



*The UN specialized
agency for ICTs*



AFRICAN TELECOMMUNICATIONS UNION
L'UNION AFRICAINE DES TÉLÉCOMMUNICATIONS

ITU and ATU Webinar – Shaping Africa's Digital Future: Governance in the Metaverse and Virtual Worlds

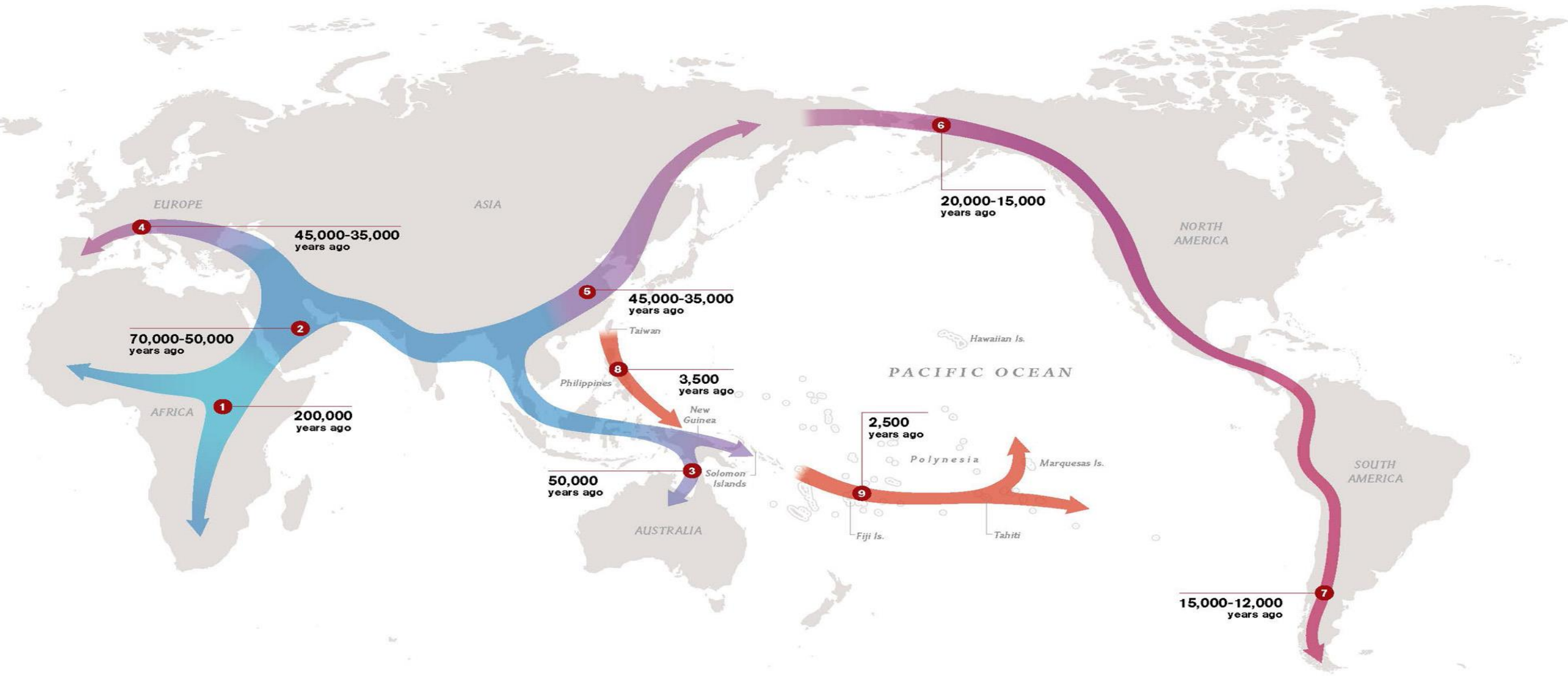
Virtual Worlds & Metaverse: Unlocking Africa's Potential

Dr. Christina Yan Zhang
CEO

The Metaverse Institute
25 Feb 2025



Nature(2017): Morden Human have emerged in Africa 315,000 years ago in Morocco.



3rd ITU Forum on Cities and the metaverse: shaping a citiverse for all



H.E. Mr Nape Nnauye
Minister, Ministry of
Communication and
Information Technology,
Tanzania



Seizo Onoe
Director
Telecommunication
Standardization
Bureau, ITU



Kyunghee OH
Director of Digital Policy
Division, Seoul Metropolitan
Government



**Wendy Teresa Goico
Campagna**
Vice-chairman
U4SSC



**H.E. Ms Rosemary Staki
Senyamule**
Dodoma Region
Commissioner
United Republic Tanzania



Jabiri Kuwe Bakari
Director General
Tanzania Communications
Regulatory Authority



Davis G. Mwamfupe
Mayor
Dodoma City Tanzania



Philip Besimire
Managing Director
Vodacom Tanzania Plc



Dinesh Balsingh
Managing Director Airtel
Tanzania Plc



Irene Godson
Country Manager (Ag)
Smile Communications
Tanzania



Hyoung Jun Kim
Chairman
ITU-T SG20



H.E. Mr Belal Al-Hafnawi
Commissioner
TRC, Jordan



Peter Ulanga
Director General
Tanzania
Telecommunications
Corporation (TTCL)



Chao Ma
Director, BD of
Industry & IoT
institution, CAICT



Yong Jick Lee
President, Center for
Accessible ICT, Korea



Christina Yan Zhang
CEO
The Metaverse Institute



Nguyen Tien Dung
Managing Director Viettel
Tanzania PLC (Halotel)



Desmond Mushi
Public Policy Manager
Meta



Emmanuel Manasseh
Vice-chairman
ITU-T Study Group 20



13 September 2023

Arusha, Tanzania

Godmother of AI built \$1bn spatial intelligence AI start-up in 4 months: World Labs is developing a model to understand the 3D physical world. This represents a big breakthrough in AI, helping it to interact with real-world environments and advancing more sophisticated autonomous systems. On 13 Sept 2024, she raised Series A \$230M to train AI to understand 3D world with world's top investors and tech leaders backing.



AI HELPING HUMANS BUILD BETTER WORLDS

January 6, 2025, at CES(the Consumer Electronics Show) Nvidia CEO Jensen Huang launched Cosmos, a family of world foundation models, that can predict and generate physics-aware virtual environments. Using data, text, images, video and movement to generate and simulate virtual worlds that accurately models environments and physical interactions.



"Pick up the piece of toast from the toaster and place it on the white plate to the right of the toaster."

Image
Tokens

Text
Tokens

World
Foundation
Model

Action
Tokens



COSMOS

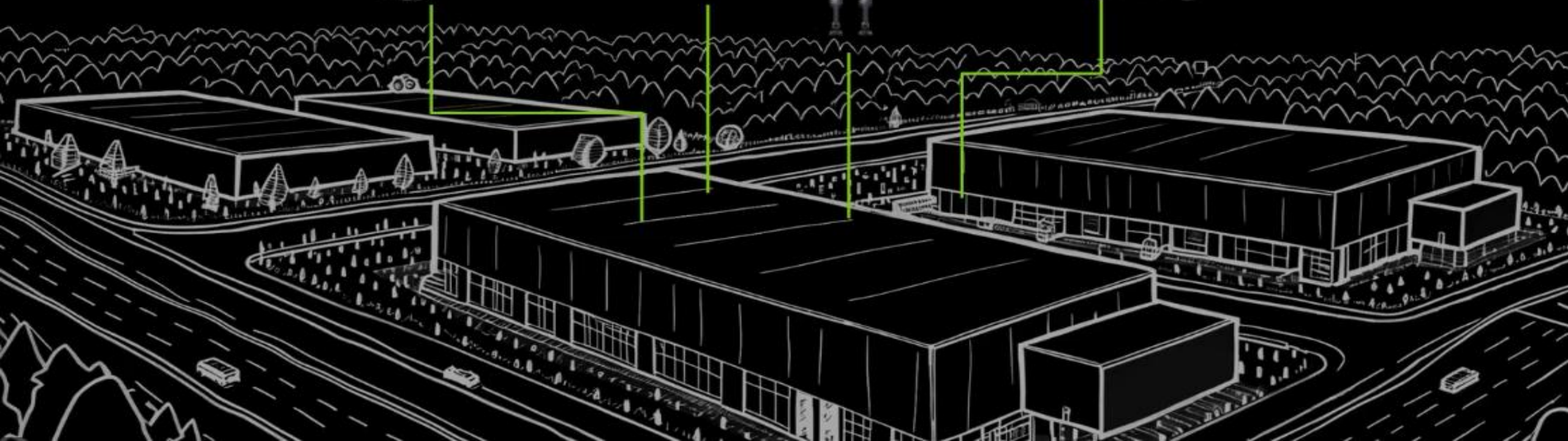
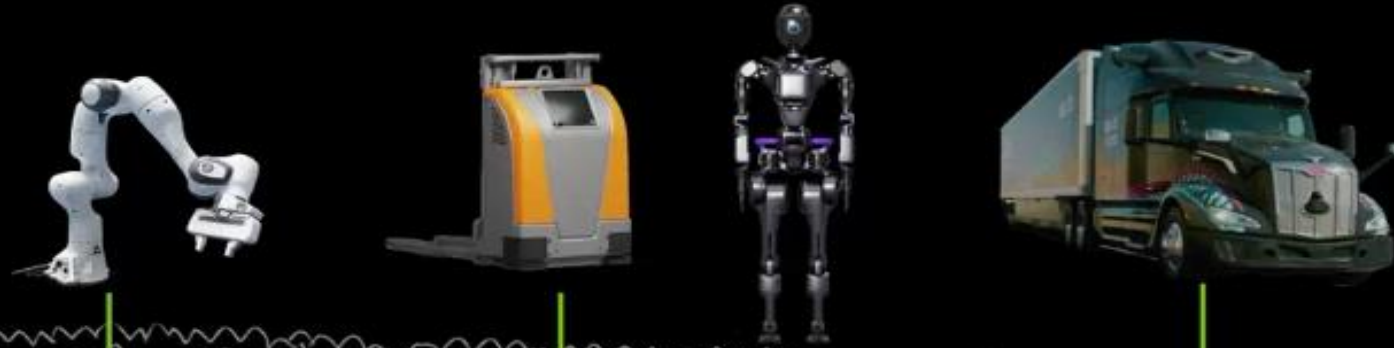
Nvidia CEO Jensen Huang: "We created Cosmos to democratize physical AI which will revolutionise the \$50 tn manufacturing and logistics industries. Everything that moves — from cars and trucks to factories and warehouses — will be robotic and embodied by AI". 1X, Agility Robotics and XPENG, and autonomous developers Uber, Waabi and Wayve are using Cosmos.

10 Million
Factories

200K
Warehouses

Future Billion
Humanoid robots

1.5 Billion
Cars and trucks





**\$500 Billion Stargate AI Investment:
Trump Making World's Largest AI Infrastructure in US?**



CHINA'S MASSIVE AI BREAKTHROUGH



deepseek

Ursula von der Leyen

European Commission president

"In just a few months we have set up a record of 12 AI factories. And we are investing EUR 10 billion in them. (...) We aim to mobilise a total of EUR 200 billion for AI investments in Europe."



**SOMMET
POUR L'ACTION
SUR L'IA**

Paris

Mardi 11 février 2025

“I think of AI as an acronym not for artificial intelligence, but for alien intelligence. I mean alien in the sense that it thinks, makes decisions and processes information in a fundamentally different way than humans”.

Yuval Noah Harari
Israeli historian
Author of Sapiens, A Brief History of Humankind

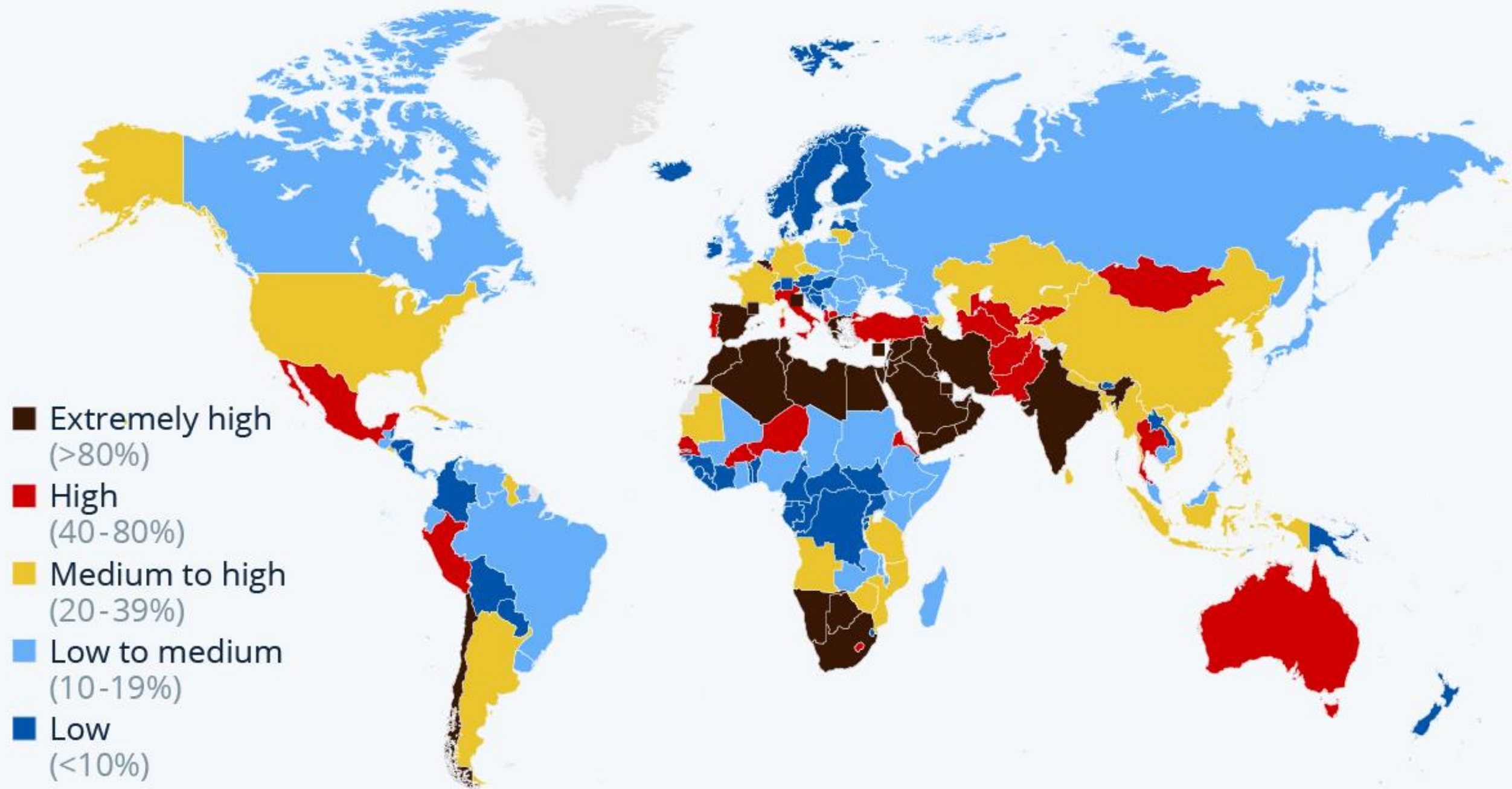




**THE WAY
FORWARD**



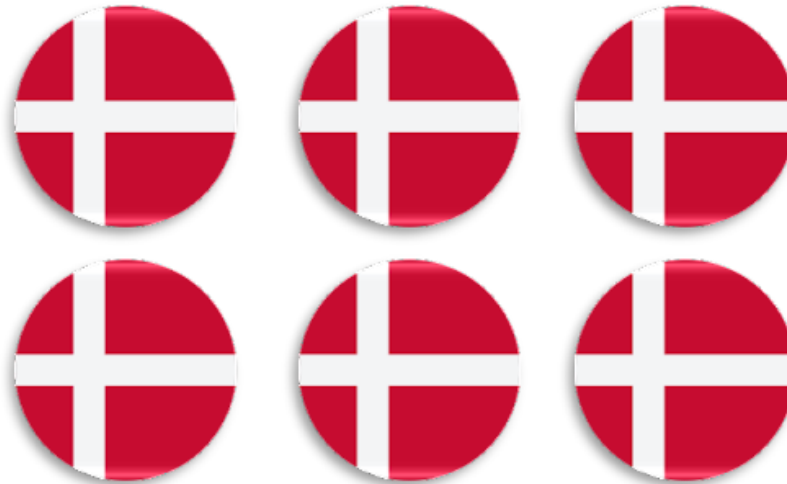
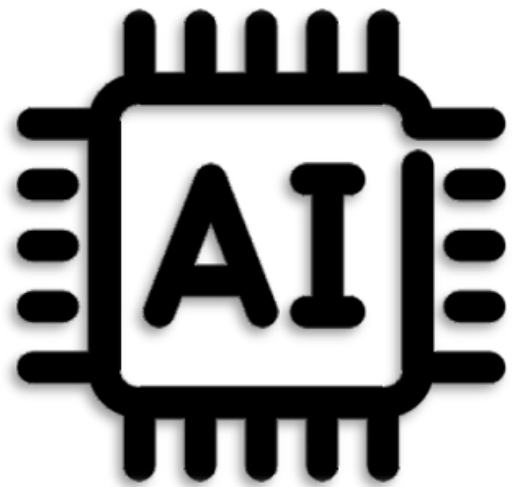
UN(Nov 2023): 2/3 of global population, 6 bn people will face water scarcity by 2050.



OCED(Nov 2023) "How much water does AI consume? The public deserves to know" article quote Cornell University findings(Oct 2023) that the global AI demand may be accountable for 4.2 -- 6.6 billion cubic meters of water withdrawal in 2027, which is more than the total annual water withdrawal of 4 – 6 Denmark.

Global AI's Scope 1 & 2 Water Withdrawal in 2027

Est. **4.2~6.6** Billion Cubic Meters



4~6x Annual Water Withdrawal of Denmark

CNBC(June 2024): The EU's \$2.1 million ASCEND study(11 partners including Orange, HP, Airbus) concluded after 16 months of studies that launching data centres into orbit is technically, economically and environmentally feasible. They aim to deploy 1,300 building blocks by 2050 to achieve 1 gigawatt(power one million home by one hour).



[HOME](#) [OBJECTIVES](#) [ASCEND CONSORTIUM](#) [DATA CENTRES IN SPACE](#) [ACTIVITIES](#) [EVENTS](#) [CONTACT](#)



ASCEND is a feasibility study led by Thales Alenia Space, for the European Commission as part of Horizon Europe programs. Study objectives are to demonstrate the technical feasibility and the environmental benefits to deploy large capacity data centre in space. Space environment is offering high solar illumination position and cold space view, that would benefits to data centres application.

Space Data centres are foreseen as a promising alternative to reduce environmental footprint and energy consumption of digital application on earth.

ASCEND preliminary conclusion drives to a paradigm change for space application with a hyper-structure of several thousands of tons deployed and hundreds of launch per year strategy.

Horizon Europe

Research and Innovation EU Actions.

This project has received funding from the European Union's Horizon Europe research and innovation Actions under grand agreement n°101082517



[Aid, Development cooperation, Fundamental rights](#)

International Partnerships

[Home](#) | [Policies](#) | [Countries](#) | [Funding and technical assistance](#) | [News and events](#) | [Knowledge hub](#) | [Publications](#)[Home](#) > [News and events](#) > [News](#) > [Global Gateway: EU reinforces partnership with Africa through “Africa-EU Space Partnership Programme”](#)

NEWS ANNOUNCEMENT | 29 January 2025 | Directorate-General for International Partnerships | 3 min read

Global Gateway: EU reinforces partnership with Africa through “Africa-EU Space Partnership Programme”

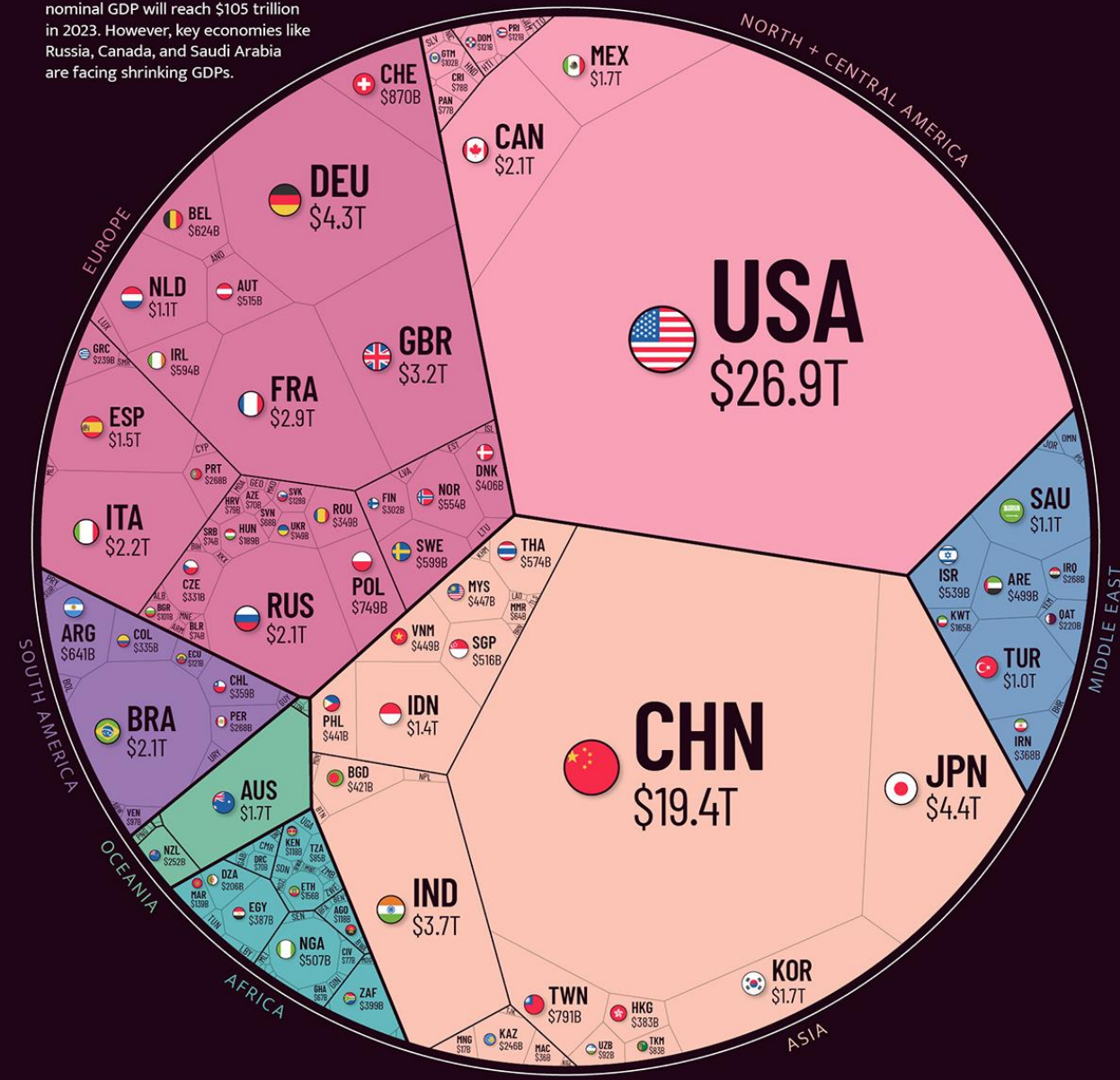
At the EU Space Conference in Brussels, the European Commission announced the “Africa-EU Space Partnership Programme.” This initiative, backed by a €100 million investment, forms a critical part of the EU's Global Gateway strategy to deepen space cooperation between the EU and Africa.



THE \$105 TRILLION WORLD ECONOMY

2023 GLOBAL GDP

According to IMF projections, global nominal GDP will reach \$105 trillion in 2023. However, key economies like Russia, Canada, and Saudi Arabia are facing shrinking GDPs.



LSE(Nov 2023): African countries have been exploring the use of tokenisation to address national governments debt with positive results in Nigeria, Ghana, Kenya. In Nov 2023, World Bank, IMF, the Bank for International Settlements, Swiss National Banks are working together to use tokenisation to simplify the process of allocating development funds to emerging economies.



THE LONDON SCHOOL
OF ECONOMICS AND
POLITICAL SCIENCE

Ebrima Faal
November 17th,
2023

Tokenization and the future of debt management in Africa

1 comment | 10 shares Estimated reading time: 5 minutes

In 2022, **Nigeria** launched a pilot project to assess the use of tokenization for government bond issuance. The project demonstrated that tokenized government bonds could be traded more efficiently and at lower costs than traditional bonds. This was a significant step in exploring the potential of blockchain technology in debt management.

Ghana has partnered with a fintech company to launch a tokenized debt platform. The platform allows investors to buy and sell Ghana's government debt instruments in the form of digital tokens. It has been well-received by investors, with significant trading volumes recorded since its launch.

Kenya has announced plans to develop a tokenized debt platform. The platform will allow investors to trade Kenyan government debt instruments on a decentralised exchange. This initiative is part of Kenya's broader strategy to leverage digital technologies for economic growth.

Other African countries, including Senegal, Rwanda, and South Africa, are also considering launching tokenized debt platforms soon. These initiatives highlight the growing interest in leveraging blockchain technology for debt management in Africa.

Tokenization, an emerging technology, carries significant potential to overhaul African debt management practices. By amplifying efficiency, transparency, and global accessibility, tokenization can empower African governments to better manage their debt and champion sustainable economic growth.



Infrastructure Tokenization

Does blockchain have a role in the financing of infrastructure?

Public Disclosure Authorized

Public Disclosure Authorized

Public Disclosure Authorized

THE WORLD BANK
IBRD • IDA

PPIAF
Public-Private Infrastructure Advisory Facility

IISD
International Institute for Sustainable Development



World Business Markets Sustainability Legal Breakingviews Technology Investigati

IMF, World Bank and BIS in first 'tokenisation' collaboration

By Reuters

November 28, 2023 6:22 PM GMT+1 · Updated 6 months ago



Cecilia Skingsley attends a session on central bank digital currencies at the Annual Meetings of the International Monetary Fund and World Bank in Washington, U.S., October 14, 2022. REUTERS/Elizabeth Frantz/File Photo [Purchase Licensing Rights](#)

LONDON, Nov 28 (Reuters) - Three of the world's cornerstone institutions - the International Monetary Fund, the World Bank and the Bank for International Settlements - are to work together for the first time to "tokenise" some of the financial instruments that underpin their global work, a BIS official said on Tuesday.

The trio will also work with Switzerland's central bank which has been pioneering tokenisation, the process of turning conventional assets into uniquely coded "tokens" that can be used in faster new systems.



BRAIN DRAIN
KEEPING AFRICA POOR

**The
Economist**

**SPECIAL
REPORT:**

Africa

→ March 28th 2020

3 Emergent continent

4 Sex and education

6 On the move

7 The forever wars

8 Feeding another billion

10 Economies taking off

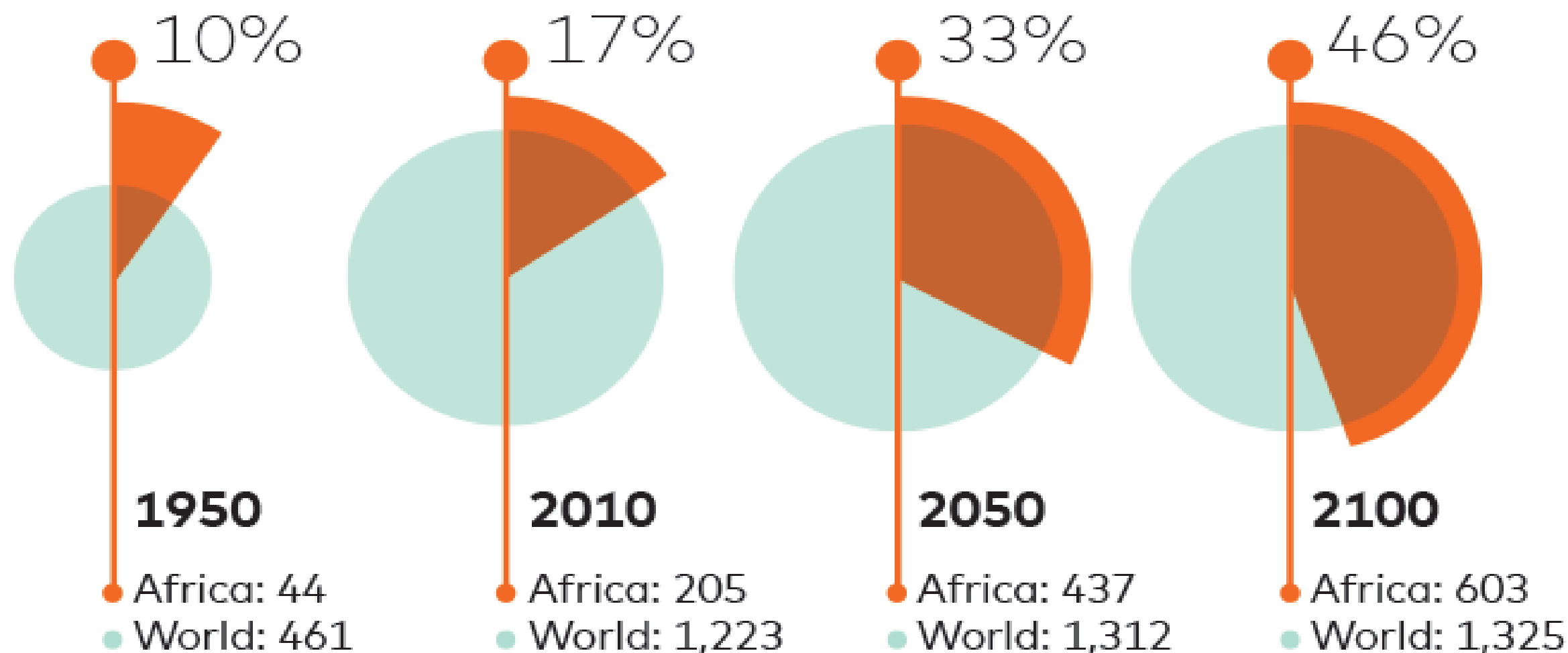
12 Africa's bright future

The African century

A stylized illustration of a city skyline against a blue background. The skyline features several buildings of varying heights and colors, including a prominent red building on the left and several grey buildings. The buildings are simplified in design, with some having blue rectangular windows. The overall style is modern and graphic.

UN: by 2100, almost half of the world's youth(aged between 15-24) will be African

SHARE OF THE WORLD'S YOUTH (%) 1950-2100



YOUTH POPULATION (MILLIONS)



MARVEL STUDIOS

BLACK PANTHER

WAKANDA FOREVER

Work across many different UN agencies to lead international standards for emerging technologies. This includes International Telecommunication Union's Metaverse Working Group Vice Chairman for Sustainability, Inclusion and Accessibility



UNESCO IITE Webinar Series

Harnessing Technology to Transform Education



第二届国际电信联盟 (ITU) 论坛
通过国际标准为所有人创建元宇宙
2nd ITU Forum on
Creating a metaverse for all through international standards



AIM CONGRESS | قمة AIM للاستثمار

7 - 9 May 2024, Abu Dhabi, United Arab Emirates

TOURISM INVESTMENT FORUM - UN TOURISM
INTERNATIONAL PARTNERS TRACK

Investing in Innovation and Enabling Women Entrepreneurs



MS. BASMAH AL-MAYMAN
Regional Director
Middle East
UN Tourism



MRS. DINA RAQABAN
HR Director
Almosafer



MRS. CHRISTINA ZHANG
CEO
The Metaverse Institute



MR. AHMED DAOUD
Executive Director
Innovation The Royal
Commission for AIUla





MRS. TARYN ANDERSON
CEO
Impulse4women




ABIR LEHETA
CEO
EGYTRANS

WEDNESDAY
8TH MAY 2024
10:15 - 10:50



Keynote speaker at UNESCO event on using Metaverse for Education and training



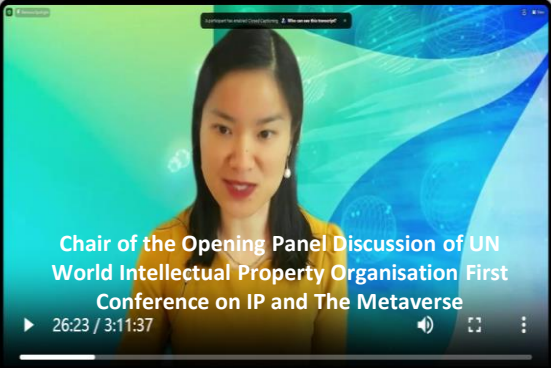
Meetings | Contact Us | FAQ | Private

HOME | CATEGORIES | SEARCH | ABOUT

Search

SEVENTH SESSION OF THE WIPO CONVERSATION INTELLECTUAL PROPERTY AND THE METAVERSE - WIPO IP CONV GE 23 DAY 1 MORNING

29 Mar 2023 8:49:59 GMT+1



Chair of the Opening Panel Discussion of UN World Intellectual Property Organisation First Conference on IP and The Metaverse

26:23 / 3:11:37

TRANSCRIPT

INTERPRETATION

OPTIONS

TIMELINE

00:10:03 Meeting in the Metaverse

00:12:52 CHAIR

00:12:53 Opening

00:22:18 Pulse check: Have you been in the Metaverse?

00:23:45 Panel 1: "All information looks like noise until you break the code" - Decoding the Metaverse

00:23:46 CHAIR

00:24:47 Dr. Christina Yan Zhang

00:27:41 Mr. Luis Bravo Martins

00:45:17 Dr. Christina Yan Zhang

00:46:25 Dr. Recep Erdem Erkul



Christina Yan Zhang
CEO
Metaverse Institute

Join me at the ISO Annual Meeting for the virtual session!

Beyond the Metaverse

The future of virtual worlds

18 September
(15:00-16:00 CEST)

#ISOannualmeeting
annualmeeting.iso.org





International Civil Aviation Organization
2024 Innovation Fair "Digital Aviation: the Future is Now"

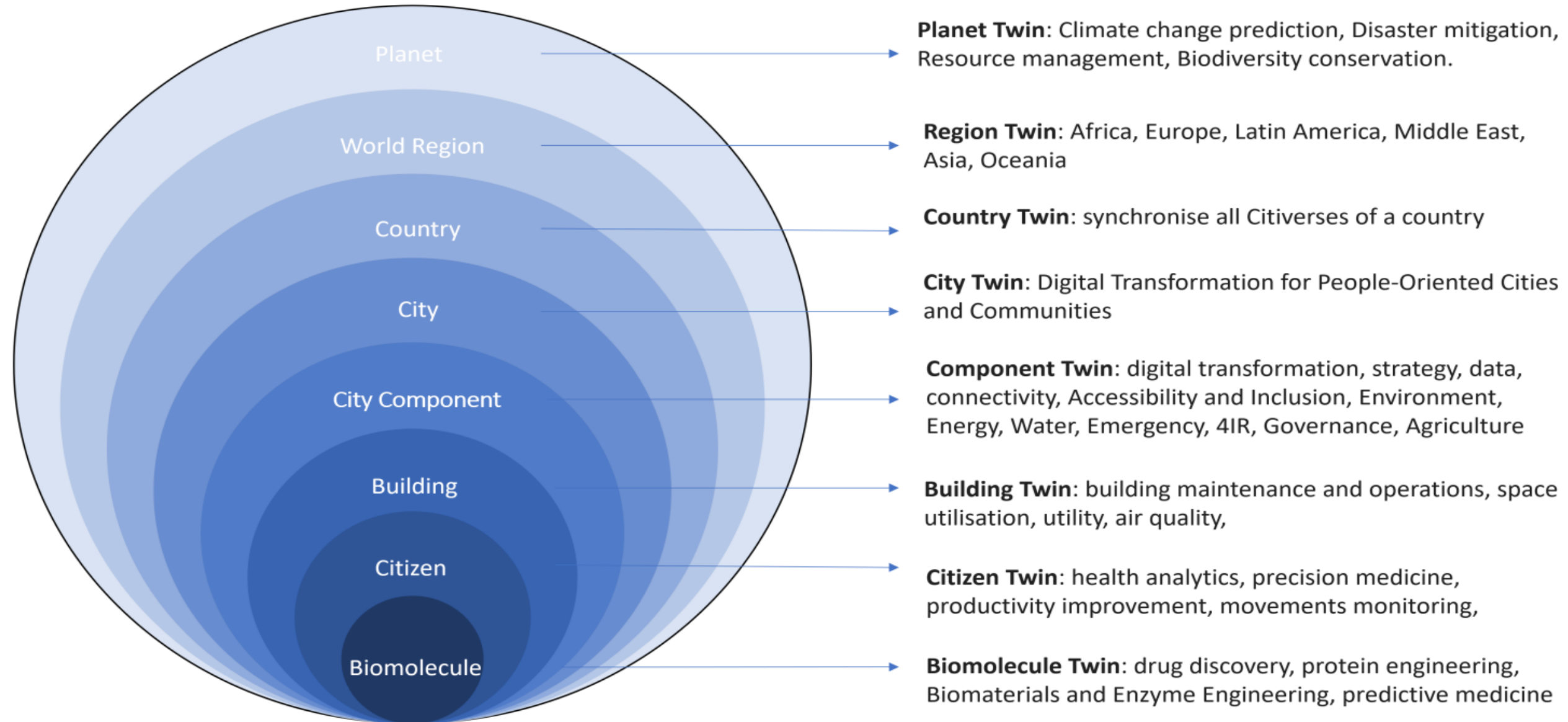
Innovate the Aviation Industry
Through the Metaverse

Dr. Christina Yan Zhang
CEO
The Metaverse Institute
Montreal, Canada
14 March 2024



The Eight Levels of the CitiVerse to achieve UN Sustainable Development Goals Framework is approved by ITU as part of the first UN technical report on People-centred CitiVerse, leads to international standards

A new Public-Private- People- Planet Partnership to Develop Eight Levels of the CitiVerse for achieving UN Sustainable Development Goals





Global Initiative on Virtual Worlds and AI

Discovering the Citiverse



SUSTAINABLE DEVELOPMENT GOALS



“The spirit of Ubuntu – that profound African sense that we are human only through the humanity of other human beings –has added globally to our common search for a better world.”

Nelson Mandela





Christina@metaverse-institute.org



Christina Yan Zhang



ChristinaYZhang