Data Governance and Management: A digital infrastructure and inclusion perspective

ADB & PRIF Data X Blue Pacific

23rd October 2024

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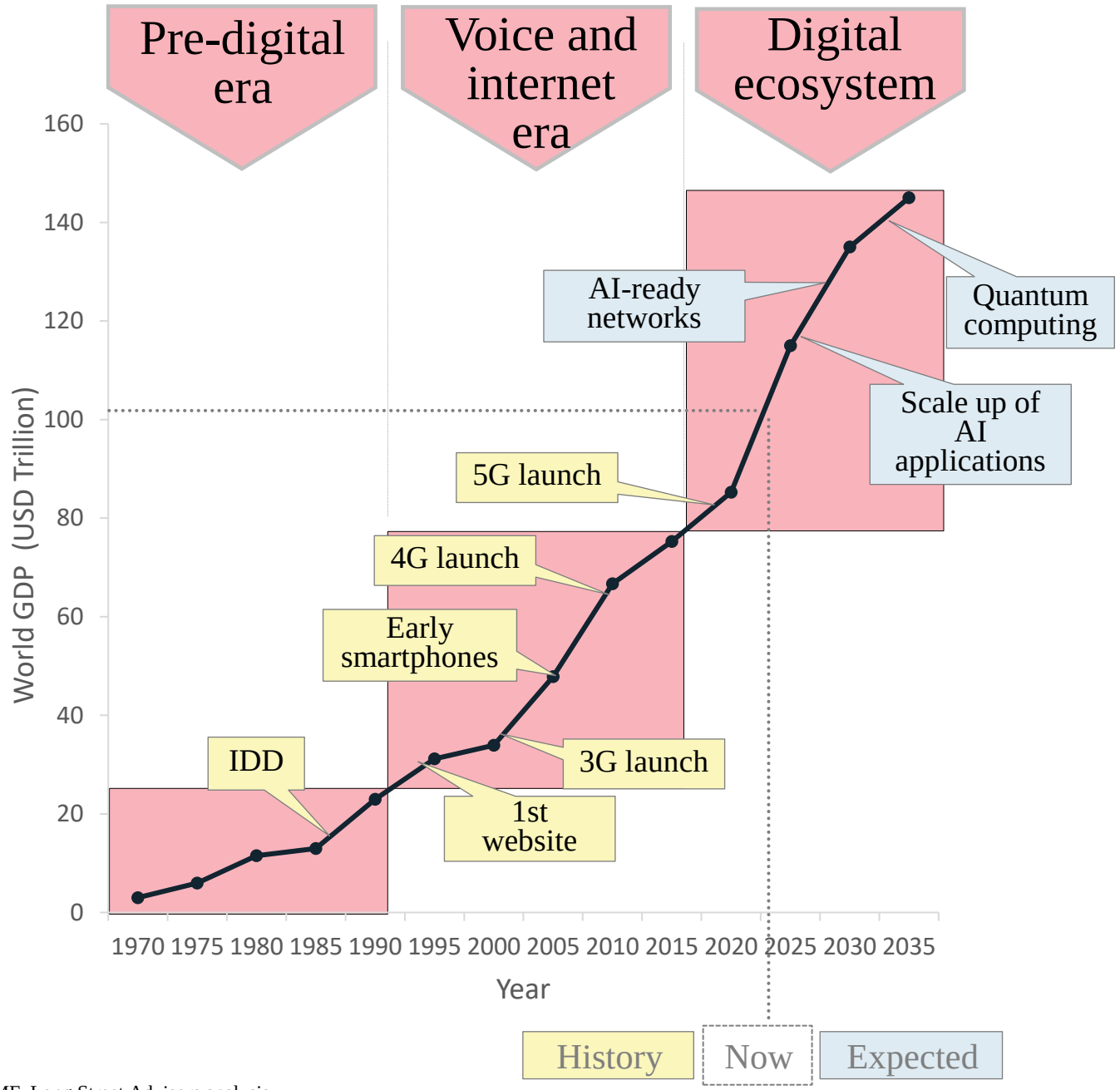
In the last 50 years, mass connectivity has revolutionized growth and facilitated widespread use and adoption… however the journey is not over



Source: IMF, Long Street Advisors analysis

Nations are passing from a pre-digital era to digitisation: we refer to these as Taxi, Runway and Take Off stages

Technological features of pre-digital to digitised eras of connectivity

Taxi

Basic Web Browsing, Voice, Text & Email

Standard Definition Video Streaming

Online Gaming can be affected by delay

Video calls might experience some lag

2G + 3G
Voice and basic internet era

Runway

Smooth web browsing, faster downloads and music streaming

HD Video Streaming

Real-time gaming and video conferencing with minimal delay

High speed data applications perform well

4G
Multimedia streaming era

Take Off

Ultra-fast web browsing

4k/8k Video Streaming

Cloud-based gaming

Ultra-Reliable Low Latency Communications

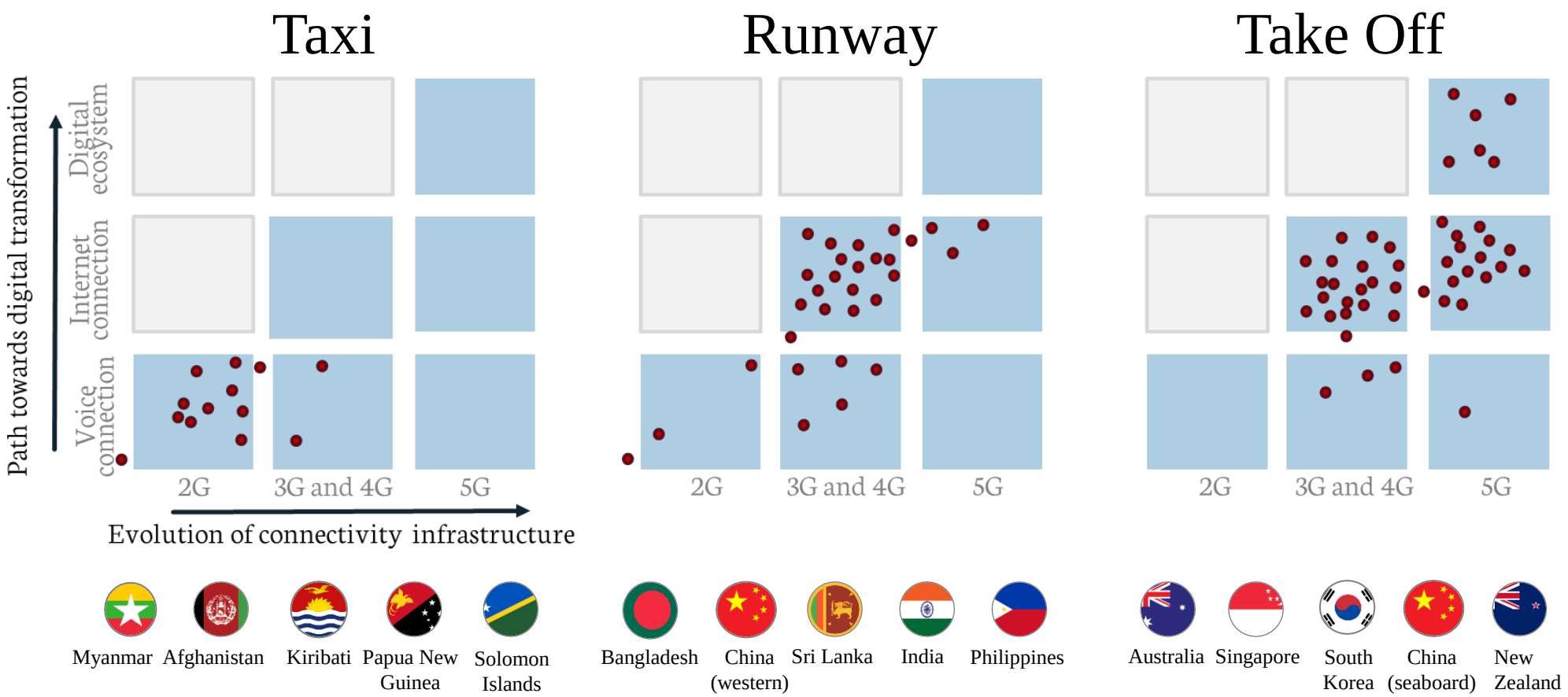
Massive Machine-Type Communication

Enhanced Mobile Broadband

5G and beyond
Digital ecosystem era

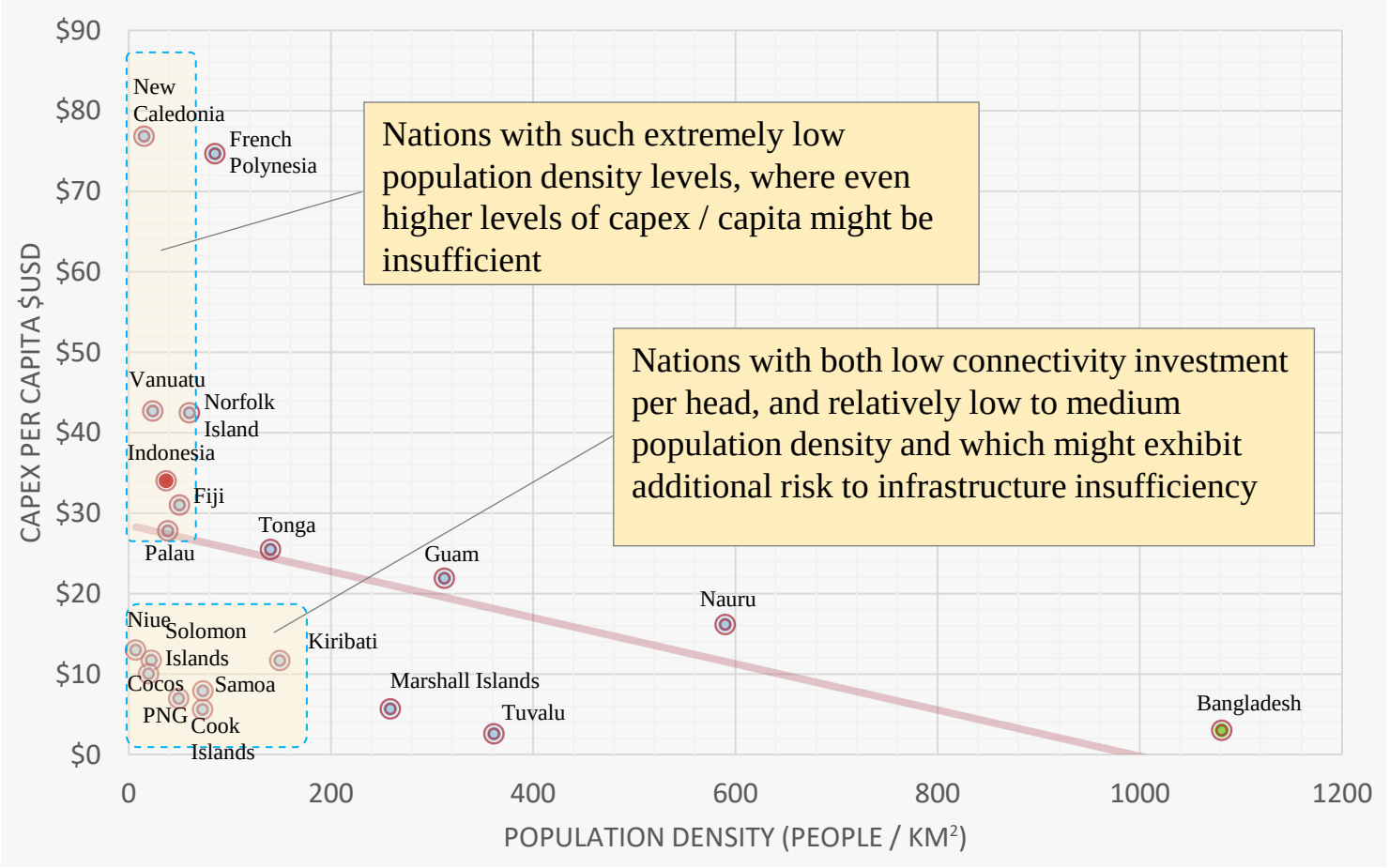
Source: Long Street Advisors Taxi, Runway, Take-Off framework

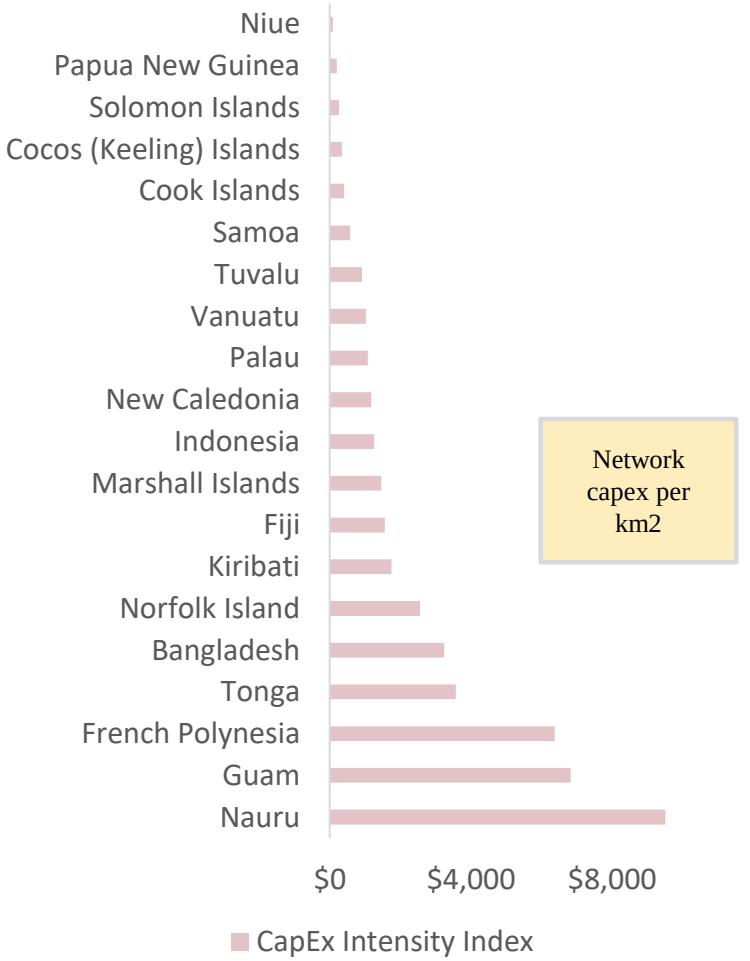
Most developing nations are still on the taxiway or runway for digitisation; inclusion policy must target those left behind



Source: IMF, Long Street Advisors analysis

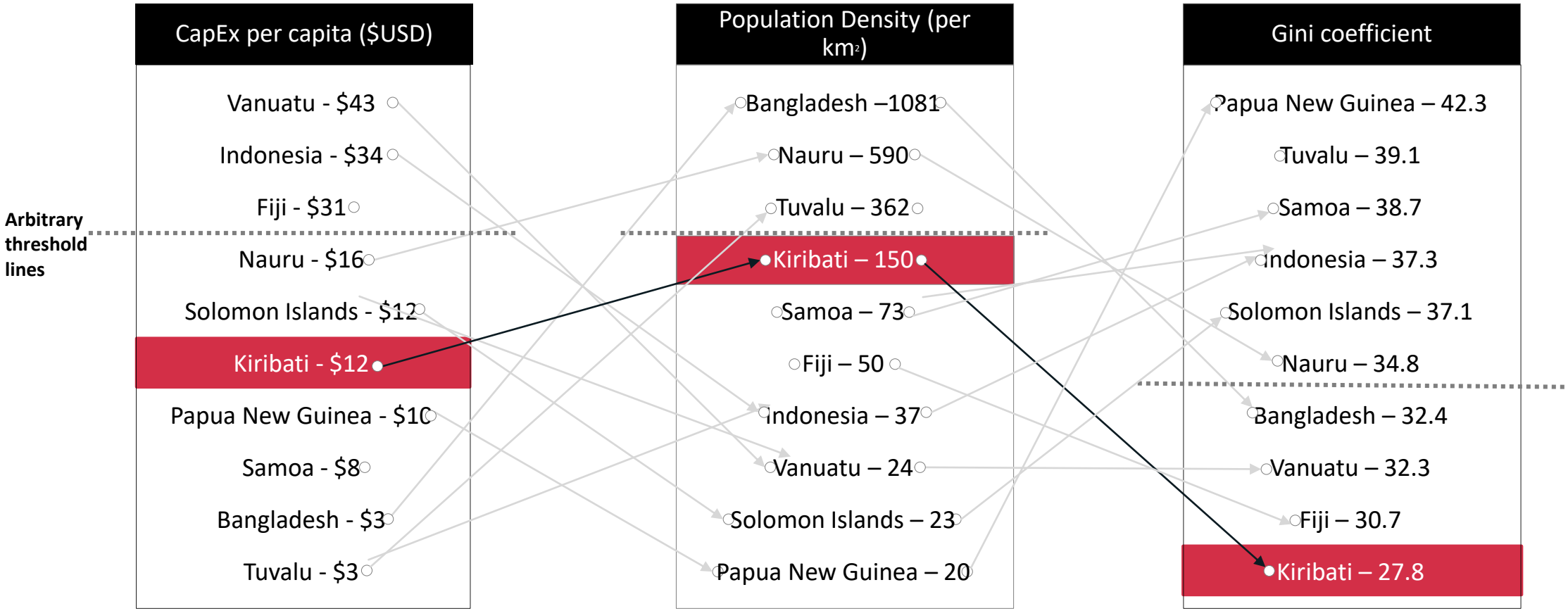
Connectivity investment across the Pacific increases as population density drops, but not sufficiently enough for inclusion





Note: CapEx intensity index calculated as CapEx per capita * population density. Data based on 2010-2023.
Source: GSMA Intelligence, Long Street Advisors analysis

Some Pacific citizens might face a “triple whammy” of low population density, low network investment per head and poor income distribution



Note: Data based on 2010-23; Gini coefficient for nations is measured in multiple years but is assumed to be relatively stable over time

Source: GSMA Intelligence, World Bank, Long Street Advisors analysis

Globally, there is work to do democratise data access and empower individuals with equal opportunity

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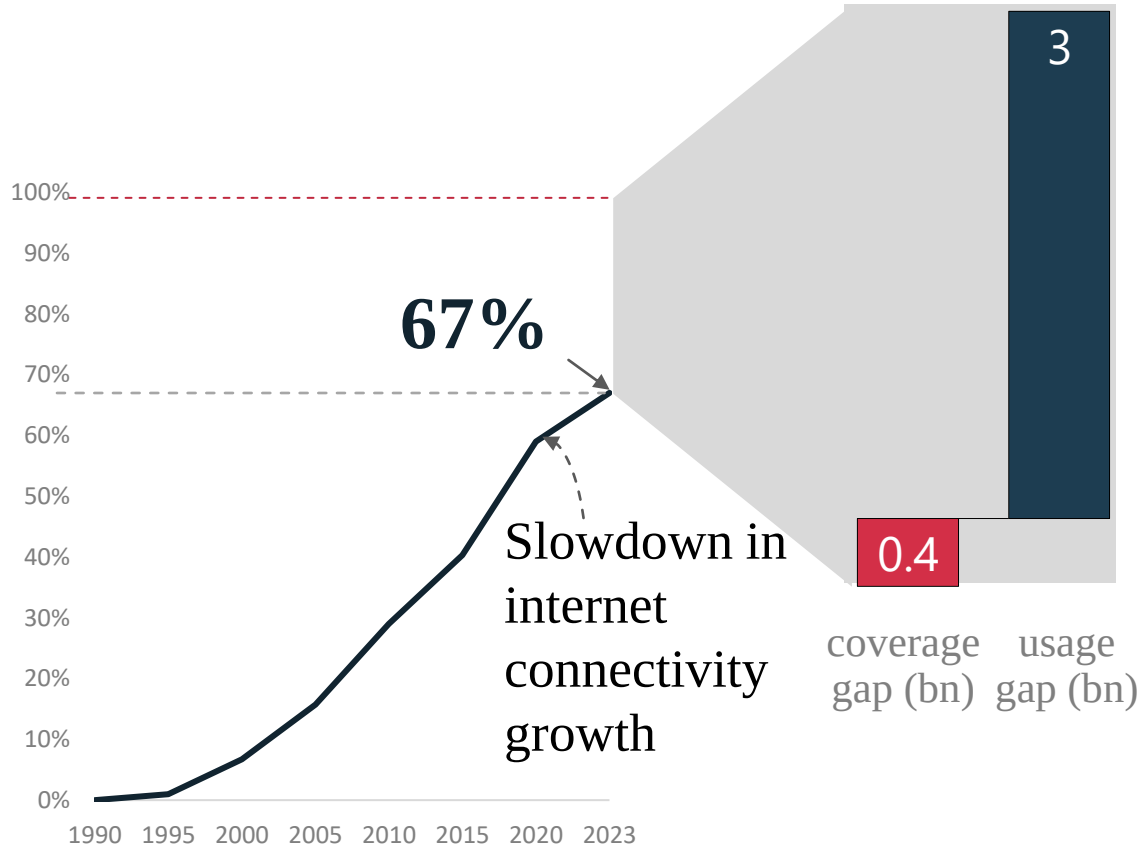
Individuals using the internet, world 1990-2023, % share of world population



Source: GSMA

To service future data demand and build modern networks, significant investment is required

Asia Pacific digital infrastructure gaps
USD, next decade

Australia	S/SEA developing
$15bn	$150bn

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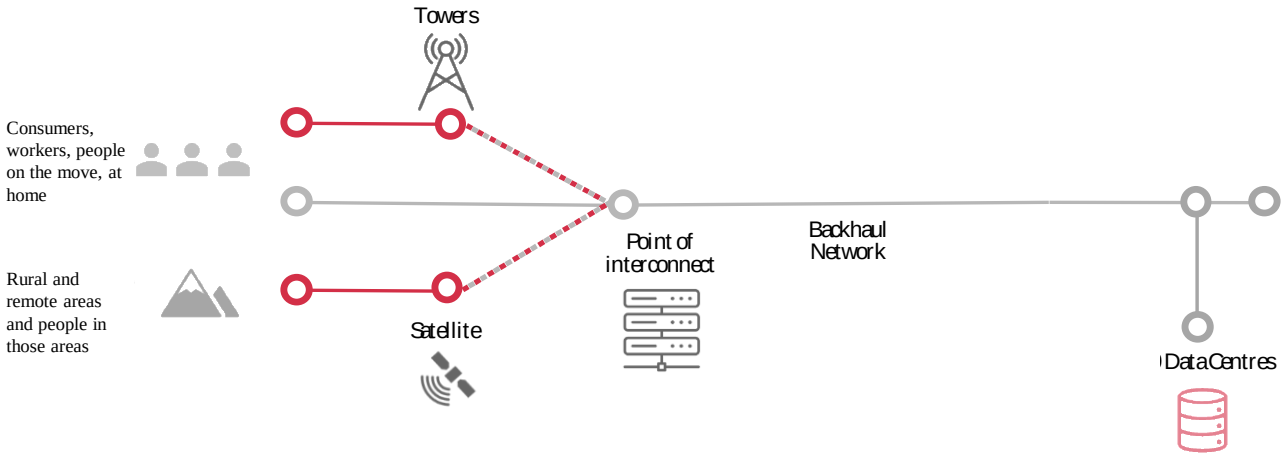
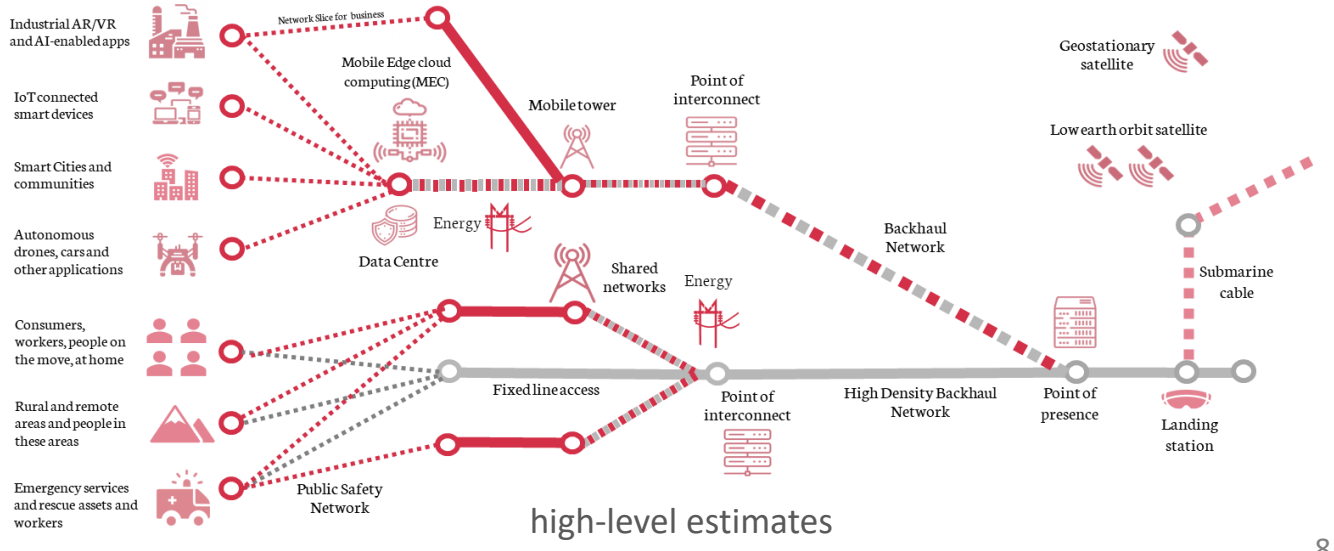
Past: Basic Internet Connectivity



Future: Advanced Internet Connectivity



high-level estimates

Source: Long Street Advisors analysis

Looking forward, AI will create new data complexity, as well as unprecedented pressure on energy systems

Increased Network Complexity (in GB)

Energy

Increased energy requirements as AI demand surges

The compute power required for AI is doubling every 100 days.

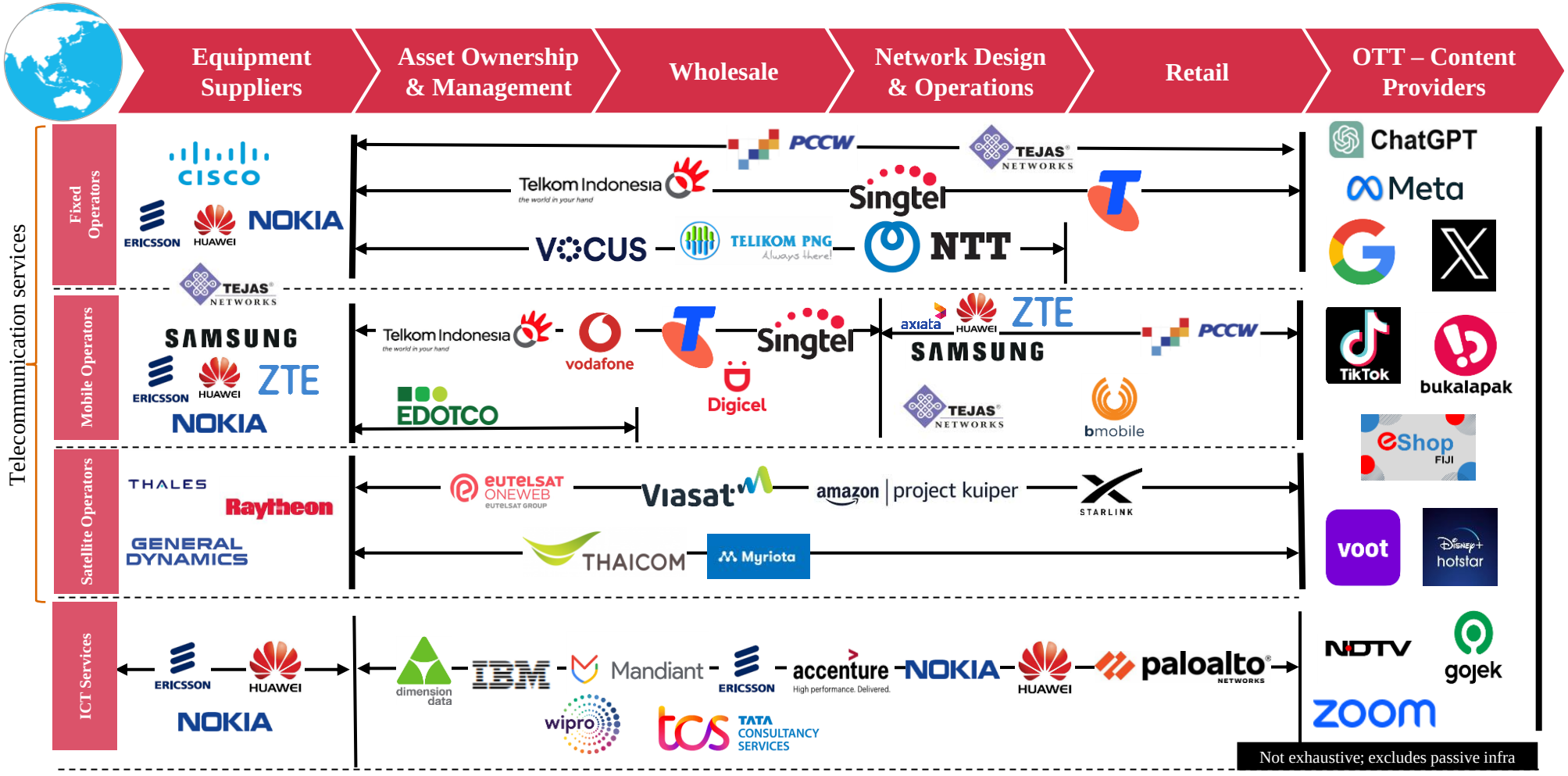
ChatGPT based search could increase electricity demand by **10 terawatt-hours a year**

Globally, the **demand for water for AI could reach half the UK's water demand by 2027**

By 2027 AI servers could use between 85 to 134 terawatt hours annually, similar to Argentina or Sweden's usage in a year

Source: Ericcson, ITU, World Economic Forum, Vox, Nature, New York Times

The fragmented nature of digital infrastructure poses data governance, regulation and standards challenges



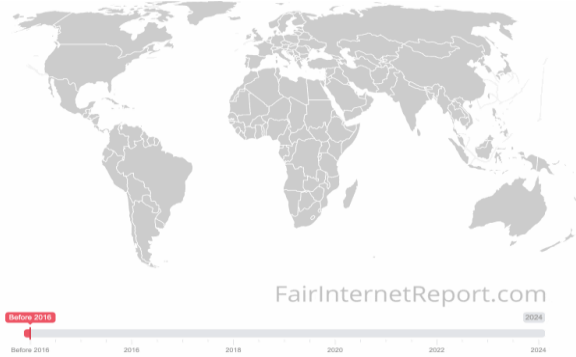
Source: Long Street Advisors analysis

Pacific Islands are especially exposed to data governance risks due to reliance on submarine cables and satellite connectivity

Microsoft

Datacentre locations & owned routes

Meta



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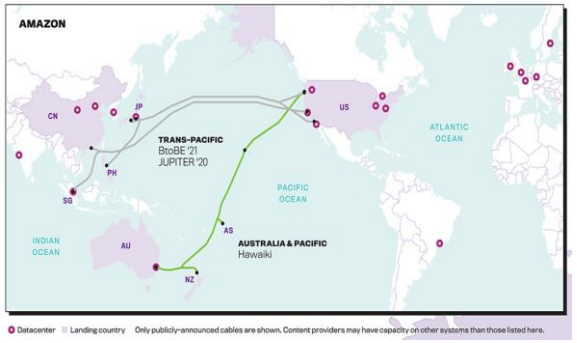
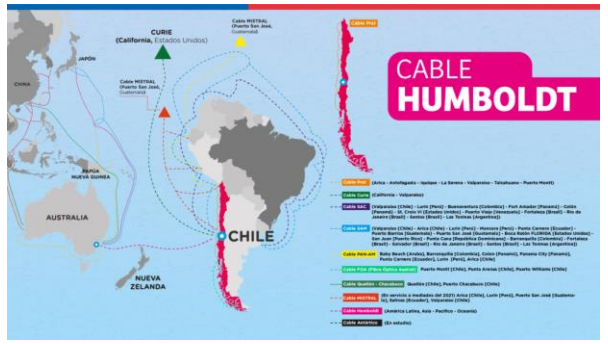
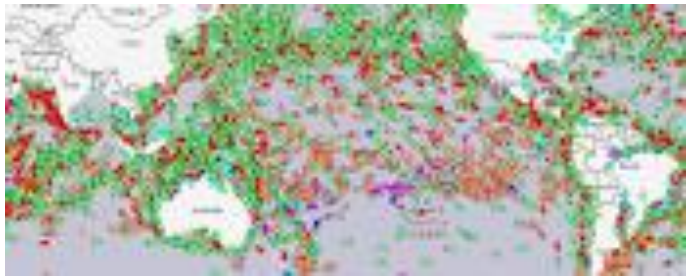


Google



GEO and LEO satellite connected maritime vessels



Source:: marinetraffic.com

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Digital infrastructure lies at the heart of digitisation and data transmission and is necessary (but not sufficient)

Economy

Digital connectivity is essential to a **productive** and competitive economy

Society

Digital connectivity is essential to **including** all people

Government

Digital connectivity is essential for government services to be **accessible**

Nation

Digital connectivity is essential to **safeguard** freedoms and national security

Source: Long Street Advisors Meaningful Digitisation Framework ™

Thank You

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