

# Standards: Essential to Business, Poorly Understood

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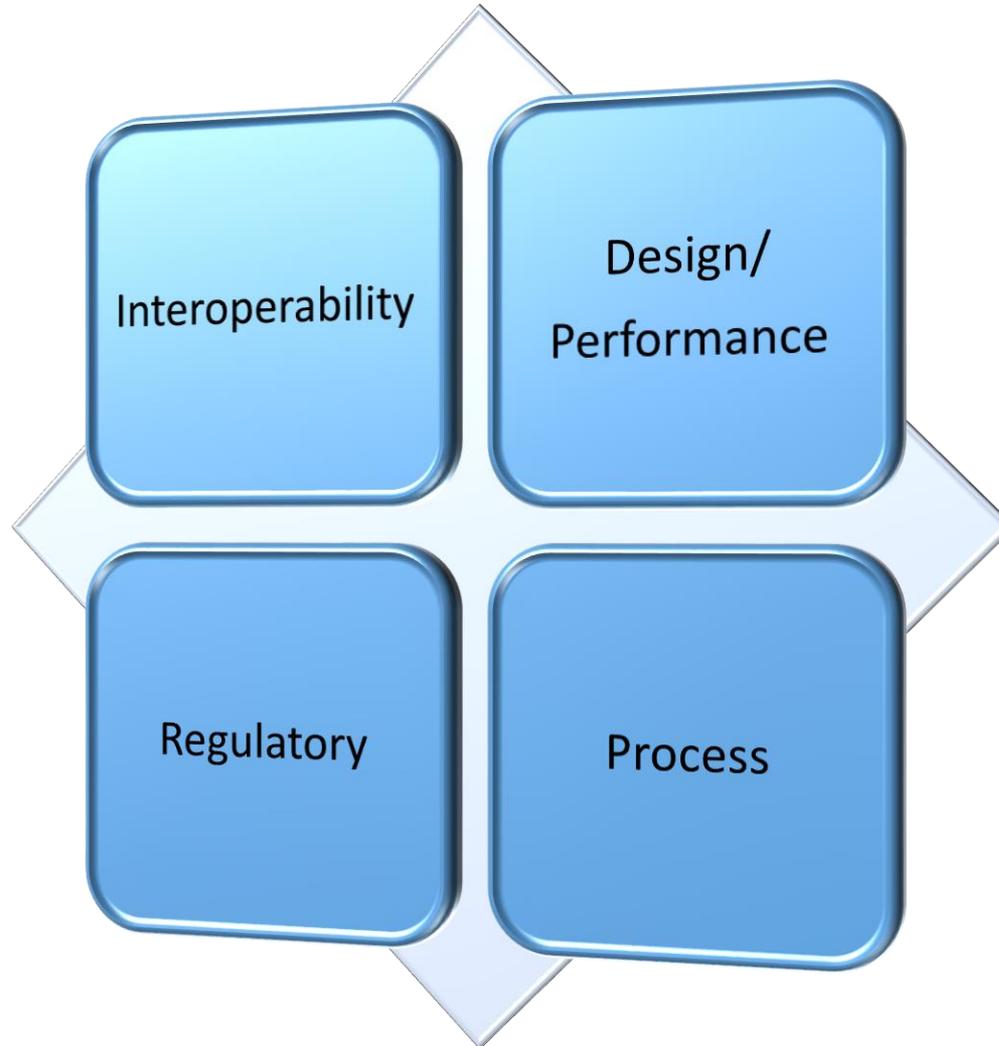
Industry Panel  
Demands of the Digital Economy and Challenge of Standards Development  
NIST Workshop  
Harvard University  
September 8, 2016

# About me



- Industry
  - Information systems engineering & development
    - Bell Labs / AT&T
  - Headed standards management – Bell Labs / Lucent Technologies (now Nokia)
  - CEO, Tercio Solutions (MIT-connected start-up)
- Standards Organizations
  - Chairman, American National Standards Institute (ANSI)
  - Vice President, International Organization for Standardization (ISO)
  - President, IEEE Standards Association
- Government
  - National Coordinator for Smart Grid Interoperability
  - Director – Standards Coordination Office, National Institute of Standards and Technology (NIST)

# Types of Standards



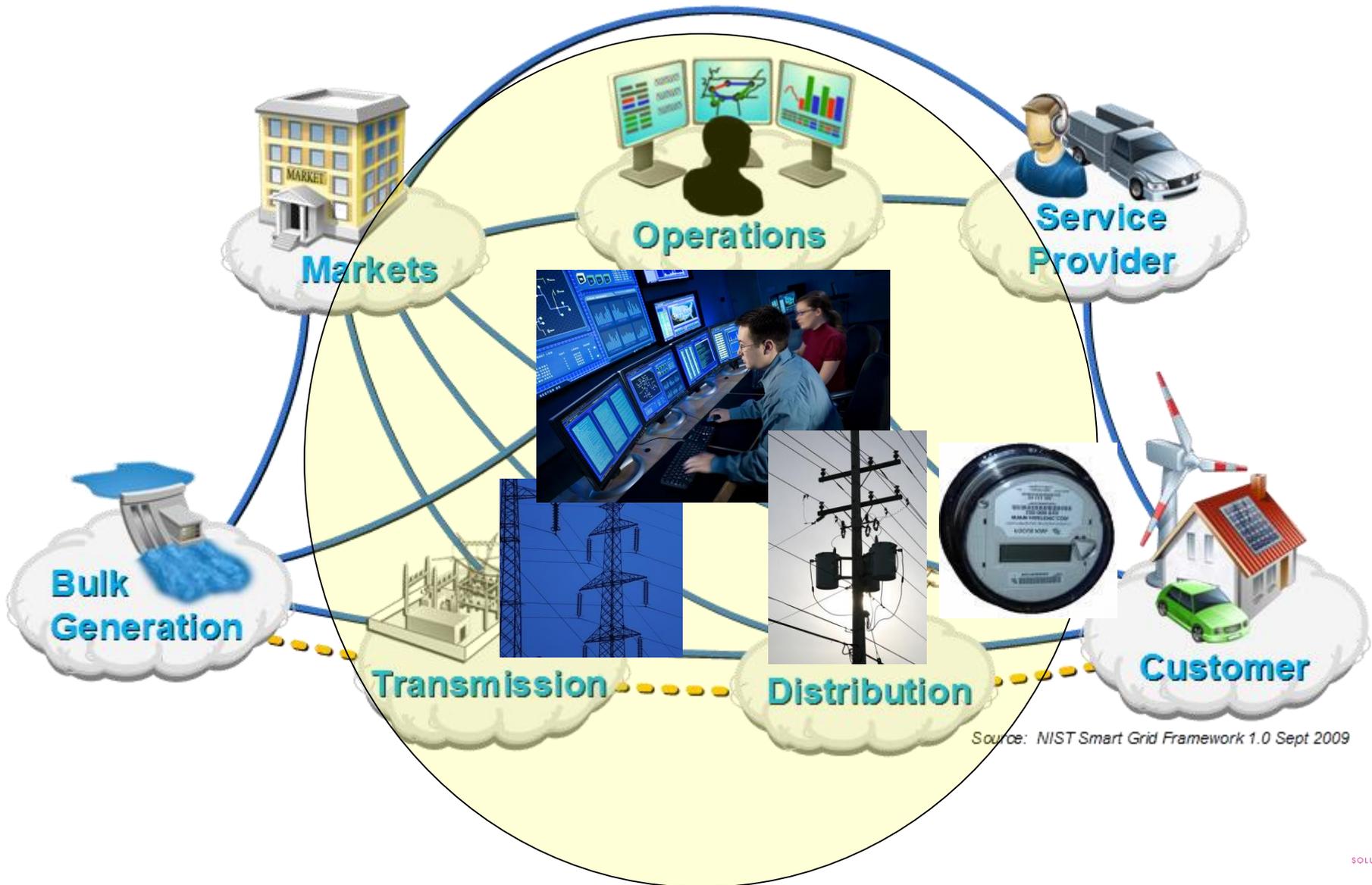
# What Is Interoperability?

- The capability of different systems and devices, often provided by different suppliers, to communicate and work effectively together
- There are degrees of interoperability

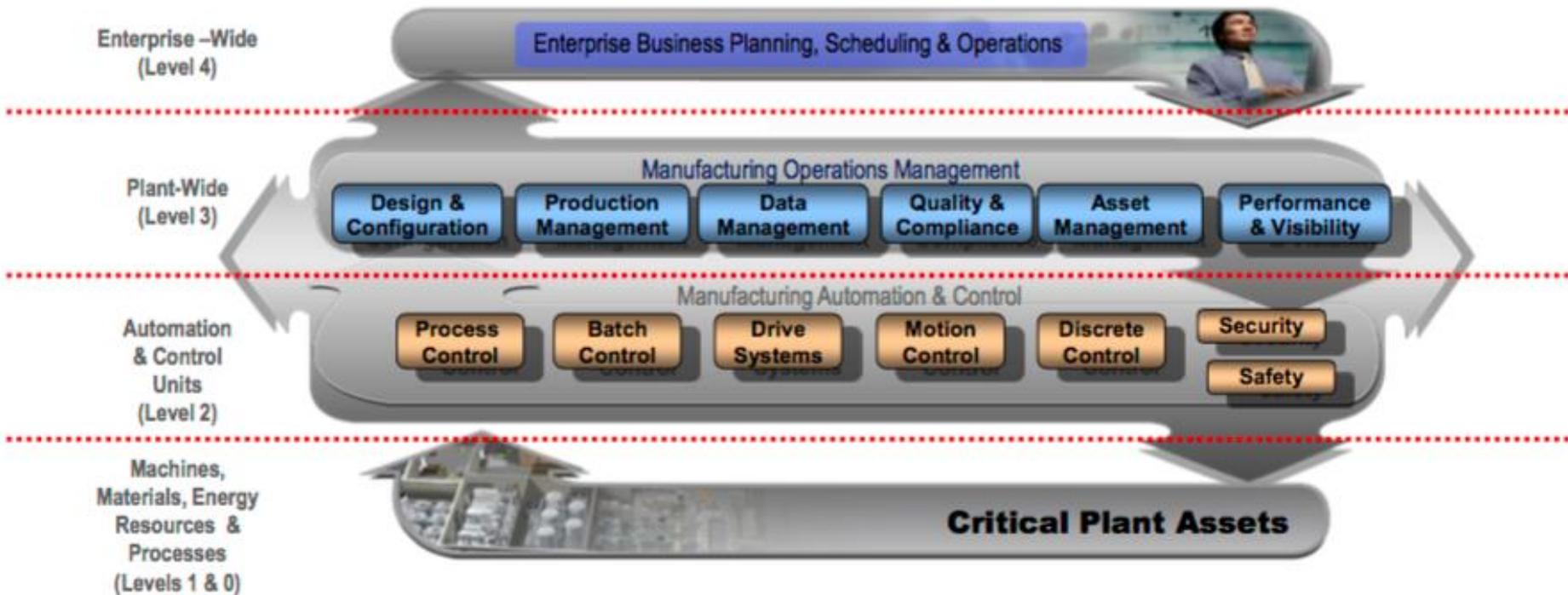


Without interoperability standards, there would be no Digital Economy!  
Compliance with widely-used interoperability standards is usually necessary for new products to get traction in Digital Economy markets.

# Interoperability Example: Smart Electric Grid



# Another Example: Smart Manufacturing



Source: NIST Framework for Cyber-Physical Systems, Release 1.0, May 2016

# Standards – Benefits to My Company

## What it Is

- Tercio® provides software applications that optimize dynamic scheduling for complex business operations (manufacturing, logistics, construction, health care, ...)

## Requirement

- Integration with customer's existing infrastructure

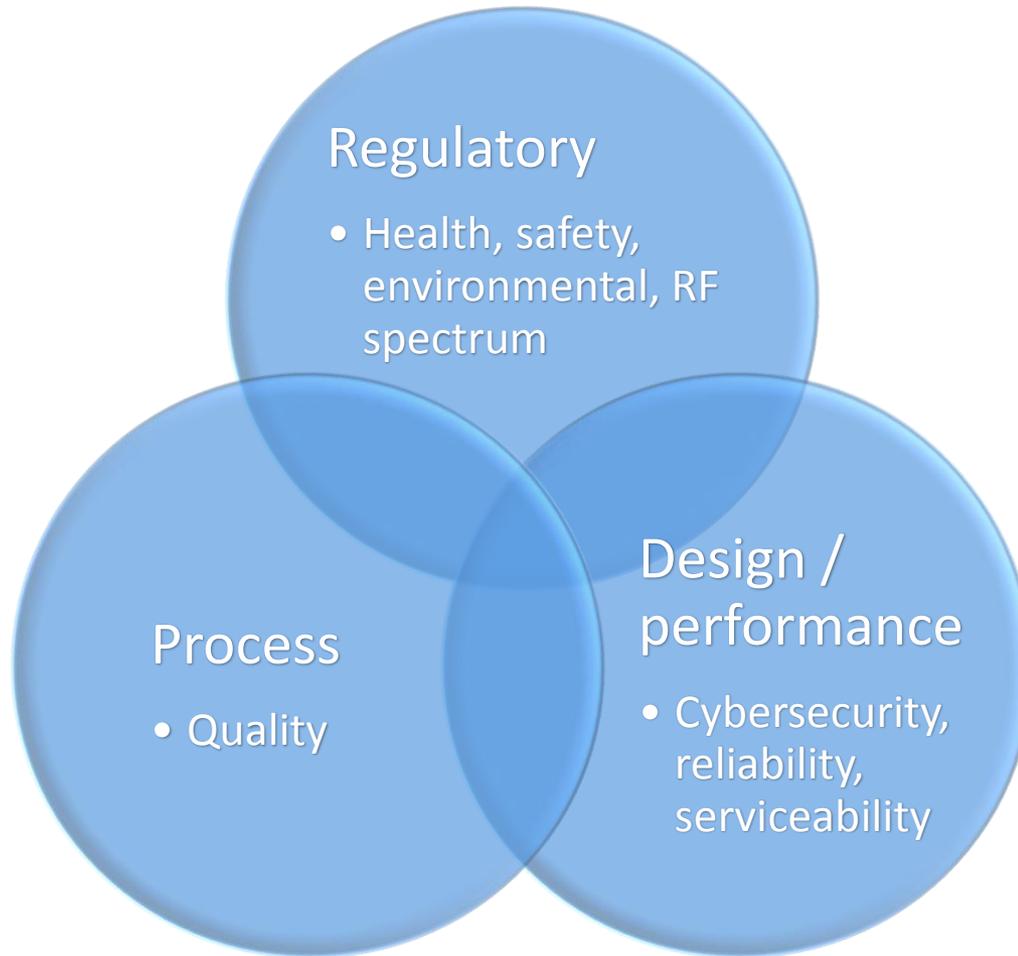
## Key Standards

- ISA Reference Architecture
- Service Oriented Architecture and Web Services Standards

## Benefits

- Customers understand fit to their enterprise architecture
- Facilitates co-development
- Interoperability with other systems
- Cost-effective integration

# Other Types of Standards



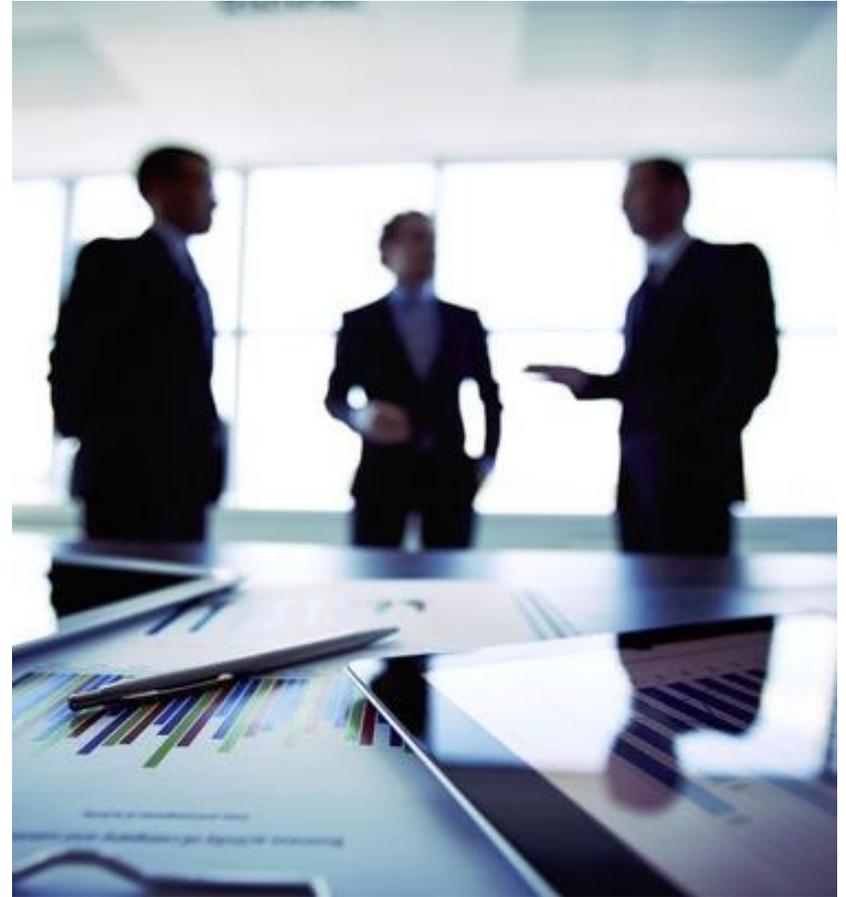
Compliance often necessary to legally market products and/or meet customer requirements

# Standards Bodies



# Common Management Misconceptions

- Standards take too long
- There are too many standards organizations
- We don't know where to participate
- We don't have the resources to participate
- We just need agreements with a few market players, or
- We can set the standards ourselves



# Need for Education

Future engineers and business leaders need to learn about standardization – how they are developed, and how they impact business.



# Contact Information

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