Understanding the Impacts of the Metaverse on the Arab Region

Key findings, key messages and recommendations
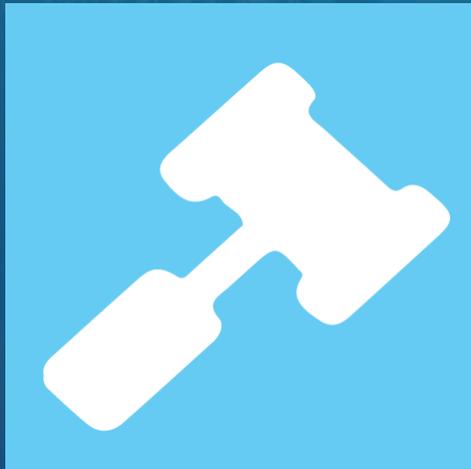
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Key findings, key messages and recommendations

Megatrends are significant transformative forces that influence societies, economies, and environments. ESCWA evaluates these trends to offer policymakers insightful recommendations, aiding them in preparing for future challenges and opportunities.
One such megatrend is the **Metaverse**, which refers to evolving concepts of immersive, three-dimensional online experiences on the next generation of the Internet.
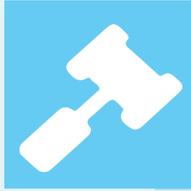
Policy, Legislative, and Regulatory

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Policy, Legislative, and Regulatory

90% of businesses in the Arab Region are SMEs, providing 10-40% of employment. **Metaverse related SMEs are growing in the GCC countries.**

SMEs are vital for job creation, including the Metaverse.

Develop a multi-pronged policy framework to support the creation of Metaverse-related SMEs and startups.

Innovation in power generation and in the Metaverse **support sustainable energy trading systems**.

The Metaverse will help enabling digital modelling of grid modernization projects, supporting the transition to a green economy.

Incentivize use of digital twins to improve efficiency and shift the energy mix to more renewable sources.

Powering Metaverse data centres are likely to cause **14% of global carbon emissions by 2040**.

Metaverse companies must proactively address environmental harms, and Arab organizations should encourage responsible practices.

Support environmentally responsible Metaverse technology firms by designating them as "preferred providers".

Policy, Legislative, and Regulatory

Governments in Arab countries are **launching Metaverse-related services**.

Intra- and inter-governmental coordination is critical to optimize Metaverse opportunities and prevent potential risks.

Establish inter-ministerial groups to coordinate policies and actions and promote Metaverse technology in priority wellbeing areas.

Governments are embracing technology-facilitated diplomacy and using virtual meeting technologies in international affairs.

Metaverse offers Arab countries the opportunity to take innovative digitalization to a higher level in the functions emblematic of sovereignty.

Initiate pilot programmes to explore consular service delivery in virtual/Metaverse environments, along with government functions including diplomacy, tourism and investment.

Overall understanding of Metaverse is relatively low, although **80% of businesses and 50% of consumers are aware of it**.

Misunderstanding of Metaverse uses could hinder economic and social growth.

Launch multi-level awareness-raising campaigns about the Metaverse and its social and economic benefits.

Policy, Legislative, and Regulatory

Metaverse development outpaces **legal and privacy regulatory frameworks**.

Structured oversight systems and enablers can help ensure citizen safety and privacy.

Establish new government functions to regulate critical elements of the Metaverse.

Existing cybersecurity measures may be **insufficient to address potential Metaverse cyberthreats.**

Security-related concerns must be addressed to boost confidence in the Metaverse and strengthen digital economies.

Build on existing foundations of cybersecurity laws and establish new tailored ones to protect Metaverse-related businesses.

A wide community of stakeholders have been developing **global standards for the Metaverse with the support of ITU**.

Arab countries can contribution to and locally adapt global Metaverse-related standards.

Establish an Arab expert group to support the work of the ITU and solidify Arab leadership in Metaverse standardization efforts.

Policy, Legislative, and Regulatory

Metaverse stakeholders are concerned about **equity of access** regarding cost and Internet access.

When made accessible to the marginalized segments of society, Metaverse can bridge the digital divide.

Require Metaverse applications in education and health care and other services to be affordable.

Investment Recommendations

Innovative green, sustainable finance that include artificial intelligence, blockchain and the Internet of Things are **growing worldwide**.

Tying green innovations to Metaverse economic ambitions in the Arab region can enhance prospects and reduce carbon emissions.

Make investment in Metaverse technologies a specific and deliberate element in the portfolios of Arab green finance investment initiatives.
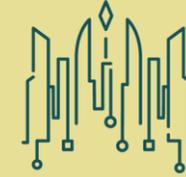
By 2032, the Metaverse will use 20 times more data than current levels and demand 1,000 times the current computing power.

Realizing the potential of the Metaverse requires greater wireless connectivity.

Secure financing for large-scale 5G/6G and other Internet infrastructure projects to enable Metaverse technologies.

Conducting analytics on building operations using digital twins can **boost facilities' sustainability by 50 per cent** through reduced greenhouse gas emissions.

Supporting Metaverse elements in corporate investment strategies can accelerate the productivity of businesses in Arab countries.

Offer tax incentives for businesses incorporating digital twin technologies to enhance operational efficiency and decrease carbon footprints.

Investment Recommendations

Arab countries are integrating virtual reality/augmented reality (VR/AR) technologies into cultural spaces to enhance learning engagement.

The Metaverse provides an opportunity to showcasing culture and history across Arab countries.

Establish a collaborative initiative among Arab Governments and tourism industry enterprises to promote virtual tourism.

Arab countries with Natural resources have a history of **providing financial support to others**.

High-income Arab countries can support neighbouring countries in developing their Metaverse businesses.

Create a funding mechanism, supported by ESCWA to promote the adoption of Metaverse technologies in less economically resourced member States.

Technical Recommendations

The high cost of Edge computing is **hindering its widespread adoption**.

Arab countries can enhance their position in the global Metaverse economy by helping address the technological challenges for users.

Fund research and development initiatives on edge computing for an environmentally sustainable Metaverse.
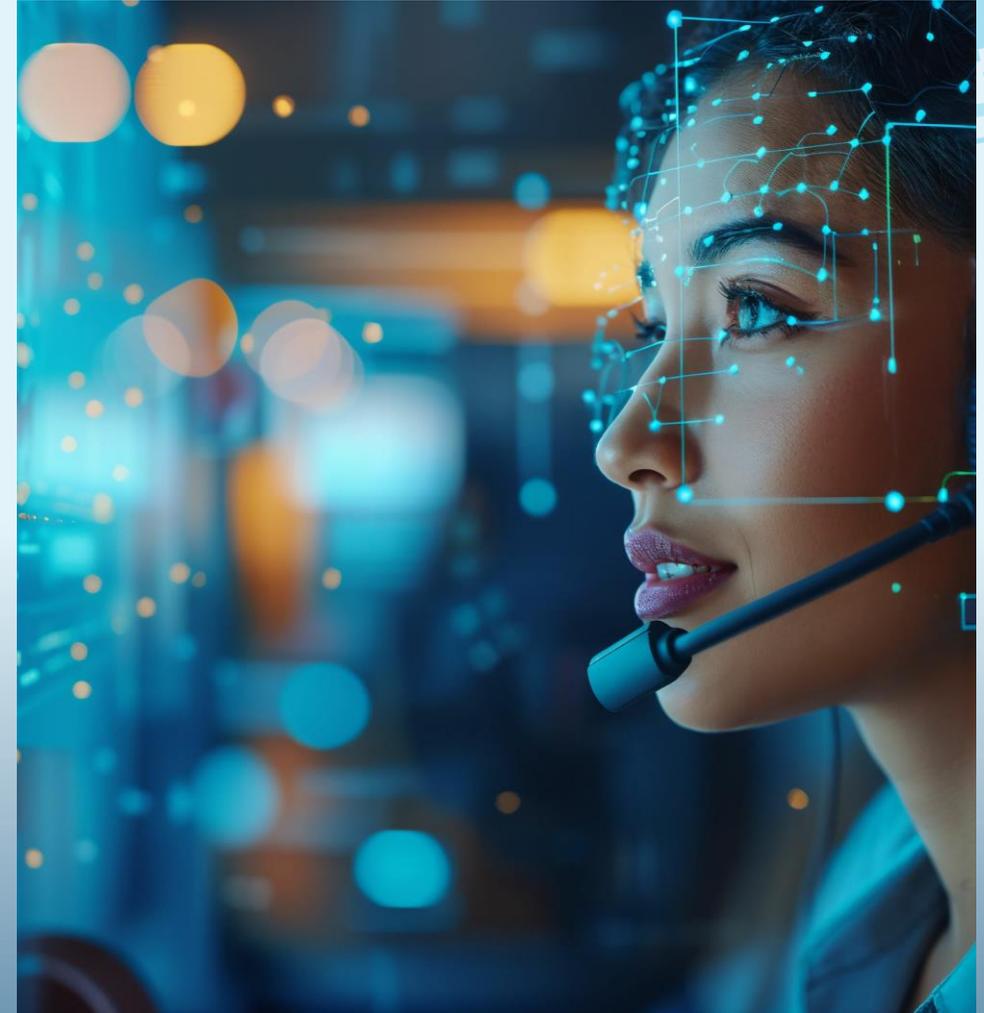
Immersive VR can effectively showcase climate change consequences, surpassing traditional media tools.

Compelling methods are needed to motivate individuals and enterprises to help address the climate crisis in Arab countries.

Develop and distribute tailored climate focused Arabic Metaverse education programmes.

Technical Recommendations

Extended VR exposure leads to **mental health risks and neurological impacts**.

Need to find the right balance between potential for job creation from the Metaverse and its risk of harm to workers.

Fund research to reduce the harmful physiological and psychological impacts on workers in Metaverse environments.

Virtual experiences can **encourage socialization and sustain cultural connections between displaced individuals**.

The Metaverse presents new ways to enhance quality of life and social stability in Arab countries hosting migrants.

Develop Metaverse applications to help displaced individuals and migrants maintain cultural ties.

Thank You