Made in China 2025 and Industrial Internet

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Made in China 2025

“Made in China 2025” (May 8, 2015)
30 years, 3-steps strategy

1. 2025
   - Shifting China from a big manufacturing country to a strong one by the year 2025

2. 2035
   - China being able to compete with developed manufacturing powers by 2035

3. 100 years anniversary
   - Transforming China into a leading manufacturing power by the year 2049
Ten Key Sectors

1. New information technology
2. Numerical control tools and robotics
3. Aerospace and aeronautical equipment
4. Ocean engineering equipment and high-tech ships
5. Modern railway equipment
6. Energy saving and new energy vehicles
7. Power equipment
8. Agricultural machinery
9. New materials
10. Biological medicine and medical devices

high-end equipment + big innovation direction + industrial foundation
### Nine tasks & five major programs

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<th>No.</th>
<th>Nine tasks</th>
<th>Main Achievements (2017.3)</th>
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<td>1</td>
<td>Improving manufacturing innovation</td>
<td>• 2 National Innovation Center (Power Battery, Additive Manufacturing)</td>
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<td>2</td>
<td>Integrating information technology and industry</td>
<td>• 226 projects for comprehensive and standardized trial</td>
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<td>3</td>
<td>Strengthen the industrial base</td>
<td>• 109 smart manufacturing pilot programs</td>
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<td>4</td>
<td>Fostering Chinese brands</td>
<td>• 51 national low-carbon industrial parks</td>
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<td>5</td>
<td>Enforcing green manufacturing</td>
<td>• 57 high-risk pollutant reduction programs</td>
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<td>6</td>
<td>Promoting breakthroughs in 10 key sectors</td>
<td>• 8 pilot cities / 3 city clusters</td>
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<td>7</td>
<td>Advancing restructuring of the manufacturing sector</td>
<td>• Region-specific guidelines</td>
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<td>8</td>
<td>Promoting service-oriented manufacturing and manufacturing-related service industries</td>
<td>• 11 key milestone projects</td>
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<td>9</td>
<td>Internationalizing manufacturing</td>
<td>In 2016, the penetration rate of applying digital R&amp;D tools for enterprises reached 61.8% and the digitalization of key processes reached 33.3%</td>
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### Five Major Programs

- construction of national manufacturing innovation centers
- **Intelligent Manufacturing**
- Consolidation of industrial foundation
- green manufacturing
- high-end equipment innovation
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MIIT main actions:

1. Published "guidelines for the implementation of Intelligent Manufacturing Project (2016~2020)"
2. Intelligent Manufacturing Standardization Work
3. Intelligent manufacturing pilot demonstration
4. Published "intelligent manufacturing development planning (2016~2020)"
5 kinds of equipment:
• CNC machine tools and robots
• Additive manufacturing equipment
• Sensing and control equipment
• Assembly and inspection equipment
• Intelligent logistics equipment

3 foundations:
• Standard
• Communication infrastructure
• Industrial software

5 modes:
• Digital workshop
• Intelligent factory
• Personalized customization
• Collaborative manufacturing
• Remote operation & maintenance

10 Key Sectors
Mentioned in 2025
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Connotation of Industrial Internet

Industrial internet is the key comprehensive information infrastructure for industrial intelligent development, and is a kind of industry and application ecology generated from the all-round deep integration of the Internet and the new generation information technology with the industrial system.
Architecture of Industrial Internet

** USERS & PARTNERS:** consumer or enterprise

**INTELLIGENT APPLICATIONS**

- **Industry view**
  - Intelligent Manufacturing inside of factory
  - Coordination factory to factory
  - Customization customer to factory
  - Servicization Product to factory

- **Internet view**

**NETWORK**
- Application Supporting
- Identifier Resolution
- Connection

**DATA**
- Decision and Feedback
- Modeling, Calculation, Analysis
- Integration and Processing
- Sensing, Actuation

**SECURITY**
- Application security
- Data security
- Controlling security
- Network security
- Equipment security

**PHYSICAL SYSTEM**

**THREE CLOSED – LOOP OPTIMIZATION:**
- equipment operation optimization
- enterprise management optimization
- ecosystem optimization

- “NETWORK” is the basis for interconnection
- “PLATFORM” is the core to form industrial intelligences
- “SECURITY” is the prerequisite for development of Industrial Internet
Guidance of industrial internet development to deepen Internet + advanced manufacturing

Three Steps Goal: by 2025, 2035 and the middle of this century

“323”Action

Build Three Systems
- Network
- Platform
- Security

Promote Two types of applications
- Integrated innovation of large enterprises
- Popularization of application of SME

Construct Three Supporting
- Industry
- Ecosystem
- International Cooperation
Our perspective on IIC, 4.0, All (Industrial internet), Intelligent manufacturing.
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FOUR categories of industrial internet models

1. Intelligent Manufacturing (inside of factory)
2. Personalized Customization (customer to factory)
3. Collaborative Manufacturing (factory to factory)
4. Service-Oriented Manufacturing (product to factory)
Alliance of Industrial Internet (AII)

Established on **FEB. 1, 2016**. Under the guidance of industrial internet architecture, AII carry out technical R&D, standard development, test verification, application demonstration, security monitoring, international cooperation, etc.

- 10 technical reports, i.e. Industrial Internet Architecture v1.0, Industrial Internet Standard System v1.0, Industrial Internet Platform white paper…
- 20 testbeds, 25 best practices

**Members 404**
Structure of AII (8 working Groups + X task Groups)

- Governing Council
  - Steering Committee
  - Expert Committee
  - Secretariat

Task groups:
- General Group
  - Requirements Group
  - Technology & Standard Group
  - Security Group
  - Experiment Platforms Group
  - Industrial Development Group
  - Spectrum Group
  - International Cooperation Group

Task groups:
- Industrial Big Data TG
- Edge Computing TG
- IPR TG
- Identification TG
- Industrial Intelligence TG
- Network/Connectivity TG
- Industrial Internet Platform TG
- Vertical Sectors TG

- light industry, home application
- ICT Manufacturing
- Construction machinery/equipment
- High-end manufacturing
- Steel production
1600+ participants, 66 speakers, 17 showcases
Welcome you @ Beijing, 2018 February 1~2
Thanks for Your Attentions!

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