Digital Obsolescence Management





PCN/PDN Management Life Cycle Management & Obsolescence Risk Modeling Material Compliance Management



pcn_@cockpit[®] lcm_@cockpit[®]



Imagine

Get work done in a fraction of time, just with a few clicks.

All the **data** you need is available and linked.

Processing of PCN/PDN in a designated tool instead of in your email inbox.

Be constantly **synchronized** with the data of your ERP and engineering systems.

Using tools made for the job instead of improvising with spreadsheets.

Collaborate with your colleagues worldwide based on easy-to-use workflows and common data.

> **Plan** the life cycle of your products and services based on all your components.

Experience **real digitization** as part of your professional work in obsolescence management.

Provide material compliance data for your customers and the EU-SCIP database automatically.

Time is not just money.

The time wasted with unproductive handling of data costs more than money. It is a waste of the brain power of skilled people. Let computers do the things they are good at.

Get it now - get it done!

Our vision is to provide you with a set of outstanding tools that allow you to focus on what really matters.

We listen to the needs of the obsolescence management community and create solutions that will exceed your expectations.

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- e successful in your daily work?
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- g the digital way
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Digitization

Digitization is the key to improving processes to be faster, to getting more done at lower costs.

Obsolescence management (OM) is not covered by the typical ERP and engineering IT systems. As a result obsolescence managers have to work with a lot of different tools and applications, that do not really inter-work, leaving this task to humans using spreadsheets. OM brings together external information with impact on the with internal company information from the company.

Transform information into data

Today obsolescence managers are tied up with transformation of information into data instead of controlling the process.

Digital OM starts with digitized information like smartPCN and creates a consistent flow of data, allowing obsolescence manages to focus on the management of the process and its results.

Work with the results

The results trigger information given to external stakeholders and information needed to implement measures to reduce the probability as well as the impact of obsolescence.

Digital OM uses digitized information, which is linked to various objects and aggregated, based on rules and algorithms. The results are well documented, fact driven and consistent.



production impact, compliance, sales, service and product impact, after-sales business impact

> ERP Enterprise Resource Planning OM Obsolescence Management PCN Product Change Notification PDN Product Discontinuation Notification SCIP Substances of Concern In Products

Experience a new way of working

Imagine how much better you will be in processing your tasks in obsolescence management using excellent tools that bring you the benefits of real digitization.

Get it done means for us to provide innovative tools and algorithms that help you to:

- get rid of tedious jobs,
- get meaningful data for your decisions just with a few clicks.
- focus on the important parts of your job,
- finish your tasks fast and with less effort.

All your precious data stays where it belongs to: on your company servers. All our tools run within your IT network and are therefore fully confidential and under your complete control.



Get it done

Get done all the tasks related to the processing of PCN/PDN supported by an outstanding tool, the pcn.cockpit.

Get done life cycle management and the proactive part of obsolescence management with modeling of future obsolescence risks using the lcm.cockpit.

Get done the new challenge of material compliance caused by the EU SCIP registration with the mc.cockpit.

Get it done with the common interface approach, where all our tools work on the same database. Interfaces and daily data synchronization with your other IT systems is as easy as possible.

PCN smart & digital

The Digital PCN Loop

Each PCN/PDN you receive from suppliers looks very different. From just emails, tables, links and PDF documents to even scanned documents there is every format you can think of, sometimes with thousands of part numbers.

How much work is it for you to process those PCN/PDN in your company? How much effort is needed to read, classify, understand and finally copy the data into a format you can work with?

Is there a digital solution?

Yes, it is called smartPCN. It is a standardized digital format, just like JPEG, PDF or HTML. It is created by PCN managers working together in the Component Obsolescence Group Germany (COGD), the German chapter of the IIOM, the International Institute of Obsolescence Management.

The smartPCN format allows to digitize almost any PCN/PDN of any kind of tangible or non-tangible item of any industry sector.

A smartPCN data set is like a small database with data fields and attached documents.

The XML part contains all data about manufacturers, life cycle dates, part numbers, categories and any text.

smart<mark>PCN</mark>

VDMA

24903

XML

</>

abc

In the attachment section documents of any type are available.

smartPCN is already standardized with the German standard VDMA 24903 and is in progress for an IEC standard as part of IEC 62402.

However, most of the manufacturers still prefer to provide conventional PCN/PDN. They do not have the hassle with it as the

This is the reason why we have created the pcn.global database and the Digital PCN Loop.

recipients do.

CN Number ImplePCN1-R3	Title Product Change assembly plant	Notification - Change of loc	Type Type PCN: MAJOR -	Manufacturer D+D+M Daten- und D & Co. KG	Jokumentations-Manag	ement GmbH +	Issued 2021-06-01
CN Description ason for Revision: Change ar current assembly plant i rge number of products p me of our products in Thi are products change the r roducts, the packaging quantity article to the second plant of the second plant to the second plant of the second plant of the second plant of the second plant of the second plant of the second plant of the second plant of the second plant of the second plant of the	d date for start of delivery. As e China is overloaded with the oduced, we will final assemble wan in the future. In addition, notid compound used. For some iges from copper to gold. For all is changed from 1000 pieces per	 Change Category locAssy matMold matBond Wire shipPRODS 	 Uite Cycle Data Min - Max SOP: 2021-12-01 EOS: EOP: 2021-12-01 UTC: EOSR: UCI: 		0	Substructures ava REACH	Rable 1
Relevant Items	Type Ident	Item Name	Description		0 Item Categories		Attachments
AKY1-AB1	112233445561	AKY1 series	MOSFET DUAL N-CH 30V	1	0 ACEL 0 ELME	84 *	PCN.pdf perts.pdf
AKY1-AB10	112233445570	AKY1 series	MOSFET DUAL N-CH 80V		O PAEL	30	
AKY1-AB10-TR	112233445582	ARY1 series	MOSPET DUAL N-CH 80V				
AKYT-ABT1	112233445571	AKY1 series	MOSFET DUAL N-CH 90V				
AKY1-AB11-TR	112233445583	AKY1 series	MOSFET DUAL N-CH 90V				
AKY1-AB12	112233445572	AKY1 series	MOSFET DUAL N-CH 100V				
APPL AREA TH	112233445584	AKY1 series	MOSFET DUAL N-CH 100V				
ANTIMOLETIN							

The pcn.inspector is the perfect tool to view a smartPCN file and is integrated in all of our tools. It is also available for free usage at: https://om.cockpit.global/inspector/

Imagine receiving all PCN/PDN sent to your company in the digital smartPCN format. It would save you a tremendous amount of effort, is much faster and avoids processing the PCN/PDN in your email inbox.

Forward all your PCN/PDN

We make this vision come true! Just forward all PCN/PDN that you receive to pcn.global, our smartPCN database. We convert every PCN/PDN into a smartPCN data set, regardless whether you need it later or not. And the conversion is for free!

Receive digital smartPCN

All the PCN/PDN you send to us are coming back to you via the smart inbox of the pcn.cockpit as smartPCN data sets. That is



Benefit from other smartPCN users

Additionally, you benefit from all the smart-PCN we create from PCN/PDN directly provided by manufacturers and distributors. You also benefit from all the PCN/PDN we receive from all our customers, among them world leading companies with millions of components of all kinds. This is a unique, smartPCN based service that, to our knowledge, nobody else offers.

No more reading of PCN/PDN emails

Forget reading and processing heaps of traditional classic, non-digital PCN/PDN from your email inbox.

GET IT

pcn.cockpit - digital PCN/PDN management

The pcn.cockpit is a digital PCN/PDN management system that covers the complete process of PCN/PDN processing from PCN inbox to the generation of PCN for your customers.

The matching result is your PCN inbox where you decide whether you want to process the PCN or ignore it.

Those smartPCN and their item numbers, that match best with the item numbers of your bill of materials (BOM), and products are displayed.

With a few clicks you see all the details you need to decide, whether to process the PCN or to ignore it.

After being downloaded into the local database, all data and all attachments of the PCN are available for further processing. Just confirm the matches with a few clicks.

Create analysis and action workflows with tasks for organizations or individuals. Evaluate the results and continue until all relevant items and assemblies are processed.

Everybody benefits from a drastic reduction of workload. You will be pleased, because you will keep schedules, save costs, and your work is really satisfying. Get it done.



Matching

Every day your pcn.cockpit receives the key data of all smartPCN from the pcn.global database and matches them with your BOM and product data. Our algorithms are based on similarity and show you the differences. PCN sent to us, that do not match, are displayed in an extra section.

Control the matching with our smart tools.

Mapping

Confirm matches (even inexact ones) and the pcn.cockpit links the item numbers of the PCN to your BOM and product data. See all assemblies and products of all indenture levels affected by the PCN. Mapping data is stored and applied automatically to subsequent PCN.

Analysis workflows

Get your experts in your company involved wherever they are. Select the items and the affected assemblies of a PCN and process analysis workflows in just five steps. Use the the various categories for precise results. Add documents and descriptions for details. Everything is stored in the database consistently and reliable.

Your 10 main benefits

- The whole process is under your control.
- All your BOM and product data is in perfect sync between the pcn.cockpit and your ERP and engineering systems.
- 100% digital from beginning to end, safe and secure, without media breaks, format changes, copy/paste or typing errors.
- All you need for PCN processing is available in one system.
- No more reading of PCN emails.
- Receive all your PCN converted into smartPCN, for all types and items.
- Receive a specific PCN only once instead of multiple times.
- Workflows and tasks are automatically distributed and the results are immediately available.
- Efforts are significantly reduced for all parties involved.
- The PCN process is fully managed, in line with IEC62402, and audit proof.

Action workflows

The analysis results lead to actions like bridge-buy, redesign or alternative procurement. Initiate an action workflow just in five steps and receive the action results in the same way as for analysis workflows.

When all items, assemblies and workflows are processed, the PCN status becomes 'Done' and your work is finished. **You got it done**.

The smart inbox for PCN

Matching matters

The PCN inbox with the matching results is the essential part of the pcn.cockpit as everything starts from here.

The matching process compares all items within a smartPCN data set with the data provided by your ERP and engineering systems, the part numbers and manufacturer's names you use.

Instead of yes/no results we have developed an algorithm that calculates the similarity between item numbers as well as manufacturer names. We combine the results and anything above 80% similarity is a match.

We also accept wildcards like '*' and '?' for item numbers both in PCN and BOM.

Some manufacturers use parallel identification schemes, like order numbers and part numbers. Therefore we search for matches in several data fields of the PCN.

Use our matching tools to define rules and influence the matching parameters. You define how manufacturer names are substituted - very useful when manufacturers change their names.

We have taken care of everything to get a reliable and fault-tolerant matching with optional optimizations.

Ignoring PCN

The matching result lists all the PCN and only those that fit the matching criteria. Not all PCN are relevant for you. You decide which ones you need to download and process.

Select your view

There are three basic views: Matching results by PCN, by your internal part number (IPN) and even by assemblies, your lowest level bill of materials. All views show the ignored PCN if necessary.

What about the others?

Ignore PCN that are not relevant for you. They are not deleted but stored in the background. You can retrieve them at any time. Also new matches bring them back.

In addition there are three filters related to administrative data of your parts: material group, organization and responsible person (you may use other data for those filters). See just the PCN of a specific material group.

In each view sort and filter the tables by each column. or even combined columns.

Select your PCN

Expand a PCN entry with one click on the + sign to see all the matching results. Decide based on the matching results whether to download or ignore the PCN.

Mark up a PCN

Select one or several PCN to mark them up for download or to ignore it. Transfer all PCN marked up to the download area where you initiate the download from pcn.global to your pcn.cockpit.



Category 0	Issue Date	•	EOP/Eff D	EOS (LTB)	o max. Part %	• # Matche	s 0	- Nectrus
ECIL	2021-07-21	1	2021-12-31	2021-12-31	100.0	4		
XMIN	۰	PMN	Ø Manf. %	Overall %			•	
NXP		Nexperia	a 50.0	91.7				
PHILIPS		Nexperia	a 0.0	83.3				
NXP SEMIC	NDUCTORS	Nexpena	a 23.5	80.3				
NXP		Nexperia	a 50.0	83.3				
				_				-

PCN analysis cockpit

Categorize>Map>Link

The center for all activities

The main analysis screen is the central cockpit for all PCN related activities:

- See all active PCN/PDN and their status.
- Initiate and view all the process details from here. The colors of the buttons indicate the high-level status of each process step.
- The status column provides details about the progress and open steps.
- The assembly column lists all directly affected assemblies.

The smartPCN button on the left opens the pcn.inspector with the smartPCN details.

There are different views for sorting and grouping PCN by PCN type, assembly, part number and manufacturer. The list can be filtered by other properties like organization, material group or contact person. All columns provide sort and filter functions.

As soon as a PCN is in status 'Done' it disappears from the active list. Completed PCN are displayed with just one click.

You have a complete overview of the current status. See all the details with just one click.

Categorization and follow up

Categorization allows you to enter general comments about the PCN and categorize risk and priority. It is like a message board.

Follow-up is used to send out notifications and to track up information without requesting answers.

Mapping to confirm matches

Since individual matches can be below 100%, matches need to be confirmed.

Categ	orization		-
	PCN No	PON Trife Inneclate Product Discontrusing for "ower Material	Manufa
	Riak Priority Conclusion(d)	→→→→→ COOOO B tortical interactive _ attransise processest _ into Daign	
	Comments	Distypebuy Connet Auto and constant. Number to indicate the technical alternatives and available parts for a bridget sy. Carifornion of alter Sparse an needed.	d the life cycle





i.al lalysis -	All								
Show done	Organization - Materia	Group - Cont	tact Person - Filte	er					
								Sho	w 25 💌
PCN No O	PCN Title •	Manufacturer	Issue Date	Status 🔍	Affected Assemblies	Import Date	Category	۰	
NRFND.PG0006.1	Not Recommended for New Design: LA S	Panasonic	2018-12-26	DONE	Test Module 8	2020-06-19	Major		≠ ९ ≯
HEMCG2-2681b	Product Withdrawal Notice - Chip Monoli	muRata	2018-03-20	WIP: Mapping needed	Q, Test Module 2, Test Modu	2020-08-17	EOL	4	2 9 %
PSCAAA	DESIGN/PROCESS CHANGE NOTIFICATION	Fairchild	2016-08-17	unprocessed		2020-06-03	Major	4	293
Followup	Categorization	Man	ning	Apalysis workfl	ows Action	workflows	-	Done	
Follow up	Categorization	Мар	ping	Analysis workfl	ows Action	workflows	5	Done	
Follow up	Categorization	Мар	ping Done	Analysis workfl	lows Action	workflows	e	Done	Done
Follow up C Set C Expired	Categorization Available None	Map	ping Done Incomplet	Analysis workfl	lows Action Done ncomplete	workflows Done	e mplete		Done Work in progress

Smart functions as well as sorting and filtering support this task which is done with a few clicks. At any time mappings can be edited. All mappings are stored and automatically applied to subsequent PCN with the same items.

Link to assemblies and products

After mapping the pcn.cockpit links all assemblies and products to the PCN and the related items. This applies to all indenture levels provided by the ERP system.



VDM/ 2490;		% of	similar	ity	I,
~					
smartP	G.		-		
smartP	em Number	▼ Matched On	Similarity	% 7	Status
smartP	em Number LR-37MG3FM	Matched On Number	Similarity	% ▼	Status Mapped
	em Number LR-37MG3FM LR-37MG3F <mark>N</mark>	Matched On Number Number	Similarity 100.0 90.9	% ▼	Status Mapped Excluded

PCN: 2020120 Title: Nexperia 2020 Year-End DN Cycle IPN: Example: Calibratic Control System Medical Next Statement System Medical Next Statement System Medical Next System Next Systemed Next System Next System Next System Next System Next System Nex	inking	9
Assembly: PCB_CO7, Name: PCB_CO7 Display driver, Description: Display driver for large displays Assembly: Productine_C, Name: Basic System Medical Description: Main control system Medical market Assembly: Vanguard, UK, Name: Main unit generic UK, Description: Home system Assembly: Package_BU_UK, Name: Complete Europe, Description: Package BU and UK Assembly: Catifah, Name: Main unit generic Catifach, Description: Main Catal System Assembly: Catifah, Name: Main unit generic Catifach, Description: Industrial system	+ PC	k 20201200 Title: Nexperia 2020 Year-End DN Cycle IPN: 500 7644, IPName: FET:5221403476, PPN: BSH114,215, XPN: BSH114, XMN: NXP SEMICONDUCTORS, IPDescription: FET:59
Assembly: Vanguard, UK, Name: Main unit generic UK, Description: Home system Assembly: Package_EU_UK, Name: Complete Europe, Description: Package EU and UK Assembly: Catfish, Name: Main unit generic Catfisch, Description: Medical system Assembly: Sparrow_China, Name: Main unit generic China, Description: Industrial system		Assembly: PCB_C07, Name: PCB_C07 Display driver, Description: Display driver for large displays Assembly: Productline_C, Name: Basic System Medical, Description: Main control system Medical market
Assembly: Package_EU_UK, Name: Complete Europe, Description: Package EU and UK Assembly: Catfish, Name: Main unit generic Catfisch, Description: Medical system Assembly: Sparrow_China, Name: Main unit generic China, Description: Industrial system		Assembly: Vanguard_UK, Name: Main unit generic UK, Description: Home system
Assembly: Callish, Name: Main unit generic China, Description: Industrial system Assembly: Sparrow_China, Name: Main unit generic China, Description: Industrial system		Assembly: Package_EU_UK, Name: Complete Europe, Description: Package EU and UK Assembly: Catifath, Name: Mile unit execution Catifath, Description: Package EU and UK
		Assembly: Caulari, Name: Main unit generic Caulaci, Description: Industrial system Assembly: Sparrow_China, Name: Main unit generic China, Description: Industrial system

Let it flow: Analysis and action workflows

Involve your experts

process;

For the analysis of the impact on assemblies and products, many experts usually need to be involved: from R&D, procurement, production, logistics and even sales, and dedicated individuals.

Instead of meetings or emails, just define an analysis workflow. A workflow is related to one or several assemblies with one or several parts. Each workflow consists of tasks addressed to a group or individual users.

It just takes five easy steps for the whole

1. Select the assemblies and specific items

2. Select the workflow template and

that are part of this workflow.

distribution list for tasks.

The recipients of the task answer via a form that allows to view the smartPCN, the assemblies and items of the workflow and workflow details. The reply consists of categories for risk, priority, criticality, conclusions and task status as well as comments and attached documents.

The PCN administrator or obsolescence manager sees all results immediately to evaluate the overall impact.

All results are stored and available at any time.

- 3. Fill the template with task descriptions, add groups or individuals, and add optional documents.
- 4. Workflow recipients reply to tasks with a standardized form.
- 5. Evaluate the workflow and the task results.

The task owners respond via a standardized form. All data is stored immediately in the database without any need to retrieve and copy data out of emails.

The form allows access to the smartPCN, the tailored list of parts, assemblies, and products related to the workflow.

Based on the results of analysis workflows, action workflows are created for a task, or a workflow in the same way as the analysis workflows.

There are several options for tailoring action workflows and how to include analysis results. The task form displays the related analysis workflow and tasks and allows direct access to the analysis results.

There are categorized and customized answers for risk, priority, criticality, conclusions, and the task status.

Comments are entered as free text. Also documents can be attached.

The recipients answer with the results of the actions in a similar way.

Everything is stored in the database and available in real-time.

The whole workflow process is fast, convenient, with minimum effort for all parties involved. This is digitization at its best. Get it done.



Workflow consisting of individual tasks to analyze the impact of a PCN/PDN 4 4











Smart functions for smart work

What makes a tool a good tool?

Beside the smart features, the support functions help you to get work done in less time with less effort.



The smart support functions are a significant contributor to the drastic reduction of PCN management effort reported by our customers. This is the benefit of the smartPCN format and our consequent digitization approach.

Each step has integrated smart functions, from matching and mapping to action workflows.

Customize the way your pcn.cockpit works by adjusting parameters, grouping results, sorting and filtering of tables, and much more.

In addition there are extra functions:

- Task administration for direct access to all workflows and tasks.
- The pcn.store with all downloaded smartPCN allows the import of other smartPCN and editing of smartPCN content.
- The integrated pcn.creator to create smartPCN for changes of your assemblies.
- Administration of BOM and product data stored in pcn.cockpit and a manual BOM import.
- The pcn.status provides the dashboard and various reports.
- A full-text search machine to find any term within the pcn.cockpit database.

ning tips				
rnative				
global (1434) pcn.store (7	7) bom.admin (0) pon.tasks (14)			
alabalitana (1434)	- (0)			
advoir (1404) gionanitem	s (U)			
giouacien	s (U)			
PCN No 4	PCN Title O	Manufacturer	• Found in	 Sample text
PCN No Cuectel_PCN_2019090501	PCN Title Product Change Notification	Manufacturer Quectel	Found in ChangeTitle, ChangeDetal	Sample text Alternative materials, Anti collision component protective
PCN No C Quectel_PCN_2019090501 201607034F01	PCN Title Protuct Change Notification Assembly and final test transfer to ASEN f	Manufacturer Quectel NXP	Found in ChangeTitle, ChangeDetal ChangeTitle, ChangeDetal	Sample text Alternative Release alternative source, reliable product deliveries also
PCN No Quectel_PCN_2019090501 201607034F01 1706004	PCN Title Product Change Notification Assembly and final test transfer to ASEN f Add alternative wafer source for PIA315	Manufacturer Quectel NXP Panjit	Found In ChangeTitle, ChangeDetal ChangeTitle, ChangeDetal ChangeTitle, ChangeDetal ChangeTitle, Title, ChangeDetal	Sample text Attenuitive materials, Anti collision component protective Release alternative source, reliable product deliveries also Attenuitive wafer source, Add alternative wafer source for
PCN No OuecteLPCN_2019090501 201607034F01 1706004 ESU270-57	PCN Title Product Change Notification Assembly and final test transfer to ASEN f Add alternative wafer source for PIA3415 Alternative Wafer Foundry Approval for S	Manufacturer Ouectel NOP Panjit Littelfuse	Found In ChangeTitle, ChangeDetal ChangeTitle, ChangeDetal ChangeTitle, Trille, ChangeDetal ChangeTitle, Trille, ChangeDetal ChangeTitle, Trille, ChangeDetail	Sample text Attenuitive materials, Anti collision component protective Release alternative source, reliable product deliveries also Attenuitive wafer source, Add alternative wafer source for Attenuitive wafer foundry, Alternative Wafer Foundry App
PCN No QuecteLPCN_2019090501 201607034F01 1706004 ESU270-57 LFPCN_PC0128	PCN Title Product Change Notification Assembly and final test transfer to ASEN f Add alternative wafer source for PIA3415 Alternative Wafer Foundry Approval for S 600 V Distribution Block Alternative Mate	Manufacturer Quectel NOR Panjit Littelfuse Littelfuse	Found In ChangeTitle, ChangeDetal ChangeTitle, ChangeDetal ChangeTitle, Trifle, ChangeDetal ChangeTitle, Trifle, ChangeDetail ChangeTitle, Trifle, ChangeDetail ChangeTitle, Trifle, ChangeDetail	Sample text Attenuitive materials, Anti collision component protective Release alternative source, reliable product deliveries also Attenuitive wafer source, Add alternative wafer source for Attenuitive wafer foundry, Alternative Wafer Foundry App Attenuitive material color, 600 V Distribution Block Alternative
PCN No Quectel, PCN, 2019090501 201607034F01 1706004 ESU270-57 LIFPCN, PC0128 P-21-021318	PCN Title Product Change Notification Assembly and final test transfer to ASEN f Add alternative wafer source for PIA3415 Alternative Wafer Foundry Approval for S 600 V Distribution Block Alternative Mate Product Change Notification - Super seal	Manufacturer Ouectel NOP Panjit Littelfuse Littelfuse TE (Tyco)	Found In ChangeTitle, ChangeDetal ChangeTitle, ChangeDetal ChangeTitle, Trille, ChangeDetal ChangeTitle, Trille, ChangeDetal ChangeTitle, Trille, ChangeDetail ChangeTitle, Trille, ChangeDetail ChangeTitle, ChangeDetail	Sample text Attenuitive materials, Anti collision component protective Release alternative source, reliable product deliveries also Alternative wafer source, Add alternative wafer source for Alternative wafer foundry, Alternative Wafer Foundry Appr Alternative material color, 600 V Distribution Block Alternat Alternative material usage, Dear Customer, Due to the cum

The search function is a powerful tool for finding any term or expression within the pcn.cockpit database. This also includes the data from the pcn.global database used for matching.

The tabs like pcn.global or pcn.task indicate the number of found results in this section.

The result table provides sorting and filtering functions.

Dashboard and reports

The built-in dashboard provides key performance indicators and statistics in real time.

On the left side is the overview on statistics from the database.

On the right side charts

provide an overview on:

the number of PCN.

their overall status, the

number and status of



									Show	25	* record
# Workflow	Workflow	Creator O	# Task	Description	Resp. Org 🔹	Resp. User 🔹 Target Date	Status	Assemblies	PCN O		
001	Analyse PCN PCN	admin@pen-cock	001	Check consistenc	R&D	2/22/2019	Open	MB_A2235*103	PCN-2018-R8U04	QI	Provi i
200	Analyse PCN PTN	admin@pon-cock	001	Analyse impact.	R&D	2/22/2019	Done	Comm Series B-2	PTN-NLR-002-20	91	-wi
003	Analyse PCN PTN	admin@pcn-cock	001	Clarity impact for	RB/D	2/22/2019	Done	PCB_B10 Sensor	PTN-NLR-002-20	Qi	Pori
004	Analyse PCN PTN	admin@pen-cock	001	Test	R&D	2/23/2019	Done	MB_A2235*101	PTN-NLR-002-20	Qi	Reg i
004	Analyse PCN PTN	admin@pcn-cock	Add 1	Investigate piggy	R&D	2/23/2019	Done	M8_A2235*101	PIN-NIR-002-20	21	-wi
004	Analyse PCN PTN	admin@pen-cock	Add2	Investigate altern	R&D	2/23/2019	Done	MB_A2235*101	PTN-NLR-002-20	Qi	Awi i
005	Analyse PCN KSR	admin@pcn-cock	004	lest	Sales	3/24/2019	Done	Comm Series 8-2	KSRA-02UUVU52	91	-wi
006	Analyse PCN 230	admin@pen-cock	004	Test	Sales	3/24/2019	Done	PCB_A03 Controll	2305	QI	and the second s

This is only a fraction of the features provided by pcn.cockpit. There is much more functionality and customizing built-in or available on request.

With the pcn.cockpit you immediately achieve digitization for PCN/PDN management. Integration into your IT landscape and setup is easy to do. It just needs standard servers, an SQL database and an internet connection. This is good for a guick start into digitization.

Apply step by step different levels of customizing, add users, use more features and enhance the integration with your other systems.

Do you need a special feature, specific interfaces or functional extensions? Contact us, we have a solution.

The pcn.cockpit uses encrypted interfaces and has been evaluated by companies with the highest security requirements - and met them.

Many small, medium and global enterprises use the pcn.cockpit - so can you!



tasks, the tasks per organization, PCN types and top five statics of EOL PCN, and affected assemblies.

Various reports provide tables with detailed information and allow direct access to the content. There is also a spreadsheet export function.



The index of life

Life cycle index at work

Life cycle management is a challenging task. The planned life cycle of products and services is threatened everyday by obsolescence events of materials, components, assemblies, procured products, software or even lack of know-how.

We are talking about the life cycle of a generic product model but not the individual life cycle of a specific product, e.g. caused by degeneration.

The questions related to life cycle management are:

How long <u>do</u> we want to produce the product or offer the service?

- How long <u>can</u> we produce the product and offer the service?
- How do procured items (base-items) like materials, components, software or services impact my production, products and services?

The life cycle data and a concept called life cycle index allow the estimation of future obsolescence risks and the realization of obsolescence management plans.

It is a new and innovate concept that integrates planning, assumptions and facts in one comprehensive approach. Applying this concept to procured items allows modeling the life cycle depending on the information available.

Modify the parameters when you get new information, change your assumptions or receive facts like a discontinuation notification PDN.



Below is the LCI curve for a gear part. The life cycle was planned in 2002.

In 2015 you get noticed that the manufacturer was acquired by a competitor. You expect an



Events like end of production or end of sales are fixed points. You can take them into account only when you

Life Cycle

The life cycle index (LCI) is a number between 0 and 99 and describes the perceived age. Applied to humans, there is usually a linear relation between the age in calendar years and the perceived age. However we know that the line is more or less steep for different individuals.

know them.

Based on this you are able to define life cycle phases (e.g. like school, first job, mid age, retirement).



Over time the LCI increases. A low LCI value means a young object, a high LCI value a high probability of an end-of-life scenario.



SOPStart Of ProductionNRNDNot Recommended for New DesignEOSEnd Of SalesEOPEnd Of ProductionEOSREnd Of Service & RepairEOLEnd Of Life

Even if you do not know the exact points in time for the different phases, you know that people usually retire between 60 and 70. A person with an LCI of 60 has a higher risk of retiring than one with an LCI of 20. This is a reasonable approach for planning: If a certain age is reached, for example 55, the search for a successor should be initiated.

Risk calculations of insurance companies apply such principles. Specific lifestyles change the way how the LCI increases over time.

- Calculate the LCI value at any point in the future based on the parameters for an individual part or a group of parts.
- As we never know what the future brings, this is the forecast available now, and it is way better than vague guesswork.

- EOL notice within the next years and change the parameters.
- In 2020 your receive a PDN which changes your LCI curve finally.

Obsolescence ahead

It is good to have a plan

Imagine to estimating - or even better modeling the future obsolescence risk based on the life cycle index of your procured items. Automatically, for all your products and services. How does is work?

Modeling of future obsolescence risks

For every item the obsolescence risk elevates with increasing LCI. Define an LCI value as a criteria, where you think the risk of obsolescence increases significantly (e.g. LCI 50). As soon as the LCI of an item exceeds the criteria, mark it as a candidate for obsolescence.

The more items of a product are above the criteria, the higher is your overall obsolescence risk for your product. Please take into account that risk probability does not mean certainty. It is a forecast of the future obsolescence risk based on the information of today.

Although this method is based on an easy-tounderstand algorithm, it considers all your procured items.

Based on the different areas you may decide on the measures to apply, for instance like bridge-buy or small respectively large redesigns.

Risk counters for your products

The absolute number of items above the criteria is the risk counter, that increases over time.

Set the risk counter in relation to the total number of parts of a product, and you get the relative risk counter with a value between o and 1 or as percentage value.



Obsolescence management plans define what to do depending on a certain situation.

Define the default actions for an item based on the risk level of this items and its life cycle index.





Product obsolescence management plan

Apply the same principle to your products using the relative risk counter and its future





The example above shows the LCI values of all components of a printed circuit board. Each time an LCI line crosses the criteria of LCI 50, the risk counter is increased by one. The red curve represents the course of the risk counter over time. The first steep rise (light blue area) may trigger a proactive procurement of the parts with highest LCI. To avoid the second steep rise (light red area), a re-design can be started in advance. Repeat the calculations for the new board. Such a diagram is very useful for stakeholders to justify expenditures.

Act proactively according to a plan

This is a reasonable approach for proactive actions. Some companies apply this principle by avoiding components that are too long on the market. Do not wait for the end of life messages of your supplier!

- e individual LCI value and gradient to
- Act according to predetermined measures
- Stock items proactively
- Discuss proceeding with customers

	📡 📀	
stock, LNB	Phase out, emergency action	
tive ment	Strategic stock, storage, LNB	
or	Monitor	
Im	High	

NR Life of need bu

- value to define the default actions. It prevents you from many surprises and justifies the actions taken. This is a proper obsolescence management according to IEC 62402.
- Jse Risk Counters and their future trend to Act according to predetermined Start re-designs proactively

	Partial redesign	
ign	Monitoring	
ment	Monitoring	
	•3 years	

Life Cycle Management - Get it done!

Life cycle health

Usually, you have thousands of parts and hundreds of products to supervise for obsolescence and life cycle status.

- How do you do this with reasonable effort?
- What is the effort being proactive instead of reactive?

Just imagine having a tool at hand that uses the principles of digitization to

- bring all data of your ERP and engineering systems together,
- connect to commercial database providers, and
- automatically calculate the life cycle index and life cycle status of all items and products.

The lcm.cockpit is the ultimate tool to manage and control the life cycle of all your items, assemblies and products.

It works with the same database as the pcn.cockpit. In case you use external databases, the lcm.cockpit connects to them via API and collects all information related to your items. Your BOM and product data are not disclosed.



• Select between base-items, items and assemblies and see the related objects in the interactive table.

• Aggregated number of items within an LCI cluster. Select an element to see and access the objects.

• Cumulated number of base-items with EOL forecast over time. Click in the chart to see and access the related objects.

• Distribution of objects based on the calculated life cycle status. Click on the bar to see and access the related objects.

• Distribution of open alarms for objects in different alarm categories. Click on the bar to see and access the related alarms.

• Interactive table which is linked bidirectional to the charts.

In addition control and edit all data manually, or use the customized data import.

The LCI values of items, components, assemblies and products are automatically merged together for a calculation of life cycle status and risk, the life cycle index (LCI) and future obsolescence management. In addition alarms are defined based on various criteria.

The heart of the tool is the dashboard with fully interactive charts impacting in real-time the table of all objects selected in the charts and vice versa:

- Any selection in the charts acts as a filter for the table.
- Any filter/search applied to the table is immediately reflected in the charts.

Example 1: select the bar LCI 40-49 in the LCI distribution in chart (2) and see immediately the objects with an LCI between 40 and 49.

Example 2: Enter the year 2023 in the column LTB date in the table (6). The table lists all items with a last time buy in 2023. In addition all charts show the data just for those items.



All data is linked together. Click on a link to explore the linked relations. Make use of the innovative concepts how objects, their properties and relations are linked together. Smart assistants provide interactive access to groups of objects based on properties.

Impact of estimated EOL

Obsolescence risk modeling

Data service providers use algorithms to estimate the future end-of-life date. Via API the lcm.cockpit is able to collect the data from data providers - even multiple providers - for all or selected base-items.

The lcm.cockpit determines for each assembly and product, for all indenture levels, the number of base-items with the end-of-life date forecast in a specific year. Click on the ident number on the left side to see all the details of the assembly or product in a new browser tab.

The table lists for each assembly and product the number of base-items with end-of-life forecast per year. Click on the number to get a list of all baseitems contributing to this number.

It is very convenient to browse through all indenture levels just by a click on the object. The tabs in the detailed view provide easy access to all properties, whether they are based on your data or imported from external sources.

This is digitization of life cycle management at its best. Get it done.







The second view of the obsolescence risk modeling is the LCI distribution of items in the target year. It displays the number of base-items in an LCI interval of 5.

The table below lists all base-items that contribute to the chart.



The lcm.cockpit brings digitization to life cycle and obsolescence management. It can be used standalone or in combination with pcn.cockpit and mc.cockpit.

Proactive obsolescence management according to IEC 62402 requires an always up-to-date life cycle status based on multiple information sources. Any assembly or product can be selected for the obsolescence risk modeling. All items down to the level of base-items are taken into account for the calculation.

The parameters are just the target year of the modeling and the LCI level used as threshold.

Based on the LCI parameters of each base-item the LCI is projected up to the target year. The risk counter value over time is increased by one for every item exceeding the threshold. The table on the bottom lists all items used for calculation.

The obsolescence risk modeling based on Life Cycle Index is the innovative approach for proactive planning.

Life cycle management has never been so easy. Consequent digitization with linked objects and powerful algorithms gives you the data to manage obsolescence successfully. Get it done.



SCIP and Material Compliance Management

"The component is available, but we are not allowed to use it anymore!"

More and more companies experience the influence of material compliance on life cycle and obsolescence of products.

The Waste Frame Directive (WFD) of the European Union (EU) requests a bill of material (BOM) of all components with substances of very high concern (SVHC) from each company selling or importing products in the EU. This SVHC-BOM needs to be

delivered as a digital dossier in a specific XML format to the SCIP (Substances of Concern In Products) database of the European Chemical Agency (ECHA).

Just think about the complexity to sort out all the different BOM, the items with SVHC and in particular keeping track with all the changes of the SVHC list and of products.

Imagine having an IT system that does this work for you.

We have the solution - the mc.cockpit.

The mc.cockpit uses the same database as pcn.cockpit and lcm.cockpit. This means all interfaces to your ERP and engineering systems are already available. Add SVHCspecific data or import SVHC information from external data services, and the system automatically creates the data needed for the SCIP dossiers. How is that?

You just need to fill in or import some administration information required for the SCIP data-



- base, and the mc.cockpit automatically creates the dossiers and delivers them to the SCIP database.
- The mc.cockpit even checks for updates, e.g., with external data services or within your engineering data and automatically updates the SCIP dossiers. Alarms are created in case some data is missing.
- Get it done: full compliance with the EU regulations, fully digitized for all your products.

Consulting

Get it done! Go forward on the fast track.

The introduction of new tools and new processes has a significant impact on the way people work together in your company, but also with suppliers and customers.

The IEC 62402:2019 is a good standard and provides excellent advice how to implement obsolescence management. We have been involved in the creation of the IEC 62402:2019 as well as in smartPCN/VDMA 24903.

The application of IEC 62402 and the implementation of our tools often lead to questions how the company processes should be built.

DONE!

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Typical questions are:

- How to set up the processes?
- What is the best organizational form for obsolescence management for us?
- How should the interworking between different departments be defined?
- What are obsolescence management policy and plan good for? What is their content?

Based on our vast experience in the business, we have worked with many companies from small to global. Additionally we work in many different industry sectors, which allows us to transfer suitable methods from one industry to another. We are actively involved in life cycle and obsolescence management with services we provide for world-renowned companies with our partner company GMP German Machine Parts.

And finally we are an active part of the obsolescence management organizations like IIOM (International Institute of Obsolescence Management) and COGD (Component Obsolescence Group Germany), a chapter of

• OM Policy

• OM Plan

Act on obsolescence

Plan for

• Usage list and cross reference Assessment of impact Assessment of resolutions Decide on measures Implement measures

· Review OMP: Strategies,

approaches, resolutions, item status





IIOM. This gives us many insights, and we benefit from an extensive international network.

We partnered with Syliom Consulting, specializing on life cycle, obsolescence and material compliance management consulting services.

We support you right from the start until tools and processes are working and interworking in the best way for you.

Contact us -

together we get it done!



Go and get it done!

How to start

What do you need? What are your challenges? How does digitization help you advance, optimize, and improve your obsolescence management? What are your expectations? Let's talk about it.

Demo and test system

We are happy to give you a detailed introduction and online demo of our tools. Let's set up a test server with some of your example data or sample data from us. Test our systems under real conditions.

Data

There are many ways to import your BOM and product data. We need some standard data, and you define any other data fields for import.

Interfaces

We have a lot of experience connecting our tools to other systems. Typically our tools access data in read-only mode. Your IT systems are always the master. However, if needed, we export data to your IT systems.

Installation, technical support and training

Installation usually takes less than one day if the preconditions are met. We provide live support during installation. Also, we support you in case something does not work as you expected. A new tool needs training. We provide training online and in physical meetings.

Process integration and business consulting

A new tool changes the way people do their daily work. We are happy to share our insights how our customers use our tools and our knowledge of implementing IEC 62402. Let's talk.





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