

Cooperation and Dialogue on
Migration and Mobility (Phase II)



EU-India Initiatives in Skilling and Mobility for the ICT Sector

Background Paper



© International Labour Organization 2024
First published 2024

Attribution 4.0 International (CC BY 4.0)

This work is licensed under the Creative Commons Attribution 4.0 International. To view a copy of this licence, please visit <https://creativecommons.org/licenses/by/4.0/>. The user is allowed to reuse, share (copy and redistribute), adapt (remix, transform and build upon the original work) as detailed in the licence. The user must clearly credit the ILO as the source of the material and indicate if changes were made to the original content. Use of the emblem, name and logo of the ILO is not permitted in connection with translations, adaptations or other derivative works.

This Creative Commons licence does not apply to non-ILO copyright materials included in this publication. If the material is attributed to a third party, the user of such material is solely responsible for clearing the rights with the rights holder and for any claims of infringement.

Any dispute arising under this licence that cannot be settled amicably shall be referred to arbitration in accordance with the Arbitration Rules of the United Nations Commission on International Trade Law (UNCITRAL). The parties shall be bound by any arbitration award rendered as a result of such arbitration as the final adjudication of such a dispute.

Queries on rights and licensing should be addressed to the ILO Publishing Unit (Rights and Licensing) at rights@ilo.org. Information on ILO publications and digital products can be found at: www.ilo.org/publns.

The designations employed in ILO publications and databases, which are in conformity with United Nations practice, and the presentation of material therein do not imply the expression of any opinion whatsoever on the part of the ILO concerning the legal status of any country, area or territory or of its authorities, or concerning the delimitation of its frontiers or boundaries.

The opinions and views expressed in this publication are those of the author(s) and do not necessarily reflect the opinions, views or policies of the ILO.

Reference to names of firms and commercial products and processes does not imply their endorsement by the ILO, and any failure to mention a particular firm, commercial product or process is not a sign of disapproval.

This paper was produced with the financial support of the European Union, under the EU-India Cooperation and Dialogue on Migration and Mobility (CDMM) Phase II Project. Its contents are the sole responsibility of the author(s) and do not necessarily reflect the views of the European Union.

Licensed to the European Union under conditions

Printed in India

► Contents

Executive Summary	4
Context	5
Current migration pathways	7
Education/research/academic pathways	8
Policy-level engagement	9
Role of the private sector	11
Good Practices	12
Conclusion	13
References	14

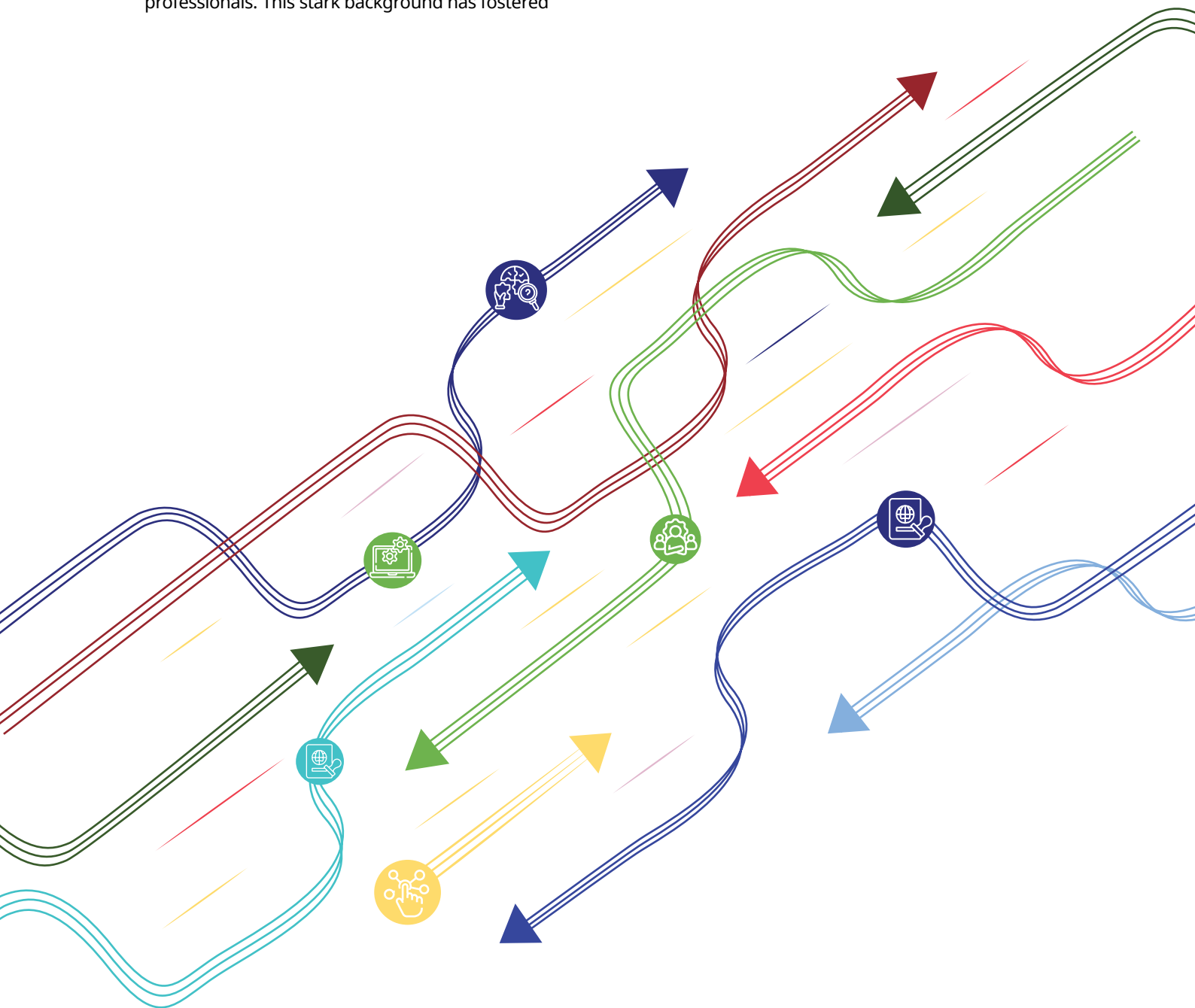


▶ Executive Summary

This report attempts to outline key drivers that are boosting the growth of the ICT workforce in India, and how this could potentially be leveraged to facilitate labour migration to the EU, specifically in the ICT sector. The shortage of a skilled ICT workforce in the EU is on the rise, with projections suggesting an urgent need for skilled ICT professionals to meet the shortfall. Moreover, technological innovation in key sectors is taking place at a breakneck speed, which will lead to an exponential rise in demand for skilled ICT professionals. This stark background has fostered

new mobility pathways for skilled professionals in several EU Member States. Moreover, attracting prospective students is another component of this mobility surge, as they could integrate into the labour market and contribute to reducing the current shortage.

Hence, it becomes important to examine the variety of options, channels, pathways and opportunities that exist both in India and the EU (at the EU and Member State levels) that can inform safe and fair migration of ICT professionals and students.



► Context

India and the ICT Sector: Snapshot

The ICT sector in India is growing at a phenomenal rate contributing to around **13%** of the GDP, estimated to reach around **20%** by 2025.



This has led to a

steady growth in **ICT jobs** in the country,



with estimates showing **5.4 million** jobs in 2023 (NASSCOM et al 2023)

and around **290,000**



persons added to the IT workforce in 2023 (IBEF 2024).

Concurrently, the ICT sector in India includes a significant component of **low and medium-skilled employees**

who face **imminent job losses**



as AI-linked technologies expand (Kumar 2024).

European Union Context

The **EU Digital Decade 2030** is a comprehensive vision for digitalisation of the society, through a target-based format. The **Digital Economy and Society Index (DESI)** gives a sense of the developments regarding progress on targets relating to the Digital Decade 2030. It provides key indicators relating to the expansion of digital infrastructure, acquiring of skills, increasing production capacities in ICT sectors, digitalisation of businesses as well as public services.

EU-wide target for employed ICT specialists

20 million by 2030 and **promoting gender convergence** through:

- ↑ Increasing **access of women** to this field.
- ↑ Increasing the **number of ICT graduates**.

As per the **Mission Letter for the Executive Vice-President for Tech Sovereignty, Security and Democracy**ⁱ, the Digital Decade Policy Programme will be reviewed and the targets potentially increased in 2026 to align with “technological developments, cybersecurity concerns and our wider productivity and sustainability goals”. Promoting “EU digital norms and standards internationally and to ensure a leading role for the EU in global digital governance, in particular for AI and cybersecurity” is also expected to be a significant priority going forward. **The Mission Letter for the Executive Vice-President for People, Skills and Preparedness**ⁱⁱ outlines the contribution to the efforts on legal migration to help attract people with the right skills to match EU labour market needs.



CEDEFOP (European Centre for the Development of Vocational Training) has mapped the changing job roles and the associated skills mismatch summarised in the following infographic:

In 2023, around **10 million** persons were employed across the EU as **ICT specialists**, an increase of **59.3%** since 2021.

Almost **80%** were males, and **68%** had a tertiary education.

The annual growth rate of employment as **ICT specialists** between 2013-2023 is **4.4%** for men compared to **6.4%** for women.

There has been an **increase** in **women's employment** in the ICT sector.

However, women continue to be **under-represented**, constituting **21%** of ICT graduates and less than **19%** of **ICT specialists**.ⁱⁱⁱ

The **AuroraAI network**, piloted in Finland, is a multiorganizational effort at creating a humancentric approach to digitalisation of public services. It seeks to shift the focus on digital demand in public services from “service tasks” of the government to a citizen-oriented demand driven service orientation. This trajectory is bound to create a demand for ICT professionals to build, maintain and upgrade the expanding digital infrastructure.

The **LeADS assessment** estimates that the **demand for ICT specialists** is projected to rise to **85%** of current levels, which would mean that

almost **50%** of the graduates leaving universities take up ICT-related jobs.

This does not seem possible or probable (LEADS 2023b, 22).

Additionally, the **State of the Digital Decade Report**, along with the country chapters, mentions specific ICT shortages.

Source: [LeADS, in the context of the Digital Europe Programme, aims to deliver insights into the changing Advanced Digital Skills \(ADS\).](#)

The LeADS demand assessment identifies six technologies or technology areas for their “potential impact on enterprise and society” (LEADS 2022, 12):

- **Cloud technologies**
- **Business Intelligence / Data Science**
- **Security technologies**
- **Quantum technologies**
- **Artificial Intelligence (AI)**
- **Internet of Things (IoT)**

Barriers and challenges to migration in the ICT Sector

Some of the barriers identified that restrict migration include **financial constraints; recognition of qualifications and skills for students and ICT professionals; complex visa regulations, fragmented through differential regulations in different countries, along with limitations on allowing accompanying family**



members as well as long waiting times for processing and receiving permits (ILO 2019).

Furthermore, **language and cultural barriers** are seen as factors that affect migrants once they arrive and start working in destination countries. While English remains the primary language for work in the ICT sector, several countries require some basic proficiency in the local language which helps integration into the social and cultural milieu as well as in seeking work in smaller towns where English may not be commonly spoken.

However, the fragmented language training programmes (quite often privatised) can be challenging for high-skilled professionals who have to learn a new language at an advanced age (Dalmonte and Frattini 2024). The recently released **Draghi report** outlines a “Tech Skills Acquisition

Programme” for talent from outside the EU, which includes scholarships in STEM as well as a hurdle-free Europe-wide visa system to “stimulate inflow” (Draghi 2024: 275).

Barriers such as language and soft skills are crucial to understand productivity at the workplace and for effective utilisation of education and skills. A recent study suggests that immigrants are likely to be overeducated with underutilisation of their skills owing to the lack of integration in the workplace and barriers effected through cultural and language limitations set by employers (Dalmonte and Frattini 2024). The claim is that if high-skilled immigrants are to be tapped for their full potential, equal efforts need to be made towards generating momentum towards social integration as well as building robust social networks.

► Current migration pathways



EU Blue Card

The EU blue card— a work and residence permit granted to highly-skilled workers from non-EU countries who earn a salary within a defined bracket (between 1 and 1.6 times the average gross annual salary) and possess a job contract— is considered the lynchpin of attracting high-skilled workers as it also enhances rights regarding family reunification, the possibility to move and work more easily between EU Member States as well as facilitates access to the EU long-term resident status.

The implementation of the **EU Blue Card Directive** takes place through national legislation. In terms of salary requirements, the Directive clearly states that **“a salary threshold adaptable by the Member States to the situation in its labour market” can be set. Multiple salary thresholds (based on Member State labour market situations) could also potentially lead to shifting of professionals based on the more favourable visa regime (Antoons et al 2024).**

Additionally, the revised EU Blue Card 2021/1883 directive^{iv} addresses the concern of recognising professional work experience for persons with limited educational background by noting that **“higher professional skills should be considered to be equivalent to higher education**

qualifications for the purpose of applying for an EU Blue Card”. It encourages Member States to “facilitate the assessment and validation of higher professional skills for the purposes of the EU Blue Card”.

Sweden aims to establish a comprehensive eID infrastructure and provide widespread access to digital services. However, the country recognizes a shortage of skilled ICT professionals in rural areas compared to urban areas. Greece, with a low share of ICT professionals at around 2.4% of the total population, faces a similar challenge despite a growing industry. To meet the increasing demand, Greece has relaxed the requirements for applying for an EU Blue Card, allowing those with a C-type Schengen visitor’s visa to be eligible if they have a job contract for up to 6 months.





Digital Nomad Visas

Digital Nomad visas have become another means of migration into the EU, with different countries providing short-term visas for individuals who work remotely **“using exclusively computer telematics and telecommunication media and systems”**. [Spain has introduced a digital nomad visa that has a relatively low monthly income threshold at 200% of the monthly Spanish national minimum wage, also including visas for family members.](#)



Job Seeker Visas

Several countries in the EU have introduced other specific visa and immigration arrangements that are meant to attract high-skilled workers, especially to meet the increasing demand for ICT specialists. These include **job-seeker visas** that allow you to enter a country for a specific period of time to look for work. These range from one year with the **Chancenkarte or “Opportunity Card” in Germany** (Chadha 2024), a **resident permit for a job-seeking**

year in the Netherlands, or a **six month job-seeking visa in Austria**.

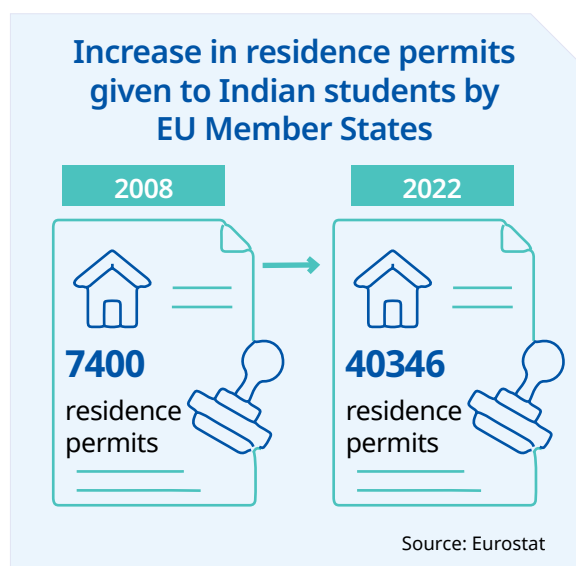


Intra-corporate Transfers

The **EU Directive 2014/66/EU** “on the conditions of entry and residence of third-country nationals in the framework of an intra-corporate transfer” was adopted in 2014 and sets out the conditions of entry and residence in the territory of Member States, and the rights of third country nationals, who are managers, specialists or trainees from a company based outside of the EU to branches of those companies in the EU territory, and their family members, in the framework of an intra-corporate transfer. The Directive also sets out the conditions for intra-EU mobility of those intra-corporate transferees from one Member State to one or more Member States for a certain period (up to 90 days in 180 days period or more than 90 days in any Member State). The maximum duration of the transfer should not exceed three years for managers and specialists and one year for trainees.

► Education/research/academic pathways

Student and Researchers visas



With Erasmus scholarships and mobility channels, relaxed visa regimes and increasing number of English courses in the EU has seen countries like

Germany surpassing traditional destinations like Canada for higher education among Indian students. French universities have seen an [increase of 92%](#) in enrolments by Indian students since 2016. [Moreover, another useful mechanism for ICT graduates from India to move to higher management level positions in the EU is to consider management and business-related higher education courses, which can facilitate their mobility into the ICT sector but at higher positions.](#)

Directive (EU) 2016/801 (“Students and Researchers Directive”) sets out European Union rules on the conditions of entry and residence for non-EU students, trainees, volunteers, school pupils and au pairs, and the procedures to obtain the respective long-stay visas/residence permits. The scope of the Directive applies to third-country nationals falling in one of these categories, including students and researchers in the domain of ICT. The Directive allows students and researchers to stay in the Member State for up to 9 months after the completion of their studies in order to seek employment or set up a business. Many ICT



professionals from India enter Europe through the student pathway and then gain qualifications and eligibility to apply for work visas (ILO 2019).

Increasing dual degrees, joint degree programmes and exchanges between the EU and India will add to this mobility channel. With the rollout of the National Education Policy (NEP) of India in 2020, internationalisation has been a consistent feature of the higher education outlook. The **University Grants Commission (Academic Collaboration between Indian and Foreign Higher Educational Institutions to offer Twinning, Joint Degree and Dual Degree Programmes) Regulations, 2022** is another attempt at attracting Foreign Higher Education Institutions (FHEI) to set up shop in India.

Erasmus

In line with the strategic priorities of the **European Digital Education Action Plan (2021-2027)**, the Erasmus+ programme can play a key role in supporting citizens of all ages in acquiring the digital skills and competences they need to live, learn, work, exercise their rights, be informed, access online services, communicate, critically consume, create and disseminate digital education content. Erasmus+ Key Action 1 focuses on [Learning Mobility of Individuals](#). As an example, in terms of short-term mobility, the Erasmus+ **“Digital Opportunity traineeship”** is a training programme that seeks to connect businesses in Europe with students enrolled or recently graduated from higher education

institutions. These funded traineeships are meant to enhance digital skills and enhance employability. As a part of its 2021-2027 programme, it lays particular emphasis on promoting digital transitions and supports activities within the Digital Education plan as well as the European Skills Agenda.

Specific Programmes

Specific talent-specific programmes by EU Member States have integrated both work-based and education-based absorption of global talent in the labour market. Finland’s **“Talent Boost”** is one such attempt, but still faces challenges of integration of foreign migrants in Finnish society owing to language and cultural reasons, as well skill mismatch vis-à-vis qualifications.

EURAXESS Worldwide

EURAXESS is a platform formed by the EU to bring together research collaboration, research mobility into the EU, career guidance as well as providing information on pursuing doctoral and postdoctoral research in EU Member States as well as building research partnerships. Several EU- India co-funded calls provide opportunities for researchers interested in core technology research to come together. [These could link up to HORIZON programme for research and innovation or the European Research Council which is the premier EU research organisation focused on advanced research.](#)

► Policy-level engagement

EU-India Strategic Partnership

The **“EU-India Strategic Partnership: A Roadmap for 2025”** specifically refers to cooperation in developing [“new technologies, such as high performance and quantum computing, artificial intelligence, agritech, healthtech and blockchain”](#) and also [“support the work between European and Indian industries and start-up ecosystems on enhanced cooperation on innovation and technology deployment.”](#)

EU-India Common Agenda on Migration and Mobility

To facilitate safe, legal and orderly migration and to address challenges related to irregular migration within the EU-India migration corridor, the European Commission and the Government of India signed the **Common Agenda on Migration and Mobility (CAMM)** in 2016. An EU-funded project implemented by ILO and ICMPD supports the implementation of the CAMM and HLDMM since



2017: the Cooperation and Dialogue on Migration and Mobility. Currently in Phase II, the project workplan includes several thematic workshops and publications focusing on strengthening legal migration pathways along the EU-India corridor (including for ICT professionals) and reinforcing institutional capacity and improving awareness of irregular migration and its risks.

EU-India Trade and Technology Council (TTC)

To address trusted technology and promote a human-centric approach to the digital transformation, the EU and India have set up the TTC. On 16 May 2023, during the 1st [EU-India Trade and Technology Council](#) meeting, the EU and India agreed to deepen their digital cooperation, including by working towards bridging the digital skills gap, exploring mutual recognition of certifications and making progress on the promotion of skilled professionals and exchange of talent. In November 2023, the EU and India signed a **Memorandum of Understanding on Semiconductor** encompassing collaboration in the semiconductor ecosystem, research and development and advanced skills for the semiconductor industry and transparency of subsidies.

Bilateral Migration and Mobility Agreements

[India has signed](#) a **Migration and Mobility Partnership Agreement (MMPA)** with France in 2018, which makes specific reference to the mobility

Germany has created several options for IT professionals to take up work and live in the country with details available on the flagship website **Make-it-in Germany**. Individuals with a professional qualification (either recognised 2 year (or more) vocational training or higher education training) or professional experience of at least 2 years in the job sector they are aspiring to work in can avail of the [visa for professionally experienced workers](#).

of skilled workers, as well as recognition of upskilling or reskilling pathways within these agreements. Similar agreements have been inked with Portugal (2019), Austria (2023), Germany (2022), Italy (2023) and Denmark (2024). Negotiations are ongoing with Greece, Bulgaria, Cyprus (Letter of Intent), Finland (Letter of Intent).

European Skills Agenda 2020

The **European Skills Agenda** was rolled out in 2020 with a five-year outlook focused on generating digital skills that cater to jobs rooted in the digital economy. One core aspect is the **“Pact for Skills”** which seeks to bring “all stakeholders, private and public, which share the objective of upskilling and reskilling Europe’s workforce to enable people to participate” in both the green and digital transition.

Digital Skills & Jobs Coalition (DSJC)

The **EU Digital Skills & Jobs Coalition (DSJC)** is an initiative that includes Member States, companies, social partners^v, non-profit organisations and education providers. Several companies have [made pledges](#) as a part of the DSJC that consists of a commitment to address the digital skill gap in the EU with concrete action. For instance, [the German firm SAP has pledged to train 10000 EU citizens in the basics of cybersecurity to meet the skill gap in the sector](#). The **Digital Skills and Jobs Platform** is the one-stop-shop for all things digital skills in Europe and the place where the DSJC community exchanges and keeps up to date with all European initiatives and policy actions on digital skills^{vi}.

Digital India Mission

The **Digital India Mission** launched by the Union government is a broad-based programme coordinated by the Department of Electronics and Information Technology (DeiTY) with the intent of enhancing the digital landscape in India. One of the [core pillars of the mission is “IT for Jobs”](#), which is focused on enhancing IT skills for employment in the IT/ITes sector. One of the core aspects of this to create an IT ready workforce by investing in training people in smaller towns and villages for IT sector jobs. **The MoU between the CSC academy (a subsidiary of the CSC focused on digital skills training), and the National Institute of Electronics and information technology (NIELT) is an initiative to tap into the rural and small-town ecosystem to generate an IT literate workforce**. This could feed into emerging mobility opportunities as this expands.



► Role of the private sector

Large-Scale Partnership for the Digital Ecosystem (digital-LSP)

This initiative supported by the **Pact for Skills and Digital SME** brings together 150 stakeholders from the private and public sector to focus on upskilling and reskilling the EU workforce towards increasing cooperation and coordination with the overall Europe Digital Skills Agenda. It includes working through key sectoral alliances, and creating matchmaking events that create avenues for EU funding.

Sectoral Alliances

Introduced by the **Skills Agenda 2016**, the [blueprint for sectoral](#) alliances address sectoral mismatches. It operates through key focus area projects that bring in stakeholders from governments, social partners and the private sector.

REWIRE is a project within the [“Cybersecurity Skills Alliance”](#) that seeks to “develop a European Cybersecurity Skills Strategy and Framework” supporting exchange and cooperation between the industry and educational and training institutions. The REWIRE project includes specific vocational open online courses (VooCs) as well as providing certification, which is aligned with the [European Cybersecurity Skills Framework \(ECSF\)](#) that is based on the European Skills, Competences, Qualifications and Occupations (ESCO).

ARISA is the sectoral alliance that supports processes towards a skill strategy for AI in the EU. It is a [vast network of](#) training institutions, education institutions and private sector firms.

[The European Software Skills Alliance](#) is another similar project that aims to meet the skill gaps and address upskilling or reskilling for professionals and businesses in the software services industry.

Workforce Consortium

The **AI-Enabled Information and Communication Technology (ICT) Workforce Consortium** led by Cisco and consisting of some of the biggest global tech firms like Accenture, Eightfold, Google, IBM, Indeed, Intel, Microsoft, and SAP, aims to map the impact of AI on IT related jobs and to map future employment pathways in these specific job roles. Within the EU, **DIGITALEUROPE** and the **European Vocational Training Association** are part of the advisory group. In its report—[“The Transformational Opportunity of AI on ICT Jobs”](#)— it lays out a roadmap with two key features: a skills taxonomy to enable clarity for future learning pathways; and an AI workforce playbook that seeks insights from social partners and governments towards reskilling and upskilling and facilitating AI integration.



► Good Practices



Encouraging greater gender diversity in the ICT sector

DiversIT Certificate: The Council of European Professional Informatics Society (CEPIS)^{vii} has launched a flagship initiative [DiversIT](#) charter which seeks to reduce gender disparity in the ICT sector.

Women4Cyber: An EU-based initiative focused on mainstreaming women within the cybersecurity sector through mentorship, upskilling and reskilling of women towards becoming changemakers in the cybersecurity industry.

W4C Mentorship: GEN Digital Inc, as a part of its Digital skills and Jobs Coalitions pledge, has started the W4C mentorship programme that is free of cost and will assign mentors from the industry to professionals according to their career stage.



MATES: India Australia MMPA

The **Mobility Arrangement for Talented Early-professionals Scheme (MATES)**, under [Migration and Mobility Partnership Arrangement \(MMPA\)](#) between India and Australia, is focused on individuals who have graduated not more than 2 years prior from an Indian university. [With English proficiency at a minimum IELTS 6, and an age limit of 30 years, the core areas graduates](#) are expected have bachelor or higher qualifications in are: renewable energy, mining, engineering, Information Communications Technology (ICT), artificial intelligence (AI), financial technology (FinTech), agricultural technology (AgriTech).



Mutual Recognition Agreements- Washington Accord

The [Washington Accord](#)^{viii} (WA) is the **International Engineering Alliance (IEA)**'s primary instrument to create a platform for mutual recognition and equivalency of engineering education. Currently there are 25^{ix} full time signatories to the accord and 6 provisional signatories. For a country's education degrees and qualifications to gain recognition under the Washington Accord goes a long way in enhancing mobility of graduates in the global market. This merges with a general tendency for employers (in these countries, especially) to seek employees that are graduates from a signatory of the WA.



Digital Skills-Degree level apprenticeships

Degree apprenticeships are meant to provide a bachelor's or master's degree while at work. They operate in several sectors, where employers partner with universities to provide apprentices with a degree while they work. According the [University and College Admission Services \(UCAS\)](#), degree apprenticeships provide a paid education since apprentices receive a salary, and early industry exposure.



► Conclusion

The current context very clearly suggests that mobility of ICT professionals in the EU-India corridor is a dynamic reality.

The challenge of mobility within this corridor is to move beyond a business-as-usual approach, recognising that the Indian ICT ecosystem is poised to feed into the growing tech sector in the EU. This means an increasing investment scope for Indian multinationals, greater opportunities for skilled professionals and increased research collaboration between academic institutions. All of these have immense potential, considering the structural and institutional capacities that already exist and will grow in the next few years.

The following issues merit further reflection:

- How can visibility/clarity of EU pathways be increased?
- How do we ensure greater synchronization between industry and education to ensure skill gaps are filled timely and efficiently?
- How can the presence of MNCs, across regions, be leveraged to create a more enabling environment for talent mobility?
- How can SMEs be better integrated into demand-supply chain for absorption of ICT talent?
- How can research collaboration be facilitated to build-in global standards in key emerging ICT domains?
- How can India and the EU better respond to socio-cultural barriers of mobility and ensure diversity and inclusion?



- i [3b537594-9264-4249-a912-5b102b7b49a3_en \(europa.eu\)](https://commission.europa.eu/document/27ac73de-6b5c-430d-8504-a76b634d5f2d_en)
- ii https://commission.europa.eu/document/27ac73de-6b5c-430d-8504-a76b634d5f2d_en
- iii <https://digital-strategy.ec.europa.eu/en/library/women-digital-high-level-meeting-international-womens-day>
- iv <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32021L1883>
- v *Employers' organisations and Workers Organisations (trade unions).*
- vi <https://digital-skills-jobs.europa.eu/en/about/digital-skills-and-jobs-coalition>
- vii *The Council for European Informatics Society (CEPIS) is a non-governmental organisation that is a representative body for informatics societies in 29 countries in Europe, representing over 200,000 informatics professions. It works on supporting IT professionals in the EU in career guidance and competence, influencing digital policy at the EU level, promoting diversity and inclusion in the IT sector.*
- viii *The Seoul accord is another similar mutual recognition agreement that focuses on IT and computer science degree qualification. The Washington accord has some level of coverage for ICT courses. India is not a signatory to the Seoul accord.*
- ix [Australia, Bangladesh, Canada, China, Costa Rica, Hong Kong, India, Indonesia, Ireland, Japan, Korea, Malaysia, Mexico, New Zealand, Pakistan, Philippines, Peru, Russia, Singapore, South Africa, Sri Lanka, Taiwan, Turkey, the United Kingdom and the United States.](#)
- x *Chile, Thailand, Myanmar, Saudi Arabi, Nigeria, Mauritius.*



► References

- Antoons, Jo, Harry Goldstraw, Andreia Florina Ghimis and Dominic Dietrich. 2024. [“EU Blue Card Scheme: The Impact of Inconsistent Implementation”](#). *Fragomen*. 09 January 2024.
- Baertsch, L., Lukas Kleine-Rueschkamp, and Antonela Miho. 2024. “Regional Trends in Labour Market Tightness: Evidence from 30 OECD Countries”. In *Shortages of Labour and Skills: Insights and Evidence to Inform Strategies Relevant to Regional and Local Labour Markets and Labour Market Observatories* edited by Christa Larsen, Jenny Kipper, Aleksandra Webb, Moreno Baruffini, Alessandra Motz, and Christian Müller, 59-68. Baden Baden: Nomos.
- Bauer, P., I. Fedotenkov, A. Genty, I. Hallak, P. Harasztosi, D. Martinez Turegano, D. Nguyen, N. Preziosi, A. Rincon-Aznar, and M. Sanchez Martinez. 2020. *Productivity in Europe: Trends and Drivers in a Service-based Economy*. Luxembourg: Publications Office of the European Union.
- Brynjolfsson, E., Daniel Rock and Chad Syverson. 2019. [“Artificial Intelligence and the Modern Productivity Paradox: A Clash of Expectations and Statistics”](#). *National Bureau of Economic Research Working Paper 24001*
- Chadha, S. 2024. [“Germany Opens Door: New Visa Scheme Offers Job Seekers a Year to Find Work”](#). *Business Standard*. 19 June 2024.
- Dalmonte, A. and T. Frattini. 2024. [“Skilled but Struggling: The “Brain Waste” Dilemma of Migrants in Europe”](#). *VoxEU*. 13 August 2024.
- Draghi, M. 2024. [The future of European competitiveness Part B: In- depth analysis and recommendations](#). [European Commission](#).
- Dutta, A. 2023. *Stories of the Indian Immigrant Communities in Germany: Why Move?* Cham: Palgrave Macmillan.
- European Commission. 2023. [“European Year of Skills: Skills shortages, Recruitment and Retention Strategies in Small and Medium-sized Enterprises”](#). Flash Eurobarometer 529 – Ipsos European Public Affairs.
- Goyal, Yugank and Karishma K. Shah. 2023. “Foreign Universities in India: Lessons and Learnings from Global Experiences”. ORF Occasional Papers, No. 418.
- Heikkilä, Melissa. 2024. [“The AI Act is Done. Here’s What Will \(and won’t\) Change”](#). *MIT Technology Review*. 19 March 2024.
- IBEF. 2024. [“IT & BPM Industry Report”](#). India Brand Equity Foundation, May 2020
- ILO. 2019. “Skills Shortages and Labour Migration in the Field of Information and Communication Technology in India, Indonesia and Thailand”. International Labour Organization, Geneva.
- —. 2023. *World Economic and Social Outlook 2023*.
- Islam, Mir Salim Ul, Ashok Kumar, Yu-Chen Hu. 2021. [“Context-aware Scheduling in Fog Computing: A Survey, Taxonomy, Challenges and Future Directions”](#). *Journal of Network and Computer Applications*, Volume 180.
- Kumar, G. Krishna. 2024. [“AI-led Job Loss is Real, Govt Must Intervene”](#). *Deccan Herald*. 22 July 2024.
- LEADS. 2022. [“D1.1 DEMAND ASSESSMENT FRAMEWORK”](#). LeADS. European Union.
- —. 2023a. [“D1.3 FINAL ADS DEMAND AND FORECAST REPORT”](#). LeADS. European Union.
- —. 2023b. [“D2.2 LEADS GAP ANALYSIS”](#). LeADS. European Union.



- ▶ Ministry of Education. 2022. [All India Survey on Higher Education 2021-22](#). New Delhi: Ministry of Education, Government of India.
- ▶ MSDE and Skill India. 2023. ["Guidelines for Pradhan Mantri Kaushal Vikas Yojana 4.0"](#). Ministry of Skill Development and Entrepreneurship, Government of India, New Delhi.
- ▶ NASSCOM. 2020. ["Unlocking Value from Data and AI: The India Opportunity"](#). August. NASSCOM, NOIDA.
- ▶ NASSCOM, Draup and Indeed. 2023. ["India Tech Industry Digital Talent Demand and Supply 2023"](#). NASSCOM and FutureSkills Prime, New Delhi.
- ▶ NITI Aayog. 2018. ["National Strategy for Artificial Intelligence:#AIFORAI"](#). NITI Aayog, New Delhi.
- ▶ Nordås, H.K. 2023. ["Services in the India-EU Free Trade Agreement"](#). *International Economics* 176. December 2023.
- ▶ PTI. 2024. "Infosys Foundation, ICT Academy Join Hands to Skill 48,000 students". *Business Standard*. 03 July 2024.
- ▶ Raghuram, P. and G. Sodhi. 2022. "The Entangled Infrastructures of International Student Migration: Lessons from Covid-19". In *Migration and Pandemics: Spaces of Solidarity and Spaces of Exception* edited by A. Triandafyllidou, 167-184. Springer Nature.
- ▶ Sethi, Meera, Debolina Kundu and Arvind Kumar Pandey. 2021. ["India-EU Migration and Mobility: Flows and Patterns."](#) ICMPPD, ILO and NIUA, New Delhi.
- ▶ Yadav, Pooja. 2024. ["Indian Students Look to Europe for Educational Opportunity"](#). *DW.com*. 27 July 2024.
- ▶ Verschueren, H. 2021. "The Labyrinth of Employment and Social rights in the EU Intra-corporate Transfer Directive". *European Labour Law Journal*, 12(3): 280-300.
- ▶ Xiang, B. and J. Lindquist. 2014. "Migration Infrastructure". *International Migration Review*, 48 (1 suppl.): 122-148.



ILO Decent Work Team for South Asia and Country Office for India

India Habitat Centre, Core 4B, 3rd Floor,
Lodhi Road, New Delhi 110003, India

Tel: +91 11 47509200

Email: delhi@ilo.org | www.ilo.org/india