Industry 4.0
Commercial & Defense Industrial Base

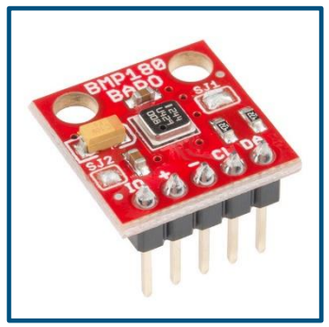
Carla Langjahr

Industry 4.0
Definition

Connecting the physical world to the digital and back to the physical

Requires human inspection

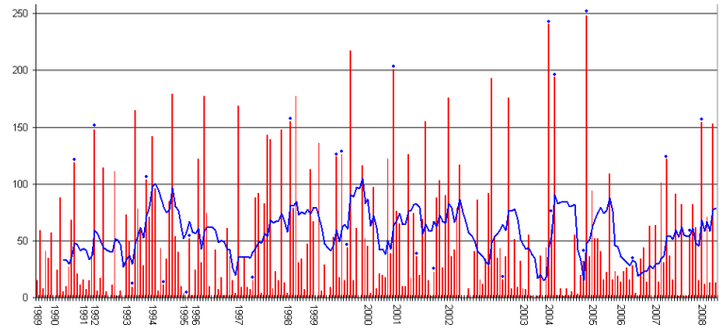
Deployment of sensor technology to physical asset and enterprise platform to monitor & assess



Real-time & automated inspection, monitoring and predictive technology

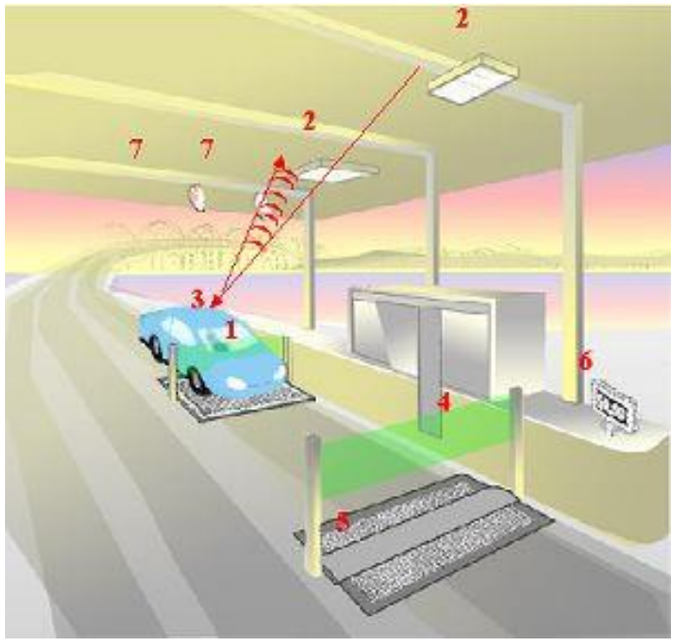
Aircraft inspection
- ✓ Tolerance of tensile strength & heat
- ✓ Geometric measurement & conformity

Equipment monitoring
- ✓ Calibration of equipment
- ✓ Part replacement based on usage

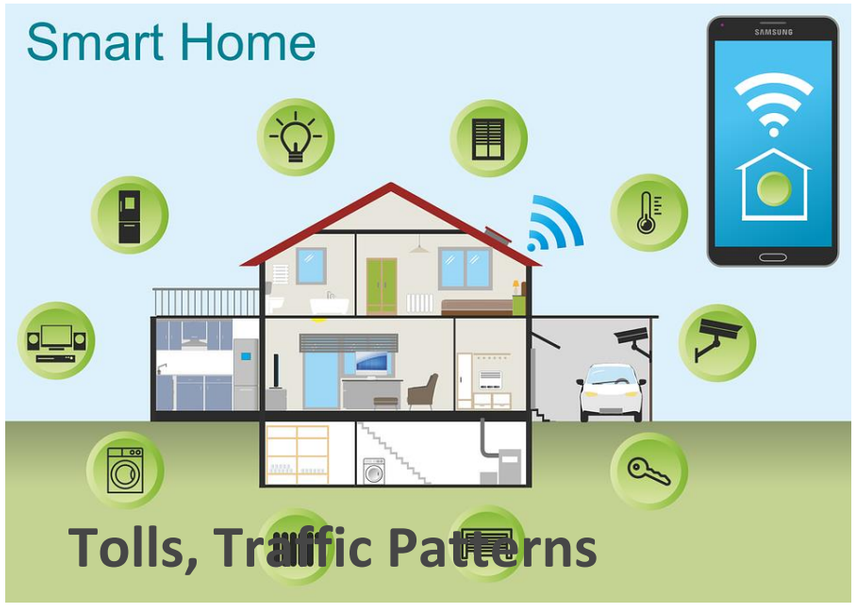


Industry 4.0
Applications

Transportation



Smart Homes



Wearable Technology

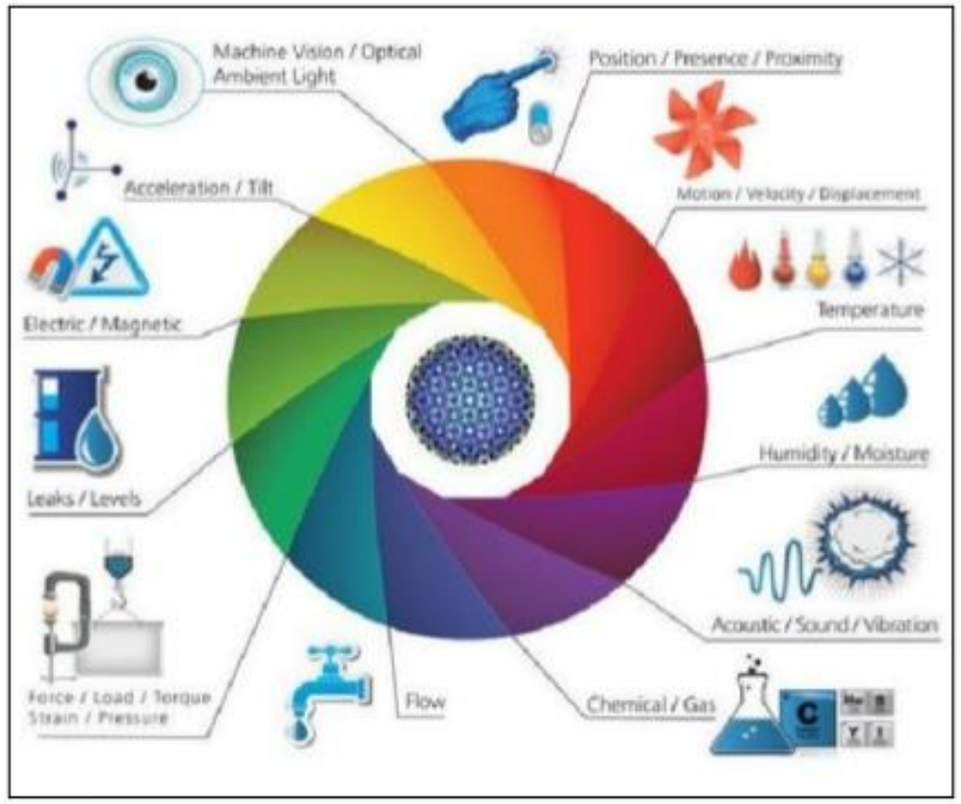
Smart Factories

- machine diagnostics
- inventory management

Automotive

- maintenance
- performance

Defense/Military



Agriculture

- soil & weather conditions
- Equipment

Smart Home

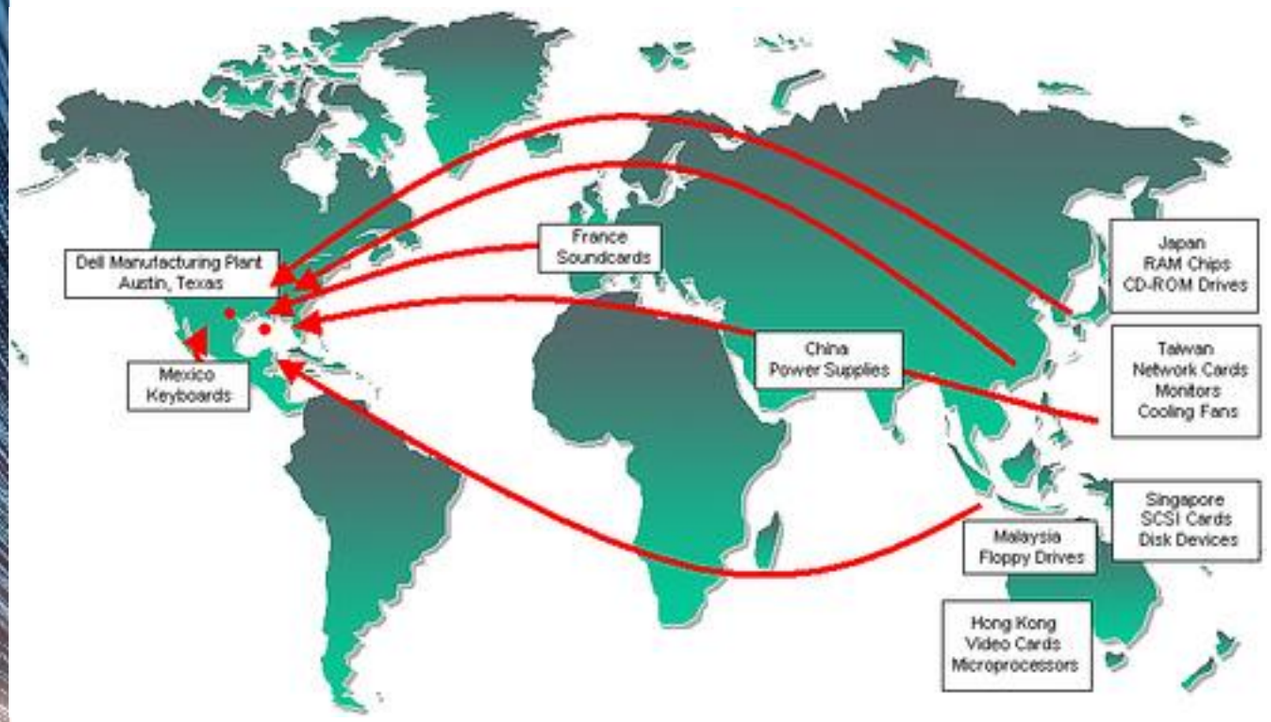
- appliances
- security systems
- energy efficiencies

Medical:

- vitals/Wearable monitors
- prosthetics

Industry 4.0

Benefits and Constraints for the Digital Transformation



Ensures global supply flow of goods and services

Performance & efficiency

- ✓ Real-time performance on equipment
- ✓ Predictive analysis for supply & demand
- ✓ Monitor logistics and trends

Democratization of big data
For all to benefit

A global cybersecurity challenge

Privacy & Security

- ✓ Cyberthreats
- ✓ Authentication of materials
- ✓ Sabotage and Intellectual Property (IP) protection

Weaponization of big data
For some to exploit

Global Forum
Shaping the future 2018

Industry 4.0
Opportunities & Challenges

Defense Industrial Base

Opportunities

- Improved verification of vendors, materials & processes through a ‘digital thread’ monitoring from concept to execution
- Improved acquisition strategy through ‘data mining’ results

Challenges:

- Big Data: Collection, standardization & management
- Interoperability among competing systems, divisions
- Policy and Procurement can’t keep up with technology
- Security: Cyber attacks, validated vendors, IP Protection
- Workforce

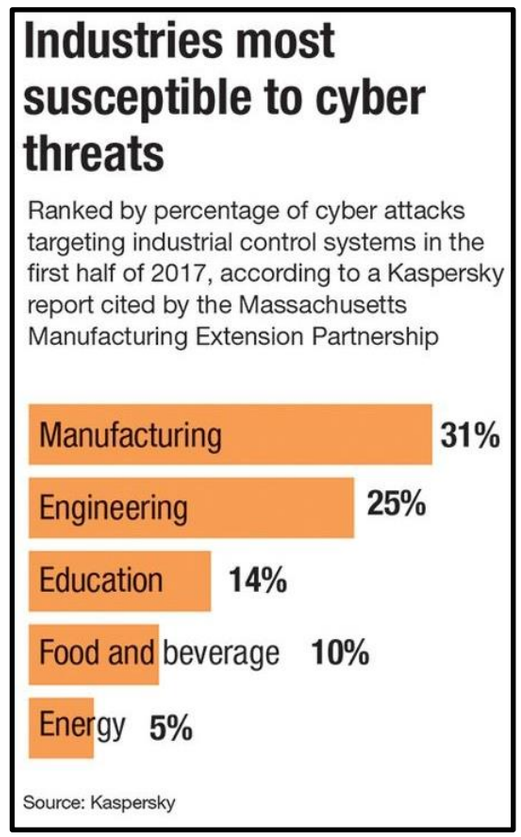
Consumer Industrial Base

Opportunities

- Cost
- Process efficiencies

Challenges

- Security
- Workforce



Innovation increases as product lifespan decreases

40 years

10 years

7 years

ITEMS INTERNATIONAL

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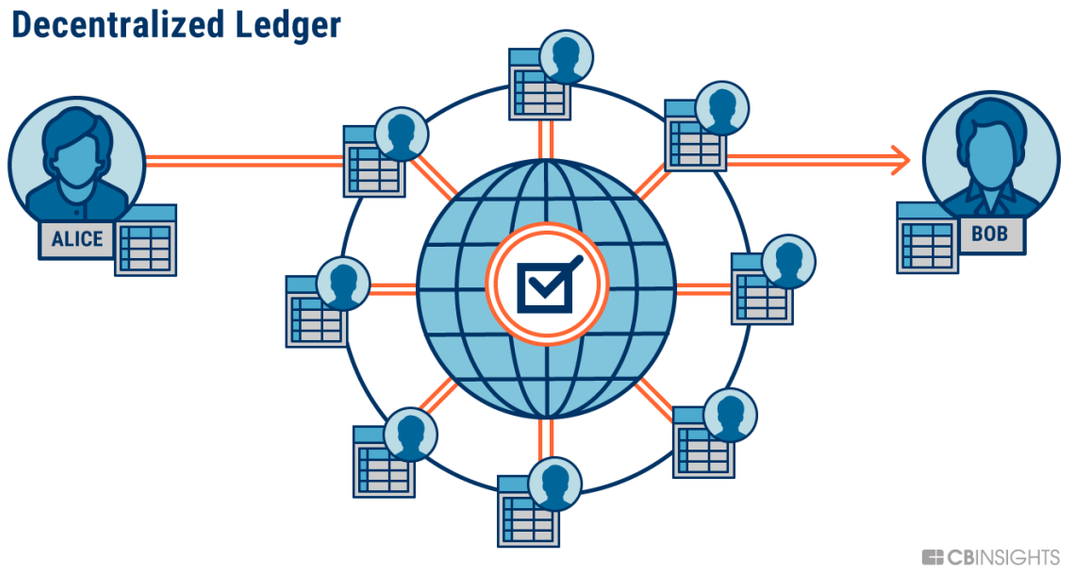
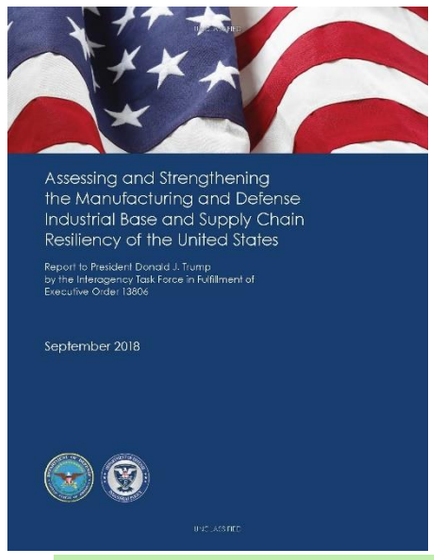
Industry 4.0
Response & way forward

Security/Privacy

Technology

Blockchain allows nodes of protection





Policy/Governance

"The manufacturing and defense industrial base faces challenges (cyber, IP, supply chain risks) to respond to America's prosperity and security"
White House Report on the Defense Industrial Base

Big Data

Standards

Intellectual Property

Digital Supply chain

Message to Leadership:
Technology innovations must go hand in hand with Policy/Governance and Security/Privacy

ITEMS INTERNATIONAL

Thank you!

Global Innovation Competition (GICO)

Matching innovative ideas from small & medium size and startup businesses from all over the world with thought leaders and entrepreneurs

Tuesday, 6 November
4:00 -5:30pm

Carla@activemedia

THE INTERNATIONAL THINK-TANK
ON THE DIGITAL FUTURE