The Future: Mobility, Security & Energy

Sujeet Chand, Senior Vice President and Chief Technology Officer
Rockwell Automation

Maciej Kranz, Vice President and General Manager, Connected Industries
Cisco
Did you know?

63% permit employees to “bring your own devices”?

$60B was spent on global cyber security in 2011?

Sources: Manufacturing Enterprise Communications Research Services, June 2012; Price WaterhouseCoopers LLP, Nov 2011
Did you know?

63% permit employees to “bring your own devices”?

$60B was spent on global cyber security in 2011?

Industrial sector consumes 52% of energy in the United States

Sources: Manufacturing Enterprise Communications Research Services, June 2012; Price WaterhouseCoopers LLP, Nov 2011

Source: US Energy Information Agency
Did you know?

63% permit employees to “bring your own devices”?

$60B was spent on global cyber security in 2011?

Industrial sector consumes 52% of energy in the United States.

10m manufacturing jobs are unfilled.

77% of companies want to invest in more collaboration.

Sources: Manufacturing Enterprise Communications Research Services, June 2012; Price WaterhouseCoopers LLP, Nov 2011

Source: US Energy Information Agency

Sources: World Economic Forum, April 2012; Financial Times series, June 2012
Connected Applications Drive Enterprise Convergence

Remote Monitoring & Management
- Process Mfg
- Discrete Mfg
- Transportation

Big Data & Analytics
- Oil & Gas
- Vehicles
- Aviation

Plant Automation
- Discrete Mfg
- Process Mfg

New Assets
- Rail
- Vehicles/Fleet
- Military
- Vending Machines
- Cash Registers
Convergence to Ethernet

Ethernet connectivity of industrial automation devices and components is rapidly expanding.

By 2020: 35 billion permanent Internet connections, >50% are things

– Gartner
Convergence to Ethernet

Ethernet connectivity of industrial automation devices and components is rapidly expanding.

Enable Productivity

Optimize Plants & Supply Networks

Environmentally Friendly & Secure

By 2020: 35 billion permanent Internet connections, >50% are things
Rockwell Automation and Cisco: Leading the Way

Industry Advocacy
Standardization & Technology Innovation
Solutions Development

Collaboration
Industrial Ethernet
Wireless Mobility
Security

Industrial Security
Ruggedized Wireless AP
Hardened Mobile M2M Gateway

Process Efficiency
Precision & Determinism
Resiliency & Availability
Safety & Security
Rockwell Automation and Cisco: Leading the Way

Industry Advocacy
Standardization & Technology Innovation
Solutions Development

Collaboration
Industrial Ethernet
Wireless Mobility
Security

Process Efficiency
Precision & Determinism
Resiliency & Availability
Safety & Security
The Plant of the Future

Mobile

Virtual

Collaboration

Secure
Cloud- and Virtualization-Enabled Plant of the Future

Performance Analysis Clients
- PC / Tablet / Phone
  - Receive alerts
  - Visualize and Analyze

Industrial Automation Cloud Platform

Drivetrain, engine and process data
Delivering an **integrated** and **holistic**, network-based security solution across network architectures

**TECHNOLOGY LEADERSHIP**

Cisco, the leader in networking

Industry-leading Firewall, VPN, Threat Defense, Cloud Security, and Policy

Drive industrial network transformation

Deliver converged, secure and collaborative industrial network infrastructures

**INDUSTRY PARTNERSHIP**

Industry leaders deliver seamless, secure connectivity across the organization

Standard technology view

Validated network architectures

Developing the world’s leading open, standards-based network protocol
Active Energy Management in the Plant of the Future

- Standard interface to measure and control energy ("CIP Energy Object")
- CIP Energy Object in products to measure energy usage
- Smart grid standards support
- Active energy management “on the wire” (wired or wireless Ethernet)

Energy management integrated in EtherNet/IP architecture
Energy Aware Machine

Energy Saving Modes

- Coffee Break
  idle 15 min
- Curtail
  Slow Down
  20%
- Skip a Shift
  Hibernate
  8 hrs

Start

E-Stop

Safety Loop
Machine Control Loop
Energy Policy Loop

Energy Aware Controller
Thank You and Questions