Event highlights

1st UN Virtual Worlds Day

Harnessing the metaverse to advance the Sustainable Development Goals

The inaugural UN Virtual Worlds Day was successfully held on 14 June 2024 in Geneva, Switzerland. It underscored the transformative impact of virtual worlds, including the metaverse and spatial computing, to accelerate the achievement of the Sustainable Development Goals (SDGs). Officially opening the event, ITU Secretary-General Doreen Bogdan-Martin shared a powerful message for all participants to “work together so that when future generations look back on this day, they'll know we took the first step towards a digital future that is safe, inclusive and sustainable for all.”

The **opening ceremony** included high-level UN officials who laid out their visions of inclusive, interoperable, and secure virtual worlds, framing the discussion for the rest of the day.

Seizo Onoe, Director of ITU’s Telecommunication Standardization Bureau, emphasized the ITU's role as an international collaborative platform that invites all parties to work together in establishing an inclusive metaverse that improves everyone's quality of life.

Sameer Chauhan, Director of the United Nations International Computing Centre (UNICC), saw virtual worlds as key to achieving SDGs, leveraging artificial intelligence (AI) and blockchain for progress.

Karima Cherif, Head of Communications and Outreach at the United Nations Research Institute for Social Development (UNRISD), spoke about a metaverse art competition driving social change, stressing the importance of responsible governance.

Dmitry Mariyasin, Deputy Executive Secretary of the United Nations Economic Commission for Europe (UNECE), focused on strategic foresight and sector-specific applications in the metaverse, calling for new partnerships.

Mounir Tabet, Deputy Executive Secretary of the United Nations Economic and Social Commission for Western Asia (UNESCWA), highlighted the need for public policy, regulation and investment to optimise

the positive impact of the metaverse and AI for all, presenting 19 policy recommendations for immediate action.

Radia Funna, futurist and creator of the xHuman theory, was designated as Chair of the first UN Virtual Worlds Day. In her remarks, she emphasized the importance of collaboration to ensure secure and accessible digital spaces, setting the stage for a future UN summit.

In the **high-level segment**, leaders from governments, cities, and industry actively engaged in navigating the complex policy and regulatory landscapes of the metaverse and virtual worlds, moderated by Rebecca Mukite, Head of Public and International Relations at the Uganda Communications Commission.

H.E. Mr. Nape Nnauye, Ministry of Information, Communication and Information Technology, Tanzania outlined the country's strategy for leveraging digital technologies, emphasizing the digitalization of public services, transformation of agriculture, enhancement of healthcare, and increased financial inclusion.

Similarly, H.E. Mr. Younus Al Nasser**,** CEO, Dubai Data & Statistics Establishment, Digital Dubai highlighted the importance of cities in the metaverse for urban planning and public service delivery, integrating technologies like blockchain for efficiency.

In addition, Paula Llobet Vilarrasa from Valencia discussed advancing the UN SDGs through smart city platforms and digital twins and spoke about the European Commission's initiative to connect digital twins for better urban planning.

Furthermore, Jouni Markkanen from Tampere, Finland, stressed non-technical factors such as policy decisions influencing the metaverse, AI's role in health predictions, and the need for global discussions on its ethical use.

Moreover, Karl-Filip Coenegrachts from Open & Agile Smart Cities (OASC) described supporting cities to share data and tackle global challenges, emphasizing the need for inclusive and sustainable governance in developing CitiVerse concepts in Europe.

Additionally, Bertrand Levy from The Sandbox discussed empowering users to create and monetize content within a safe virtual environment, highlighting collaborations to build virtual city spaces and the role of blockchain in digital ownership.

Finally, Christina Yan Zhang from The Metaverse Institute emphasised other important metaverse safety issues, including updating legislation for new crimes; and intellectual property issues around generative AI created 3D avatars, objects and assets; as well as AI generated deep fake avatar and videos. She also highlighted key emerging technologies that would impact on the future development of metaverse, including synthetic DNA for data storage, non-invasive brain-computer interfaces for user experience, and nuclear fusion for sustainable energy.

A highlight of the UN Virtual Worlds Day was the announcement of the winners of the first **UN metaverse Think-a-thon**, which drew 69 proposals from 169 young innovators from over 20 countries. The session, moderated by Nevena Alexandrova, from the Food and Agriculture Organization of the United Nations (FAO), showcased the culmination of global efforts in virtual innovation.

The winning teams were RtVall, Hust_Delia and HolNetVerse. Upon receiving their awards, the teams emphasized the critical role of education, particularly in information and communication technologies, for youth across the globe. The competition served as a platform for young talent to leverage virtual technologies and innovative thinking to devise actionable insights, practical solutions, and contribute to a shared vision for smarter, more sustainable cities and communities. Speaking on behalf of the competition’s sponsor, Saudi Information Technology Company (SITE), Yazeed I. Alabdulkarim,

emphasized that by celebrating the creativity of our youth, this competition is enabling the creation of practical solutions for global challenges.

The award presentation was followed by the announcement of the **Minecraft Education Challenge** by IAEA, tailored to engage and stimulate the next generation of creators. The challenge, named the Asia and Pacific Youth virtual challenge, merges the potential of nuclear science and technology with the creativity fostered by Minecraft's educational environment.

The session titled "**Digital Solutions – Real Impact: Leveraging Virtual Worlds for Global Change**' moderated by Nevine Tewfik from Egypt, delved into transformative case studies where virtual worlds, the metaverse, and spatial computing have been pivotal in addressing global challenges. From combatting climate change to enhancing healthcare accessibility, the potential of these technologies knows no bounds. The panelists shared their insights on the immense opportunities these technologies present for sustainable development and societal impact.

Isabelle Hupont, from the Joint Research Center of the European Commission, addressed next-generation virtual worlds in the EU, noting how the EU strategy has analyzed and balanced the opportunities and challenges these technologies are likely to offer. She emphasized the need for a multidisciplinary and multi-sectoral perspective, covering technological, social, industrial, policy, and economic dimensions. Isabelle highlighted examples of virtual worlds used in the EU, stressing that societal readiness is imperative, alongside technology monitoring and foresight.

Jonathan Birdwell, from the Economist Impacts policy and insights team shared the inclusive metaverse index, an independent research program, sponsored by Meta, which aims at identifying the enabling factors needed to harness the potential of the metaverse. The Pilot index was used as a diagnostic tool mapping the current landscape for building the metaverse and was conducted in 21 countries. He stressed the need for accessibility and affordability, as well as digital literacy in the journey towards the full-fledged utilization of the metaverse.

Moving from the two first presentations, which laid the scene for case studies, Michele Zilli, from TUI presented best practices on the use of the metaverse in the tourism sector and how the metaverse could have a positive impact on the flourishment of sustainable tourism, leading to a remarkable growth. Moving along three levels: The industrial metaverse, the travellers metaverse and the companies metaverse, Michele stressed that standards and interoperability are pre-requisites for a full use of technologies. Michele emphasized the crucial role of the private sector and highlighted the importance of collaboration with public entities to reach the SDGs through the implementation of metaverse.

In his presentation on "Queretaro Reborn," Manuel Barreiro, founder and chairman of the Aston Group, described a real urban regeneration project using the metaverse. Manuel detailed how the local community could benefit from virtual worlds in a groundbreaking example of urban sustainable development, highlighting the promise of the metaverse for creating ecologically friendly cities.

Stela Mocan, from the World Bank Group, shared the lab's exploratory work with blockchain and web 3.0 technologies around digital economy ownership (open networks, tokenization of value, digital assets and money, Central Bank Digital Currencies) and presented some pilots that the WBG Virtual Reality Lab has been undertaking with the metaverse to innovate the education service for improved technical training, climate action, and the blue economy in their client countries. The World Bank Group teams have adopted a hands-on learning approach to better understand the potential and challenges of emerging technologies for solving development challenges in developing countries. Stella confirmed the importance of partnership and collaboration, as well as the use of sandboxes and prototyping.

From the standardization perspective, Neil Trevett, from the Metaverse Standards Forum concluded the session with his presentation on how interoperability will drive the evolution of the metaverse. He noted the need for a constellation of pervasive interoperability standards in the metaverse, which is

based on bringing together multiple disruptive technologies and called for collaboration and cooperation among standardization bodies and wider industry that crosses traditional silo boundaries.

The moderator of the session highlighted that the Focus Group on metaverse (FG-MV), concluded its work on 13 June 2024 with the approval of 52 technical reports and specifications, including a definition of the metaverse and a glossary of metaverse terminology.

During the official launch of the **Global Initiative on Virtual Worlds**, moderated by Franca Vinci, from UNICC, H.E. Mr Younus Al Nasser CEO, Dubai Data & Statistics Establishment, Digital Dubai, briefly outlined humanity's journey through three pivotal waves of computing and the Internet, which are the wave of reception, the wave of interaction, and the current wave of immersion, as seen in the metaverse. He emphasized that cities of the world today need to keep up with the latest digital transformation trends to ensure the best possible experience for all city inhabitants. This groundbreaking initiative is a collaborative effort between the ITU, UNICC, and Digital Dubai. Speaking at the launch, Seizo Onoe, ITU's Telecommunication Standardization Bureau Director underscored the initiative's mission to establish norms and principles that will shape the governance of metaverse applications in sectors such as urban planning, education, and management.

Sameer Chauhan, Director of UNICC, emphasized the importance of concrete action and tangible solutions to address global challenges. He highlighted the development of frameworks, governance principles, and the provision of training and events to disseminate knowledge as key initiatives. Chauhan also underscored the significance of a sandbox environment to facilitate collaboration within the UN ecosystem and stressed the need to put citizens at the center of smart city and CitiVerse initiatives.

The session "**Safeguarding the Virtual Experience: Safety, Privacy, and Accountability in Virtual Worlds**" moderated by Anamaria Meshkurti, from AMVS Capital, addressed critical challenges such as privacy, accountability, and security in virtual environments.

Madan Oberoi from INTERPOL underscored international cooperation and innovative solutions to protect users effectively. Fabio Maggiore of UNICC highlighted risks like harassment and cyberattacks in the UN's engagement with the metaverse, advocating for cybersecurity frameworks and digital identity initiatives. Brent Milliken from IMVERSE discussed accountability issues in evolving the metaverse, stressing the need for authenticity, education and privacy safeguards. Yazeed I. Alabdulkarim of SITE emphasized biometrics and responsible data management. Dylan Reim, representing the World Economic Forum, focused on governance for safety and trust in virtual worlds, promoting collaboration for an ethical digital future.

In the session "**Virtual Horizons: Unlocking the Potential of Virtual Worlds for the Sustainable Development Goals**," moderated by Bilel Jamoussi from ITU, UN-led projects showcased how virtual environments drive positive global change. Nevena Alexandrova-Stefanova from the FAO Office of Innovation highlighted virtual technologies' role in transforming agrifood systems to address climate impacts and food security. Tom Wambeke of ITCILO discussed immersive learning's integration with traditional methods for global capacity development. Cristina Bueti of ITU detailed the achievements of the metaverse Focus Group on standardizing safe and sustainable virtual environments. Okan Geray of Digital Dubai, emphasized using the metaverse for urban innovation and sustainable development. He also mentioned the new joint work with Digital Dubai, ITU and UNICC on launching the Global Initiative on Virtual Worlds – Discovering the CitiVerse. Mounir Tabet from UNESCWA outlined 19 public regulatory, investment and technical recommendations to optimise the positive impact of the metaverse on all. Igor Litvinyuk of UNECE discussed virtual power plants and digital twins' role in energy efficiency. Jaimee Stuart from the United Nations University and Auxane Boch from the Technical University of Munich examined immersive technologies' psychological impacts and

therapeutic potentials, concluding by proposing potential next steps for research and governance for a human-centred evolution of those technologies.

The session "**Imagining Tomorrow: Exploring the Potential of Virtual Worlds to Advance the Sustainable Development Goals and Discover Opportunities in the Future Landscape**" brought together a diverse group of expert facilitators to lead a discussion on the implications of virtual worlds on achieving the Sustainable Development Goals. Designed and facilitated by the UN Futures Lab/Global Hub, World Bank ITS Technology & Innovation Lab, and the International Training Center of International Labour Organization (ITCILO), the session used strategic foresight techniques to explore the potential of virtual worlds as tools for envisioning and planning, highlighting the convergence of digital technologies, diplomacy, and global challenges. The workshop drew on insights from two global consultations held in the metaverse that used a strategic foresight approach (a Futures Wheel) and served as the starting point for discussions on how to optimize the potential of virtual worlds for enhanced impact, mitigate unintended consequences, and surface emerging levers that lay the groundwork for their operationalization. These highlighted interlinkages within and between SDGs, providing entry points for the in-person participatory visioning exercise during UN Virtual Worlds Day. Participants worked in breakout groups to develop a vision and the bold actions needed and by whom - in the short, medium and longer-term - to achieve the vision. Key aspirations that emerged from the discussion included making the metaverse accessible, integrating it meaningfully with different kinds of technology such as artificial intelligence, and ensuring a safe and secure experience for all users. The expected outcome from these two phases is a multistakeholder input to the UN Summit of the Future (September 2024) as an example of participatory consultations drawing on futures and foresight methodologies in the context of the metaverse and SDGs.

Emphasizing the role of technology, the session on "**Digital Transformation for Hydrology and Water Resources: A look into the future**" moderated by Hwirin Kim, Head Hydrological and Water Resources Services Division, World Meteorological Organization (WMO), looked at opportunities from innovative domains such as virtual worlds and the metaverse for meteorology. A highlight of the session was the launch of the World Meteorological Organization's Working Group on Digital Transformation for hydrology and water resources, which will be a collaborative effort involving multiple stakeholders such as UN agencies, governments, the private sector, and academia. The session was attended by senior representatives of WMO and ITU, along with the Ambassadors of Indonesia and the Republic of Korea. Speakers during the event underscored the critical need to utilize emerging technologies and early warning systems to improve worldwide resilience and protect at-risk communities, particularly against hydrological challenges.

At the **closing ceremony,** the Conference Chair, Radia Funna, thanked all the speakers, participants and organizers. She underscored the power of the United Nations to bring key stakeholders together to address some of the world's most pressing issues. The first UN Virtual Worlds Day is a great example of the UN system working together as one for the benefit of all.

The 1st 'UN Virtual Worlds Day' was organized by the International Telecommunication Union (ITU) together with World Bank, the United Nations Economic Commission for Europe (UNECE), the International Training Centre of the International Labour Organization (ITCILO), the United Nations Futures Lab Network, the World Meteorological Organization (WMO), the United Nations International Computing Centre (UNICC), the World Intellectual Property Organization (WIPO), the United Nations Children's Fund (UNICEF), UN Tourism, the United Nations University (UNU), the United Nations Department of Political and Peacebuilding Affairs (UNDPPA), the United Nations Innovation Network (UNIN), the United Nations Guatemala, the Food and Agriculture Organization of the United Nations (FAO), the United Nations Economic and Social Commission for Western Asia (UNESCWA), the United Nations Framework Convention on Climate Change (UNFCCC) and its interagency initiative Resilience Frontiers, and the United Nations Research Institute for Social Development (UNRISD).