

# Welcome to PHOENIX CONTACT

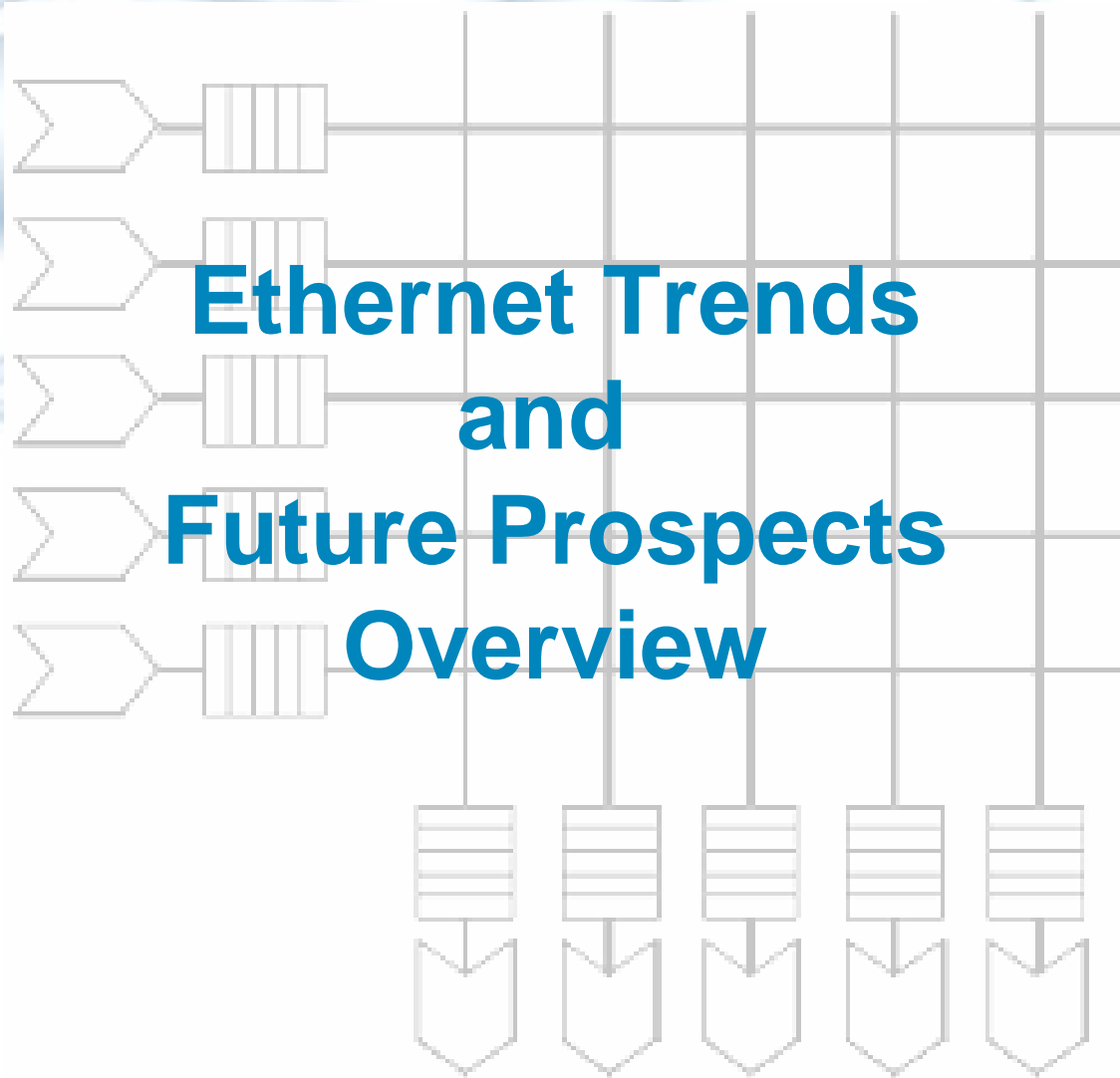
## IT powered Automation

谢谢邀请

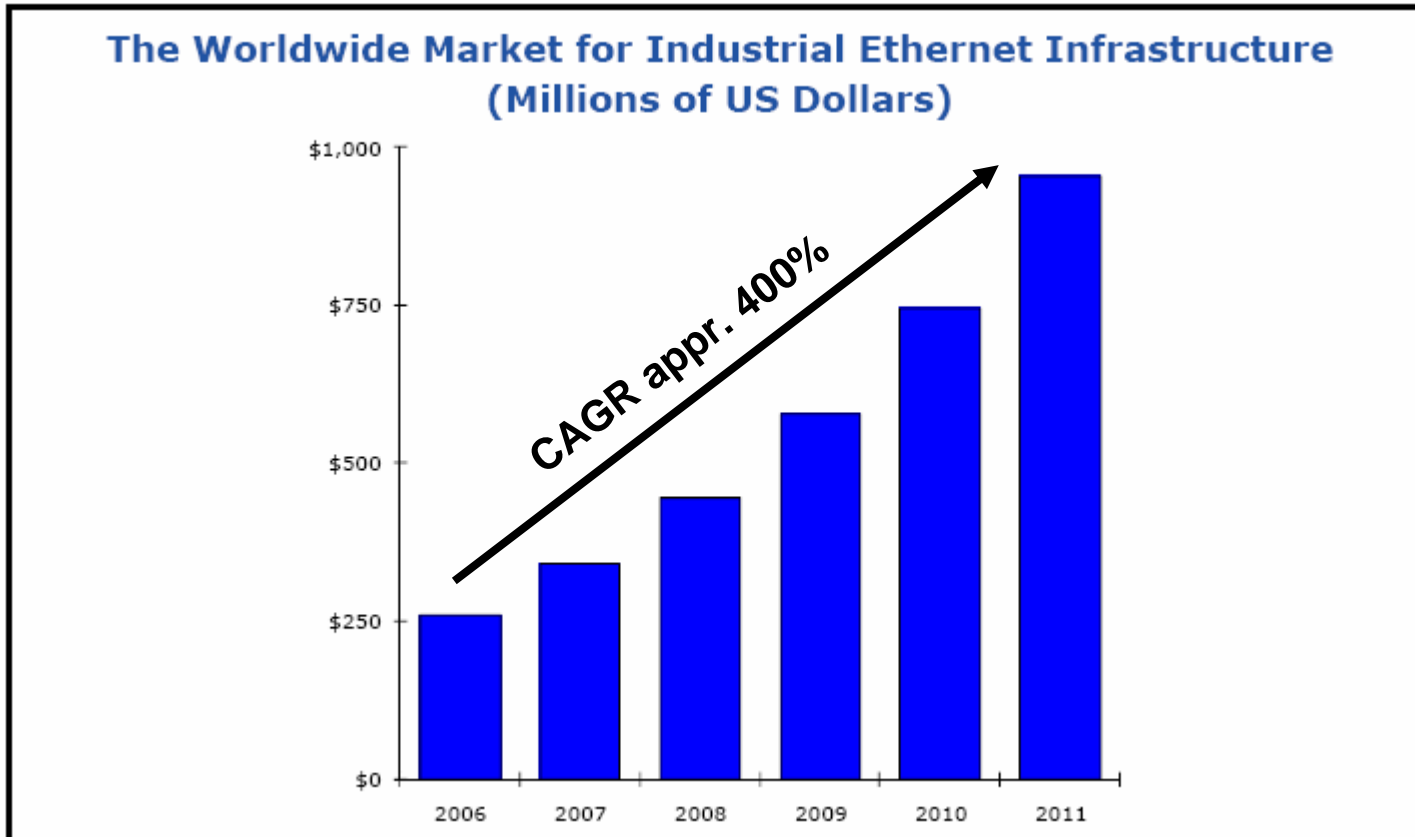
**Ingolf Sieslack**  
**International Sales**  
**AUTOMATION SYSTEM**



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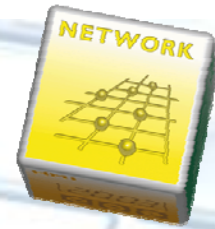


# IT powered Automation Industrial Ethernet Infrastructure Worldwide

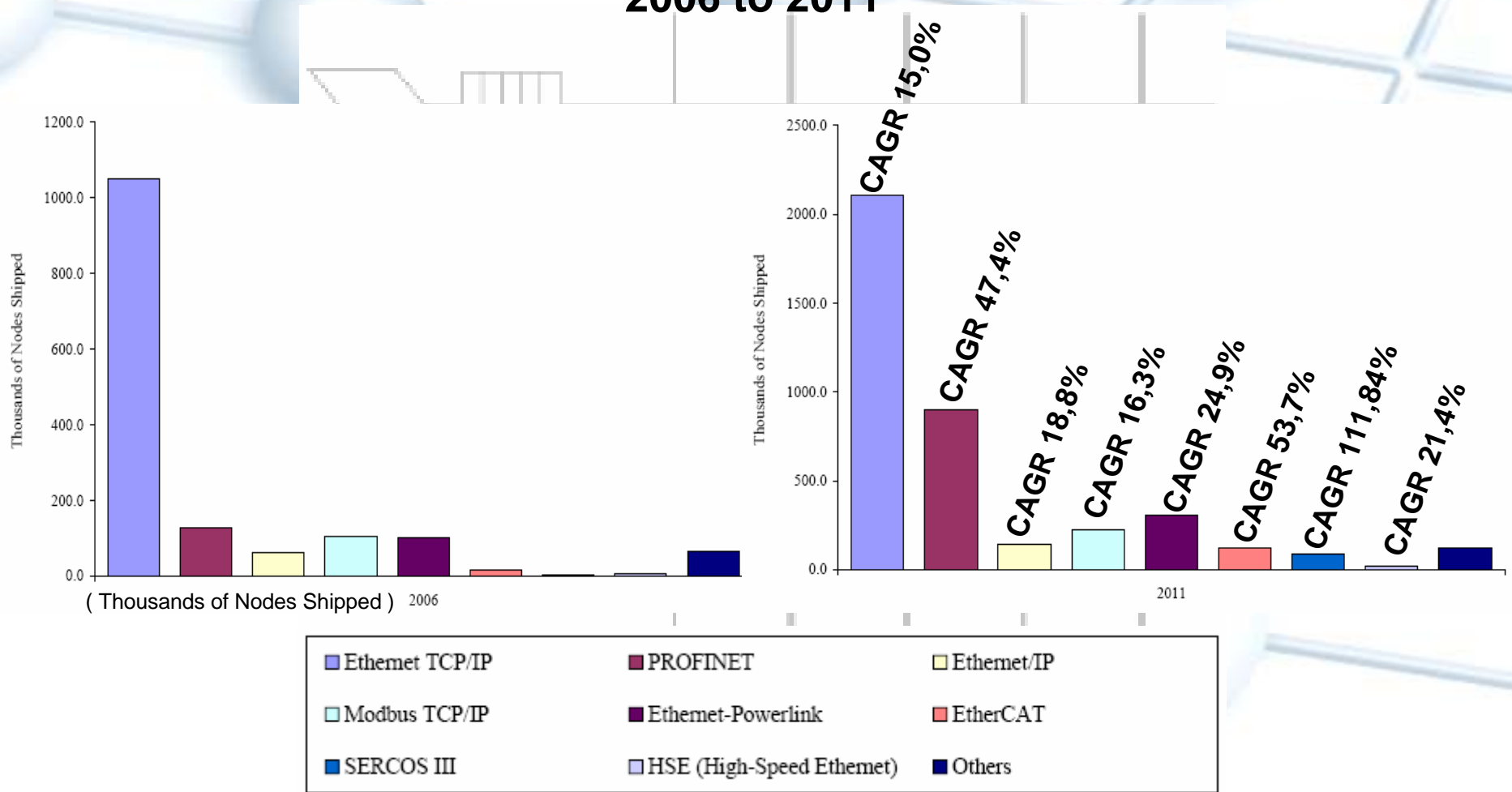


Source ARC market study 2007

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## The EMEA Industrial Ethernet Installed Base by Variant 2006 to 2011



Source IMS Research 2007



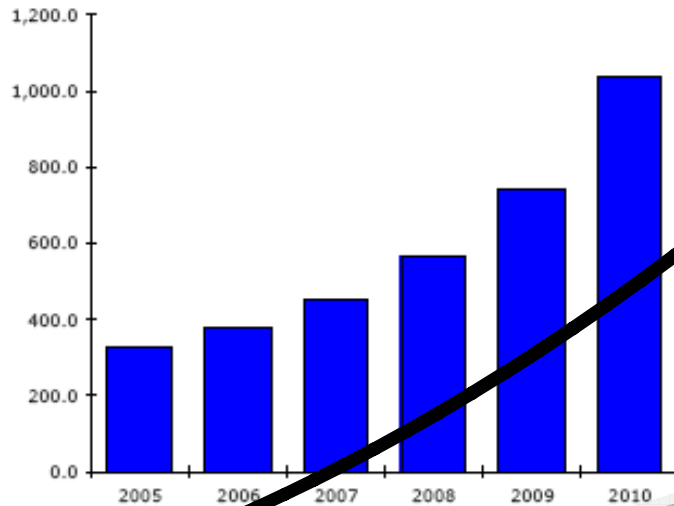
# IT powered Automation Industrial Wireless Market



## Wireless Technology in Process Manufacturing Outlook

FIVE YEAR MARKET ANALYSIS AND TECHNOLOGY FORECAST THROUGH 2010

Market Forecast for Wireless Hardware, Software, and Services  
(Millions of Dollars)



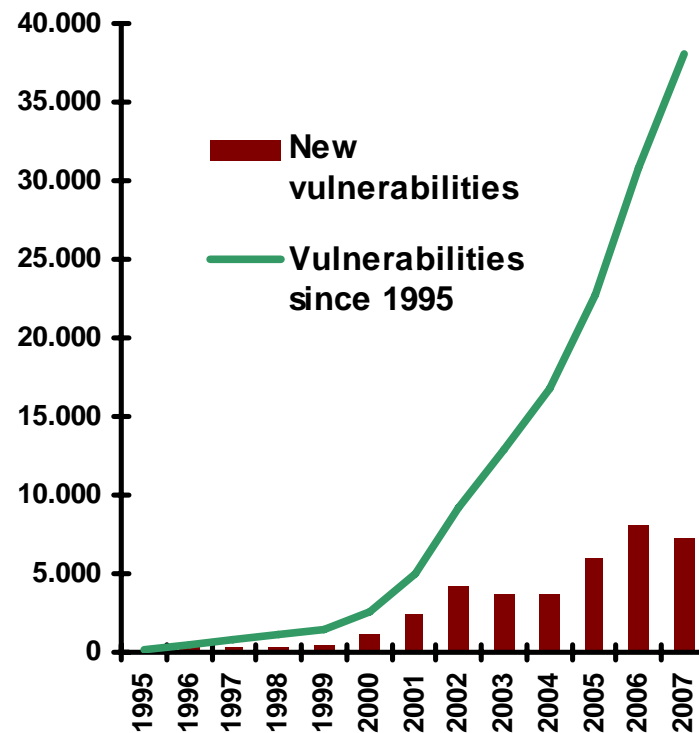
**INDUSTRIAL  
WIRELESS**

■ Industrial automation wireless North America (\$28M)  
28.1% CAGR over the next 5 years, Source IMS Research

# IT powered Automation Industrial network security is a real and growing imperative today

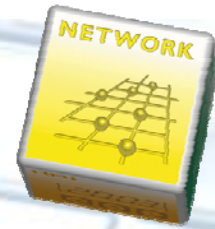


- Deployment of Industrial Ethernet growing at 50% per year
- Increasing use of standard IT components in the industrial environment
- Systems become more open for integration but also for damage
- Vulnerabilities spread from office IT to the shop floor
- Several thousand vulnerabilities and exploits reported each year



Source: CERT

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## "Data storm" blamed for nuclear-plant shutdown

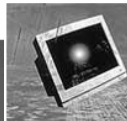
Robert Lemos, SecurityFocus 2007-05-18

The U.S. House of Representative's Committee on Homeland Security called this week for the Nuclear Regulatory Commission (NRC) to further investigate the cause of excessive network traffic that shut down an Alabama nuclear plant.

During the incident, which happened last August at Unit 3 of the Browns Ferry nuclear power plant, operators manually shut down the reactor after two water recirculation pumps failed. The recirculation pumps control the flow of water through the reactor, and thus the power output of boiling-



If yo



## Cyber security breach: Hole Found in Protocol Handling Vital National Infrastructure

Date: December 24, 2005  
Source: isa.org  
By: BOB FELTON

Systems that control dams, oil refineries, railroads and nuclear power plants have a

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Cyber security breaches threaten, smarter factories and processes emerge, consulting business booms, and engineering talent base shrinks.

## Cyber security remains vulnerable

The electronic security of manufacturing systems has already become a global issue, with more than 100 documented instances of cyber events that affected, or could have affected, process control. And because few companies willingly disclose breaches of security, experts believe the actual number is much higher.

- \* In Australia, a disgruntled contractor remotely arranged the release of one million liters of raw sewage into adjoining waterways.
- \* In Tempe, Ariz., an intruder gained access to the Salt River Project system, disrupting delivery of power and water to utility customers and stealing account information, including financial data.
- \* Iranian hackers entered Israel Electric Corp.'s controls in 2003 and repeatedly attempted to disrupt that nation's power supply.
- \* Hackers disabled vital PLCs during the Venezuelan general strike of 2002, closing that country's main port.



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## Security

## Zotob, PnP Worms Slam 13 DaimlerChrysler Plants

By Paul F. Roberts  
August 18, 2005

"....penetration test locked up the SCADA system and the utility was not able to send gas through its pipelines for four hours...."

- Sandia National Labs, US [2005]

A round of Internet worm infections knocked 13 of DaimlerChrysler's U.S. auto manufacturing plants offline for almost an hour this week, stranding some 50,000 auto workers as infected Microsoft Windows systems were patched, a company spokesperson told eWEEK.

Plants in Illinois, Indiana, Wisconsin, Ohio, Delaware and Michigan were knocked offline at around 3:00 PM on Tuesday, stopping vehicle production at those plants for up to 50 minutes, according to spokesperson Dave Elshoff.

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Published: 07:03 EST, March 25, 2007



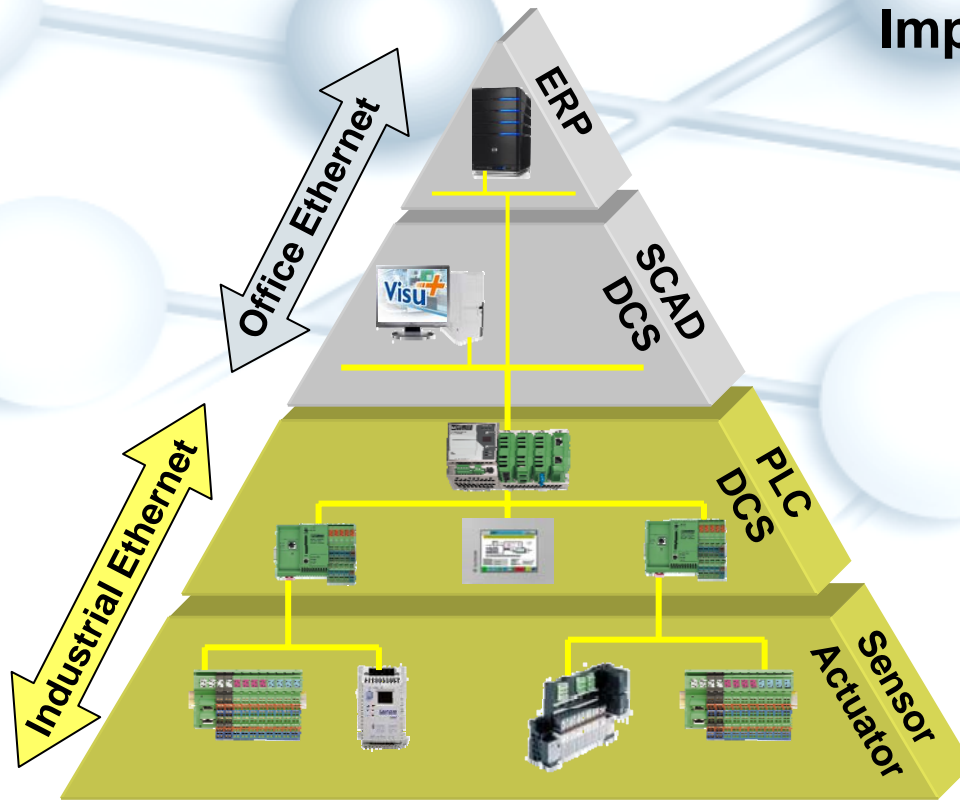
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## Challenge on the industrial network



### Important Criteria:

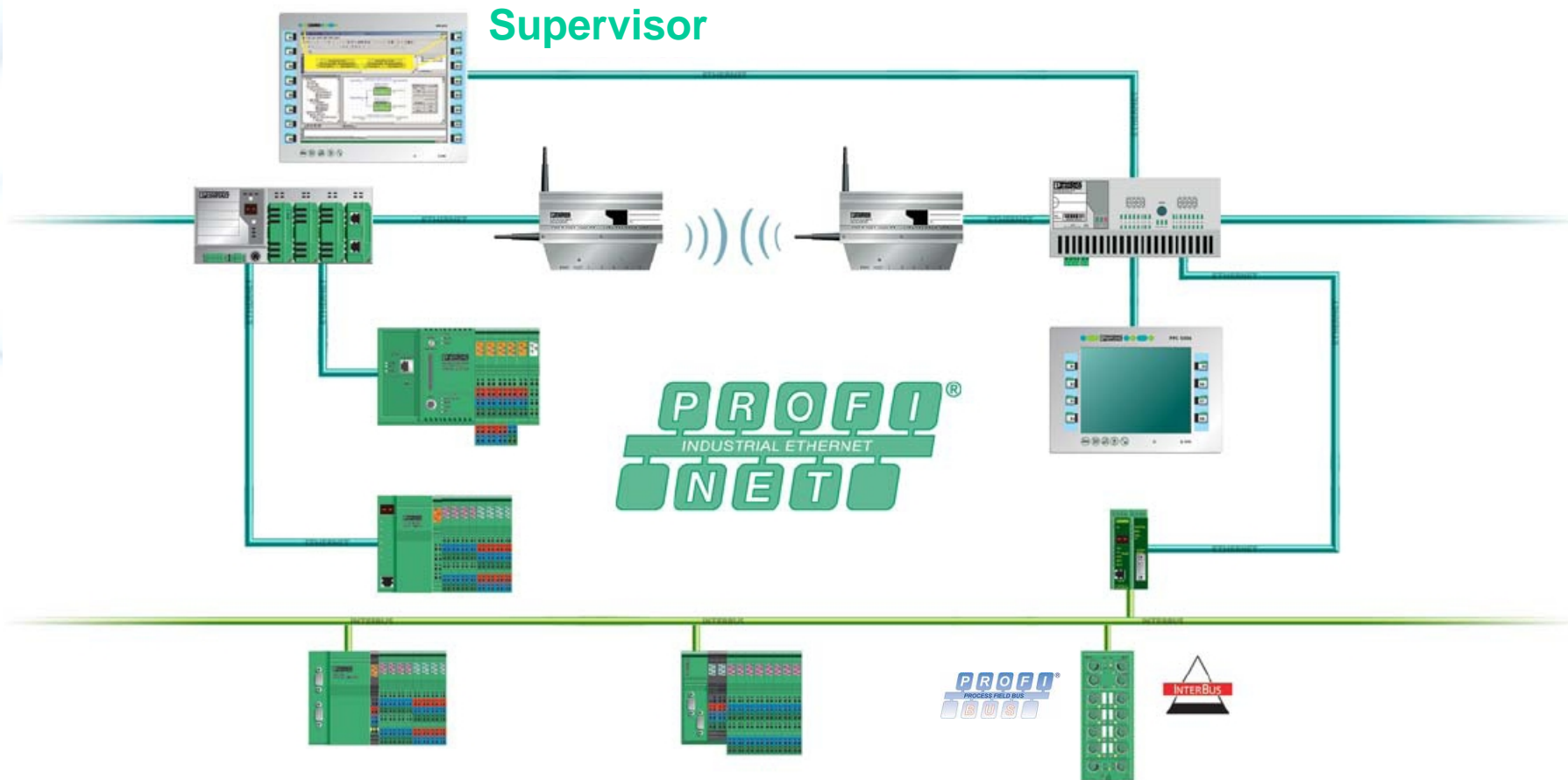
- Vertical integration
- Standardized communication
- Realtime capability
- Scalability (speed/device)
- Cost reduction due to standards
- Extensive diagnostic capabilities
- Multimaster capability
- Availability (redundancy)
- Availability (security)
- Distribution (innovation)



**Vertical integration with Ethernet  
for all the industries worldwide**



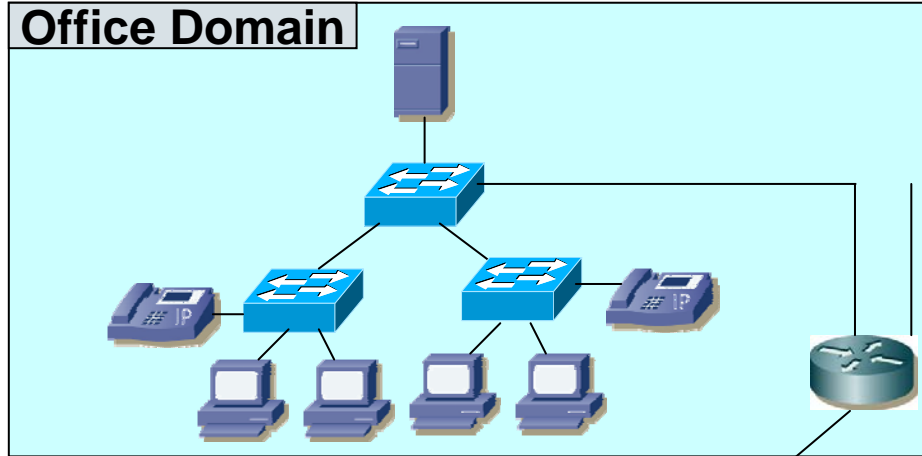
# IT powerd Automation PROFINET Industrial Standard



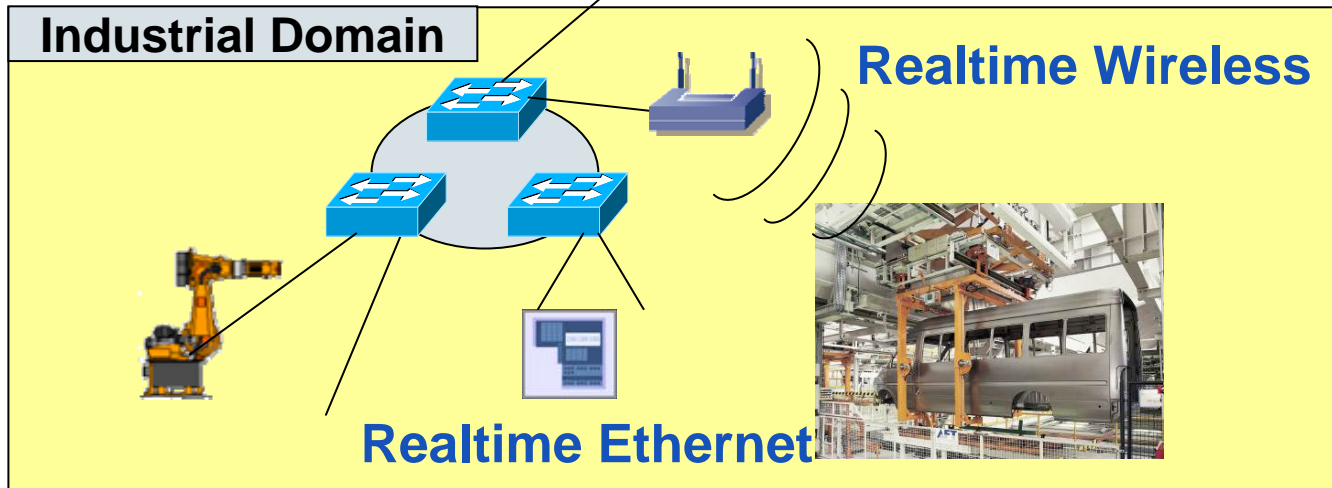
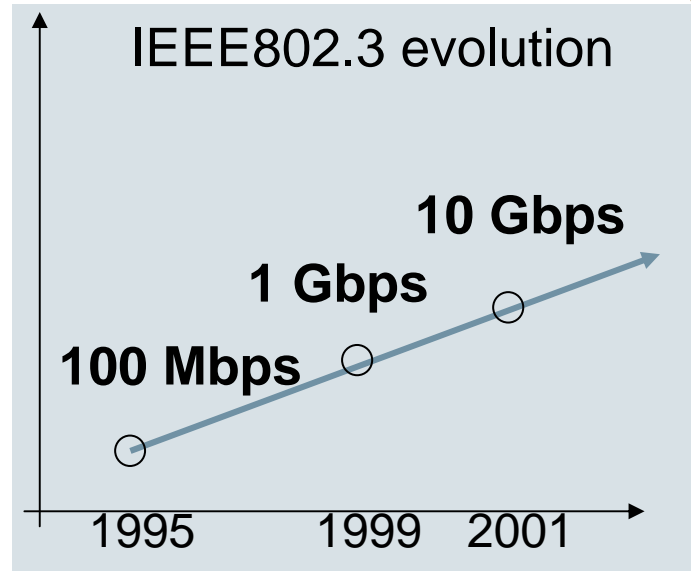
**PROFINET is the link between NRT – RT – IRT based on Ethernet**

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## Motivation



bit rate



**inTT** Institut  
Industrial IT  
[www.init-owl.de](http://www.init-owl.de)



Thank you  
for your attention

谢谢关注

*IT-powered*  
**AUTOMATION**

*We bring you up to speed!*