Industry 4.0 VS Industrial Internet of Things
“If we had computers that knew everything there was to know about things - using data they gathered without any help from us - we would be able to track and count everything, and greatly reduce waste, loss and cost. We would know when things needed replacing, repairing or recalling, and whether they were fresh or past their best.”

Kevin Ashton

“Industry 4.0” is the fourth industrial revolution driven by Internet technology. It describes the technological change of today’s production technology to Smart Factories (cyber-physical production systems).
Industry 4.0 vs. Industrial Internet of Things
Facts and Numbers

Which nation, in your opinion, is currently leading in Industry 4.0?

- USA: 28%
- Germany: 25%
- Japan: 20%
- France: 8%
- China: 6%
- South Korea: 3%
- Netherlands: 3%

Digital Association of Germany (BITKOM), 2016
Industry 4.0 vs. Industrial Internet of Things

Facts and Numbers

Which obstacles have you encountered regarding the use of Industry 4.0 applications in your company?

- High investment costs: 75%
- Demands of data protection regulations: 55%
- Lack of specialists: 53%
- Demands of data security: 51%
- Complexity of the field: 50%
- Lack of legal framework: 40%
- Susceptibility of systems: 38%
- Lack of standards: 36%
- Lack of acceptance among staff: 20%
- Use is unclear: 7%

Digital Association of Germany (BITKOM), 2016
Industry 4.0 vs. Industrial Internet of Things

Facts and Numbers

Global quarterly Industrial Internet of Things financing from 2nd quarter 2012 to 2nd quarter 2016 (in million U.S. dollars)
Twenty years ago the Internet was still in the children's shoes, today it is an integral part of our private and professional everyday life!
“Coping with digital change is the most important management task of our time. If the business model changes as a result of digitization, the company must adapt or disappear sooner or later.“

Former BITKOM-President Prof. Dieter Kempf, CeBIT 2015, translated by Google Translate
Industry 4.0 vs. Industrial Internet of Things

Agenda

I4.0@Bosch – Central Challenges and Opportunities in Realizing the Connected Industry
Daniel Ewert, Robert Bosch Group

Data Predictive Control - Bridging Machine Learning with Controls for Volatile Energy Markets
Rahul Mangharam, University of Pennsylvania

Internet of Vehicles
Fan Bai, General Motors

Interoperability of Heterogeneous Systems – Standardization Roadmap vs. Adaptive Integration
Daniel Schilberg, University of Applied Sciences Bochum