# INTERSESSIONAL PANEL OF THE UNITED NATIONS COMMISSION ON SCIENCE AND TECHNOLOGY FOR DEVELOPMENT (CSTD)

**Geneva, Switzerland**
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Contribution by ILO

to the CSTD 2025-2026 priority theme on "Science, Technology and Innovation in the age of AI"

**PRIORITY THEME 2:** Science, Technology and Innovation in the age of AI

## United Nations Commission on Science and Technology for Development (CSTD)

To whom it may concern

The 28th CSTD annual session selected "Science, Technology and Innovation in the age of AI" as one of the priority themes for its 29th session (2025-2026). This theme directly addresses SDG 9 "Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation" at the 2030 Agenda.

The rapid rise of frontier technologies and the surge in data generation are transforming research and development. Artificial intelligence, as a general-purpose technology, will further accelerate this transformation. These changes in research and development practices offer significant opportunities for inclusive industrialisation and innovation, which are the core objectives of SDG 9.

Under this theme, the Commission could discuss how the use of AI and data analytics would impact research and development processes in science and industry and identify the institutional and policy conditions required to harness these technologies for inclusive and sustainable industrialization and innovation. In this context, the Commission can examine the challenges and opportunities specific to countries at different levels of development; identify good practices and policies to support domestic technological development, research and innovation; and explore ways to leverage international cooperation to bridge the uneven technological capabilities and steer technological progress toward sustainable development.

The CSTD secretariat is in the process of drafting an issue paper on the theme to be presented at the CSTD inter-sessional panel meeting to be held in November 2025. In this context, we would like to solicit inputs from international organizations, UN entities and agencies, and regional commissions on this theme. We would be grateful if you could kindly answer the following questions based on your organization's work at the global, regional, and/or national levels:

1. Can you provide some successful examples of how AI and data are being used to advance science and innovation in your country? *(Please describe how these applications transformed research and development practices and their impacts)*
    - The Matrix of Intelligence and Risk Assessment (MIRA), a tool developed for **Albania's** Labour Inspectorate with ILO support, helps inspectors spot workplace violations faster by using machine learning to analyze risks and predict problems. Moving away from traditional tools like the "Matrix of Penalties" and manual red-flag assessments, MIRA integrates advanced data and case management with risk assessment capabilities powered by data mining and machine learning. It reduces guesswork, cuts down on paperwork, and ensures fairer, more consistent inspections – ultimately creating safer and more compliant workplaces. Through its machine learning risk assessment capacity, MIRA offers a breakthrough solution that revolutionizes labour inspection planning. The system uses simultaneously nine different advanced algorithms with historical inspection data to detect cases of undeclared work or other labour law and OSH violations more accurately while substantially reducing analysis and reporting time. See, AI provides innovative ways to improve compliance with labour laws | International Labour Organization; Data mining and machine learning: Supporting labour inspectorates to address undeclared work | International Labour Organization.
2. What specific challenges, bottlenecks, or failures have you encountered in implementing AI and data for science and innovation? What are the lessons learned?
    - In **Latin America**, up to half of the jobs that could improve productivity with Generative AI – about 17 million jobs – are hindered by gaps in digital access and infrastructure. While increased productivity may bring employment and wage gains in sectors facing a consumer demand that is growing rapidly, that may not be the case for sectors facing a more stable consumer demand. The nature of these second order effects is likely to be different across countries: in developing economies with a large fraction of the workforce in the informal sector, and where technology adoption and private sector investment are typically concentrated among a small share of formal firms, workers displaced from formal sector jobs may face more challenges finding high quality jobs than their counterparts in high-income countries. The distributive impact of the AI adoption depends strongly on how the

effects of increased productivity and output could overcome labour displacement conducted by substitution of technology for workers. See, Buffer or Bottleneck? Employment Exposure to Generative AI and the Digital Divide in Latin America | International Labour Organization; See also, ILO brief, Work transformed: promise and peril of AI.

3. Can you provide examples of strategies or policy instruments to support AI and data for science and innovation? *(Please describe how ethical considerations—such as fairness, transparency, privacy, and accountability—are being incorporated and provide relevant details such as links, budget, evaluation, or other information to characterize them)*
   - In **Argentina**, the Superintendence of Occupational Risks adopted the Prevention 4.058 strategy, which makes use of digital records for workplace inspections, safety training and equipment provision. This initiative aims to enhance worker protection through digital solutions and strengthen risk management in technologically evolving work environments. Argentina's Resolution 69/2024, issued by the Superintendence of Occupational Risks, aims to modernize workplace risk prevention through digital technology. It empowers the department to set guidelines for implementing technology-driven safety measures and encourages organizations to adopt digital tools to enhance OSH.
   - **Finland's** Policy for the Work Environment and Wellbeing at Work until 2030 explicitly mentions the acceleration of technological advancements, including robotics, information and communication technology, digitalization, AI and automation. It stresses the need to identify, prevent and minimize the risks introduced by these technologies, evaluating their potential impact on workers' health as part of the ongoing transformation of work.
   - **Guyana's** National Policy on Occupational Safety and Health (2018) advocates for the use of appropriate technology, modern equipment, current technology and modernized systems while considering the varying impacts these may have on the environment.
   - **India's** National Policy on Safety, Health and Environment at the Workplace recognizes the new safety hazards and health risks associated with the adoption of modern technologies. It advocates for the use of safe and clean technologies, as well as the implementation of computer-aided risk assessment tools to better manage risks.
   - **Uruguay's** National Policy on Occupational Safety and Health focuses on updating the OSH regulatory framework to reflect advancements in knowledge, new technologies and changes in the world of work.
   - **France** has been actively engaged in regulatory efforts to balance innovation with worker protections. The Digital Labour Code has incorporated specific rules for robot-assisted work environments, focusing on safety, health and ethical concerns. These rules address the safe interaction of humans and robots, ensuring that human-robot collaboration is handled in a way that minimizes risks to workers.
   - In **Germany**, the German Social Accident Insurance (DGUV) standards, such as Regulation 100-500, cover industrial machinery and robotics, setting mandatory requirements for employers to ensure the safety of their workers. These regulations cover everything from risk assessments to ensuring proper safety measures are in place for the operation of robots, especially in environments where humans work alongside automated systems.
   - In **Norway**, a collective agreement between the Confederation of Norwegian Enterprise and the Norwegian Confederation of Trade Unions addresses the use of AI in the workplace. It states that companies must keep employees informed through shop stewards on plans and decisions regarding control measures, which can be based on technological, financial, safety and health considerations. Control measures that are introduced must not go beyond the necessary scope and must be factually justified in the individual company's operations and needs. Employee privacy and dignity are paramount, requiring sound AI methods, involvement of employee representatives and prevention of bias.
   - In Sweden, a new AI surveillance system was implemented in Kiruna Mine, which uses a smartphone application to give workers positioning support, navigation assistance and the ability to receive alerts and emergency information with receipt confirmation. However, it was negotiated that it could only be used for safety and not to track or measure productivity. See, Revolutionizing health and safety: The role of AI and digitalization at work | International Labour Organization

   See also,

- Mind the AI Divide: Shaping a Global Perspective on the Future of Work | International Labour Organization
- Generative AI and jobs: A 2025 update | International Labour Organization (Poland)
- Observatory on AI and Work in the Digital Economy | International Labour Organization;
- How might generative AI impact different occupations? | International Labour Organization
- Homepage | Digital Labour Platform Tracker;
- https://www.ilo.org/publications/generative-ai-and-jobs-global-analysis-potential-effects-job-quantity-and;

4. Are you engaged in promoting open innovation or open data? If not, why? If yes, can you share specific projects and outcomes? *(Please provide relevant details such as links, budget, evaluation, or other information to characterize them)*
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   - The transition to open data policies and the accompanying growth of the ILO microdata repository unleashed a wealth of insights regarding the world of work. By leveraging microdata, the ILO has vastly expanded the number of indicators available on ILOSTAT, providing researchers and data users with the opportunity to delve into nuanced analyses that highlight trends, challenges, and opportunities in labour markets across the globe. The availability of granular information empowers decision-makers to formulate evidence-based policies that address specific workforce dynamics and inequalities more effectively. The appetite for data, including labour statistics, is strong and continuously growing. To meet these demands, the ILO currently publishes more than 900 indicators on ILOSTAT with 260 million data values, of which 95 per cent are generated solely from microdata processing. This vast repository, which would be impractical to request directly from data providers, enables detailed labour market analysis. Examples of tables derived solely from microdata include harmonized indicators on informality, school-to-work transitions, and skills mismatch. Additionally, various cross-tabulations are produced to capture disability status, household type (including presence of children), marital status, detailed occupations and economic activities, working time arrangements, type of employment contract, multiple job holding, and establishment size. See, Microdata Processing Quick Guide.pdf; https://www.ilo.org/media/251776/download.
   - The ILO supports open innovation through the International Training Centre of the ILO's innovation hub, which promotes internal innovation and innovation for constituents, which include activities that are "open" – e.g., AI hackathon in Kenya. More resources would be needed to do this more widely.
5. Are you engaged in putting in place mechanisms to foster collaboration around AI and data for science and innovation among different stakeholders (e.g., university-industry, or private-public)?
   - The updated ILO Knowledge and Innovation Strategy and Implementation Plan includes a number of interventions that promote collaboration on AI and data, particularly through the International Training Centre of ILO.
   - The PROSPECTS Opportunity Fund project titled "Promotion, inclusion and protection of refugees and host communities in the digital and gig economy" focuses on fostering social dialogue and identifying prospects for inclusive access to decent work pathways in the digital economy. The project emerges as a critical partner to governments, social partners, national and local actors, including refugees and their host communities to find new ways of working to unlock job opportunities and livelihoods. Through partnerships, advocacy, and capacity building, the project is promoting policy change for inclusion and decent work in the digital economy in eight priority countries that host large numbers of forcibly displaced people: Egypt, Ethiopia, Iraq, Jordan, Kenya, Lebanon, Sudan and Uganda. See, Promotion, inclusion and protection of refugees and host communities in the digital and gig economy | International Labour Organization; also, ILO Development Cooperation Dashboard.
   - In the context of the High-Level Committee on South-South (SSTC) of the UN General Assembly, the ILO and the United Nations Office for South-South Cooperation (UNOSSC) organized a panel discussion on the sidelines of the SSTC, to explore ways in which Artificial Intelligence (AI) and Science, Technology, and Innovation (STI) can be leveraged to tackle pressing development challenges in the Global South. The government of Indonesia and Brazil, global leaders, diplomats, and leading experts took part, and the discussion was informed by policy frameworks and collaborative models emerging from

BRICS, the G20, and broader SSTC networks. See, ILO Reaffirms Commitment to South-South Cooperation through Knowledge Exchange and Capacity-Building – UNOSSC.

6. Are you engaged in any bilateral, regional, or international partnership aimed to foster AI for STI? (*Please describe the benefits and challenges of participating in these partnerships)*
   - The ILO, partnering with the ITU, is engaged on AI for Social Impact through the Global Coalition for Social Justice. In relation to this partnership, the ILO is a member of the ITU's AI Skills Coalition and a coordinating partner of the Network of Observatories on AI and Work with the Government of France and OECD.
   - The ILO is a partner of the AI for Good initiative, which includes our lead on world of work issues (e.g., webinar series).
   - Through the International Training Centre of the ILO, the ILO contributes and participates in the UN Innovation Network and the Geneva Science and Diplomacy Anticipator.
   - The ILO and the Digital Cooperation Organization (DCO) have signed a strategic Memorandum of Understanding (MoU) to jointly address the profound transformations in labour markets brought by accelerating technological change. The partnership aims to boost global efforts in building digital capabilities that ensure decent work opportunities for all, with a strong emphasis on empowering youth, women, and underserved communities. Central to this collaboration are joint initiatives that focus on upskilling, responsible integration of emerging technologies—such as artificial intelligence—and designing inclusive digital policies that respond to the needs of the most vulnerable. "This MoU marks a vital milestone in aligning digital transformation with human-centered development," said Dr. Hajar El Haddaoui, Director General of DCO. "Together with the ILO, we are committed to building capacities that ensure the digital economy serves as a force for social inclusion and shared prosperity, in line with the Sustainable Development Goals and the Global Digital Compact." See, ILO and Digital Cooperation Organization forge partnership to advance inclusive and sustainable digital economies | International Labour Organization.
7. How can international cooperation enhance the use of AI and data for science and innovation to support technological capacity building in your country? In what ways can the UN CSTD contribute to this effort?
   - Building AI capacity through international cooperation is essential for distributing the benefits of this transformative technology equitably. By pooling expertise, targeting priority areas, and fostering public-private collaboration, countries can enhance their AI readiness, mitigate risks, and unlock the potential of AI for sustainable economic and social progress. International organizations play a critical role in facilitating this collaborative effort, serving as platforms for coordination, knowledge-sharing, and the development of global frameworks for responsible AI development and deployment. The CSTD can foster these collaborations and harness the ILO's expertise and convening power to deliver the promise of these technologies in the world of work. The International Training Centre of the ILO offers a range of training programmes, master classes and specialized courses that focus on AI implications and applications in the workplace, public policy and development cooperation. Key training activities include a new master's degree on technology and public policy with the Politecnico di Torino.

Please indicate contact person(s) responsible for projects/policies and international collaboration in this context in case we need clarification on the inputs.

Please send your responses and any further inputs on the theme to the CSTD secretariat (cstd@un.org) by **31 August 2025**. We look forward to receiving your valuable inputs.

Sincere regards,

CSTD secretariat