

# Electrical distribution performance & risk management

## ECOFIT™ Sepam 2000 by Sepam series 60/80 Customer Presentation



INFRASTRUCTURE BUSINESS

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# Agenda

- **Introduction : Electrical Distribution Asset Optimisation & Retrofit solutions**
- ECOFIT SEPAM 2000 : Installed Base
- ECOFIT SEPAM 2000 : Solution Description
- ECOFIT SEPAM 2000 : Retrofit Steps
- ECOFIT SEPAM 2000 : Conclusion & Global Benefits

# Retrofit solutions at a glance

## Customer benefits:

- **improve** installation safety, availability and quality
- **provide** a roadmap for maintenance and modernisation activities
- **prioritise** electrical investments to optimise CAPEX

# Retrofit of the obsolete SEPAM 2000 relays by a live SEPAM series 60 or 80 relay

**→ We propose you a complete retrofit solution**

**This proposal answers the following issues :**

- Use of obsolete relays, which cannot be upgraded anymore,
- Use of relays which have not all the functionalities you may need
- Compensate the lack of spare parts on Sepam 2000 Relays



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# Ecofit S2000

## ●Current Situation

- Installed base very importante 70000 SEPAM2000 units over the world
- Existing Relays obsolete
- Competitors already propose and provide replacement solution at low price in some countries
- Need to have a plug and play solution to reduce as much as possible the site activity scope
- High references in retrofit solution and refurbishment solution inside SE Automation, helpful for Customer support

## ●End of Live data

- 2006 : end of sales
- 2015 : end of repair and end of components for spare parts

# Ecofit S2000

## ● The project objective

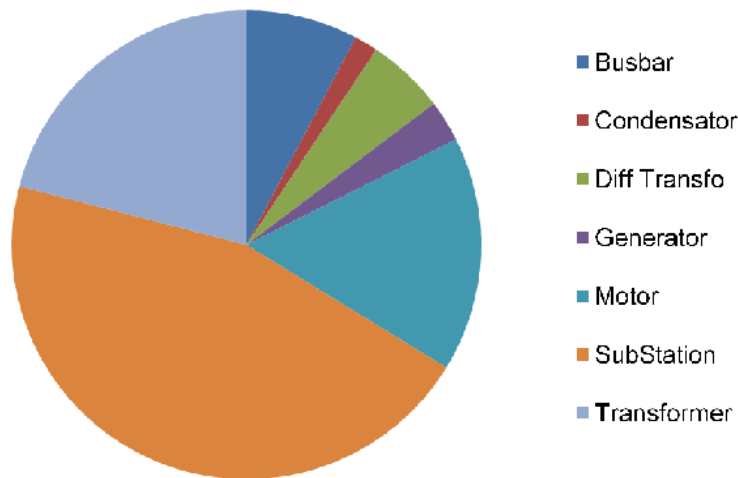
- Manufacturing of a Plug and Play Solution providing a replacement of original Sepam 2000 relay by a Sepam series 60 or 80

## ● Main Advantages

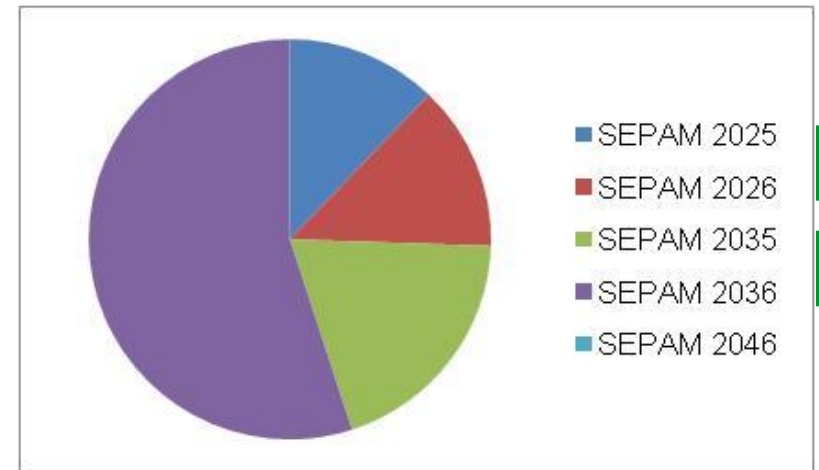
- No modification of existing wiring, (except if new fonctionnality added)
- No modification of Electrical drawings
- No modification of mechanical parts (cut off,...) on the panel or LV compartment
- Solution ready for new communication facilities, monitoring and remote control, providing up to 2 communication protocols (ModBus & IEC 61850)
- Availability of software conversion tools to transfer existing logics into Logipam automation toolsuite for all standard configurations
- Reduce the shutdown time
- Provide upgrade at minimum cost thanks to a manufacturer qualified solution

# SEPAM 2000 - Installed base Evaluation

- Split by Application and Case type



***Split by Application Family***



***Split by Case type***  
***About 70% of S35/S36 case***  
***About 30% of S25/S26 case***

# Ecofit S2000

## ● End Users

- Industrial Customers (except french users) :
  - Sub-station (30%)
  - Motors (cimenterie, Intensive & Oil & gas...) (25%)
  - Transf (20%)
  - BusBars ( 5%)
  - Other (20%)

## ● Exclusion

- SEPAM 2000 with Amagnetic CTs  
In that case, we propose an ECOFIT S2000 + CTs replacement,
- SEPAM D31 & D32 For 3 Winding Transformers :
  - To be replaced by MiCOM P633
- SEPAM Rxx (RTU Applications)

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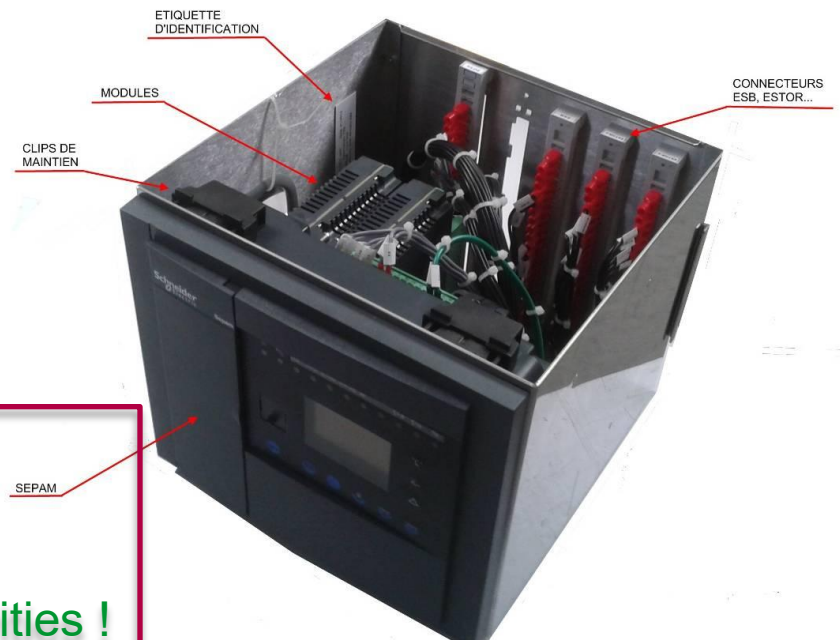
## **. ECOFIT SEPAM 2000 : Solution Description**

- ECOFIT SEPAM 2000 : Retrofit Steps
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# Ecofit S2000 – Solution Description

## ● Ecofit Principle :

- The new SEPAM relay is integrated into a dedicated case, providing the same rear panel than the original Sepam 2000
- A set of wired is provided, installed and tested at manufacturing place to interface the new Sepam terminal blocks with existing Sepam 2000 terminals, so that there is no wiring modification at customer side
- The global rack is inserted in lieu of the existing Sepam 2000 (same size), using the same cut off characteristics, and is fixed by using the normal fixing tools provided with the Sepam series 60 or 80.



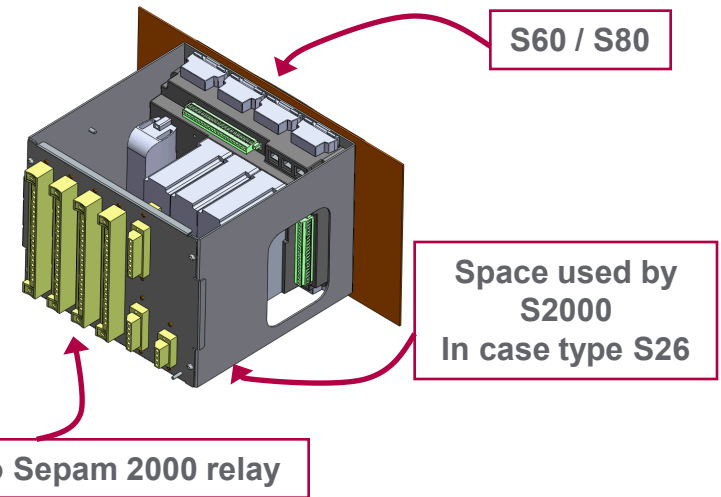
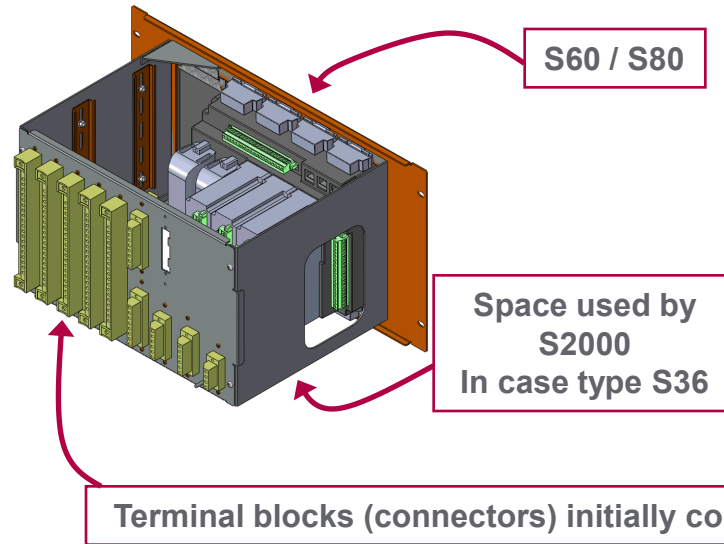
⇒ Standard Plug and Play Solution !

⇒ Cost Efficient solution vs other local players due to reduction of site activities !

# Ecofit S2000 – Solution Description

- S36 with series 60 or 80 relay

- S26 with series 60 or 80 relay



(photo for information only)

- Ecofit S2000 Solution Kit



An Ecofit S2000 Relay

+



1 set of Spare cables and screws

+

One document including :

- Safety Procedure and Installation Guide,
- **Electrical Interface table (wiring interface),**
- Factory End to End test report

*Commissioning test Procedure and test Equipment shall be provided separately by local team*

# Ecofit S2000 – Solution Description

## • Summary of Applications and Typical Retrofit Configurations :

	Original S2000 configuration	Replaced by S80 range	Replaced by S60 range
Motor Application	M06, M07, M08, M14	X	
	M02 to M05, M09, M11, M15, M16, M20 to M23		X
Sub-station Application	S02, S03, S06 to S09	X	
	S01, S04, S05		X
Bus Bar Application	B02, B04, B07, B12	X	
	B01, B03		X
Transformer Application without temp measurement	T01 to T03, T06, T07, T09, T10, T12 to T15, T17 to T19	X	
	T04, T05, T11, T16		X
Transformer Application with temp measurement	T21, T22, T23, T26, T27, T29, T30, T32 to T35, T37 to T39	X	
	T24, T25, T31, T36		X
Generator Application	G01 to G08, G12, G13, G15 to G18	X	
Condensator Application	C02, C04, C06, C08	X	
	C01, C03		X
Differential Transformer Application	D02, D22	X	

Option1 : with IHM Synoptique ; Option2 : with Comm TCP/IP Module

## • Standardized configurations !

## • SEPAM series 60 or 80 Range is automatically selected when filling in the order form !

In case of Customized Logipam, Series 80 will be proposed

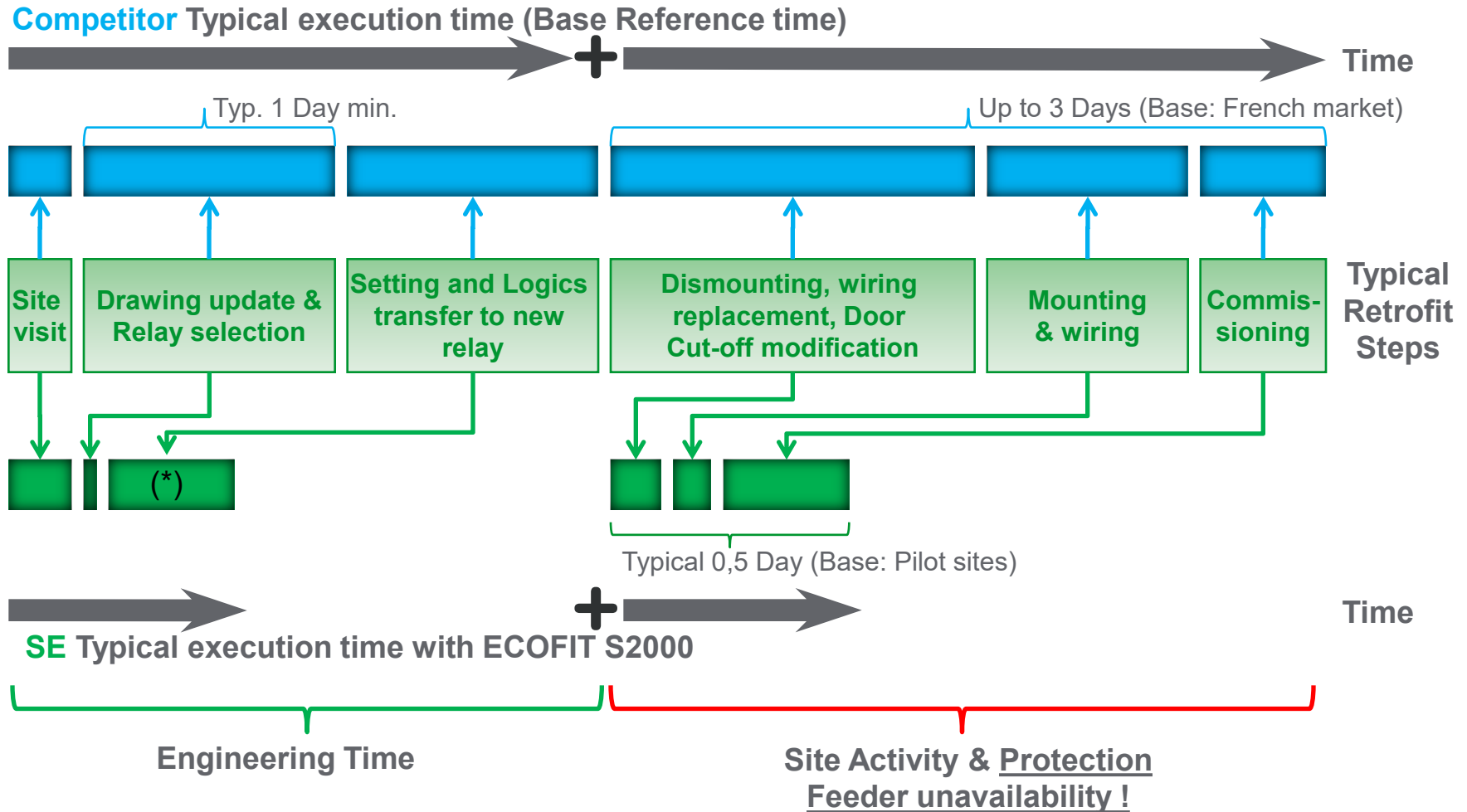
# Ecofit S2000

- Detailed list of Applications and Typical Proposed Configurations :

	S80 application	MES120	MET148-2	MCS025	Original SEPAM 2000 Configuration
<b>Configuration standard en Sepam80</b>					
<b>Transformer Application without Temp. sensor</b>					
	T81	1			T07, T12
	T81	2			T01,T03,T09,T14,T15,T17,T18,T19
	T82	1			T13
	T82	2			T02, T06, T10
<b>Transformer Application with Temp. sensor</b>					
	T81	1	1		T27, T32
	T81	2	1		T21,T23,T29,T34,T35,T37,T38,T39
	T82	1	1		T33
	T82	2	1		T22, T26, T30
<b>Generator Application</b>					
	G82	2			G01, G05, G07
	G82	2	1		G02, G06, G08
	G82	2	2		G12, G13
	G82	2		1	G03
	G82	2	1	1	G04
	G87	2			G17

- **SEPAM series 60 or 80 Range is automatically selected when filling in the order form !**

# Ecofit S2000 : Pricing comparison in terms of Man.Days



(\* ) Can Be reduced thanks to Transfer tools availability

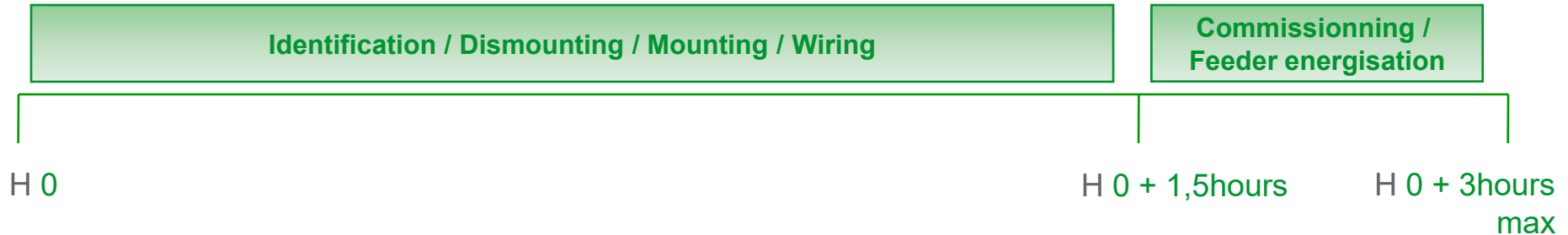
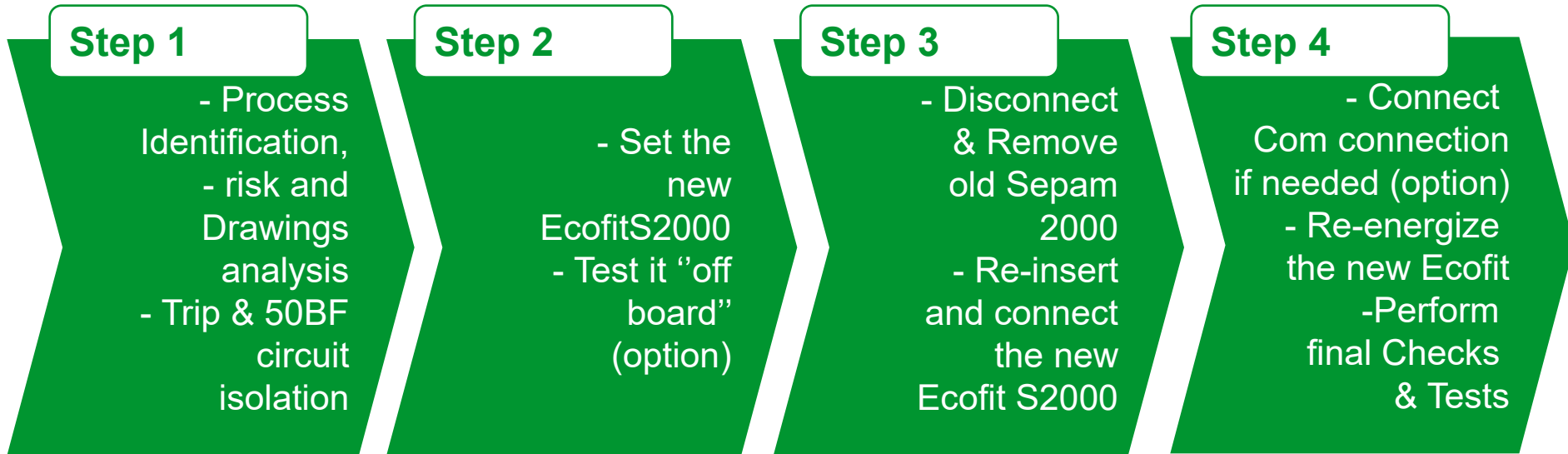
# Sepam 2000 to Sepam series 60/80: What changes in software ?

- **All protective functions are still available in the new Sepam series 60 or 80 relay,**
- **New protective functions or Automations are available for future use**
- **Settings are performed through SFT2841 software, already used for Sepam range relays**
- **All Automation and logics are uptaded using SFT2885 software,**
- **ModBus protocol is available as well as new IEC 61850 standard protocol**

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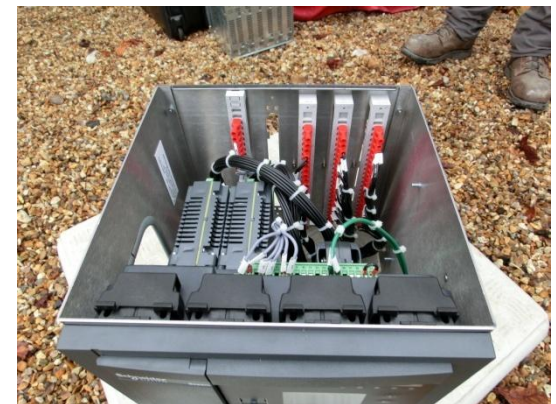
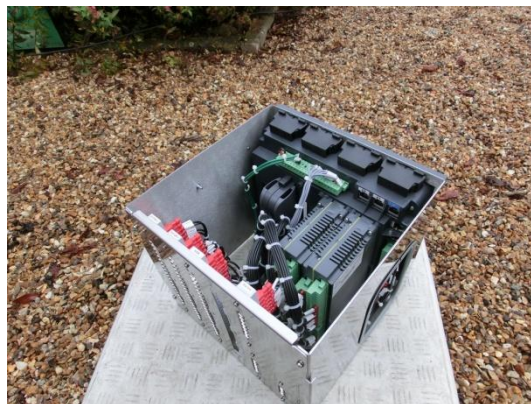
# A four step methodology



One example based on a 3 hours on-site execution

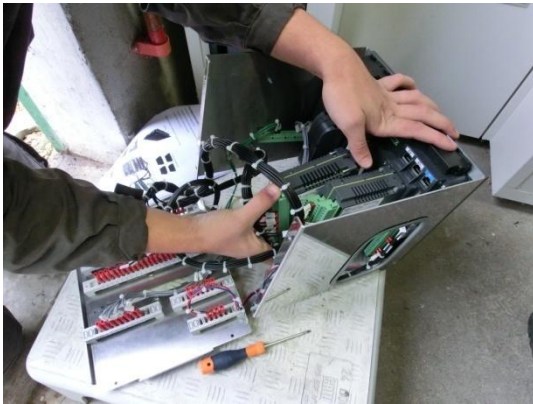
# SEPAM 2000 – Retrofit Steps example

- From Left to Right and Top to Down – Solution with S26 Case :



# SEPAM 2000 – Retrofit Steps example

- From Left to Right and Top to Down – Solution with S26 Case :



# SEPAM 2000 – Retrofit Steps example

- From Left to Right and Top to Down – Solution with S26 Case :



# SEPAM 2000 – Retrofit Steps example

- Solution with S36 Case – Same process than for S26 case except the implementation of a blanking plate at right side (provided) :

Before



After



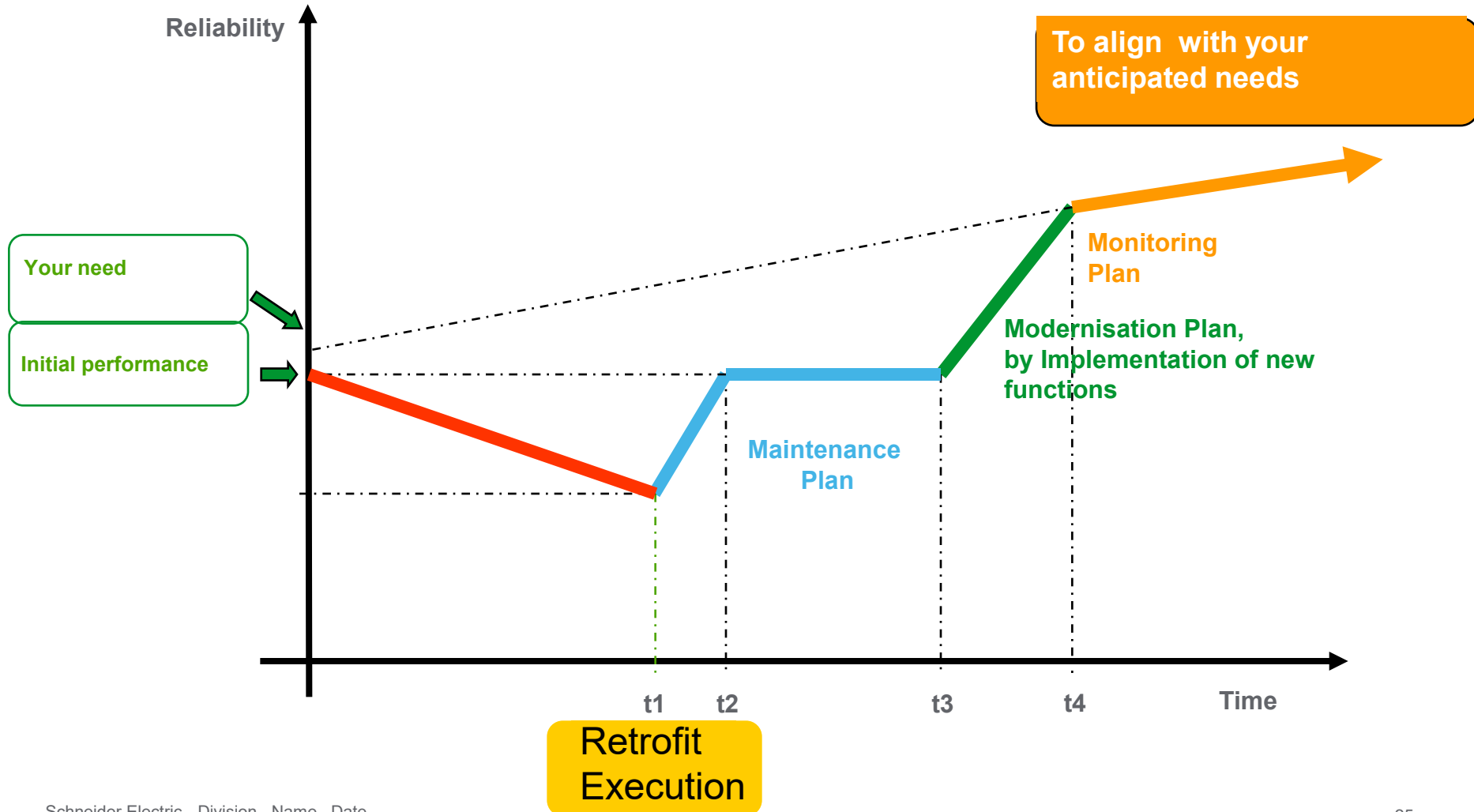
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# Retrofit Activity

## Repair, Improve, Monitor and Anticipate !



# Asset optimisation value proposal : guarantee your peace of mind all over the lifecycle of your installation

