

PI *South East Asia*
PROFIBUS • PROFINET

Changes in Automation Structures

Introduction

Organization

Applications
and
Solutions

Benefits

Members

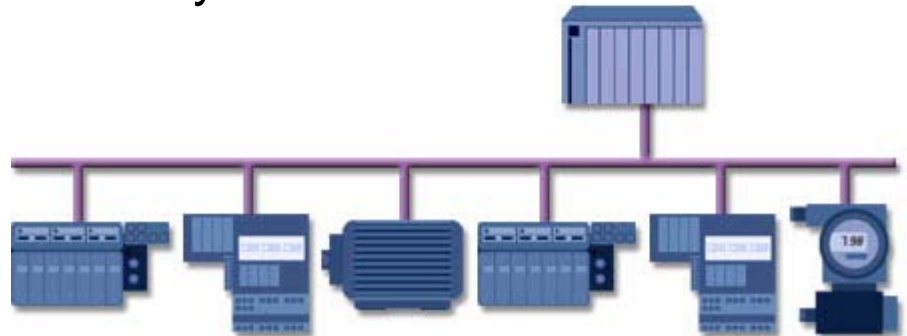
From central automation systems...

- with a central PLC and
- sensors/actuators
- based on 4-20 mA or 0-10 V technology



... over distributed automation systems...

- with a PLC/IPC and
- distributed peripherals
- based on field bus technology



Changes in Automation Structures

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Organization

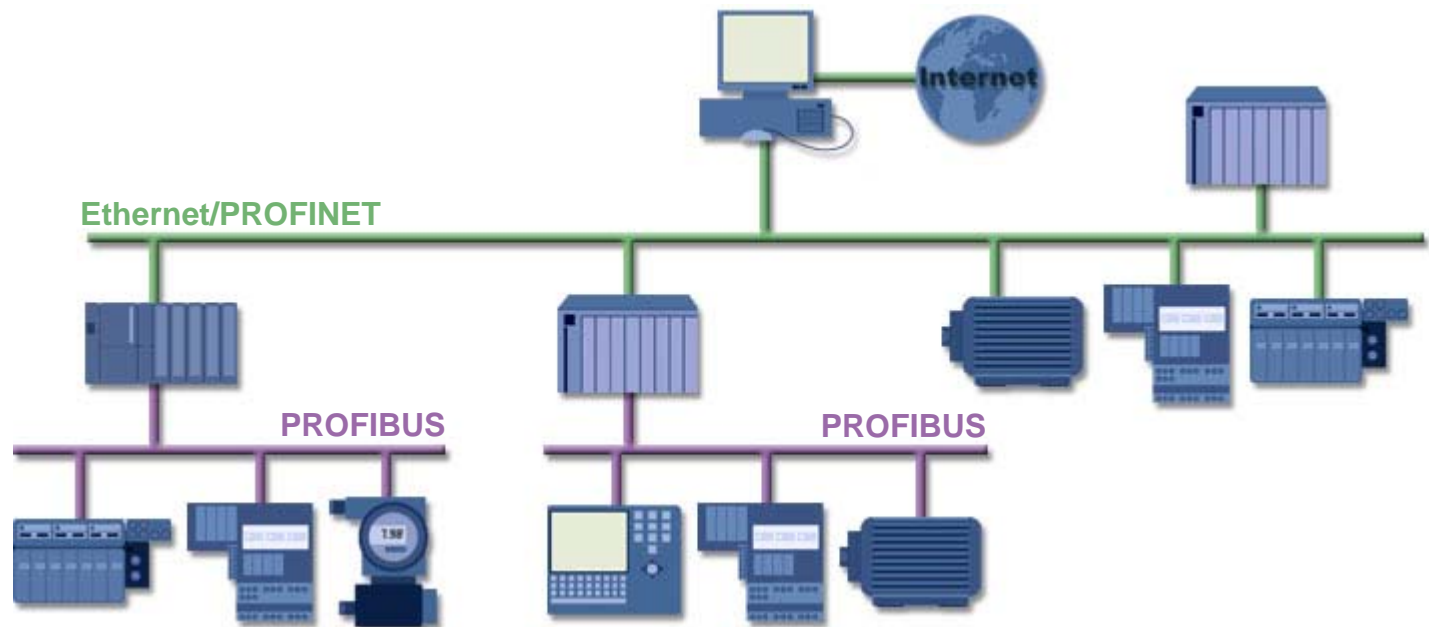
Applications and Solutions

Benefits

Members

... to automation technology with

- distributed intelligence (intelligent field devices)
- sybiotic interaction of field bus and Ethernet communication
- consistency right through to corporate management level and Internet



With integrated motion, safety and  applications

Introduction

Organization

Applications
and
Solutions

Benefits

Members

PROFIBUS & PROFINET International (PI)

Regional
Associations
(RPA)

PI Competence
Center (PICC)

PI Test
Laboratories (PITL)

Technologies



**Fieldbus based
Automation Technology**



**Ethernet based
Automation Technology**

Proxy Technology

Introduction

Organization

Applications and Solutions

Benefits

Members

PROFIBUS is the open
Fieldbus Standard for Automation
of PROFIBUS International.

PROFIBUS covers all requirements of all branches
of Automation Technology.

PROFIBUS ...

- Is a digital communication system optimized for all automation tasks
- Covers both fast time-critical applications and complex communication tasks, **not just for drives**, for all levels in automation
- Supports numerous Application Profiles



Introduction

Organization

Applications and Solutions

Benefits

Members

PROFINET is the open
Industrial Ethernet Standard for Automation
of PROFIBUS International.

PROFINET covers all requirements of all branches
of Automation Technology.

PROFINET ...

- Is Based on Industrial Ethernet
- Uses TCP/IP and IT Standards
- Is Automation in Real-Time
- Enables Seamless Integration of other Fieldbusses





PROFISAFE-Profile

7

Introduction

Organization

Applications and Solutions

Benefits

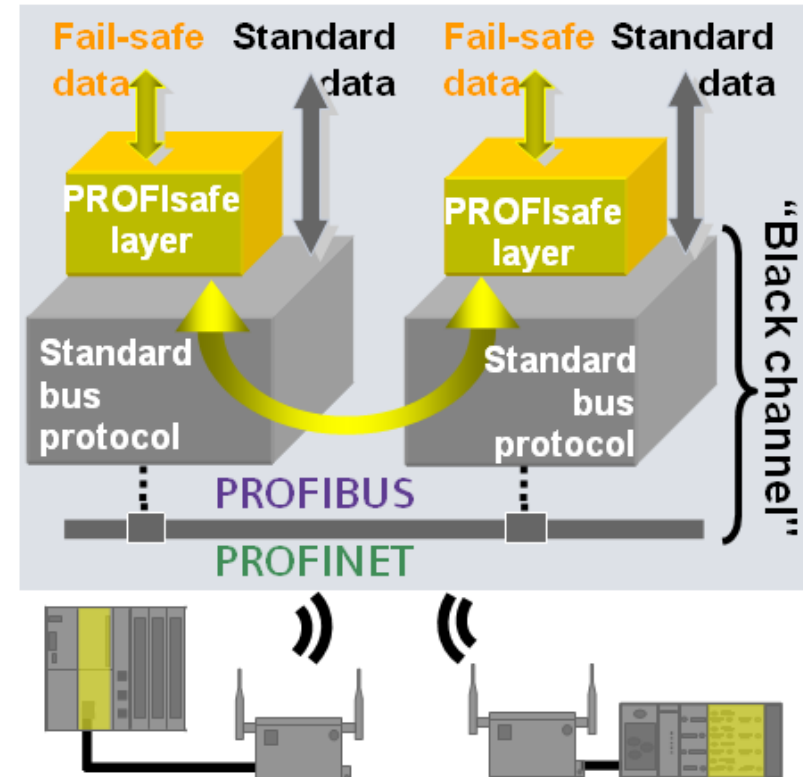
Members

- First standard of communication in accordance with safety standard IEC 61508
- PROFIsafe-Profile supports the safe communication for the open standard bus PROFIBUS and PROFINET

Approved by



BGIA



PROFIsafe supports standard- and failsafe
Communication by one medium



Organization

Introduction

Organization

Applications
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Benefits

Members

PROFIBUS & PROFINET International (PI)

25 Regional
Associations
(RPA)

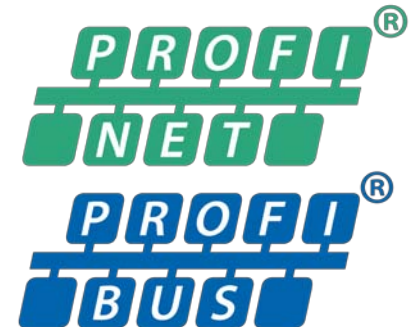
36 PI Competence
Center (PICC)

10 PI Test
Laboratories (PITL)

More than 1,400 members world wide

The architecture is being devised by

- 12 work groups
- With 140 employees
- from 60 companies



PROFINET – from the world's largest fieldbus organization

**Over 30 Million installed PROFIBUS nodes and
over 2 Million PROFINET devices installed worldwide.**

Introduction

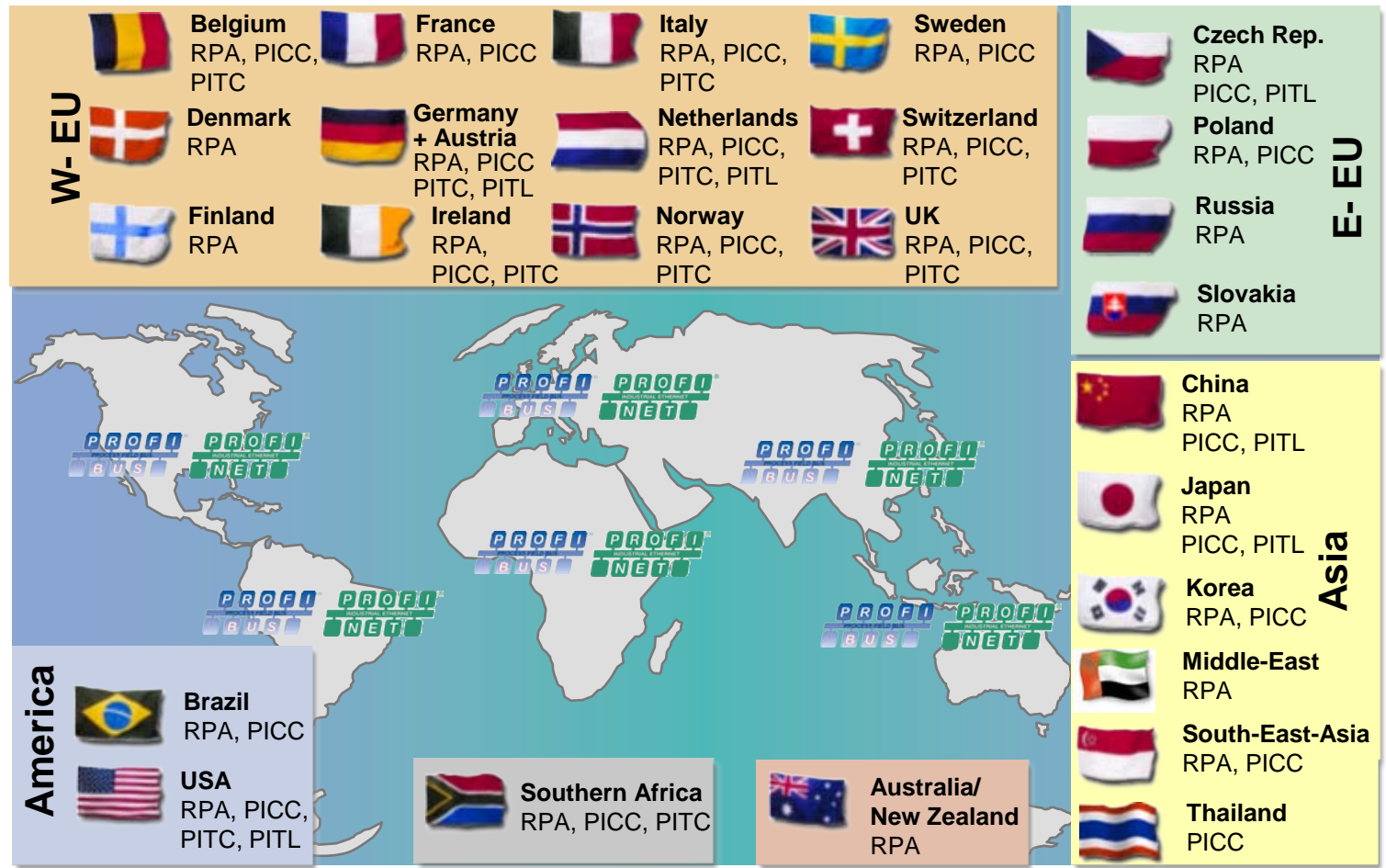
Organization

Applications
and
Solutions

Benefits

Members

- 27 Regional PI Organisations (RPA)
- 36 PI Competence Centers (PICC)
- 15 PI Training Centers (PITC)
- 10 PI Test Laboratories (PITL) for certification tests





Applications and Solutions

Introduction

Organization

Applications
and
Solutions

Benefits

Members

Factory automation

- Vehicle manufacture
- Bottling plants
- Warehousing systems
- Switchgear
- Hollow glass production

....et cetera



Process automation

- Chemical industry
- Petrochemical industry
- Paper and textile industry
- Foodstuffs
- Power stations
- Sewage plants

....et cetera



Drive technology

- Machine tools
- Packaging machines
- Pressing plants
- Paper production

....et cetera



Safety applications

- Vehicle assembly
- Machine tool building

....et cetera



More than 1 million PROFIBUS systems implemented
with over 30 million nodes

PROFIBUS & PROFINET

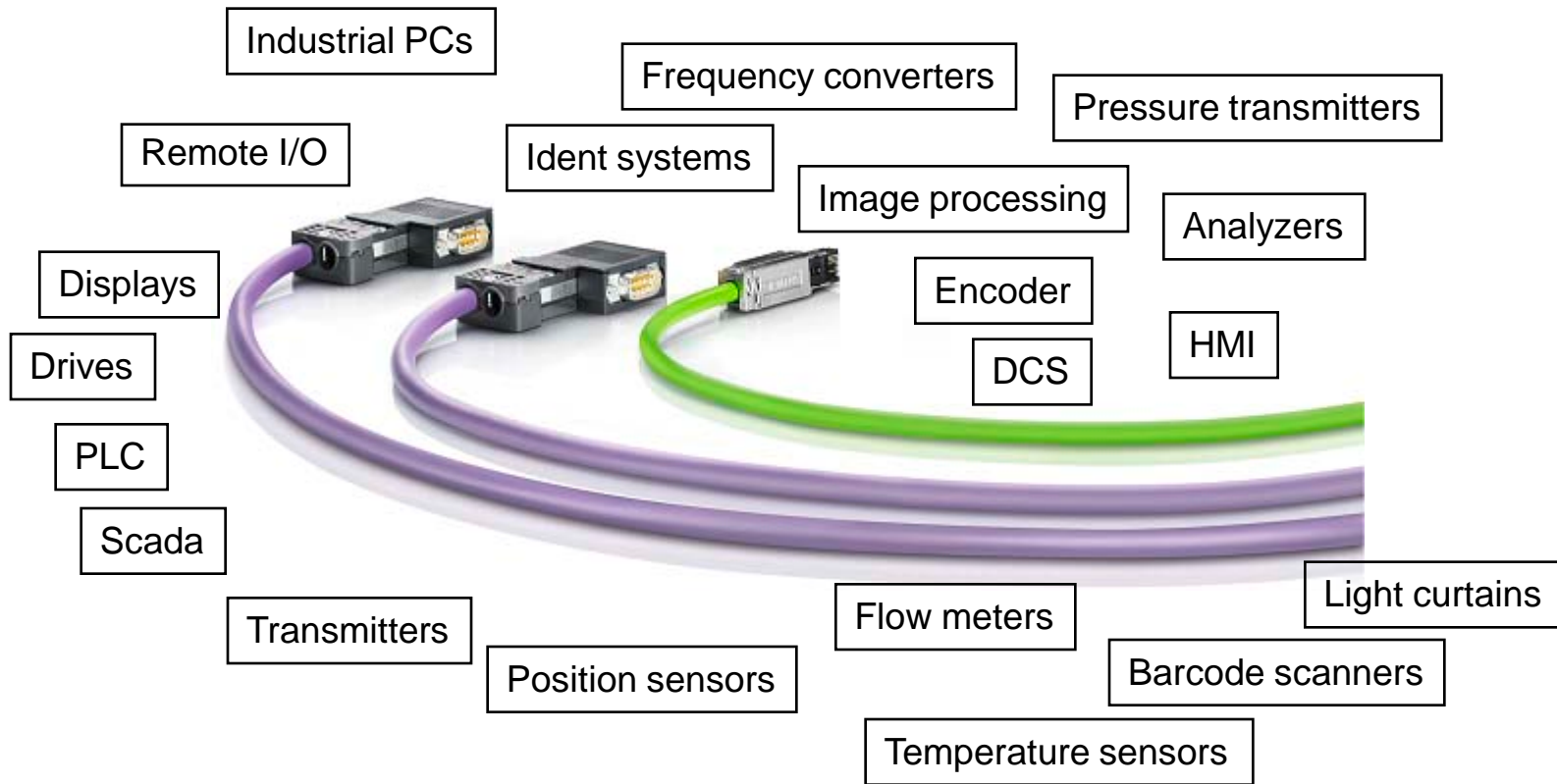
Introduction

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Applications
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Solutions

Benefits

Members



More than 2500 products available
from more than 200 manufacturers

User-friendly search functions

Continuous updates by member companies

PROFIBUS - Plant-Wide Implementation

A single consistent solution for all plant sections,
in hybrid plants, too!

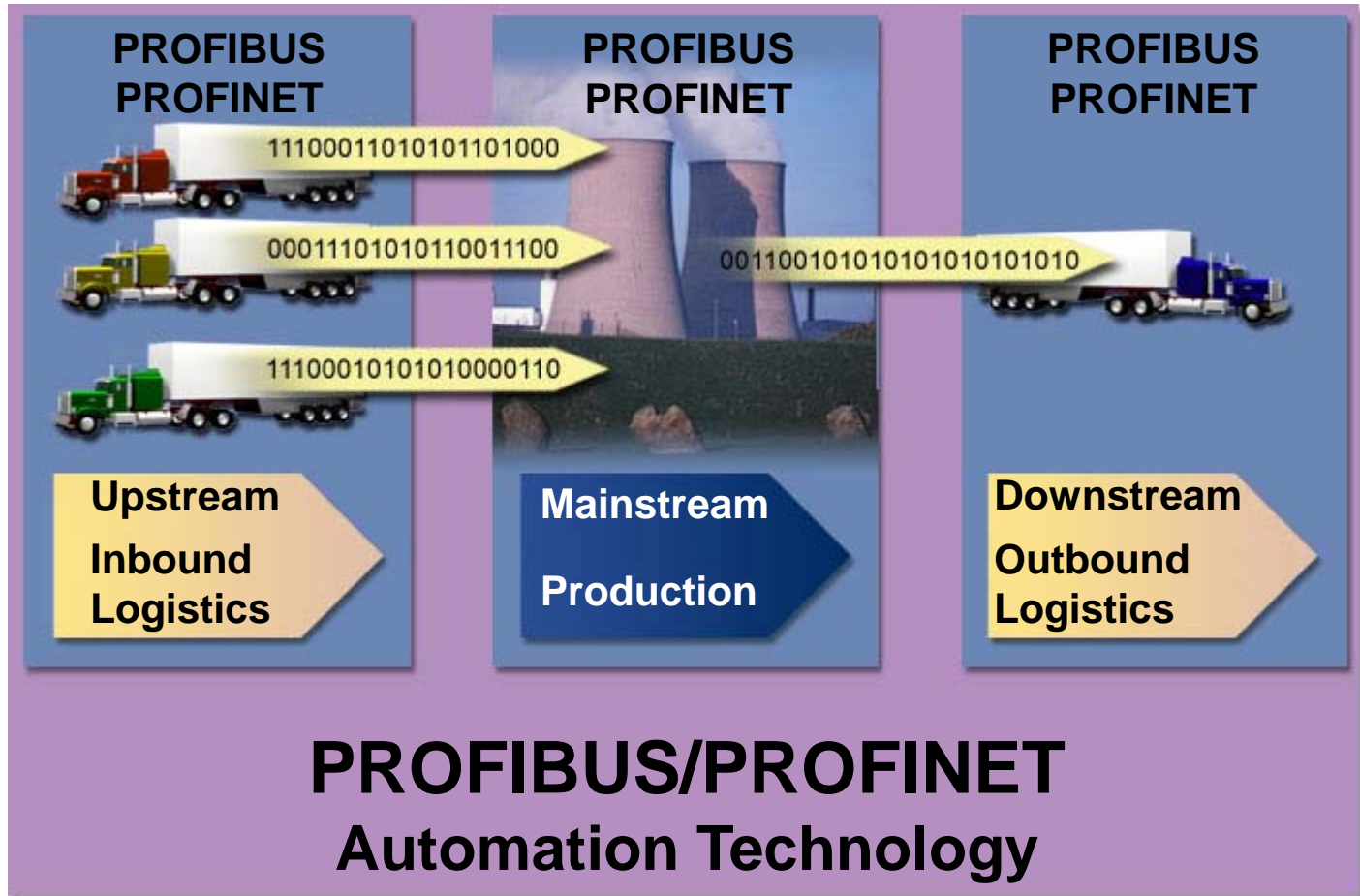
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Benefits

Members



Introduction

Organization

Applications and Solutions

Benefits

Members

PROFIBUS provides investment protection



A communications protocol for all applications
Standardized in IEC 61158 / IEC 61784



Innovations together with users
Fully compatible with existing technology
Binding specifications



Tried and tested technology through over
30 million devices installed worldwide



**Benefits for
customer**

Introduction

Organization

Applications
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Solutions

Benefits

Members

Planing

Engineering

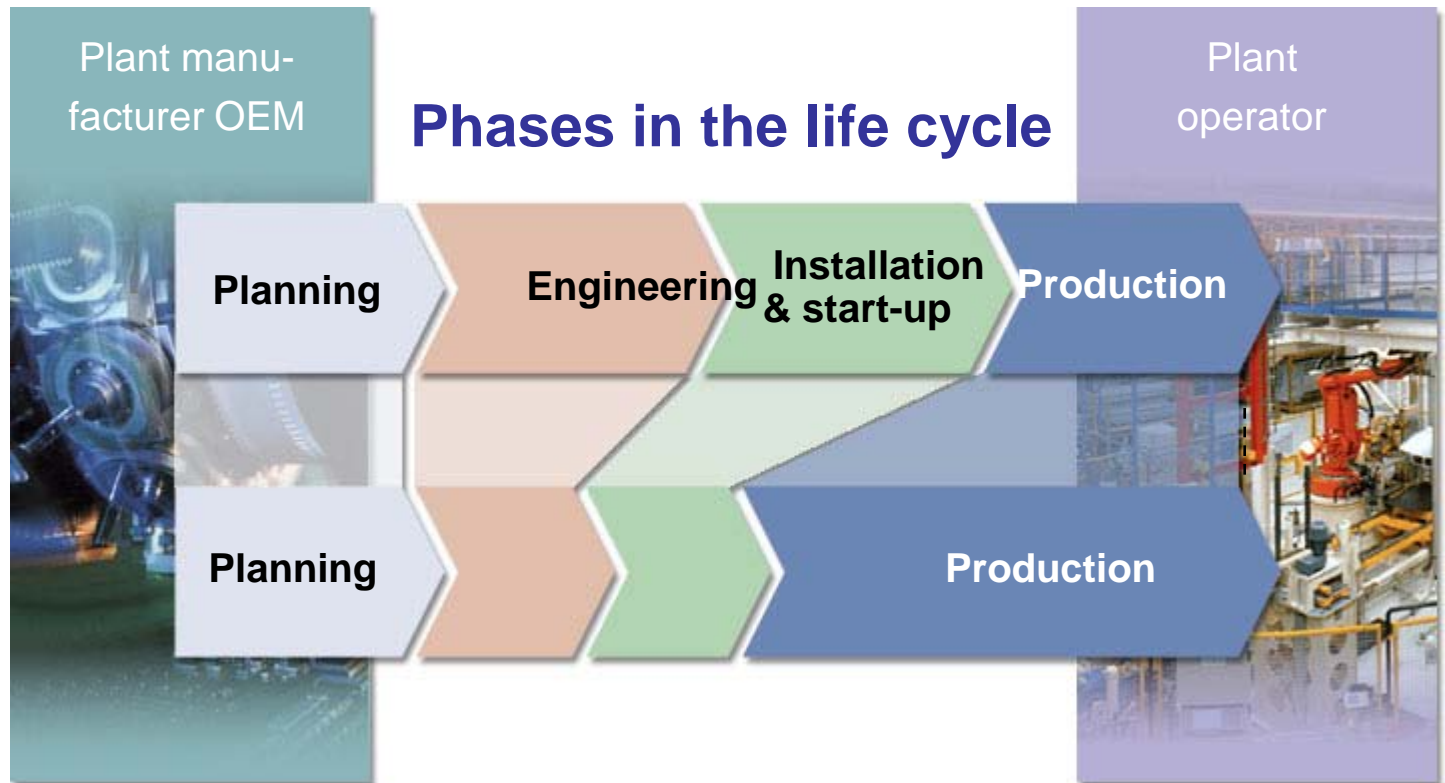
Installation & IBS

Production

Total Cost of Ownership



Faster Planning to Operation



Savings in the life cycle

- Reduction of time prior to start of production
- Reduction of costs
- Reduction of failure risk

Introduction

Organization

Applications
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Solutions

Benefits

Members

Savings with Planning (Design and Aquisition)

Introduction

Organization

Applications
and
Solutions

Benefits

Members

Simple topology

- Fewer devices, cables and cabinets
- Less documentation
- Reduced space requirements

Intelligent field devices

onal components

Central, uniform
management

tools

Wide range of appli

production and process tasks

- For safety and motion tasks

Wide variety of products
Worldwide support

- Broad selection of devices
- Vendor independence
- Worldwide and cost-effective support

**Shortened design
phase means lower
costs**
-
**Fewer components
mean lower costs**

Savings on Engineering

Introduction

Organization

Applications
and
Solutions

Benefits

Members

Simple topology

- Faster engineering,
- Fewer programming requirements,
- simple structures and documentation

Intelligent field devices

instead of programming

**Central and unit
management**

environment

Wide range of app

- Engineering know how
for production and process tasks
and safety and motion tasks

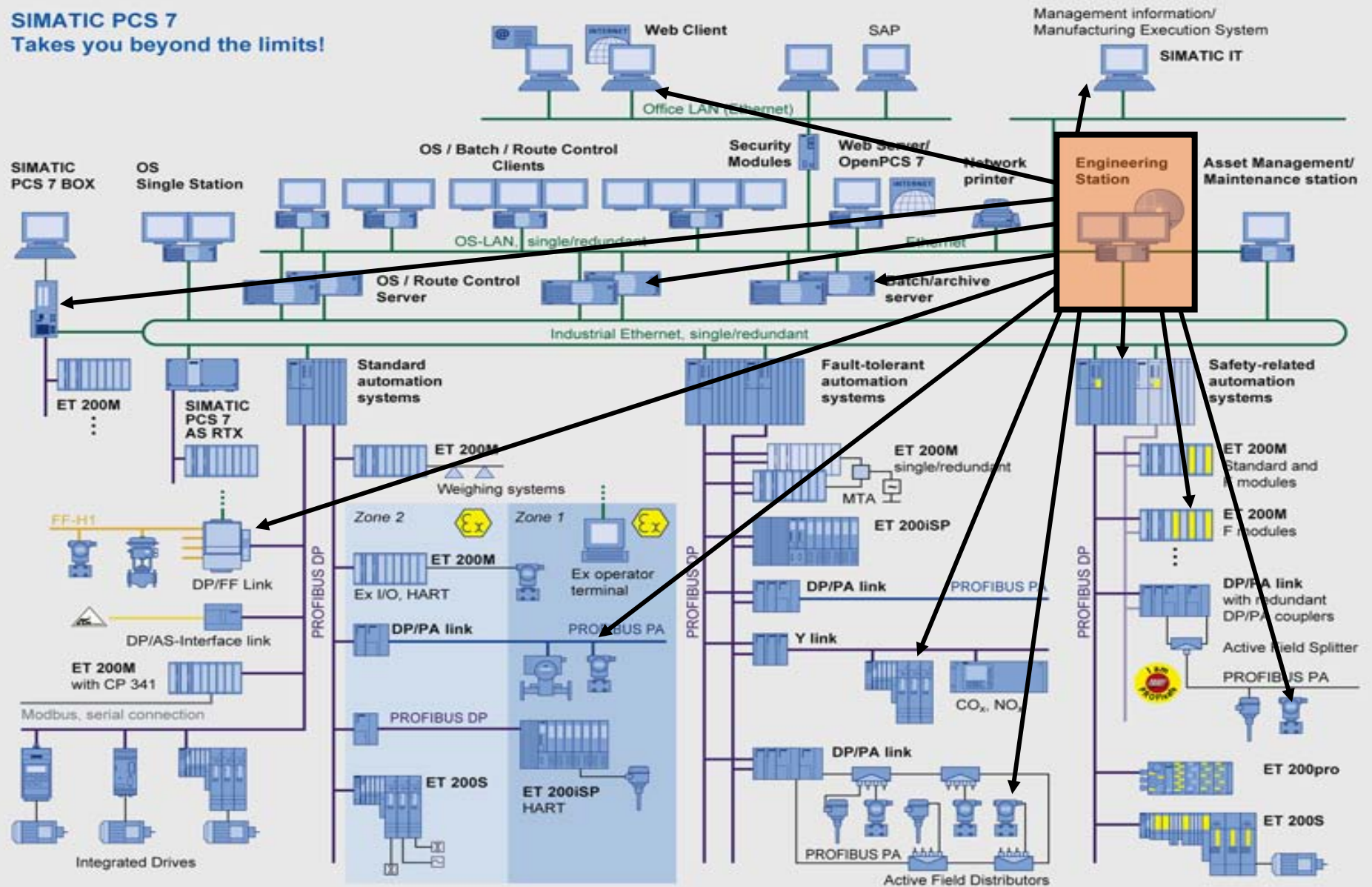
**Wide variety of products
Worldwide support**

- Broad selection of devices
- Vendor independence
- Worldwide and cost-effective support

**Faster engineering means
lower costs**
-
**Fewer components mean
fewer chances of error
during engineering**

Central Engineering

SIMATIC PCS 7
Takes you beyond the limits!



Savings on Assembly

Introduction

Organization

Applications
and
Solutions

Benefits

Members

Simple topology

- Reduced outlay for assembly and commissioning; smaller footprint
- Fewer errors during wiring

Intelligent field de

tic and simulation options

Central and uniform
device management

ering possible from any

Wide range of application

on and process tasks
safety and motion tasks

Wide variety of products
Worldwide support

- Broad selection of devices
- Vendor independence
- Worldwide and cost-effective support

**Less cable to lay
and install means
lower costs**

**Pre-start-up and a
single engineering
environment
means
shorter start up**

Savings on Production (Operation and Maintenance)

Introduction

Organization

Applications
and
Solutions

Benefits

Members

Simple topology

- Simple maintenance due to clear arrangement
- Hot-swapping of devices

Intelligent field devices

- Increased plant availability (e.g. requirements indication)
- Optimization (higher accuracy)
- Improved asset management

Central and uniform
management

Operation and maintenance

and documentation

Wide range of applications

Uniformity of overall

Wide variety of products
Worldwide support

- Wide availability of training, service and know how

Field devices report their own maintenance requirements
This enables
maintenance dependent upon use
-
Higher accuracy improves efficiency of the plant

Introduction

Organization

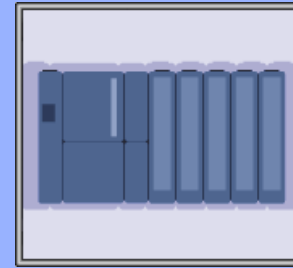
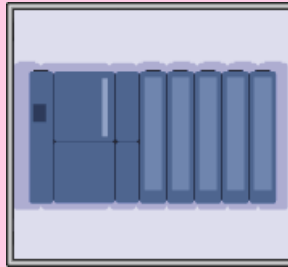
Applications
and
Solutions

Benefits

Members

Conventional

15,3 mA

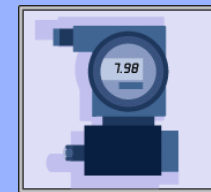


PROFI[®]
BUS

PROFI[®]
NET



1_{st} value = 800
2_{nd} value = 23,02
unit = mBar
status = ok
diagnose = Pres. ok



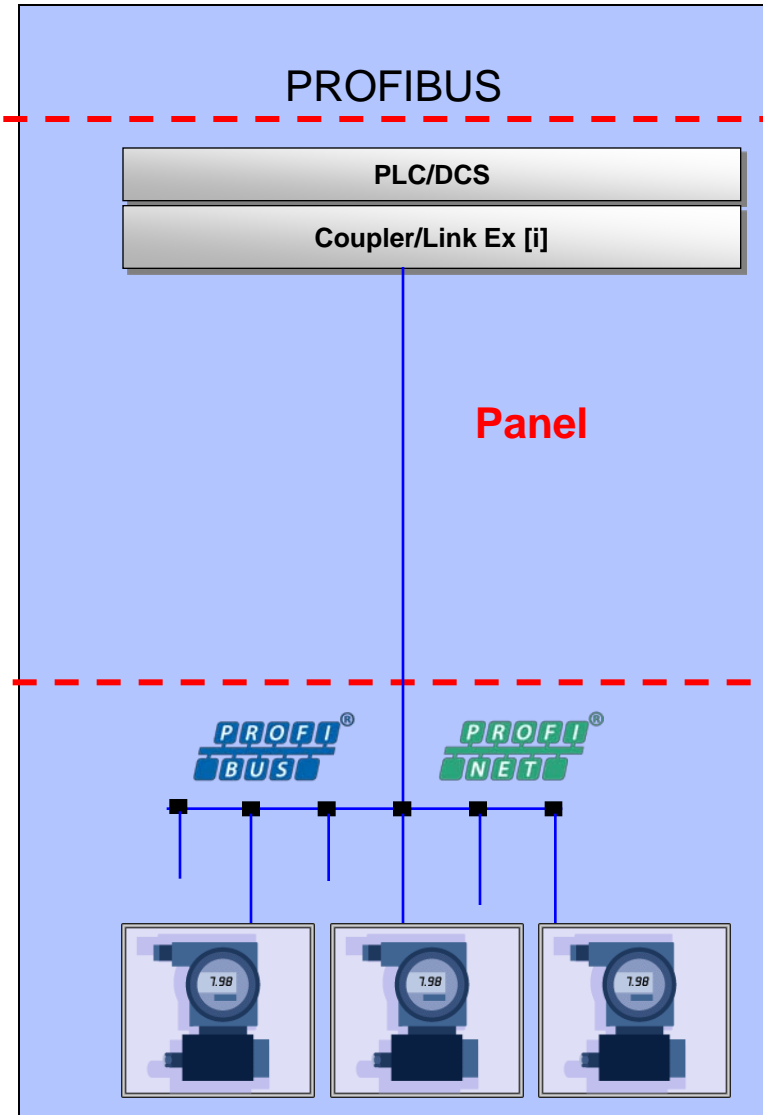
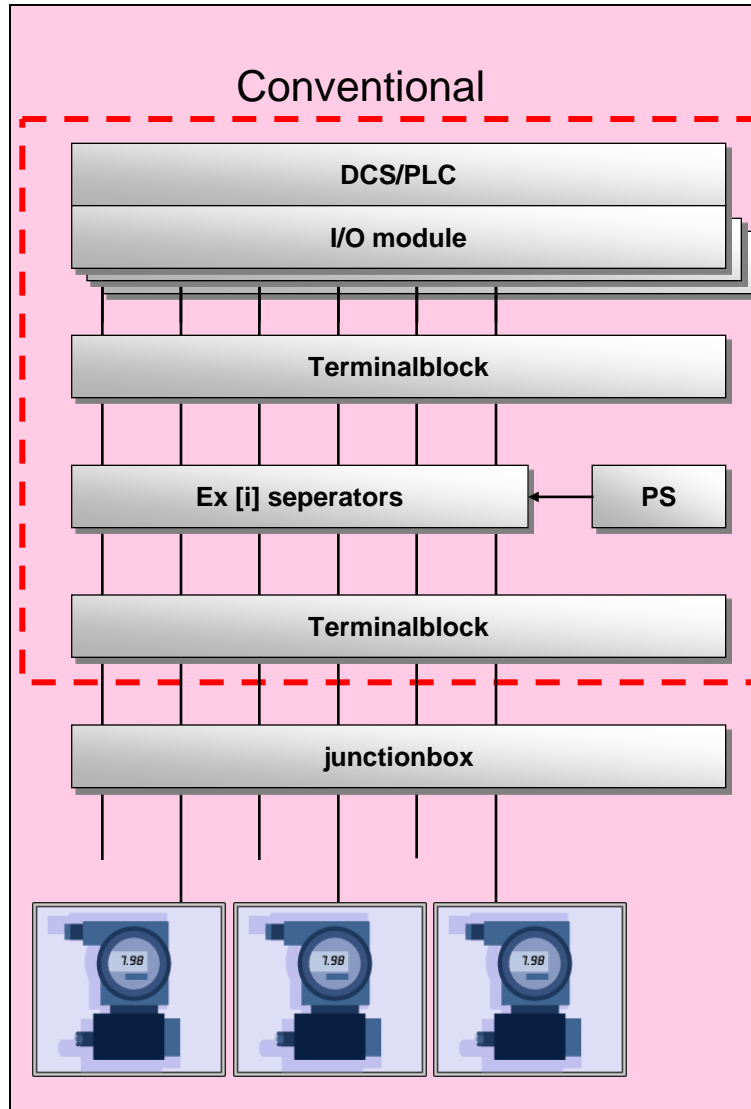
Introduction

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Benefits

Members



Example

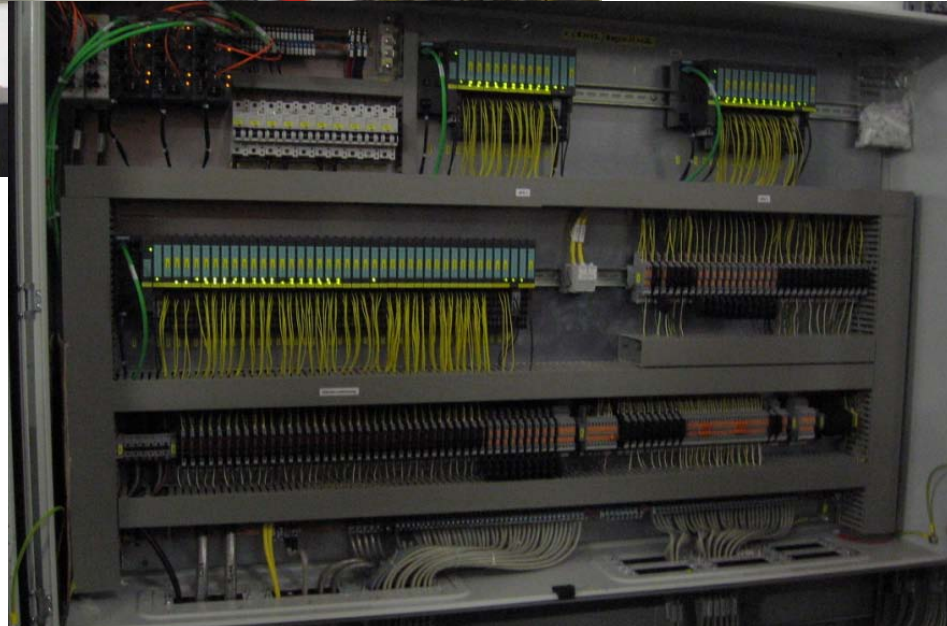
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Benefits

Members



Higher Precision

Introduction

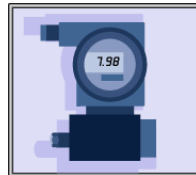
Organization

Applications
and
Solutions

Benefits

Members

conventional



CPU



Analog

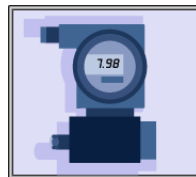
4..20 mA

Process Control



CPU

HART



CPU



Analog + digital

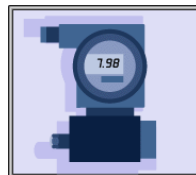
4..20 mA

smart signal



CPU

PROFIBUS/PROFINET



CPU

Digital



CPU

- Higher accurate of 20% by using PROFIBUS/PROFINET Automation Technology
- Higher process quality
- Less of production losts
- Constant product quality

Warnings in good time - Maintenance

Introduction

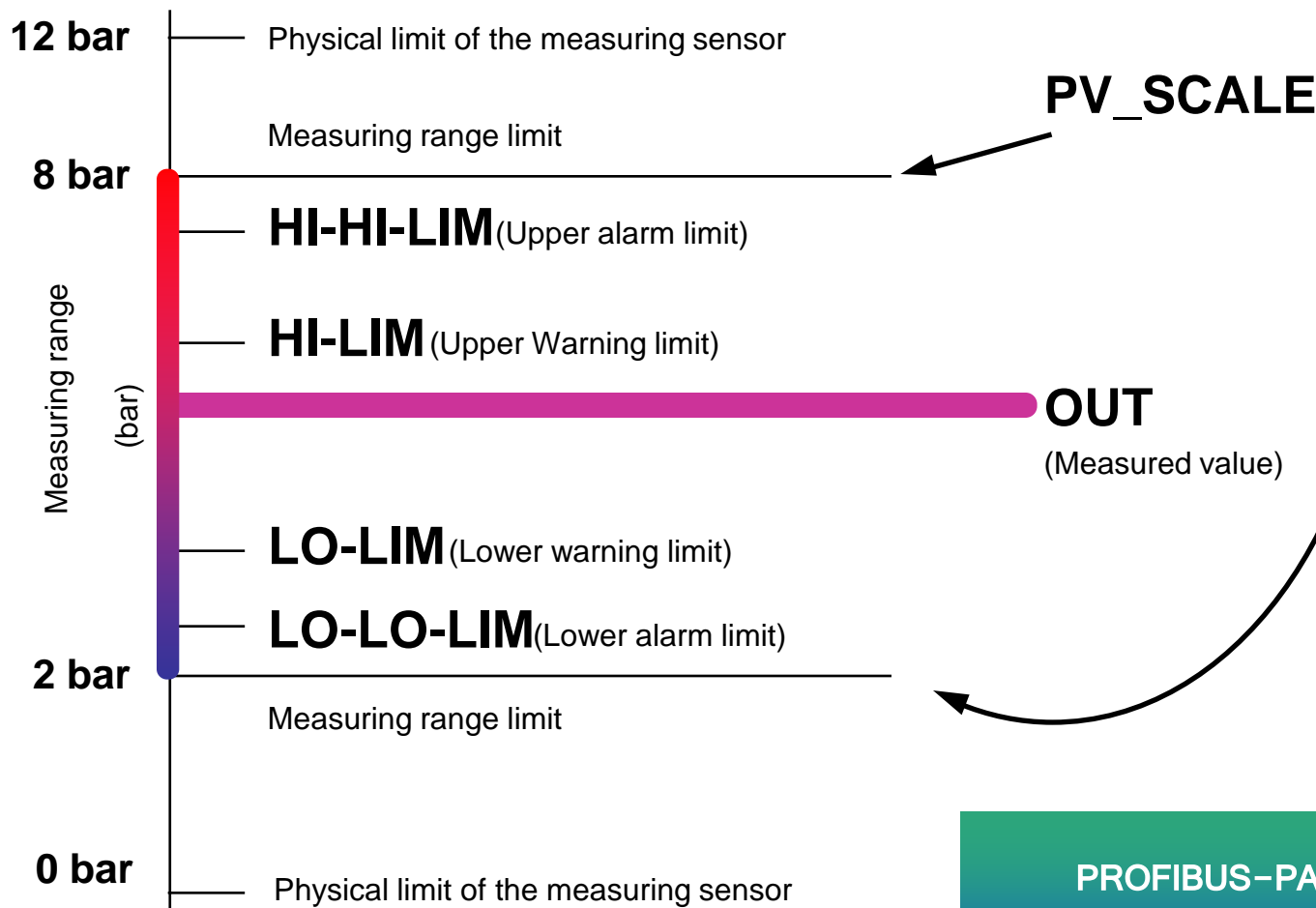
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Applications
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Benefits

Members

Example: Functionblock Analog Input, Pressure Transmitter



PROFIBUS-PA
Profile 3.01



**Want to be a
part of it?**

A Strong Community

Introduction

Organization

**Applications
and
Solutions**

Benefits

Members

- PI is a non profit association and a the community of
 - End Users
 - System Integrators
 - Vendors
 - Research Institutes
- which are interested in PROFIBUS and PROFINET communication technologies.
- Membership in PI offers you a large choice of benefits

Member Benefits

Introduction

Organization

Applications
and
Solutions

Benefits

Members

- Receive actual information about all PROFIBUS/PROFINET news
- All members are permitted to enter descriptions of their PROFIBUS and PROFINET products and services in the Online Product Guide, free of charge.
- All members may publish the GSD/GSDML-Files for their Devices in the Online Product Guide for free.
- Hotlinks from Members List: All members are entitled to install a hotlink to their Homepage from the list of members page.
- Free Publication of Product Information and Application Stories in PROFINEWS, which is the official worldwide newsletter of PI.

Official newsletter of **PI** South East Asia
PROFIBUS • PROFINET

PROFINEWS

PROFINEWS 74 June 2010

See the full PC version on www.profinews.com

Member Benefits

Introduction

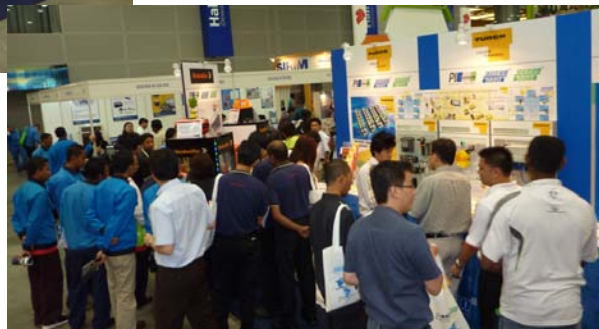
Organization

Applications
and
Solutions

Benefits

Members

- Join Roadshows and fairs, organization is done by the PI-Association.
- Create new customer contacts
- Present your technologies at Roadshows and Fairs
- Promotion of company logo on fairs, Roadshows and news



Introduction

Organization

Applications and Solutions

Benefits

Members

- **Free Access to Profiles and Guidelines via Download:**
With your member password, you can access and download PROFIBUS and PROFINET literature for free.
- **Discount on Training courses:**
Members of PI profit from discounts on PROFIBUS and PROFINET certified training fees from many PI Training centers.
- **Use of the PROFIBUS and PROFINET logo:**
The PROFIBUS and PROFINET logos are registered trademarks. Members of PI are entitled to use the logo in all their written or electronic publications and promotional material. Request a copy from your RPA.



Thank you for your attention!

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