



# **Intelligent Networked Manufacturing - Ethernet to the Factory**

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Business Development Manager

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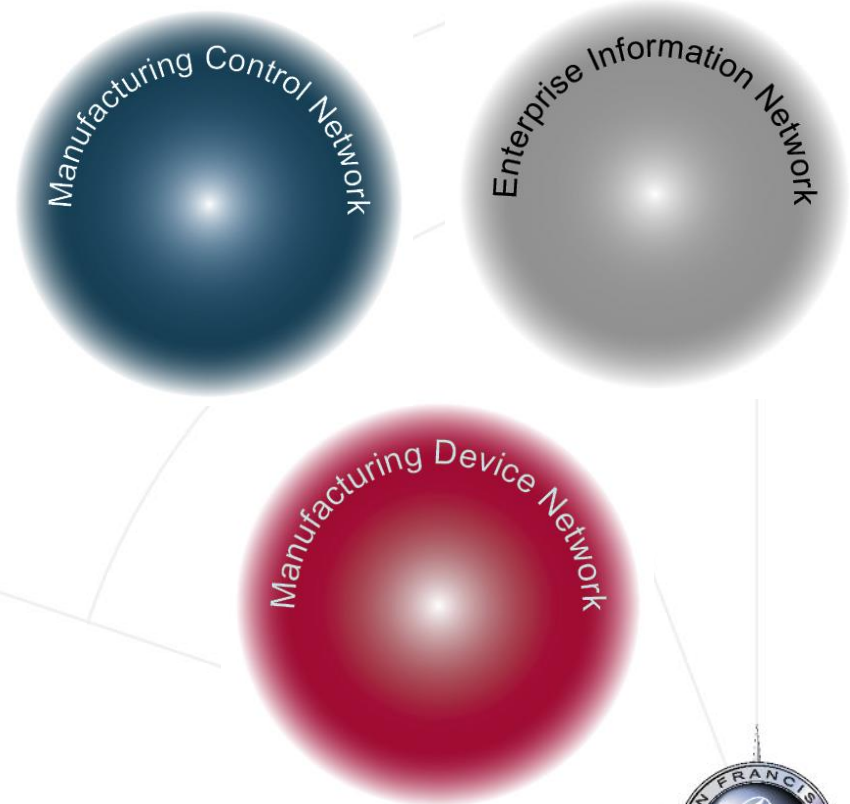
**CISCO SYSTEMS**



# Ethernet to the Factory Moves Manufacturers From Today's Environment ...

- Siloed information
- Limited visibility
- Build-to-stock
- Non-utilised IT assets
- Limited scalability
- Security risks

## Current Manufacturing Network Reality

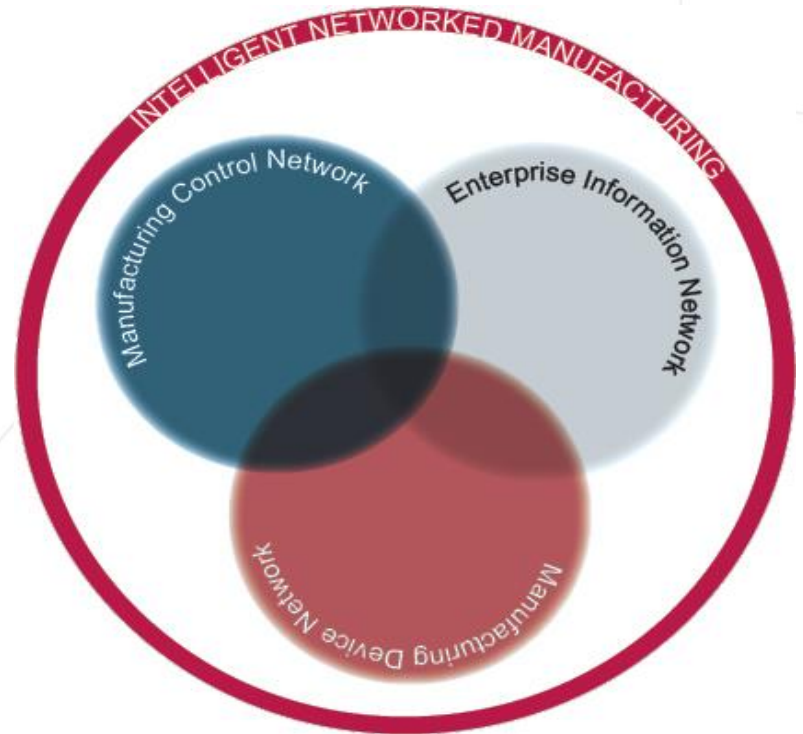


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## ... to Intelligent Networked Manufacturing

- Automated processes
- Real-time information
- Built-to-order
- Enterprise-wide visibility
- Cost efficiencies
- Highly flexible and secure



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# Agenda

- Cisco Intelligent Networked Manufacturing
- Cisco Ethernet to the Factory
- Real-Life Examples
- Products behind the Solution Cisco and OS/soft
- Lifecycle Services Enabling EttF

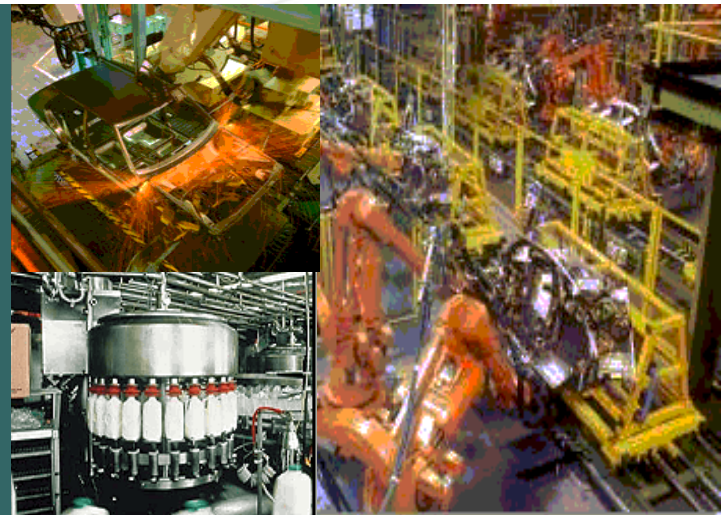


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# Cisco Intelligent Networked Manufacturing (INM)

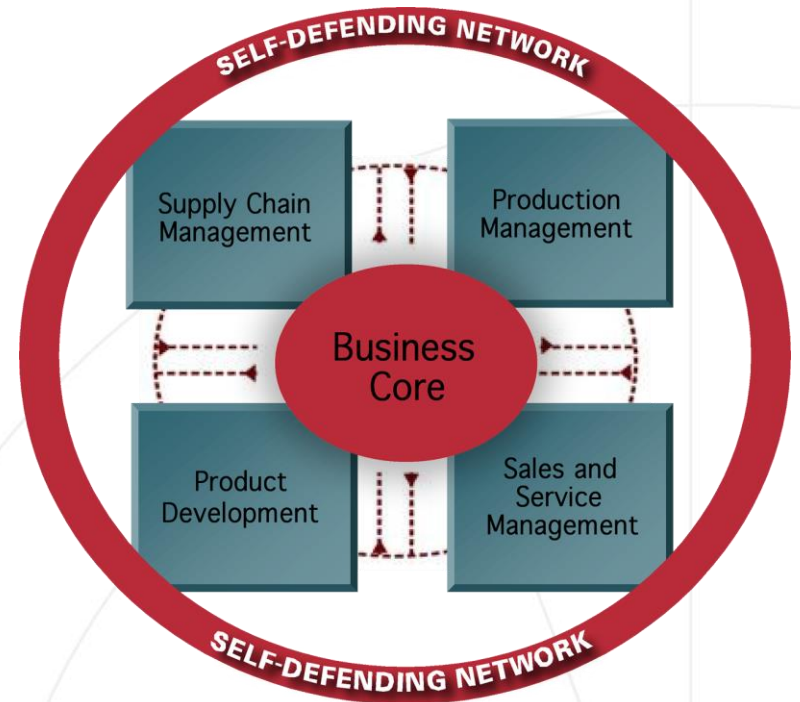


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# Cisco Intelligent Networked Manufacturing

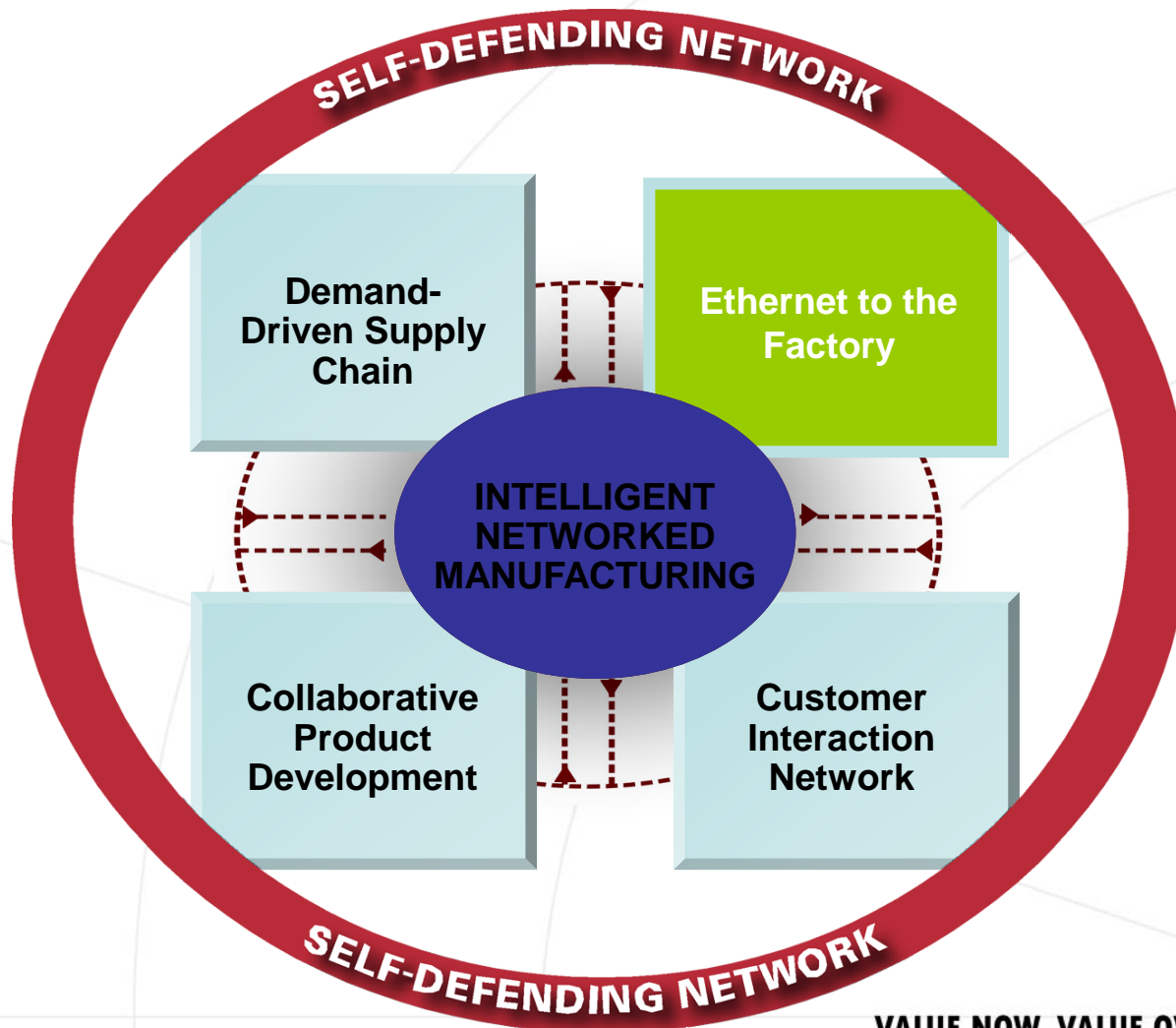
- Enables **COLLABORATION**
- Provides **VISIBILITY**
- Introduces **FLEXIBILITY**



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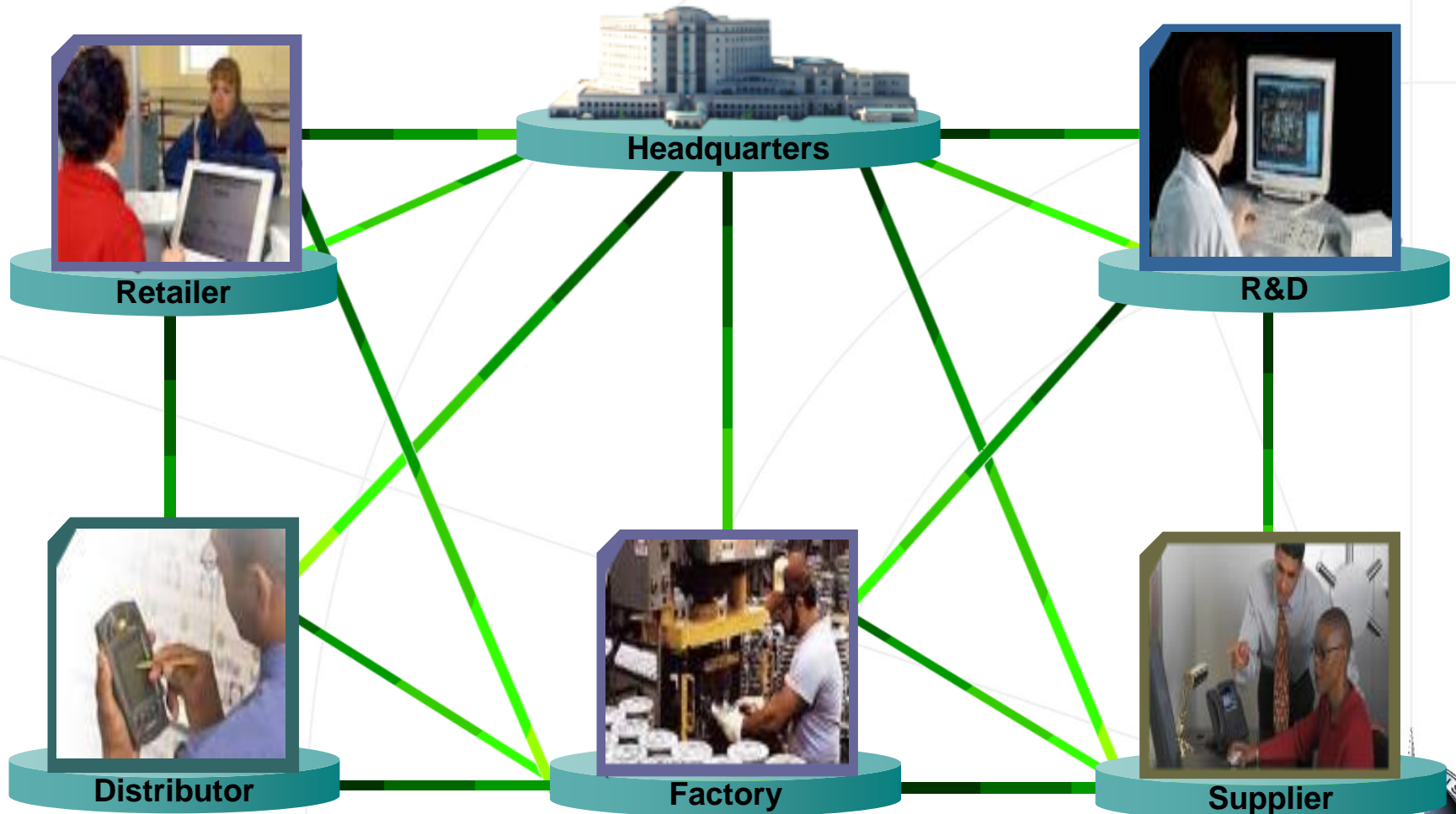
# Cisco – INM Building Blocks



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# Intelligent Networked Manufacturing in Action

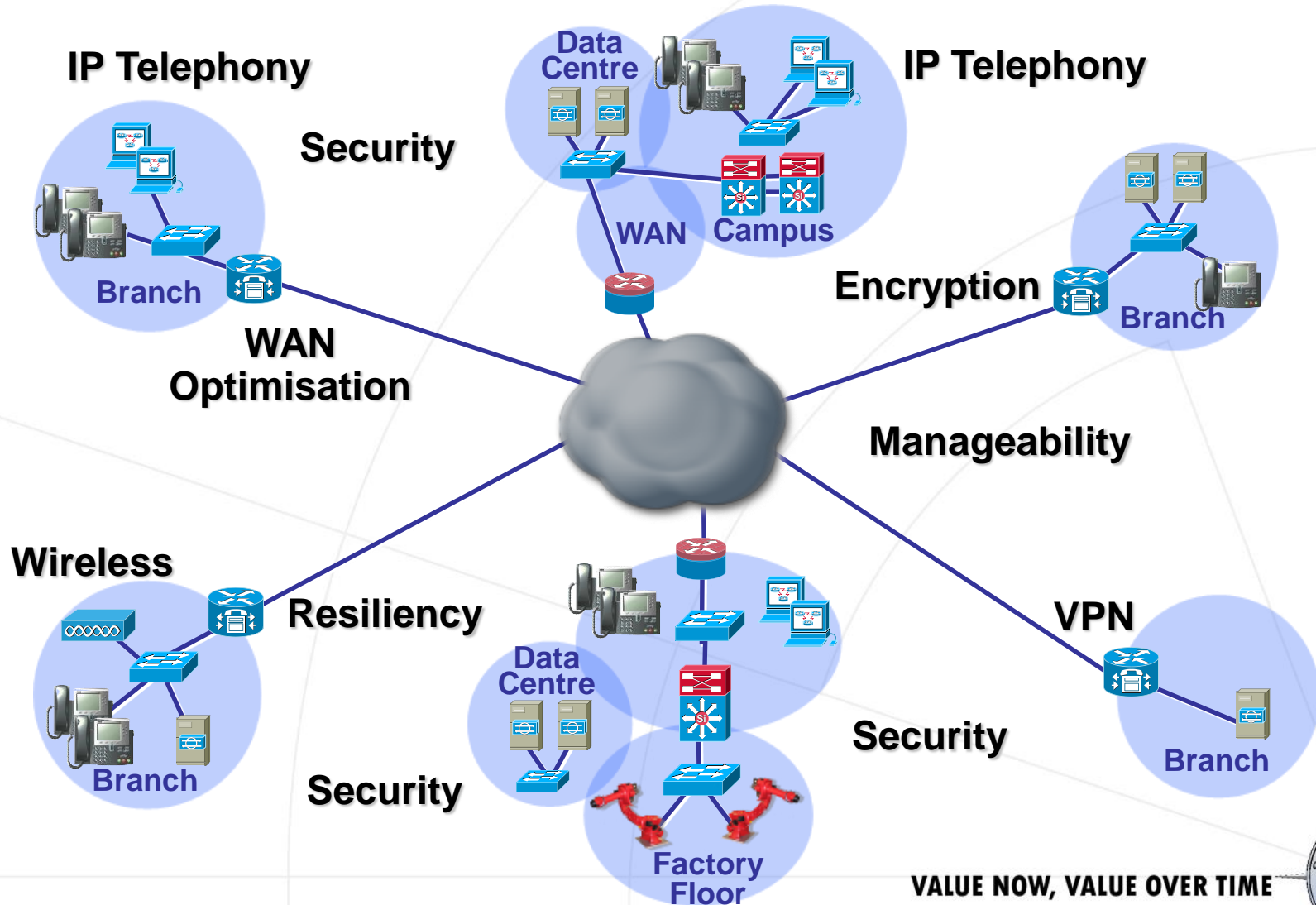


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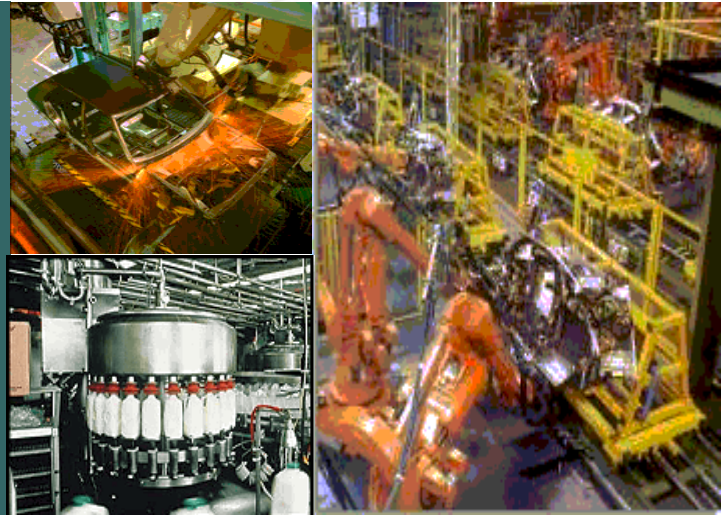
# Complete Solution from a Single Vendor



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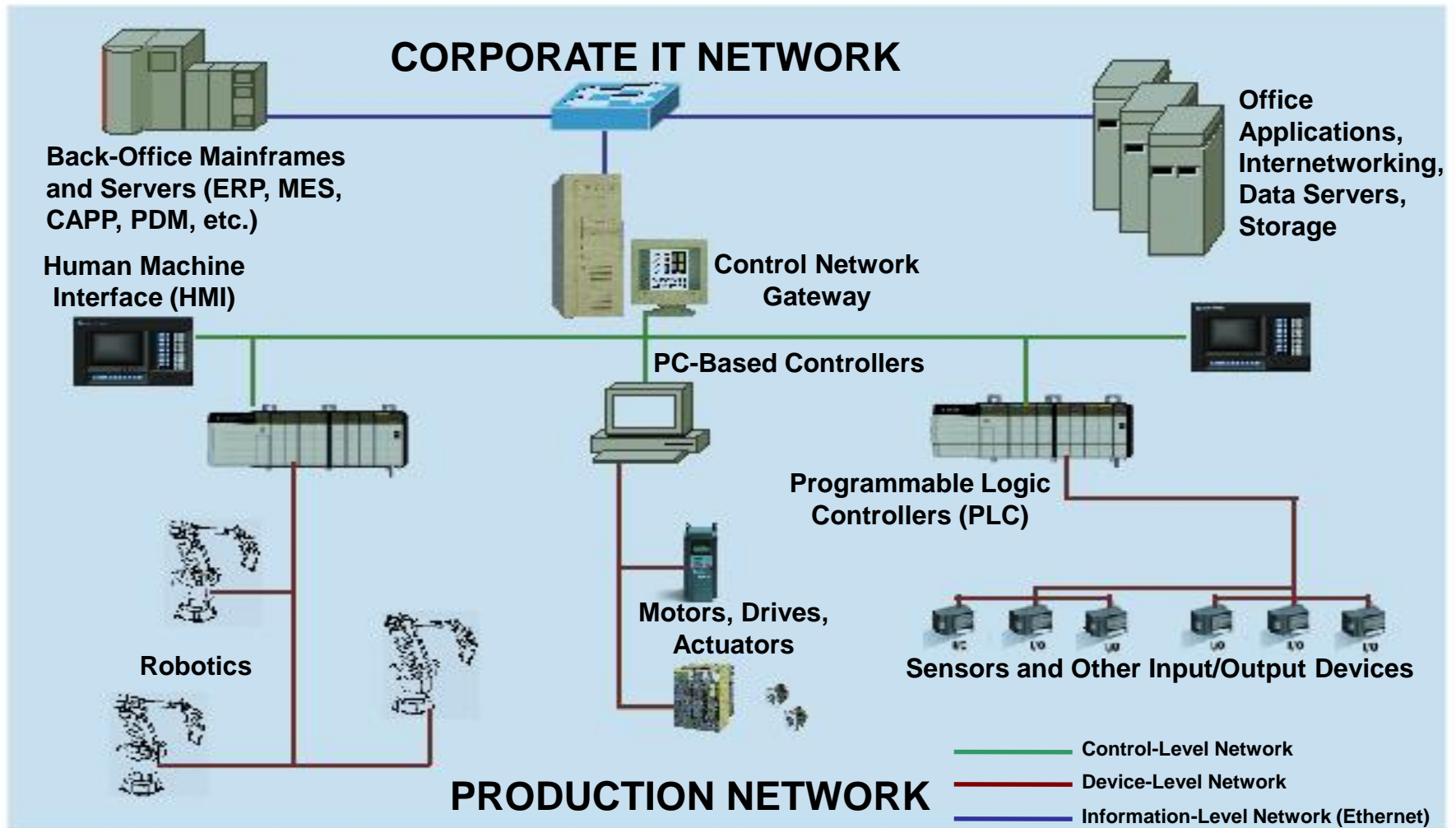
# Cisco Ethernet to the Factory



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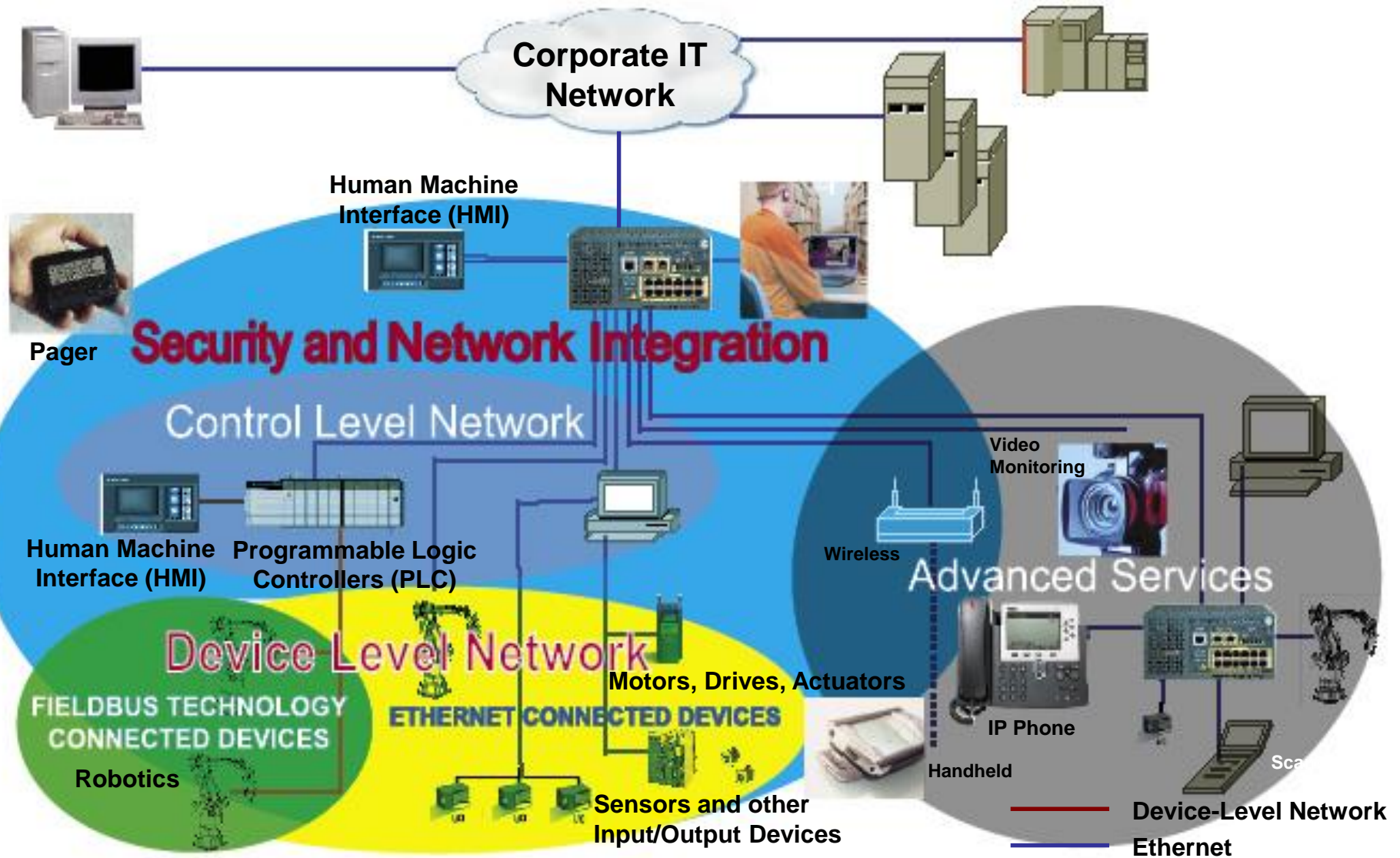


# Traditional Manufacturing Networks





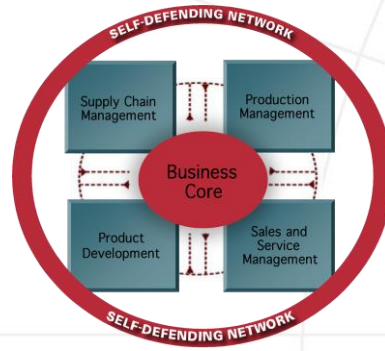
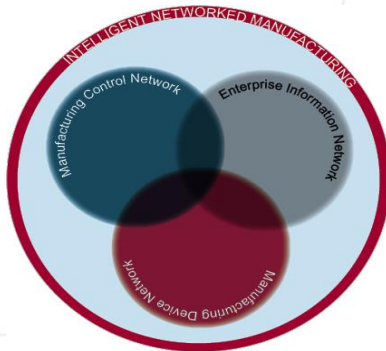
# A Converged Network – at Your Pace





# Ethernet to the Factory Benefits

- Promotes efficiency through enterprise-wide integration
- Protects the production network
- Supports workforce mobility and collaboration
- Protects your investment
- Reduces costs



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# Security Concerns

- Threats from multiple network locations
- A variety of vulnerabilities
- No single solution works all the time
- Best practice requires defence-in-depth

## Cisco Self Defending Network

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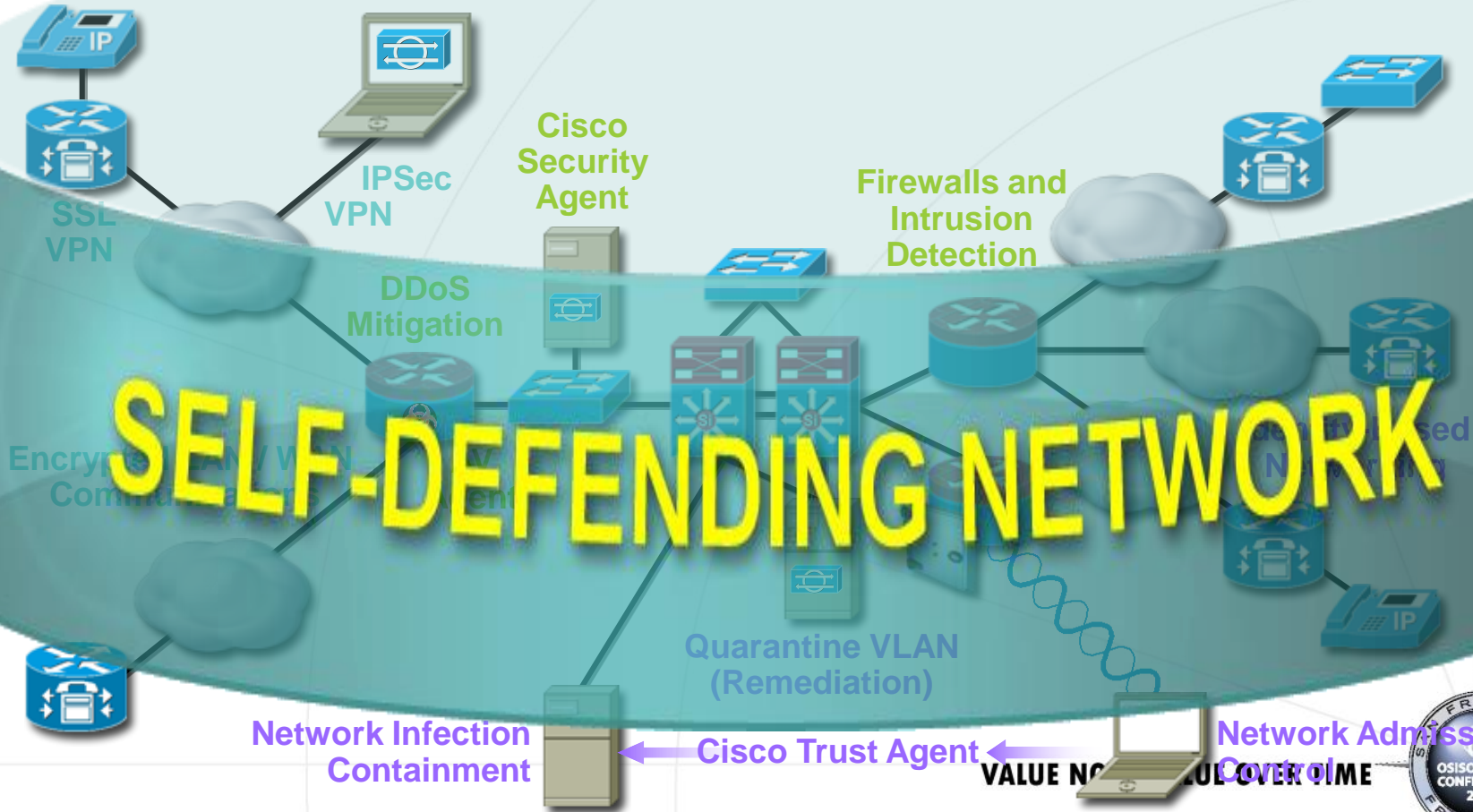


# IIN Security Architecture

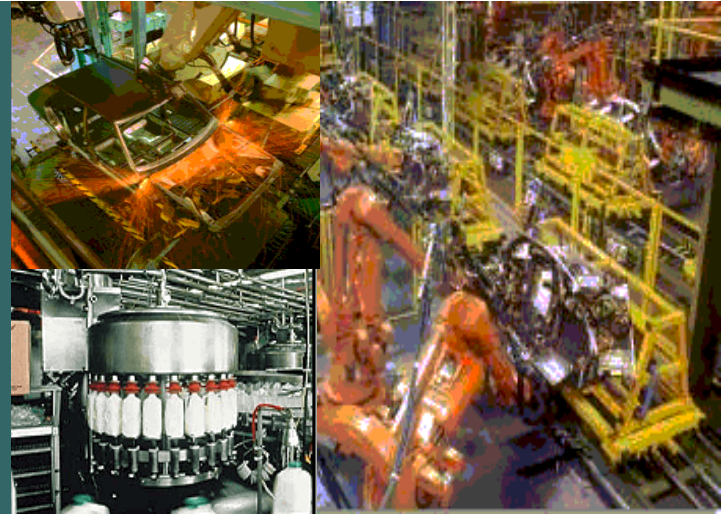
SECURE  
CONNECTIVITY

THREAT  
DEFENCE

TRUST AND  
IDENTITY



# Real-Life Examples

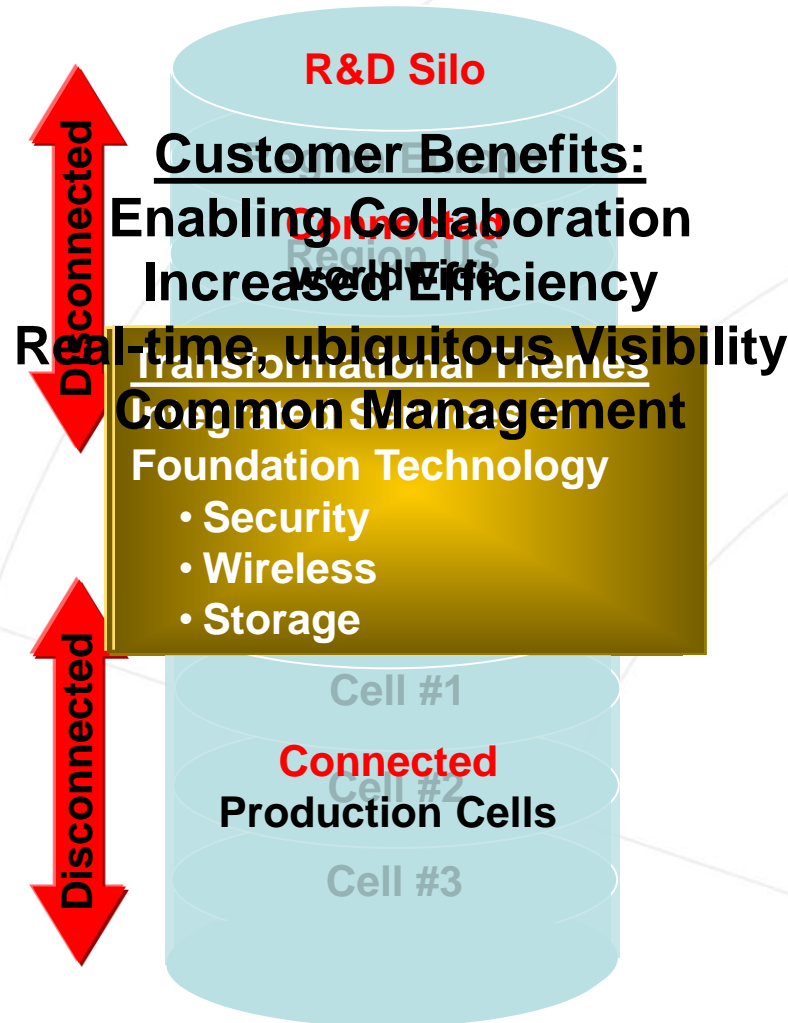


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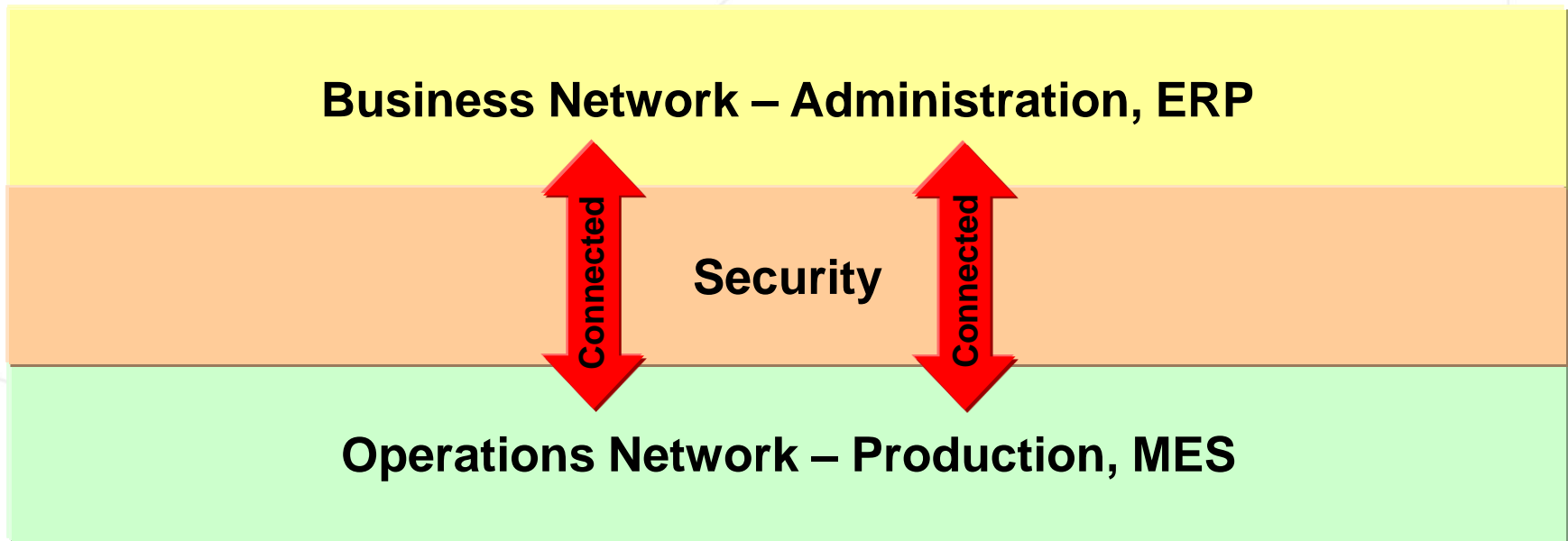
# Case Study: Semi Conductor



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# Case Study: Security



## Key Drivers for Integration

- Process Integration
- Visibility

## Transformational Theme

- Security

## Customer Benefits:

Increased Visibility and Flexibility  
Cost reduction

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# Efficient Manufacturing in Action



**Sequential production** steps throughout physical car production

## Key Drivers for Integration

- Process optimization
- Cost reduction

## Network Enabled

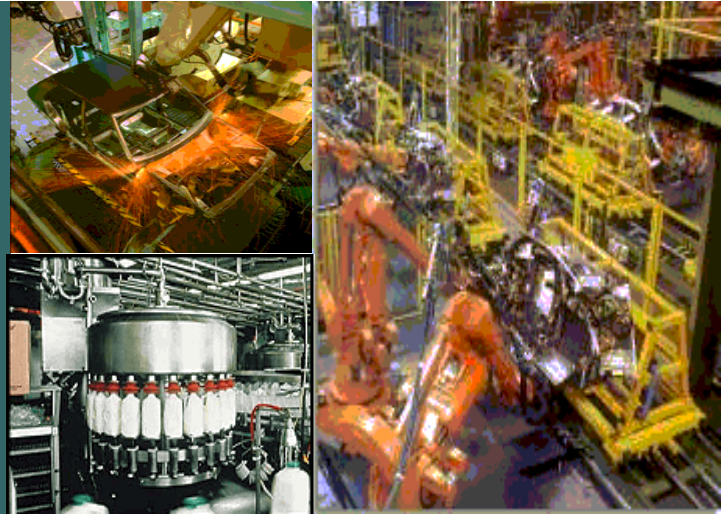


**Flashing of software in parallel** in production physical car production  
due to time required for downloading huge amounts of software (up to 800MB today, expected to grow to 2GB over next years)  
• Huge cost reduction (estimated 5% - 10% reduction of production time)  
• Quality improvement (checks)



# Products Behind the Solution

## Cisco and OSIsoft



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# Breadth of Product Portfolio

**CISCO AIRONET® /  
AIROSPACE SERIES**  
Reliable wireless  
IP connectivity



**CISCO UNIFIED IP PHONE  
(Wired/Wireless)**  
Voice over IP solution for  
Cisco certified partners



**CISCO SECURE AGENT**  
Self-defending networks



**CISCO® ISR products**  
Integrated Services Router



**INTELLIGENT NETWORKED MANUFACTURING**

**CISCO PIX® FIREWALL**  
Robust security appliance to  
alleviate vulnerability concerns



**CATALYST 2940  
ETHERNET SWITCHES**  
Control system connectivity

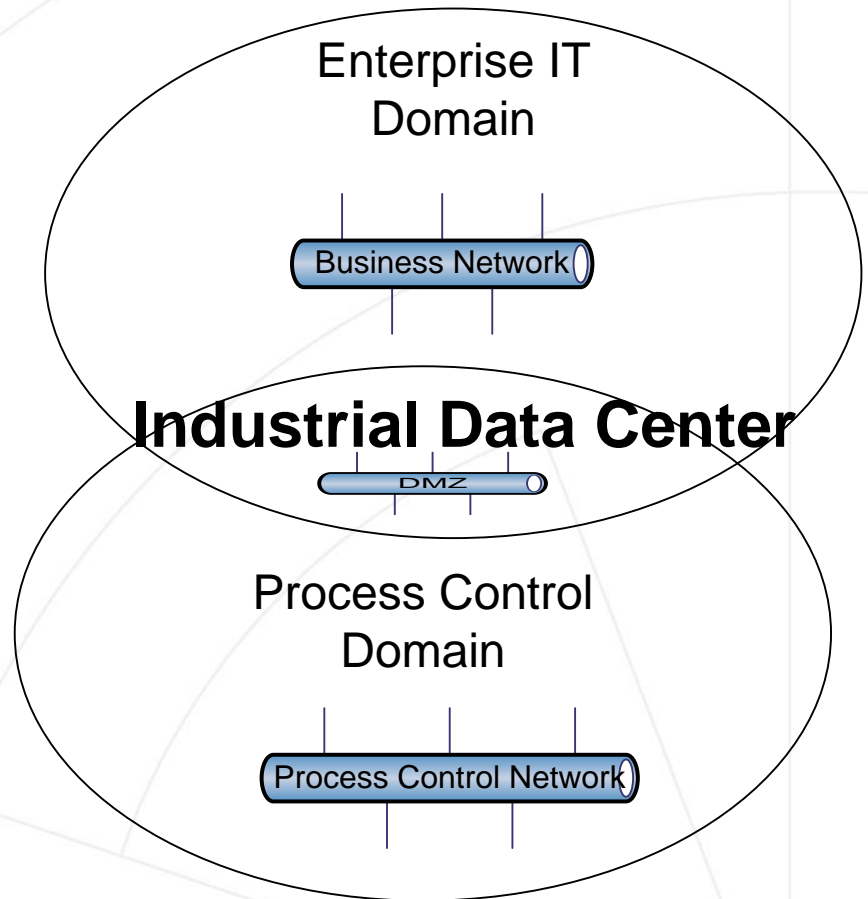


**CATALYST 2955 INDUSTRIAL  
ETHERNET SWITCHES**  
Industrial-grade connectivity for  
plant floor applications



# Bridging the Gap with Cisco and OSIsoft

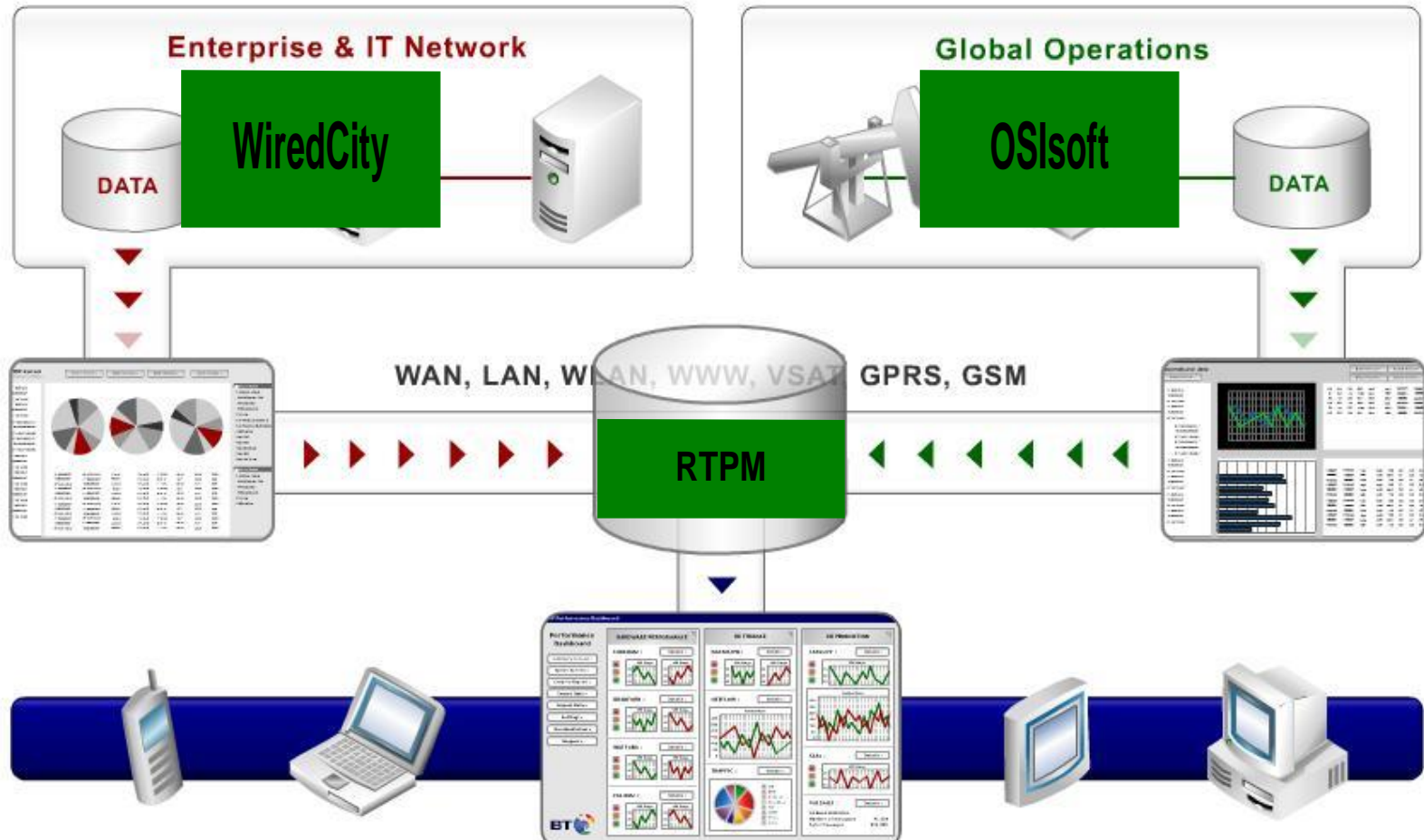
- Secure Data Link between Information Network and Control Systems
- Isolate/Protect/Secure PCN Data and Devices
- Timely and Appropriate Response to Incidents
- Enterprise and Regulatory Security Policy Compliance
- Allows introduction of advanced technology
- Reduce operation expenses
- Adheres to Enterprise IT management policy



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# Hybrid Networks- Cisco INM



A single integrated real-time 'business driven' dashboard

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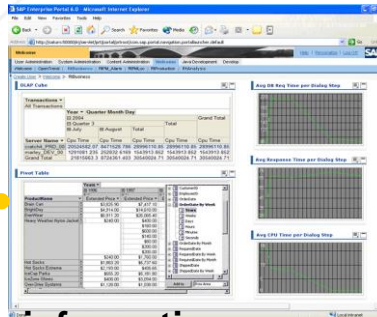
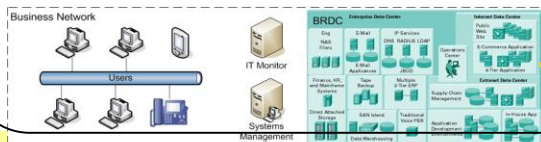




# Real-Time Enterprise (RTE)

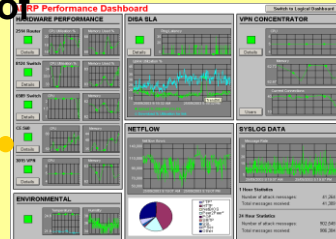
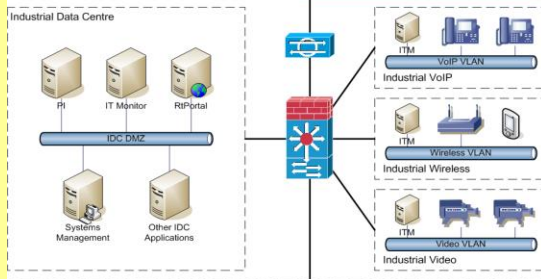
*overcoming role-based challenges,  
converged networks (IT and Operations)*

Reducing operational costs, ensuring  
business continuity

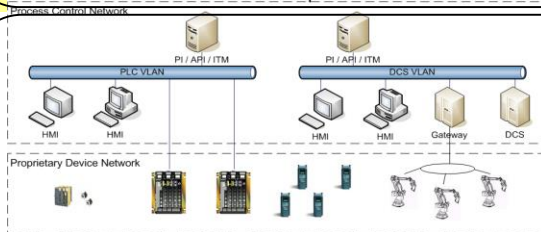


Secure information

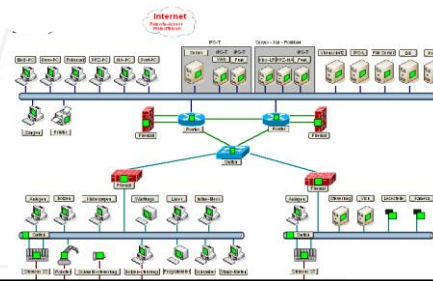
sharing and visibility of  
PCN & Business  
Networks



Industrial  
Data  
Center



Real-time visibility for real-time  
troubleshooting

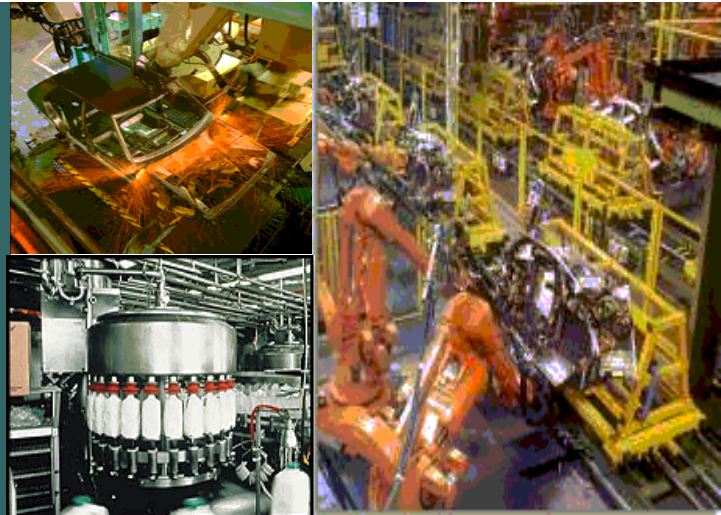


OVER TIME





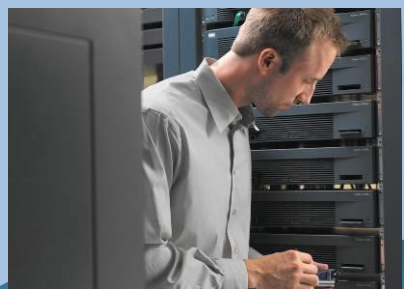
# Lifecycle Services Enabling Ethernet to the Factory



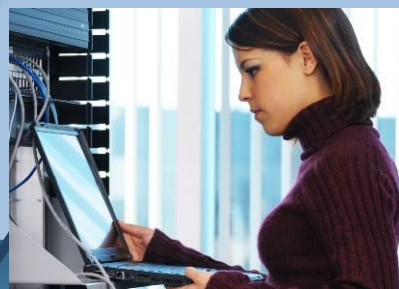
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# Businesses Need Networks to . . .



Evolve from  
Connectivity to  
Intelligent Systems



Participate Actively  
in Delivery of  
Applications and  
Network Services



Provide the  
Foundation for  
Transforming  
Business Processes

**The Network Touches Everything**

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# Cisco Services for EttF

Business  
Goal  
Alignment

**Factory Integration Assessment**

Successful  
Implementation

**Implementation Support Service**

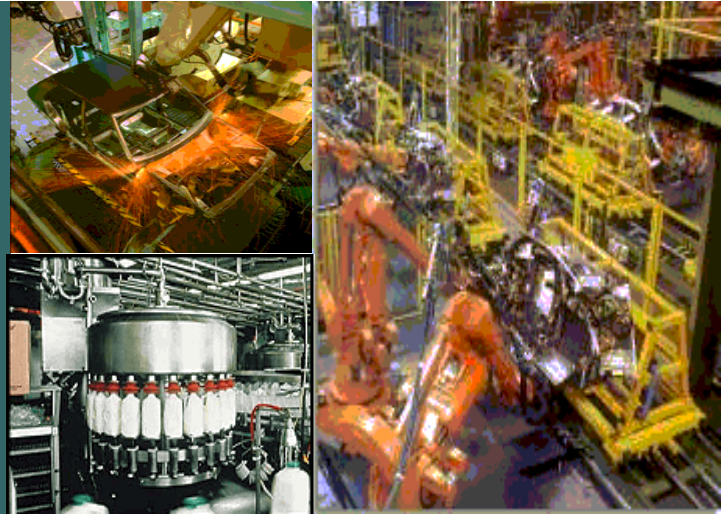
Successful  
Operation

**Infrastructure Assurance Service**

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# Summary



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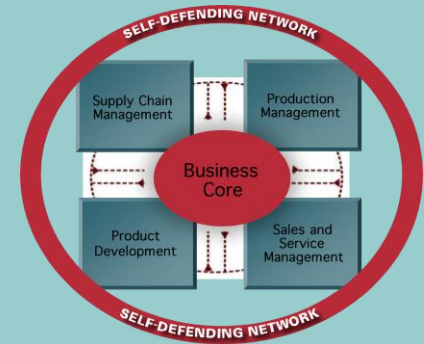
# Summary

- **Intelligent Networked Manufacturing**
  - Integrates applications
  - Creates an extended organisation
  - Increases visibility and flexibility throughout the value chain
- **Ethernet to the Factory**

Is the foundation for INM

Addresses plant managers' key concerns
- **Cisco is uniquely positioned**

To make INM a reality



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**Thank you very much for your time and interest**



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