



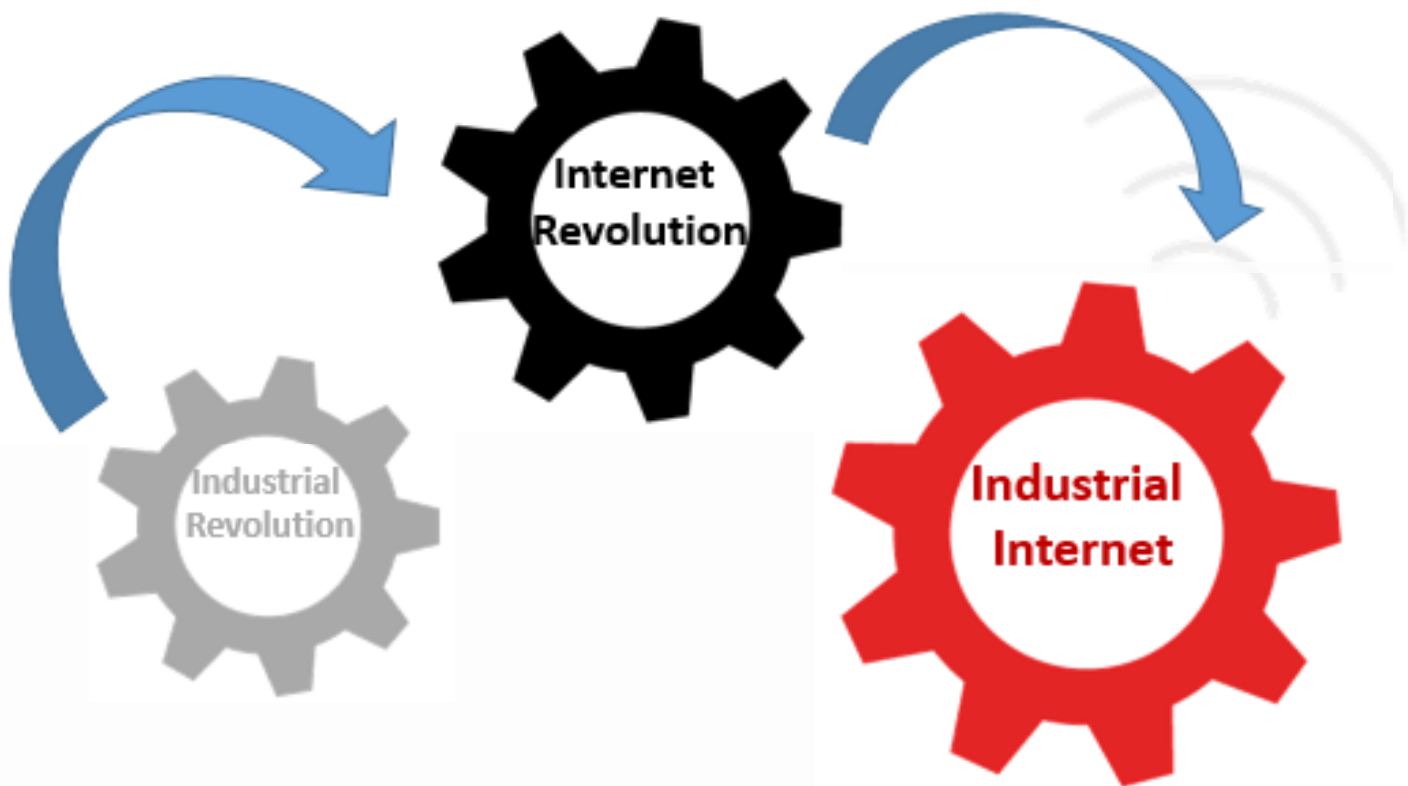
The Industrial Internet Consortium: Opportunities, Disruptions & Standards

Dr. Richard Mark Soley
Executive Director
22 June 2016

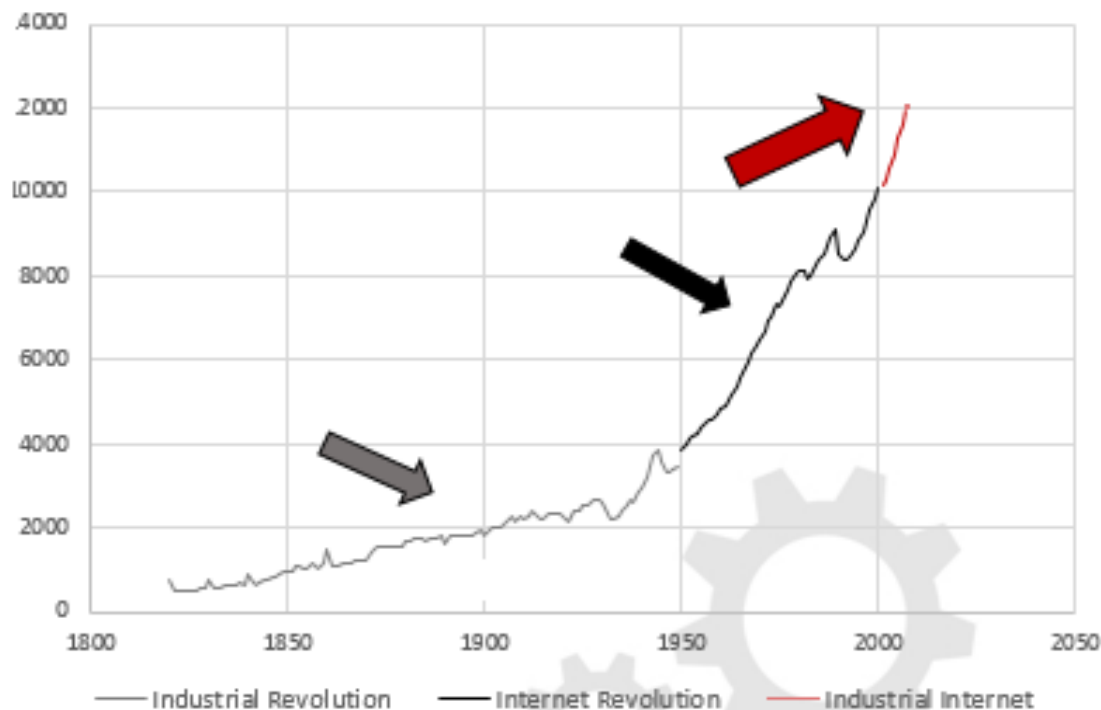




The Industrial Internet is leading the next economic revo



Global GDP Per Capita





The Measurable Outcome will be in the Trillions of Dollars

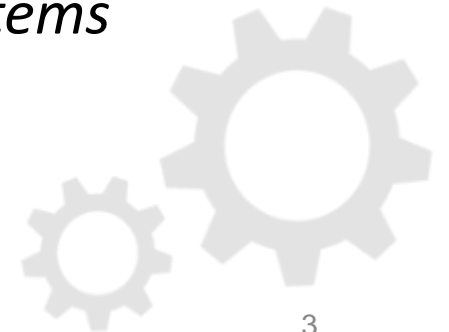
GE: **\$32.3 trillion opportunity** representing 46% share of GDP today.

Cisco: Internet of Things (IoT) will **increase private sector profits 21%** and add \$19 trillion to the global economy by 2020

Gartner: IoT product and service suppliers will generate **incremental revenue exceeding \$300 billion** in 2020.

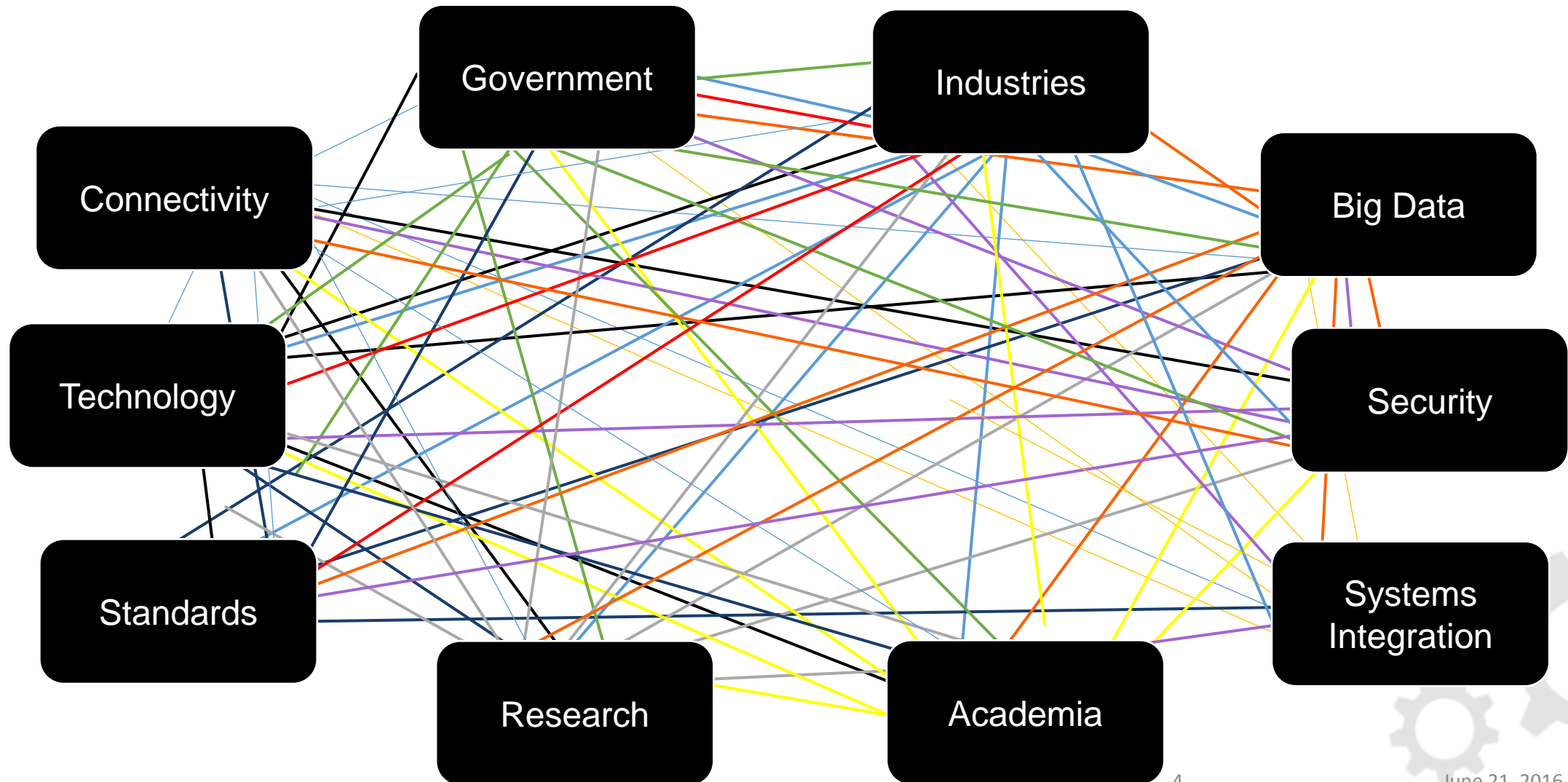
McKinsey Global Institute: **\$36 trillion operating costs** of key affected industries could be impacted by IoT

The convergence of *Internet of Things, Industrie 4.0, Cyber-Physical Systems* presents an enormous opportunity.



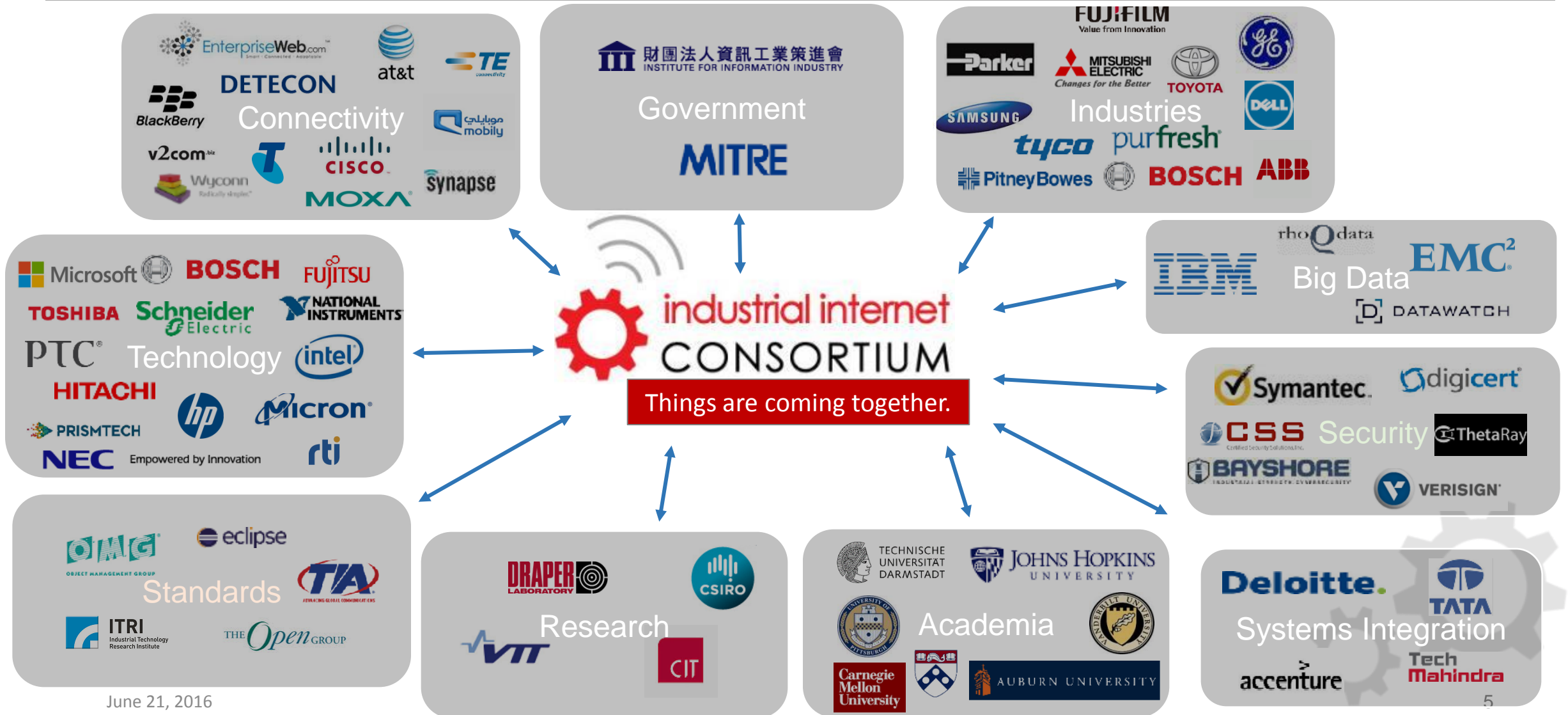


Yet there are current roadblocks to widespread adoption





The IIC: Things are coming together



Industrial Internet Consortium Mission



To accelerate growth of the Industrial Internet by coordinating ecosystem initiatives to connect and integrate objects with people, processes and data using common architectures, interoperability and open standards that lead to transformational business outcomes.

Launched in March 2014 by five founding members:

AT&T, Cisco, General Electric, IBM & Intel.

The IIC is an open, neutral “sandbox” where industry, academia and government meet to collaborate, innovate and enable.



Founders & Contributing Members...



...joined by several more Steering Committee members



BOSCH

FUJITSU

MITRE





Large Industry

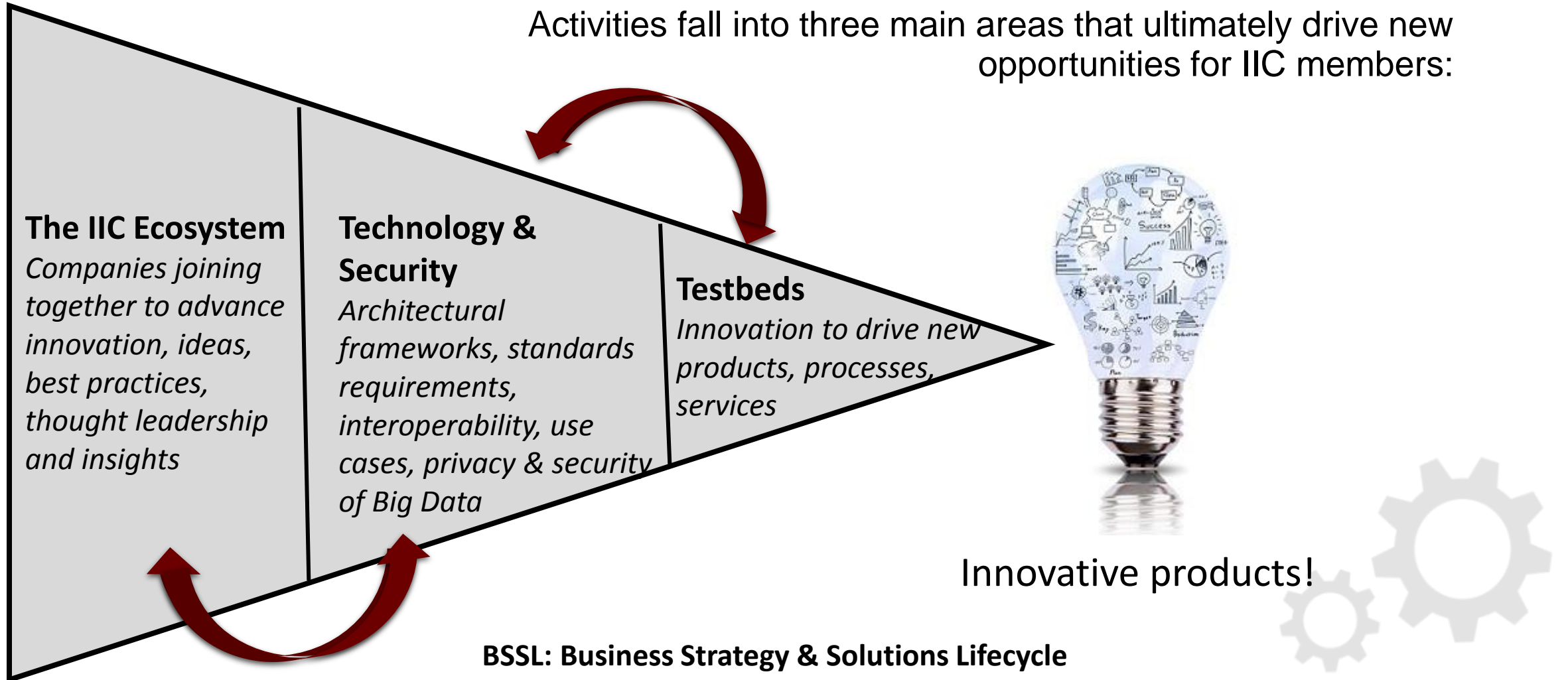


Small Industry





IIC Core Focus Areas



IIC Track & Trace Testbed



BOSCH

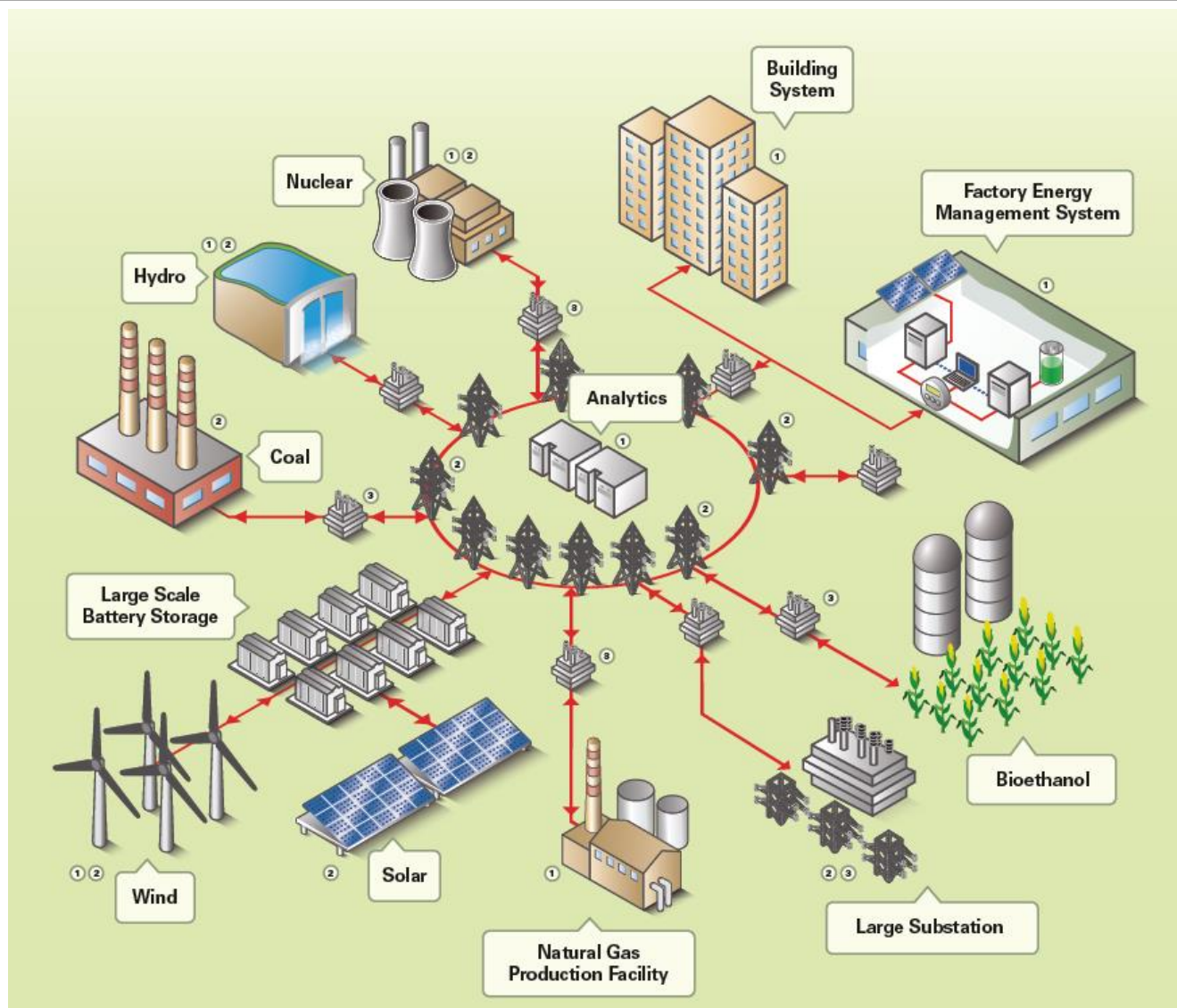
**Tech
Mahindra**



Source: Bosch



IIC Testbed: Communication and Control





International Future Industrial Internet Testbed (INFINITE)

Participants:

- Members: EMC Corporation and Cork Institute of Technology
- Other Participants: Vodafone, Irish Government Networks, Asavie, and Cork Internet Exchange

Market Segment:

- The scale and scope of the project means INFINITE can be used across a wide and diverse range of industries and sectors

Solution:

- Completely virtual domains that are able to be connected via mobile networks
- A solution that allows multiple virtual domains to securely run via physical network

Commercial Benefits:

- Ideal for mission-critical systems
- Industrial Internet applications in an environment that resembles real-world conditions





Condition Monitoring & Predictive Maintenance Testbed

Member Participants:

- IBM and National Instruments

Market Segment:

- Predictive maintenance cuts across multiple market segments like power plants, manufacturing, process, mining, transportation, aerospace, and defense

Goals:

- Develop new predictive maintenance analytics modeling techniques
- Document standard and secure architecture patterns and data formats for predictive maintenance in the Industrial Internet era

Commercial Benefits:

- Increase equipment uptime and prevent catastrophic failures
- Provide condition monitoring data to experts thru the cloud





What about Standards? And Open Source?

Already plenty of standards at the communications level (e.g., OMG DDS)

Semantic standards are going to be critical in all verticals

IIC is a *source* for standards requirements & priorities

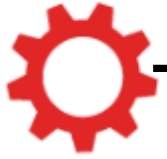


OPEN
CONNECTIVITY
FOUNDATION™



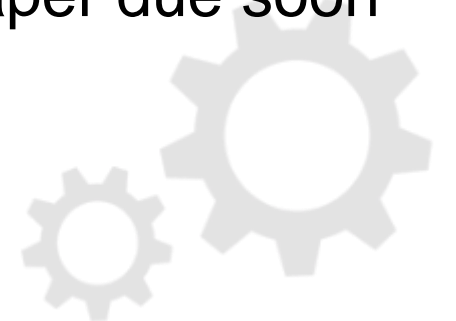
THE *Open* GROUP





The Industrial Internet Consortium Today

- 250 organizations from 30 countries and growing (Kazakhstan!)
 - 7% in Japan
- 20 running testbeds all over the world
 - More than 20 coming through the approval process and in design
 - Expanding into new verticals (agriculture, security, etc.)
- Reference Architecture available for a year; second version in development
- Security Framework in draft available to members & liaison partners
 - Risk management very critical
- Business Strategy & Solutions Lifecycle a year old, first white paper due soon
- Strategy for influencing standardization on track
- Much more breadth in Steering Committee





Interconnecting Regional Efforts

- Major new collaboration announced in February with German regional Plattform Industrie 4.0
 - First two meetings (Zurich in November, Chicago in May) are producing proposals for consideration by both Steering Committees
 - Real collaboration happening in architecture & testbeds especially
- The Consortium is also developing ties with other regional efforts
 - France: Alliance Industrie du Futur
 - China: Internet+ and China 2025
 - United States: Cyber-Physical Systems
 - Chile: Industrial Internet Centers of Excellence
 - Japan: Industrial Valuechain Initiative
 - Europe: AIOTI





For More Information

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