

Collaboration on Business Model

The Robot Revolution and Industrial IoT International Symposium 2024

Japan-Germany Expert Forum

- Shuhei Sugie (Future Corporation)
- Prof. Nils Madeja

(Plattform Industrie 4.0 AG6 /Technische Hochschule Mittelhessen)

Background

Japanese Activity

German Activity

Future collaboration

Outlook

Mr. Shuhei Sugie

Mr. Shuhei Sugie

Prof. Nils Madeja

Prof. Nils Madeja

Mr. Shuhei Sugie

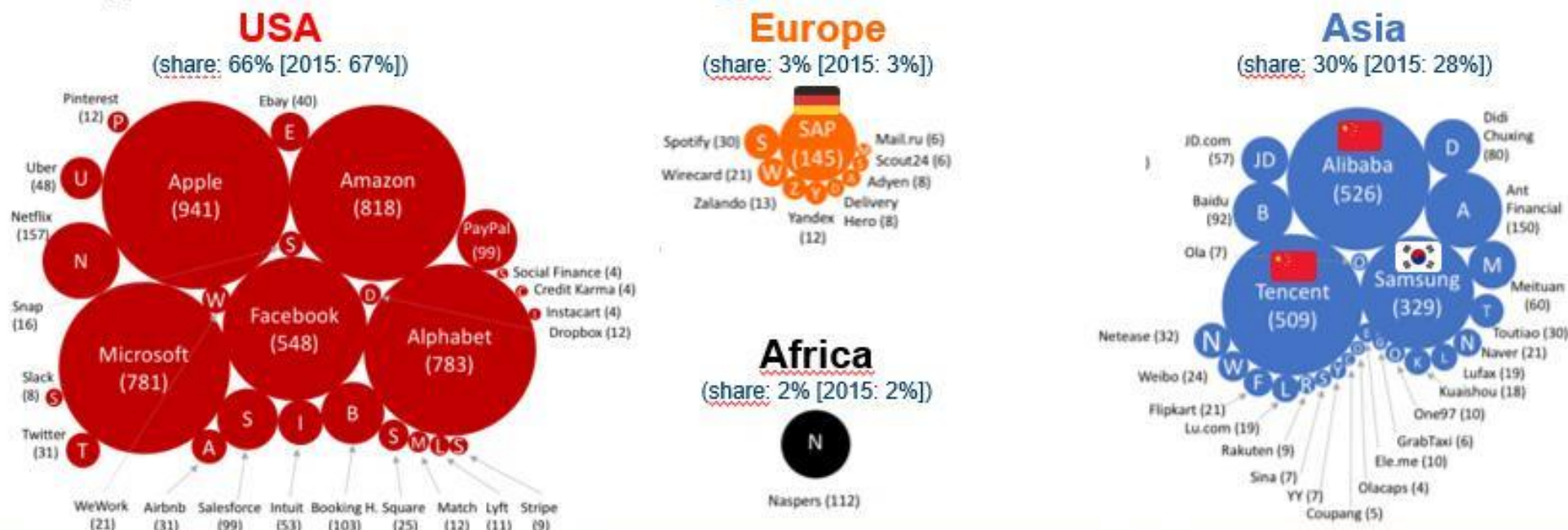
- Dr. Kagermann proposed our cooperation in promoting the B2B platform economy at RRI International Symposium 2018.
- RRI agreed with the Plattform Industrie 4.0 to cooperate in the field of Digital Business Model.
- GER-JPN collaboration slowed down after publication of joint paper “Digital Platforms in Manufacturing Industries” in 2021. Separate activity in Japan and Germany.



- The manufacturing industry is changing from product-driven to service-driven. The business ecosystem and business model transformation is key for the success of industry in the future.
- We restarted a discussion on business model as a new expert meeting in 2024.



The most Valuable Companies in the World are Platform Companies – but there is a Regional Imbalance



→ B2C is dominated primarily by USA & China.

→ Competition in the B2B sector has not yet been decided. This creates opportunities for Japan and Germany.

Source: Netzoekonom.de/idea: Peter Evans.

1 Executive Summary

2 Introduction

2.1 Objectives

2.2 Scope

2.3 Brief Introduction to Platforms

2.4 Overview of the Document

3 Examples from Japan

3.1 CADDI – Manufacturing platform for sheet metal bending

3.2 sitateru – An organizer of supply chain for apparel companies

3.3 Landlog – An IIoT platform for monitoring and managing daily construction

3.4 FANUC FIELD system – An IIoT platform for monitoring usage data of robots and machine tools

4 Examples from Germany

4.1 V-Industry – Brokerage of machine resources

4.2 Railigent – Application suite for intelligent asset management

4.3 GrabCAD – Community-supported collaborative 3D-printing platform

4.4 MIP – Manufacturing Integration Platform

5 Analysis of the Examples

5.1 Pattern of B2B-platforms

5.2 Summary

6 Outlook: Platform Business Model Mechanism

6.1 Types of Network Effects

6.2 Dynamics of Network Effects

7 Bibliography



[DL URL : Digital Platforms in Manufacturing Industries](#)

Background

Mr. Shuhei Sugie

Japanese Activity

Mr. Shuhei Sugie

German Activity

Prof. Nils Madeja

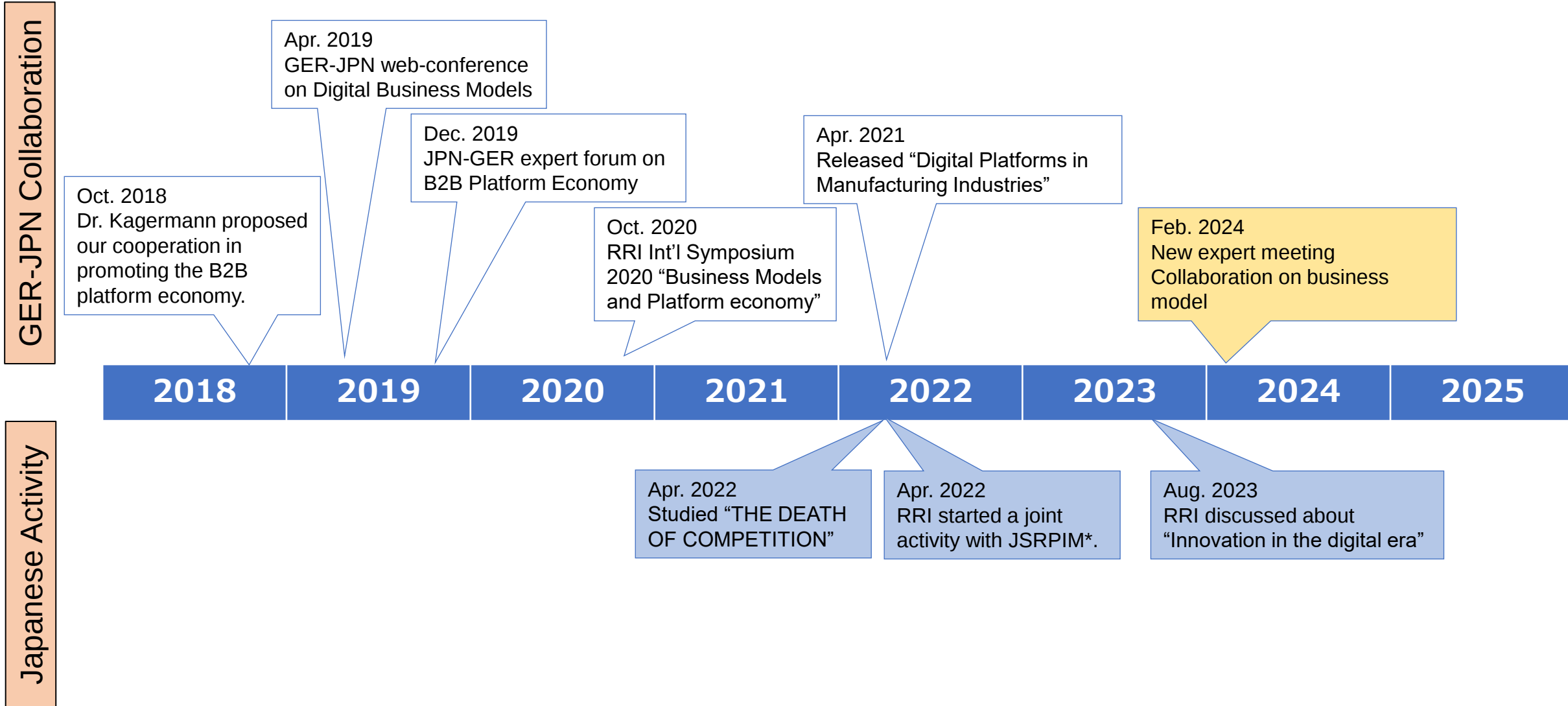
Future collaboration

Prof. Nils Madeja

Outlook

Mr. Shuhei Sugie

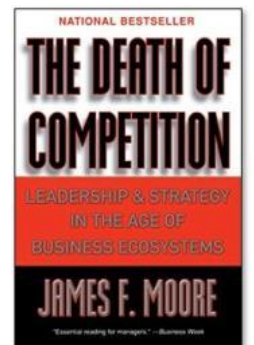
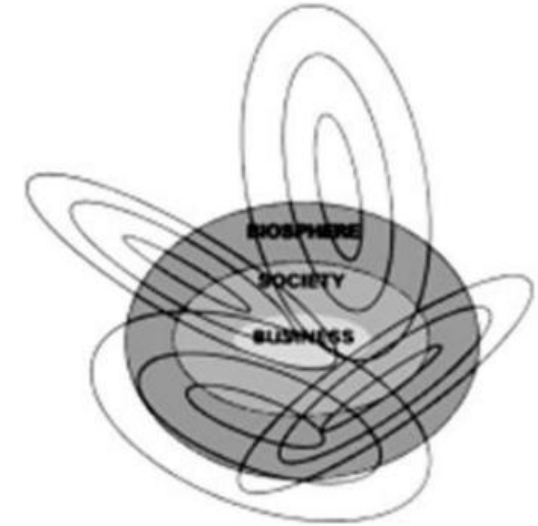
GER-JPN Collaboration History



*JSRPIM : Japan Society for Research Policy and Innovation Management

- In 2022, RRI studied and considered “THE DEATH OF COMPETITION” to deepen understanding of business ecosystems
- Three purpose:
 - Fully understand the contents of “THE DEATH OF COMPETITION”
 - Understand and summarize Business Ecosystem of “THE DEATH OF COMPETITION”
 - Consider suggestions for strengthening Japan’s competitiveness by building B2B platforms
- One big lesson:

There are various systems in ecosystems, such as those that focus on business, those that focus on society, and those that focus on the environment, and each system develops while balancing with each other. In the future, it will be important to think about the entire system including them.
- RRI released a report summarizing the business ecosystem learned from “THE DEATH OF COMPETITION” in Feb. 2023.



- RRI has a joint activity with “Japan Society for Research Policy and Innovation Management” to research innovation through digitalization since 2022.

	Purpose of research	Focus points
Business Collaboration & Ecosystem Research Group Prof. Takanashi Toyo University	• Explain a new business and its ecosystem arising from data exchange / sharing logically • Extract implications for the new data exchange / sharing business and its ecosystem management	• How is new value created in new business arena through data exchange / sharing? ✓ RQ1 : What is ecosystem of the new business arena like and how it is managed? ✓ RQ2 : What is needed to attract new ecosystem members and keep them creating new value through its ecosystem? ✓ RQ3 : How can existing management theories explain the new phenomena? New concepts needed?
Activity of Digitalization Infrastructure Research Group Mr. Onuma JSRP	• Identify the issues regarding digitalization in Japan and explore the direction of countermeasure	• Focus on the fundamental issues of digitalization ✓ Vision/Strategy: Building a vision and strategy for digitalization ✓ Investment: R&D and capital investment for digitalization ✓ Human resources: Human resources development for digitalization ✓ Culture/Mindset : Creating a culture and mindset for innovation

RRI discussed about “Innovation in the digital era” in 2023.

Hypothesis: Innovation changes in the digital era

- What is innovation in the digital era?
- Is it different from before?

Understandings:

- Standardization has made it easier to connect “different domains”.
 - Business processes
 - Data handled in business processes
- From the use cases, we could imagine the “connecting different domains” of products, services and people from materials, design, usage to disposal.
- Digitalization has made it easier to realize new values and concepts.
 - ⇒ Characteristics of “innovation in the digital age“

Background

Mr. Shuhei Sugie

Japanese Activity

Mr. Shuhei Sugie

German Activity

Prof. Nils Madeja

Future collaboration

Prof. Nils Madeja

Outlook

Mr. Shuhei Sugie

Working Group 6 - Digital Business Models in Industry 4.0

Our Mission:

Rethink value creation.

Overall Objective:

To make potential visible and create framework conditions.

Leading questions:

- What are the basic principles of digital business models in Industrie 4.0?
- How do you create an ideal breeding ground for digital business models in companies and in the economy as a whole?

The working group is currently working in three subgroups: Sustainability, Industrial Metaverse and Value Creation in Data Spaces. These subgroups each focus on specific aspects of digital transformation to enable targeted solutions and comprehensive strategies, especially for SMEs.



Sustainability



The subgroup focuses on embedding sustainability into organizations, aligning strategies, structures, and cultures with international standards, regulations, and stakeholder expectations. This approach aims at transforming business practices to foster a more sustainable, responsible corporate environment.

- Companies need to prioritize sustainability goals, influenced by international standards, regulations, customer and employee expectations. This often requires realigning strategies, structures, systems, decision-making processes, and adapting corporate culture.
- We are exploring which organizational structure supports the achievement of sustainability goals.
- Our next steps are to demonstrate the twin transformation and to show interdependencies between digitization and sustainability.

Industrial Metaverse



The subgroup on Industrial Metaverse researches the opportunities that this technology offers for the creation of new business models or the transformation of existing ones. Its exploration focuses on how virtual environments can reshape traditional industrial practices, fostering new forms of training, collaboration, innovation and business models. Areas of consideration are:

- Impact of the Industrial Metaverse on traditional business models
- New collaboration forms and integration opportunities
- Changes in work formats across product lifecycles, including training and production
- Educational and training requirements for effective Metaverse integration
- Legal and business implications to ensure comprehensive adaptation

Data Spaces



This subgroup focuses on identifying and understanding the specific needs and challenges SMEs face in leveraging data-driven value creation. The aim is to identify how SMEs can effectively leverage data for enhanced value creation, ensure their needs are met and facilitate their successful integration into digital ecosystems.

- Initial findings indicate significant heterogeneity in terms of understanding concepts, maturity levels in dealing with data-driven value creation, and awareness of the concrete benefits of data spaces. SMEs differ markedly from large enterprises in their utilization interests, with some expressing skepticism about entering into new dependencies and power asymmetries through the use of data spaces. Our aim is to understand the specific needs of SMEs utilizing data spaces.
- Current focus: Analyzing the survey results among SMEs to measure their level of commitment to digitalization in value chains and to understand their specific requirements for the use of data spaces.

Background

Mr. Shuhei Sugie

Japanese Activity

Mr. Shuhei Sugie

German Activity

Prof. Nils Madeja

Future collaboration

Prof. Nils Madeja

Outlook

Mr. Shuhei Sugie

- It seems there are many points where we'll be able to find a common interest between Germany and Japan.
- SMEs survey will give us important suggestion because Germany and Japan have their own business practices, environments, and cultures.
- It is important to understand the current level of engagement with data spaces in SMEs.
- Discuss the joint survey between Germany and Japan on data spaces and business ecosystems.

Background

Mr. Shuhei Sugie

Japanese Activity

Mr. Shuhei Sugie

German Activity

Prof. Nils Madeja

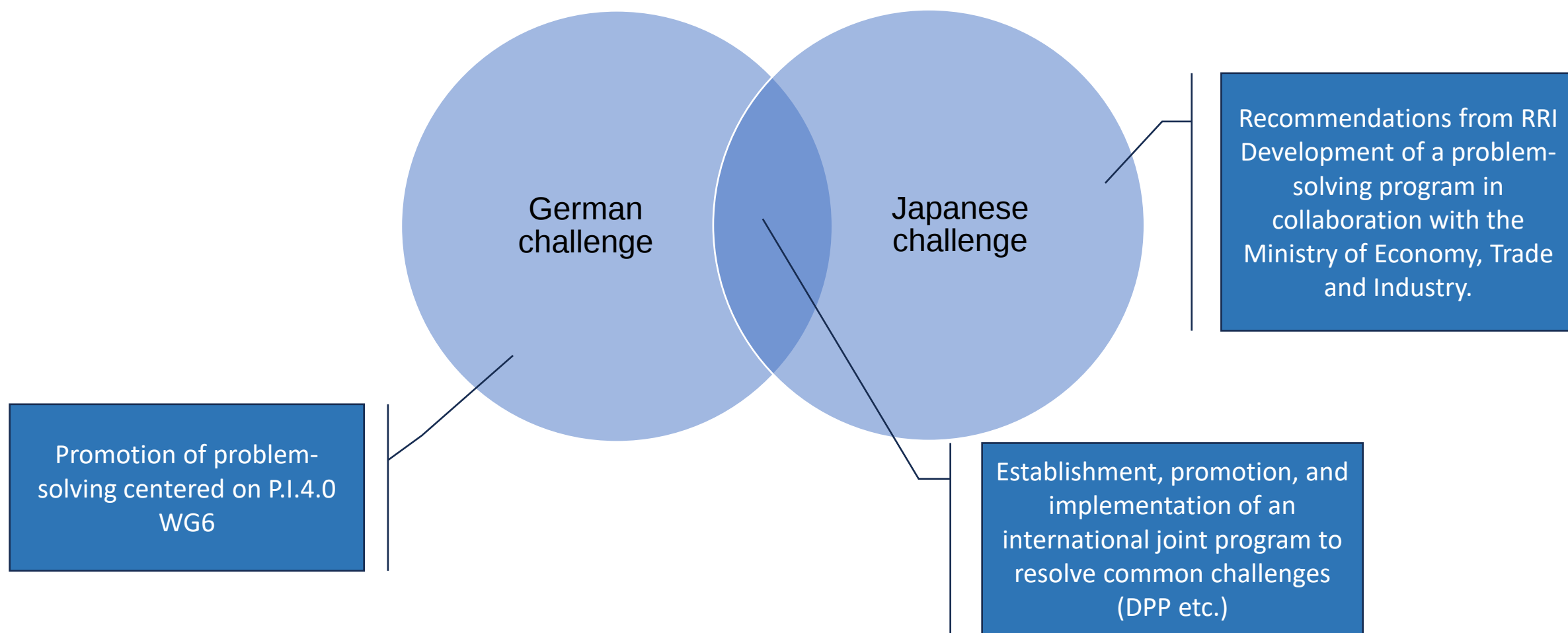
Future collaboration

Prof. Nils Madeja

Outlook

Mr. Shuhei Sugie

Recognize the common challenges faced by Germany and Japan in advancing digital business models, as identified in the joint survey.
Launch an international joint program to address these common challenges.



Thank you!

Shuhei Sugie

Strategy Innovation Group Open Innovation Unit Director

FUTURE CORPORATION

Phone +81 50 (5306) 0556

E-mail s.sugie.zt@future.co.jp

Prof. Nils Madeja

Plattform Industrie 4.0 AG6

Technische Hochschule Mittelhessen

Phone +49 641 309-2763

E-mail nils.madeja@w.thm.de