



Indo-Pacific-European Hub  
for Digital Partnerships

ヨーロッパとインド太平洋のための  
デジタルパートナーシップ強化

디지털 파트너십 강화  
유럽 및 인도 태평양의 경우

Revision 1.0

# Deliverable D2.3

## Summary of activities of the 4 TWGs in the Policy Cluster (initial)

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<b>Abstract</b>	This document summarises the activities undertaken as part of the Work Package 2 (WP2, so-called “Policy Cluster”) of the INPACE project since its launch in January 2024. It includes the input from the four Technical Working Groups (TWGs) that are part of the Cluster, focusing notably on 1) Policy Dialogues, 2) Standardisation, 3) Joint Programming and 4) Digital Education and Skills.
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\* *R: Document, report (excluding the periodic and final reports)*  
*DEC: Websites, patents filing, press & media actions, videos, etc.*  
*DATA: Data sets, microdata, etc.*  
*DMP: Data management plan*  
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## 1 EXECUTIVE SUMMARY

The deliverable **D2.3 Summary of Activities of the 4 TWGs in the Policy Cluster (initial)** provides an initial overview of the activities of Work Package 2 (WP2), the “Policy Cluster”, of the INPACE project, covering progress made since its launch in January 2024. WP2 was established to connect the research and policy communities, ensuring that outputs from the project’s Technical Working Groups (TWGs) contribute directly to the Digital Partnerships (DPs) between the European Union (EU) and Singapore, Japan, and the Republic of Korea (ROK) and to the Trade and Technology Council (TTC) with India. Four TWGs—Policy Dialogues, Standardisation, Digital Education and Skills, and Joint Programming—form the foundation of these efforts.

TWG 1 on Policy Dialogues has organised public events and closed-door workshops in Korea and Japan, complemented by policy briefs and outreach activities. These exchanges have supported EU engagement with partner countries, identified challenges in implementation, and proposed avenues for strengthening cooperation in digital technologies, cybersecurity, and infrastructure.

TWG 2 on Standardisation has initiated cross-regional collaboration with European and Indo-Pacific partners, including Korea and India, through targeted workshops and webinars. Its contribution to the ETSI NGSI-LD Plugtest, and preparation for upcoming initiatives such as a hackathon on digital public infrastructure in India, demonstrate how standardisation can bridge research and practice in international cooperation.

TWG 3 on Joint Programming has concentrated on identifying opportunities for EU–Indo-Pacific cooperation in research funding. Activities so far include information sessions and high-level meetings that have enhanced Korean participation in Horizon Europe, initiated contacts with India’s research institutions, and prepared the ground for future calls with Japan and Singapore.

TWG 4 on Digital Education and Skills has focused on the rapidly evolving field of artificial intelligence, with activities including surveys, expert meetings, webinars, and workshops. It has mapped country-specific priorities while addressing cross-cutting issues such as AI literacy, workforce reskilling, and inclusive access to digital education.

Collectively, these activities mark important first steps in building structured dialogue, fostering cooperation, and preparing concrete initiatives. Planned events in the coming months, including the Singapore symposium in October 2025 and further engagements with India and Japan, will deepen these efforts and strengthen alignment between research outcomes and EU policy objectives.

## ABBREVIATIONS

<b>AI</b>	Artificial Intelligence
<b>BSoG</b>	Brussels School of Governance
<b>CSDS</b>	Centre for Security, Diplomacy and Strategy
<b>DP</b>	Digital Partnership
<b>ESI</b>	Electronic Signatures and Infrastructures
<b>EU</b>	European Union
<b>EUDEL</b>	Delegation of the European Union
<b>IOG</b>	Institute of Geoeconomics
<b>KIEP</b>	Korea Institute for International Economic Policy
<b>METI</b>	Ministry of Economy, Trade and Industry
<b>NUS</b>	National University of Singapore
<b>ROK</b>	Republic of Korea
<b>TSP</b>	Trust Service Provider
<b>TTA</b>	Telecommunications Technology Association
<b>TTC</b>	Trade and Technology Council
<b>TWG</b>	Thematic Working Group
<b>UNIDIR</b>	United Nations Institute for Disarmament Research
<b>VUB</b>	Vrije Universiteit Brussel
<b>WP</b>	Work Package

## 2 OVERVIEW OF THE POLICY CLUSTER

The overarching objective of the “Policy Cluster” of the INPACE project is to ensure the connection between policy community and the research community in facilitating the implementation of the Digital Partnerships (DPs) between the European Union (EU) and Singapore, Japan, and the Republic of Korea (ROK) and the Trade and Technology Council (TTC) with India. Activities covered by the WP2 are designed to facilitate communication, feed research findings and outcomes into the European Union (EU)’s official Policy Dialogues with partner countries; making sure the focus of the technical working groups reflect the strategic priorities, agendas and objectives of the EU and its partner-countries; and promoting public awareness and create understanding of the context regarding Digital Partnerships (DPs) and Trade and Technology Council (TTC) with India. Given the profound and direct impact of digital connectivity on improving trade and economic relations, research, and livelihood of populations worldwide, the WP2 aims at translating the outcomes and achievements of the technical working groups into communication products that would be accessible to wider public, including students, researchers, and policy practitioners outside the closed technical circles.

## 3 SUMMARY OF ACTIVITIES BY TWGS

### 3.1 TWG 1. Standardisation

The TWG 1 on Standardisation serves as a transversal working group within the INPACE project, addressing standardisation activities that span across all technical domains. Development of international standards is inherently a long-term endeavour whose timespan typically extends beyond individual research projects, necessitating careful management as a cross-cutting activity that encourages projects to utilise existing standards while providing effective mechanisms for contribution when relevant.

TWG 1 operates as a facilitator between the technical working groups and relevant standardisation bodies to identify priorities across European and Indo-Pacific countries and support their implementation. The group builds upon existing initiatives involving EU Standard Development Organisations (SDOs) including ETSI, CEN, and CENELEC, as well as Asia-Pacific counterparts such as TTA in South Korea, ARIB in Japan, BIS in India, and initiatives under Singapore's Smart Nation program. Alliances such as W3C, OGC, etc. are also considered whenever relevant.

#### 3.1.1. "Standardisation in Practice" Webinar

On December 13, 2024, TWG 1 organised a comprehensive webinar titled "**Standardisation in Practice: From Research to High Quality Standards**" as part of the INPACE project. This engaging one-hour session fostered collaboration between Europe, South Korea, Singapore, and India, focusing on the vital connection between research, standardisation, and the importance of testing and validation in improving the quality of international standards.

The webinar featured three main presentations from distinguished experts across the participating regions :

1. **Introduction and Overview:** Franck Le Gall from EGM/INPACE opened the session with a welcome and comprehensive overview of the webinar's objectives.
2. **Overview of International Standardisations – Linking Research and Standardisation:** Antonio Kung from Trialog explored how research plays a critical role in shaping and evolving international standards. Drawing from his extensive experience with more than thirty years in cyber-physical systems and Internet of Things, and his leadership in developing over twenty standards on architecture, interoperability, and conformity, Antonio Kung provided insights into ongoing efforts to bridge the gap between academic research and practical standardization processes.
3. **Indian Standardisation System and Research Integration:** Dinesh Chand Sharma from [SESEI](https://sesei.eu/) focused on the Indian Standardisation System's role in fostering innovation, quality, and consistency in research. His presentation highlighted how standards in India align with global research frameworks, enhancing the credibility and impact of Indian research outputs. Sharma discussed the SESEI<sup>1</sup> project's contributions in bridging Indian and European standardisation efforts to promote research collaboration and development.

The session concluded with a live question-and-answer segment, allowing participants to engage with speakers and gain deeper insights into the discussed topics. The webinar was particularly

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<sup>1</sup> <https://sesei.eu/>

valuable for professionals and organisations involved in standardisation, research, and quality assurance, especially those interested in international collaboration within the INPACE project's scope.

### 3.1.2. Workshop with TTA and EU-Korean Standardisation Collaboration

In October 2024, TWG1 organised a workshop with TTA (Telecommunications Technology Association) of Korea and EU standardisation experts to discuss the use of EU standards for data exchanges in Korea, particularly focusing on ETSI NGSI-LD standards. This workshop was part of the broader INPACE Symposium held at Sejong University in Seoul, Republic of Korea.

The workshop addressed the implementation of **ETSI NGSI-LD standards** in Korea, with particular emphasis on data exchange capabilities and interoperability. TTA's involvement was particularly significant, as the organisation had been working extensively on NGSI-LD implementation and testing. During the workshop, TTA presented their experience with the **TTA City Hub NGSI-LD project and testing experience**, demonstrating their practical implementation of the ETSI standard.

The collaboration highlighted TTA's substantial contributions to NGSI-LD development and testing. As documented in ETSI technical reports, TTA had developed test cases and updated incorrect ones to ensure proper conformance testing according to ETSI GS CIM 009 standards. This work was crucial for validating NGSI-LD implementations and enhancing the reliability of the test suite.

The EU team presented information about the **forthcoming ETSI plugtest on NGSI-LD**, which was scheduled for February 2025 at ETSI headquarters in Sophia Antipolis, France. This presentation was significant as it introduced Korean partners to upcoming opportunities for international standardization collaboration and testing.

### 3.1.3. Support for ETSI NGSI-LD Plugtest as Pilot Project

TWG1 provided substantial support for the **ETSI NGSI-LD Plugtest** event, which took place from February 24-28, 2025, at ETSI's headquarters in Sophia Antipolis, France. This event represented a milestone in standardisation collaboration, particularly with the involvement of Korean and Indian representatives participating with their own implementations.

The ETSI NGSI-LD Plugtest event enabled implementers of the NGSI-LD specification to conduct interoperability and conformance test sessions. The primary objectives included assessing the level of interoperability of implementations and validating understanding of the NGSI-LD standards. NGSI-LD (ETSI GS CIM 009) serves as a standard for sharing and exchanging context information in distributed environments, with key aspects including Information Model, API, JSON-LD serialisation, and security/privacy features. It is used in applications as providing a baseline for the data layer in dataspace deployment as well as allowing structure representation of product information in Digital Product Passport context.

Significantly, the INPACE project supported this initiative, with **Korean and Indian representatives participating with their own implementations**. This involvement demonstrated the success of TWG1's efforts to foster international collaboration in standardisation. The event featured additional testing environments, including:

- An interoperability framework developed by Open & Agile Smart Cities & Communities (OASC) to validate compliance with MIM1 NGSI-LD on the Interoperability Testing Bed (ITB) platform, brought by 2 external companies being Kereval and Deloitte
- An NGSI-LD Compliance Test Suite developed by IUDX operating on a Functional Profiles basis.

The plugtest achieved an impressive **88% interoperability success rate**, highlighting the maturity and alignment of NGSI-LD implementations with ETSI standards. Key outcomes included the identification of implementation gaps, clarification of ambiguous specification clauses, and proposals for future enhancements to the NGSI-LD standard. The event also featured advanced testing frameworks from various vendors, further enriching the validation process.

### 3.1.4 Workshop on "Trusted Data Exchanges: From Standards to Pilots in a Changing World"

During the **EU-Japan Digital Week 2025** (March 31 - April 7, 2025), TWG 1 organised a dedicated workshop titled "**Trusted Data Exchanges: From Standards to Pilots in a Changing World**". This workshop was held as part of the broader EU-Japan Digital Partnership initiative and focused on regulatory and ethical considerations for data sharing, emphasizing trust, standardization, and governance of data flows between EU and Japanese data spaces.

The EU-Japan Digital Week brought together 403 attendees, including policymakers, industry leaders, researchers, and experts from both regions. The event addressed critical areas such as 6G, Data Spaces, Smart Connectivity and Computing, and Trustworthy Artificial Intelligence (AI)<sup>2</sup>.

The trusted data exchanges workshop specifically discussed:

- Regulatory and ethical considerations for data sharing
- Trust mechanisms in cross-border data flows
- Standardisation approaches for data governance
- Implementation challenges and solutions from standards to pilots

This workshop was organised in close consultation with the Delegation of the European Union to Japan to ensure alignment with shared priorities of both regions and the strategic objectives of the EU-Japan Digital Partnership. The focus on trusted data exchanges reflected the growing importance of secure, standardized data sharing mechanisms in international digital cooperation.

### 3.1.5 Engagement with ETSI TC ESI Experts

TWG1 established important connections with **ETSI Technical Committee ESI (Electronic Signatures and Infrastructures)** experts who are developing EU standards for electronic signatures and trust infrastructures. TC ESI is responsible for Electronic Signatures and Trust Infrastructures standardisation within ETSI, working in collaboration with CEN TC 224 to provide standards for digital signatures.

ETSI TC ESI addresses requirements for digital signatures, including formats, procedures, and policies for creation and validation. The committee also covers policy, security, and technical requirements for trust service providers (TSPs) such as certification authorities, time-stamping authorities, and providers of remote signature creation or validation functions. Their work supports the **eIDAS Regulation (EU 910/2014)** as well as general requirements of the international community for trusted electronic transactions.

The engagement with TC ESI experts was particularly relevant for TWG 2's work on standardization in the context of digital partnerships, as electronic signatures and trust infrastructures are fundamental components of secure digital exchanges. In 2023, TC ESI augmented its suite of

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<sup>2</sup> <https://inpacehub.eu/2025/04/16/eu-japan-digital-week-2025-shaping-the-future-of-digital-collaboration/>

Technical Specifications (TS) and Technical Reports (TR) with several new publications addressing emerging trust service requirements.

This collaboration aligned with INPACE's broader objectives of supporting digital partnerships and ensuring secure, standardised digital transactions across the EU and Indo-Pacific regions.

### 3.1.6 Future Plans: Hackathon on Interoperability of Digital Public Infrastructure

Looking ahead, TWG 1 has planned an ambitious **Hackathon on "Interoperability of Digital Public Infrastructure"** to be held in India. This event, co-organized with the FIWARE Foundation (EU), will bring together participants from the European Union, India, Singapore, Republic of Korea, and Japan.

The hackathon addresses one of today's most pressing digital challenges: seamless and secure implementation of digital public infrastructures across systems. Given the EU-India TTC's focus on digital public infrastructure, and parallel Digital Partnerships with Japan, ROK, and Singapore, cross-border interoperability has become a pivotal agenda.

#### Technical Challenge

The primary objective is to create a functional prototype demonstrating seamless identity verification where an EU citizen, using their Digital Identity Wallet, can access a data resource from an Indian organization registered in MOSIP.

The hackathon will utilize a comprehensive set of standards and tools across multiple categories:

- **Platform & Infrastructure Standards:**
  - eIDAS 2.0 Architecture Reference Framework
  - MOSIP specifications
  - ETSI NGSI-LD / FIWARE Architecture
  - Gaia-X Federation Services
  - GLEIF vLEI standards
- **Core Data Exchange Standards:**
  - ETSI NGSI-LD API
  - Support of provenance information in NGSI-LD
- **Core Identity Standards:**
  - eIDAS 2.0 European Digital Identity Regulation
    - W3C Decentralized Identifiers (DIDs) v1.0
    - W3C Verifiable Credentials
    - OpenID Connect (ISO/IEC 26131-39:2024)

The solution must demonstrate cross-border digital identity interoperability that preserves data sovereignty, enables selective disclosure, and works across heterogeneous DPI systems while

complying with both GDPR and Indian data protection frameworks. This hackathon represents a concrete implementation of the standardization priorities identified through TWG 2's work and demonstrates practical application of international standards in real-world scenarios.

The event is organized within the context of the [3rd Symposium on Data for Public Good](#) and is open to residents of participating countries. Supporting organizations include the INPACE project, FIWARE Foundation, GLEIF, and Gaia-X, with experts from involved frameworks available on-site to support participants. The winning team will be invited to present their solution at events in Europe (for Indo-Pacific teams) or Indo-Pacific countries (for European teams), further promoting international collaboration.

## 3.2 TWG 2. Policy Dialogues

The TWG 2 has been set up to facilitate Policy Dialogue between the EU and the four partner countries covered by the INPACE project, namely India, Japan, Singapore and the Republic of Korea (ROK). The TWG 1 is led by the Centre for Security, Diplomacy and Strategy (CSDS) at the Vrije Universiteit Brussel (VUB), which has established itself as a leading policy research institution focusing extensively on Indo-Pacific security and the EU's engagement in the region. The strength of the TWG 1 rests on the combination of **thematic expertise in the domain of digital technologies and policies**, an **in-depth knowledge of the Indo-Pacific region** and its evolving geopolitical context, and a growing **network of experts and policymakers** within the EU ecosystem and in the four target countries alike.

In practice, the work of the TWG 2 can be divided into three pillars:

- Public Events and Expert Workshops
- Research and Analysis
- Outreach and Policy Engagement

### 3.2.1 Public events and Expert Workshops

Against INPACE's core mandate to facilitate the implementation of the EU's DPs in the Indo-Pacific, the TWG 2 has been accompanying the work of the various TWGs by organising **public panels and closed-door policy workshops**, bringing together relevant experts, academia, industry representatives, and policy practitioners from Europe and the respective target countries.

The objective of the Policy Dialogues is to evaluate the progress of the EU's DPs in the Indo-Pacific, take stock of their achievements, identify bottlenecks, loopholes and challenges in their implementation, suggest possible ways for improvements, and formulate recommendations for a most constructive way forward. To stimulate frank, open and fruitful discussion, the meetings are held under the Chatham House rule and in a **closed-door (or by-invitation-only) format**, ensuring a balanced representation between European and regional participants.

Topics of the agenda are selected based on the priorities of the "EU+X" DP, bearing in mind the latest geopolitical developments, country-specific preferences, and the EU's main strategic objectives. In all stages of the process, from early planning, agenda-setting, the event proper, and until post-event reporting, the organisers are involved in **close and regular consultation with the relevant personnel** of the Delegation of the European Union (EUDEL) to the partner country.

The events are held in collaboration with **local partner organisations**, usually leading research institutions or think-tanks renowned for their expertise on digital technologies, geoeconomics or international relations, which allows to make use of their **established network of experts and**

**connections with relevant government representatives.** The selection of participants is done in cooperation with the local partners, as well as the local contact points for each country.

For the sake of coherence, organisational simplicity and resource optimisation, the Public Panels and Expert Workshops are **held back-to-back**, within the context of INPACE integrative events in each partner country or as part of broader initiatives bringing together several INPACE consortium partners from various technical TWGs. This allows not only to merge dissemination efforts and diminish venue costs, but also to **exploit synergies between other TWGs and facilitate networking** among the policy community and the technical experts.

### 3.2.1.1. The Republic of Korea

#### **Expert Workshop: The EU – ROK Digital Partnership: from Policy to Practice**

21 October 2024, Sejong University, Seoul, ROK

The closed-door workshop discuss the progress, challenges, and explore future directions for EU-ROK Digital Partnership bilateral cooperation. Participants addressed critical questions, such as how can the EU and ROK harmonise their policy and regulatory frameworks to facilitate collaboration in emerging digital technologies such as AI, quantum, and 6G; what policy and strategic initiatives are necessary to enhance the cybersecurity posture of both the EU-ROK and ensure mutual trust in digital infrastructure; and how can the EU-ROK address the challenges of supply chain resilience and security in the context of the global semiconductor market.

*Moderator:* Eva **Pejsova**, Japan Chair, Centre for Security, Diplomacy, and Strategy (CSDS), Brussels School of Governance (BSoG), Vrije Universiteit Brussel (VUB),

*Speakers:*

- Raluca **Csernatoni**, Professor, Centre for Security, Diplomacy, and Strategy (CSDS), Brussels School of Governance (BSoG), Vrije Universiteit Brussel (VUB), Belgium; Research Fellow and Team Leader for the EU Cyber Direct
- Sunghun **Cho**, Research Fellow, Department of International Trade, Investment and Economic Security, Economic Security Team, Korea Institute for International Economic Policy (KIEP), ROK
- Michael **Reiterer**, Distinguished Professor, CSDS – VUB, Ambassador of the European Union ret.
- Dongyoun **Cho**, Senior Researcher on the Security and Technology Programme, United Nations Institute for Disarmament Research (UNIDIR)

#### **Public Session: EU’s Digital Partnerships in the Indo-Pacific: challenges and opportunities**

22 October 2024, Sejong University, Seoul, ROK

The opening public session of the INPACE symposium provided a “big picture” outlook on the EU’s expanding digital footprint in the Indo-Pacific, with speakers from the four target countries providing their respective perspectives on the main challenges and opportunities in cooperating with the EU.

*Moderator:* Eva **Pejsova**, Japan Chair, CSDS, Belgium/INPACE Cluster 1 leader

*Speakers:*

- Michael **Reiterer**, Distinguished Professor, Centre for Security, Diplomacy, and Strategy (CSDS), Brussels School of Governance (BSoG), Vrije Universiteit Brussel (VUB); Ambassador of the European Union ret.
- Karthik **Nachiappan**, Research Fellow, Institute of South Asian Studies, National University of Singapore (NUS)
- Koichiro **Komiyama**, Director, Global Coordination Division, JPCERT, Senior Researcher, Keio Research Institute
- Sunghun **Cho**, Research Fellow, Department of International Trade, Investment and Economic Security, Economic Security Team, Korea Institute for International Economic Policy (KIEP), ROK

### 3.2.1.2. Japan

#### **Expert Workshop:** The EU – Japan Digital Partnership: Going Forward

2 April 2025, International House of Japan, Tokyo, Japan

The closed-door workshop was co-organised and hosted by the Institute of Geoeconomics (IOG). It brought together over 60 participants from academia, industry and government institutions to address future avenues for the EU – Japan Digital Partnership. The first session focused on policy alignment in new technologies, exploring how the EU and Japan can align research priorities, foster innovation ecosystems, and build resilient supply chains. Special attention was given to the importance of sharing best practices and mutual support, with an eye on balancing economic security, competitiveness, and ethical imperatives. The second session focused on digital connectivity, examining the role of cutting-edge initiatives, including space-based networks and submarine cable systems, in driving sustainable growth and fortifying digital infrastructures. Experts unpacked the strategic, regulatory, and technical dimensions necessary for safeguarding critical digital infrastructures while promoting seamless global digital integration and open, free, interoperable and secure digital connectivity.

#### Session 1: TOWARDS POLICY ALIGNMENT IN EMERGING AND NEW TECHNOLOGIES

*Moderator:* Kota **Umeda**, Visiting Research Fellow, IOG

*Speakers:*

- Antonio **Calcara**  
Head of Technology and Geopolitics Programme, CSDS
- Kazumi **Nishikawa**  
Principal Director, Trade and Economic Security Bureau, Ministry of Economy Trade and Industry (METI) of Japan
- Hiroki **Habuka**  
Research Professor, Graduate School of Law, Kyoto University; CEO, Smart Governanc
- Harald **Kümmerle**  
Principal Researcher, German Institute for Japanese Studies
- Sebastien **Lechevalier**  
Visiting Researcher, German Institute for Japanese Studies

#### Session 2: FROM SPACE TO UNDER THE SEA: CRITICAL DIGITAL INFRASTRUCTURE FOR SUSTAINABLE GLOBAL CONNECTIVITY

*Moderator:* Eva **Pejsova**, Japan Chair, CSDS

*Speakers:*

- Raluca **Csernatoni**  
Professor, Brussels School of Governance; Fellow, Carnegie Europe
- Koichiro **Komiyama**  
Senior Researcher, the Keio Research Institute at SFC
- Adam **Kapovits**  
Program Manager, EURESCOM
- Mihoko **Matsubara**  
Chief Cybersecurity Strategist, NTT Corporation

### 3.2.2. Research and Analysis

Members of the TWG 2 engage in continuous research and analysis of geopolitical, technological, and geoeconomic trends and developments related to the EU's DPs in the Indo-Pacific. Rigorous background research, combined with insights from regional experts and findings from discussions during the in-person Expert Workshops are turned into Policy Briefs, which include a critical analysis of the DPs and formulate concrete recommendations for policymakers.

#### 3.2.2.1. INPACE Policy Briefs

Csernatoni R. & Pejsova, E. (2025) From Policy to Action: The Way Ahead for EU-ROK Digital Partnership, CSDS Policy Brief, <https://csds.vub.be/publication/from-policy-to-action-the-way-ahead-for-the-eu-republic-of-korea-digital-partnership/>

Csernatoni, R. & Pejsova, E. (upcoming) EU-Japan Digital Partnership: Towards a Robust Alliance for an Uncertain Geopolitical Era”, CSDS Policy Brief (to be published by end September 2025)

#### 3.2.2.2. Relevant publications

Csernatoni, R., *et al.* (2025) Myth, Power, and Agency: Rethinking Artificial Intelligence, Geopolitics and War. *Minds & Machines: Journal for Artificial Intelligence, Philosophy and Cognitive Science* 35: 37. <https://doi.org/10.1007/s11023-025-09741-0>

Csernatoni, R. “The Future of Foreign Policy in the Age of Emerging and Disruptive Technologies” in Andrea Salvi, Heli Tiirmaa-Klaar, and James A. Lewis. (2025), *Handbook for The Practice of Cyber Diplomacy*, EUISS, <https://euclid.s3.eu-central-1.amazonaws.com/euclid/assets/APafQ4IV/a-handbook-for-the-practice-of-cyber-diplomacy.pdf>

Csernatoni, R. (2025), “The EU’s AI Power Play: Between Deregulation and Innovation”, <https://carnegieendowment.org/research/2025/05/the-eus-ai-power-play-between-deregulation-and-innovation?lang=en>

Csernatoni, R. (2025), “ROK-EU Digital Partnership: Present and Future”, Korea OnPoint [https://koreaonpoint.org/articles/article\\_detail.php?idx=444](https://koreaonpoint.org/articles/article_detail.php?idx=444)

Nachiapan, K. et al. (2025) Cyber Resilience in the Indo-Pacific, *Asia Policy* 20:2 <https://muse.jhu.edu/issue/54800>

#### 3.2.2.3. Podcasts & interviews:

“Digitalizing Together: The EU, the Indo-Pacific, and Digital Partnerships”, <https://csds.vub.be/podcast/digitalising-together-the-eu-the-indo-pacific-and-digital-partnerships/>

“The Age of Artificial Intelligence: A Conversation with Raluca Csernatonî”, <https://csds.vub.be/publication/the-age-of-artificial-intelligence-a-conversation-with-raluca-csernatonî/>

### 3.2.3. Outreach and Policy Engagement

The co-lead of the TWG2, Prof Raluca Csernatonî, is a renowned expert on new technologies and the EU’s digital policies, transformation and diplomacy, regularly contributing to high-level expert exchanges, informing policymakers, and lecturing on digital partnerships in and outside the EU.

Below are some of her most notable recent contributions related to the TWG2’s mandate to inform and shape the evolving debate on the EU’s digital partnerships in the Indo-Pacific:

- 10 September 2025 – keynote remarks for the [TRANSCEND Horizon Europe](#) Final Summit, focusing on "Why Citizens' Engagement Matters for Security Research and Innovation", especially against the backdrop of emerging challenges spanning cyber and hybrid threats, AI-powered disinformation, and cognitive warfare.
- 24 June 2025 - speaker in the EU Domestic Advisory Group for Japan, a workshop on "AI’s Impact on the Workplace and Employment and as a Driver for Growth and Competitiveness".
- 12 June 2025 - tabletop exercise with Dr Alicia Wanless on “Shielding Democracy and Building the Resilience of the European Information Ecosystem in the Age of AI”. This roundtable was held in collaboration with the Carnegie Endowment for International Peace’s Information Environment Project and organised with the support of the European Union in the context of the EU Cyber Direct Initiative.
- 6 March 2025 - speaker during a [European Parliament DKOR meeting](#) and to present work on GenAI, democracy, and cybersecurity in the context of the EU-Republic of Korea Digital Partnership.
- January - March 2025 - visiting professor with the Department of International Relations of Central European University in Vienna, teaching about emerging and disruptive technologies and the future of warfare.

## 3.3. Joint Programming

### 3.3.1. Work achieved

One of the missions of INPACE is to contribute to harmonised research and innovation funding programs and joint calls between the EU and the Indo-Pacific countries. In this context, the purpose of the Thematic Working Group on Joint Programming is to explore opportunities for joint calls for research and innovation projects between the Indo-Pacific partner countries and the European Union. These may be bilateral or multilateral calls. It will also discuss the mechanisms of funding and the needs and potential for alignment. The work will build upon the analysis and comparison of the funding landscape in digital technologies and their applications in the partner countries and in Europe.

During the first year of the project two key observations were made. First was realised that there was an overlap between the scope of this group and the technical TWGs, as both would discuss suggestions for future funding or priority areas in research and innovation for each specific Digital Partnership, as recommended bottom-up by the expert group members. Second the differences between the opportunities for joint projects are large between the different partner countries. While the Republic of Korea is associated to Horizon Europe the other countries are not; India qualifies as a developing country in contrast to Japan and Singapore. This makes it difficult to have meaningful cross-country discussions.

The work in this area has therefore focused on 1:1 activities between the partner countries and the EU. Related to the ROK, the EUDEL to the ROK emphasises the importance of facilitating Korean researchers' and innovators' access to Horizon Europe programme. Following this request, a very well attended information session on opportunities to participate in Eu funding was organised in the frame of the 1<sup>st</sup> INPACE Symposium in Seoul, ROK, in October 2024. This was preceded by two sessions in an international conference in Korea that supported to create ties between researchers and developers between the EU and Korea.

In 2025, a comprehensive webinar on participation in Horizon Europe was organised by the Ukrainian INPACE partner LVIV Polytechnic Park on July 8, 2025. The programme comprised a long list of speakers from the EC and scientists in different domains of the Digital Partnership with Korea.

The webinar covered various aspects of international collaboration in research and technology, focusing on the digital partnership between the EU and South Korea. Presentations highlighted ongoing joint projects, support mechanisms for Korean researchers participating in Horizon Europe, and specific research areas such as 6G, semiconductors, and quantum technologies. The discussions also included insights from academic institutions and researchers, emphasising the importance of international cooperation in advancing technological innovation and addressing global challenges.

Related to India, through our associated partner IIT Guwahati, INPACE connected to the newly established ANRF (Anusandhan National Research Foundation) to create awareness of opportunities for collaboration. On March 31, the coordinator and several TWG and Cluster leaders of INPACE met with the Chairman of ANRF and other leading members to discuss areas of possible joint projects, in particular related to AI and semiconductors. However, in further discussions it became clear that ANRF is predominantly targeting privately sponsored research (via enterprises and not-for-profit associations and foundations) while the Indian government stays the main point of contact for public funding collaborations.

The connection to India has been strengthened a lot by the recruitment of a new leader of the TWG on High-performance computing, Rossen Apostolov, who is strongly involved in the GANANA project between the EU and India on High Performance Computing. In March 2025, INPACE and GANANA will organized overlapping events to foster technical exchange and collaboration.

Regarding Japan, collaborations are currently though individual projects. INPACE will support the creation of proposals for the upcoming joint call on semiconductors by a workshop in the context of the EU-Japan Digital week in 2026. The EU-Japan Digital Week 2025 led to numerous ideas and initiatives for joint projects, but so far no concrete proposals for projects under EU calls are known.

For Singapore, INPACE will organise the EU-Indo-Pacific Digital Partnership Conference in October 2024 in Singapore. One key target of the conference is to attract interest in joint projects with EU support. An information session will be organized and it is intended to have an exchange between persons responsible for research strategies and the INPACE consortium and the EU Delegation about areas of interest and bottlenecks for joint funding.

### 3.3.2. Future plans

INPACE will continue to follow the path on exploring opportunities and bottlenecks for participation in EU-funded research and innovation individually related to the four partner countries. The technical TWGs will generate ideas on possible topic for joint calls while TWG 3 will inform on funding opportunities and collect feedback from researchers responsible for international collaboration and mostly by informal discussions at events.

### 3.4. TWG 4 : Digital Education and Skills

The TWG 4 on **Digital Education and Skills** has been established to foster collaboration and knowledge exchange across the four partner countries, guided by the European Commission and aligned with the priorities of the digital partnerships. The group provides a structured platform for dialogue, expert engagement, and the development of joint activities in the field of digital education and skills, with a particular emphasis on the rapidly evolving area of **AI**.

TWG 4's work has evolved along two main axes: a country-specific focus, reflecting the rotating locations of the annual symposia and national priorities, and a thematic focus, centred on AI-related skills, literacy, and workforce readiness.

#### 3.4.1. Country Focus

##### Year 1 (2024): South Korea

In its first year, TWG 4 placed emphasis on identifying and mapping the overlapping priorities of the four digital partnerships. This scoping exercise allowed the group to better understand the diverse interests of each partner country while pinpointing shared areas of concern. Given that the annual symposium was held in **South Korea**, special attention was placed on the Korean context. TWG4 organized a **workshop in Seoul**, which brought together policymakers, researchers, and experts to exchange insights and highlight good practices in digital education.

##### Year 2 (2025): Singapore

In the second year, based on consultations with the European Commission and reflecting the thematic priorities of the digital partnerships, TWG 4 shifted its focus to **India and Singapore**. Since the 2025 symposium will be hosted in **Singapore**, this year's activities concentrate on the Singaporean context, particularly in relation to **AI in education and research**. Singapore's advanced digital infrastructure and strong policy frameworks provide fertile ground for discussions on how AI can be integrated into higher education and research systems.

##### Year 3 (Planned, 2026): India

Looking ahead to 2026, the country focus will shift to **India**, aligned with the symposium being held there. TWG 4 will concentrate on **upskilling and reskilling the workforce, especially in relation to AI**, a theme of relevance given India's demographic profile, large workforce, and strong emphasis on digital transformation. The focus on AI for workforce development reflects both national priorities and the EU–India TTC agenda.

##### Ongoing Engagement with Japan

While the annual country focus rotates, TWG 4 continues to maintain close engagement with **Japan** through its expert representative. At the request of the EU Delegation in Japan, TWG 4 has explored opportunities for practical cooperation, notably by identifying potential partners for a **pilot project on mutual micro-credential recognition**. Should this initiative move forward, it would serve as a significant step toward facilitating the cross-border recognition of skills and qualifications.

#### 3.4.2. Thematic Focus

Based on the expert discussion, and after a detailed analysis of the current trends, and priority topics, across the relevant countries, TWG4 has emphasized the need to strengthen **AI-related skills and competencies**, a theme that cuts across national contexts and resonates with all partner countries.

This thematic agenda has been operationalized through regular meetings of the working group, the survey on AI Skills as well as the first webinar and will be continued throughout the rest of the project.

#### 3.4.2.1. Regular Meetings

In the **first year (2024)**, after the experts have been identified and onboarded, the group convened **four online meetings**. These served as platforms for expert discussions, knowledge and legislation updates, status updates, and the monitoring of trends and emerging interests in the respective countries.

In the **second year (2025)**, TWG 4 has already held **three online meetings**, with **two further meetings planned** before the end of the year. These meetings provide continuity, ensure alignment with digital partnership priorities, and sustain the momentum of the group's activities.

#### 3.4.2.2. Events and Activities

**Webinar on “AI Challenges of Higher Education Institutions” (05 March 2025):** The first major webinar of the year, this session focused on the challenges universities and colleges face in integrating AI into teaching, research, and institutional governance. It provided a forum for exchanging perspectives and identifying common challenges such as faculty preparedness, ethical considerations, and fair assessment.

Recording available here: <https://www.youtube.com/watch?v=hwuNikQSq-c>

**Workshop in Davos (June 24, 2025):** We have co-organized a workshop at the #AI Horizon25 Conference in Switzerland, which focused on AI-driven Research, Innovation, and Talents with the tagline: "Where innovation meets societal and personal purpose". This conference was an exclusive gathering of experts in AI, internet research, policy, and innovation.

The workshop explored the following topics:

- The role of Europe's academic institutions in shaping AI governance
- Ethical frameworks for AI in European research contexts
- Policies supporting sustainable and equitable AI integration
- The balance between innovation and ethical safeguards
- Strategies for maintaining European competitiveness in AI

An additional input was gathered through an on-site survey on AI skills among participants which, together with the INPACE Survey on Digital Skills, will help shape INPACE policy recommendations.

**Workshop in South Korea (October 21st, 2024):** This in-person event enabled more in-depth knowledge exchange among experts and policymakers, particularly in the context of digital education.

**Moderator:** Karolina Gyurovszka – Martel Innovate (Switzerland)

#### Speakers

- Julien Provenzano – Purple Hackademy (South Korea)
- Prof. Steve McCarty – Osaka Jogakuin University (Japan)
- Dr. Raluca Csernatonu – Vrije Universiteit Brussel (Belgium)

- Dr. Giacomo Inches – Martel Innovate (Switzerland)
- Dr. Ramesh Sharma (online) – Indira Gandhi National Open University (India)

## Session Overview

This session examined the role of **digital skills in supporting effective implementation of the EU–Indo-Pacific Digital Partnerships**. Participants explored innovative approaches and best practices from both regions to answer the guiding question:

**“How can digital education and skills support effective implementation of the Digital Partnerships?”**

Key points highlighted included:

- The **cross-cutting nature of digital skills**, which are foundational for achieving progress in other priority areas such as **AI, Cybersecurity, and Data**.
- The upcoming **association of the Republic of Korea with Horizon Europe in 2025**, opening new opportunities for collaboration, including joint education programs, academic exchanges, collaborative research, and hackathons to retain digital talent.

## Takeaways and Recommendations

### Moderator’s Insights

- Karolina Gyurovszka (Martel Innovate) emphasized that while **digital education and skills** may no longer be a priority under the **EU–ROK DP**, they remain highly relevant for **India and Singapore**.
- She underlined that **high levels of digital skills** are essential to advancing other priority areas of the Digital Partnerships.

### Speaker Contributions

- **Dr. Raluca Csernaton (Vrije Universiteit Brussel, Belgium):**
  - Stressed the need to foster a **culture of continuous learning**, beginning from early childhood (even kindergarten).
  - Advocated for **greater female participation** in digital education.
  - Highlighted the importance of preparing for the impact of technologies on employment.
- **Dr. Giacomo Inches (Martel Innovate, Switzerland):**
  - Introduced Martel’s new project **SkillAbility**, focused on using AI to help individuals gain new skills and support workforce upskilling.
  - Shared experiences from Martel’s **LEADS project**, which addressed advanced digital skills, offering recommendations for future initiatives.
- **Prof. Steve McCarty (Osaka Jogakuin University, Japan):**

- Noted that all INPACE Working Groups incorporate an educational dimension.
- Outlined Japan’s **human-centric vision**, promoting collaboration between **industry, government, and academia**.
- Highlighted Japan’s **egalitarian education system**, national curriculum standards, and compulsory programming in schools.
- Shared best practices, including:
  - **Tokyo University–Finland cooperation** on virtual reality.
  - **GIGA School Program** under Japan’s Society 5.0.
- Stressed the importance of **accessible online courses** and knowledge-sharing platforms.
- **Julien Provenzano (Purple Hackademy, South Korea):**
  - Focused on **cybersecurity skills and training**, especially for **SMEs** that cannot afford full-time cybersecurity professionals.
  - Highlighted the use of AI in **agriculture** and the value of **sharing best practices**.
  - Advocated for **cultural adaptation** of training materials rather than simple translation.
  - Promoted **gamification** as a method to make training more engaging.

### Audience Contributions and Best Practices

- **Gin Kim (South Korea):** Presented the government-funded program “**Best of the Best**”, designed to train future cybersecurity experts in an engaging and non-academic way.
- **Prof. Nineta Polemi (Greece):**
  - Reflected on the challenges of aligning **cybersecurity curricula across Europe**, referencing the **Cybersec4All project**.
  - Highlighted **ENISA’s role** in setting guidance and standards.
  - Emphasized the importance of **co-developing educational programs** and ensuring adaptability to rapid digital transformation.

### Conclusions

The session highlighted that **digital education and skills remain a critical enabler** for the EU–Indo-Pacific Digital Partnerships, underpinning progress in other priority areas. Participants identified several actionable pathways forward:

- Strengthening collaboration between Europe and the Indo-Pacific in developing **AI, cybersecurity, and data-related skills**.
- Promoting **inclusive digital education** through continuous learning and targeted efforts (e.g., increasing female participation).

- Supporting **joint programs, exchanges, and hackathons** to foster talent mobility and retention.
- Ensuring that digital education initiatives are **culturally relevant, engaging, and accessible** across diverse contexts.

**Survey on AI Skills (2025):** The expert group designed and conducted a survey on AI skills across the four countries, aiming to map existing capacities, identify gaps, and highlight opportunities for mutual learning. The survey results are now being analyzed and will provide a strong evidence base for future policy recommendations.

The survey is provided via the following link: <https://survey.spi.pt/index.php/539794?lang=en>

### 3.4.3. Planned Activities (2025)

**Webinar on AI Literacy Frameworks and Curricula:** This upcoming event will focus on how countries are embedding AI literacy into their education systems and the types of curricula being developed to ensure that learners acquire not only technical competencies but also the ethical, critical, and societal perspectives needed to engage with AI responsibly.

**INPACE Symposium Session (Singapore, 29 October 2025):** TWG4 will host a dedicated session during the annual symposium. The session will showcase results of the above-mentioned survey, findings from TWG4's work to date, share experiences on AI in education and research, and facilitate dialogue among regional and international stakeholders.

All information can be found here: <https://inpacehub.eu/eu-indo-pacific-digital-partnership-conference-2025#program>

#### Session description

**Title:** AI in Education: Opportunities for Collaboration

**Tagline:** Bridging the Skills Gap through EU-Indo-Pacific Collaboration

This session will delve into the transformative impact of Artificial Intelligence on research and educational landscapes, with a specific focus on the crucial area of AI skills development.

We are excited to present the key findings from our comprehensive survey on AI skills, conducted across Europe, Japan, India, South Korea, and Singapore. These results offer a unique insight into regional strengths, challenges, and emerging needs in the AI talent pipeline.

Following the presentation of the survey outcomes, we will open the floor for a dynamic discussion on opportunities for collaboration in developing AI-related skills between the European Union and the Indo-Pacific region. Join us to explore how shared strategies, best practices, and joint initiatives can strengthen AI capabilities across both regions. This session is a must for educators, policymakers, industry leaders, and anyone invested in the future of AI and learning.

**Session objective:** The objective of this session is to identify concrete opportunities for collaboration in developing AI-related skills between the EU and the Indo-Pacific region.

### 3.4.4. Outlook

Looking forward, TWG 4 will continue to build on this momentum. A key deliverable will be the development of **policy recommendations**, which will draw primarily on the outcomes of group

discussions and the findings of the AI Skills Survey. These recommendations will feed directly into the broader policy dialogue under the EU's digital partnerships.

In parallel, TWG 4 will continue to adapt its activities to the annual country focus. In 2025, the spotlight will remain on Singapore and its experience with AI in research and education, while in 2026 the focus will shift to India, with particular attention to upskilling and reskilling in AI, a session on this topic will be organized as a part of the INPACE EU-India symposium. Engagement with Japan will also continue, with the possibility of piloting a project on mutual recognition of micro-credentials.

In this way, TWG 4 will maintain its dual commitment to **thematic depth** and **country relevance**, ensuring that its work both addresses immediate national contexts and contributes to the long-term advancement of digital partnerships.

## 4 CONCLUSION

This initial report of WP 2 highlights the progress achieved in laying the foundations for sustained policy–research interaction under the EU’s DPs in the Indo-Pacific. Each TWG has taken meaningful first steps: TWG 1 has advanced cooperation on standards and interoperability; TWG2 has built trust through dialogue and policy analysis; TWG 3 has opened avenues for joint programming and participation in EU funding instruments; and TWG 4 has initiated exchanges on AI skills and digital education.

As this is the first reporting stage, the activities documented here represent the beginning of a longer process. Many of the initiatives launched are designed to evolve further—such as standardisation pilots, joint funding discussions, and AI education frameworks. Planned symposia, hackathons, and workshops will provide platforms to consolidate these early achievements, broaden participation, and generate concrete recommendations for policymakers.

Looking forward, WP 2 will continue to ensure that research outputs are translated into policy-relevant insights, strengthen collaboration with Indo-Pacific partners, and support the EU’s strategic objectives in digital transformation. This initial phase has already confirmed the value of the Policy Cluster as a bridge between technical expertise and policy priorities, setting a solid basis for deeper engagement and tangible outcomes in the next stages of the project.