INPACE

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

D4.3
Summary: desk research, interviews, survey, consultation (intermediary)

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Abstract	WP 4 aims at empowering the INPACE Hub by providing the Thematic Working Groups (TWGs) with the necessary data-based evidence and insights to develop well-informed initiatives for future cooperation between European Union (EU) and Indo-Pacific Partners. The methodology applied includes tools like desk research, interviews, surveys, and public consultations. The report of main actions taken regarding each one of these tools is prepared in this document.
Keywords	WP 4; empowering the Hub

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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
ETHICS: Deliverables related to ethics issues.

EXECUTIVE SUMMARY

This report presents the progress and key findings achieved by WP 4 between Months 13 and 24 of the INPACE project, reflecting substantial advancements in research, engagement, and knowledge generation across digital topics and partnerships. The work carried out during this reporting period focused on strengthening the INPACE Hub, expanding evidence through structured methodologies, and collecting insights from diverse stakeholders across Europe and the Indo-Pacific region.

Desk research activities deepened the project's understanding of emerging digital trends, policy dynamics, and technological developments relevant to the EU's Digital Partnerships via an update on Deliverable D4.1. These efforts have produced updated mappings, comparative analyses, and preliminary recommendations that will support future policy alignment and cooperation.

Complementing this work, an initial interview cycle was conducted with experts on the topic of semiconductor priorities and collaboration between the EU and Indo-Pacific region, as support to Cluster 4, generating qualitative insights on digital transformation priorities, gaps in skills, and opportunities for collaboration. Several additional interviews are planned to further broaden the evidence base.

In period M13-M24, three targeted surveys have also been conducted – on digital / AI skills, data spaces, and sleeping technologies – collecting quantitative data from more than one hundred respondents across academic, governmental, and industrial sectors. These surveys highlight strong demand for AI-related competencies, increasing digitalisation pressures, and diverging levels of maturity in data governance and emerging technology adoption. High response rates and rich datasets confirm the relevance of these themes for future joint initiatives.

Overall, WP 4 has achieved significant outputs by Month 24, including expanded knowledge resources, strengthened partner engagement, refined methodological tools, and validated insights across the project's core thematic areas. These results, coupled with planned activities for reporting period M25-M36, position INPACE for effective delivery of its upcoming activities, ensuring that the Hub continues to evolve as a central platform for evidence-based support to Digital Partnerships in the Indo-Pacific region.

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1 INTRODUCTION

1.1 EMPOWERING THE INPACE HUB

WP 4 aims empowering the INPACE Hub by providing the Thematic Working Groups (TWGs) with the necessary data-based evidence and insights to develop well-informed initiatives for future cooperation between EU and Indo-Pacific partners.

Empowering the hub is a crucial endeavour within INPACE project serving as the nexus for collaboration, innovation, and strategic direction. By providing the necessary resources, support, and guidance, empowering the hub enables INPACE partners to fulfil their objectives effectively and drive meaningful impact.

In INPACE proposal a set of tools to be used during the project to empower the hub were defined, namely:

- Desk research
- Semi-structured interviews
- Surveys
- And public consultations

In the beginning of the project, as part of the Toolbox (Deliverable D1.1), key principles, strategies, and best practices for empowering the hub within the project were developed. Throughout this toolbox, the essential components of empowering the INPACE project were presented, including fostering collaboration and providing resources effectively to the TWGs with the necessary data-based evidence and insights to develop well-informed initiatives for future cooperation between EU and Asian partners. This includes providing them with data analysis and recommendations that will enhance their ability to identify and prioritize areas of collaboration.

However, the working methodology should be flexible enough to accommodate the response to specific requests from the TWGs, according to the progress of the work and the needs that are identified during the course of the project, applying the reflexive methodology described below.

1.2 METHODOLOGICAL APPROACH

The approach for empowering the INPACE hub serves as a comprehensive framework for supporting and enhancing the effectiveness of TWG activities within the INPACE project.

Figure 1 illustrates the structured approach to data collection and analysis, organizing surveys, facilitating knowledge exchange, conducting semi-structured interviews, supporting best practices, and empowering TWGs. This methodology empowers TWG members to collaborate effectively, leverage valuable insights, and achieve project objectives.

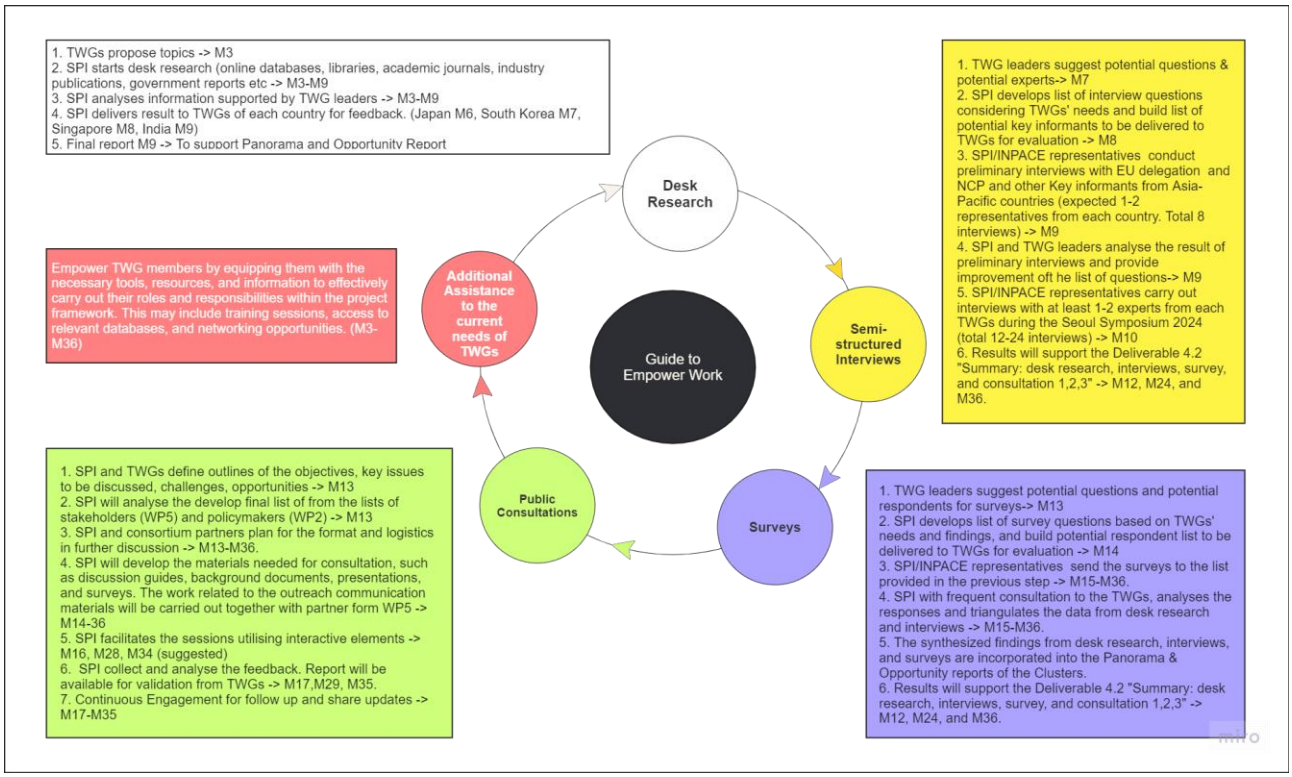


Figure 1. Methodologic approach in WP 4

This methodology, implemented in the first reporting period (M1-M12), has been duly followed in this reporting period, using regular consultations and presentations of project achievements to the TWGs, and subsequent refinement and adaptation of next steps based on feedback and evolving needs, ensuring the maximization of the impact and success of TWG initiatives within the INPACE project.

Whereas the priority approach during M1-M12 was regarding desk research, mainly for the definition and elaboration of Deliverable D4.1 – *Report on synergies and commonalities in policies, strategies and programs between the EU and Asia-Pacific countries*, the main focus in reporting period M13-M24 has been regarding the development of targeted surveys and conducting interviews, in order to extract important insights for the respective TWGs regarding relevant and priority technological topics.

2 DESK RESEARCH

2.1 ACTIONS DURING REPORTING PERIOD M13-M24

Although the most intensive desk research activities were carried out during the reporting period M1-M12 in the context of Deliverable 4.1 – "Report on synergies and commonalities in policies, strategies and programmes between the EU and Asia-Pacific countries", significant additional desk research work was implemented during the M13-M24 reporting period.

Following the initial submission of Deliverable 4.1 in M12, a thorough revision process was conducted between M13 and M14, in close interaction with the leaders of the Thematic Working Groups (TWGs), to improve the clarity, structure, and comparative value of the report, and to consolidate the accuracy and completeness of the information presented.

The revision aimed to strengthen the analytical depth of the document and improve its strategic usefulness for the project's stakeholders. In particular, the following elements were substantially reorganised, updated and expanded:

- A clearer synthesis of national ICT R&D programmes across partner countries;
- An updated mapping of research and innovation priorities relevant for each TWG domain;
- A refined analysis of national funding mechanisms, including where possible quantitative information on funding volumes and thematic distribution by TWG area;
- A more structured overview of existing collaboration frameworks between the EU and each partner country;
- An enhanced analysis of potential synergies and commonalities between national programmes and relevant European initiatives.

In this scope, special emphasis was placed on improving cross-country comparability and on strengthening the strategic conclusions of the report. This included the introduction of per-country recommendations, as well as a consolidated identification of Shared Priorities and Potential Areas of Collaboration between the EU and the partner countries (Japan, Republic of Korea, Singapore and India). For each country, strengths and weaknesses across key digital and technological sectors were highlighted, together with possible collaboration pathways within the framework of existing and emerging Digital Partnerships.

Beyond the revision of Deliverable 4.1, desk research also supported the preparation of the WP 4 survey activities, notably with regard to the definition of survey themes, the identification of relevant stakeholders, and the contextual framing of key questions addressed to respondents. These complementary activities are further detailed in Section 4.1 of this deliverable.

2.2 NEXT STEPS

Within the next reporting period (M25-M36), desk research will continue to play a supportive and strategic role within WP 4, ensuring that the knowledge base of the project remains updated, accessible, and aligned with its consultation and dissemination objectives.

Desk research will continue to support the design and implementation of WP 4 survey and consultation activities. This includes contributing to the definition and refinement of survey topics and questions, identifying and mapping relevant stakeholders and experts across the EU and Asia-Pacific regions, and supporting the targeting of participant groups for upcoming consultation rounds. In this context, desk research will be instrumental in ensuring that the surveys and consultations remain grounded in the most recent policy, technological and strategic developments, and that a diverse and relevant pool of participants is effectively engaged.

3 INTERVIEWS

3.1 ACTIONS DURING REPORTING PERIOD M13-M24

Interviews constitute a core qualitative data collection tool within WP 4, contributing directly to the evidence base of the INPACE Hub and to the development of informed and context-sensitive recommendations. Through direct engagement with key stakeholders, experts, and institutional actors, the interview process enables the capture of nuanced insights on policy implementation, technological priorities, collaboration dynamics and emerging challenges that are not always visible through desk research alone.

The overall objective is to conduct at least 60 semi-structured interviews across the 12 Thematic Working Groups (TWGs), in close coordination with the TWG leaders and aligned with their specific thematic priorities and information needs. Interviewees are identified based on recommendations from the TWGs, ensuring that the selected stakeholders represent relevant expertise and institutional perspectives from both the EU and Indo-Pacific regions.

All interviews are conducted via online meetings. A common interview guide under a specific topic is developed and validated with the relevant TWG leaders, allowing for both comparability across interviews and sufficient flexibility to accommodate the specific focus of each TWG. The interviews are recorded (subject to consent), transcribed and systematically analysed in order to extract structured information and cross-cutting insights, which are then fed back into the work of the TWGs and the INPACE Hub.

During the reporting period M13-M24, a total of eleven experts were invited to participate, four interviews were successfully conducted and one further interview was scheduled for M25. These interviews focused on **semiconductor priorities and opportunities for collaboration between the European Union and Indo-Pacific countries**, in coordination with Cluster 4 – *Enabling Technologies: Chips for the Future*. The discussions centred on topics such as national and regional semiconductor strategies, critical segments of the value chain, supply chain resilience, investment priorities, skills needs, and barriers to international collaboration. Particular attention was given to identifying areas of mutual interest and potential cooperation between the EU and partner countries, including research and development, pilot lines, manufacturing capacity, and advanced packaging.

The list of interviewees and institutional affiliations is presented in Table 1.

Table 1. List of interviews conducted in M13-M24.

Name	Country / Region	Institutional affiliation	Relevant Cluster	Interview date
Hocheon Yoo	Rep. Korea	Associate Professor of Electronic Engineering, Hanyang University	4	September 10 2025
Sheikh Aamir Ahsan	India	Assistant Professor of Electronics & Communication Engineering, NIT Srinagar	4	September 17 2025
Mikael Ostling	EU (Sweden)	Senior Professor of Solid State Electronics, KTH	4	September 19 2025
Georgios Fagas	EU (Ireland)	Director of Strategic Development, Tyndall National Institute	4	September 24 2025

The interview guide was shared with the participants in advance of each interview in order to facilitate their preparation and support more focused and informed contributions during the discussions. The interview guide developed and used for these interactions in coordination with Cluster 4 is presented below:

1. In your view, which semiconductor-related areas should be prioritized for Europe-Indo-Pacific collaboration (e.g., advanced logic; memory; sensors; new computing paradigms – neuromorphic, quantum, in-memory, photonics, heterogeneous integration, packaging)? Which subdomains offer most immediate and strategic opportunities between these countries? Which offer the most potential for mutual benefit?

2. What are the primary technical or regulatory barriers that could hinder joint semiconductor tech development, especially in ground-breaking technologies (neuromorphic computing, quantum computing and others)?

3. In your experience, what are the biggest challenges to aligning research agendas and timelines across regions, especially in rapidly-evolving areas (low-power technologies, beyond-CMOS technologies…)?

4. How viable is cooperation, in current and emerging functional technologies (e.g., smart sensing, energy harvesting, flexible electronics) considering challenges such as current supply chain, IP, and standard alignment concerns?

5. What cooperation formats do you consider most effective for fostering international collaboration (e.g., joint R&D; researcher exchanges / access to institutions; joint talent finding initiatives; learning activities – summer schools, workshops, webinars, virtual showcases)? How important is talent development and exchange in driving innovation across Europe-Indo-Pacific?

6. In your view, what are the infrastructure and capability gaps (e.g., factories, research facilities, talent and qualification) that should be address to enable productive partnerships in advanced semiconductor domains?

7. What policy or funding mechanisms would most effectively support joint development or research in this area? Are you aware or in contact with such mechanisms?

8. In your opinion, how can partners ensure equitable sharing of risks, benefits and IP when cooperating on advancements in semiconductor technologies? What mechanisms would help increase trust, transparency and IP protection in cross-border research and partnerships?

9. How can initiatives such as roadmapping, testbeds, or pilot projects help in de-risking and advancing new semiconductor breakthroughs across Europe and the Indo-Pacific?

10. Are you aware of any current examples of successful semiconductor-related collaboration between countries? What can we learn from them?

11. What indicators would help measure the success and impact of Europe-Indo-Pacific digital partnership initiatives in the semiconductor field?

Moreover, a more detailed description of the results and insights of the interviews conducted can be consulted on Section 6.1.

3.2 NEXT STEPS

By M24, a total of 11 interviews have been conducted, which means that SPI is currently behind the foreseen target of 60 interviews. This is largely explained by the stronger emphasis placed during this reporting period on the design, deployment and analysis of the INPACE surveys, which was considered more important to the TWG's needs. The next reporting period (M25-M36) will therefore be critical to significantly accelerate the interview campaign and meet the project KPI.

To ensure balanced coverage across the different thematic domains and geographical contexts, the following actions will be prioritised:

- First, efforts will be made to extend the interviews to the currently under-represented Clusters 1, 2, 3 and 5, which at this stage have limited or no interview coverage. For each of these clusters, dedicated interview guides will be developed on the basis of their specific thematic priorities. These guides will be validated and refined in close cooperation with the respective TWG leaders, who will also support the identification and proposal of additional expert contacts to be approached for interviews.

- Efforts will likewise be conducted in order for the number of interviews under Cluster 4 (*Enabling Technologies: Chips for the Future*) to be further expanded. Considering both the strategic importance of semiconductors in the EU–Indo-Pacific cooperation agenda and the positive progress already achieved in this cluster, additional interviewees will be targeted through the consortium partners, as well as through SPI's existing networks and external expert sources. Efforts in finding relevant experts available for being interviewed are currently being made via EU projects on this topic.

- In M24, TWGs perceived the need to know about the status of joint EU and Partner Countries funded collaboration recent opportunities, and the candidates' experiences with the international collaboration under these calls/programs, in order to "design" proposals for joint funding initiatives. To collect the feedback of these experiences, SPI has been appointed to perform interviews with the project participants under this type of calls on both sides (EU and Partner Countries). The interviews will be made during M25 and M26.

- Regional coverage should be strengthened, with a specific focus on Singapore, where no interviews have yet been conducted to date. Targeted outreach activities will be organised to engage key stakeholders from research institutions, industry and relevant public authorities, ensuring that Singapore's perspective is adequately represented in the overall analysis and in the inputs feeding the INPACE Hub.

- Finally, a Short Summary Report on "semiconductor priorities and collaboration" is being developed, integrating all insights extracted from the interviews made in a concise, topic-specific manner, for dissemination in the INPACE Hub networks. More summary reports will be developed to include all interviews' results gathered under the other topics identified (or to be soon identified).

4 SURVEYS

4.1 ACTIONS DURING REPORTING PERIOD M13-M24

During the reporting period M13-M24, surveys played a central role in the data-collection strategy of WP 4, providing structured and comparable inputs from experts across the INPACE TWGs, researchers, policymakers, and other relevant stakeholders. The survey methodology followed a systematic and collaborative process designed to ensure relevance, clarity, and alignment with the needs of each Cluster and TWG. The design and implementation of surveys followed a multi-step approach:

- Definition of themes and respondent profiles – TWG leaders proposed priority topics, key thematic angles, and indicative respondent profiles, so surveys can address domain-specific needs and emerging questions
- Development of survey instruments – Survey questions were drafted to collect quantitative insights, first-hand perspectives, and expert experience on priority areas related to Digital Partnerships. Questions were reviewed and refined to ensure clarity, neutrality, and usefulness for subsequent analysis
- Identification of respondents – In close articulation, SPI and respective TWG leaders developed targeted lists of potential respondents, drawing on both the TWG networks and the broader community of stakeholders engaged through the INPACE platform
- Deployment and monitoring – Surveys were disseminated through multiple channels, including via mailing lists, stakeholder networks, and, where relevant, the INPACE Community Platform. When necessary, surveys were adjusted or updated based on early responses or feedback to maximize participation and data quality
- Analysis and synthesis of results – Collected data was analysed by SPI with input from TWG leaders. Preliminary and final findings were synthesised to support Cluster Panorama Reports and contribute to evidence-based reflections on the status of Digital Partnerships, emerging technological domains, and stakeholder priorities.

During the reporting period M13-M24, three surveys were launched, each aligned with a specific Cluster and TWG:

- **Survey on Digital and AI Skills (Cluster 1 – TWG 4 "Digital Education and Skills") –** This survey focused on the current landscape, needs, and challenges related to digital and AI-related skills development across the EU and Asia-Pacific partner countries. The survey was successfully launched on M16, completed, analysed and presented during the reporting period.

- **Survey on Data Spaces (Cluster 3 – TWG 8 "Data Technologies") –** This survey was launched in the second half of the reporting period (M21) and remains ongoing. Preliminary responses are being monitored.

- **Survey on Sleeping Technologies – Discovery and Awakening (ST-DnA) –** Conducted in collaboration with the Institute for Information & Communications Technology Planning & Evaluation (IITP, Republic of Korea), this survey was launched during M23 and is currently ongoing.

An in-depth description of each survey is provided in the following Sections 4.2, 4.3 and 4.4. Results and insights extracted from the survey on digital / AI skills are detailed in Section 6.1.

4.2 SURVEY ON DIGITAL SKILLS

As part of Cluster 1 and the work of TWG 4 Digital Education and Skills, a survey on Digital and AI Skills was developed and implemented to gather insights on the use of AI in research and to identify emerging needs for training, standards, and policy guidance. The survey was launched in M16 and concluded in M21, forming one of the first completed data-collection instruments within WP 4.

The survey was designed as a short, 5-minute questionnaire, ensuring accessibility and encouraging participation from research professionals. Its primary objective was to understand how AI tools are currently used in research workflows and to capture expert perspectives on the skills, resources and governance measures needed to fully leverage AI in academic and applied research settings.

Target respondents included:

- Researchers
- Faculty members
- Professionals working in AI-related roles across both the EU and Indo-Pacific regions.

The survey explored four main thematic areas:

- Current AI tools and digital skills used in research contexts;
- Perceived benefits, opportunities and limitations of using AI to support research activities;
- Training needs and support resources required to improve AI adoption and responsible use;
- Ethical, privacy and policy considerations, including views on standards and regulatory frameworks.

The survey was formatted mainly for single- or multiple-choice responses. The survey included the following questions:

- *Has AI impacted your research work? If yes, how?*
- *What barriers would you consider hinder wider adoption of AI in your field?*
- *How regularly do you use AI in your work?*
- *How proficient do you consider yourself to be regarding usage of AI tools in your work?*
- *Which aspects of AI do you find most beneficial in your work?*
- *How important is it that people in your line of work are formally trained in AI usage?*
- *Which AI-related skills do you consider most essential for your role?*
- *Are curricula being changed in your field to address the emergence of AI usage? If not, should it be changed? Why?*
- *What concerns you the most regarding the use of AI in your work?*
- *Do you think using AI tools in work should be regulated more strictly? If yes, which approach would you suggest for doing so?*
- *Which policies, standards or guidelines would you like to see implemented for the use of AI in the future?*

A total of 142 respondents completed the survey, representing a diverse set of countries across the EU, Singapore, India, Japan and the Republic of Korea.

The dissemination strategy relied on multiple outreach channels – direct mailing lists, LinkedIn communications, and dissemination through INPACE partner networks – with a primary focus on reaching researchers and faculty members actively engaged in AI-related fields.

The results of the survey have already been analysed and data extracted to form conclusions about the perception of AI across the EU and the targeted Indo-Pacific countries. The data has also been integrated into the evidence base supporting Cluster 1 activities and the broader reflections on digital skills within the INPACE project.

4.3 SURVEY ON DATA SPACES

As part of Cluster 3 and under the guidance of TWG 8 – Data Technologies, SPI launched a dedicated survey on Data Spaces to gather expert insights on the maturity, readiness, challenges, and cooperation opportunities related to data-sharing ecosystems across the EU and Indo-Pacific regions. The survey was launched in M21 and remains ongoing at the end of the current reporting period (M24).

The survey is approximately 7 minutes long and aims to collect perspectives from stakeholders actively involved in data governance, data-sharing frameworks, interoperability initiatives, and emerging data space infrastructures. Its main objective is to better understand the level of familiarity with data spaces, institutional readiness, collaboration interests, perceived obstacles, and expectations regarding participation in cross-border or cross-institutional data spaces, particularly those involving European partners. Target respondents include professionals working directly on data spaces, representatives of relevant associations, and academic entities engaged in data technologies across the EU, Singapore, India, Japan and the Republic of Korea. Given the highly technical nature of the topic, the survey is expected to yield a more specialised but smaller response pool compared to the digital skills survey. As of M24, the survey has received 18 responses.

The survey questionnaire addresses a broad set of themes related to data space implementation, readiness, and international cooperation, including:

- Familiarity and participation in existing data spaces, including past or ongoing involvement by respondent institutions
- Interest in future participation in data spaces involving EU institutions, and perceptions of added value or expected benefits
- Confidence in innovation outcomes, assessing whether respondents believe cooperation in data spaces can drive innovation or bring institutional advantages
- Technical readiness, evaluating the availability of necessary capabilities such as secure systems, APIs, data storage, and interoperability mechanisms
- Perceived obstacles to data space participation, including regulatory compliance, financial cost, trust concerns, technical challenges, and perceived lack of value
- Objectives for implementing data spaces, such as improving data sovereignty, supporting SMEs, enhancing digital economies, enabling smart cities, boosting standardisation, and contributing to emerging technologies through big data pathways
- Standards and requirements needed for successful participation, including technical, sectoral or organisational standards
- Funding landscape and national initiatives, collecting information on recently funded projects related to data spaces or data sharing
- Key stakeholders and influential institutions in respondents' countries or sectors
- Potential use cases for EU-Indo-Pacific data-sharing collaboration
- Regulatory alignment challenges, especially with European data protection rules, including specific difficulties identified by respondents, and cultural or organisational considerations that may affect collaboration

To reach qualified and domain-relevant respondents, the survey was disseminated through a broad yet targeted outreach strategy including:

- Direct mailing, especially to data space professionals and academic contacts
- LinkedIn outreach through INPACE and partner communication channels

- INPACE partner networks, notably those connected to TWG 8
- Targeting of researchers and faculty members in relevant technological fields.

Additionally, dissemination is being actively supported through outreach to leading international organisations working on data spaces. The following institutions were contacted to promote the survey and share it within their communities, with dissemination actions ongoing: Gaia-X Association; International Data Spaces Association (IDSA); Data Spaces Business Alliance (DSBA); Data Spaces Support Centre (DSSC); Green Deal Dataspace (GDDS); Big Data Value Association (BDVA); FIWARE Foundation; the AI, Data and Robotics Association (ADRA); and TICE.PT.

4.4 SURVEY ON SLEEPING TECHNOLOGIES – DISCOVERY & AWAKENING

In close collaboration with the Institute for Information & Communications Technology Planning & Evaluation (IITP, Republic of Korea), INPACE launched a specialised survey on Sleeping Technologies – Discovery and Awakening to support the early stages of identifying emerging technological opportunities across priority domains. The survey was launched in M23 and remains ongoing as of the current reporting period.

The survey was designed as a short, 4-minute questionnaire, with the primary objective to pre-select and map experts who can subsequently contribute to a deeper, more detailed consultation on sleeping technologies. These experts will later be contacted through a follow-up survey or structured interviews aimed at further assessing the feasibility, applications, and strategic relevance of selected technologies.

Sleeping technologies refer to promising technological areas that currently show limited visibility, low commercial deployment, or slow innovation cycles, but which hold high potential for future technological breakthroughs, strategic competitiveness, and long-term impact. These technologies often remain unexplored or underfunded due to a lack of awareness, fragmented research communities, or insufficient connection to industry needs. Identifying and “awakening” such technologies allows policymakers and research institutions to anticipate future developments and strategically channel resources where emerging innovation pathways may arise.

The survey targets international experts working in three key technological domains where sleeping technologies may exist:

- Network and Communication Technologies
- RF / Satellite Technologies
- Quantum Technologies.

The questionnaire collects preliminary views on areas where dormant or underexplored innovations may hold strategic relevance, as well as the willingness of experts to participate in upcoming in-depth discussions.

The survey has so far received 26 responses, and has been disseminated through multiple routes to ensure broad international reach and to engage highly specialised technical communities, including:

- Direct mailing to experts in the three targeted domains
- LinkedIn communication via INPACE and partner platforms
- INPACE partner networks, particularly those connected to TWG activities;
- Outreach primarily aimed at researchers, faculty members, and domain-specialised professionals

The responses collected during the reporting period will serve as the foundation for the next consultation stage, enabling deeper analysis and prioritisation of potential sleeping technologies within the INPACE framework.

4.5 NEXT STEPS

Within WP 4, the plan foresees the implementation of 4 surveys, with a collective target of at least 200 responses by M36. As of M24, 3 surveys have already been launched and are progressing well, having gathered a total of 186 responses so far. This shows that WP 4 is fully on track to meet and potentially exceed its objectives by the end of the project.

For the next reporting period, several actions will guide the next phase of work:

- Further dissemination of ongoing surveys – Efforts will be made to broaden outreach across the EU and Indo-Pacific regions, leveraging direct mailing, LinkedIn, and partner networks

within the INPACE Hub, to help maximise participation from researchers, experts, and stakeholders relevant to each thematic area

- Data analysis and development of summaries – SPI will proceed with a structured analysis of the collected data. For each survey, short and accessible summary documents will be prepared, highlighting key findings, trends, and implications. These summaries will be shared with partners and disseminated across the INPACE Hub to support knowledge exchange and community engagement

- Identification of new topics for a fourth survey – In close collaboration with other TWGs, WP 4 will explore emerging needs and strategic themes suited for the development of at least one additional survey. This final survey will ensure full alignment with the project's goals, address knowledge gaps, and strengthen the evidence base for future INPACE activities.

5 PUBLIC CONSULTATIONS

5.1 ACTIONS AND NEXT STEPS

Within INPACE, WP 4 is responsible for organising three public consultations across the project's duration to gather stakeholder perspectives on topics central to the EU's Digital Partnerships with Indo-Pacific countries. These consultations aim to validate findings from desk research, interviews, and surveys, while ensuring that the INPACE Hub reflects real-world needs, priorities, and emerging trends in digital and AI transformation.

As of M24, one public consultation has already been conducted, during the reporting period M1–M12. Initially foreseen for 2025, the consultation was strategically advanced to align with the INPACE International Symposium on Digital Technologies and Policies, held on 21-22 October 2024 in Seoul, Republic of Korea. This event brought together experts from the EU, Japan, South Korea, Singapore, and India, providing an ideal platform to gather early insights on digital cooperation, validate preliminary findings, and refine the project's direction.

In addition, during this reporting period INPACE was represented at a major international event: the High-Level Workshop "Advancing Collaboration in the Digital Sector" at Expo Osaka 2025, hosted at the Portugal Pavilion as part of the global programme (Figure 2). This workshop was organised under the umbrella of the EU-Japan Digital Partnership and served as an important stage to reinforce INPACE's mission in fostering collaboration between the two regions.

Represented by Sara Medina (SPI) and Alessandro Bassi (EURESCOM), INPACE played a central role in showcasing ongoing work and facilitating dialogue on three priority themes: next-generation connectivity (5G/6G), cybersecurity and digital trust, and cloud-edge–IoT for smart industries. SPI introduced the INPACE project to high-level EU and Japanese stakeholders, contextualising its relevance within broader EU digital cooperation strategies. The workshop gathered policymakers, industry representatives, researchers, and thought leaders – including speakers from Ericsson, Nokia, Toyo University, the IoT Council, and EURAXESS Japan – who discussed opportunities for joint deployment of emerging technologies, global standardisation, and the development of trustworthy, human-centred digital ecosystems. The active participation of INPACE strengthened the project's visibility and contributed to shaping discussions on EU–Japan digital collaboration at a strategic moment in the lead-up to Expo Osaka 2025.

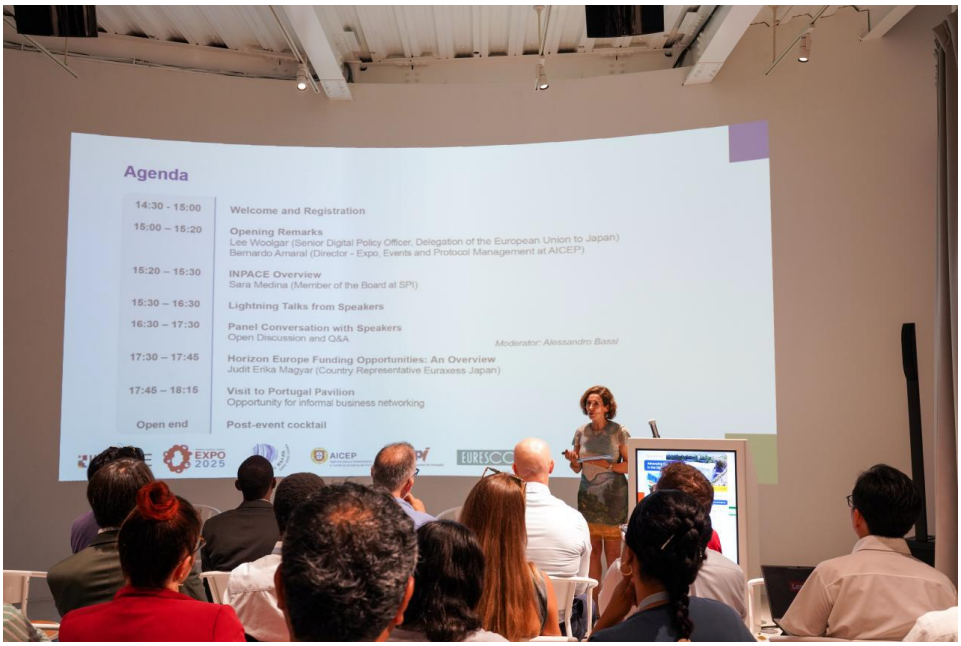


Figure 2. INPACE session in the Expo Osaka 2025, Japan.

For the final reporting period, two additional public consultations are planned. Preparatory work will focus on:

- Identifying opportunities and suitable platforms to conduct the remaining consultations, ensuring alignment with INPACE's thematic priorities and stakeholder availability
- It is currently under discussion to perform two consultations in the following venues:

  - One consultation embedded in the 2nd EU-Japan Digital Week, leveraging its established policy and innovation-oriented audience
  - A second consultation to be held at an India-hosted event, to be confirmed based on timing, relevance, and potential to engage key national stakeholders

- Defining the methodological approach, which remains under development. This includes establishing criteria for stakeholder selection, determining the consultation format, and ensuring that the events yield actionable insights for WP 4's analytical work
- Developing short summary reports after each public consultation to consolidate key messages, findings, and recommendations. These reports will feed directly into the project's knowledge base and support the refinement of future policy and cooperation pathways.

6 OUTPUTS AND RESULTS AT M24

The two sections below are a summary of the outputs and result highlights reached by WP 4 during the second reporting period of the INPACE project, namely the insights extracted from the survey on digital / AI skills and the interviews conducted on the topic of semiconductor priorities and collaboration between the EU and Indo-Pacific countries.

6.1 SURVEY ON DIGITAL AND AI SKILLS

Respondent Profiles

The survey engaged a total of 142 respondents across five partner regions, with a majority from the EU (39%), followed by Singapore (25%), India (25%), Japan (8%), and the Republic of Korea (3%).

In terms of work sector, the respondents were predominantly from university, research, and education institutions (71%), highlighting a strong academic and research-oriented participation. Other sectors represented included ICT (11%), government/policy-making (4%) and cultural / societal (5%).

Looking at professional roles, the largest groups included faculty members (37%) and researchers / analysts (24%), followed by managers (16%) and administrative workers (11%).

Respondents reported diverse professional experience levels, with the majority having significant experience in their fields: 39% participants had more than 20 years, 18% between 15-20 years, and 13% between 10-15 years. Those with less than 10 years of experience accounted for a smaller fraction of the sample (29%), indicating that survey responses primarily reflect the views of established professionals and experts.

Detailed data are in Figure 3.

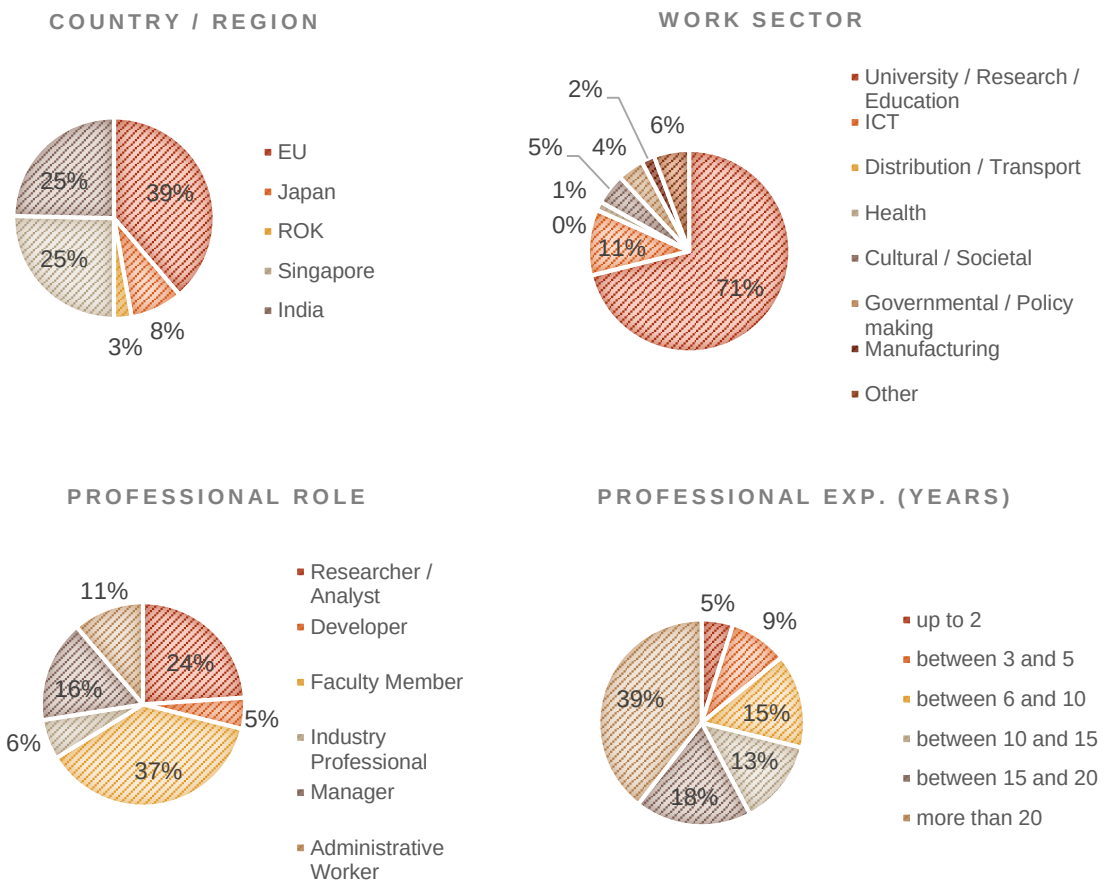


Figure 3. Respondent profile data for the survey on digital / AI skills.

General AI Perception

The survey reveals that AI is increasingly integrated into respondents' professional activities. A substantial majority (82%) reported that AI has impacted their work, while a smaller group (18%) indicated no direct impact. Regarding usage frequency, 55% of participants reported using AI often or very often, and 33% occasionally, reflecting a moderate to high adoption rate across sectors.

When asked about self-reported proficiency, respondents displayed varied expertise: 32% considered themselves experts or at advanced-level, 37% reported limited proficiency, and 29% consider themselves beginners, suggesting that while AI adoption is widespread, there remains a considerable portion of users still developing confidence and skills.

The survey also examined which AI functionalities are most important for professional activities. Top applications included idea generation (53%), literature review and verification (50%), media generation (42%) and data analysis (39%), indicating that AI is primarily used to support research

creativity, content generation, and analytical tasks. Other important functions include automation (29%), pattern recognition (18%), complex data handling (19%), and hypothesis generation (18%).

Detailed data are in Figure 4.

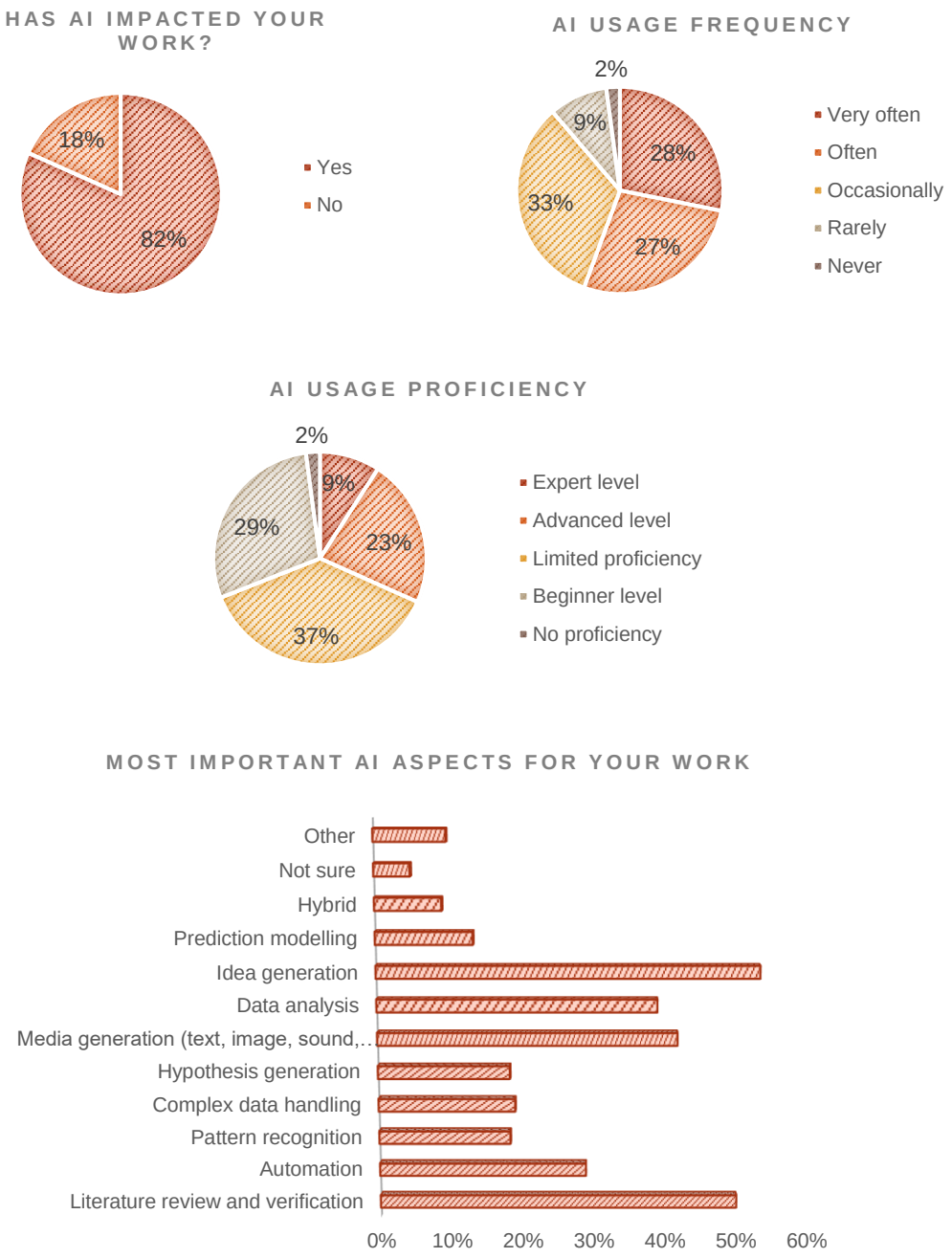


Figure 4. General AI perception data for the survey on digital / AI skills.

AI training is perceived as highly relevant: 94% respondents rated it important or extremely important, showing widespread recognition of the need for skill development. The most critical AI skills identified include critical thinking (49%), understanding AI models (41%), data management (36%), ethical AI awareness (33%), and communication and collaboration (32%), underlining the importance of both technical and soft skills for effective AI use.

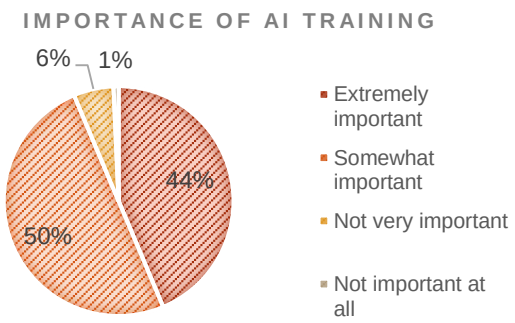
Concerning curricula adaptation, 55% of respondents reported ongoing changes to integrate AI-related content, while 20% noted no changes, and 25% were unsure, indicating a partial but growing institutional effort to include AI in formal education and training.

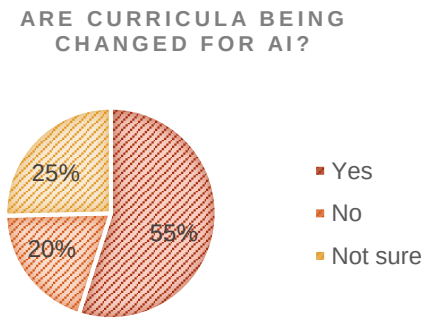
Regarding trust in AI outputs, respondents were generally somewhat confident (71%), with smaller proportions being extremely confident (4%), unsure (12%), or not confident (13%). This highlights a cautious optimism regarding AI reliability, tempered by the need for human oversight.

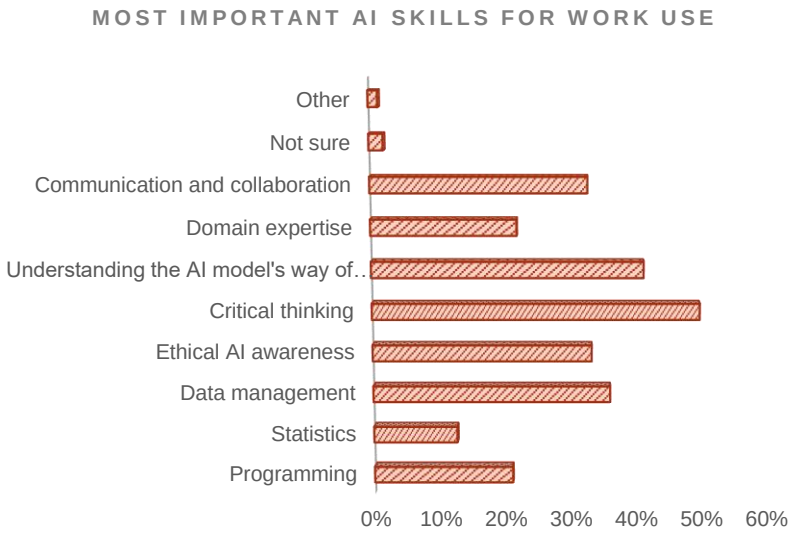
The survey also explored key concerns in AI usage, with the top issues being data quality and reliability (60%), plagiarism (47%), data privacy (42%), bias (40%), and lack of human oversight (30%). Lesser concerns include interpretability, lack of innovation, or researcher competence, indicating that respondents are particularly attentive to ethical, legal, and operational challenges.

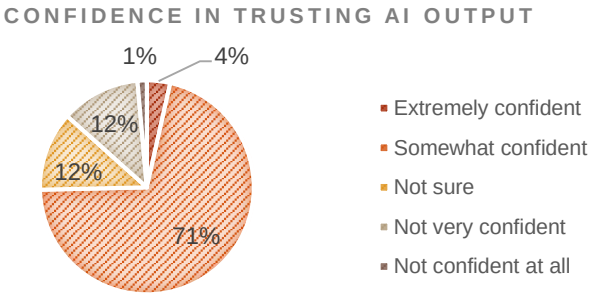
Moreover, on AI regulation, a majority of respondents (62%) support stricter regulation, with preferences split between global (39%), institutional/company level (33%), and national regulation (14%), while a smaller group (13%) suggested minimal regulation, reflecting a diversity of opinions on governance approaches.

Detailed data are in Figures 5 and 6.









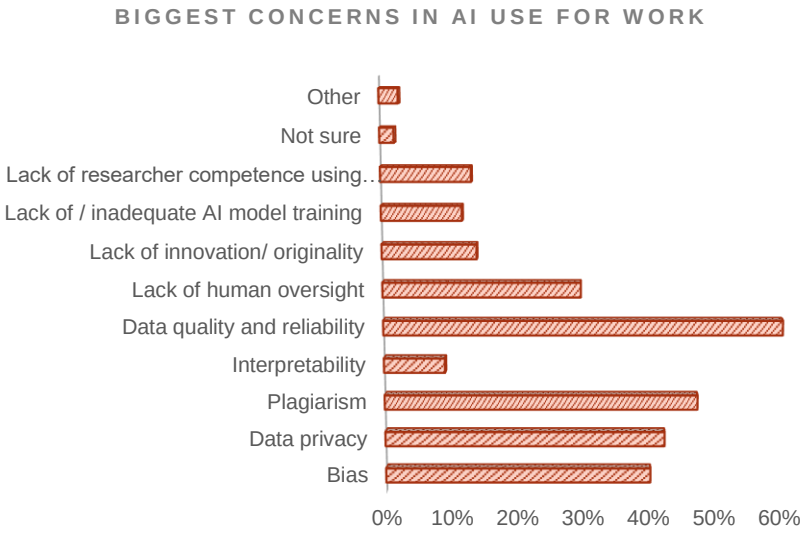


Figure 5. General AI concerns data for the survey on digital / AI skills.

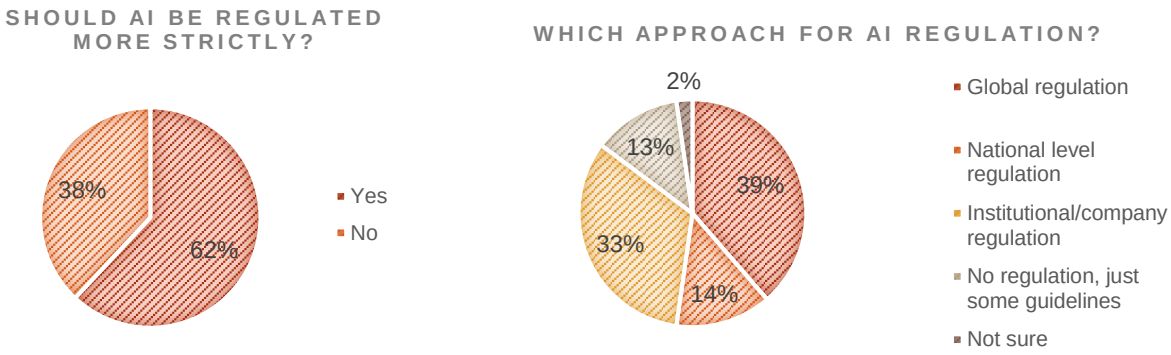


Figure 6. General perspective on AI regulation data for the survey on digital / AI skills.

Overall, the results of the survey on AI / Digital Skills survey provide essential evidence to support INPACE's strategic objectives in strengthening digital cooperation between the EU and Indo-Pacific countries. The survey highlights a consistent pattern across regions and sectors: organisations recognise the growing importance of AI and advanced digital skills, yet face persistent gaps in workforce readiness, training availability, and structured upskilling strategies. This confirms the need for coordinated action and shared frameworks, reinforcing the value of international collaboration on capacity-building, knowledge exchange, and skills development.

For the TWG "Digital Education and Skills", these findings are particularly relevant. The strong demand for practical, industry-oriented training, coupled with limited internal workforce preparation, highlights the need for harmonised approaches that can bridge competencies between Europe and the Indo-Pacific. Indeed, these insights have been presented in INPACE events, including the EU-Indo-Pacific Digital Partnership Conference 2025, held in Singapore on 28-29 October, under a presentation titled "AI in Education: Opportunities for Collaboration" presented by Karolina Gyurovszka (Martel Innovate).

Additionally, the survey results point to clear opportunities for the TWG to advance in:

- Supporting the development of common digital skills frameworks
- Fostering mutual recognition of training standards
- Promoting educational initiatives that respond to both labour market needs and emerging technological trends.

Moreover, identifying differences in maturity and priorities across countries provides the TWG with a concrete evidence base to tailor its recommendations and propose targeted cooperation activities.

6.2 INTERVIEWS ON SEMICONDUCTOR PRIORITIES AND COLLABORATION (CLUSTER 4)

The interviews conducted under Cluster 4 provided, so far, important insights into semiconductor R&D priorities, international collaboration opportunities, and the challenges faced in fostering sustainable partnerships between Europe and Indo-Pacific countries. The discussions highlighted both technical and strategic considerations, as well as opportunities for talent development, knowledge exchange, and pilot line initiatives.

1. Regional Priorities and Strengths

Interviewees emphasized that semiconductor priorities differ across regions, reflecting local capabilities and strategic goals:

- India is seen as strong in system, device, and circuit-level design, with growing but still limited capabilities in experimental R&D and prototyping. Collaborations with Europe could support pilot lines, technology transfer, and R&D scale-up, while also fostering joint IP frameworks to streamline licensing and revenue-sharing
- Republic of Korea is prioritizing advanced logic and memory technologies, leveraging its established manufacturing and innovation base
- Japan focuses on emerging materials integration and related equipment and tools, highlighting opportunities for materials-level collaboration
- Europe maintains strengths in sensors, power devices, wireless/mixed-signal technologies, and automotive applications. Pilot lines in heterogeneous integration, packaging, and alternative memory technologies are being actively developed, and European expertise can complement Indo-Pacific capabilities

Interviewees consistently noted the importance of identifying “win-win” scenarios that align regional strengths and address mutual needs, including sustainability, affordability, and scalability of semiconductor technologies.

2. Collaboration Formats and Talent Development

A recurring theme in the interviews was the critical role of human capital in semiconductor innovation:

- There is a global shortage of skilled professionals, with Europe projected to face a deficit of up to 75,000 semiconductor experts by 2030
- Proposed formats for collaboration include research exchanges, talent pipelines, and short-term mobility programs for students, post-docs, and industry professionals, allowing participants to gain hands-on experience while strengthening international networks
- Summer schools, joint PhD programs, and collaborative workshops were identified as highly effective ways to transfer knowledge and foster innovation
- Industry participation is essential, particularly for reskilling professionals from related fields and providing practical exposure to semiconductor infrastructures. Investment from companies in education and talent development was highlighted as a key enabler for long-term growth, as they could fund courses aligned with their needs and strategic priorities and, ultimately, to help shape education and R&D policies.

3. Technical Focus Areas and Pilot Lines

The interviews highlighted specific technical areas for collaboration:

- Heterogeneous integration and packaging, including pilot lines for alternative memory technologies and 2D material applications
- Sustainability-oriented R&D, with Europe emphasizing environmentally sustainable practices, while Indo-Pacific partners focus more on affordability and scalability
- Electronics for automotive and power applications, leveraging Europe's existing infrastructure and sensor expertise

Pilot lines were consistently mentioned as strategic tools for experimental validation, prototyping, and fostering collaboration, although challenges remain around IP sharing, regulatory compliance, and export control restrictions in certain regions.

4. Regulatory, Economic, and Socio-Political Considerations

Interviewees noted that while technical barriers are generally manageable, socio-political, economic, and regulatory factors pose significant challenges:

- Differences in sustainability and ethical regulations between Europe and Indo-Pacific countries may influence collaboration frameworks. For instance, European policies on PFAS chemicals and AI ethics may not be directly mirrored in partner countries
- Streamlining IP frameworks, licensing, and revenue-sharing mechanisms is crucial to reduce barriers and facilitate smoother cross-border research and development
- Economic and political stability, government funding, and industry incentives were highlighted as factors shaping the pace and focus of international semiconductor partnerships.

5. Strategic Recommendations from Interviews

The interviews provide several actionable insights for fostering effective Europe–Indo-Pacific collaboration in semiconductors:

- Leverage regional strengths: Align Europe's expertise in sensors, power devices, and automotive electronics with the design and materials capabilities of partner countries
- Promote pilot lines and joint R&D projects: Facilitate experimental validation, prototyping, and scaling of innovative technologies
- Strengthen talent pipelines: Expand mobility programs, summer schools, and joint PhD initiatives to address skill shortages
- Establish clear IP and regulatory frameworks: Reduce barriers to collaboration by defining licensing terms, revenue-sharing models, and harmonizing compliance standards
- Foster industry–academia collaboration: Encourage companies to invest in education and talent development to complement governmental and academic efforts

The other activities described in this deliverable remain under development, which currently prevents the formulation of further evidence-based conclusions. These conclusions will be presented in the

next deliverable and in the short summary reports that will be made publicly available throughout the project timeline.

7 CONCLUSION

This report consolidates the activities, findings, and preliminary outcomes of WP4 during the reporting period M13-M24, contributing to the overarching objective of strengthening digital partnerships between the European Union and Indo-Pacific countries. Through a structured methodological approach combining desk research, expert interviews, surveys, and public consultations, WP4 has generated valuable evidence to support informed dialogue, policy alignment, and future cooperation in key digital domains.

The desk research and interviews provided strategic insights into technological priorities, collaboration opportunities, and systemic challenges across regions, particularly in areas such as semiconductor priorities and collaboration and AI. These activities highlighted both complementary strengths and asymmetries between Europe and Indo-Pacific partners, reinforcing the importance of coordinated international cooperation, supply-chain resilience, talent development, and shared governance frameworks.

The surveys conducted under WP4 – covering digital and AI skills, data spaces, and emerging “sleeping technologies” – successfully engaged a diverse group of stakeholders from academia, industry, and research organisations. The results reveal widespread recognition of the transformative impact of AI and digital technologies, alongside clear needs for targeted training, ethical and regulatory clarity, and improved access to practical resources. Collectively, these findings provide a strong empirical basis for the work of the TWGs, particularly in the areas of Digital Education and Skills, Data Technologies, and future-oriented technology foresight.

Public consultations further complemented this evidence base by facilitating direct engagement with policymakers, industry leaders, and researchers. The consultation held in Seoul and the high-level workshop at Expo Osaka 2025 demonstrated INPACE’s capacity to act as a trusted platform for EU-Indo-Pacific dialogue, supporting shared priorities in connectivity, digital trust, standardisation, and innovation. These events also underscored the value of inclusive, multi-stakeholder formats in translating analytical insights into actionable cooperation pathways.

Overall, the outputs achieved by M24 place WP4 on track to meet its objectives by M36. The evidence generated through research and stakeholder engagement provides a robust foundation for upcoming activities, including additional surveys and interviews. In doing so, WP4 continues to reinforce the role of the INPACE Hub as a key instrument for shaping sustainable and resilient digital partnerships between Europe and the Indo-Pacific.