



# smartPCN

## Digital standard for PCN/PDN notification

The digitalization of working processes is one of the top priorities for many organizations across various industries. You can learn how your company can benefit from using this digital format for product change notifications and discontinuations.

# What is smartPCN?

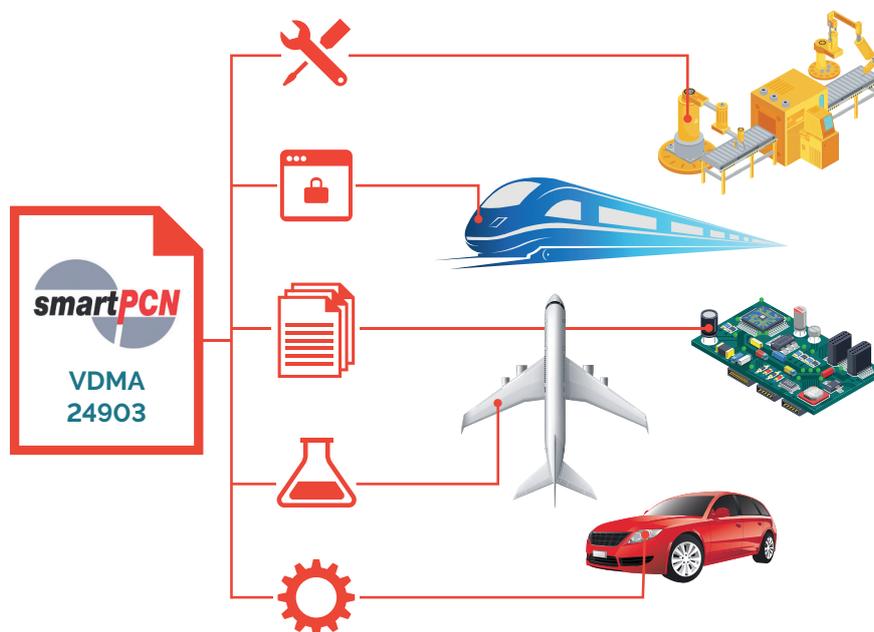
Obsolescence Management is the focus of the COGD (Component Obsolescence Group Deutschland) e.V. COGD aims to minimize the occurrence and impact of the non-availability of components within products. For example, during the product life-time, components necessary for future production become obsolete due to the evolution of technology, economics, or legislation and regulation.

Suppliers release Product Change Notifications (PCNs) to give notice of a change in a component specification or that its manufacture is about to cease. In the latter case the PCN may also be known as a Product Discontinuation Notice (PDN). Suppliers frequently use a proprietary PCN format which is unique to them, and yet electronic communication using standard protocols and formats has been used in other situations for decades. So why not exploit this standardization opportunity?

This is why COGD is working to establish smartPCN as the international standard for automated exchange and pro-

cessing of PCNs. This will bring benefits for everyone in the industry. The smartPCN standard was developed by the smartPCN working group. The Intellectual Property in the smartPCN standard belongs to COGD but COGD encourages its use openly and without costs.

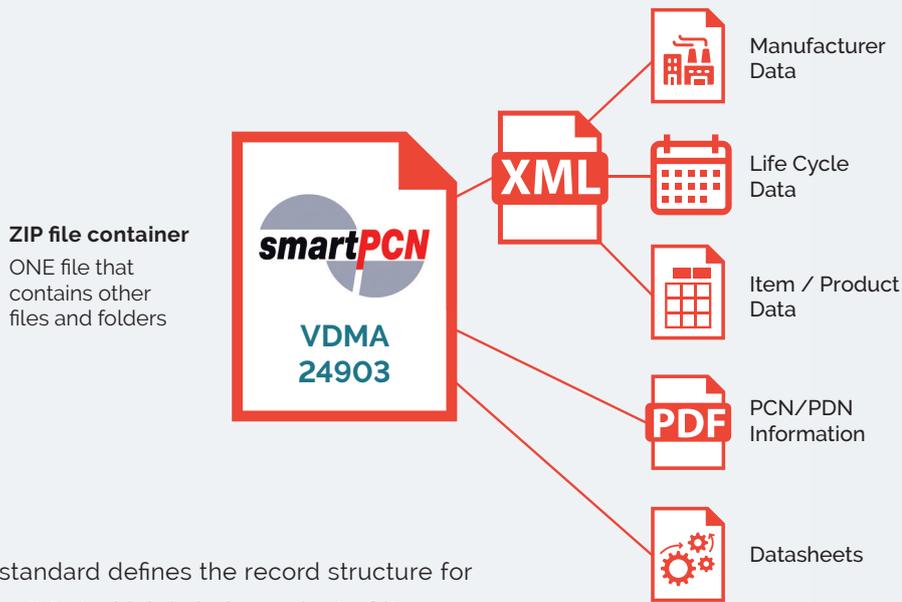
The smartPCN standard defines a machine readable record based on the Extensible Markup Language (XML). A smartPCN record can be send via email or automated data exchange, for example between enterprise resource planning (ERP) systems of the companies in the supply chain. The content of each record is structured to allow its automated processing and distribution. A smartPCN record can propagate through the supply chain and this allows both the reverse tracing of the source of arisings and forward warning of potential impacts. The end-to-end resilience, the agility to anticipate and resolve problems, and business advantage of the supply chain are all enhanced.



## smartPCN Container File includes:

- part & process changes
- item numbers
- life cycle data
- descriptions
- standardized categorizations
- replacement parts
- documents like drawings/specs
- technical data
- original PCN/PDN documents

# smartPCN Format



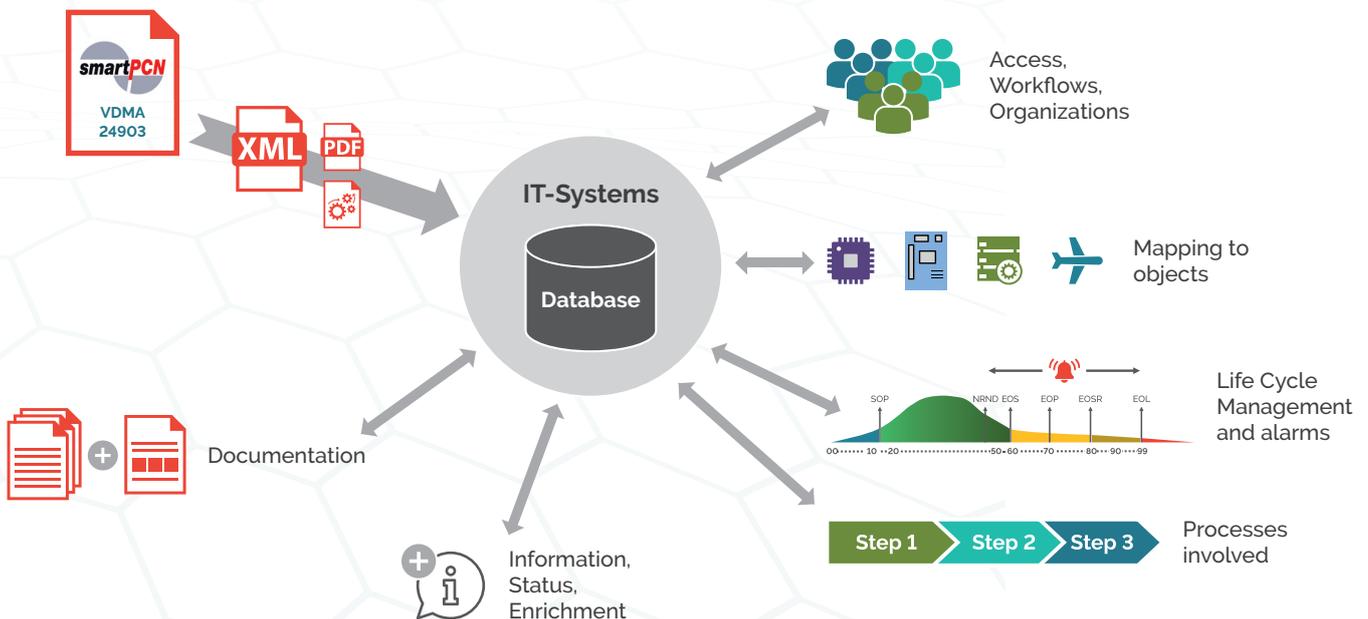
The smartPCN standard defines the record structure for a PCN (including PDN) which is independent of its content, and which enables its exchange and processing with little or no manual intervention.

In the past, when a supplier wanted to send a PCN they had to devise their own data format, record structure, and means of exchange. They would create an unstructured text document in PDF format and send this to their customers as an email attachment.

With the introduction of smartPCN, the data format is defined as XML and the record structure is defined in terms of a minimum data set with the option to include extra content. A wide range of open source XML viewers,

editors, and plug-ins may be used to look at the smartPCN contents directly or import/export to ERP systems and other tools. A freeware tool, smartPCN Editor, is freely available at: <https://smartpcn.pcngenerator.com>. A free viewer also for large smartPCN files is available at <https://om.cockpit.global/inspector/>.

By this means it is possible to exchange, process and distribute PCNs using a wide range of information technology (IT) systems and databases.



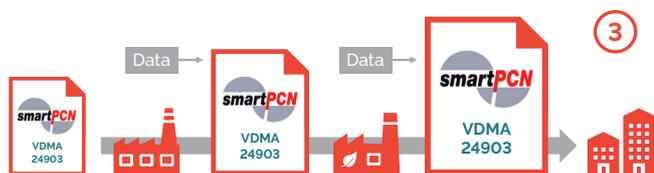
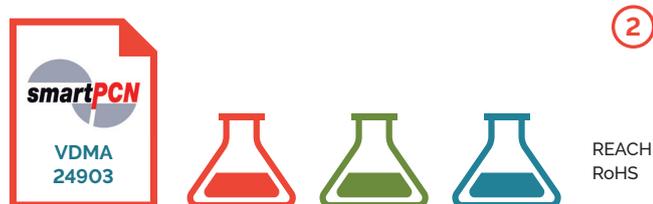
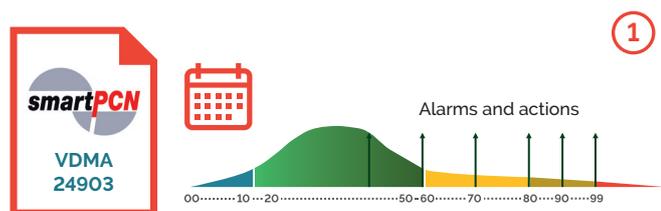
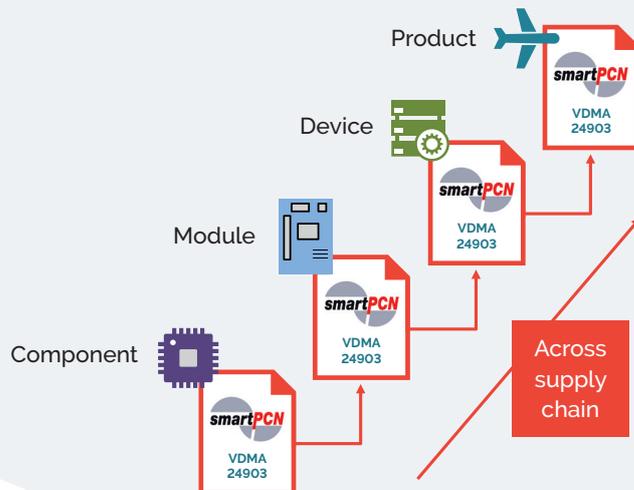
# smartPCN Applications

Although smartPCN was intended as a digital readable format for PCN and PDN, there are many other applications. Some examples are given below.

## Traceability through the Supply Chain

In reality a product, system or system-of-system has a hierarchy of configuration items (hardware, software, materials, information, documents etc).

The smartPCN format allows records for different items within the hierarchy to be linked together. By this means changes are traceable through the supply chain, and through levels of integration, from a single component through modules, devices, the related software, and to the final product.



### ① Life Cycle Updates

The life cycle of each item is unique in terms of its length, start date, and profile. Each life cycle is asynchronous with other items in the product structure.

smartPCN uses a standard way to represent the life cycle of an item. Apart from key events like Start of Production, End of Production, End of Sales and End of Service and

Repair there is also a life cycle index from 00 to 99 on the time axis. The current life cycle status of an item may be described by a number in this range.

The dates of past key events in the life cycle can be added to the smartPCN record. Predicted dates for future key events can be added and be updated with emerging information as time goes by.

### ② Material Updates

Material updates are extremely important in order to keep up to date with the various regulations on material compliance. In particular, in cases where full material declaration is required, information on changes in the material composition or sourcing is added to the smartPCN record.

### ③ Enrichment and Forwarding

A smartPCN record can be used as a small database for transferring information between different IT systems, companies and sites without the need to reformat or translate from one system to another.

Information like working status, measures to apply or alternatives are added to a smartPCN record and forwarded through supply chain or a process chain.

# Introduction & Standardization

All members of the supply chain are able to create, exchange, process and distribute smartPCN records by using readily available IT tools. Each member has flexibility to develop policies, process and software solutions appropriate to their own trade-off between the level of investment they wish to make and the percentage of automation they would like to achieve. Industrial consultants can help with strategic decisions.

mission, re-formatting, interpretation and oversight of PCN data creates new business improvement opportunities. These may include direct cost savings, closer partnering across the supply chain, simplified compilation of project metrics, and better product or system outcomes such as availability, maintainability, sustainability, affordability and profitability. The smartPCN standard helps to narrow down the process for everyone.

Automation of some of the more tedious and error prone obsolescence management tasks such as manual trans-

ROLE	BENEFIT	RATIONALE
Component supplier	Efficient creation and transmission of one PCN format, no customised versions for different customers	One-off effort to integrate smartPCN to process and systems establishes recurring savings
Electronics subcontract manufacturer	The automated processing of both PCNs received from suppliers and regular PCN reports for customers at component and assembly levels	Reduced processing costs, lower error rates, reduced latency between receipt of PCNs from suppliers and transmission of PCNs to customers
Automotive assemblies manufacturer	Can add qualification evidence and configuration control records as an optional part of smartPCN dataset	One coherent, integrated dataset for all customers instead of disparate multiple reports specific to each customer's proprietary formats
Car maker (OEM)	Common and standard interface to OEM's assemblies manufacturers	Removes cost overhead of multiple proprietary portals and PCN formats

## Example of benefits within the automotive industry

Studies have shown that after allowing for initial investment in updates to process and systems and training in the use of PCN tools, savings in costs of over 70% are possible when smartPCN is adopted and automated exchange and processing is implemented.

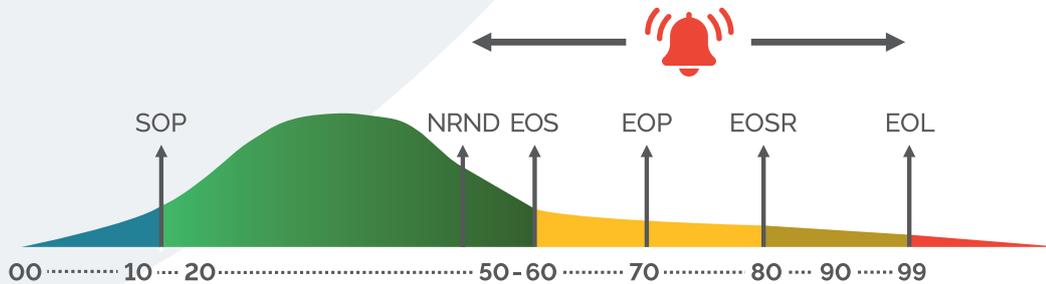
change and discontinuance of products and items". An extended version of VDMA 24903 is in preparation as an IEC standard. In the meantime smartPCN is already referenced in IEC 62402:2019 "Obsolescence Management" and is promoted through training courses and events sponsored by COGD.

The smartPCN format is anchored in the German standards landscape via VDMA 24903:2017-12 "Obsolescence management – Exchange of information regarding

# Life Cycle Management

The occurrence and impact of obsolescence events is closely coupled with the life cycle of the assembly, product or system of interest. The following example uses a time

index from 0 to 99 as a means of indicating the points in the life cycle at which these events are most likely.



## Life Cycle Management and Alarms

### Update of Life Cycle Data

- Use life cycle data for communication to manufacturers and customers
- Use data to plan and update life cycle of products and services

The smartPCN standard provides the opportunity to use automation to capture past experience of when events occurred in the life cycle and what costs were involved in resolving the problem. This data, information and

knowledge may be used to inform risk management and cost forecasting, across the supply chain, for future assemblies, products or systems of similar type. The smartPCN standard allows similar principle to be applied to the known or likely timing of other critical events.

For example as may be associated with RoHS or REACH, and the important process of material management and material declaration.

### smartPCN Summary

The smartPCN standard developed by COGD is making a powerful contribution to the transition from reactive to proactive obsolescence management by enabling efficiencies in both the external AND internal PCN-related communication of a company. Moreover, research conducted by COGD for two years prior to release of the standard has resulted in flexibility to manage other information in support of processes such as configuration management and change control.

### Some Examples of smartPCN Users include:



Edited by the smartPCN working group of COGD [www.smartpcn.org](http://www.smartpcn.org)  
 Published by COGD (Component Obsolescence Group Deutschland) e.V.,  
 Feldstraße 35A, D-42477 Radevormwald, Germany in 2020



COGD is a chapter of IIOM International Institute of Obsolescence Management

*This brochure has been designed using resources from [Freepik.com](http://Freepik.com)*