INPACE

Indo-Pacific-European Hub for Digital Partnerships

EU-JAPAN DIGITAL WEEK 2025

Tokyo, March 31st – April 7th, 2025
Summary Report

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1 BACKGROUND OF THE EU-JAPAN DIGITAL WEEK

1.1 CONTEXT OF THE EU-JAPAN DIGITAL WEEK

The mission of the INPACE project (Indo-Pacific-European Hub for Digital Partnerships) is to support the Digital Partnerships and the Trade and Technology Council and to contribute to the deepening of the collaboration between Europe and India, Japan, the Republic of Korea and Singapore in the domain of digital technologies and their application for the well-being of the citizens in Europe and in the Indo-Pacific region. As part of this effort, INPACE organised the Digital Week at Tokyo, Japan, on March 31st – April 7th, 2025, composed of a series of workshops on Digital Technologies and Policies to strengthen Indo-Pacific-European Digital Partnerships.

1.2 OBJECTIVES OF THE EU-JAPAN DIGITAL WEEK

The event addressed the intersections of technology and policy, **fostering dialogues between experts from both regions to strengthen digital partnerships with Japan, ROK, Singapore, and the cooperation with India in the TTC context.** The Digital Week aimed to delve into the latest advancements in digital technologies and transformative applications within the Indo-Pacific region and Europe.

The EU-Japan Digital Week brought together stakeholders from the EU and Japan to focus on key priority areas for both regions: 6G, Data Spaces, Smart Connectivity and Computing and Data Spaces, among others. A policy workshop was also organised in close consultation with the Delegation of the European Union to Japan to ensure that it reflects the shared priority of both regions and aligns with the strategic objectives of the EU-Japan Digital Partnership. The EU-Japan Digital Week offered dedicated workshops to discuss groundbreaking technologies and their impacts, including:

- "**Smart Connectivity and Computing**" Workshop
- "**6G Horizons: Synergies for a Connected Future**" Workshop
- Closed-Door Policy Workshop: "**The EU-Japan Digital Partnership: Going Forward**"
- "**Trusted Data Exchanges: From Standards to Pilots in a changing world**" Workshop
- **"Data Spaces – or the Story How to Make Business from Data in a Legal Fashion"** Workshop
- "**Critical Applications of AI in Industry, Healthcare and Other Sectors**" Workshop

These workshops spotlighted cutting-edge developments and the policies shaping these fields. Additionally, the workshops were designed as catalysts for collaboration, fostering mutual understanding and joint research initiatives between European and Indo-Pacific organisations.

1.3 ORGANISATION OF THE EU-JAPAN DIGITAL WEEK

The workshops of the Digital Week were help physical and were hosted in several locations in Tokyo. G.A.C. Group, coordinator of INPACE, was responsible for the Digital Week. The event gathered more than 400 participants, coming from Europe and the Indo-Pacific.

The Organising Committee of the Digital Week was chaired by Dr. Svetlana Klessova, Director, Research and Innovation Partnerships at G.A.C. Group together with the workshops' organisers Dr. Giacomo Inches, Martel Innovate, Adam Kapovits, Eurescom, Dr. Eva Pejsova, Vrije Universiteit Brussels, Dr. Franck Le Gall, EGM, Dr. Antonis Ramfos, Athens Technology Center SA, and Prof. Sebastian Engell, TU Dortmund and ENRICH Global. Event organisation and publicity activities were led by Anita Gojanovic, D4P.

The following guidance were suggested to the workshops' leads ahead of the EU-Japan Digital Week, to be included in discussions:

- The key challenges, major needs, activities, projects and initiatives related to the topic of the session.
- Specific national initiatives, networks, key players, major research projects, industry involvement, etc.
- How the experts' work, experience and expertise, matter for digital cooperation between the EU and the Indo-Pacific.
- Sub-priorities in the topic of each workshop that could benefit both the EU and the Indo-Pacific, how could the two regions align.
- Areas where collaborations can lead to some concrete outputs and support Digital Partnerships.
- Concrete pilot projects and/or joint initiatives that could be facilitated under the INPACE framework.

At the end of each workshop, participants were invited to provide their feedback. Participants' feedback is presented in the Appendix A. It is worth noting that the average participation rate across the six workshops is 66%, which indicates that, on average, two out of every three registrants attended the workshops. This high participation rate reflects the strong interest and engagement of the registrants in the topics covered during the workshops.

The agenda and materials of the EU-Japan Digital Week and corresponding workshops, including the slides, and the present report are available on the INPACE Hub.

2 SUMMARY OF KEY RECOMMENDATIONS FROM THE EU-JAPAN DIGITAL WEEK

WORKSHOP	Main recommendations
Smart Connectivity and Computing	Secure cross-region data sharing and seamless integration of IoT and cloud-edge technologies need harmonized regulations and interoperability frameworks. Development of interoperable and trusted data spaces is critical, as well as cultural shifts towards open-source technologies, and cross-border data governance. Maintenance of ethical considerations and strong alliances are essential for sustaining competitiveness and technological advancement
6G Horizons: Synergies for a Connected Future	Services need to be made more accessible, bringing cost down to remove access barrier. Further to the above, vertical sector specificities need to be considered properly. It might be advisable to consider All Photonic Network and Non-Terrestrial Networks (including High Altitude Platforms) of Japanese 6G research in the future for collaboration purposes. Funding is very important to support such collaborations, but there is a need for better, improved alignment between funding processes and instruments, including time synchronicity.
The EU-Japan Digital Partnership: Going Forward	The EU and Japan face shared challenges: ensuring security against cyber threats, mitigating disruptions in global supply chains, and expanding resilient networks in a volatile geopolitical climate. Align research priorities, foster innovation ecosystems, and build resilient supply chains, while balancing economic security, competitiveness, and ethical imperatives, as well as responsible governance. Promote seamless global digital integration and open, free, stable, accessible, interoperable, reliable and secure digital connectivity.
Trusted Data Exchanges: From Standards to Pilots in a changing world	Trust and interoperability are inseparable pillars of DFFT. By combining Japan's regional data platforms, open standards, and trust anchors, the EU and Japan are poised to address demographic and sustainability challenges. Success hinges on translating these frameworks into actionable policies and pilots, ensuring equitable data flows that drive innovation while preserving sovereignty. This collaboration sets a precedent for global data governance, and will demonstrate how strategic partnerships can turn demographic and technological challenges into opportunities for inclusive growth.
Data Spaces – How to Make Business from Data in a Legal Fashion	Data sovereignty, FAIR data principles, trust and decentralised governance, and semantic interoperability are key for EU-Japan data space integration, ensuring secure, reusable data across

	regions. Manufacturers and supply chain actors from EU and Japan should continue efforts to find solutions for product traceability across the 2 regions. Based on the European Commission's policy on the Digital Product Passport (DPP) and the Japanese Government's intention to introduce a DPP-like framework, the need for a shared data infrastructure capable of supporting this goal had been considered essential by such actors. A commonly accepted potential pilot project on EU and Japan data spaces trusted interoperation was proposed in the textile domain. The importance of ensuring funding for the implementation of the results of the workshop was remarked by all participants.
Critical Applications of AI in Industry, Healthcare and Other Sectors	The perception of the challenges in the development of critical applications of AI as well as the solution approaches in Europe and Japan are very similar. Mutual learning regarding regulations and guidelines for the development of AI-based solutions and joint progress in standardization will enable faster and more streamlined development processes and help to create trust both in systems which support humans and in fully autonomous solutions. Sharing data sets with representative labelled data for training and testing of solutions internationally is regarded as a path forward. Important scientific challenges to overcome include making models smaller, the combination of fundamental knowledge and data-based models, and progressing to online learning or adaptation.

3 "SMART CONNECTIVITY AND COMPUTING" WORKSHOP

3.1 ORGANISER

Organiser	Organisation	Country
Dr. Giacomo Inches	Martel Innovate, in collaboration with NexusForum.EU project	Switzerland
Co-Organiser	**Organisation**	**Country**
Prof. Kiyoshi Murata	Meiji University	Japan

Venue: Global Front Building, Surugadai Campus, Meiji University

Date: Monday 31st March 2025

Attendance: 66 (experts, industry, government representatives)

3.2 SUMMARY OF THE WORKSHOP

The Smart Connectivity and Computing workshop, held as part of the EU-Japan Digital Week at Meiji University, Tokyo, was a comprehensive forum dedicated to fostering advanced collaboration between Europe and Japan in cloud-edge computing and IoT technologies. Organized by the NexusForum Project in collaboration with the INPACE project, the event was hosted by Prof. Kiyoshi Murata and Dr. Andrew Adams of Meiji University and highlighted the strategic and practical benefits of EU-Japan cooperation, particularly in digital sovereignty, interoperability, and innovative smart technologies.

The Smart Connectivity and Computing Workshop aimed to bridge the gap between the European Union and Japan in the fields of cloud-edge computing and smart connectivity. This one-day, in-person event brought together industry leaders, researchers, policymakers, and stakeholders from EU and Japan to discuss the current landscape, share best practices, and explore collaboration opportunities in open-source technologies, industry verticals, and cross-cutting topics. The workshop Identified and leveraged new or existing collaboration opportunities in Cloud Edge IoT between EU Industries, researchers, policymakers and Japanese partners, laying the foundation for concrete pilot projects or research initiatives. It validated the roadmap developed by NexusForum.EU for the European Commission to incorporate feedback from Japanese stakeholders.

3.2.1 Key take-aways of the workshop's sessions

Session 1: Opening Remarks

The workshop opened with Maria-Angeliki Evliati (NexusForum Project Coordinator) and moderator Dr. Giacomo Inches (Martel Innovate, Workshop Organiser), emphasizing the importance of EU-

Japan partnerships and setting the stage for discussions on digital collaboration and innovation, stressing mutual benefits and shared technological and ethical values.

Session 2: Keynote Addresses

The session featured keynotes by Dr. Andrew Adams. Dr. Adams highlighted the necessity for pooled digital sovereignty and open systems to counter digital “colonialism”. He discussed challenges posed by vendor lock-in and advocated for open standards, federated cloud infrastructure, and regulatory mechanisms to promote digital independence, emphasizing education and public sector leadership. In particular, he emphasized the role that politics and public sectors might have in influencing the approach of hyperscalers to openness, proving the example of Open Document Format (ODF) being supported by Microsoft Windows after government openness condition on software procurement contracts.

Session 3: Innovations in Japan's Cloud-Edge Landscape

Key presentations moderated by Dr. Giacomo Inches (Martel Innovate), highlighted significant innovations in cloud-edge technologies:

- **Didier Navez** (DAWEX) focused on smart connectivity and data governance, underscoring the critical role of standards and governance frameworks such as GDPR and Japan's APPI. He emphasized the need for harmonized regulations and interoperability frameworks to ensure secure cross-border data sharing and seamless integration of IoT and cloud-edge technologies, highlighting real-world implications across industries.

- **Kenji Hiramoto** (IPA Japan): Presented Japan's growing data infrastructure market, highlighting critical technologies like sensor networks and low-power wide-area (LPWA) communication networks. He addressed challenges like limited technology adoption among SMEs and emphasized tailored solutions for Japan’s aging population, including specific sensor-based applications for disaster management and public safety.

- **Dr. Kento Sato** (RIKEN Centre): Presented the Fugaku supercomputer, the faster in Japan which is involved in a collaboration with the EU funded project HANAMI. He illustrated the possibilities to collaborate with Fugako, in particular discussing hybrid cloud architectures, leveraging platforms such as AWS and showcasing their role in sectors like healthcare and climate forecasting.

- **Prof. Hidenori Nakazato** (Waseda University): Explored disaggregated and virtualized computing, discussing how these technologies can enhance resource efficiency, scalability, and reliability across networks, particularly stressing the importance of transparency and trust mechanisms in network communication.

This session highlighted how Japan’s cloud-edge infrastructure strategy is highly integrated, scalable, and closely aligned with real-world societal needs, for example healthcare, energy, and disaster mitigation.

Session 4: Panel Discussion – Advancing Cloud-Edge Computing

Chaired by Dr. Monique Calisti (Martel Innovate), this panel session featured industry experts discussing Cloud-Edge Computing technologies in key domains:

- **Masato Endo** (Toyota Motor Company): Emphasized open-source initiatives, highlighting their growing impact on various technological domains, including automotive, and discussed practical challenges and cultural shifts necessary within large corporations.

- **Koki Mitani** (NTT): Discussed the importance of globally interconnected data spaces for trusted international collaboration, using initiatives like Gaia-X as examples, emphasizing experiments in cross-jurisdictional data transactions and federated identity frameworks.

- **Prof. Noboru Koshizuka** (University of Tokyo): Presented infrastructure needs for a Society 5.0 and discussed international collaborations and business model innovations within data spaces, emphasizing the role of social and business models alongside technological development.

- **Dónal O'Regan** (Fujitsu): Highlighted digital identity, data sovereignty, and the Digital Product Passport initiative as essential for sustainable and secure data-driven economies, stressing the importance of trust and verifiable data sharing across industries.

The panelists collectively underscored the critical nature of interoperable and trusted data spaces, the need for cultural shifts towards open-source technologies, and challenges in cross-border data governance, suggesting practical pathways to overcome these challenges.

Session 5: Shaping the Future – NexusForum.EU Roadmap

This session guided by Chiara Zincone (OpenNebula) and Dr. Thomas Ohlson Timoudas (RISE) provided a forward-looking view of the European vision for a Cognitive Computing Continuum, as presented in the NexusForum Research & Innovation Roadmap, developed for the European Commission and highlighted future EU-Japan collaboration prospects, emphasizing aligning funding mechanisms, fostering academic exchanges, and promoting sandbox environments for innovation and experimentation, eganging the audience with a guided survey.

Session 6: The EU-Japan Nexus

Moderated by Dr. Sachiko Muto (RISE), the final session brought together high-level voices to address long-term strategic EU-Japan cooperation:

- **Dr. Monique Calisti**: Advocated for greater alignment of funding and more academic exchanges, noting existing multicultural cooperation as a strength and the need for practical funding mechanisms facilitating bilateral research collaborations.

- **Prof. Florence Tama**: Highlighted practical steps needed for enhanced EU-Japan scientific collaboration, particularly through aligned joint funding mechanisms, and emphasized real-world challenges faced by researchers due to administrative misalignments.

- **Dr. Raluca Csernatoni**: Discussed the geopolitical and ethical dimensions of digital sovereignty, advocating for multidisciplinary dialogues and reducing political barriers to collaboration, emphasizing the necessity of translating technical jargon into policy-relevant discussions.

- **Ulrich Ahle** (GAIA-X): Shared insights from GAIA-X's efforts in data sovereignty and international collaboration, emphasizing interoperability and regulatory alignment as key priorities, highlighting concrete examples of industry-driven data space initiatives.

The session concluded with consensus on maintaining ethical considerations and strong alliances as essential for sustaining competitiveness and technological advancement, specifically highlighting the strategic need for EU-Japan collaboration in the face of global competition.

Closing Remarks

The workshop concluded by emphasizing that EU-Japan collaboration is vital for developing innovative and ethically sound digital infrastructures, capable of meeting future challenges in IoT, cloud-edge computing, and digital sovereignty. This partnership was recognized as essential not only economically but ethically, ensuring secure, responsible, and impactful use of advanced digital technologies, driving mutual innovation and societal benefits.

4 "6G HORIZONS: SYNERGIES FOR A CONNECTED FUTURE" WORKSHOP

4.1 ORGANISER

Organiser	Organisation	Country
Adam Kapovits	Eurescom	Germany
Co-Organiser	**Organisation**	**Country**
Prof. Akihiro Nakao	ASPIRE	Japan

Venue: Sanjō Conference Hall, Hangō Campus, University of Tokyo

Date: Tuesday 1st April 2025

Attendance: 65 (experts, industry, government representatives)

4.2 SUMMARY OF THE WORKSHOP

The workshop aimed at fostering and deepening collaboration and partnership between the EU and Japan (and other Indo-Pacific countries) regarding 6G development. Both in Europe and in Japan there are large scale 6G research and innovation programmes in place. The EU-Japan digital partnership has among its priority areas 6G research and innovation. The Smart Networks and Services Joint Undertaking had a dedicated aligned call in 2024 specifically targeting AI-enabled radio access network (RAN) solutions.

The big question – and the ambition of the workshop – was to explore whether we are correctly perceiving and assessing, and subsequently addressing and responding to the major trends, social and business needs from a broad set of industries in 6G research and development, considering the rapidly unfolding disruptive trends such as generative AI.

The workshop was structured as follows:

- High level opening addresses setting the scene
- Presentations from European Smart Networks and Services Joint Undertaking projects, providing a cross section of the programme and its results
- Presentations from Japanese collaborations regarding 6G research and development with Europe, Republic of Korea and Singapore
- Selected industry views and funding opportunities

4.2.1 Key take-aways of the workshop's sessions

Speakers concurred that services need to be made more accessible, bringing cost down to remove access barrier. To do so, disruptive approaches are needed and thinking out of the box to move forward and reduce costs.

Further to the above, vertical sector specificities need to be considered properly.

Regarding connected cars, Toyota's initiative is an example for sustainability, retaining the value and utility of a car throughout its full life(cycle) providing support to a solution when neither the car manufacturer, nor the first user is willing to cover the cost of something like that.

Another message that emerged was to make the network more useful, improve its utility.

Technical comments included that the core as in the network core means essential, not necessarily and exclusively central. Further to that, it was argued that different optimizations are needed at different levels in the network. It was also pointed out that there is a need for out of band communication. Last, but not least, it was agreed that NTN is essential to improve coverage.

As for the key take-aways, the workshop concluded that it might be advisable to consider All Photonic Network and Non-Terrestrial Networks (including High Altitude Platforms) of Japanese 6G research in the future for collaboration purposes.

The experience reported regarding the SNS-JU aligned call with Japan clearly indicated that

- Both sides (Europe and Japan) followed a practice to develop proposals with their selected counterparts.
- Since the selection / awarding process in Europe and Japan was independent, this yielded to the selection of consortia in the two sides from different groupings that did not match, i.e. the European side awarded a consortium on the European side from one grouping, while the Japanese side awarded a consortium from another grouping.
- As a result, considerable effort had to be invested after the selection process to suitably align the two sides (Europe and Japan), making the process far from ideal and inefficient.

Another message that emerged regarding going forward was to focus on how we can improve – not necessarily repeat as we used to do things in the past. Further to that, speakers emphasized the need for a shared vision. There was an agreement that consolidation of research results, ensuring coherence and focus, and completeness of coverage of topics are all very important. Regarding the lead time to new activities, the need of being responsive and agile and the need for co-ordination are requirements that are conflicting, and need to be balanced and reconciled.

The message to the administrations and public side is that funding is very important to support such collaborations, but there is a need for better, improved alignment between funding processes and instruments, including time synchronicity.

In summary, more interaction is needed to further strengthen trust.

5 CLOSED-DOOR POLICY WORKSHOP: "THE EU-JAPAN DIGITAL PARTNERSHIP: GOING FORWARD"

5.1 ORGANISER

Organiser	Organisation	Country
Dr. Eva Pejsova	Centre for Security, Diplomacy and Strategy (CSDS), Vrije Universiteit Brussel (VUB)	Belgium
Co-Organiser	**Organisation**	**Country**
Dr. Kazuto Suzuki	Institute for Geoeconomics (IOG)	Japan

Venue: International House of Japan, Tokyo

Date: Wednesday 2nd April 2025

Attendance: 64 (experts, government representatives, civil society)

5.2 SUMMARY OF THE WORKSHOP

The workshop was organised by Centre for Security, Diplomacy and Strategy (CSDS) of the Brussels School of Governance (BSoG -VUB), in cooperation with the Institute of Geoeconomics (IOG), as part of the "EU-Japan Digital week". It brought together leading experts and policy practitioners from Japan and Europe to discuss the progress, challenges and priorities of the EU – JP Digital Partnership, notably in the domain of new and emerging technologies and digital connectivity. Except for the keynote addresses, the discussions were held under Chatham House rule.

5.2.1 Key take-aways of the workshop's sessions

In his **keynote remarks**, Former Digital Minister Taro Kono presented the Japanese ambition to continue its promotion towards Artificial Intelligence (AI) and related technologies' investments in Japan, underlining the importance to work together with the EU in today's turbulent times. The EU Ambassador to Japan Jean-Eric Paquet highlighted existing synergies in semiconductors and other relevant policy areas that are part of the EU-Japan partnership, especially in emerging technologies and security cooperation, joint procurement and international regulatory frameworks.

Session 1: Towards policy alignment in new and emerging technologies: Artificial Intelligence (AI), quantum and advanced semiconductors

The race for technological supremacy has become the defining battleground of the 21st century, with AI, quantum technologies, and advanced semiconductors at the core. For the EU and Japan, bridging policy divides, cooperating on governance priorities, and harmonizing standards are essential to maintaining sovereignty in a landscape increasingly shaped by U.S.-China rivalry. While both partners share a commitment to ethical innovation and responsible governance of emerging and disruptive technologies (EDTs), they diverge at their regulatory pace and approaches to industrial strategy. The first session explored how both partners can align research priorities, foster innovation ecosystems, and build resilient supply chains, while balancing economic security, competitiveness, and ethical imperatives, as well as responsible governance.

Key takeaways:

- AI innovation: on the one hand centralised in the hands of a few big corporations and at the same time relying on a decentralised system of support (hardware, servers, users which train AI models, etc.). Cooperation between Japanese and European firms can be an opportunity to make cheaper and more efficient AI models, but it should be pursued from the earliest stages possible to avoid costly coordination.

- AI & national security: there is a need to strike the right balance between treating AI as a national security issue and the protection of values such as democracy or human rights, as well as its commercial opportunities.

- AI regulation: New regulation needs to consider the impact on the entire supply chain for software, hardware, infrastructure and raw materials, which span across many countries. The Japanese approach can be a model, i.e.: a) encouraging companies to use AI while reducing red tape, b) developing sector-specific regulation, and c) maintaining flexibility. Excessive regulation may negatively affect the competitivity of European and Japanese firms vis-à-vis Chinese and American counterparts.

- Hiroshima AI process: despite different approaches, there are also many convergences, especially in regulatory contents. The two partners are on the right track and making further progress as part of the Hiroshima AI process.

- Human-centric AI: both EU and Japan need to reflect on and adapt to the needs of their societies ('society 5.0', services requirements, aging population etc.). Regulatory process should include input from the civil society. Better interaction with the private sector is essential to understand the role of companies in creating and sustaining excessive external dependencies.

Session 2: From space to under the sea: critical digital infrastructure for sustainable global connectivity

The second session examined the role of cutting-edge initiatives, including space-based networks and submarine cable systems, in driving sustainable growth and fortifying digital infrastructures. The EU and Japan face shared challenges: ensuring security against cyber threats, mitigating disruptions in global supply chains, and expanding resilient networks in a volatile geopolitical climate. While both partners share a commitment to sustainable and secure connectivity, differences in regulatory frameworks and strategic priorities underscore the need for deeper alignment. Experts unpacked the strategic, regulatory, and technical dimensions necessary for safeguarding critical digital infrastructures while promoting seamless global digital integration and open, free, stable, accessible, interoperable, reliable and secure digital connectivity.

Key Takeaways:

- Risk assessment & preparedness: need for a holistic approach to the space and sea domains as well as the harnessing of Emerging and Disruptive Technologies (EDTs) to develop reliable risk-assessment tools and increase preparedness

- Internet of Things (IoT) resilience: need to assess for IoT products obtain assessments of minimum levels of resilience against external attacks which use weak IoT devices as entry points for more complex operations. Recent case of tampering with communication devices (pagers and walkie talkies) in Gaza, causing controlled explosions risks damaging the reputation of IoT producers.

- Undersea cables: their weaknesses and the need to improve our preparedness for quickly assessing responsibility in case of disruption. Public-private projects need to be promoted to avoid the concentration of infrastructure in the hands of a few private actors. Financing economically unviable but strategically essential projects (for instance cables connecting Pacific islands) needs to be considered.

- Cyber security: economic prosperity and national security of both the EU and Japan relies on the cyber domain and its protection should be seen as foundational for our societies. A cyber-attack in one country can have a devastating effect in our economies (i.e. Taiwan).

6 "TRUSTED DATA EXCHANGES: FROM STANDARDS TO PILOTS IN A CHANGING WORLD" WORKSHOP

6.1 ORGANISER

Organiser	Organisation	Country
Dr. Franck Le Gall	EGM	France

Venue: International House of Japan, Tokyo

Date: Wednesday 2nd April 2025

Attendance: 34 (industry, experts, government representatives)

6.2 SUMMARY OF THE WORKSHOP

The Trusted Data Exchange Workshop, held during the EU-Japan Digital Week 2025, advanced collaboration under the EU-Japan Digital Partnership established in 2022. This partnership, rooted in shared values of human-centric digital transformation, aims to operationalize Data Free Flow with Trust (DFFT) through technical standards, pilot projects, and policy alignment. The workshop built on the 2024 Memorandum of Cooperation (MoC) on Digital Identities and Trust Services, which prioritizes mutual recognition of eSeals and interoperable digital identity frameworks . Key objectives included bridging EU-Japan approaches to data spaces, addressing demographic challenges through digital innovation, and scaling pilot projects in sectors like carbon management and disaster response.

The workshop underscored that trust and interoperability are inseparable pillars of DFFT. By combining Japan's regional data platforms, open standards, and trust anchors, the EU and Japan are poised to address demographic and sustainability challenges through scalable data ecosystems. Success hinges on translating these frameworks into actionable policies and pilots, ensuring equitable data flows that drive innovation while preserving sovereignty. This collaboration sets a precedent for global data governance, demonstrating how strategic partnerships can turn demographic and technological challenges into opportunities for inclusive growth.

6.2.1 Key take-aways of the workshop's sessions

Opening

Mr. Harald Kümmerle's presentation offered a comparative and strategic analysis of Japan's approach to digital governance, its global positioning, and its implications for trusted data exchange, particularly in relation to the EU and global regulatory trends. Kümmerle began by referencing the "Brussels Effect," wherein EU regulations like the GDPR influence global data protection standards, as countries seek adequacy for access to the EU market. However, he noted that the EU's regulatory model is currently under pressure, citing debates around the Digital Services Act and shifting priorities in the face of economic stagnation and global competition. Drawing on Bradford's typology of digital empires, Mr Kümmerle described the US as market-driven, the EU as rights-driven, and

China as state-driven. Japan, he argued, represents a “fourth digital empire” characterized by soft regulation and consensus-based governance. Japan’s approach relies on informal negotiation, administrative guidance, and social norms, rather than strict legal enforcement. This model is deeply rooted in Japanese legal tradition and is increasingly relevant in a multipolar digital world where like-mindedness on specific issues can be more important than strict value alignment. oncluded that Japan’s model of consensual digital capitalism, exemplified by its information bank certification scheme and pragmatic approach to DFFT, provides critical regulatory insights for global digital governance. Japan’s ability to navigate between US, EU, and Chinese models, while leveraging its own consensus-driven mechanisms, positions it as a central actor and mediator in shaping the future of trusted data exchanges and digital governance frameworks worldwide

Demographic Imperatives and Economic Transformation

Mr Keisuke Murakami, Director-General for Public Service Group at Japan's Digital Agency, presented a comprehensive analysis of Japan's demographic crisis and how it ignites an innovative data-driven response. Japan faces a severe population decline, with births hitting a historic low of 727,277 in 2023 and a fertility rate of just 1.20-far. Mr Murakami articulated a profound paradigm shift necessitated by Japan's demographic reality-moving from an economy where "demand matches supply" (characteristic of growth phases) to one where "supply matches demand" (essential in declining populations). This transformation represents a complete inversion of traditional service models: "In the population growth phase, suppliers dictated production. Goods reached consumers through a chain of human decisions in logistics and sales. The emphasis was on purchase value, starting with people's decisions. In a declining population, real-time consumer data optimizes production distribution. Goods move based on demand. Focus is shifting to how sharing platforms are used." In a contracting market, individual organizations cannot independently sustain digital investments. Instead, Japan is promoting a collaborative investment model: "During periods of market contraction, if each operator makes digital investments separately, there is a risk that they will not all be able to recoup their investments... it will be necessary to invest collectively in those [platforms] that can be shared.". This cooperative approach enables the development of data collaboration platforms that support various individualized services while sharing investment costs across multiple stakeholders. The Digital Agency promotes regional data coordination uses open-source software Foundation.

Finally, Mr Murakami highlighted a shift from quantity-focused metrics to quality-of-life outcomes:

"In a phase of declining population, the key is not so much a lack of supply as satisfaction with the system... It is important to conduct a macro review to determine whether the supply of infrastructure and public services has actually increased the level of satisfaction and happiness of residents."

This approach ties digital transformation directly to well-being indicators, ensuring that individualized services genuinely improve citizens' quality of life rather than simply measuring infrastructure deployment.

Interoperability Standards: FIWARE and NGSI-LD

FIWARE’s open-source framework emerged as a linchpin for cross-domain data sharing. Chandra Challagonda (FIWARE CEO) described the elements of trusted data exchanges and emphasized on trust framework and identity management in data spaces considering EU digital wallets and Gaia-X Digital Clearing Houses. The NGSI-LD standard, detailed by Martin Bauer (NEC), enables context-aware data exchange through graph-based models, geospatial queries, and provenance tracking. Adopted in EU (CEF Context Broker), Japan (Smart City SIP), and India (IUDX), NGSI-LD’s atomic entity signatures ensure data integrity, critical in applications such as supply chain transparency and disaster response.

Security and Infrastructure: ETSI TC DATA

ETSI's TC DATA initiative (Diego López) addresses interoperability across three dimensions: connectivity, storage, and processing. Focus areas include deployment of agents, distributed ledgers, AI safety, data description and usage, aligning with EU regulatory needs while fostering global collaboration. The initiative underscores the need for standardization to collaborate with open-source initiatives and provide reference implementations.

Trust Anchors: Legal Identifiers and Pilots

Hiroshi Nakatake (GLEIF) showcased verifiable Legal Entity Identifiers (vLEI), which streamline cross-border compliance and reduce fraud risks. A 2024 pilot demonstrated vLEI's utility in carbon-neutral supply chains, aligning Japan's eSeal framework with EU eIDAS regulations[3][5]. Meanwhile, Yasunori Mochizuki (iHub Base) highlighted Japan's Sapporo Data Exchange Market and the Japan-EU Carbon Management Pilot, which integrates FIWARE NGSI-v2 with Japan's CADDE trust framework[14][5].

Discussions

The integration of smart city initiatives with international data exchanges is driving solutions for global challenges like climate resilience and urban mobility, exemplified by the Japan-EU Carbon Management experiment, which leverages NGSI specification and Japan's CADDE framework for cross-border supply chain transparency. Standardized metadata, such as DCAT-AP 3.0 ensures interoperability in data assets descriptions. The EU's Digital Product Passport (DPP) mandate, requiring QR-code-linked sustainability data for products such as batteries and textiles, aligns with Data Free Flow with Trust (DFFT) principles, embedding legal identifiers like vLEI for supplier verification. Initiatives like Gaia-X Automotive Alliance treat vehicle sensor data as monetizable products, while Japan's Green x Digital Consortium links DPPs to CADDE for carbon credit recognition. Regulatory drivers, including the CO_2 Performance Ladder and GDPR, push granular reporting and secure data sharing, fostering hybrid catalogs that merge public datasets (DCAT-AP 3.0) with industry standards. Scaling pilots through living labs, and integrating DPPs into data spaces, would bridge technical and policy frameworks. Strengthening legal-technical synergies-pairing NGSI-LD's provenance tracking with vLEI-ensures audit-ready data products, transforming DFFT from diplomatic vision to operational reality, where trusted data flows underpin both economic growth and global sustainability.

7 "DATA SPACES – THE STORY HOW TO MAKE BUSINESS FROM DATA IN A LEGAL FASHION" WORKSHOP

7.1 ORGANISER

Organiser	Organisation	Country
Dr. Antonis Ramfos	Athens Technology Centre (ATC)	Greece
Co-Organiser	**Organisation**	**Country**
Peter Fatelnig	Delegation of the European Union to Japan, Tokyo	Japan

Venue: Delegation of the European Union to Japan, Tokyo

Date: Thursday 3rd – Friday 4th, April 2025

Attendance: 114 (industry, experts, government representatives)

7.2 SUMMARY OF THE WORKSHOP

This workshop aimed to introduce participants to the concept of data spaces, their architecture, stakeholders, and role in digital transformation, with a focus on addressing interoperability challenges. It explored business models for data spaces, highlighting best practices and successful case studies. The workshop discussed regulatory and ethical considerations for data sharing, emphasizing trust, standardization, and governance of data flows between EU and Japanese data spaces. It also provided practical guidance on interoperability, encouraging joint EU-Japan pilot projects. Finally, the workshop fostered EU-Japan collaboration and facilitated cross-border networking among industry, manufacturing, and technology leaders.

During the organization of the 2-days workshop, it became apparent that manufacturers and supply chain actors from EU and Japan were already in discussions to find solutions for product traceability across the 2 regions. Based on the European Commission's policy on the Digital Product Passport (DPP) and the Japanese Government's intention to introduce a DPP-like framework, the need for a shared data infrastructure capable of supporting this goal had been considered essential by such actors. Additionally, such an infrastructure would enable the provision of a clear and verifiable Environmental Footprint, thereby increasing market trust between the 2 regions. Therefore, the organisers of the workshop decided to further explore the opportunity for cross-region data spaces interoperation to enable cross-region product transparency and sustainability reporting. The workshop concluded with the identification of a commonly accepted potential pilot project on EU and Japan data spaces interoperation, while, during interactive sessions, specific implementation challenges were determined.

Thomas Gnocchi, Minister / Deputy Head of the European Union Delegation to Japan, and Makoto Kuroyabu, Chief Director for International Strategy, Digital Agency delivered the opening speeches of the 2-days workshop.

Keynote speeches were delivered by Chandra Challagonda (FIWARE) and Yuki Sakamoto (Ministry of Economy, Trade and Industry). Chandra Challagonda's presentation on Europe-driven FIWARE's role in enabling circular economy through data spaces directly supported the workshop's objectives by demonstrating how open-source frameworks can address interoperability challenges in cross-border data sharing. Yuki Sakamoto's keynote on Japan's Ouranos Ecosystem advanced the workshop's objectives by presenting a Japan governance-driven, interoperable data infrastructure tailored for cross-border collaboration.

Day 1 of the workshop started by introducing participants to the concept of data spaces, their architecture, stakeholders, and role in digital transformation. Tuomo Tuikka's (VTT) presentation on the Data Spaces Support Centre (DSSC) contributed to the workshop's objectives by clarifying the concept of data spaces as interoperable frameworks built on governance, standards, and trust—key themes for digital transformation. Data Spaces implementation approaches in the EU and Japan were then presented, with a focus on addressing interoperability challenges. Prof. Noboru Koshizuka's (University of Tokyo) presentation on DATA-EX and Japan's data space initiatives showcased Japan's federated, connector-based architecture for cross-domain data exchange, directly addressing interoperability challenges. The proposed exploration of AI-enhanced data spaces (e.g., Federated AI Agents) and business models (e.g., "Big Analyzer") advanced the workshop's goals of innovative cross-region data-driven economies and regulatory alignment. Chiseki Sagawa, Deputy Director General of the Digital Agency of Japan on Industrial Data Sharing, emphasized the formation of a data-sharing ecosystem to enhance supply chain efficiency and competitiveness, and highlighted the modularization of components (e.g., trust functions, systems) as a scalable approach to interoperability, addressing technical and governance challenges. Teruyoshi Fujiwara's of the Automotive and Battery Dataspace (ABtC) within Japan's Ouranos Ecosystem demonstrated a real-world implementation of cross-industry data sharing for sustainability and regulatory compliance.

The Workshop also explored the issue of business models and value creation in data spaces interoperation. Nuria de Lama's (IDC) presentation on business models for data spaces analyzed the economic and operational frameworks that enable sustainable data ecosystems. It highlighted the diversity of value propositions, emphasizing that success depends on clear stakeholder benefits, from operational efficiency to ESG compliance, rather than just monetization. The presentation provided market insights, revealing growing demand for data sharing despite low awareness,

Best practices and successful case studies in manufacturing, textile, supply chain resilience, battery CFP, and automotive lifecycle management were addressed next. Special focus was given on the role of Data Spaces in the implementation of the Digital Product Passport between the EU and Japan. Dónal O'Regan's presentation on Fujitsu's data space initiatives demonstrated practical implementations of cross-border data ecosystems. It provided concrete examples of how industry can drive value creation while addressing governance and sustainability challenges in data sharing. The focus on Catena-X and the emphasis on global trust anchors and PoCs with Ouranos highlighted Fujitsu's role in standardizing secure data sharing for automotive supply chains, aligning with interoperability goals. Kentaro Blumenstengel's presentation on DMG MORI's digital ecosystem for the machine tool industry demonstrated how industrial data spaces can drive value creation in manufacturing. Furthermore, the Manufacturing-X initiative, with global partnerships like Catena-X (automotive) and Aerospace-X, exemplified cross-sector data spaces, fostering trusted, domain-specific ecosystems and offering actionable insights for joint EU-Japan pilot projects in smart manufacturing. Koki Mitani's presentation on International Cross-Industry Data Sharing addressed interoperability, trust, and sovereignty in global data spaces. The focus was on NTT's Data Sandbox technology and Trusted Execution Environments (TEEs) that offers a technical solution for secure, policy-controlled data sharing—key for overcoming regulatory and ethical barriers. By highlighting

collaborations like Catena-X, Manufacturing-X, and Gaia-X, the presentation underscored the need for EU-Japan alignment on standards and governance.

Regulatory considerations for data sharing, emphasizing trust, standardization, and governance of data flows between EU and Japanese data spaces were also presented. Franziska Zibold's (EC DG GROW) presentation on the Digital Product Passport (DPP) framework outlined the EU's regulatory approach to sustainable and transparent product lifecycle management. The DPP serves as a digital identity card, enabling traceability of carbon footprints, material origins, and disposal options—key for circular economy goals and cross-border supply chain compliance. The presentation highlighted the Ecodesign for Sustainable Products Regulation (ESPR) as the legal foundation, with sector-specific delegated acts (e.g., batteries, textiles) ensuring tailored implementation. By emphasizing standardization (CEN/CENELEC) and interoperability, it addressed technical challenges while fostering EU-Japan collaboration on data spaces. The roadmap to 2027, including registry launches and mandatory adoption, provided actionable insights for businesses preparing for regulatory alignment. Next, Didier Navez's presentation on Dawex's data exchange solutions addressed regulatory compliance and interoperability in data spaces, particularly under the EU Data Act. The presentation highlighted how Dawex's technology supports secure, scalable data sharing across industries, ensuring compliance with evolving regulations like GDPR and the Data Governance Act. Dónal O'Regan's presentation of Fujitsu on CIRPASS-2 project showcased how Digital Product Passports (DPPs) enable circular economy practices through real-world B2B pilots in textiles, electronics, tires, and construction. By linking DPPs to international data spaces and advanced technologies (e.g., digital twins, DLT), CIRPASS-2 demonstrated how regulatory tools can unlock economic and environmental value. Finally, Diego López's presentation of Telefonica on ETSI's TC DATA Framework proposed a standardized approach to distributed data infrastructures, emphasizing interoperability, trust, and regulatory compliance. The framework addresses evolving needs like AI-driven data exchanges and multi-domain integration, while aligning with EU policies (e.g., Data Act, AI Act). By collaborating with global standards bodies, TC DATA aims to harmonize fragmented data ecosystems—directly supporting scalable, cross-border data spaces.

Day 2 of the Data Spaces workshop sought to foster practical EU-Japan collaboration by facilitating cross-border networking among industry, manufacturing, and technology leaders to identify potential EU/Japan collaborations. The EU-Japan synergy to support traceability, sustainability, and circularity in textile clothing emerged as a potential collaboration opportunity. The SM4RTENANCE pilot, presented by Alessandro Piacenza of Fratelli Piacenza, opened Day 2 and showcased how data spaces can enhance circularity in the textile industry by integrating Digital Product Passports (DPP) and traceability tools. The pilot demonstrates practical solutions for SMEs, emphasizing cost efficiency and compliance with EU sustainability regulations like the Green Deal, and it provided actionable insights for joint EU-Japan collaborations. This case study directly contributed to the workshop’s goals of fostering cross-border networking and scoping pilot projects for interoperable data spaces. Trustworthiness and security along Supply Chains, a leading use case of data spaces for industries and for regulation in the case of Digital Product Passports were also discussed. Satoshi Tsuchiya's (Fujitsu) presentation addressed the critical interoperability challenges for data spaces in enabling circular economy solutions across EU-Japan supply chains. It highlighted how differing trust frameworks and jurisdictional requirements create barriers for cross-border data sharing among diverse stakeholders like recyclers and manufacturers. The proposed solution involves developing mutual recognition between trust anchors using certificate conversion technology, currently being tested in a joint PoC by Fujitsu, NTT and T-Systems. Dr. Wolfgang Klasen's (SIEMENS) presentation on Cybersecurity Challenges in Data Spaces addressed trustworthiness and security as foundational pillars for cross-border data sharing. The focus on ISO DIS 22373 and chain-of-trust architectures provided a standardized framework to verify claims across supply chains, ensuring compliance with EU and Japanese regulations. The discussion on governance challenges (e.g., interoperability, post-quantum cryptography) and eIDAS compliance directly supported the workshop's goal of fostering resilient, interoperable data ecosystems. Next, Sachiko Muto's (OpenForum, Europe) presentation drew parallels between open-source principles and data space development, advocating for

collaborative models to drive EU-Japan innovation on data spaces. It highlighted how open source's success in avoiding vendor lock-in and fostering global cooperation offers valuable lessons for building interoperable data ecosystems. By applying these open-source strategies, cross-border data collaboration can be advanced through trusted, community-driven frameworks that balance sovereignty with interoperability. Experience from implementing an EU-Japan cross-data space case study to aggregate carbon information along an international supply chain, which will be needed to determine the carbon footprint of a product was then presented. Martin Bauer's (NEC) presentation demonstrated a practical EU-Japan data space integration through a CO_2 monitoring case study, successfully connecting Europe's IDS and Japan's CADDE systems via an Interworking Unit. Key lessons emphasize the need for standardized trust anchors while preserving sovereignty, alongside AI-driven automation for scalability. This real-world example directly informed workshop goals by showing how technical and policy challenges can be addressed in joint initiatives.

The workshop proceeded with a panel discussion, moderated by Dr. Svetlana Klessova, in which experts discussed potential value creating pilot projects on data spaces between the EU and Japan. Dr. Svetlana Klessova's panel moderation on EU-Japan data space collaboration focused on practical incentives for cross-border data sharing in complex value chains. The discussion targeted sector-specific pilots (e.g., smart mobility, circular manufacturing) to demonstrate tangible business value, emphasizing trust mechanisms, governance models, and SME-friendly frameworks. By exploring synergies in industrial strengths (e.g., Japan’s manufacturing, EU’s energy tech), the panel identified actionable pilot ideas—small-scale, 6–12 month experiments—to test interoperability and monetization strategies. Interactive sessions followed up the panel discussion, allowing the workshop participants to further elaborate on the pilot ideas raised in the panel. The participants formed 3 interactive groups to discuss the trust dimension of data cross-regions data sharing in manufacturing led by Wolfgang Peter Klasen (SIEMENS) and Antonis Ramfos (ATC), the cross-regions market need for data sharing in the textile sector led by Alessandro Canepa (Fratelli Placenza) and Giacomo Inches (Martel Innovate), and the cross-regions data sharing technical pilot implementation challenges led by Tuomo Tuikka (VTT) and Franck Le Gall (EGM). Follow-up actions were agreed between participants of the 3 interactive discussion groups.

The workshop concluded with a look at the future and with Tuomo Tuikka's presentation on EU research priorities for data spaces. They, indeed, outline a roadmap for scalable, interoperable data ecosystems driven by industry and policy collaboration. The focus is on short-term research (interoperability, AI integration) and long-term deployment (2026–2035) which bridges innovation with practical implementation, addressing challenges like semantic interoperability, cross-border governance, and AI-driven data governance. Key themes of the roadmap - such as digital twins for sustainability tracking and federated data spaces - directly support the workshop's goal of EU-Japan alignment on trust frameworks and regulatory harmonization (e.g., Data Act).

7.2.1 Key take-aways of the workshop’s sessions

- Data sovereignty, FAIR data principles, trust and decentralised governance, and semantic interoperability are key for EU-Japan data space integration, ensuring secure, reusable data across domains. The exploration of AI-enhanced data spaces will enable innovative data-driven economies and regulatory alignment.
- Industrial data spaces drive value creation in EU-Japan collaboration. Industry already drives value creation while addressing governance and sustainability challenges in data sharing between EU and Japan.
- By linking DPPs to cross-region data spaces and advanced technologies (e.g., digital twins, DLT), economic and environmental value can be unlocked.
- Success depends on clear stakeholder benefits, from operational efficiency to ESG compliance, rather than just monetization.

- Key themes of the European research priorities - such as digital twins for sustainability tracking and federated data spaces - directly support EU-Japan alignment on data sharing trust frameworks and regulatory harmonization (e.g., Data Act).

- By applying open-source strategies, cross-border data collaboration can be advanced through trusted, community-driven frameworks that balance sovereignty with interoperability.

From the concluding panel discussion and the following-up interactive sessions between workshops' participants, the cross-region market need in the textile and clothing sector emerged. A potential pilot project interoperating EU and Japan data spaces could address the need for seamless data exchange across the textile and clothing value chain, to enable easy understanding and interoperability between all actors involved across the 2 regions. A key challenge, particularly in Japan and EU, is that most companies are small and lack the resources to invest in complex compliance systems, yet they are increasingly required to provide data on environmental footprint and product traceability. The pilot could also support EU companies aiming to export to Japan (and vice versa), especially as the Japanese government is considering introducing a DPP-like framework — potentially as a voluntary recommendation, at least initially.

Moreover, it was apparent during the interactive sessions that an overarching Governance architecture between data spaces is needed to support data exchange between EU and Japan the textile and clothing value chain. Such trustworthiness architecture will be a result of combining existing building blocks from data spaces of both regions, Japan and Europe. This Governance will specify and govern the trust anchor which will support the chain-of-trust and security of the seamless data exchange across the textile and clothing value chain. Furthermore, it will provide practical guidance on data spaces trustworthy interoperability, supporting the encouraging joint EU-Japan data spaces, in general.

Finally, on the issue of dealing with the practical implementing challenges of the proposed pilot project on data exchange across EU and Japan value chains, collaboration between EU and Japan testbeds is proposed. Several cases of testbeds were identified, including the Tokyo University testbed, JP CADDE, and VTT's testbed, among others.

The importance of ensuring funding for the implementation of the results of the workshop was remarked by all participants, either via new funding schemes or incorporating the potential pilot case in the framework of on-going projects.

8 "CRITICAL APPLICATIONS OF AI IN INDUSTRY, HEALTHCARE AND OTHER SECTORS" WORKSHOP

8.1 ORGANISER

Organiser	Organisation	Country
Prof. Sebastian Engell	TU Dortmund and ENRICH Global	Germany and France
Co-Organiser	**Organisation**	**Country**
Prof. Iiro Harjunkoski	Aalto University and Hitachi Energy	Finland
Nobuo Nukaga	Hitachi Research and Development	Japan

Venue: Hitachi Head Office at Nippon Seimei Marunouchi Building, Tokyo

Date: Monday 7th, April 2025

Attendance: 60 (industry, experts, government representatives)

8.2 SUMMARY OF THE WORKSHOP

Artificial Intelligence models and algorithms have a large application potential in supporting or replacing humans in analytic tasks and in the monitoring and operation of technical systems, e.g. driving of cars and trains, monitoring patients, and optimal, cost and energy-efficient operation of industrial plants, power systems, gas networks etc. Such applications are critical in the sense that a malfunction of the AI component would cause severe damage, from significant financial losses to threats for human health and the environment. The safety of AI applications in these domains necessitates specific choices of models and algorithms and elaborated development processes.

The workshop, organized by Prof. Sebastian Engell (TU Dortmund and ENRICH Global), Prof. Iiro Harjunkoski (Aalto University and Hitachi Energy Europe), and Mr. Nobuo Nukaga (Hitachi Research and Development) brought together experts from Europe and Japan to discuss the state of the art of the development of AI systems that will be deployed in transportation, industrial production, and digital healthcare. The workshop attracted a broad and diverse audience with a remarkable presence of industry, as well as SMEs and startups, and triggered lively discussions.

The workshop showed that the perception of the challenges in the development of critical applications of AI as well as the solution approaches in Europe and Japan are very similar. The domain could be a fertile ground for collaboration in applied R&D projects between Japan and the EU. Mutual learning regarding regulations and guidelines for the development of AI-based solutions

and joint progress in standardization will enable faster and more streamlined development processes and help to create trust both in systems which support humans and in fully autonomous solutions.

The workshop triggered lively discussions with the audience after the presentation and during the panel discussion, which were continued at a small reception that helped to connect researchers, developers, managers and entrepreneurs from Europe and Japan with an interest in the area of critical applications of AI.

8.2.1 Key take-aways of the workshop's sessions

After the welcome and opening by Mr. Nobuo Nukaga from HITACHI, the day started with an introduction by Prof. Sebastian Engell, who highlighted the significance of the Japan-EU Digital Partnership and introduced the INPACE project and, in particular, the INPACE Knowledge Hub. Mr. Mirai Odagiri (Japan AI Safety Institute – AISI) then gave a welcome address, which stressed the importance of the safety of AI applications and underlined the importance that is given to this topic in Japan, and the expectation of a closer collaboration between Japan and the EU in the future.

In Session 1, entitled "Transportation Systems and Health Care", first Mr. Nobuo Nukaga, HITACHI R&D, Tokyo, showcased how HITACHI is leveraging AI in its Social Innovation Business. Dr. Marc Zeller from SIEMENS, Munich, Germany then discussed in detail the challenges of automating the operation of regional trains, in particular the detection and classification of objects on the track from camera information collected at high speed with a high degree of reliability. He showed a detailed roadmap of the issues that have to be considered in the development of this and other safety-critical AI-based systems. Next Prof. Fuyuki Ishikawa, National Institute of Informatics and Sokendai University, Japan, presented "Search-based Approaches to Enhancing Safety of Autonomous Driving Systems". The session was concluded by Dr. André Stollenwerk (RWTH Aachen University, Germany) who discussed the challenges of using AI for the supervision of oxygen supply in intensive care units for newborns.

Session 2 focused on the role of AI in industrial automation. Prof Manabu Kano (Kyoto University, Japan) gave an overview of the state of the AI and machine-learning enabled digital transformation of the process industries in Japan with a focus on the chemical industry. He was followed by Prof. Valentina Colla (Scuola Superiore Sant'Anna, Pisa, Italy) who presented successful AI-based solutions in the steel and metal industry in Europe. Diving deeper into the details of AI-based solutions, Dr. Satoshi Otsuka (HITACHI R&D, Mobility and Automation Innovation Center, Tokyo) presented solutions to ensuring the transparency and safety of AI applications. Finally, Dr. Martin Hollender from ABB Corporate Research Center Germany presented AI-based solutions for industrial automation offered by ABB that have found their way into real applications.

Panel Discussion

The panel discussion was moderated by Prof. Iiro Harjunkoski, Aalto University and Hitachi Energy Europe. It became clear that the validation of AI-based solutions is the bottleneck on the way to unsupervised AI-based automation. In many areas, especially in health care and in processing plants, the next step is seen as supporting the operators or the medical staff by early warnings and AI-based processing of measurements but leaving the final decision to humans. Regarding fully automated systems, the development processes for critical AI-based solutions are not standardized yet. Regulations and recommendations could help significantly to advance because they help to create trust and also reduce the risk for the vendors of AI-based solutions. After all, absolute safety is illusionary, what is needed is a very high probability of correct functioning, surpassing that of humans who fulfil the same task. All participants saw a large potential of international collaboration in developing recommendations, guidelines and standards.

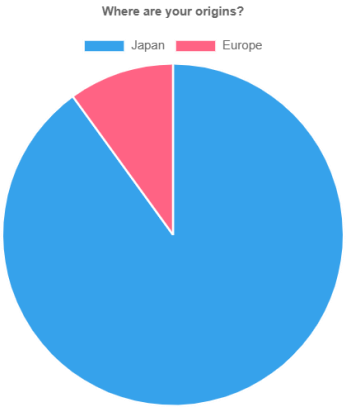
It was also stressed that data quantity and quality is a key problem in many areas. Sharing data sets with representative labelled data for training and testing of solutions internationally is regarded as a

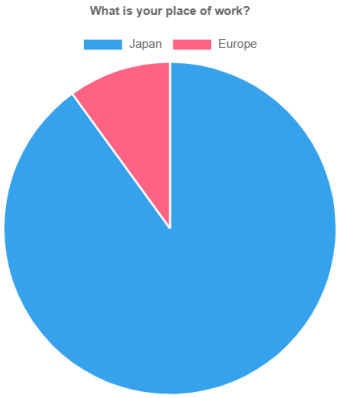
path forward. Such data sets are particularly difficult to generate if this requires the inputs of humans who operate under stress in real time, e.g. in hospitals. Besides this, making models smaller, the combination of fundamental knowledge and data-based models, and progressing to online learning or adaptation were mentioned as important scientific and technical challenges.

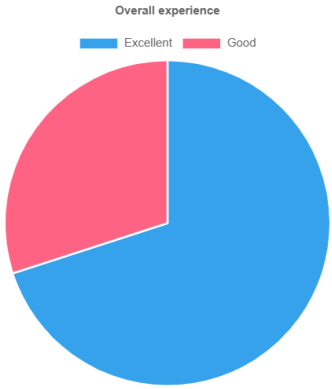
APPENDIX A: PARTICIPANTS' FEEDBACK

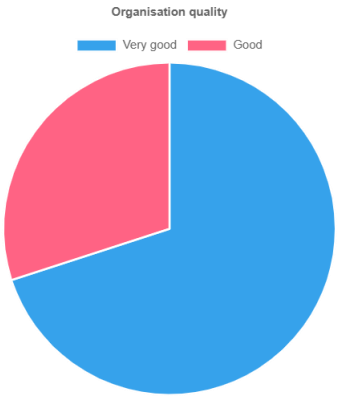
Appendix A contains each workshop's participants feedback.

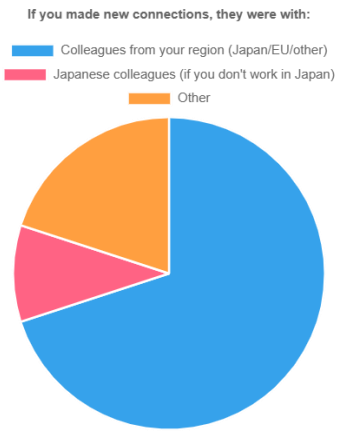
"SMART CONNECTIVITY AND COMPUTING" WORKSHOP - No of Responders: 10

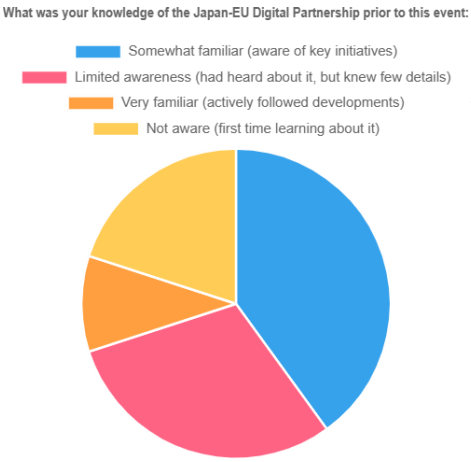


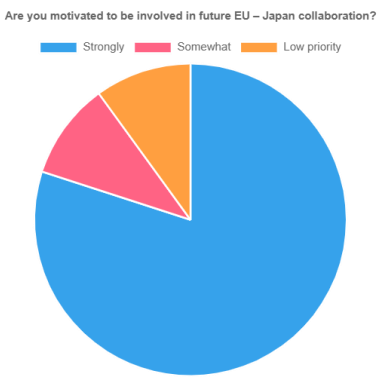


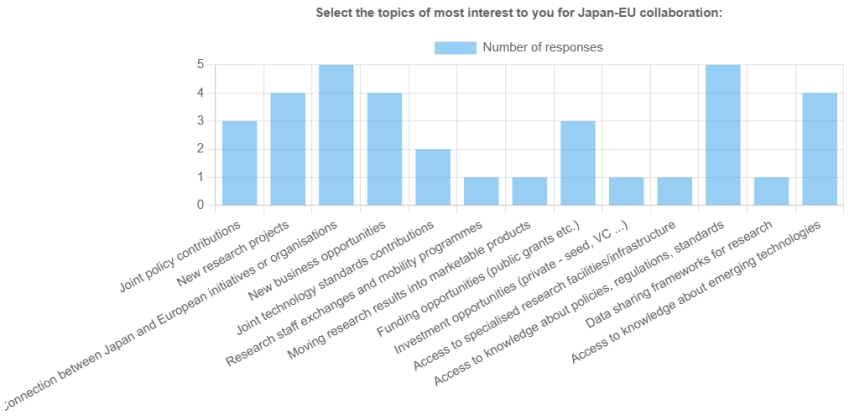




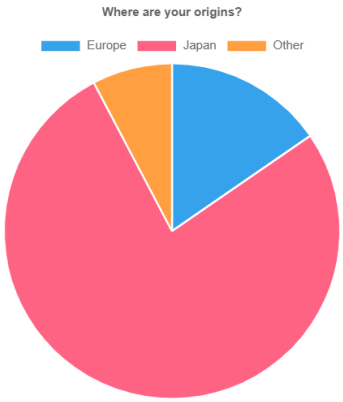


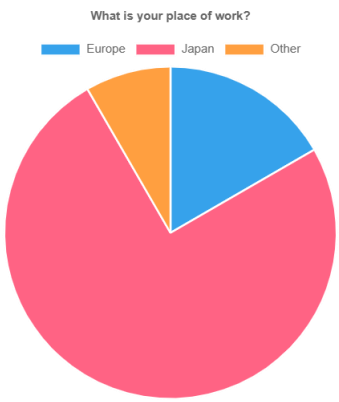


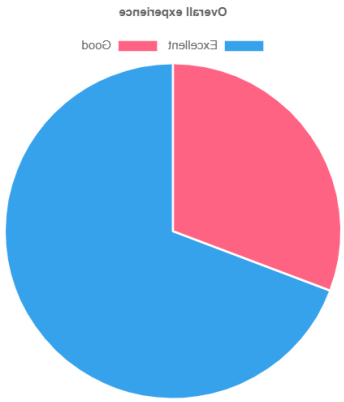


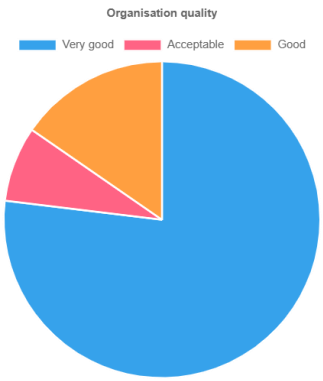


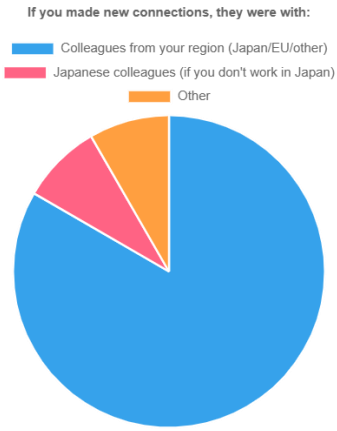
"6G HORIZONS: SYNERGIES FOR A CONNECTED FUTURE" WORKSHOP – No of Responders:

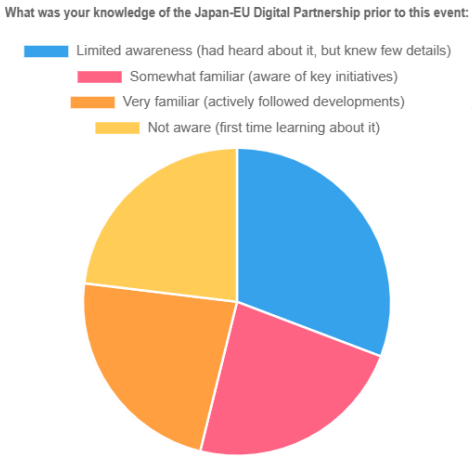


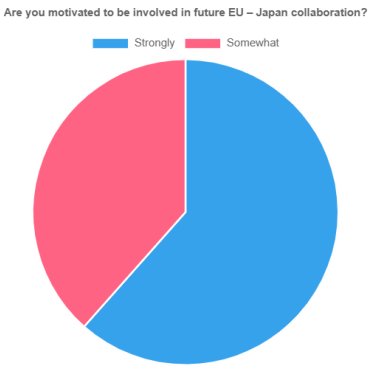


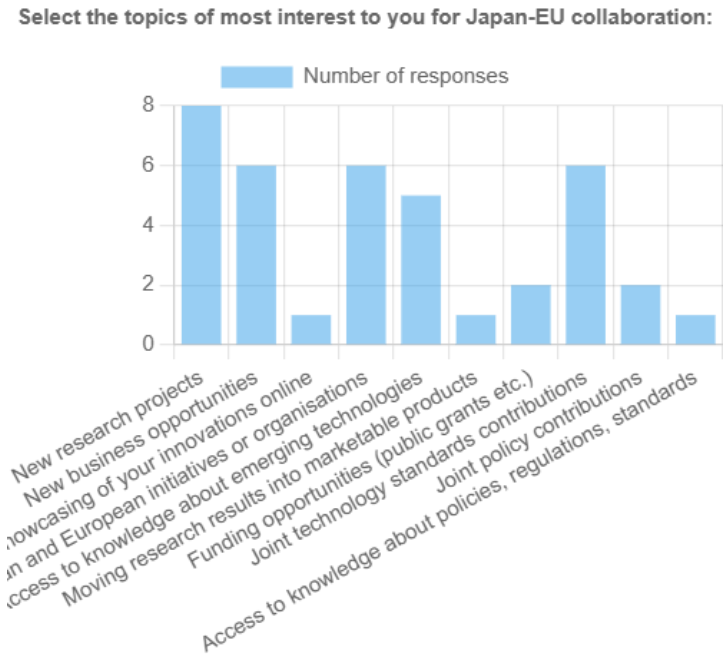




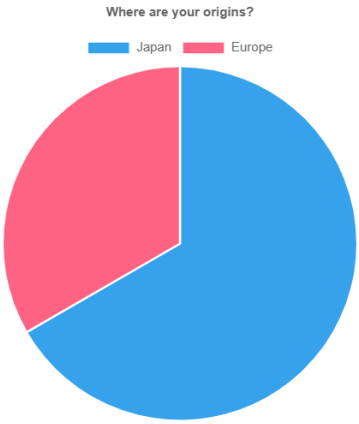

If you made new connections, they were with:
Colleagues from your region (Japan/EU/other)
Japanese colleagues (if you don't work in Japan)
Other

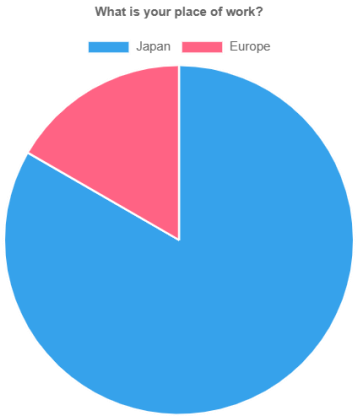

What was your knowledge of the Japan-EU Digital Partnership prior to this event:
Limited awareness (had heard about it, but knew few details)
Somewhat familiar (aware of key initiatives)
Very familiar (actively followed developments)
Not aware (first time learning about it)

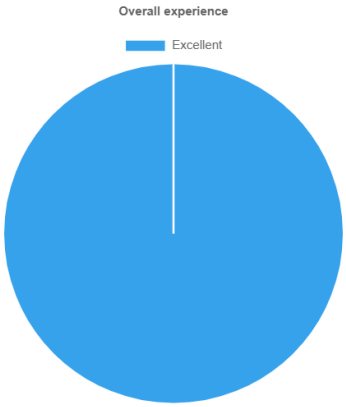

Are you motivated to be involved in future EU – Japan collaboration?
Strongly
Somewhat

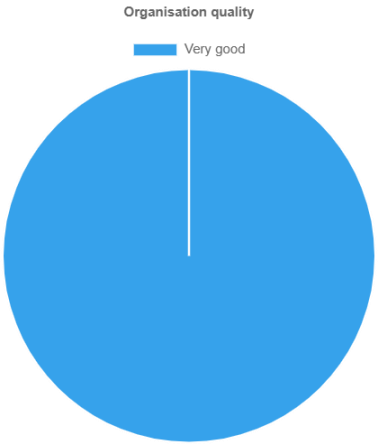

Select the topics of most interest to you for Japan-EU collaboration:
Number of responses
8
6
4
2
0
New research projects
New business opportunities
owcasing of your innovations online
n and European initiatives or organisations
ccess to knowledge about emerging technologies
Moving research results into marketable products
Funding opportunities (public grants etc.)
Joint technology standards contributions
Access to knowledge about policies, regulations, standards
Joint policy contributions

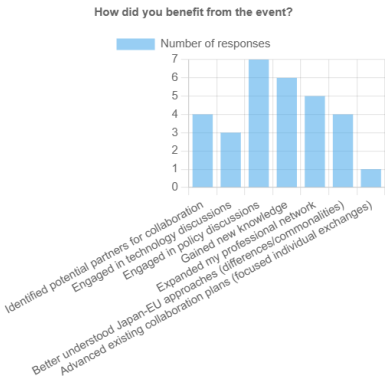
CLOSED-DOOR POLICY WORKSHOP: "THE EU-JAPAN DIGITAL PARTNERSHIP: GOING FORWARD" – No of Responders: 12

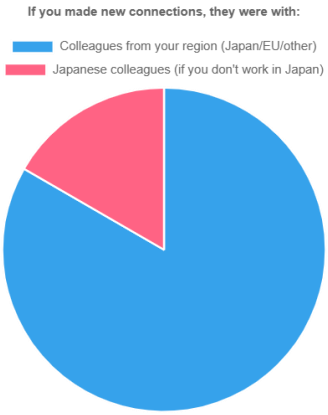


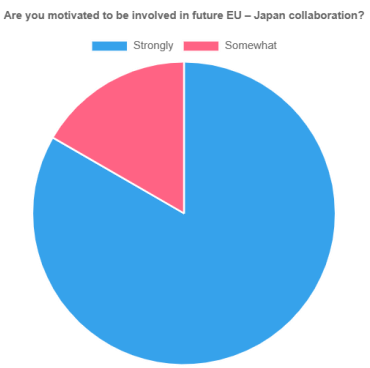


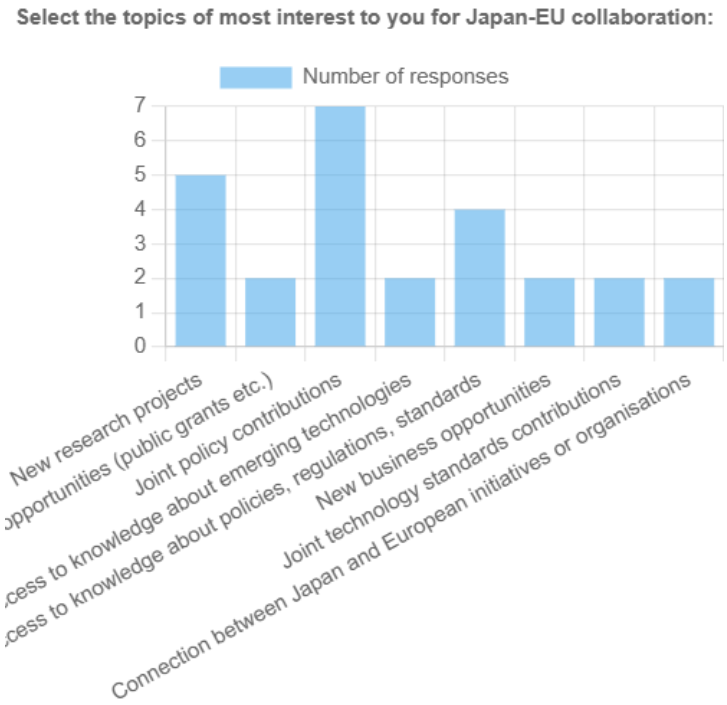




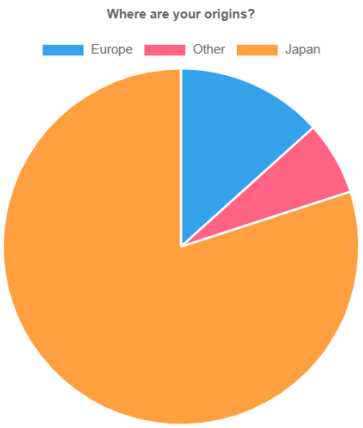


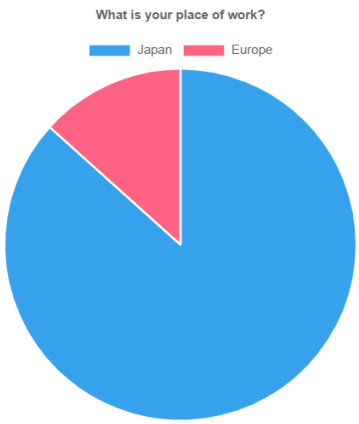


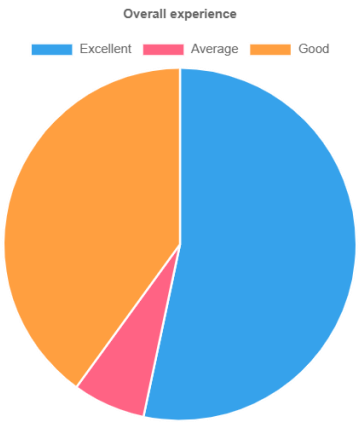


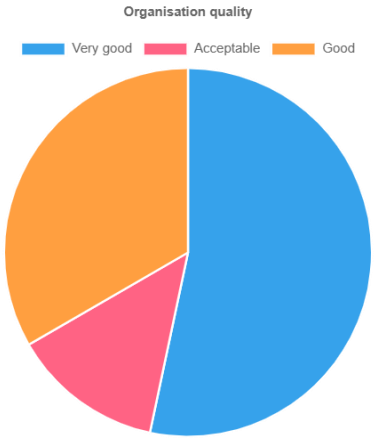


"TRUSTED DATA EXCHANGES WORKSHOP: FROM STANDARDS TO PILOTS IN A CHANGING WORLD" – No of Participants: 15

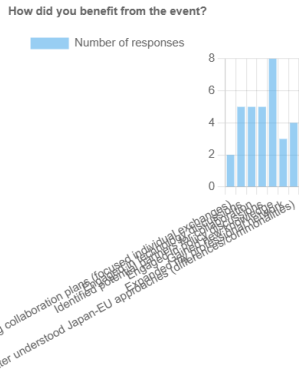


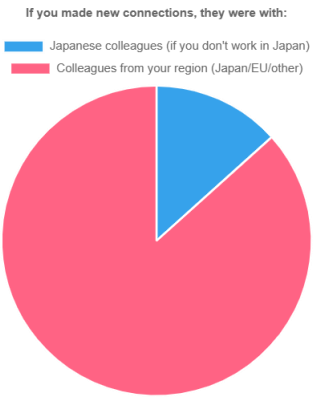


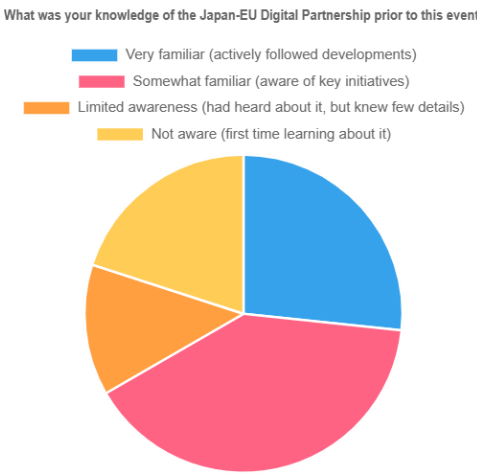


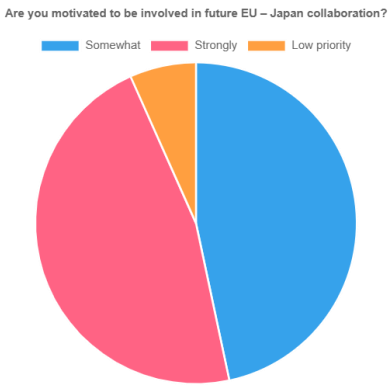

Organisation quality
Very good
Acceptable
Good

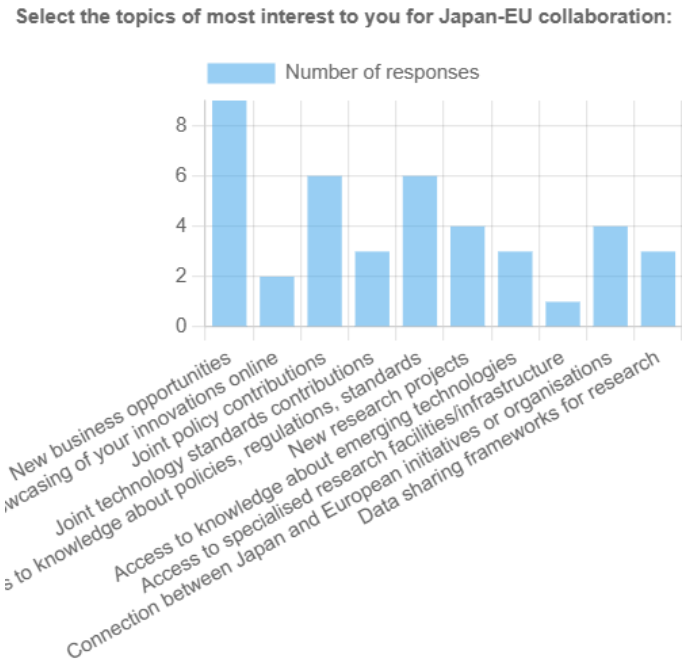

What motivated you to register for this event?
Number of responses
7
6
5
4
3
2
1
0
New contacts - research partners outside my country
New business opportunities
New knowledge about technologies
New contacts - industrial partners
Policy insights
Knowledge exchange among peers


How did you benefit from the event?
Number of responses
8
6
4
2
0

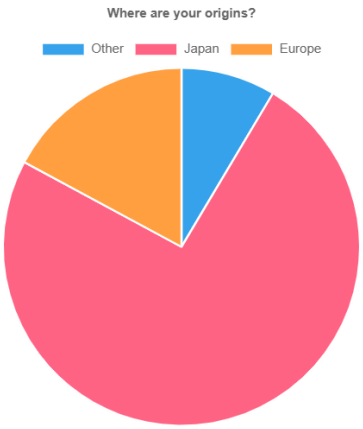

If you made new connections, they were with:
Japanese colleagues (if you don't work in Japan)
Colleagues from your region (Japan/EU/other)

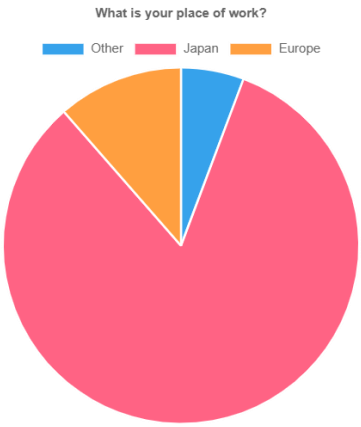

What was your knowledge of the Japan-EU Digital Partnership prior to this event:
Very familiar (actively followed developments)
Somewhat familiar (aware of key initiatives)
Limited awareness (had heard about it, but knew few details)
Not aware (first time learning about it)

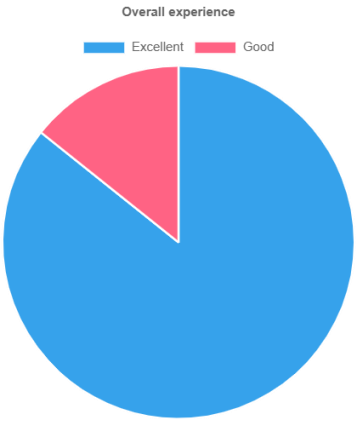

Are you motivated to be involved in future EU – Japan collaboration?
Somewhat
Strongly
Low priority

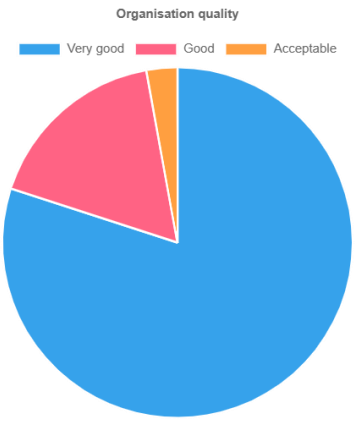

Select the topics of most interest to you for Japan-EU collaboration:
Number of responses
8
6
4
2
0
New business opportunities
Joint policy contributions
Joint technology standards contributions
New research projects
Access to knowledge about emerging technologies
Access to specialised research facilities/infrastructure
Connection between Japan and European initiatives or organisations
Data sharing frameworks for research

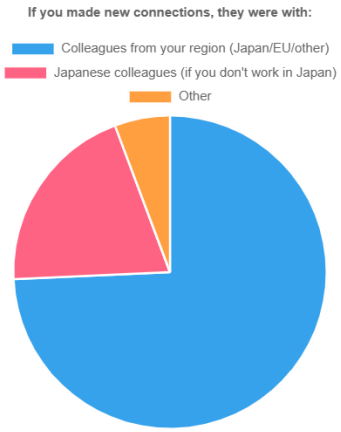
“DATA SPACES WORKSHOP – THE STORY HOW TO MAKE BUSINESS FROM DATA IN A LEGAL FASHION” – Number of Responders: 35

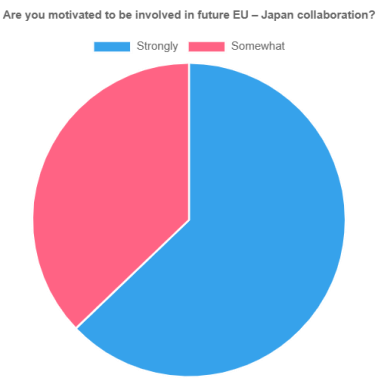


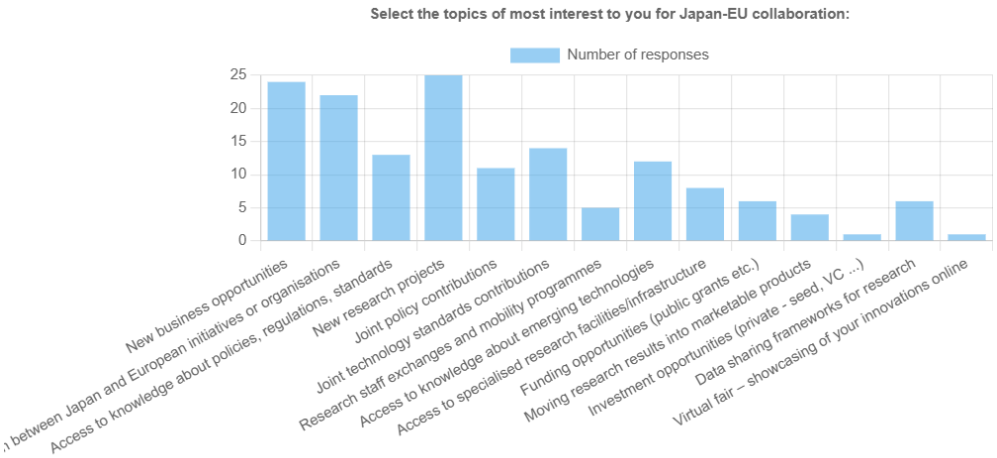




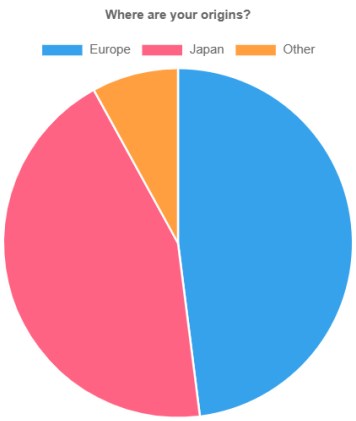


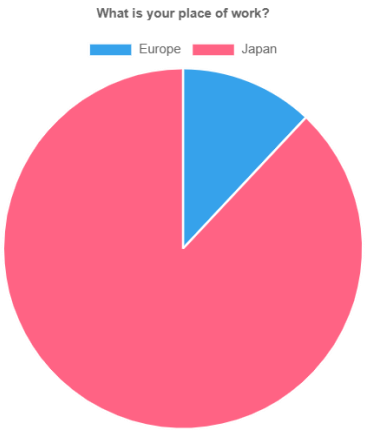


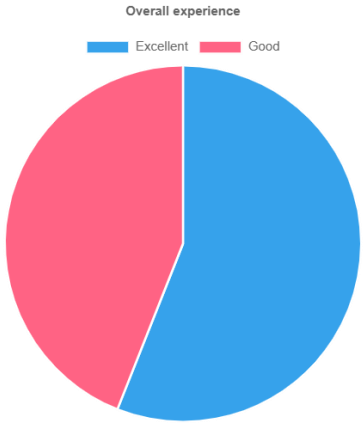


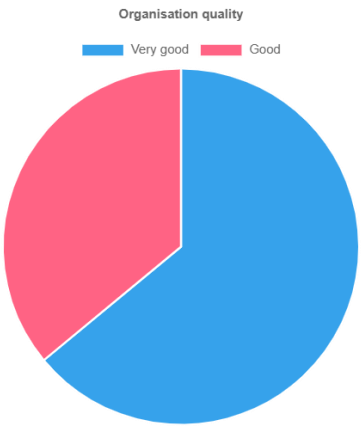


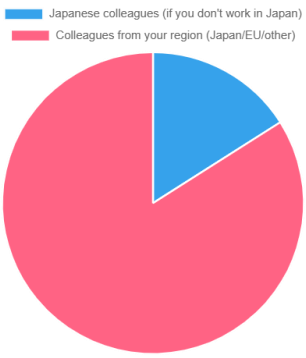
"CRITICAL APPLICATIONS OF AI IN INDUSTRY, HEALTHCARE AND OTHER SECTORS WORKSHOP" – Number of Responders: 25










If you made new connections, they were with:
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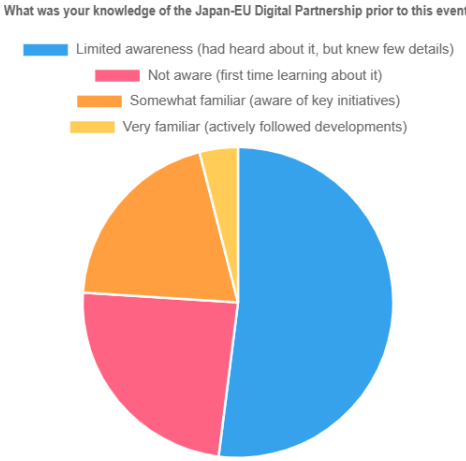
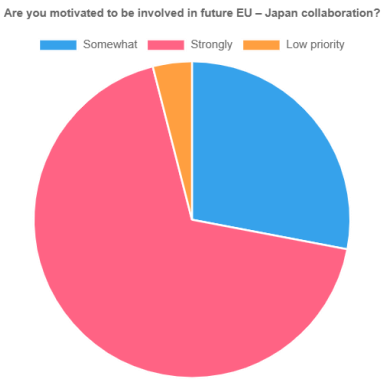
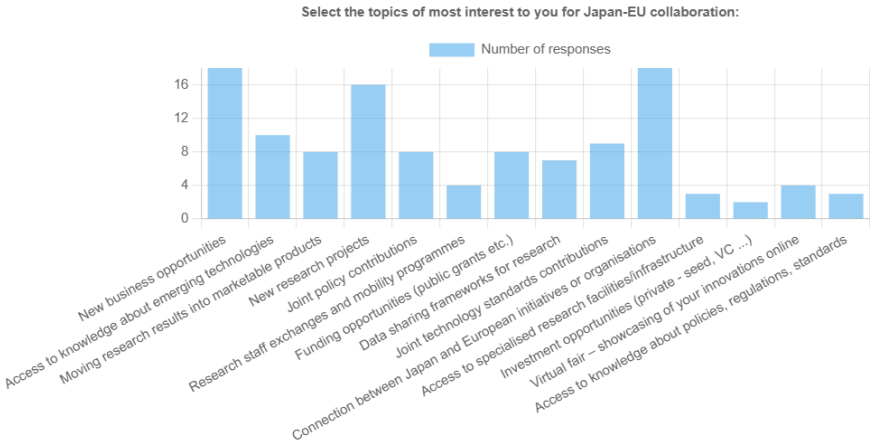
Colleagues from your region (Japan/EU/other)


What was your knowledge of the Japan-EU Digital Partnership prior to this event:
Limited awareness (had heard about it, but knew few details)
Not aware (first time learning about it)
Somewhat familiar (aware of key initiatives)
Very familiar (actively followed developments)


Are you motivated to be involved in future EU – Japan collaboration?
Somewhat
Strongly
Low priority


Select the topics of most interest to you for Japan-EU collaboration:
Number of responses
16
12
8
4
0
New business opportunities
Access to knowledge about emerging technologies
Moving research results into marketable products
New research projects
Joint policy contributions
Research staff exchanges and mobility programmes
Funding opportunities (public grants etc.)
Data sharing frameworks for research
Joint technology standards contributions
Connection between Japan and European initiatives or organisations
Access to specialised research facilities/infrastructure
Investment opportunities (private - seed, VC ...)
Virtual fair – showcasing of your innovations online
Access to knowledge about policies, regulations, standards