

Main conclusions and recommendations of the International Conference on Fourth Industrial Revolution Technologies for Sustainable Development
30 November 2021, New Delhi

A. General recommendations

1. The International Conference brought together about 150 participants from the Centre's Governing Council member States and other member States of the Economic and Social Commission for Asia and the Pacific (ESCAP), including government officials, science, technology and innovation professionals, international experts, and representatives from the private sector.
2. The main discussions during the International Conference were: fourth industrial revolution technologies to achieve Sustainable Development Goals – opportunities and challenges; fourth industrial revolution technologies to combat the coronavirus disease (COVID-19) and strengthen health-care systems; fourth industrial revolution technologies for climate change mitigation and clean energy; harnessing fourth industrial revolution technology for sustainable production and resilient economic recovery from the COVID-19 pandemic; and a panel discussion to deliberate on strategies for regional cooperation on fourth industrial revolution technologies to promote sustainable development.
3. To make progress towards achieving the associated Sustainable Development Goals, member States integrated science, technology and innovation policies, and innovative digital solutions.
4. The Conference highlighted the need to create enabling environment to support fourth industrial revolution technologies through collaboration among government, industry and academia for successful development and commercialization of technologies.
5. The Conference underscored the role of government-funded incubation centres and necessity of connecting innovators to the market for enhanced uptake and upscaling of fourth industrial revolution technologies.
6. It was recommended that the countries from the Asia-Pacific region need to enhance awareness and strengthen the capabilities of stakeholders in key areas such as health care, climate change, clean energy, intelligent manufacturing, precision agriculture, digital economy and inclusive digitization, among others.
7. The Conference discussed the need to reorient education and develop skills in the area of fourth industrial revolution technologies. The countries need to redesign their human resources development policies in order to bridge the gap in education and skills linking formal education, vocational education and non-formal education.
8. The Conference emphasized that digital inclusion is an essential pathway to economic recovery as well as societal inclusion, especially in the current situation of the COVID-19 pandemic. With growing demands of digital networks and services, including digital finance, it is essential to ensure that no one is left behind. National strategies on digital inclusion are critical in ensuring equitable and inclusive growth.
9. New models of intellectual property management and policies can help in enhancing the accessibility of fourth industrial revolution technologies in developing countries.

10. The fourth industrial revolution technologies are the cornerstone of urban digital twins which are a virtual representation and exact replica of a physical city. They are digitally accurate, high resolution, and contain useful data of the whole city. Urban digital twins for smart cities using fourth industrial revolution technologies can support participatory and collaborative processes for urban planners, urban designers and communities as a collaboration and communication tool and for decision support.

11. Clean energy such as solar energy innovations and applications can be accelerated through investments in fourth industrial revolution technologies. These technology solutions could help overcome technical hurdles while also reducing cost to consumers. Some applications include augmented reality and virtual reality for strengthening capacity-building and big data for use in renewable energy grid integration.

12. Digitalization is revolutionizing the health-care system, particularly introducing new methods of treatment, monitoring, providing access to health care and in the management of health-care system by the government. The fourth industrial revolution technologies are improving the proximity between patient and service providers and shifting the focus from disease to prevention.

13. Knowledge-sharing among countries on fourth industrial revolution technologies is critical for the region to jointly and effectively achieve the Sustainable Development Goals. There is a need to develop and strengthen networks and platforms for bringing together countries to share experiences, best practices and strategies on the development, transfer and adoption of emerging technologies. Appropriate regional networks need to be developed, such as the Asia-Pacific regional innovation knowledge network for fourth industrial revolution technologies which is a direct outcome of an earlier initiative of the Centre and is funded by the Ministry of Science and Technology of China.

14. Multilateral organizations can create environment where innovations can flourish across the region, through initiatives to support the innovation chain; disseminate knowledge in a systematic manner among countries; connect innovation incubators; and facilitate the linkages between governments and catalyse the development of guidelines and standards.

15. The Conference highlighted the importance of global linkages for collaborative research and development that can accelerate innovation and transfer of fourth industrial revolution technologies.

B. Recommendations for the Asian and Pacific Centre for Transfer of Technology

16. The Centre may facilitate cooperation between countries to transfer the knowledge and technologies and technology deployment. The Centre may create a collaborative platform for innovation, transfer and diffusion of fourth industrial revolution technologies. The Centre may consider taking the proactive initiative to encourage innovators and incubators to share their technologies through technology transfer platforms of the Centre.

17. The Centre may also develop a reliable database of technologies to help technology transfer and the commercialization of fourth industrial revolution technologies.

18. The Centre may create awareness of fourth industrial revolution technologies and potential benefits through capacity-building activities, regional workshops and other outreach activities.

19. The Centre may facilitate regional technology cooperation programmes for human resource development and strengthening human capital on topics related to fourth industrial revolution technologies. The Centre may also consider facilitating exchange programmes and study tours to share knowledge on fourth industrial revolution technologies.