Geospatial Knowledge Infrastructure: Empowering Next-Generation Digital Economy
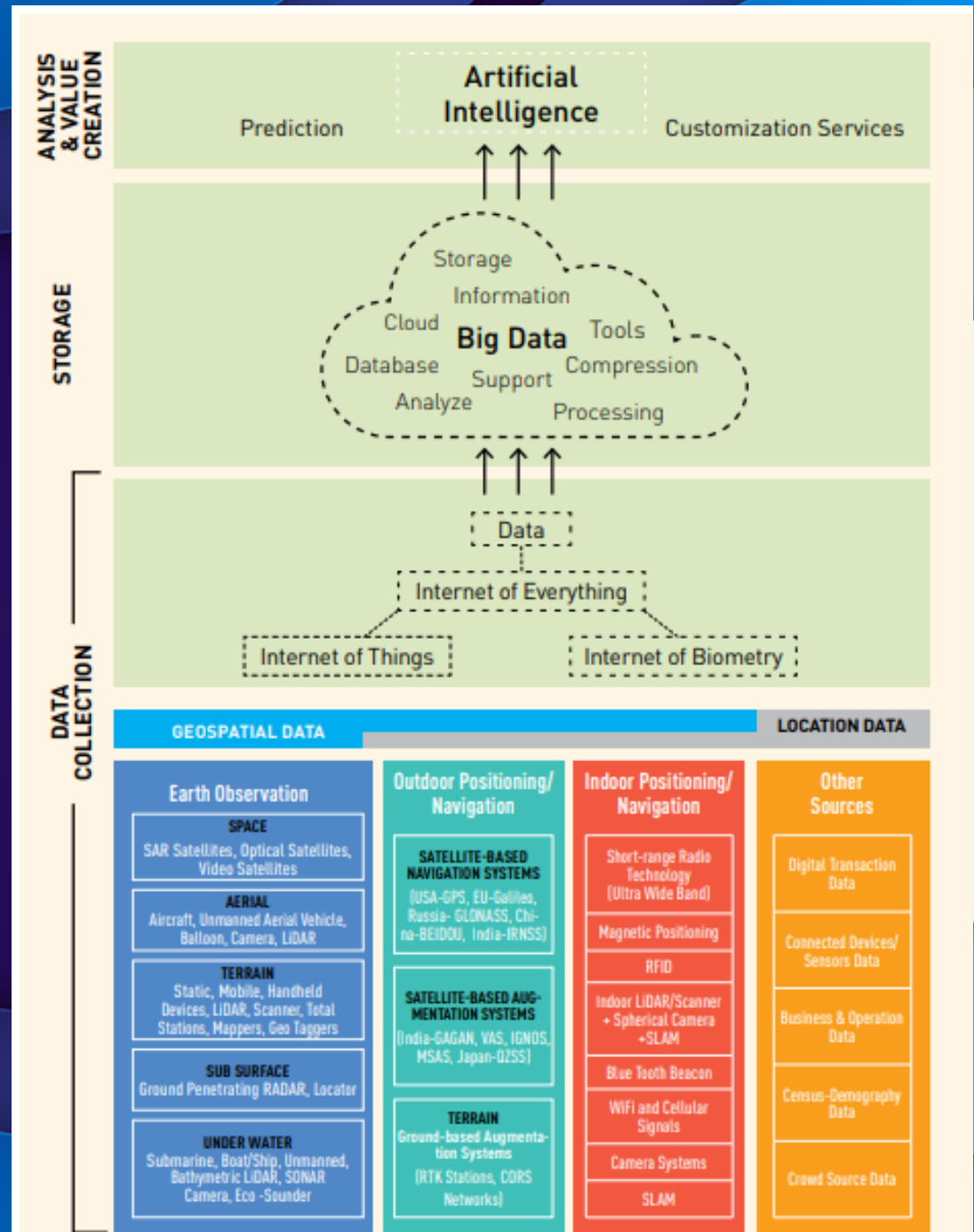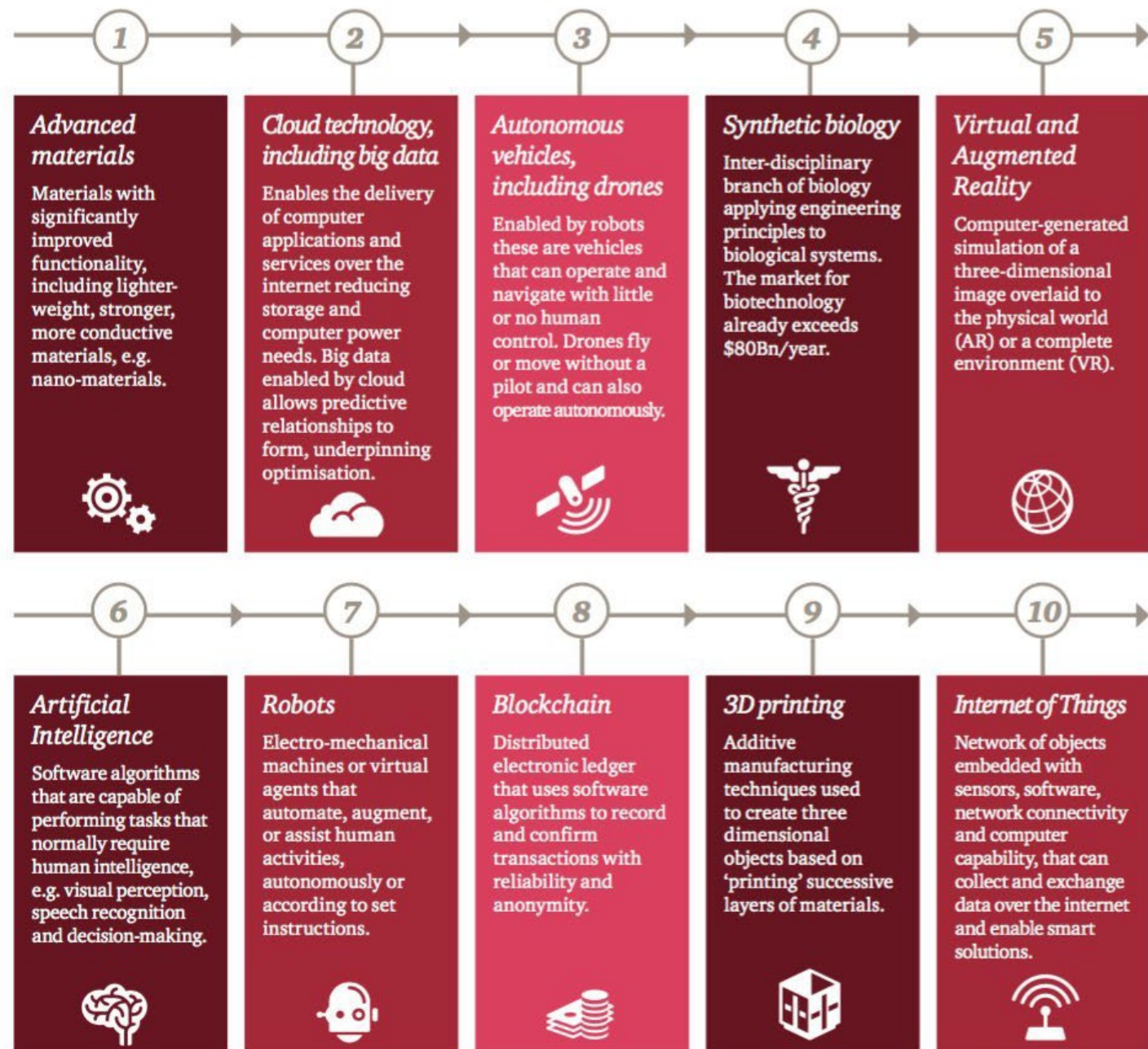
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Geospatial data: fuel to data economy

- Data-driven innovation is a key enabler of growth and jobs
- Data is also recognized as the most critical asset for advancing new technologies such as Artificial Intelligence and the Internet of Things.

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4IR creating new opportunities in geospatial industry

1 Advanced materials
Materials with significantly improved functionality, including lighter-weight, stronger, more conductive materials, e.g. nano-materials.

2 Cloud technology, including big data
Enables the delivery of computer applications and services over the internet reducing storage and computer power needs. Big data enabled by cloud allows predictive relationships to form, underpinning optimisation.

3 Autonomous vehicles, including drones
Enabled by robots these are vehicles that can operate and navigate with little or no human control. Drones fly or move without a pilot and can also operate autonomously.

4 Synthetic biology
Inter-disciplinary branch of biology applying engineering principles to biological systems. The market for biotechnology already exceeds $80Bn/year.

5 Virtual and Augmented Reality
Computer-generated simulation of a three-dimensional image overlaid to the physical world (AR) or a complete environment (VR).

6 Artificial Intelligence
Software algorithms that are capable of performing tasks that normally require human intelligence, e.g. visual perception, speech recognition and decision-making.

7 Robots
Electro-mechanical machines or virtual agents that automate, augment, or assist human activities, autonomously or according to set instructions.

8 Blockchain
Distributed electronic ledger that uses software algorithms to record and confirm transactions with reliability and anonymity.

9 3D printing
Additive manufacturing techniques used to create three dimensional objects based on 'printing' successive layers of materials.

10 Internet of Things
Network of objects embedded with sensors, software, network connectivity and computer capability, that can collect and exchange data over the internet and enable smart solutions.

Source: PwC analysis

source pwc via @mikequindazzi

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The world is changing so a new vision

4IR is driving new behaviours, collaborations and policies

4IR value lies in innovation, knowledge & disruption.

Use of digital transformation, technology and data to meet 'a deeper, faster and more ambitious response' to intensifying Global challenges.

Users are looking for, and expecting increasingly immersive and on-demand answers, services and experiences

Foundation geospatial information through real-time positioning, sensors, connectivity and automated processing

Companies are already delivering geospatial knowledge

Geospatial Knowledge Infrastructure (GKI)

Provides the critical geospatial component to knowledge and automation. It integrates geospatial concepts, technologies and information with societal and technological change as part of the much wider digital ecosystem.

Geospatial Dimension to the Data Ecosystem

Value Measurement

Transparency

Open Positioning Infrastructure

Semantic Web

Linked Data

Real-Time Processing

Integrated Standards

Foundation Data Infrastructure

Global Geodetic Reference Framework

Automated data processing and sharing

Continuously Maintained Fundamental Geospatial Information

Earth Observation and Ocean Survey

Allied Information Enterprise

Digital Twin

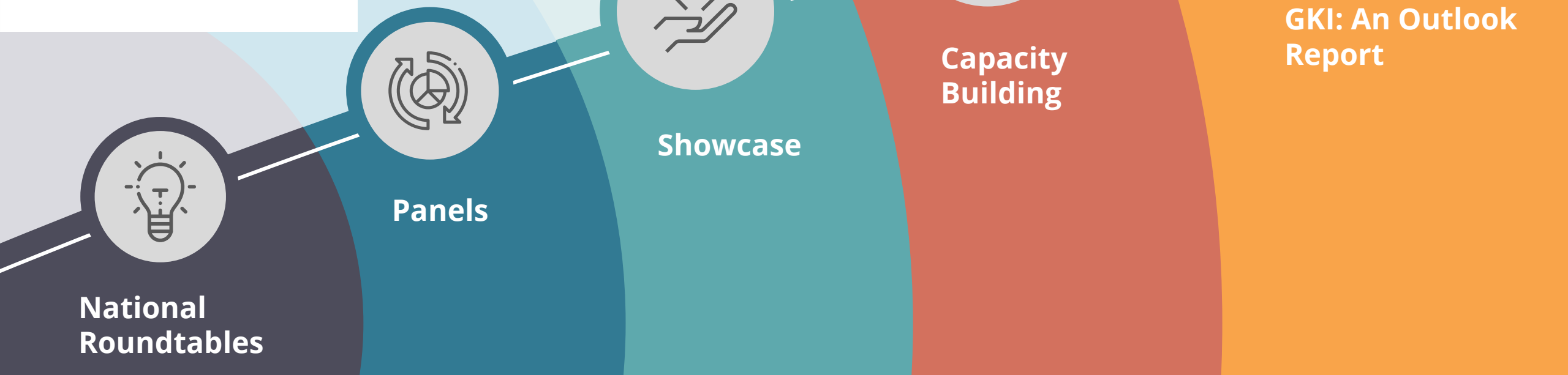Real-time data integration

Knowledge Services

Integrated Policy Framework

Government Role

Aligned Governance

Integrated Core Geospatial Policies

Government Policy Alignment

Global Policy Alignment

Open Data

Data and analytical ethics and law

Digital Education

Industry Ecosystem

Data Economy

Investment

Innovation, Research and Development

Diversity and Professional Development

Global Village

Partnerships and Collaborations

Knowledge Stakeholders

Geospatial Knowledge Co-creation

Government Industry Partnerships

Citizen Partnership

Collaborative Innovation

Applications, Analytics and Modelling

User Applications

Predictive Analytics, Modelling and Simulation

Knowledge Representation

United Nations Integrated Geospatial Information Framework

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Advancing Role of Geospatial Knowledge Infrastructure in World Economy, Society and Environment

National Roundtables

Panels

Showcase

Capacity Building

GKI: An Outlook Report

Jointly Organized by

Strategic Partners

GEOSPATIAL media + communications

United Nations Statistics Division

USGS science for a changing world

JRC EUROPEAN COMMISSION

GEONOVUM

brgm

Trimble.

SLA SINGAPORE LAND AUTHORITY

Spatial Vision

WOOLPERT ARCHITECTURE | ENGINEERING | GEOSPATIAL

WGIC World Geospatial Industry Council

CEPAL

FES FOUNDATION FOR ECOLOGICAL SECURITY

ICIMOD

NIAS

Thank you...

More details on:
https://geospatialmedia.net/gki-campaign.html