

# Life Time Extension of I&C Modules

by WIL I&C Services

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# Agenda

- 1 **Introduction**

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- 2 **Who is WIL I&C Services**

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- 3 **Which Services can WIL provide for Life Time Extension**

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- 4 **What is WIL's Expertise on Re-Design of I&C Modules**

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- 5 **Examples of Modules WIL can deliver**

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- 6 **Next steps and closing**

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# Who is WIL I&C Services?

- PreussenElektra GmbH (PEL), formerly known as E.ON Kernkraft (EKK) GmbH, belongs to the E.ON Group.
- Since 1st April 2016 WIL I&C Services (WIL) is a department of PreussenElektra in Hannover, but WIL's workshops are located in Hamburg.
- Until the end of March 2016 WIL belonged to Vattenfall but Vattenfall decided to close down or to sell WIL, because their NNP in Germany are not in commercial operation any more ==> PEL decided to take over WIL.

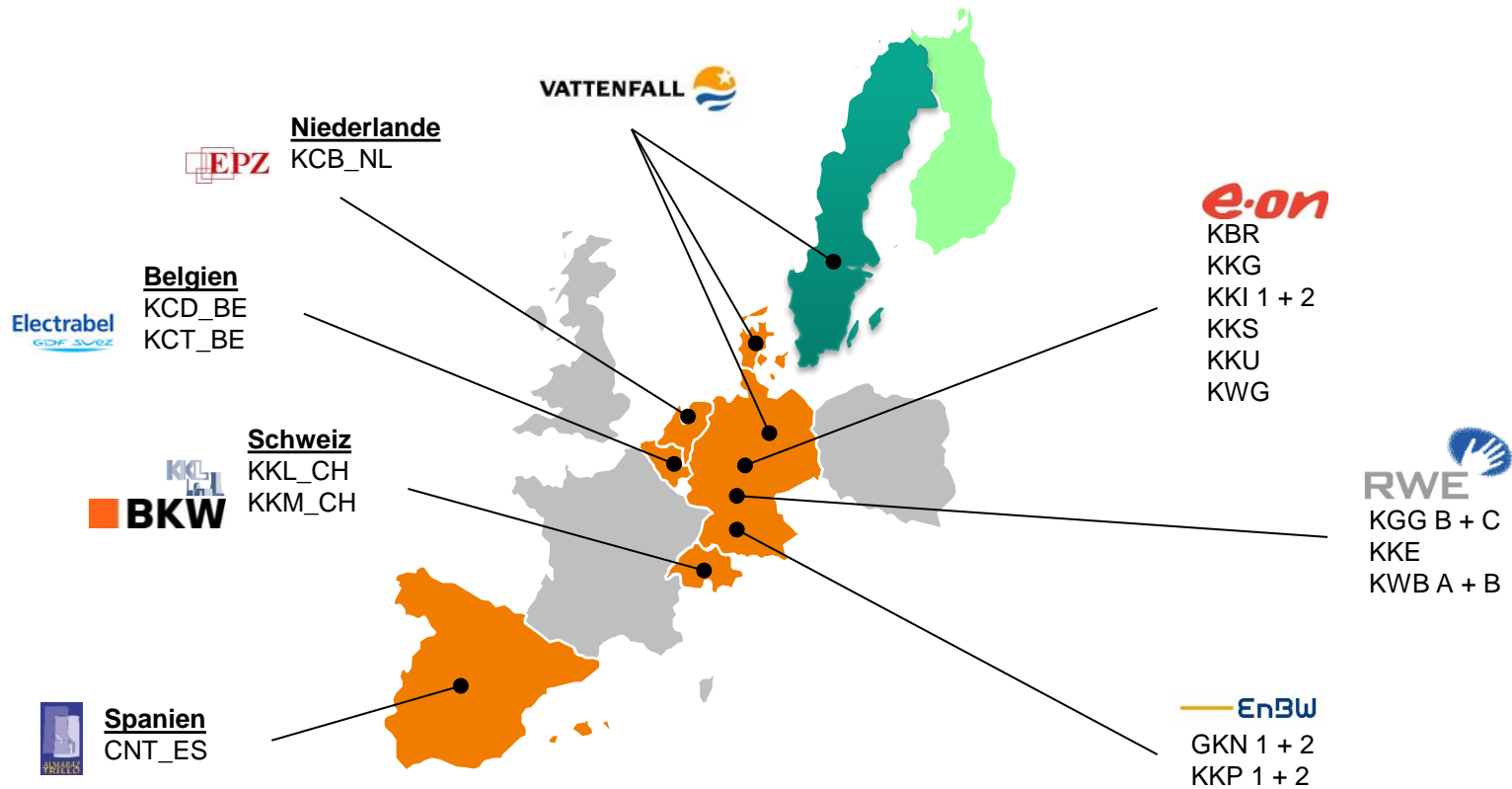
## Why bought PEL WIL?

- The reason is because PEL is operating NPPs in Germany until the end of the year 2022.
- At least for the next 7 years someone has to be able to repair and perform qualified tests on I&C technology.
- The other reason is that we want to provide nuclear services on markets outside Germany in order to save our jobs for the future and give our staff new opportunities.
- Even after 2022 when PEL is focusing on decommissioning we want to act as a service provider and as a consultant.

# Facts about WIL

- WIL is existing for more than 50 years
- Certificated according KTA1401, KTA3507 and 10CFR50, App.B
- 24 motivated experts
- WIL can deliver services for:
  - I&C modules manufactured by about 130 different OEMs
  - More than 1,600 different module-types
- Spare-Parts
  - 8,500 different types of electronic components
  - About 2,000,000 million repair parts
  - Storage for our customers
- On sale: approximately 100,000 I&C modules

# WIL – Customers in Europe



# Lifetime Services for I&C-Systems of several OEMs

(extract)

## Siemens

- Iskamatic A, B, C
- Simatic N, P
- DM, EDM
- Transidyn
- Simadyn
- Teleperm B, C, C8000, D, F, M

## BBC

- Decontic k, (s)

## AEG

- Logistat
- Geamatic

## Hartmann & Braun

- Contronic 2
- Contronic Z
- Contronic 3
- Transducer, series 152 154 159
- TK240, TK250
- Control room registrator

## Endress + Hauser

## Herfurth, Rados

## Jaquet

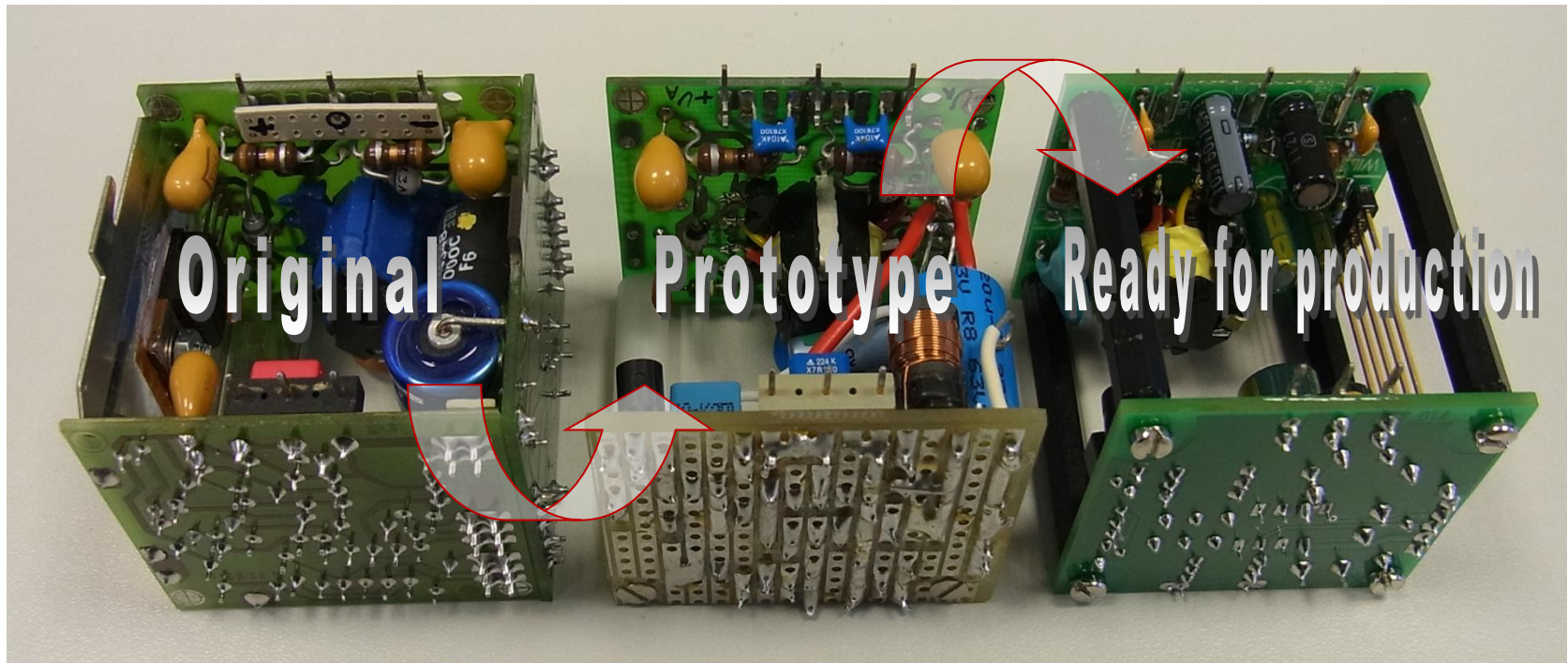
## Sulzer

And many more

# Service Categories (extract)

- I&C modules
  - Whisker removal
  - Repair
  - Refurbishment (we are running a refurbishment programme for our NNPs since 2011)
  - Function testing
  - Factory testing
- Investigation on I&C modules (e.g. fault analysis)
- Lifetime management of I&C modules
- Sales of discontinued modules
- Type testing of I&C modules (Time needed ~ 160 days)
- Re-Design of I&C modules (Time needed ~ 220 days)

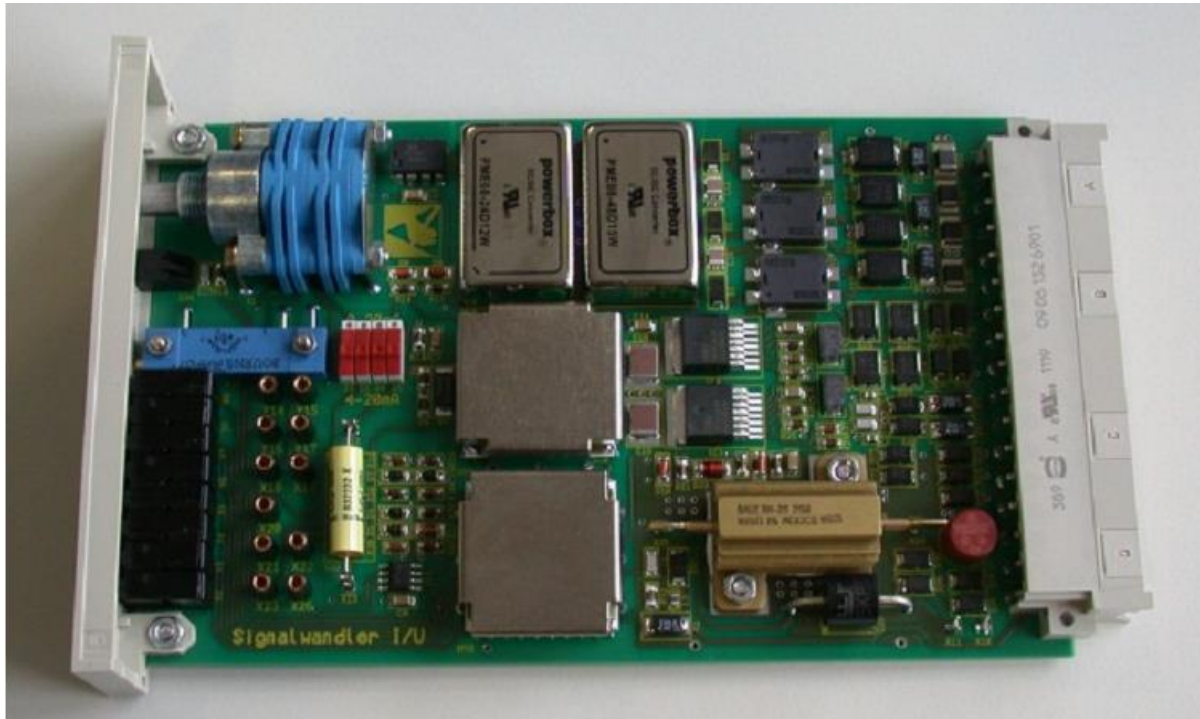
# Re-Design of I&C Modules:



„Cubicle“ for the reparation of a least 5 different I&C modules (Endress & Hauser):  
Filing level guards (FTC480, FTC 280), filing level transmitters (FMC480, FMC280),  
contact transmitter (HTA280)



# On Sale: Re-Designed Substitute for a Teleperm C Current-Voltage-Converter



Device type:	SIU
Device code:	79000303
Text:	Signal converter I/U
Device system:	WIL
Qualified acc. to:	KTA 3503
Manufactured acc. to:	KTA 3501
Factory tested acc. To:	KTA 3507
Pin-, plug-, functional compatible to:	current-voltage-converter M74003-A9143

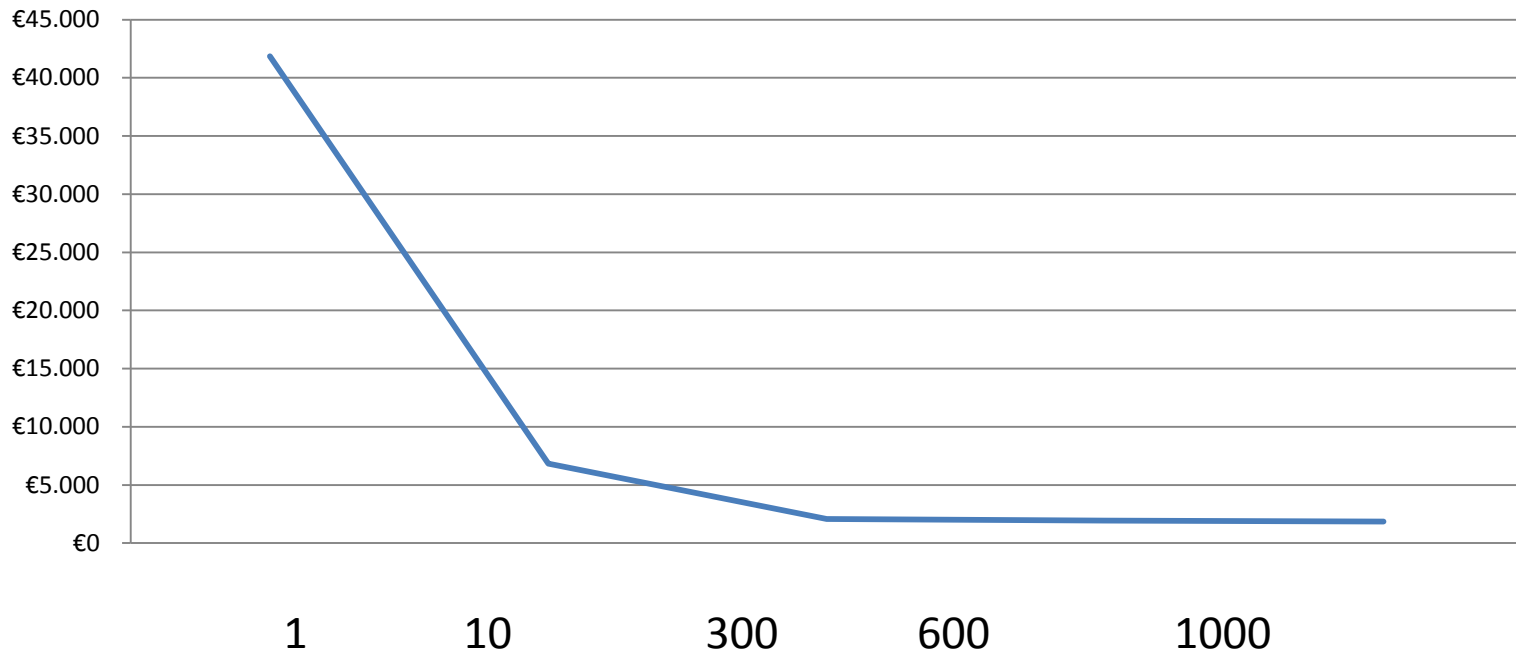
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Factory tested acc. To:	KTA 3507
Pin-, plug-, functional compatible to:	current-voltage-converter M74003-A9143 device system Teleperm C, Siemens
Application:	reactor protection system in NNPs
Experience in PELs NNPs:	very good (result for 300 modules)

# Price Curve for Re-Designed Signal Converter

Device type: SIU  
Article code: 79000303  
Text: Signal converter I/U  
Device system: WIL

## Price per Module



# Deliverable On Request: Re-Designed Substitute for the Limit-Value-Detector RG11

Device type:	GWM4132
Text:	Limit-value-detector
Device system:	WIL
Qualified acc. to:	KTA 3503
Manufactured acc. to:	KTA 3501
Predecessor:	Limit-value-detector RG11 DM-Technology, Siemens
Application:	Reactor protection system in NNPs

# Deliverable On Request: Re-Designed Substitute for the Time-Delay-Module

Device type:	ZV600
Text:	Time-delay module, 0,1s to 999,9s
Device system:	WIL
Qualified acc. to:	KTA 3503
Manufactured acc. to:	KTA 3501
Predecessor:	GEAMATIC XPH 70, XPH 81 and XPH82, AEG
Application:	Reactor protection system in NNPs

# Lessons learned: Our 5-Step-Approach

1. Implement a refurbish programme on I&C modules for life time extension
2. Repair I&C modules as long as possible by a qualified workshop
3. Buy I &C modules from other utilities
4. Try to buy resigned modules which fit to your system
5. Implement a redesigned programme if the other 4 steps failed

**For all 5 Steps WIL I&C Services offers competent support.**

# Thank you

## Very much



For further information  
don't hesitate to contact:

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