li**fe Cycle, **O**bsolescence and **M**aterial Compliance Management

Voluntary services
- Chairman COGD Component Obsolescence Group Deutschland
- Vice President International Institut of Obsolescence Management IIOM
- Standardisation smartPCN / IEC 62402 Obsolescence Management

Fields of activity
- Consulting and projects related to obsolescence management, spare parts management, life cycle management and material compliance management
- Supporting companies to excel in these areas

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Q&A