Robot Revolution & Industrial IoT Initiative

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Robot Revolution & Industrial IoT Initiative

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, artificial intelligence, advanced sensors and actuators.

Former Prime Minister Abe attended
the establishment party in 2015

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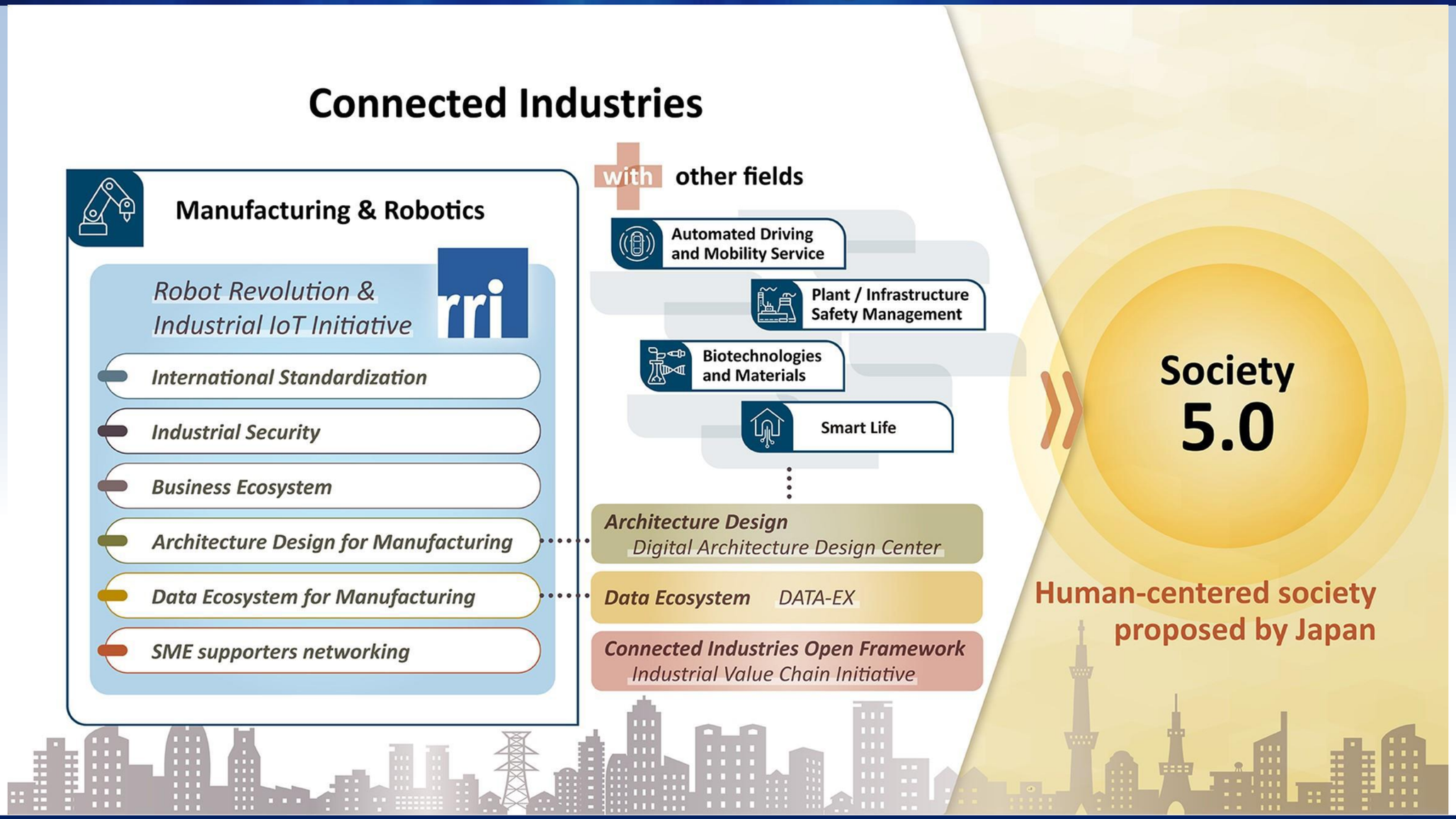
Toward the target



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RRI's missions

★ 1）To describe **future images** of horizontal association

★ 2）To list up issues and adjust **International Standards**

★ 3）To find out **secure way** for IIoT eco-system

★ 4）To facilitate **SMEs** to connect with IIoT eco-system

★ 5）To lead innovations and utilizations of **robots**

★ cooperating with the **international initiatives** like;

Plattform Industrie 4.0,　International Data Space Association, Industrial Internet Consortium, Alliance Industrie du Futur, Confederation of Industry of the Czech Republic

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Organization chart

Chairperson : Hideaki Omiya (Mitsubishi Heavy Industries, Ltd. ,
Chairperson of the Japan Machinery Federation)

- Plenary meeting (members: 423 as of Apr. 2022)

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

- The Consortium of Human Education
for Future Robot System Integration (CHERSI)

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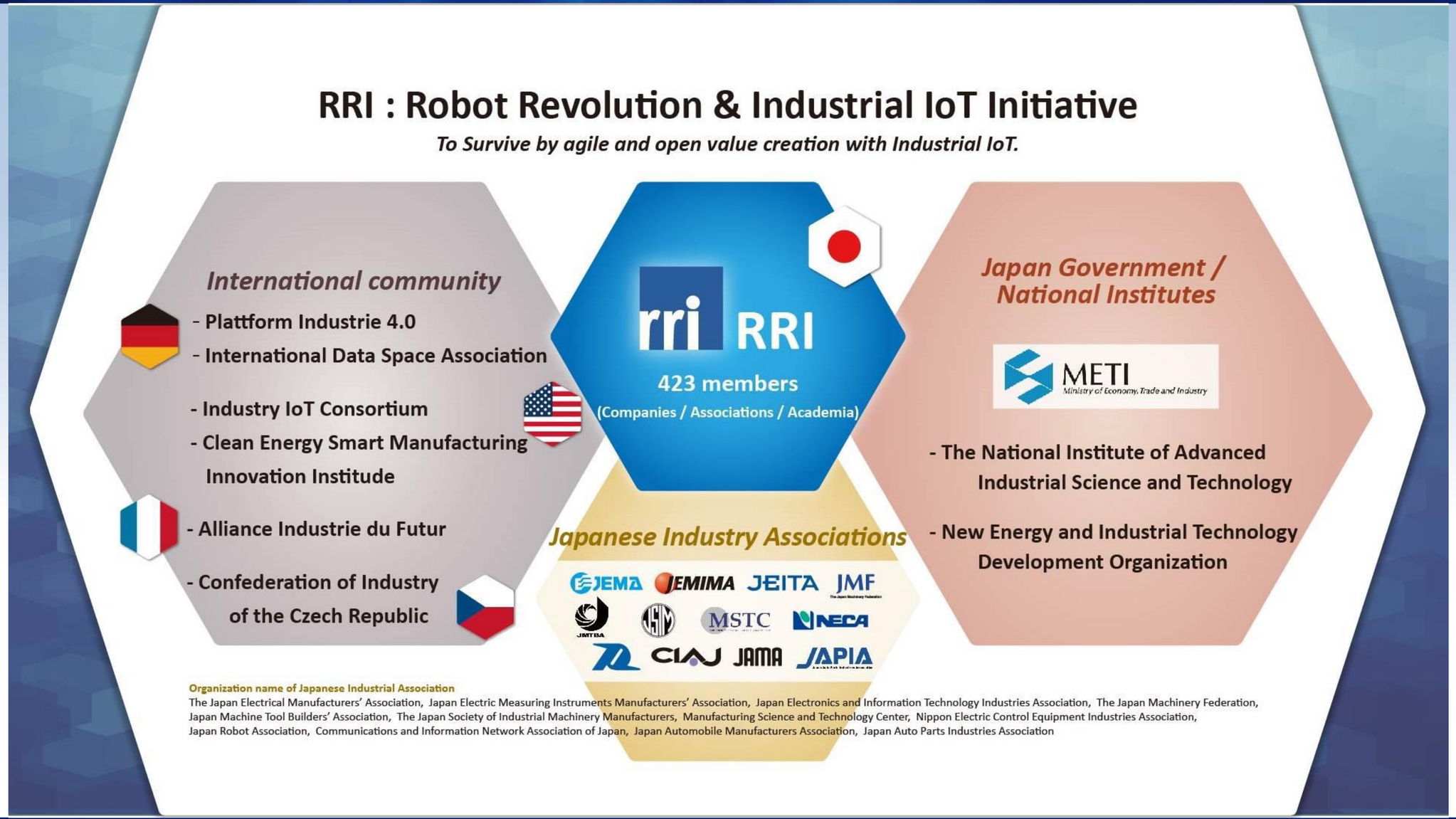
Activities 1 : Smart Manufacturing - Cooperative relationship -



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International Collaboration 1 : Germany – Japan Collaboration

Joint papers released from RRI and Plattform Industrie 4.0

- Digital-Platforms-in-Manufacturing Industries
- Common Strategy for Industrie 4.0 and Industrial Internet of Thigs (IIOT), Second Edition
  ~ A Bilateral Approach on Harmonizing Standardization ~
- Usage View “Seamless and Dynamic Engineering of Plants”
- IIoT Value Chain Security – The Role of Trustworthiness

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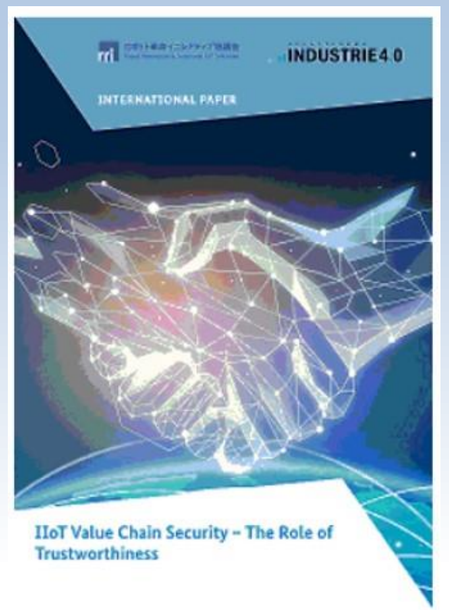
Joint papers released from RRI and Plattform Industrie 4.0

- **The goal of our activity is:**
  - **To identify new security requirements for Industrie 4.0& Connected Industries**
  - **To incorporate trustworthiness in upcoming interconnected economies**

– PI4.0 and RRI had discussed the role of trustworthiness intensively during FY19 and have provided the whitepaper **“IIOT Value Chain Security – The role of Trustworthiness” 2020**



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JPN-GER Discussion on Digital Business Models

Overall objective

- Illustration of the **economic** importance of digitization for the manufacturing industry, driven by the analysis of selected examples, scenarios and use cases that can be **observed in the market**

Addressed stakeholder

- Primarily the **manufacturing industry**, in order to provide guidance in the complex discussions, but also politics and research

Consequences

- JPN and GER both **benefit** from a joint discussion because they have a similar understanding of the importance of digitization for the future of the manufacturing industry

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International Collaboration 4 : International Symposium

“Manufacturing as the foundation of all industries”
was discussed with German, US and Japanese experts.

The Robot Revolution and Industrial IoT International Symposium 2021

- Day1 (Oct, 04, 2021) : Global Leaders Dialog: Paradigm shift in manufacturing business
- Day2 (Oct, 13, 2021) : Manufacturing Innovation Practice and Workforce Development
- Day3 (Oct, 14, 2021) : Data exchange and Data quality
- Day4 (Oct, 15, 2021) : Japan-Germany Expert Forum
- Plenary (Oct, 28, 2021) : Manufacturing Business Revolution, Japan’s Approach 2021

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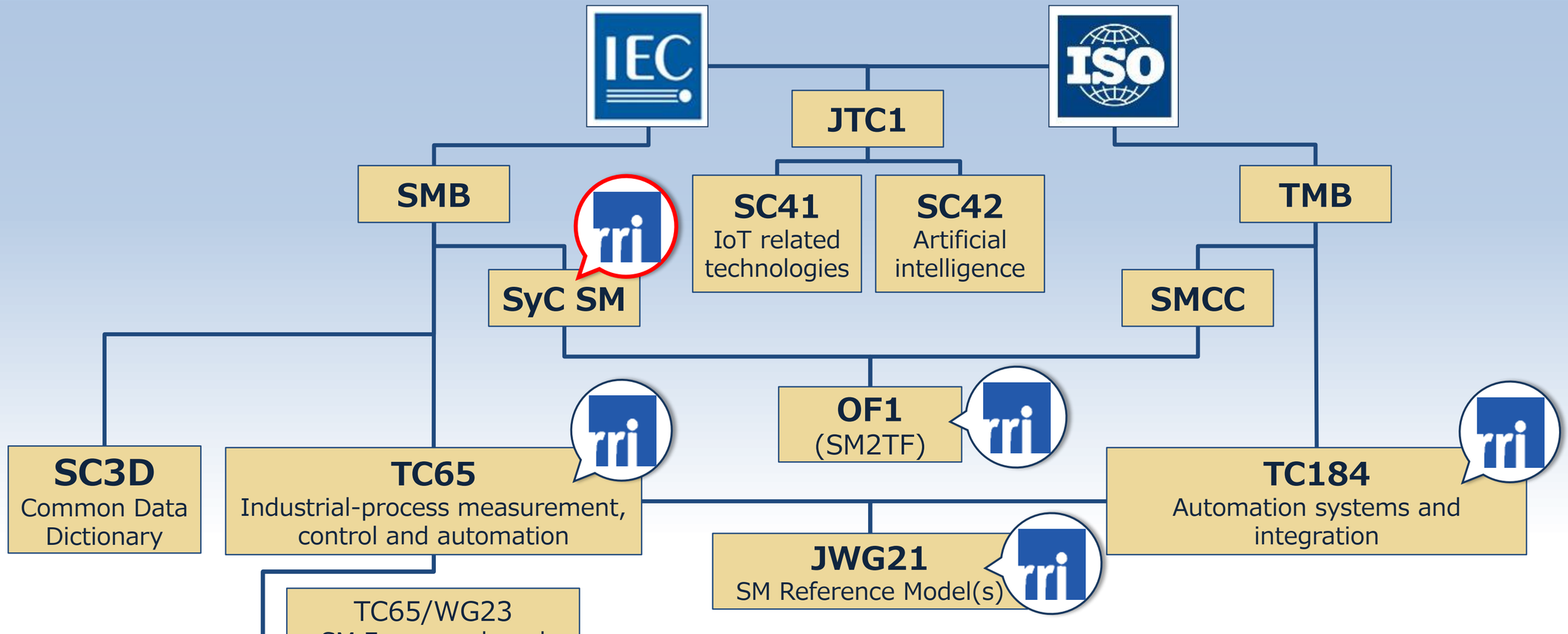
International Collaboration 5 : International Standardization



SMB: Standard Management Board
SyC: Systems Committee
SM: Smart Manufacturing
SM2TF: Smart Manufacturing Standard Map Task Force
TMB: Technical Management Board
SMCC: SM Coordinating Committee

JTC: Joint Technical Committee
JWG: Joint Working Group
TC: Technical Committee

: Secretariat of Japan National Committee

: Participation of RRI members

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National Collaboration: SMEs supporters networking

RRI encourages SME supporting institutions located local areas ,and regularly holds meetings to share their knowledge, know how for supporting SMEs.

Who

National Institutions

To Whom

National companies (mainly SMEs)

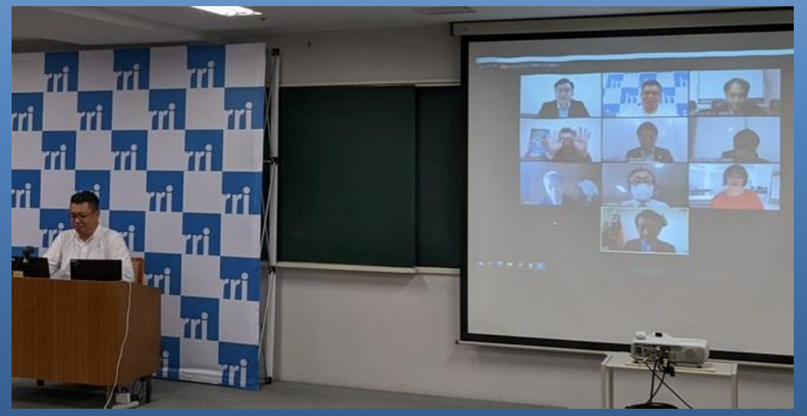
What

- ✓ IoT Tools and Supporting tools
- ✓ Sharing use-cases
- ✓ Training & education
- ✓ Sharing support information

“The MONODZUKURI SME DX Forum” was held in 14th, May. 2021.

Aim: Collaboration among support groups of SMEs in various regions

1) Enhance networking
2) Share common knowhow
3) Extract common problems



Online Seminar

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Activities 2 : Robotics Human Resource Development by CHERSI

CHERSI scheme

Industry

Kawasaki　DENSO
Hirata　FANUC
NACHI　MITSUBISHI
YASKAWA　SIer Association

Matching by CHERSI

Academia

-National Institute of Technology
-Human Resources Development Facilities(JEED)
-The National Association of Principals of Technical Senior High Schools

CHERSI Target and Development Plan

Target :
Fostering students who have learned the latest robotics to society

STEP 3

<< For continuity>>
- Create education contents and decide education method
- Execute social education
- Collaborate study and exchange

STEP 2

Academia site　Collaboration education between academia and industry　Industry site

-Facility tour
-Robot school
-Training / Internship
-Delivery class for students
etc.

Education with depth and width
(Expand education by simulation and real experience)

STEP 1 Regularly information exchange between teachers and engineers.

CHERSI : The Consortium of Human Education for Future Robot System Integration

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