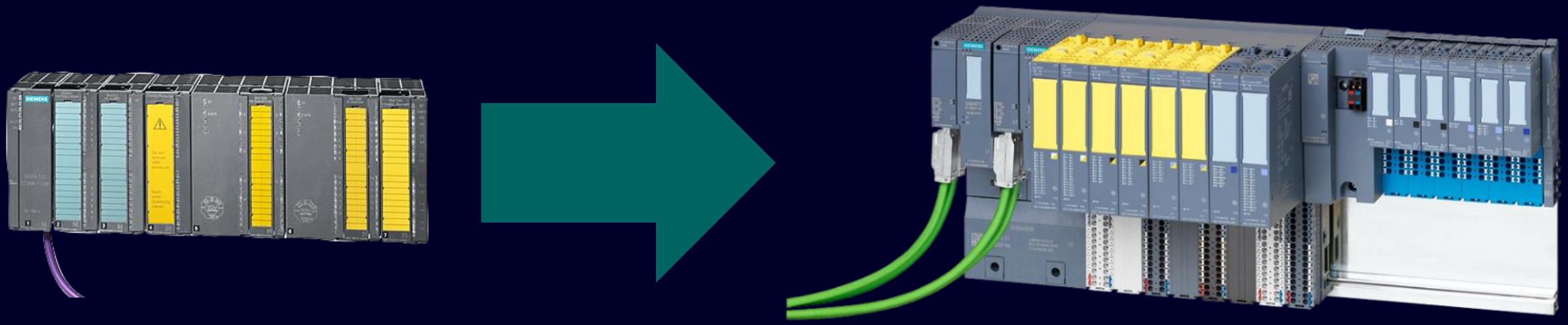
Transforming your plant
Upgrade from SIMATIC ET 200M to SIMATIC ET 200SP HA



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Upgrade from SIMATIC ET 200M to SIMATIC ET 200SP HA

… phase-out planning SIMATIC ET 200M

Overview of the passive marketing phase of the peripheral system SIMATIC ET 200M from PM400 (PM = product milestones)*

SIMATIC ET 200M

10 years availability

2 years

2 years to be obtained as a new part (changed discount)

as a new part

as a spare part

warranty

1.10.2023:
Announcement product phase out (PM400)

1.10.2025:
Product cancellation (PM410)

1.10.2033:
Product discontinuation (PM490)

1.10.2035
End of life cycle (PM500)

SIMATIC ET 200SP HA - Successor with long time Life-Cycle

available for new plants

… further Innovations

2017: Market Launch SIMATIC ET 200SP HA

2021: Portfolio Completion Standard-, F-, and Ex- Modules

*Note: Exceptions to this for individual modules are possible! E.g. Discontinuation of components at short notice by our suppliers or change of standards

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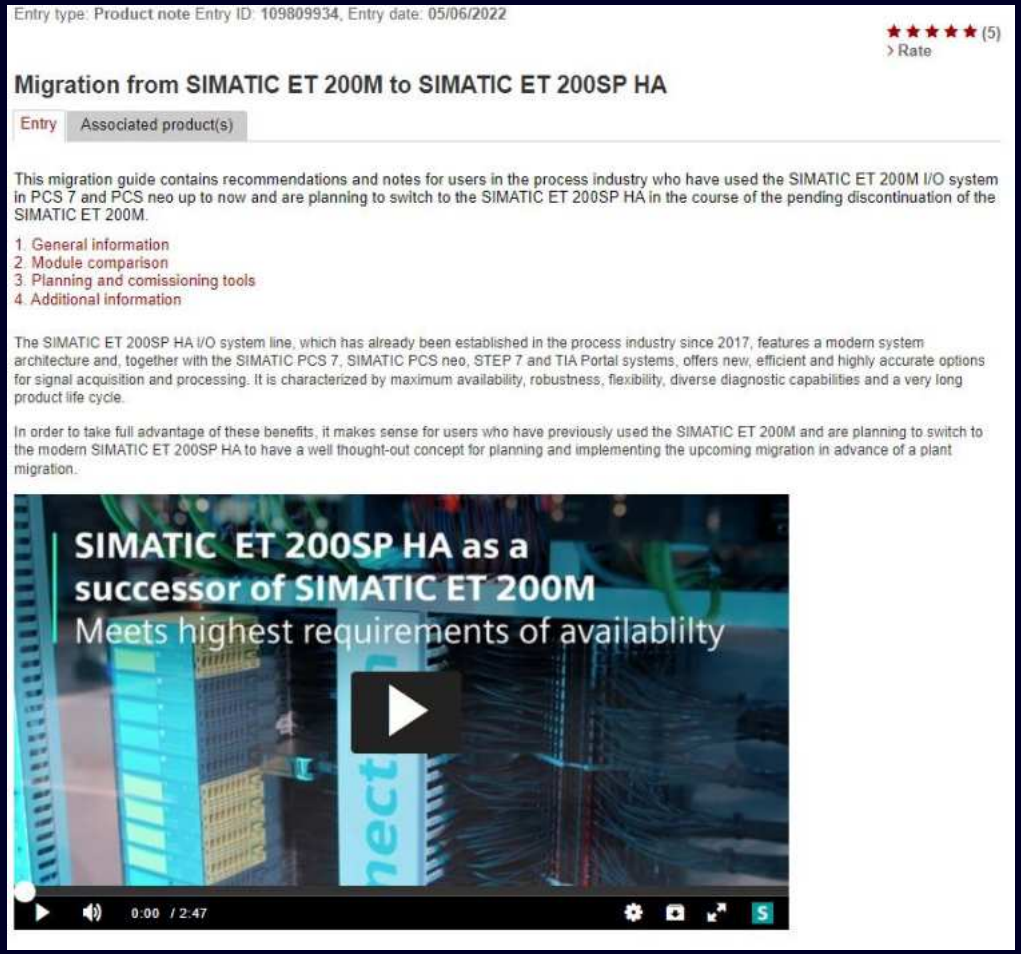
Upgrade SIMATIC ET 200M to SIMATIC ET 200SP HA
Where to find more information

back

- Upgrade from SIMATIC ET 200M to SIMATIC ET 200SP HA:
  - SIOS Entry 109809934
- General Information about SIMATIC ET 200SP HA:
  - SIOS Entry 109747953
- Upgrade Service:
  - Link
- PROFINET in Process Automation with SIMATIC PCS 7
  - SIOS Entry 72887082



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Upgrade from SIMATIC ET 200M to SIMATIC ET 200SP HA

… find your SIMATIC ET 200M successor …

SIMATIC ET 200M

… for industries and applications which require:…

- **Highest Availability**
  - PROFINET Redundancy (MRP/S2/R1)
  - IO-Module Redundancy
  - Changeability in Run (CiR/Hot-swapping)

- **Highest Robustness**
  - -40° to +70°C (as standard)
  - Conformal coating
  - Increased EMC robustness (e.g. NE21)

- **Explosion Protection and Failsafe**
- **High channel density** (up to 32 channels)
- **Full spectrum of IO-Modules** (e.g. HART)
- **Long time Life-Cycle: > 20 years**
- **High-Precision Time Stamping: up to 1ms, Sequence of Events (SoE)**
- **Wiring separated from I/O module for fast & easy module change**

… the successor of SIMATIC ET 200M is SIMATIC ET 200SP HA

Upgrade from SIMATIC ET 200M to SIMATIC ET 200SP HA:

https://support.industry.siemens.com/cs/ww/en/view/109809934

… which can be used:

- in SIMATIC PCS 7 / neo with S7-410, w.o. restrictions
- in STEP 7 classic with S7-410[1], w.o. restrictions
- in TIAP with S7-1500, w.o. CiR, IO-Red

[1] Special project release for S7-410 in STEP 7

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Upgrade from SIMATIC ET 200M to SIMATIC ET 200SP HA: Technical Overview

…the high-performance I/O for high demanding industries

Highest flexibility - even in Run
With Hot Swapping and Configuration in Run (CiR) functionality.
Changes are possible without stopping the CPU

Highest Robustness
- Expanded temperature Range (-40 to 70 °C)
- Conformal Coated G3
- Meets EMC req. of NAMUR NE21

Channelwise Diagnostics
enable a detail analysis of your field devices

Highest Availability
- PROFINET redundancy (R1, S2, MRP)
- Redundant power supply (24VDC)
- Redundant I/O modules

Combination of Standard I/O, Ex I/O and Failsafe I/O modules with longtime Lifecycle
in one ET 200SP HA station combines all relevant Signals in just one Station

High channel density
… up to **56 IO-Modules** even with HART-Signals

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Upgrade from SIMATIC ET 200M to SIMATIC ET 200SP HA

… Technical overview - additional features for process industries

	SIMATIC ET 200M	SIMATIC ET 200SP HA
Modules per Station	12	**56**
Media Redundancy	Via OLM Rings	**Built in via MRP**
Glas FO Interface built in	No	**Yes**
Redundant fieldbus connection	PROFIBUS DP, max. 12 Mbit / sec.	**PROFINET R1 100 Mbit /sec.**
Multi-HART Support	No	**Yes**
Module Replacement w/o touching field wires or power	No	**Yes**
Safety (SIL3)	Yes	Yes
FW Update of Modules	Only selected	**All**
NAMUR NE 21 Support	No	**Yes**
Isolation tested	500V DC / 1 min.	**1500V DC / 4200V DC / 1 min. (galvanic isolated)**
SoE (1 msec.)	Yes	Yes
IO Module Redundancy	External MTA with diodes needed	**Built in Side by Side – no MTA needed**
Direct IO wiring	No - Front Plug with common L-	**Yes - 1:1 push in terminals**
High Density	40 mm width	**22,5 mm width**
Temperature Range	0 – 60°C	**-40 – 70°C (Standard)**
Conformal Coating	No	**Yes**

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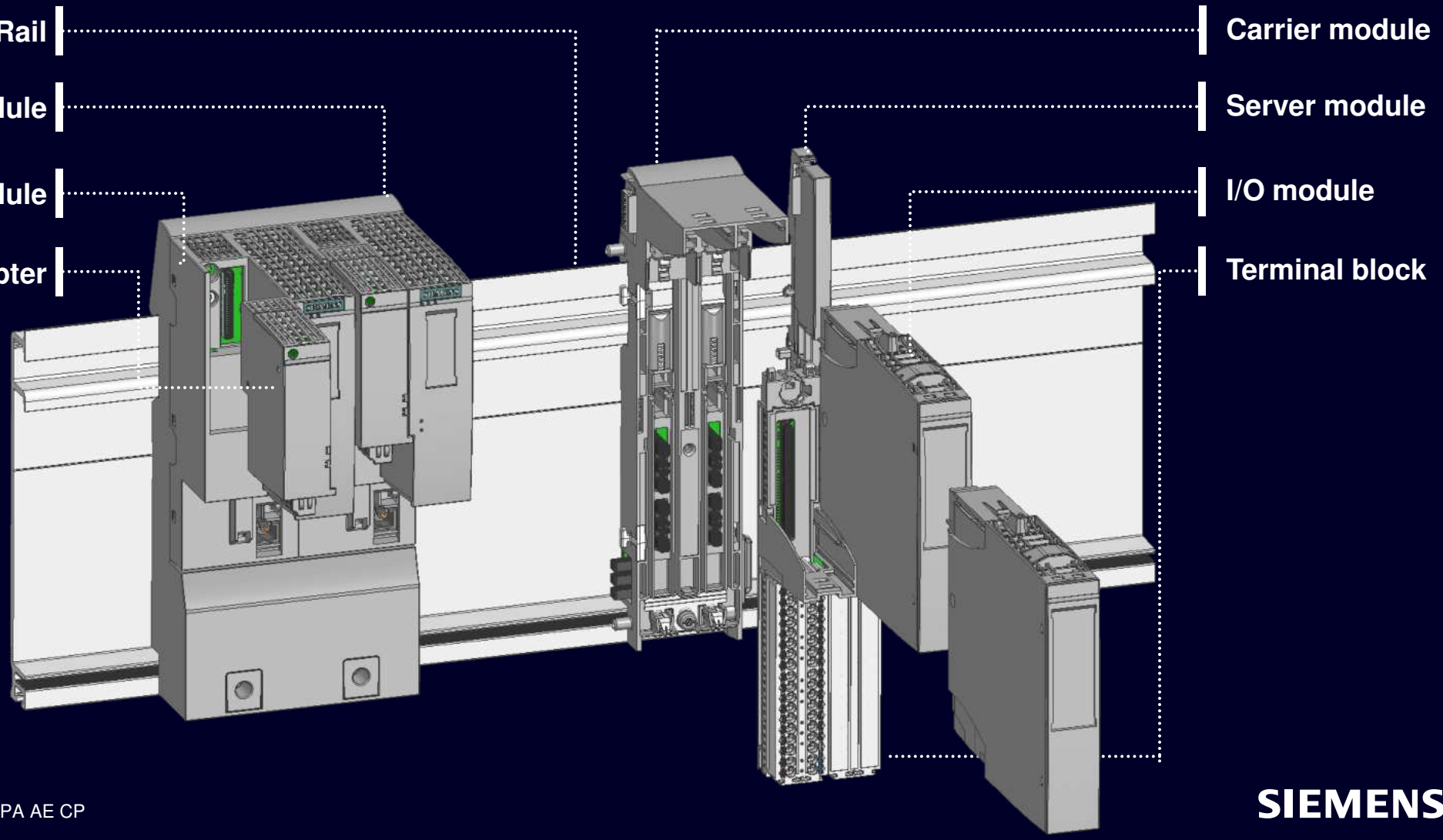
Upgrade from ET SIMATIC 200M to SIMATIC ET 200SP HA: Technical Overview

SIMATIC ET 200SP HA mechanical structure



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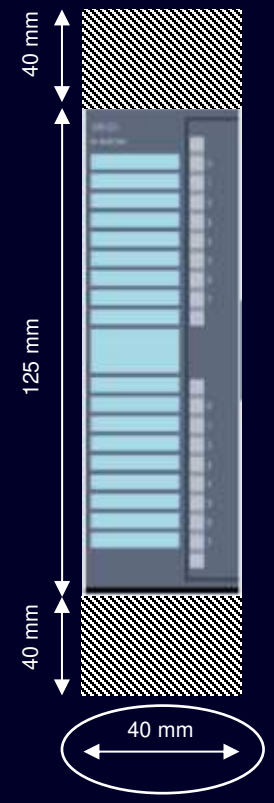
Upgrade SIMATIC ET 200M to SIMATIC ET 200SP HA: Cabinet design

… slim modules enable compact design

SIMATIC ET 200M:

I/O Modul:



Dimensions:
205 mm x 40 mm =
8.200 mm²

SIMATIC ET 200SP HA:

I/O Modul:

Dimensions:
264 mm x 22,5 mm =
5.940 mm²

28%
less space needed per I/O module

45%
slimmer I/O modules

*) for temperatures up to 60°C, the clearance can be reduced from 40 to 20 mm

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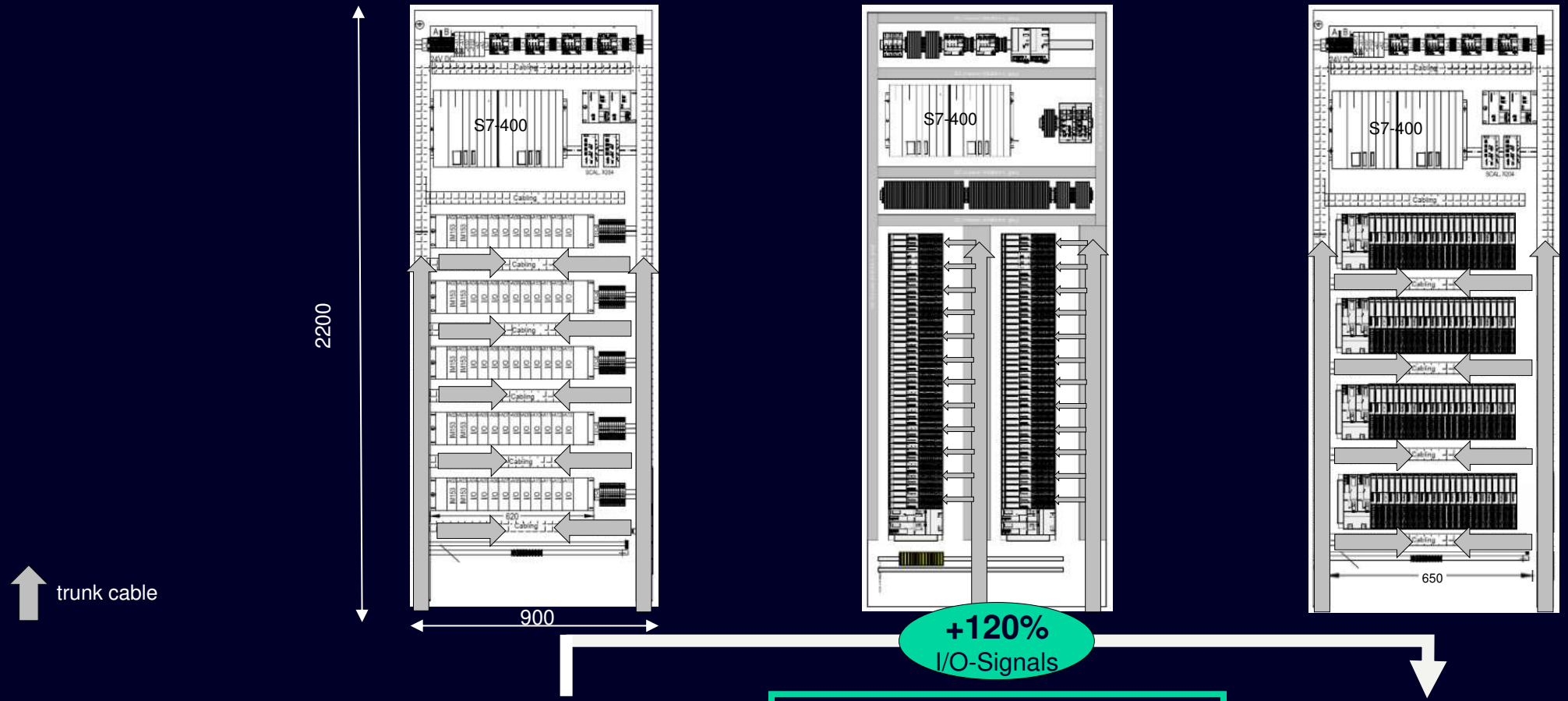
Upgrade SIMATIC ET 200M to SIMATIC ET 200SP HA: Cabinet design

… classic and new cabinet concepts allow much higher signal density and simplified wiring



	SIMATIC ET 200M	SIMATIC ET 200SP HA – vertical*	SIMATIC ET 200SP HA – horizontal
I/O Signals in one Cabinet:	**660**	**1400**	**1450**
Modules:	5x 10	2x 46	4x 24
I/O Modules:	50	92	96

*Advantage: Cost savings due less Interface Modules

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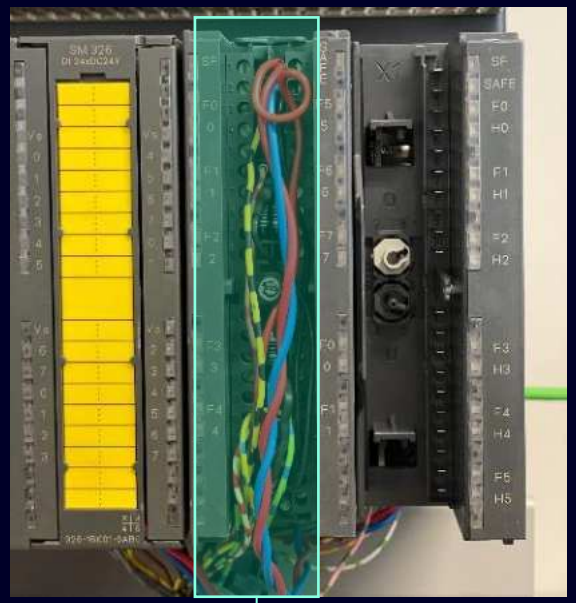
Upgrade SIMATIC ET 200M to SIMATIC ET 200SP HA: System Features

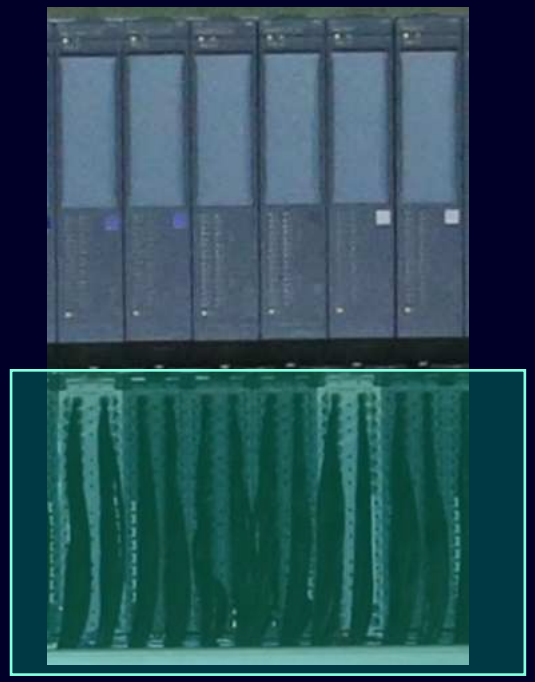
… easy and convenient connection due direct wiring

I/O-Modules



Field-wiring

I/O-Modules



Field-wiring

Customer Benefits:

- Direct wiring allows fast and easy connection
- Field-wiring can be already done without I/O-Modules
- Fault free module exchange without touching the wiring

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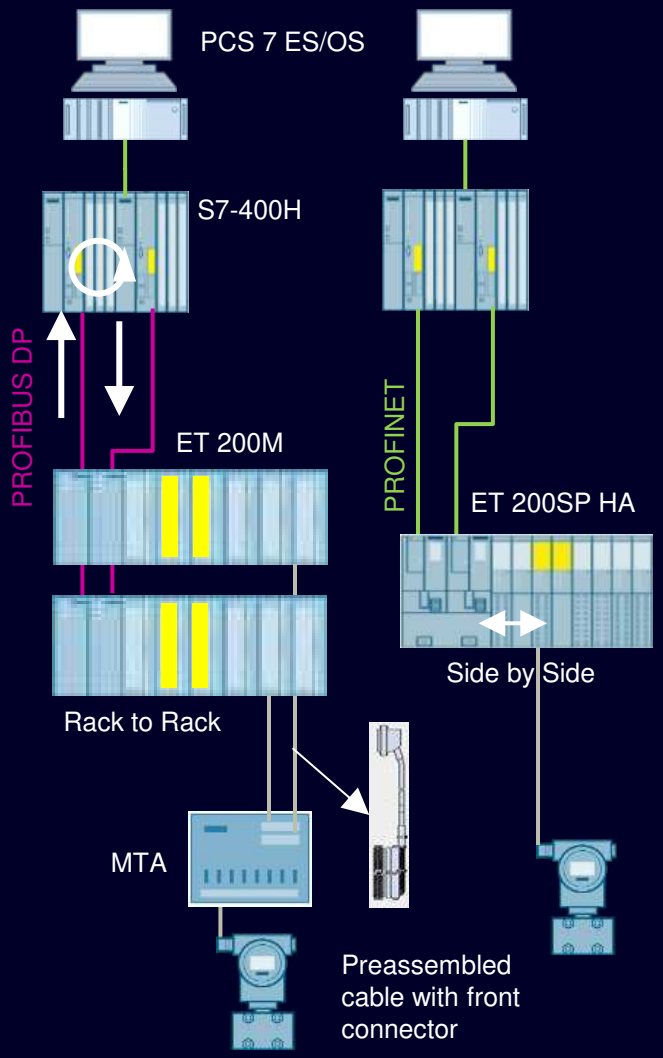
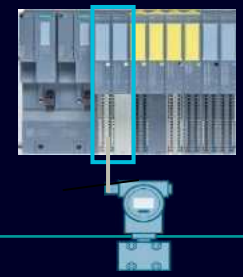
Upgrade SIMATIC ET 200M to SIMATIC ET 200SP HA: System Features

… integrated module redundancy for fast switch over and direct wiring w.o. MTA's





Feature	ET 200M	ET 200SP HA
Redundancy Scheme	I/O Redundancy handled by S7-400H Controller via specific library ("RED Lib.")	I/O Redundancy handled by I/O module via module to module communication
Connection to field (sensors / actuators)	Via marshalling termination assemblies (MTA's) for each I/O module (AI/AQ/DI/DQ)	1:1 wiring to redundant Terminal block **no MTA's needed !**
Switch-Over Time	Dependent on S7-410 User Program, typically 100 – 500 msec.	Independent from user program, Output: max. 20 msec. Input: max. 40 msec.
MTBF	Dependent on Module & MTA	Dependent on module only App. 1 – 2,5 x better than ET 200M
Cost for I/O redundancy	2 x I/O Modules (Standard Modules) + 1 x MTA + 2 x Preassembled cable with front connector	2 x I/O Modules (Standard Modules)
Load Power Supply	via MTA	via Terminal block

Customer Benefits

- Less cost (no MTA's, no MTA to module cables)
- I/O Redundancy independent from user program and can be added later
- Fast switch over due to module to module communication

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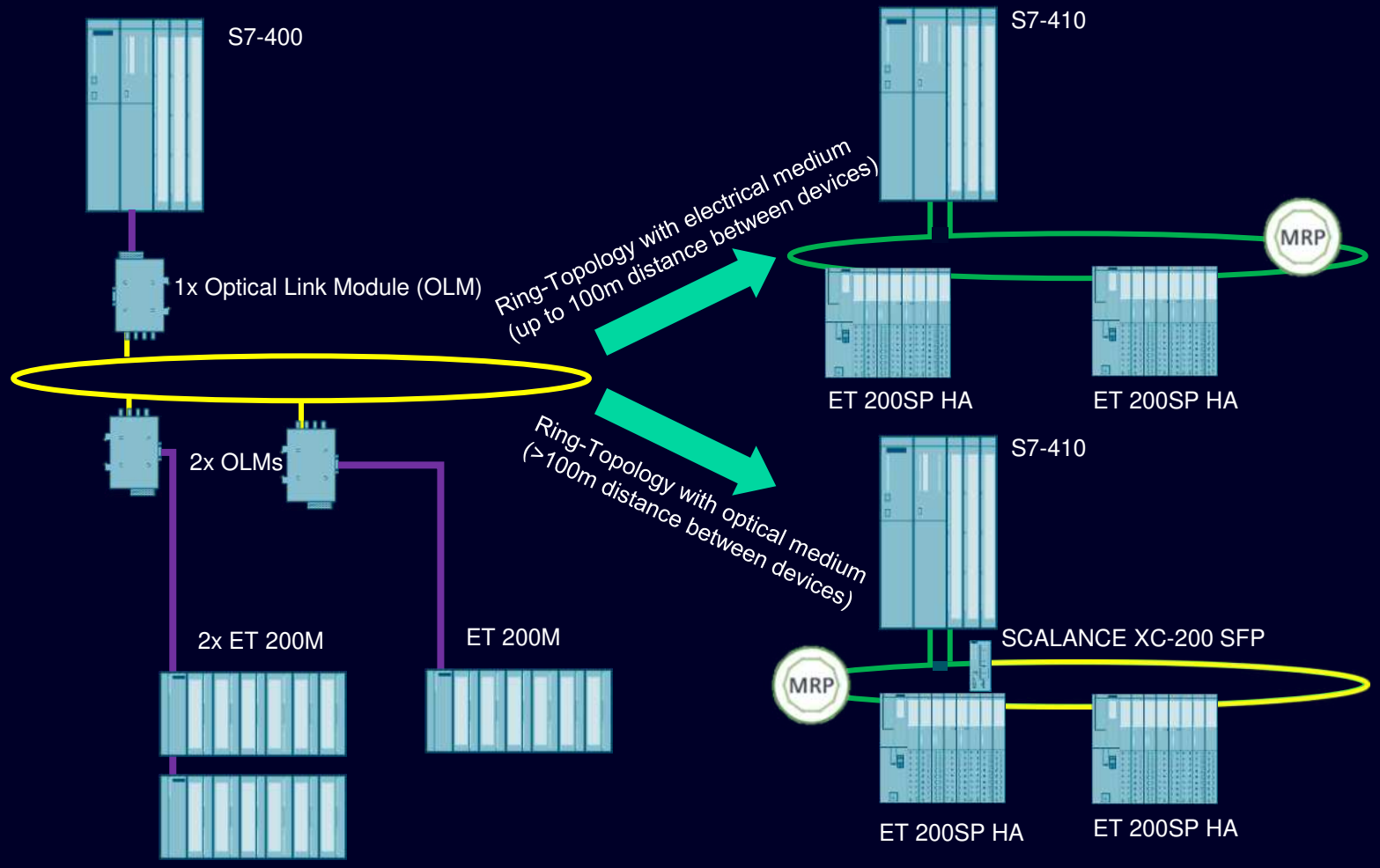
Upgrade SIMATIC ET 200M to SIMATIC ET 200SP HA: System Features

… media redundancy: A system-integrated feature with SIMATIC ET 200SP HA



Customer Benefits:

- Higher Availability with MRP even with single Systems
- Flexible Topologies
- Flexible Bus-Media (optical/electrical)
- Ring-Topology Feature integrated for ET 200SP HA
- No additional Hardware necessary

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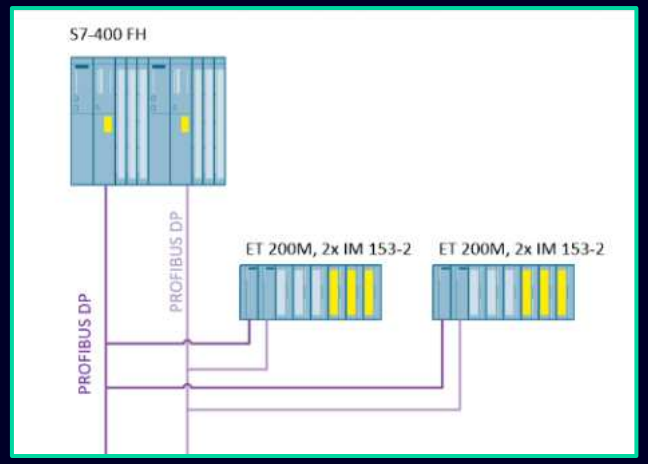
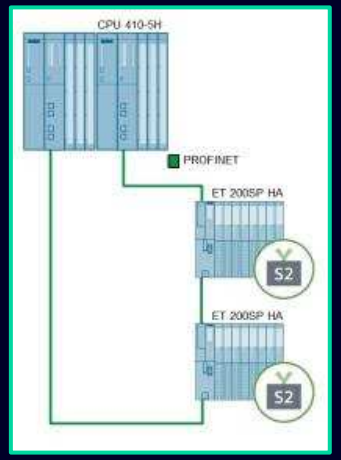
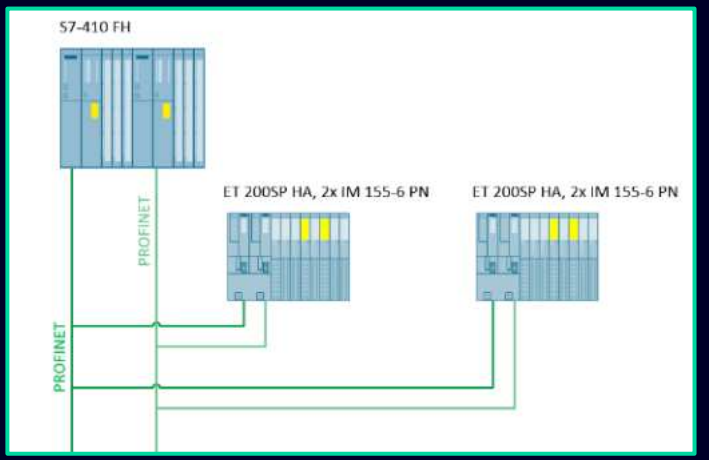
Upgrade SIMATIC ET 200M to SIMATIC ET 200SP HA: System Features

… scalable availability with one or two interface modules for coupling with H-Systems







SIMATIC ET 200M:

- **Redundant PROFIBUS IMs**
- **Transfer rate: max. 12 Mbit/s**
- **Connection via copper cable**

SIMATIC ET 200SP HA:

- **Single PROFINET IM (S2)**

SIMATIC ET 200SP HA:

- **Redundant PROFINET IMs (R1)**

- **Communication with H-System**
- **Transfer rate: 100 Mbit/s**
- **Ethernet based communication**
- **Various connection possibilities (copper, fiber optic,…)**

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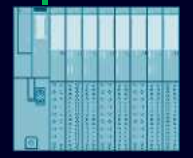
Upgrade SIMATIC ET 200M to SIMATIC ET 200SP HA: System Features

… PRONETA integration for easy commissioning and loop checks

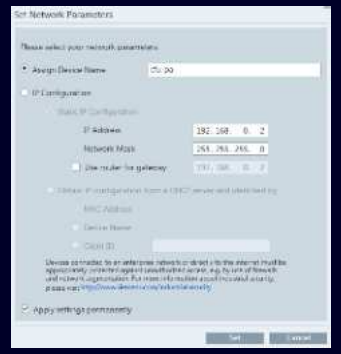
Freely available PRONETA (PROFINET Network Analyzer) Tool

- Configuration and Diagnostic Tool
- No Engineering System necessary (no SIMATIC PCS 7 or TIA Portal)
- Download Links: PRONETA Basic 3.5, PRONETA Professional V1.1. SP2

Laptop



ET 200SP HA



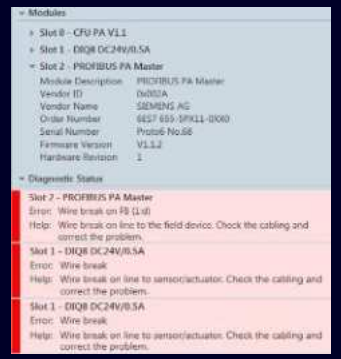
Fast configuration of network parameters

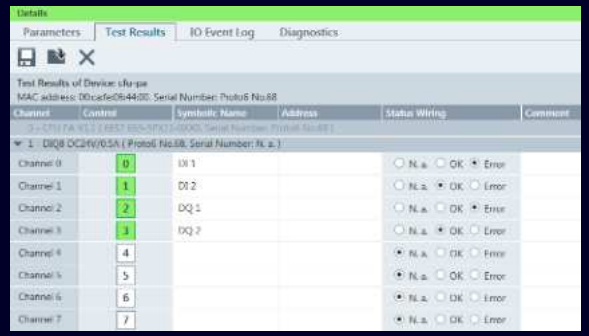
- Automatic network scan
- Assigning of PROFINET Device name
- Configuring of the IP configuration

Faster Loop Check due to parallel check with simple Laptop and PRONETA

Detailed diagnostic information

- Overview about the current diagnostic status
- Channel specific diagnostic information





OEM Packages can be completely checked prior to DCS system

- Decoupling of hardware and software engineering
- Commissioning and loop check of your SIMATIC ET 200SP HA
- Documentation of the test results

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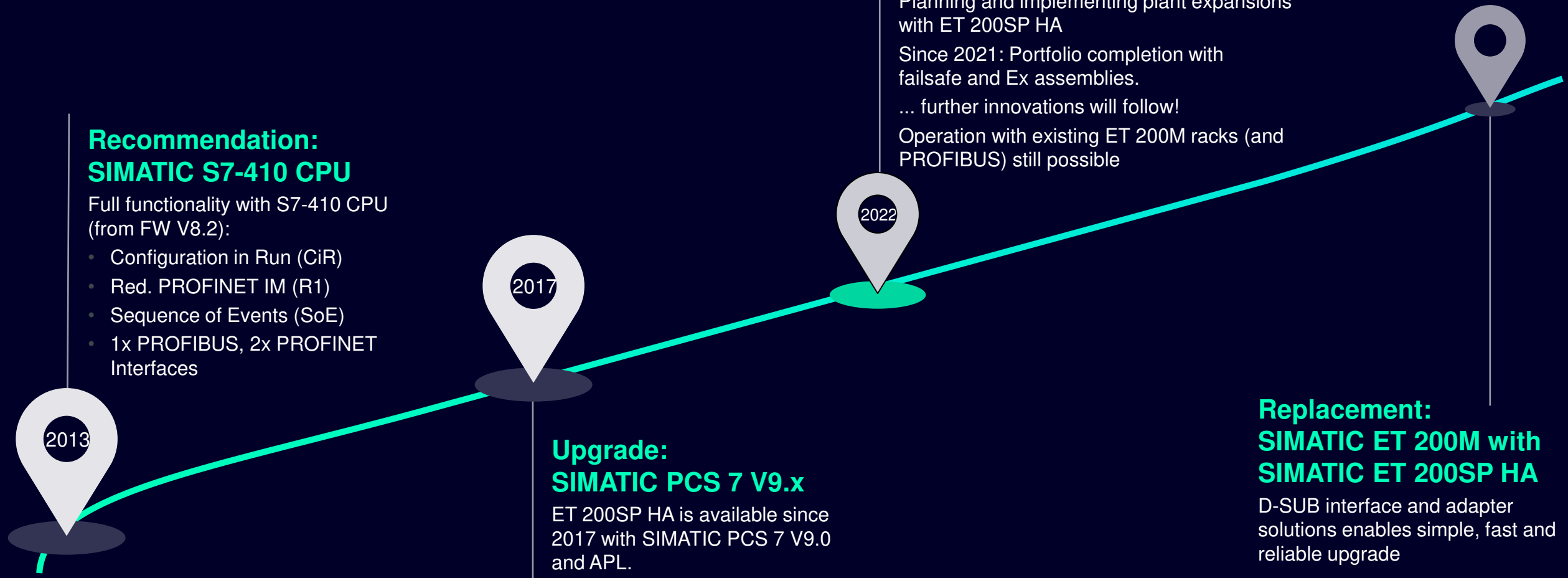
Upgrade path for customers
… step-wise from SIMATIC ET 200M to SIMATIC ET 200SP HA



Recommendation: SIMATIC S7-410 CPU

Full functionality with S7-410 CPU (from FW V8.2):

- Configuration in Run (CiR)
- Red. PROFINET IM (R1)
- Sequence of Events (SoE)
- 1x PROFIBUS, 2x PROFINET Interfaces

Upgrade: SIMATIC PCS 7 V9.x

ET 200SP HA is available since 2017 with SIMATIC PCS 7 V9.0 and APL.

Plant expansion: SIMATIC ET 200SP HA

Planning and implementing plant expansions with ET 200SP HA

Since 2021: Portfolio completion with failsafe and Ex assemblies.

... further innovations will follow!

Operation with existing ET 200M racks (and PROFIBUS) still possible

Replacement: SIMATIC ET 200M with SIMATIC ET 200SP HA

D-SUB interface and adapter solutions enables simple, fast and reliable upgrade

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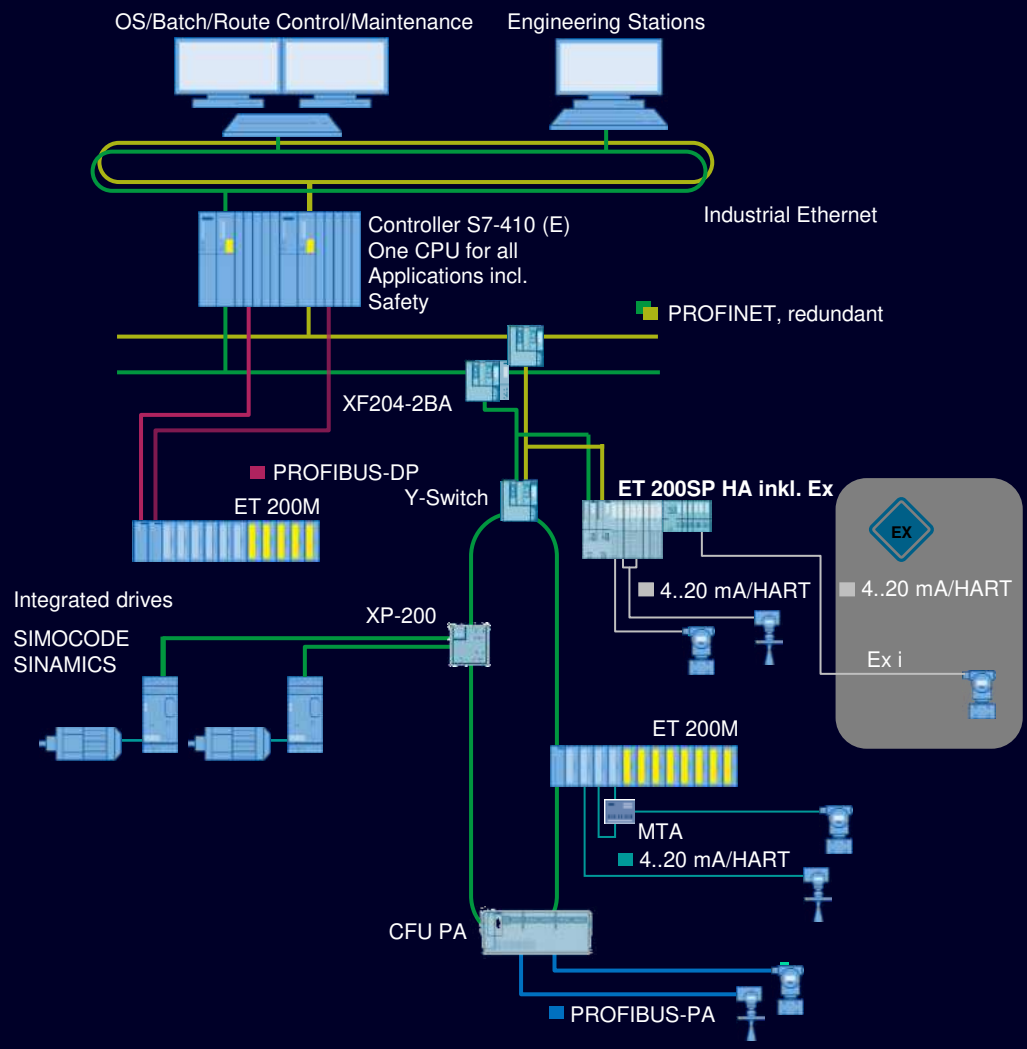
Upgrade ET 200M to ET 200SP HA

Stepwise Upgrade from SIMATIC ET 200M to SIMATIC ET 200SP HA

- Co-existence of PROFIBUS and PROFINET is possible
- Co-existence of ET 200M with ET 200SP HA in the same plant is possible – even with the same CPU
- Recommendation: SIMATIC S7-410 CPU:
  - 1x PROFIBUS Interface
  - 2x PROFINET, each with 2-Port-Switches
- Re-use of existing PROFIBUS- wiring (copper and fiber) for PROFINET possible
- Both I/O-lines supported in:
  - ✓ SIMATIC PCS 7
  - ✓ SIMATIC PCS neo
  - ✓ STEP 7 classic
  - ✓ TIA Portal



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SIMATIC ET 200SP HA – Project Planning Tools and Compatibilities
S7-400 and ET 200SP HA in PCS 7/ STEP 7

SIMATIC ET 200SP HA Features	**I/O Redundancy**	**Configuration in Run** (CiR)	**Sequence of Events** (SOE 1 ms)	**S1 PROFINET Design** (single interface module at a single controller)	**S2 PROFINET Design** (single interface module at a redundant controller)	**R1 PROFINET Design** (redundant interface module at a single controller)	**Multi-Hot Swap**
PCS 7 project (V9.0)							
CPU 410 V8H	✓	✓	✓	✓	✓	✓	✓
CPU 400 V6H	✓	–	–	✓	✓	–	✓
CPU 400 V7	✓	–	–	✓	–	–	✓
STEP 7 project (V5.6)							
CPU 410 V8H[3]	✓[1]	✓	✓[1]	✓	✓	✓	✓
CPU 400 V6H	✓[1]	–	–	✓	✓	–	✓
CPU 400 V7	✓[1]	–	–	✓	–	–	✓
CP443-1EX/GX30 V3.2[2]	✓[1]	–	–	✓	–	–	✓

- SIMATIC ET 200M PROFIBUS installations can be extended with SIMATIC ET 200SP HA PROFINET
  - … at full functional scope
  - … sharing the same CPU 410
- Robust ET 200SP HA available for “classic” S7-400 customers
- Full feature set with CPU 410

Link for ET 200SP HA hardware support packages for STEP 7
1 No library support available | **2** Used as PN controller | **3** Project-specific version

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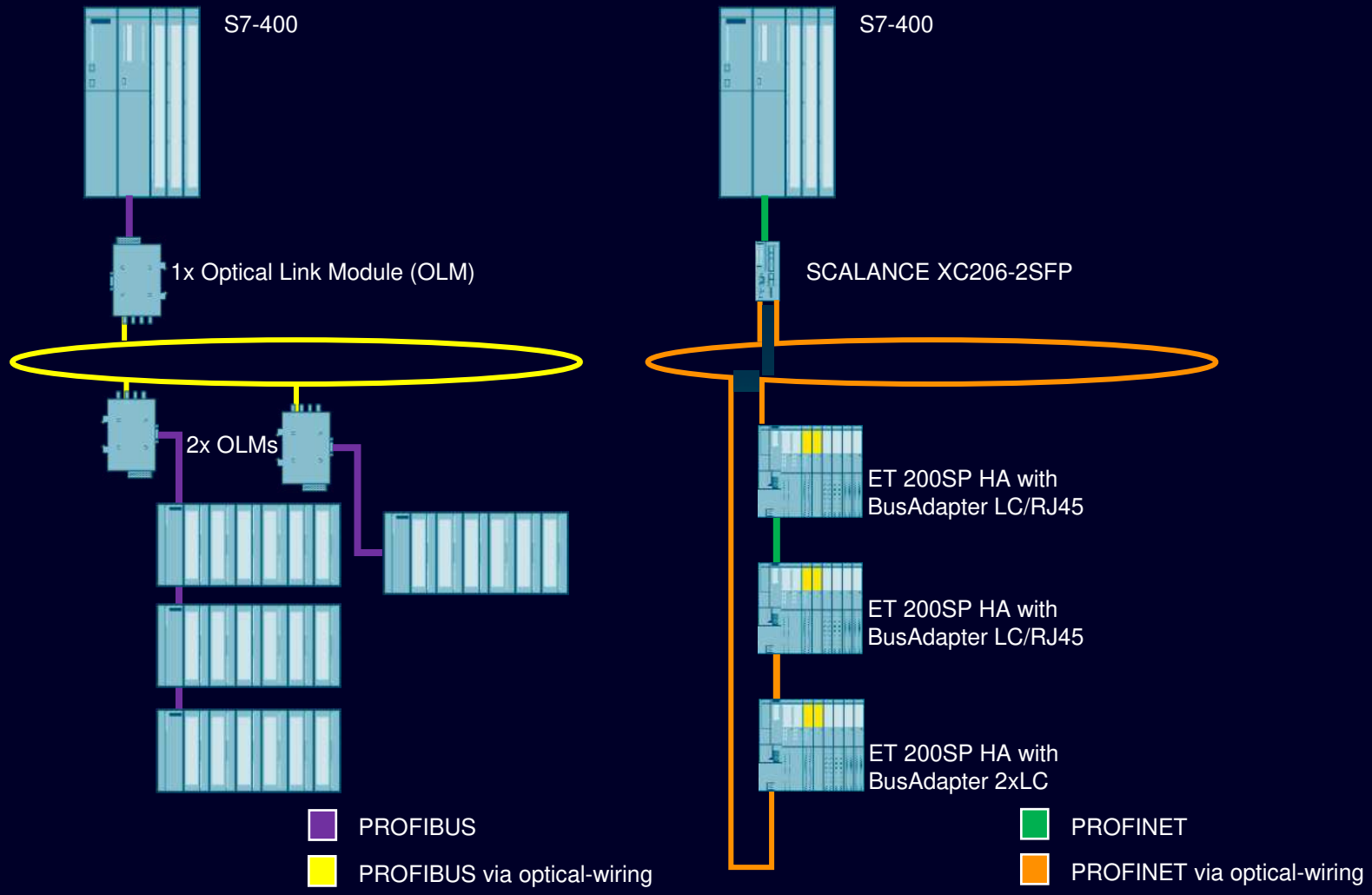
Upgrade ET 200M to ET 200SP HA
Use of existing optical wiring (PROFIBUS) to communicate PROFINET



Investment protection:

- PROFINET over existing optical wiring (original PROFIBUS)
- Higher availability:
  - No OLM needed
  - No single point of failure
  - All devices in one ring
- SIOS-FAQ: 109754843

Name	MLFB
ET 200SP HA, BusAdapter 2xLC	6DL1193-6AG00-0AA0
ET 200SP HA, BusAdapter LC/RJ45	6DL1193-6AG20-0AA0
ET 200SP HA, BusAdapter LC/FC	6DL1193-6AG40-0AA0

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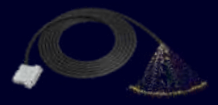
Three Scenarios for the upgrade of ET 200M to SIMATIC ET 200SP HA

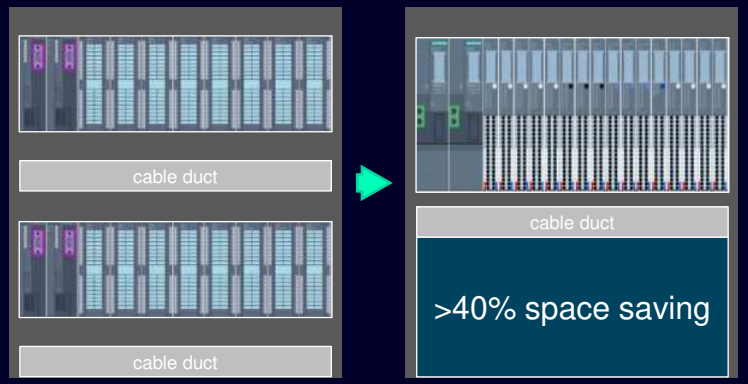
Complete Modernization

… time-consuming rewiring of individual connections
… optimized cabinet design and space savings
… clean marshalling
… loop-checks needed

Recommendation: Use SIEMENS D-Sub cables with numbered end-sleeves to speed-up the rewiring!

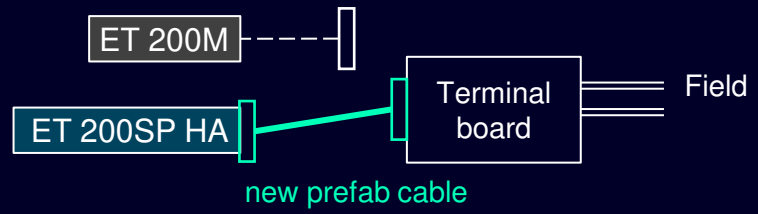


6ES7923-1B* / -3B*

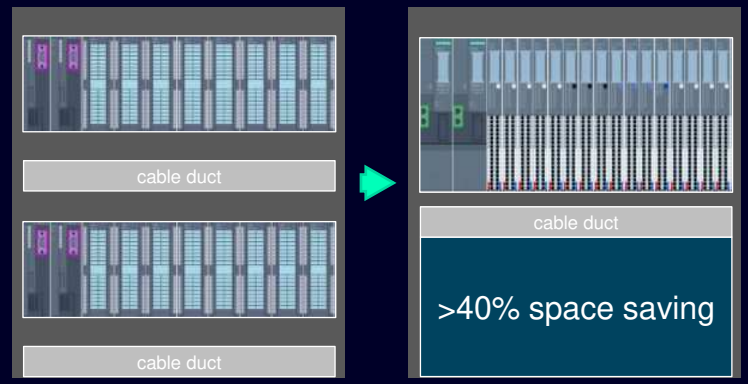


Use existing connectors

… fast switchover with new prefab cables
… optimized cabinet design and space savings
… clean marshalling
… pre-tested cables avoid loop-checks

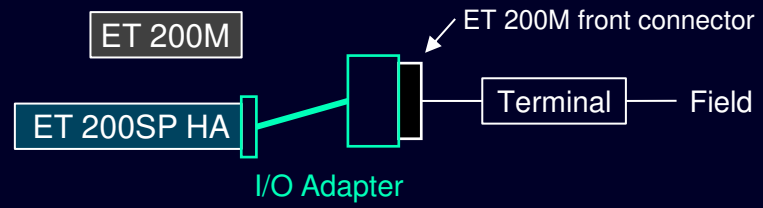


Recommendation: Use the D-Sub interface of SIMATIC ET 200SP HA for fast connection!



I/O Adapter

… fast switchover using ET 200M front connector
… existing cabinet design and cable ducts remain
… additional interface
… pre-tested cables avoid loop-checks



Recommendation: Mount ET 200SP HA on top of the I/O Adapters to save space or install it in nearby cabinets if available.

mounting brackets

Double-deck solution

IO Adapter

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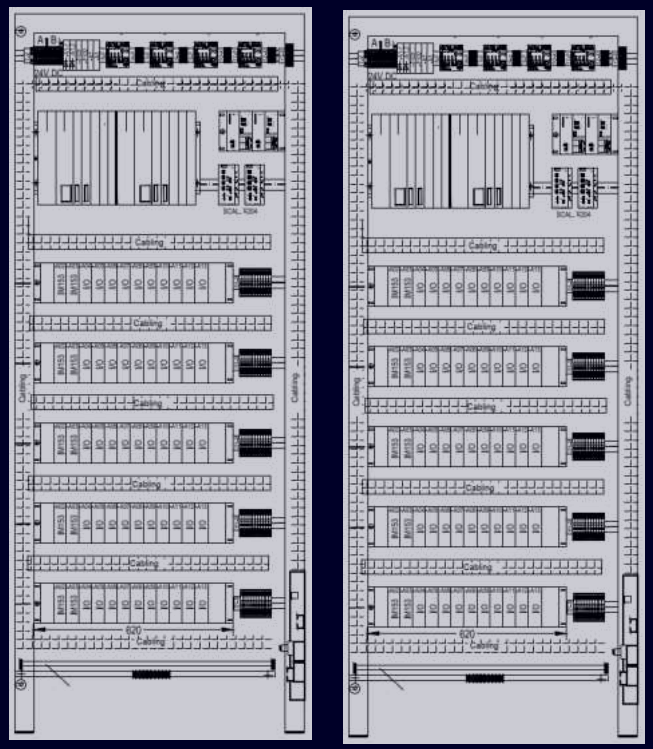
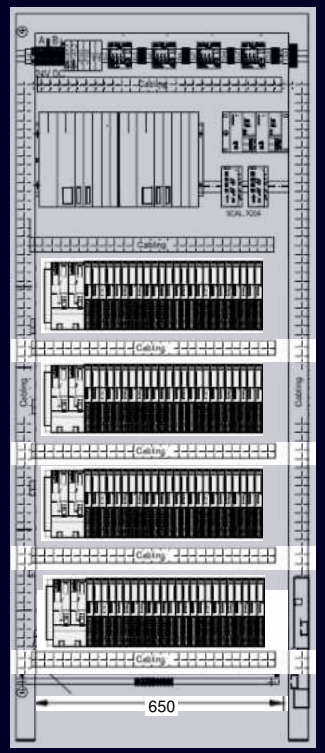
Scenario 1
Complete Modernization (new cabinet)

2 SIMATIC ET 200M cabinets become **1** SIMATIC ET 200SP HA cabinet



660 I/Os

660 I/Os



1,450 I/Os

Lots of benefits

- Saving space in cabinets and plant e.g., for future expansions
- High channel-density
- Flexible connecting technology (Push-In or D-SUB)
- Wiring separated from I/O module for fast & easy module change
- Less wiring effort by using potential groups with sensor supply or ground terminals
- Higher availability with new PROFINET topologies

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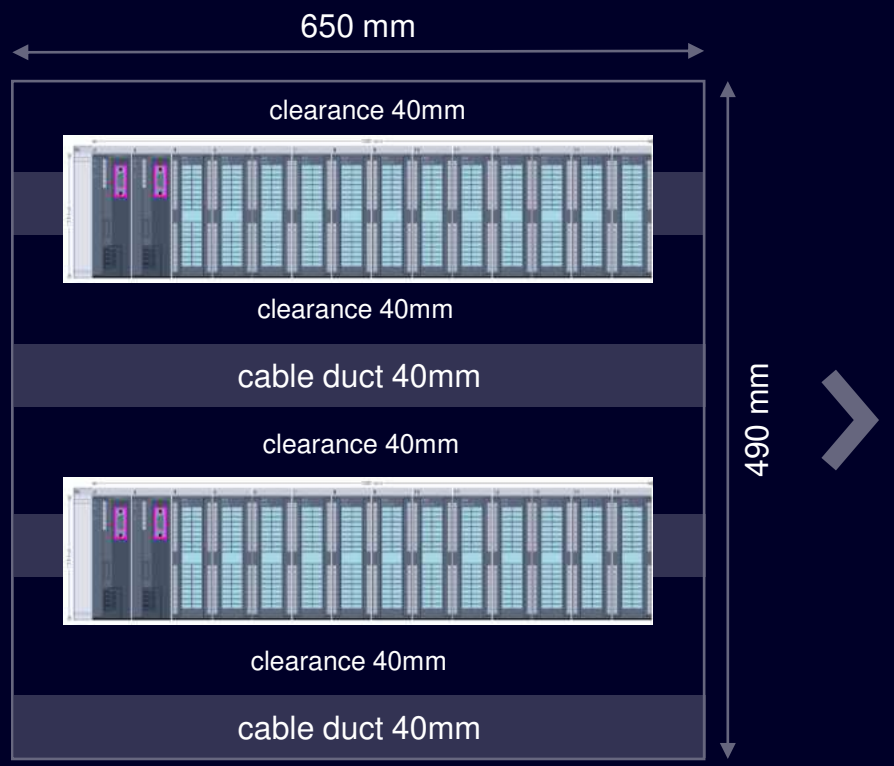
More than 40% space savings by upgrading to SIMATIC ET 200SP HA!

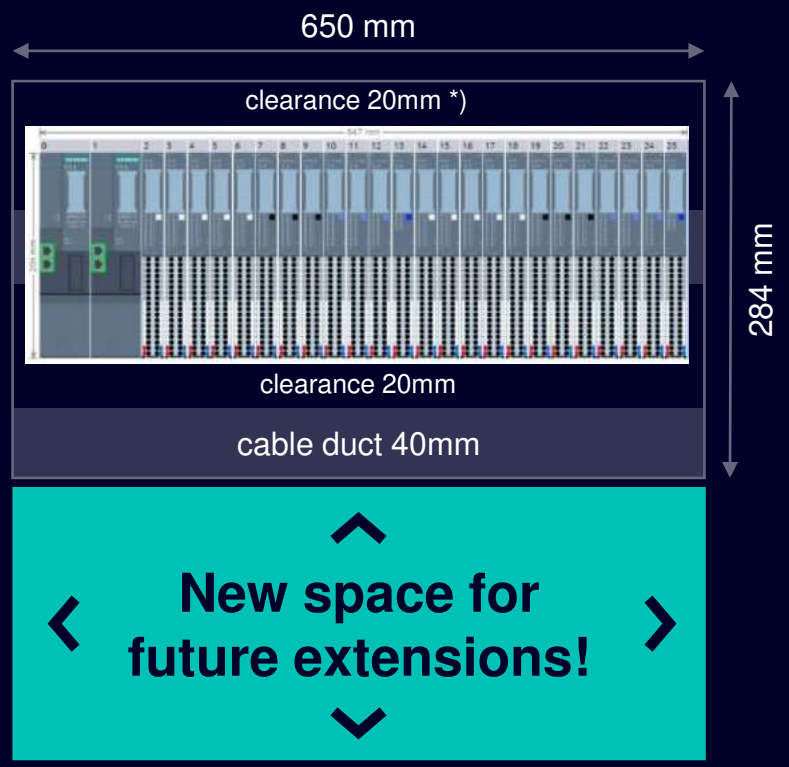
SIMATIC ET 200M Cabinet

3,185 cm² for **576** I/O Signals



SIMATIC ET 200SP HA Cabinet

1,976 cm² for **624** I/O Signals



*) for temperatures up to 60°C, the clearance can be reduced from 40 to 20 mm

> 40 %

space savings

~ 10%

more signals

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Customer Reference – Chemical Industry customer in Germany

Customer situation and objectives

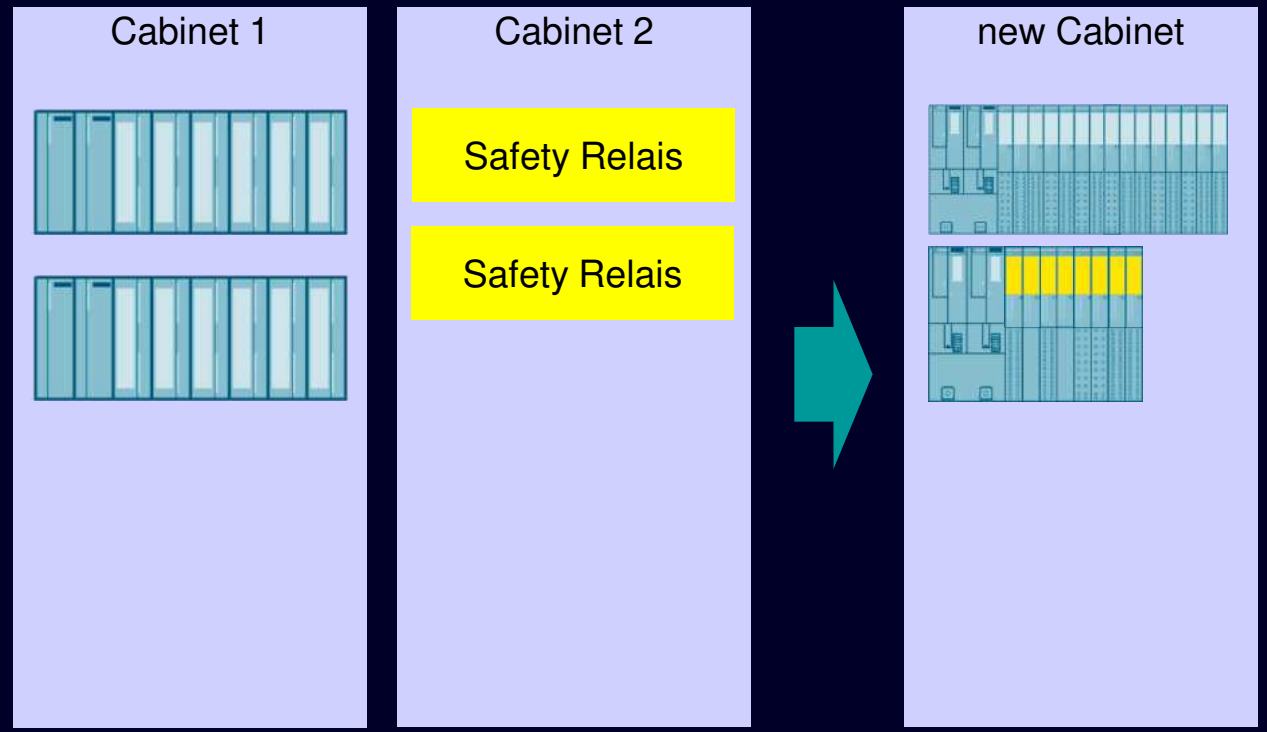
- Customer has a large installed base of SIMATIC ET 200M stations that are operated with SIMATIC S7-410 and SIMATIC PCS 7
- Safety Part was released by relay-technology
- With upgrade: Switch from PROFIBUS DP with SIMATIC ET 200M and failsafe relays to PROFINET with SIMATIC ET 200SP HA. Combination of Standard and Failsafe (with integrated Safety in the same Program/CPU)

Proceed:

- Stepwise upgrade from SIMATIC ET 200M to SIMATIC ET 200SP HA incl. Failsafe Modules “Rack by Rack”
- Preparation of SIMATIC ET 200SP HA rack in parallel to running SIMATIC ET 200M rack
- In revision phase quick marshaling from SIMATIC ET 200SP HA to marshaling terminal

Customer Benefits:

- Space saving 50%
- from 4 racks (2x SIMATIC ET 200M + 2x safety relays)
  to 2 racks (SIMATIC ET 200SP HA Standard and Failsafe)
- Shorter downtime during changeover by installing a second rack in parallel
- State of the art IO system with state-of-the-art communication protocol
- Empty Slots for further plant expansions



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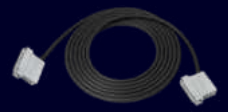
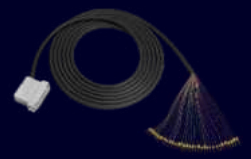
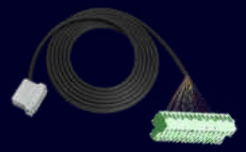
Scenario 2
Replacement while keeping existing cabinet using D-SUB



Field Interface boards
- Relay, optical isolation boards
- Ex-Barrier boards
- 1:1 Terminal boards



Single Field Interfaces
- Marshalling terminals
- Relays, Ex-Barriers
- Disconnect terminals



Existing field interfaces

Connection to any kind of existing interface with specific preassembled cables

- SIMATIC ET 200M completely replaced by SIMATIC ET 200SP HA in existing cabinet
- Easy wiring thanks to push-in or D-SUB technology
- Fast connection to field terminations with preassembled D-SUB cables

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Connect the field with Push-In or D-Sub and pre-assembled cables

PUSH-IN

24V
Type H1

24V
IO-RED
Type M1

24V
IO-RED
F-AI
Type F1

ISOL
Type K0

ISOL
IO-RED
Type L0

Individual wiring

D-SUB

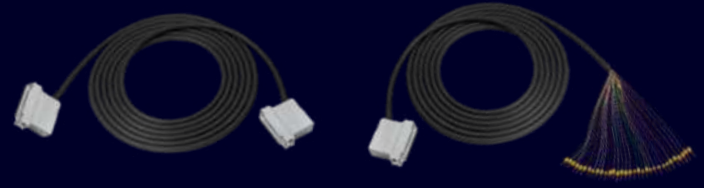
24V
Type H0

24V
IO-RED
Type M0

24V
IO-RED
F-AI
Type F0

ISOL
Type S0

ISOL
IO-RED
Type R0



Pre-assembled cables

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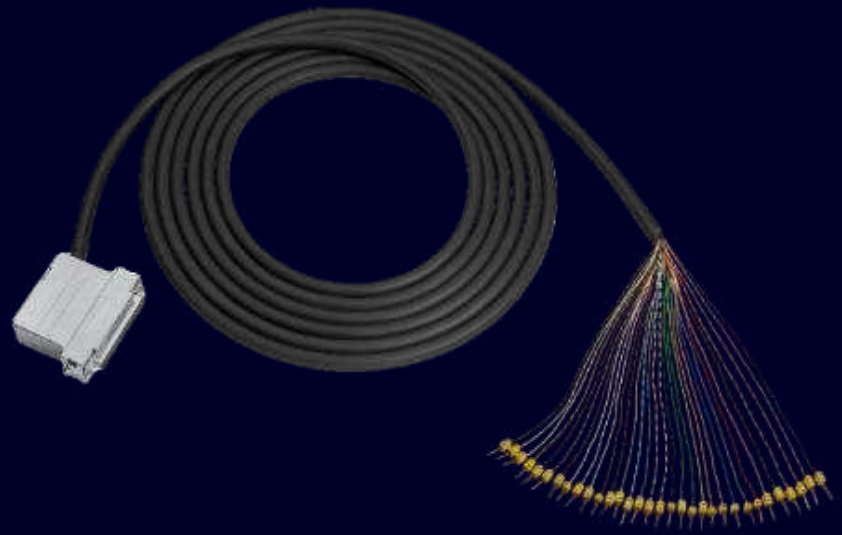
Pre-assembled D-SUB cables from SIEMENS



Cables for ET 200SP HA 24V modules

(except Failsafe ET 200SP HA, F-DQ 10x24VDC/2A HA, 6DL1136-6DA00-0PH1)

Cable D-Sub to single end-sleeve 0,34mm², 1m	6ES7923-3BB00 - 0HC0
Cable D-Sub to single end-sleeve 0,34mm², 3m	6ES7923-3BD00 - 0HC0
Cable D-Sub to single end-sleeve 0,34mm², 5m	6ES7923-3BF00 - 0HC0
Cable D-Sub to single end-sleeve 0,34mm², 8m	6ES7923-3BJ00 - 0HC0

Cables for ET 200SP HA F-DQ 10x24VDC/2A HA

(6DL1136-6DA00-0PH1)

Cable D-Sub to single end-sleeve 0,56mm², 1m	6ES7923-1BB00 - 0HD0
Cable D-Sub to single end-sleeve 0,56mm², 3m	6ES7923-1BD00 - 0HD0
Cable D-Sub to single end-sleeve 0,56mm², 5m	6ES7923-1BF00 - 0HD0
Cable D-Sub to single end-sleeve 0,56mm², 8m	6ES7923-1BJ00 - 0HD0

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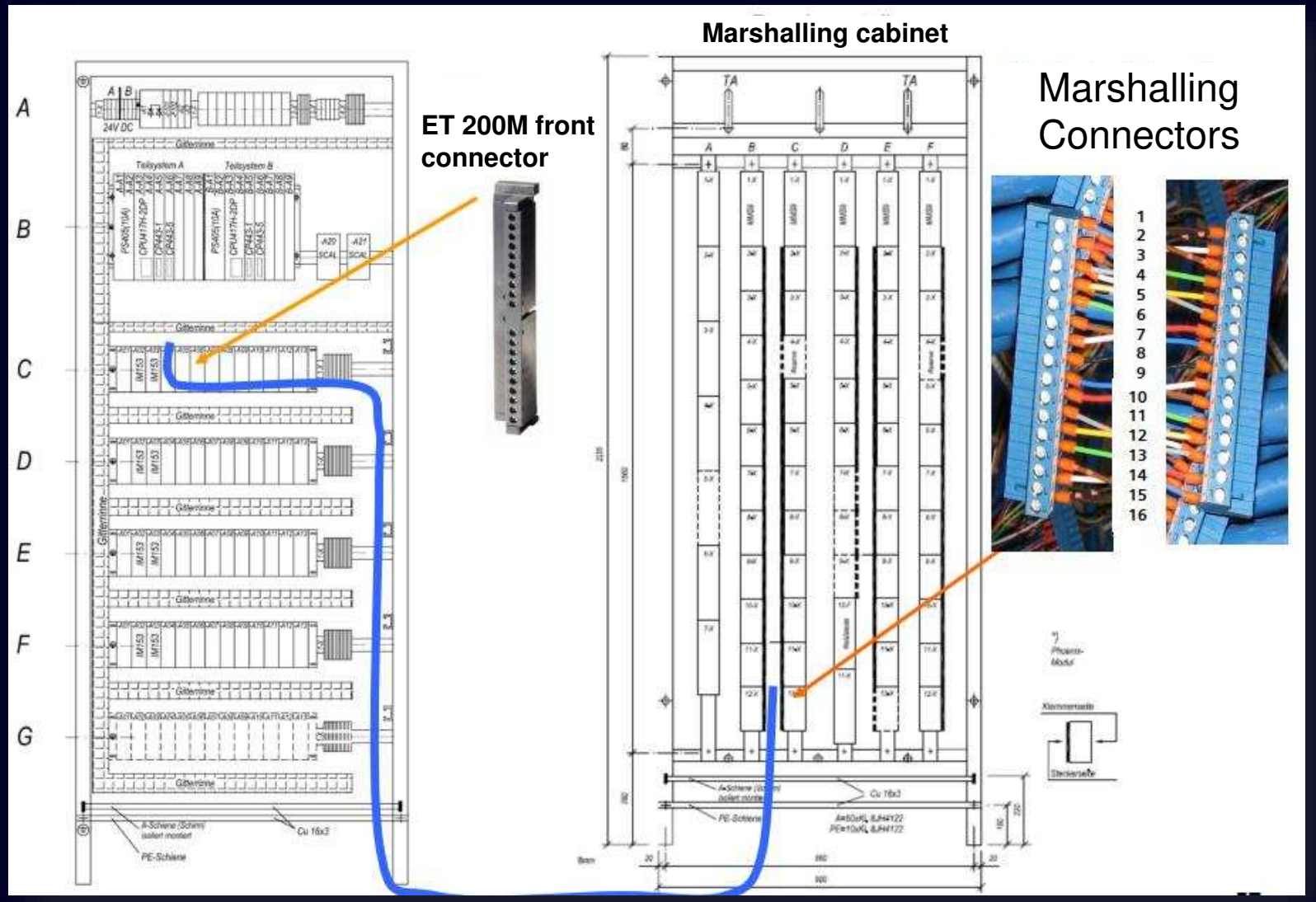
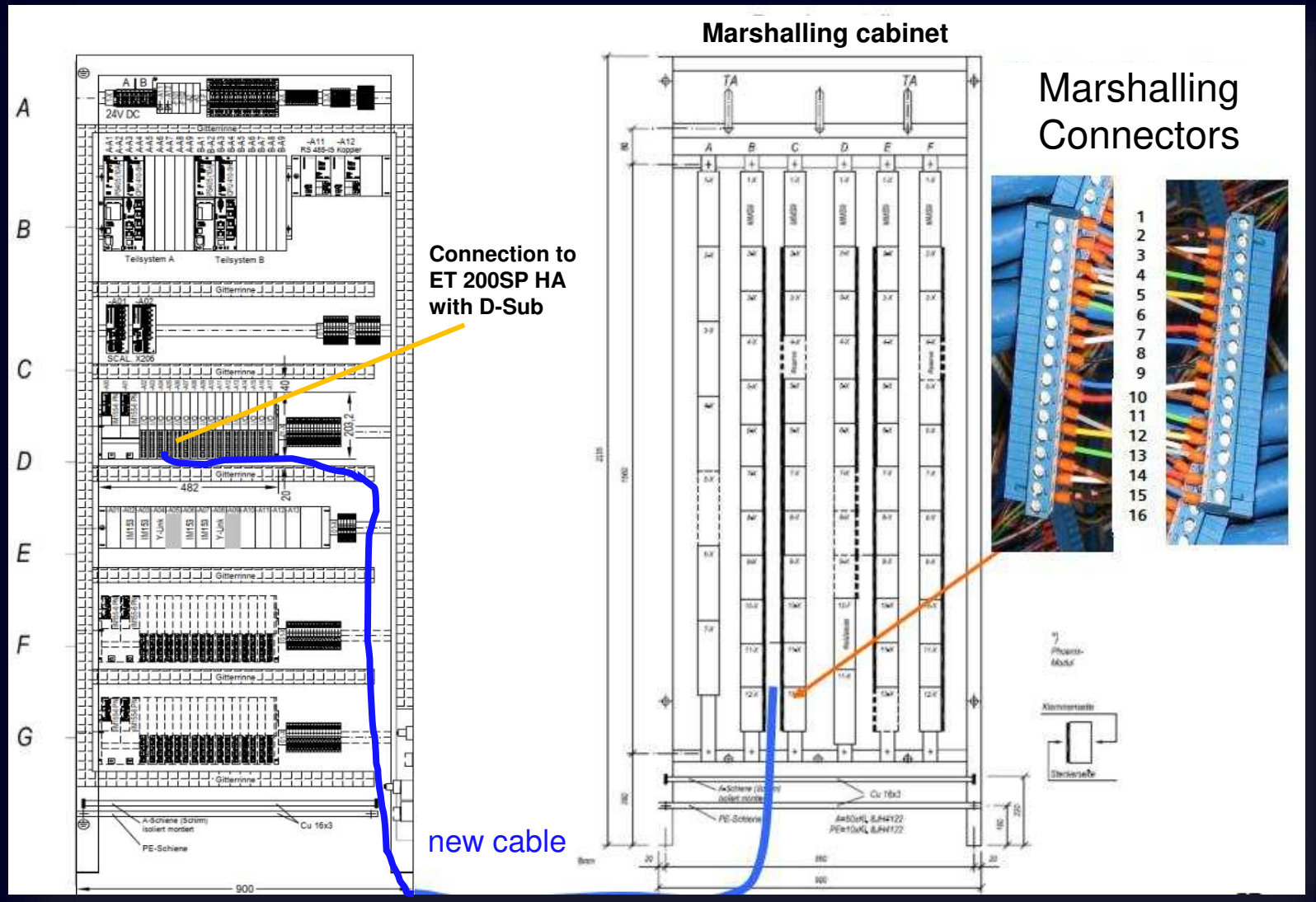
Using existing connectors to upgrade from SIMATIC ET 200M to SIMATIC ET 200SP HA

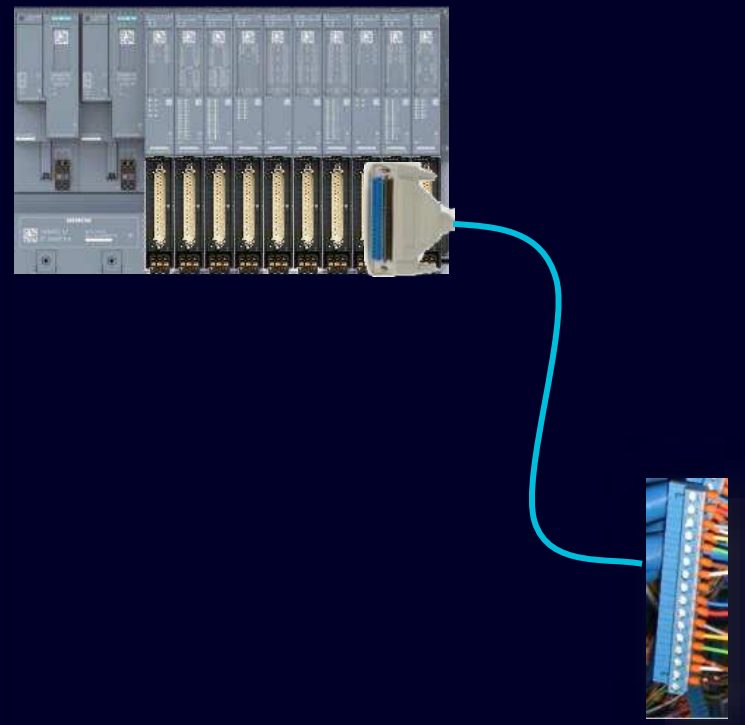


Cabinet with dedicated field interface boards and a connector towards the IO system which can be re-used for upgrade to ET 200SP HA

SIEMENS

Using existing connectors to upgrade from SIMATIC ET 200M to SIMATIC ET 200SP HA





ET 200M and cable ducts removed.
New connection cables built by local cable manufacturer using the D-Sub interface of ET 200SP HA.
Fast and faultless switchover!

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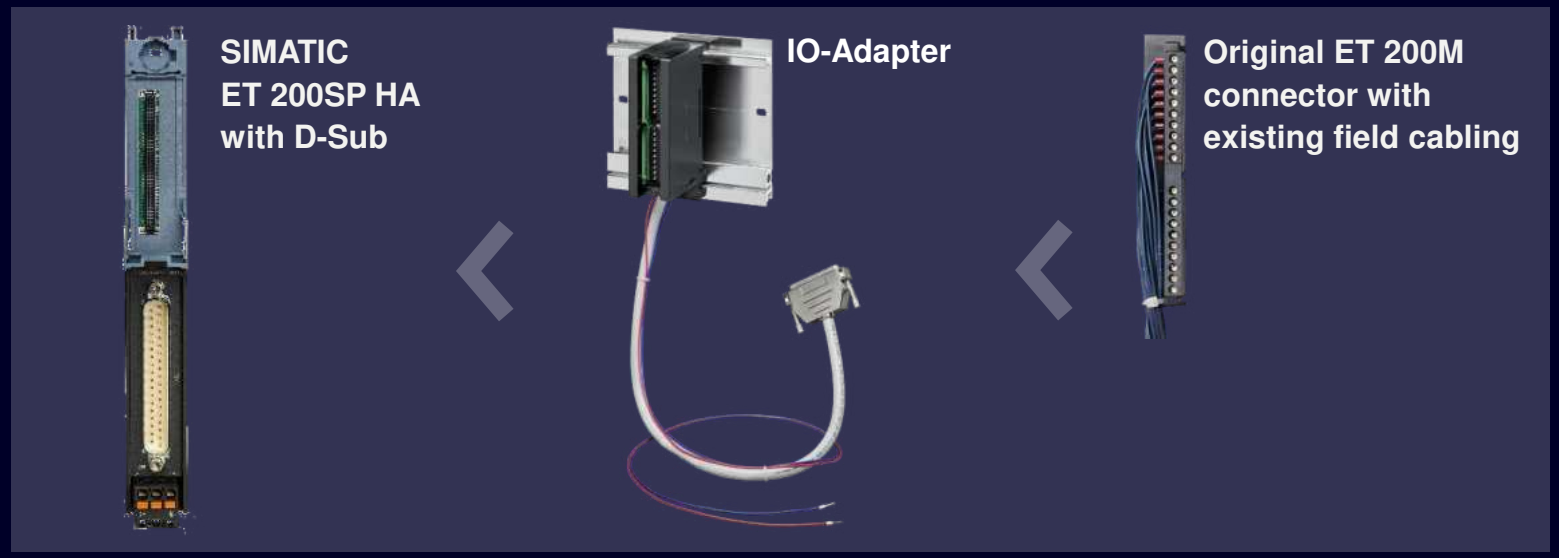
Scenario 3
Replacement in existing cabinet without lifting the field cables

- Use of IO-Adapter replacing the original ET 200M
- IO-Adapter is available for the most common modules
- Existing field cabling remains untouched!

SIMATIC ET 200SP HA installed on mounting brackets



The I/O adapter includes the adapter housing, the pre-assembled D-Sub cable and power supply wires

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IO Adapter for the upgrade from SIMATIC ET 200M to SIMATIC ET 200SP HA

Digital Input

ET 200M	ET 200SP HA	Functionality	Part number
6ES7321-1BH02-0AA0	6DL1132-6BH00-0PH1	DI 16Ch 24V DC	6EZ2041-8HR35-3DE0
6ES7321-1BH50-0AB0	6DL1132-6BH00-0PH1	DI 16Ch 24V DC NPN	6EZ2041-8HR35-4DE0
6ES7321-1BL00-0AA0	6DL1131-6BL00-0PH1	DI 32Ch 24V DC	6EZ2041-8HR35-0DE0
6ES7321-7BH01-0AB0	6DL1131-6BH00-0PH1	DI 16Ch 24V DC	6EZ2041-8HR35-1DE0
6ES7321-7TH00-0AB0	6DL1131-6TH00-0PH1	DI 16Ch NAMUR	6EZ2041-8HR35-2DE0

Analog Input

ET 200M	ET 200SP HA	Functionality	Part number
6ES7331-1KF02-0AB0 (6ES7331-1KF01-0AB0)	6DL1134-6AF00-0PH1	AI 8Ch voltage measurement	6EZ2041-8HR35-7AE0
6ES7331-1KF02-0AB0 (6ES7331-1KF01-0AB0)	6DL1134-6JH00-0PH1	AI 8Ch RTD 2-wire	6EZ2041-8HR35-7AE3
6ES7331-1KF02-0AB0 (6ES7331-1KF01-0AB0)	6DL1134-6JH00-0PH1	AI 8Ch RTD 3-wire	6EZ2041-8HR35-7AE4
6ES7331-7HF01-0AB0	6DL1134-6TH00-0PH1	AI 8Ch current 2-wire	6EZ2041-8HR35-0AE0
6ES7331-7KF02-0AB0 (6ES7331-7KF01-0AB0)	6DL1134-6AF00-0PH1	AI 8Ch voltage measurement	6EZ2041-8HR35-5AE0
6ES7331-7KF02-0AB0 (6ES7331-7KF01-0AB0)	6DL1134-6AF00-0PH1	AI 8Ch current 2-wire	6EZ2041-8HR35-5AE1
6ES7331-7KF02-0AB0 (6ES7331-7KF01-0AB0)	6DL1134-6AF00-0PH1	AI 8Ch current 4-wire	6EZ2041-8HR35-5AE2
6ES7331-7KF02-0AB0 (6ES7331-7KF01-0AB0)	6DL1134-6AF00-0PH1	AI 8Ch R/T-measurement	6EZ2041-8HR35-5AE3
6ES7331-7NF00-0AB0	6DL1134-6AF00-0PH1	AI 8Ch voltage measurement	6EZ2041-8HR35-1AE0
6ES7331-7NF00-0AB0	6DL1134-6AF00-0PH1	AI 8Ch current 4-wire	6EZ2041-8HR35-1AE2
6ES7331-7NF10-0AB0	6DL1134-6AF00-0PH1	AI 8Ch voltage measurement	6EZ2041-8HR35-6AE0
6ES7331-7NF10-0AB0	6DL1134-6AF00-0PH1	AI 8Ch current 4-wire	6EZ2041-8HR35-6AE2
6ES7331-7PF01-0AB0	6DL1134-6JH00-0PH1	AI 8Ch RTD 2-3-4-wire	6EZ2041-8HR35-2AE0
6ES7331-7PF11-0AB0	6DL1134-6JH00-0PH1	AI 8Ch TC	6EZ2041-8HR35-3AE0
6ES7331-7TF01-0AB0	6DL1134-6TH00-0PH1	AI 8Ch current 2-wire HART	6EZ2041-8HR35-4AE0

Digital Output

ET 200M	ET 200SP HA	Functionality	Part number
6ES7322-1BH01-0AA0	6DL1132-6BH00-0PH1	DQ 16Ch 24V DC 0.5A	6EZ2041-8HR35-2DA0
6ES7322-1BL00-0AA0	6DL1132-6BL00-0PH1	DQ 32Ch 24V DC 0.5A	6EZ2041-8HR35-0DA0
6ES7322-8BF00-0AB0	6DL1132-6BH00-0PH1	DQ 16Ch 24V DC 0.5A	6EZ2041-8HR35-3DA0
6ES7322-8BH10-0AB0 (6ES7322-8BH01-0AB0, 6ES7322-8BH00-0AB0)	6DL1132-6BH00-0PH1	DQ 16Ch 24V DC 0.5A	6EZ2041-8HR35-1DA0

Analog Output

ET 200M	ET 200SP HA	Functionality	Part number
6ES7332-5HD01-0AB0	6DL1135-6TF00-0PH1	AQ 4Ch current 2-wire	6EZ2041-8HR35-3AA0
6ES7332-5HF00-0AB0	6DL1135-6TF00-0PH1	AQ 8Ch current 2-wire	6EZ2041-8HR35-0AA0
6ES7332-8HB01-0AB0	6DL1135-6TF00-0PH1	AQ 2Ch current 2-wire	6EZ2041-8HR35-2AA0
6ES7332-8TF01-0AB0	6DL1135-6TF00-0PH1	AQ 8Ch current 2-wire HART	6EZ2041-8HR35-1AA0

Solution from RC-DE Stuttgart.
For inquires please contact: simon.kurz@siemens.com

SIEMENS

IO Adapter for the upgrade from SIMATIC ET 200M to SIMATIC ET 200SP HA

Universal IO Adapters with open-ended wires

ET 200M	ET 200SP HA	Functionality	Part number
Universal IO Adapter 20pin	general use for connection to Push-In terminal blocks	IO Adapter for 20 pin ET 200M front connector with 0,5 mm² ferruled open end wires, cable length 0,5 m	6EZ2041-8HR10-1DU0
Universal IO Adapter 40pin	general use for connection to Push-In terminal blocks	IO Adapter for 40 pin ET 200M front connector with 0,5 mm² ferruled open end wires, cable length 0,5 m	6EZ2041-8HR10-0DU0

Accessories

Component	Functionality	Part number
Mounting brackets	2 aluminum brackets including screws for installation of 1 ET 200SP HA mounting rail on top of the S7-1500 mounting rail that carries the IO Adapters	6EZ2041-8HR35-0BG1
Rail Adapter Set 1	Adapters to mount the necessary S7-1500 rail on top of an existing S7-300 rail 6ES7390-1A* and -2A*	6EZ2041-8HR35-1BG0
Rail Adapter Set 2	Adapters to mount the necessary S7-1500 rail on top of an existing S7-300 mounting rail 6ES7195-1G* (active backplane type)	6EZ2041-8HR35-2BG0
Rail Adapter 3	Adapter to mount an IO Adapter on the existing S7-300 rail 6ES7195-1G* (active backplane type) instead of installing a new S7-1500 mounting rail, 5 pieces	6EZ2041-8HR35-3BG0

6EZ2041-8HR35-0BG1

6EZ2041-8HR35-1BG0

6EZ2041-8HR35-2BG0

6EZ2041-8HR35-3BG0

Solution from RC-DE Stuttgart.
For inquires please contact: simon.kurz@siemens.com

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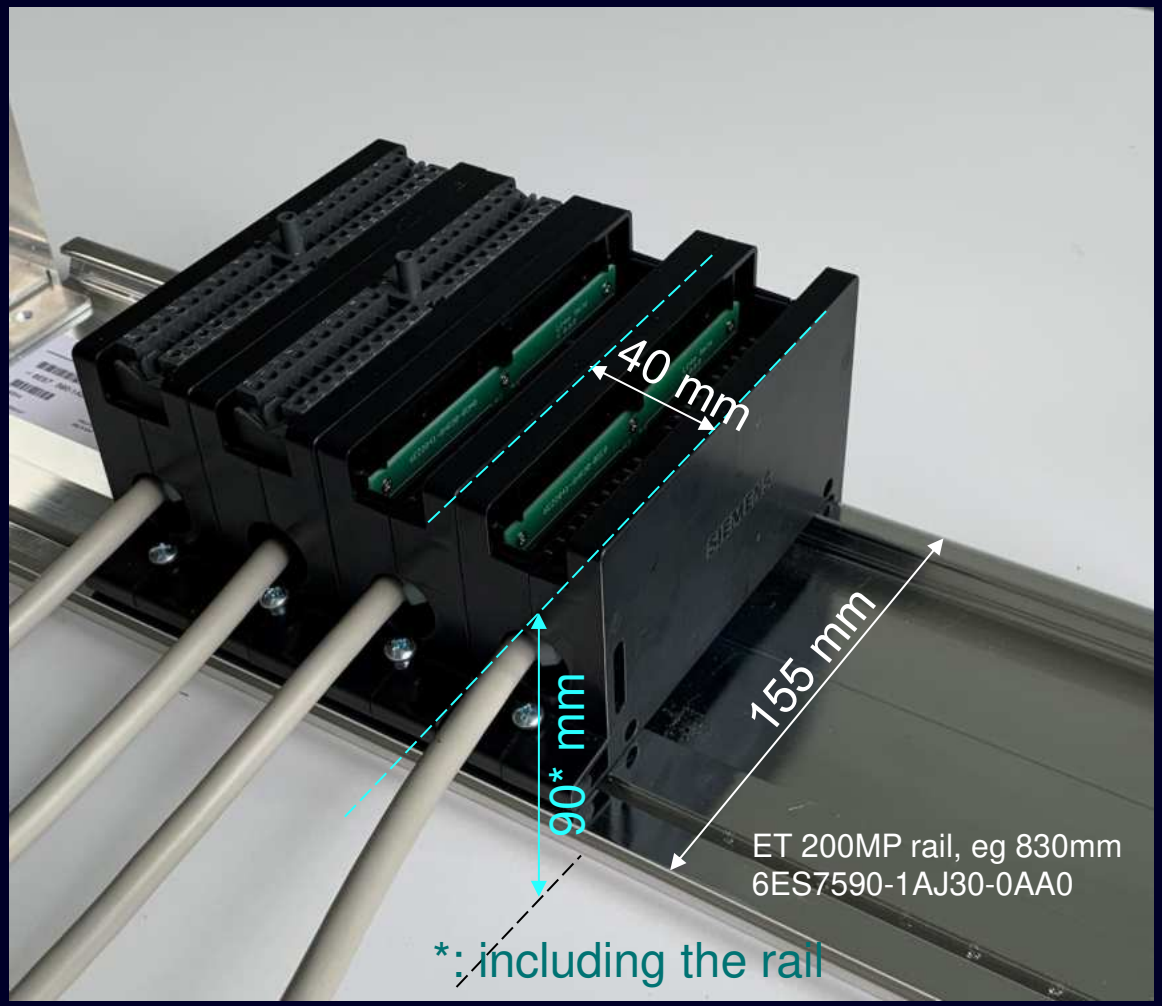
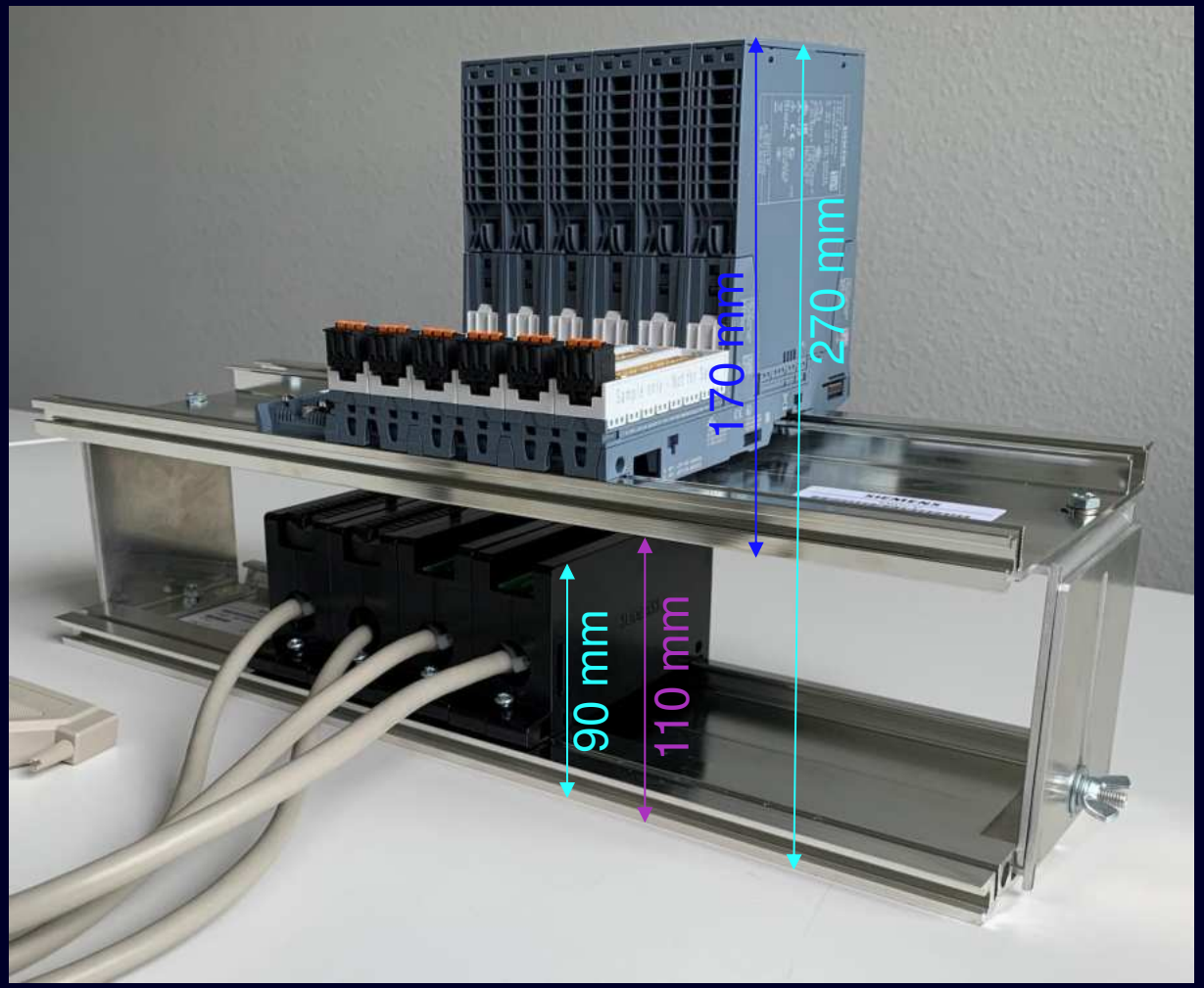
Double-deck solution fits into 400 mm deep cabinets





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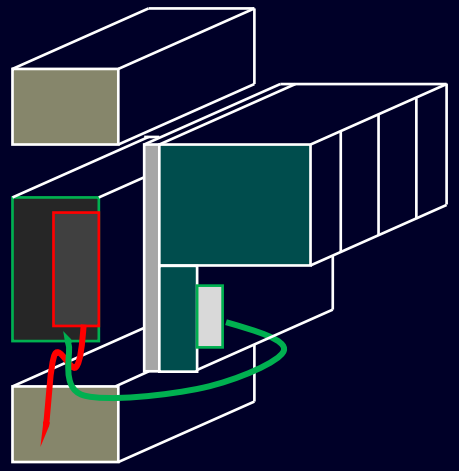
Upgrade Adapters for SIEMENS SIMATIC ET 200SP HA

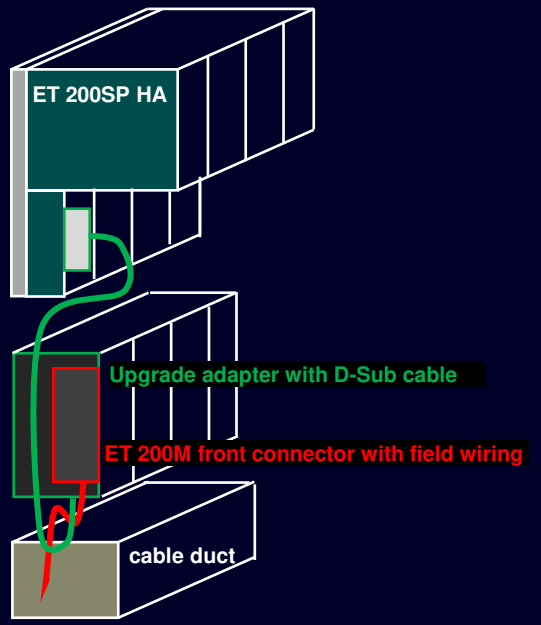
I/O upgrade adapters provide a solution for fast and faultless replacement of existing ET 200M IO modules.

The ET 200M front connectors are mounted on the adapter and connected to the new ET 200SP HA IO modules via D-Sub cables. The field wiring remains connected to the front connector. This can avoid loop-checking the connected field devices.

To keep up with cabling and space constraints of existing cabinets, the adapters can be installed with a 2-level mechanical solution. Of course, ET 200SP HA can also be installed at a free place by using adapters with longer D-Sub cables.



2-level installation



1-level installation

Upgrade adapter solution for SIMATIC ET 200SP HA

For further information please visit Siemens Industry Online Support:
https://support.industry.siemens.com/cs/ww/en/view/109823570

SIEMENS

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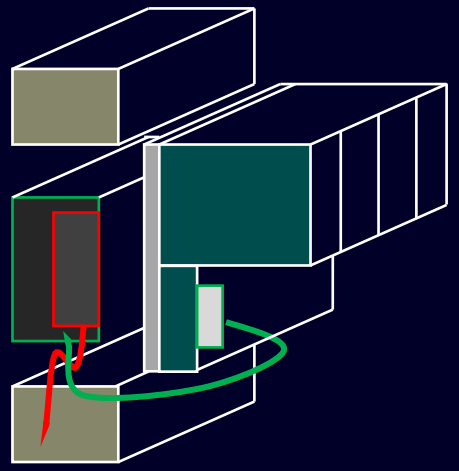
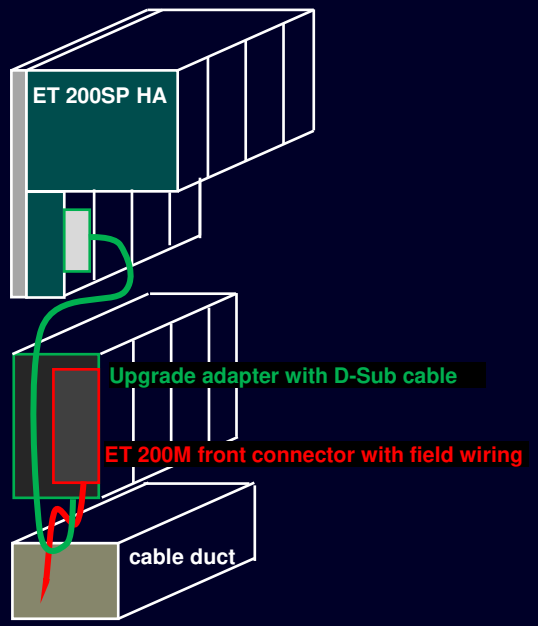


2-level installation



1-level installation

Migration adapters for SIMATIC ET 200SP HA

Weidmueller MiBridge

For further information please read the Brochure at:

Broschure
MiBridge-Migration made easy | From Siemens ET 200M to ET 200SP HA

PLC and DCS Migration Solutions – MiBridge

SIEMENS

Upgrade Adapters for SIEMENS SIMATIC ET 200SP HA

I/O upgrade adapters provide a solution for fast and faultless replacement of existing ET 200M IO modules.

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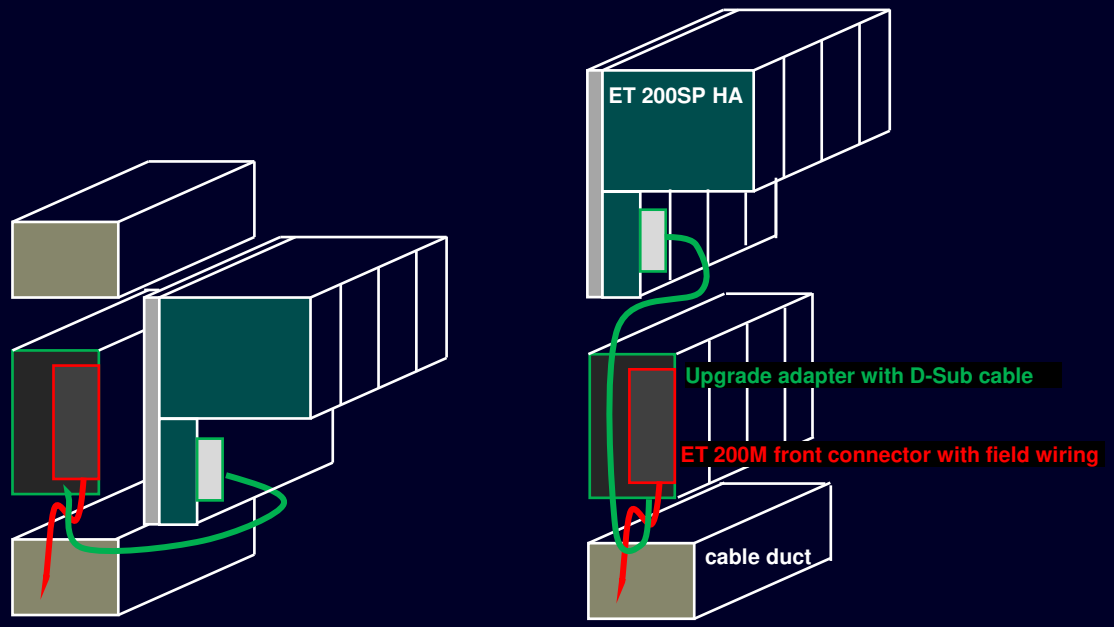
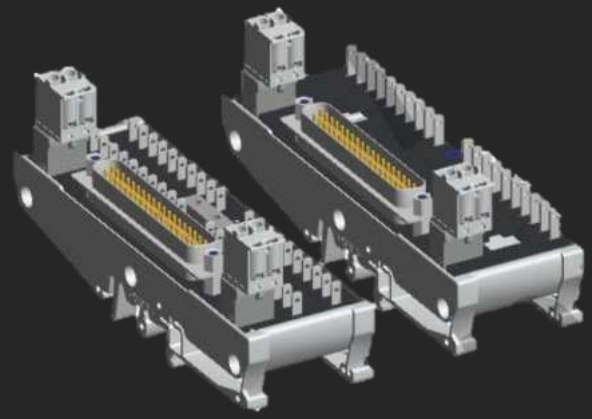


Release preliminary planned for Q1 of 2026

Phoenix Contact Migration adapters for SIMATIC ET 200SP HA

VARIOFACE **M**igration **S**olution



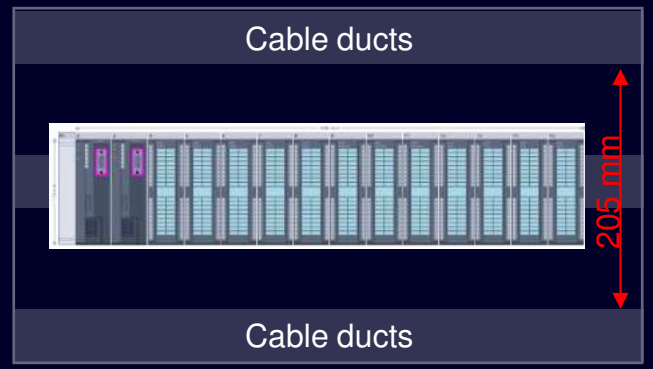
Contact for further information: hblome@phoenixcontact.com

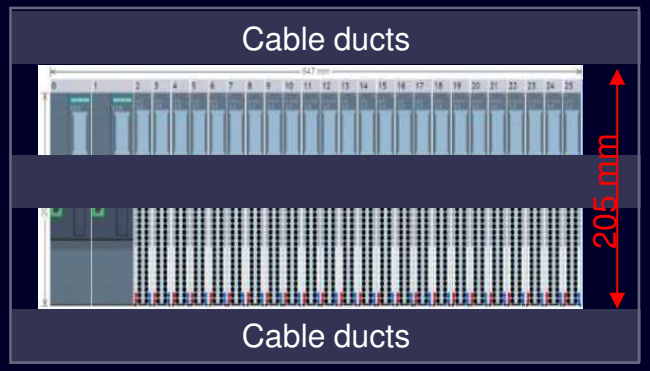
SIEMENS

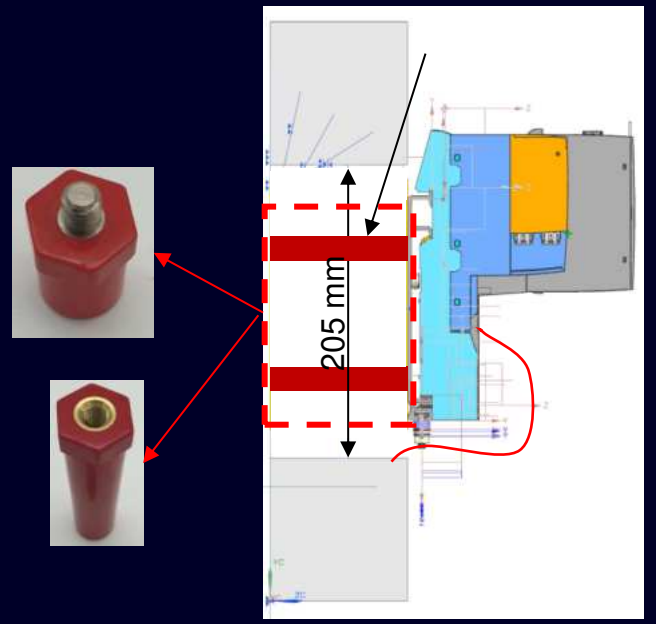
Clearance constraints when replacing ET 200M with ET 200SP HA

Due to the greater height of the ET 200SP HA station compared to the ET 200M station, the required clearance above and below the ET 200SP HA station cannot be maintained when replacing one ET 200M station with an ET 200SP HA station

By using distance holders, the ET 200SP HA station can be positioned forward, away from the upper and lower cable ducts, thereby allowing the required clearance to be maintained







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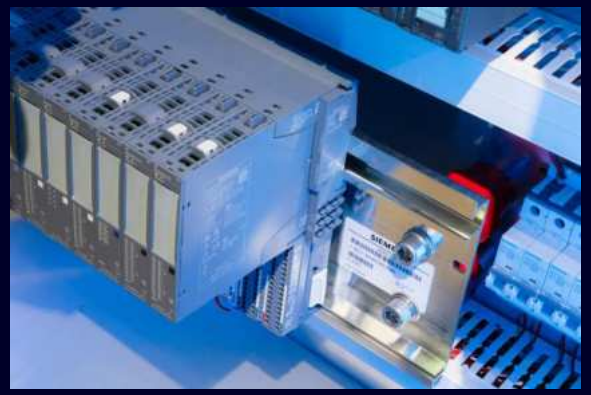
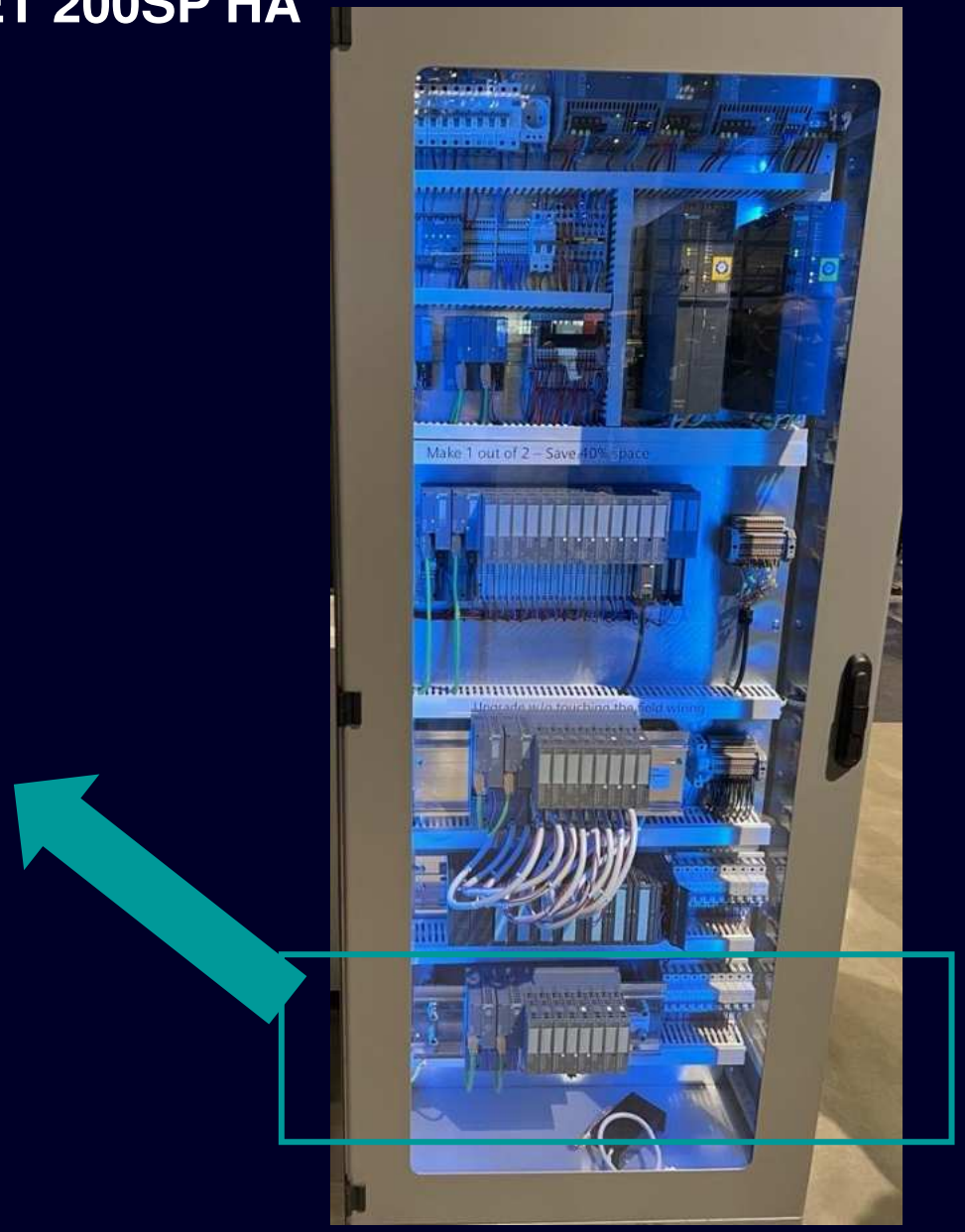
Clearance constraints when replacing ET 200M with ET 200SP HA





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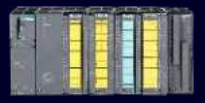
Upgrade from SIMATIC ET 200M to SIMATIC ET 200SP HA
Upgrade Service

- Searching for a service to upgrade….
  - … your PCS 7 project?
  - … your I/O periphery? 
  - → Find your service here

Basic Upgrade Factory Service
For standard SIMATIC PCS 7 software projects

Including conversion and upgrade offering for most common Libraries and addons:

Library services

SIMATIC PCS 7 Lib Classic/APL
Safety Integrated[1]
SIMATIC PCS 7 Industry Library
SIMATIC Route Control[1]
SIMATIC PCS 7 TeleControl
SIMATIC PCS 7 PowerControl
SIMATIC Batch

Addon services

Simocode
SIWAREX
DRIVE ES
SIRUS Softstarter
Condition Monitoring
Modbus

More

Modbus
Customized Blocks
Customer Libraries
(need further clarification)

Advanced Upgrade Factory Service
For complex SIMATIC PCS 7 software projects[1]

Including conversion offering for third party and specific library upgrade/exchange requirements:

Library services

- PTE 400
- Modular Flexible Library (MFL)
- Power Solution (PS)
- SC Library
- Bayer Toolkit
- AS Interface
- CIS-CK
- SIMATIC PCS 7 TM
- CEMAT / Minerals
- Powerrate
- HVQC

1 specific offer calculation required

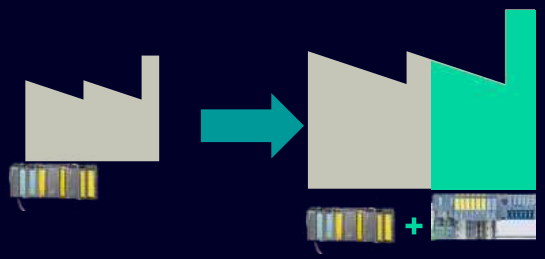
SIEMENS

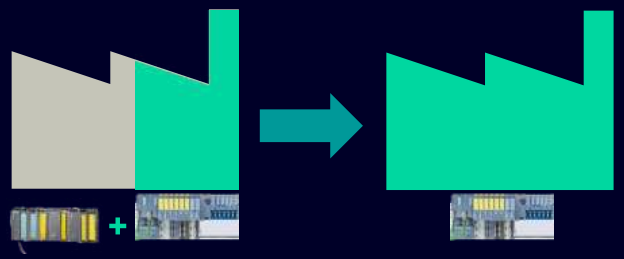
Upgrade from SIMATIC ET 200M to SIMATIC ET 200SP HA
Recommendation: Upgrade Strategy

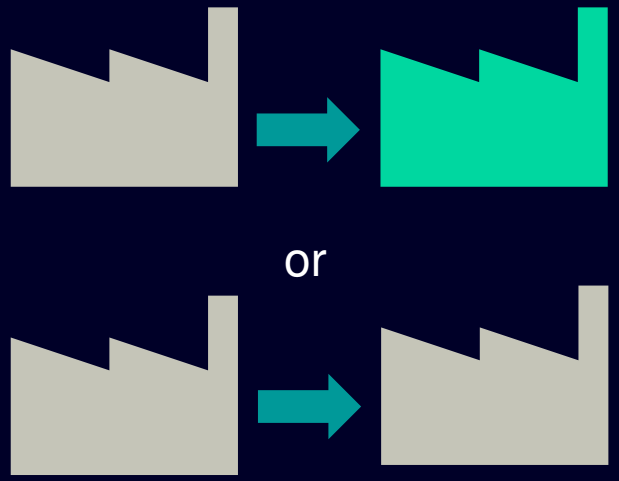
Plant Expansion with ET 200SP HA
Use ET 200M next to ET 200SP HA

Upgrade from ET 200M to
ET 200SP HA of a small plant

Upgrade bigger plants
Or
Use ET 200M till EoL of your plant







- First experience with SIMATÍC ET 200SP HA
- Get in touch with the benefits
- Use learnings for the next upgrades

- Which upgrade-type fits best to your needs?
- Which tools helped you?
- How can you get better with SIMATIC ET 200SP HA?

- Use SIMATIC ET 200M modules as spare parts for existing plants

- With learnings from previous upgrades: Find your upgrade strategy/type for bigger plants

or

- Use existing SIMATIC ET 200M parts from previous upgrades to run plant with SIMATIC ET 200M till end of life


= SIMATIC ET 200SP HA Plant


= SIMATIC ET 200M Plant

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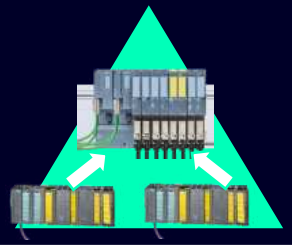
Upgrade from SIMATIC ET 200M to SIMATIC ET 200SP HA
Flexible choices: Effort and Benefits

Challenge your I/O-Level

Optimize your panel layout, combine several ET 200M Stations in one ET 200SP HA, use new PROFINET topologies for higher availability

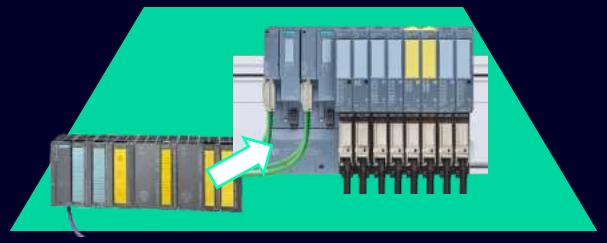
Get all benefits

- Save (space in) cabinets
- Connect new signal types (out of Ex-Zone 0)
- Higher availability with new topologies (MRP, fiber direct to I/O station,…)



More effort…

- New PROFINET cabling and field-device wiring.
- Keep existing I/O structure in cabinet and replace ET 200M module per module through ET 200SP HA



… more benefits

- Use higher channel density
- Flexible connecting technology (Push-In or D-SUB)
- Usage of potential groups with sensor supply or ground terminals

Lower effort…

- New PROFINET cabling
- Reuse existing field-wiring by using IO-Adapters

… modern System-Architecture

- Flexible media usage (fiber, copper, media conversion)
- Higher transmission speed

Lowest effort

Keep:

- PROFIBUS cabling (when fiber optic)
- Field-wiring (use I/O Adapter)

- SP HA functionality (CiR, R1, Diagnostics, Multi-HART,…)
- PROFINET features (e.g. commissioning tools, neighborhood detection, telegram length…)

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Upgrade from SIMATIC ET 200M to SIMATIC ET 200SP HA
Further information

Content	Link
Product Note: Upgrade from ET 200M to ET 200SP HA	https://support.industry.siemens.com/cs/ww/en/view/109809934
Product Note: SIMATIC ET 200SP HA Distributed I/O system	https://support.industry.siemens.com/cs/ww/en/view/109747953
Product Note: Information about the product phase-out of S7-300 / ET 200M components	https://support.industry.siemens.com/cs/ww/en/view/109809890
Application example: PROFINET in Process Automation with SIMATIC PCS 7	https://support.industry.siemens.com/cs/ww/en/view/72887082
Download: PROFINET GSD-Datei (GSDML) - SIMATIC ET 200SP HA	https://support.industry.siemens.com/cs/ww/de/view/109781191
Cabinet Designs with ET 200SP HA*	https://support.industry.siemens.com/cs/ww/en/view/109775414
ET 200SP HA Sales Slides*	https://see-siemens.highspot.com/items/60affeed134ecd551916398c?lfrm=srp.12
Concept & Design Tool (CDT)	https://myneo.siemens.com/en
TIA Selection Tool	https://new.siemens.com/global/en/products/automation/topic-areas/tia/tia-selection-tool.html

* Siemens internal links (please contact your siemens contact person)

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SIMATIC ET 200SP HA

Note

The type 8647 AirLINE SP valve terminal is a product of Product Partner Bürkert Fluid Control Systems and can only be obtained from Bürkert Fluid Control Systems.

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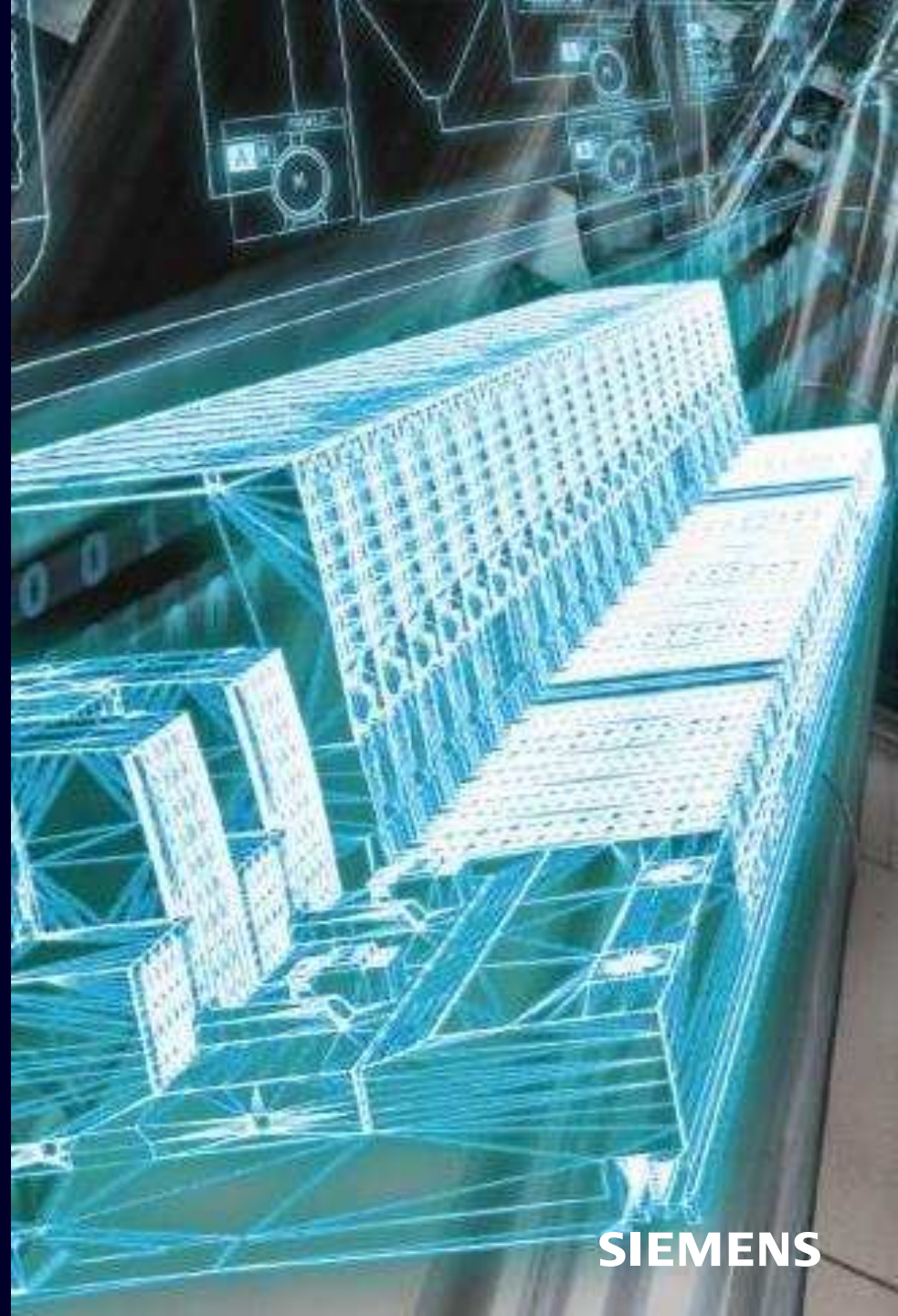
1 Disclaimer of liability



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