

The leading Industrial

Ethernet

Standard

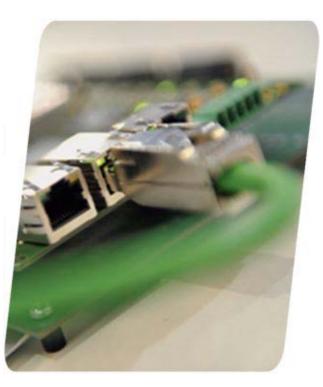


Management Summary



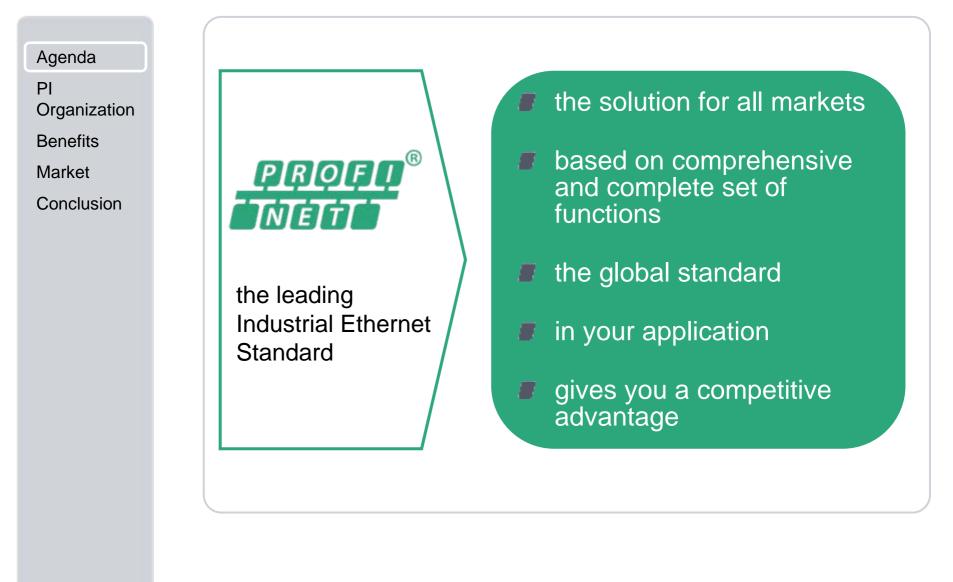
#### **Trends in Automation**

- From centralized control system structures to distributed on-site units
- Use of Ethernet in all levels of automation
- Increased use of open IT standards in automation
- Tight merging of the IT and automation worlds

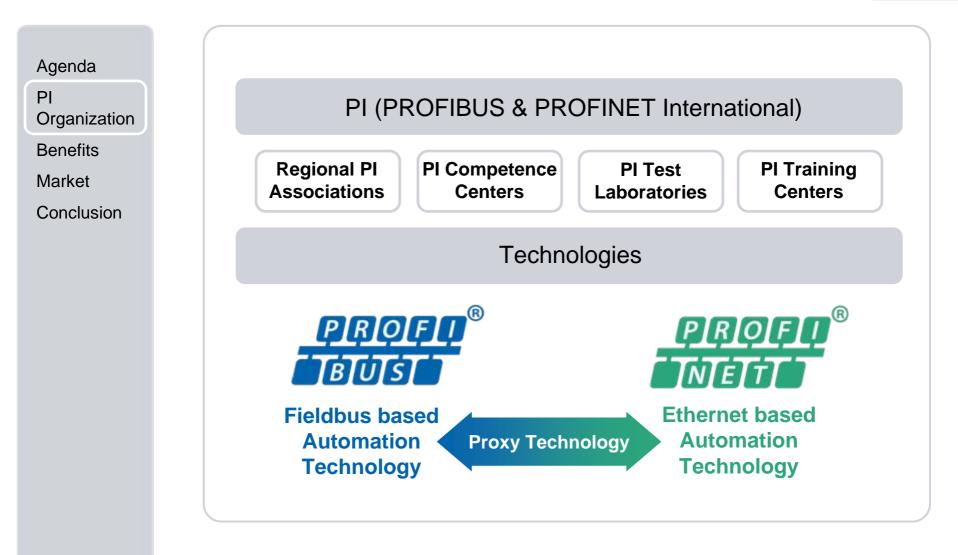




## What is **PROFINET**?









#### PI worldwide support

Belgium Netherlands Russia Sweden France RPA, PICC, PITC **RPA. PICC RPA, PICC** RPA, PICC, RPA PITC, PITL Agenda Czech Rep. Germany & Austria 💻 Norway Slovakia Switzerland RPA, PIĆC RPA, PICC, PITC PI RPA, PICC, PITL **RPA RPA. PICC. PITC** PITC, PITL Organization Spain Denmark Ireland Poland SIN UK RPA, PICC, PITC **RPA**, **PICC** RPA, PICC **RPA** RPA, PICC, PITC **Benefits** Finland Italy Market RPA, PICC RPA China Conclusion RPA, PICC, PITL India **RPA**, **PICC** Japan RPA, PICC, PITL Brazil Korea **RPA, PICC RPA, PICC** Chile Middle-East PICC RPA **Southern Africa** USA Australia/ South-East-Asia RPA, PICC, RPA, PICC, PITC New Zealand **RPA, PICC** PITC, PITL RPA, PICC, PITC PI worldwide: PI Technical Support: 40 PI Competence Centers (PICC) 27 Regional PI Associations (RPA) 18 PI Training Centers (PITC) 10 PI Test Laboratories (PITL) PROFINET Marketing - Management Summary

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#### Innovative competence

Advisorv Board



#### TC6 5 IO-Link eting Joachim Lorenz ttkamp WG 1 Technologie Automation Frank Moritz Th. Bartsch WG 2 ization Strategy Marketing nzel **Christian Gemke** WG 3 Integration nmidt Jürgen Maul WG 4 Profile Jürgen Maul oller-Nehring е emp & Education nann/F. Schiller

AdHoc WGs

 Trouble Shooting Hans-Ludwig Göhringer

 PROFIBUS PA Safety Library Albert Justus

Condition Monitoring
 Frank Lubnau

More than 600 engineers in more than 50 working groups: This innovative competence ensures the technological future of PROFIBUS and PROFINET

TC 1 Test and Certification Birgit Vogel-Heuser	TC 2 Communication Profiles Christian Diedrich	TC3 PA rocess Automation Profiles Raimund Sommer	TC 3 FA Factory Automation Profiles Harald Hammon	TC 4 System Integration Achim Laubenstein	M Uwe
— WG 1	— WG 1	— WG 3	WG 1	— WG 1	— WG 2
Procedures, Quality Management	Industrial WLAN	PA Devices	Robots & Numerical Controls	EDDL	Proce
Birgit Vogel-Heuser	Rene Bischof	Arne Neumann	prov. Peter Wenzel	Michael Braun	J. Mü
— WG 2	— WG 2	— WG 8	— WG 4	— WG 2	— WG 3
PROFIBUS PA Certification	Fiber Optic Components	SEMI Devices	Encoder	GSD Specification	Stand
Fedor Meyer	Wolfgang Blaich	Rolf Enderes	Ulf Thorsander	Herbert Oppmann	Peter
– WG 3	— WG 3	— WG 10	— WG 5	— WG 4	— WG
PROFIBUS DP Slave Certification	Data Link & Application Layer	Weighing & Dosage Devices	PROFIsafe	DCS Requirements	PRO
Arne Neumann	Thorsten Szczepanski	Thomas Bangemann	Herbert Barthel	B. Möller/B. Wansner	Xave
— WG 4	— WG 4	WG 11	— WG 6	— WG 5	— WG S
PROFIBUS DP Master Certification	Communication Function Blocks	Intelligent Pumps	PROFIdrive	Web Integration	Drive
Johannes Werner	Hans-Peter Otto	Jochen Müller	Andreas Uhl	Joachim Feld	Walte
— WG 5	— WG 5	WG 13	— WG 7	— WG6	— WG
PROFINET Certification	PROFINET Core	Remote IO for Process Control	Fluid Power/Hydraulics	XML @PROFIBUS	PRO
Manfred Popp	Norbert Bechstein	Martin Wollschlaeger	Mario Thron	Martin Wollschlaeger	Rain
— WG 6	— WG 6	WG 17	WG 9	— WG7	WG
PCC	Passive Network Components	Lab Devices	Identification Systems	MES and PROFINET	Rese
Max Felser	Andreas Huhmann	Christian Diedrich	Thomas Bangemann	prov. Peter Wenzel	KH
<ul> <li>WG 7</li> <li>PROFIsafe Certification</li> <li>Manfred Popp</li> </ul>	— WG 7 Intrinsic Safety Gerhard Hammer		– WG 12 Low Voltage Switch Gear Andreas Bäumler	– WG8 TCI André Starke	
WG 8 PROFIdrive Certification Klaus Götz	WG 8     Active Network Components & Management     Ingo Landgraf		– WG 15 Host Profiles prov. Peter Wenzel	WG 9 FDI Martin Wollschlaeger	
— WG 9	— WG 9		– WG 18		
Training	Fieldbus Integration		PROFINET Security		
Dennis van Booma	Gunnar Lessmann		Franz Köbinger		
— WG 10 EDD Certification Andreas Zirkler	— WG 10 PROFINET CBA Georg Biehler		— WG 19 Train Applications Peter Just		
	— WG 11 PROFINET IO Gerhard Schweigert		— WG 20 Energy Efficiency Norbert Brousek		(h.e.e.
	— WG 12 Wireless Sensor / Actor Networks Bernd Kärcher		WG21 Remote IO for Factory Automatio Markus Donderer		re th
	WG 13 Installation Guide Karl-Heinz Niemann			group comp	

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## Commitment of the leading fieldbuses

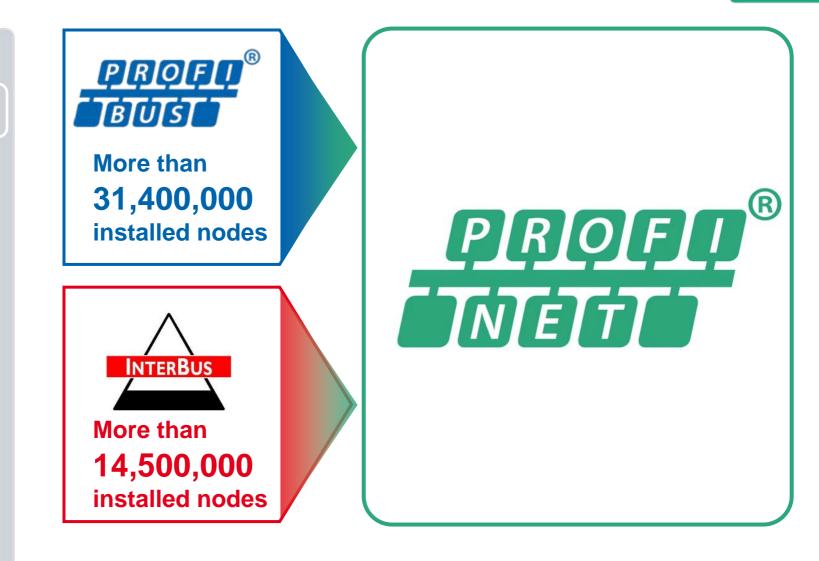
Agenda

PI Organization

**Benefits** 

Market

Conclusion





## **PROFINET** – international Standard

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Conclusion

#### Standardized

- IEC standard 61158 and 61784
- **I**SO 15745
- Based on IEEE 802.3
- Openly available specifications

## Standardized and accepted in China

To date, the only Ethernet standard with GB/Z Approval by the Standardization Administration in China (SAC)





#### **Global market access thanks to international standard**



## PROFINET – The solution for all sectors

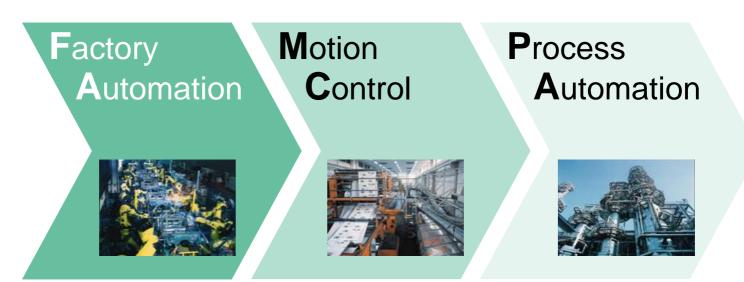
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#### The comprehensive standard

- Established in factory automation
- Proven in Motion Control applications
- Used in the process industry for inbound and outbound applications
- PROFINET in standardization for the primary process

#### One system for all applications



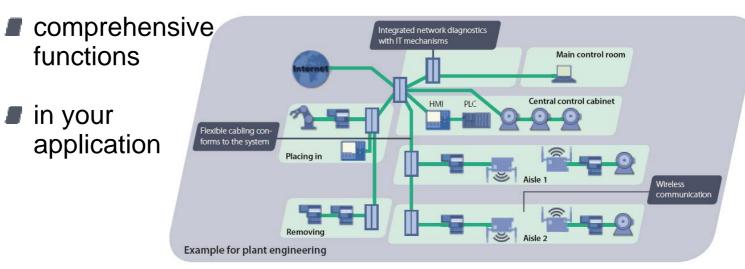
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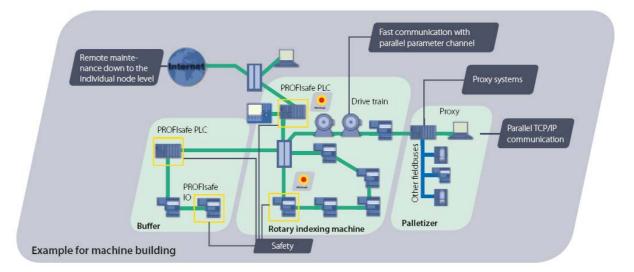
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## Made in one casting

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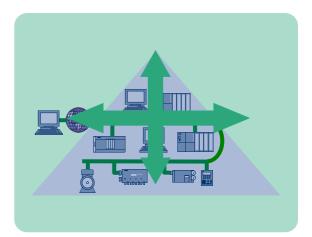
Benefits

Market

Conclusion

#### **PROFINET** the basis for...

- Seamless communication horizontally and vertically
  - Diagnostics integrated and continuous for devices and systems
  - and all independent of location





#### **PROFINET** – for more continuity (uniform structures)



### There's even more!

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PI Organization

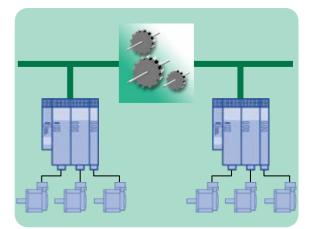
Benefits

Market

Conclusion

#### PROFINET for...

- More nodes
- Higher performance
- Better precision
- Higher output
- I ... greater performance data of your machine or plant





#### **PROFINET – for more nodes and better performance**



### On the safe side

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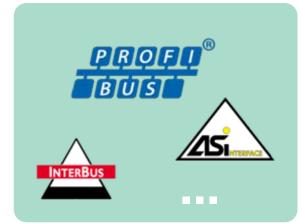
Benefits

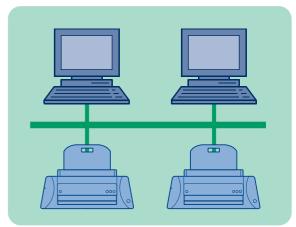
Market

Conclusion

# PROFINET protects the investment you have made, such as...

- Acquired automation components
  - Installed fieldbus systems
- Already installed Ethernets
- while enabling you...
- To continue using existing knowledge and tools easily





#### **PROFINET** – the seamless integration of existing system



### Overcome the usual restrictions

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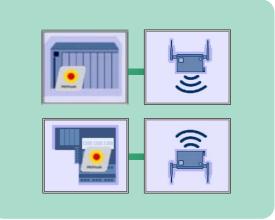
Benefits

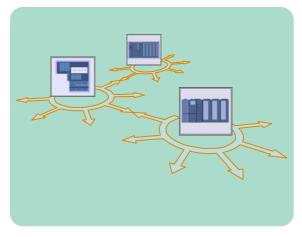
Market

Conclusion

#### with **PROFINET** you can...

- Automate on a wireless and at the same time failsafe basis
- Synchronize intelligent drive technology
- Structure your production on a distributed and intelligent basis
- ... and much, much more!





# **PROFINET** enables you to have new, innovative applications

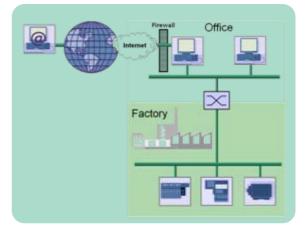


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#### **PROFINET...**

- Agenda
- PI Organization
- Benefits
- Market
- Conclusion

- Using IT functions without limitations
- One system for all applications – accepted and supported worldwide
- Multi-vendor system
- ... without compromises!





#### **PROFINET** enables you the use of open standards



#### **PROFINET...**

Agenda

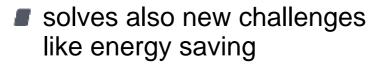
PI Organization

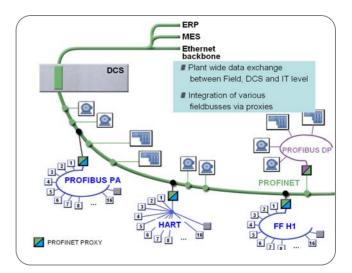
Benefits

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Conclusion

covers all technical requirements also of the process industry









## Experience new dimensions in Automation

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PI Organization

Benefits

Market

Conclusion

**PROFINET** offers ...

... more continuity and uniform structures

... more nodes and better performance

... seamless integration of existing systems

... new, innovative applications

### ... continuous enhancements



## Who uses or supports **PROFINET**

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PI Organization

**Benefits** 

Market

Conclusion





#### and many more...



#### PROFINET – high acceptance level among leading users

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PI Organization

**Benefits** 

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PROFIBUS Nutzerorganisation e.V. Karlsruhe

November 2004

Press release on SPS/ IPC/ DRIVES

The German automobile manufacturers

- AUDLAG
- BMW AG
- DaimlerChrysler AG for Mercedes Car Group assembly plants (Standard Integra MCG), and
- Volkswagen AG for the Volkswagen brand

have agreed on a joint procedure regarding the Industrial Ethernet issue.

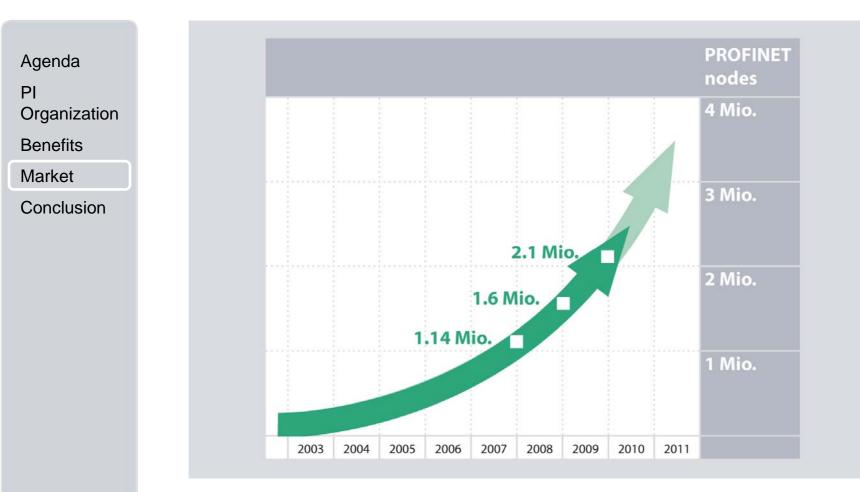
In future, the PROFINET protocol standard with integrated personal safety will be used.

The aim is simple and uniform link-up of the automation components used.

#### Safety through accepted and proven technology



## **PROFINET** nodes



# In difficult economic climate 10 % greater sales compared to 2008



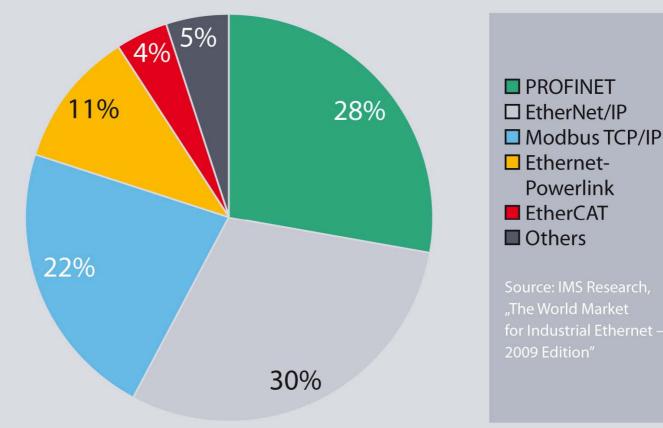
## **IMS** Research estimates top position

Agenda ΡI Organization

**Benefits** 

Market

Conclusion



2009 Edition"

#### **IMS Research forecast for PROFINET: +8.7%**



## New: Energy saving with PROFIenergy

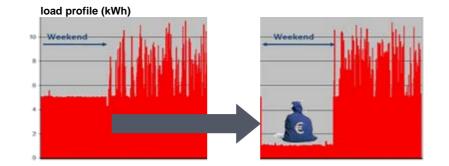
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PI Organization

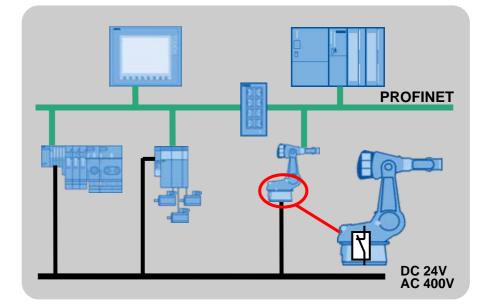
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#### **PROFINET** – innovative and user-oriented



## What is **PROFINET**?

