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Industry 4.0 for inclusive development

Statement submitted by

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Commission on Science and Technology for Development

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High-level session on Industry 4.0 for inclusive development

Keynote address by Mr Hiroshi Kuniyoshi,

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14h30-16h30

Excellencies,

Ladies and Gentlemen,

Good morning, good afternoon, and good evening,

Allow me to start my talk by conveying my gratitude to the Secretariat of the Commission on Science and Technology for Development for the invitation extended to UNIDO to contribute to this 25th Session.

We highly appreciate the opportunity to participate in this high-level session for the priority theme on Industry 4.0 for inclusive development.

Megatrends that are shaping our future, and in particular, digitalization, should be leveraged to fully unlock the potential of industrial development.

At the same time, concerns about the possible impact on inequalities that can be associated with digitalization deserve serious consideration.

Addressing inequalities induced by the digitalization of manufacturing requires coordinated responses of multiple stakeholders. Strategic thinking around industrialization and industrial policies, should accompany novel partnerships between government, academia, and the private sector. These ideas are consistent with the recommendations put forward in the Report of the Secretary-General presented for this session.

Digitalization of manufacturing unfolds within an uneven playing field. The capabilities required to generate and capture emerging opportunities remain asymmetrically distributed across and within regions, countries, and firms. For instance, UNIDO's Industrial Development Report (IDR) 2020 documents that only ten economies concentrate about 91 per cent of patents in relevant technological fields. They also account for 70 percent of global exports and 46 percent of global imports of products related to advanced digital production (ADP) technologies.

Embedded in digitalization of manufacturing is the symbiotic relationship of innovation and industrialization. Bridging technological capability gaps should enable a larger share of firms and countries to absorb the new technical and organisational solutions offered by digitalization, and to effectively deploy them into productive activities. In the absence of systematic investment in technological capabilities, countries will continue to advance at different speeds.

Moreover, investing in manufacturing and digitalization can enhance resilience against unexpected shocks. The IDR2022 documents that high levels of industrial capabilities are positively associated with an increased ability to withstand and mitigate the impacts of COVID-19. For example, the loss of sales, profits and employment in companies that have actively engaged with ADP technologies tended to be less dramatic than what can be observed in firms where the presence of those technologies is more limited.

In summary,

Industrialization remains essential for social and economic development.

There are often expressed concerns that the productivity growth associated with digitalization of manufacturing may reduce the demand for labour.

However, technology is far from the only factor influencing employment. Long-term structural changes to other relevant determinants are equally important for future employment dynamics, such as demography, investment in human capital and labor relations[i], let alone a redistribution of manufacturing activities, and value chains across developing countries.[ii]

Addressing concerns around employment calls for strategies to underpin the readiness of domestic agents, most notably workers and firms. The strategy should offset any potential risks, and aim to capture opportunities by creating space for new businesses, jobs and markets.

Policy makers need tools to improve strategy setting. They need guidance in choosing adequate policy instruments and institutions, but also about how to effectively build, use and coordinate all of this. There is value in developing diagnostics, toolkits and methodologies to assist Member States in assessing readiness for digitalization.

UNIDO is advancing in this direction by developing dedicated tools to assist Member States in profiling their readiness for digitalization of manufacturing at different levels.

To bridge capability gaps, governments need to improve framework conditions for digitalization. This includes investing in the necessary digital and energy infrastructures to secure stable electricity, and qualitative high-speed internet connectivity.

Properly articulated industrial policies should promote investments in R&D and innovation, while simultaneously strengthening the ability of public research organizations to facilitate the uptake of ADP technologies by domestic firms, particularly SMEs. Relevant experiences exist that can be harnessed for policy learning. For instance, dedicated public research centers in India offer multipronged approaches to realize digital cost-effective solutions tailored to the needs and conditions of SMEs, such as diagnostics, awareness raising about ADP technologies application, pilot testing, capacity building and partnerships building

Governments can foster demand for initiatives that engage domestic firms with ADP technologies in sectors that combine growth prospects with opportunities to address concerns about environmental sustainability and inclusiveness. Subnational level initiatives, such as business accelerators in the Basque Country, exist that enable government-private sector collaboration through promotion of start-ups and development of innovative entrepreneurship to facilitate uptake of ADP solutions by domestic firms.

Distinguished audience,

Without appropriate incentives and capabilities, and the strengthening of national and international policy environments and regulatory frameworks, we are confronted with real threats of widening digital divides across the world.

From industrial development perspective, possible solutions will require industrial policies that support industrial capability building, while bolstering manufacturing's ability to contribute to the achievement of the sustainable development goals.

UNIDO stands ready to support developing countries in their endeavours towards industrialization and digitalization of manufacturing.

UNIDO is currently exploring the scope for a multilateral industrial policy forum to facilitate dialogues, knowledge sharing and enhance international collaboration. This way, we can draw from field experiences to improve different aspects of industrial policy. Such a forum could guide actions to ensure that Member States can harness the opportunities, while addressing the challenges posed by the digitalization of manufacturing.

The forum should assist international organizations and development agencies to rethink and reorient their delivery of technical assistance and normative work. It should revitalize partnerships with Member States and the donor community.

We would welcome you partnering with us in this initiative.

Thank you very much for your attention

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[i] The Economist. 2019. "Across the Rich World, an Extraordinary Jobs Boom Is under Way." *The Economist*, 2019. https://www.economist.com/briefing/2019/05/23/across-the-rich-world-an-extraordinary-jobs-boom-is-under-way.

[ii] The Economist 2017. "Sew What Now? Worries about Premature Industrialisation. Automation is Less of a Threat to Workers in the Emerging World than It Is Made out to Be." Special Report. The Economist. https://www.economist.com/news/special-report/21729864-automation-less-threat-workers-emerging-world-it-made-out; Haraguchi, Nobuya, Charles Fang Chin Cheng, and Eveline Smeets. 2017. "The Importance of Manufacturing in Economic Development: Has This Changed?" *World Development* 93: 293–315. https://doi.org/10.1016/j.worlddev.2016.12.013; Lee, Keun, Chan-Yuan Wong, Patarapong Intarakumnerd, and Chaiyatorn Limapornvanich. 2019. "Is the Fourth Industrial Revolution a Window of Opportunity for Upgrading or Reinforcing the Middle-Income Trap? Asian Model of Development in Southeast Asia." *Journal of Economic Policy Reform*, 1–18. https://doi.org/10.1080/17487870.2019.1565411.