

Robot Revolution & Industrial IoT Initiative

Overview

Apr,2019

■ Background of establishment

The Robot Revolution & Industrial IoT Initiative (RRI) was established as an organizational platform to promote the "Robot Revolution" stated in the national "New Robot Strategy" (2015/2/10, The Headquarters for Japan's Economic Revitalization).

In "New Robot Strategy", robot is widely defined as a system that executes tasks by utilizing digital and network technology, advanced sensors, and artificial intelligence.



■ Organization profile

Robot Revolution & Industrial IoT Initiative (RRI) is an organization that rebuilds the Japanese manufacturing industry in order to respond to the Fourth Industrial Revolution and Society 5.0 in cooperation with the industry and government.

In the Third Industrial Revolution, Japan developed mechatronics, contributed to the world through high quality manufacturing with variable volume mixed production system.

In the Fourth Industrial Revolution, we are in a position to lead the world based on these achievements.

■ Cooperative relationship

To Survive by agile and open value creation with Industrial IoT.

RRI : Robot Revolution & Industrial IoT Initiative



Organization name of Japanese Industrial Association

The Japan Electrical Manufacturers' Association, Japan Electric Measuring Instruments Manufacturers' Association, Japan Electronics and Information Technology Industries Association, The Japan Machinery Federation, Japan Machine Tool Builders' Association, The Japan Society of Industrial Machinery Manufacturers, Manufacturing Science and Technology Center, Nippon Electric Control Equipment Industries Association, Japan Robot Association, Communications and Information Network Association of Japan, Japan Automobile Manufacturers Association, Japan Auto Parts Industries Association



ロボット革命イニシアティブ協議会
Robot Revolution & Industrial IoT Initiative

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Robot Revolution search

<https://www.jmfrii.gr.jp/english/>



Organization chart

Chairperson : Hideaki Omiya (Mitsubishi Heavy Industries, Ltd. ,
Chairperson of the Japan Machinery Federation)
- Plenary meeting (members: 523 as of Jan 2019)

Working Groups:

- WG1 : Manufacturing Business Revolution through IoT
- WG2 : Promotion of Robot Utilization in Society
- WG3 : Robot Innovation

- IEC Systems Committee Smart Manufacturing, Secretary of Japan National committee

Activities

With international collaboration, RRI is drawing up the future shape of the manufacturing business and developing international standards on smart manufacturing and security.

In Japan, RRI is supporting the introduction of IoT and the revitalization of regional industry and SMEs in response to globalization.

1. International standardization:

Operation of IEC Systems Committee Smart Manufacturing National Committee:
RRI has launched activities to coordinate Japanese positions to contribute to standardization in IEC and ISO.

2. International collaboration:

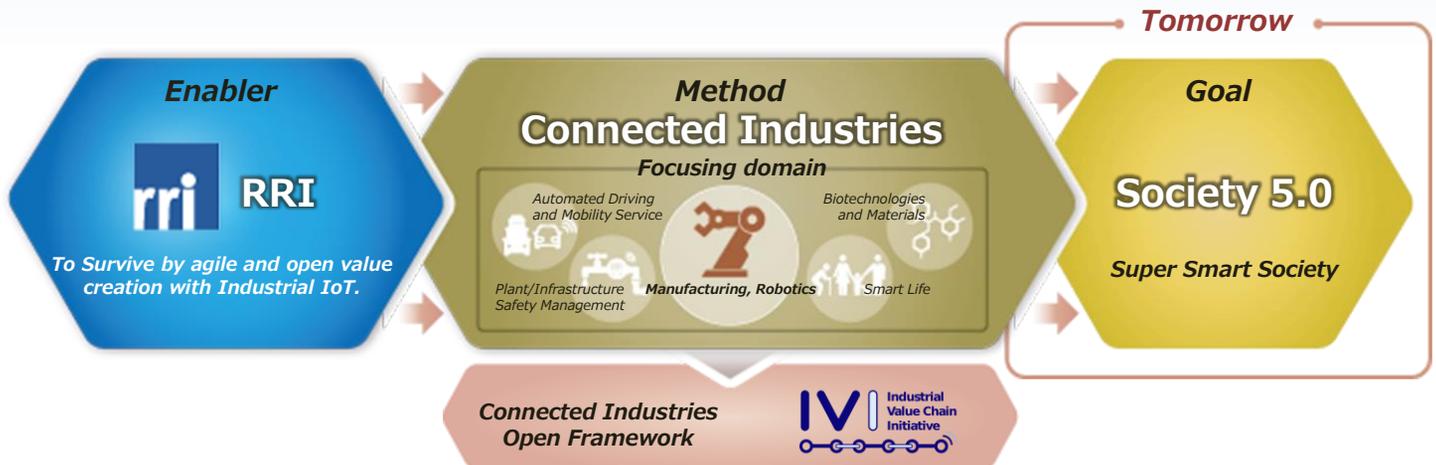
RRI collaborates with experts of Germany and initiatives of related countries, and works together on future image, architecture, use case etc. and exchanges information.

3. National collaboration:

- RRI is the main promoter in the Manufacturing & Robotics domain of the Connected Industries which is a new concept framework established by Japanese government.
- RRI coordinates with national committees of international standardization related to smart manufacturing including industrial associations and promotes information sharing on such issues as directions and tasks of standardization. RRI also coordinates with other relevant national and private projects.

Key enabler

Key enabler realizing Japan's "Society 5.0" national target



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■ Achievement on Smart Manufacturing

1. Collaboration with the government:

- 1) Promotion of Connected Industries with METI
- 2) Hosting "Connected Industries Symposium"

2. Group Activities:

- 1) Marketing of global trend information
- 2) Use case study
- 3) Systems Engineering Research
- 4) SME support
Hosting Smart Manufacturing supporting group Conference
- 5) National and international trend study
(study group named "4th Industrial Revolution Academy")

3. Information sharing:

Regular holding of national and international trend seminars.

4. International collaboration:

- 1) Japan - Germany collaboration (expert meetings)
 - Standardization and Interoperability
 - Industrial security
 - Business models
- 2) International symposium (4 times since 2016)
*In 2018, RRI invited Dr. Henning Kagermann, chair of the board of trustees, Acatech – German Academy of Science and Engineering, to discuss the business ecosystem.
- 3) Information dissemination at international exhibitions
RRI organizes the Japan Pavilion in Hanover Messe, and disseminates information on RRI's activities and collaboration.
- 4) Various Workshops
 - Work 4.0 seminar
 - Workshop jointly with Industrial Internet Consortium
- 5) MOUs with Plattform Industrie 4.0, Industrial Internet Consortium, Alliance Industrie de Futur, Confederation of Industry of the Czech Republic

5. National collaboration:

- 1) Coordination with national committees of International standardization related to smart manufacturing
- 2) Workshop jointly with related industry associations and Regional seminars

6. Database:

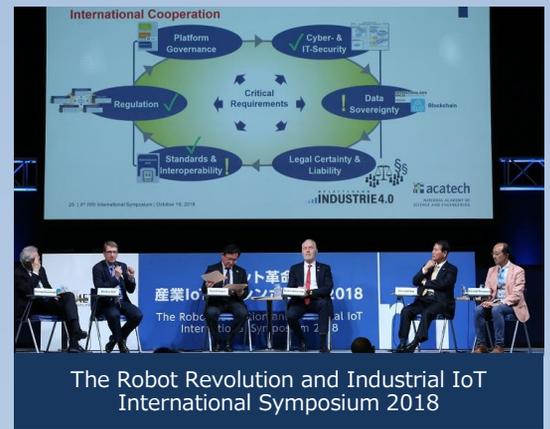
- 1) IoT use case map (Japan, Germany, France)
- 2) IoT Tools and solutions
- 3) Future image videos

7. Reports:

- Functional view of application scenario Value-Based Service (Japan – Germany collaboration)
- Usage view of Asset Administration Shell (Japan – Germany collaboration)
- Realization of Smart Manufacturing Systems for Machine Tools
- Systems Engineering Guideline
- Asset Administration Shell overview report

8. International standardization:

Secretary of Japan National committee, IEC Systems Committee Smart Manufacturing



■ Pickup web resources

IoT Usecase map



A



World Robot Summit



B

Future Image



C



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