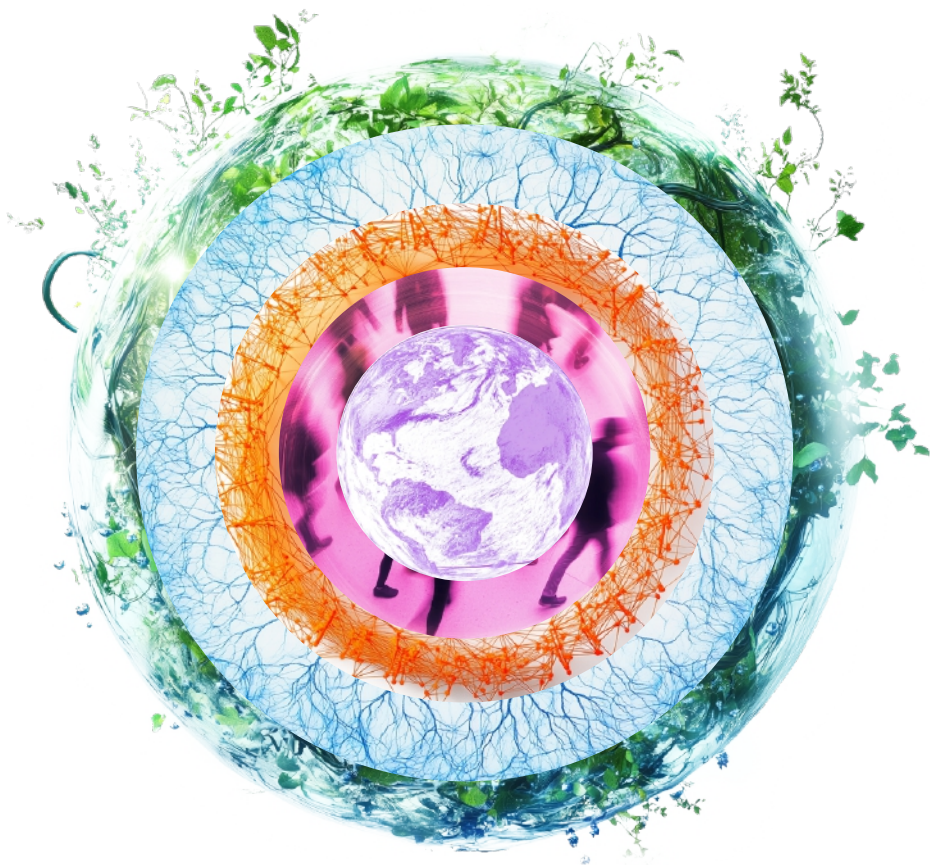




مؤسسة دبي للمستقبل  
DUBAI FUTURE FOUNDATION



FUTURE OPPORTUNITIES REPORT

# THE GLOBAL 50

2025

S U M M A R Y



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[www.dubaifuture.ae/the-global-50](http://www.dubaifuture.ae/the-global-50)



# Introduction

In its fourth edition, The Global 50 continues to focus on the future through the lens of growth, prosperity and well-being.

We also explore the key pillars that make up our view of the future and share 50 new opportunities that cover ways to adapt, disrupt and innovate for future growth, prosperity and well-being. With the 50 opportunities in each of the 2022, 2023 and 2024 editions of The Global 50, readers now have 200 opportunities to consider that could inspire over 1,000 ideas and initiatives – be they economic, legal, societal, technological or a combination of all four.

The next 50 years are set to bring both opportunities and challenges for all generations. By exploring potential futures and imagining new possibilities, we can take proactive steps to navigate uncertainties, benefit from the opportunities and mitigate the risks.

This is a summary highlighting the 50 opportunities from the 2025 report.

To access the complete report, and other Global 50 related reports, please visit the Dubai Future Foundation website.

[www.dubaifuture.ae/the-global-50](http://www.dubaifuture.ae/the-global-50)



# The 50 Opportunities

## Health Reimagined

01. Sense and Serenity
02. Viral Solution
03. Power Fungi
04. Organ Map
05. Mindscape
06. Alg-Air Purifier
07. Nanomedicine Over the Edge
08. Game-Changing Link
09. Breath of Intelligence

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## Societies Empowered

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# Navigating the Opportunities

The opportunities shared in this report are not exhaustive – they present just some of the potential pathways to future growth, prosperity, and well-being. Some opportunities may seem more relevant than others and some contexts will have the conditions in place to share in the benefits while others may not. Similarly, the risks associated with some opportunities might not be limited to those countries or organisations acting on them, as risks often travel faster than benefits. The main purpose of these opportunities is to inspire ideation and innovation, illustrating foresight in action and empowering creative thinking by offering readers multiple ways to explore each opportunity including uncertainties, megatrends, trends, technologies, sectors and keywords.

Each opportunity includes **a question for the future** with a **brief description** that succinctly covers the essential aspects of the opportunity. Additionally, for each opportunity we include a **scope** that is either ‘within reach’, the opportunity is likely to be relevant within two to three years, assuming the necessary conditions, systems and technologies are in place. Where ‘transitional’ is specified, the opportunity is likely to be relevant within 10 years and is tied to advances in technology, and other conditions and enablers. Where ‘visionary’ is specified, the opportunity is likely to be relevant beyond 10 years, either because it will depend on technologies that are still in the early stages of development or because it is part of a complex system of drivers and other factors.



# A guide to navigating the opportunities

**Category** — Health Reimagined

**Question for the future** — What if personalised sights and sounds offered stress relief and wellness on demand?

**Opportunity title** — **Sense and Serenity** 01

**Scope** (Futures within reach, transitional, visionary) — Within Reach **Transitional** Visionary

**Opportunity** — On-demand sensory experiences activated through brain waves, offer immediate anxiety and stress relief tailored to each person's needs, promoting accessible, adaptive mental wellness support.

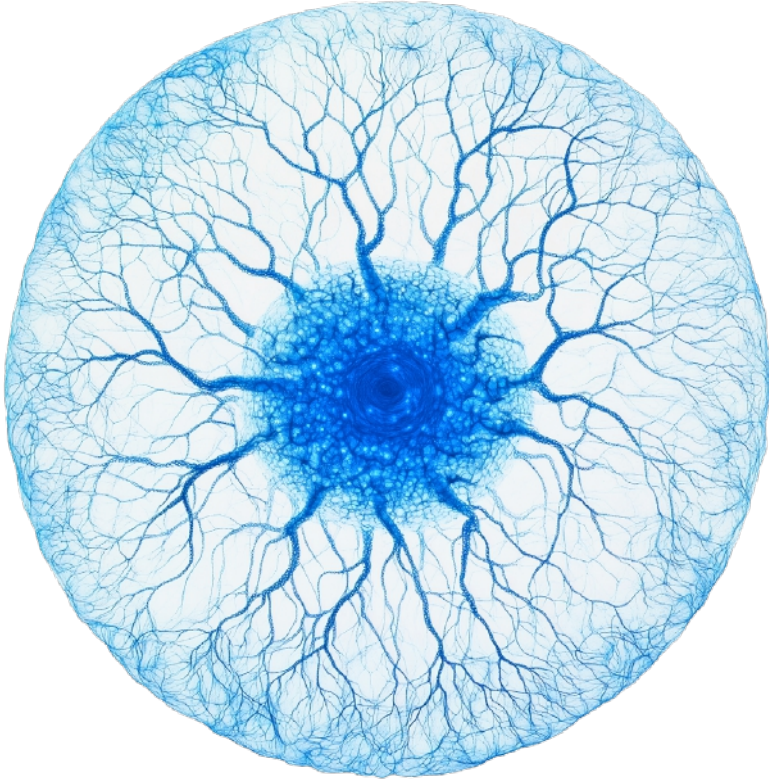
**Uncertainty** — **UNCERTAINTIES**  
Technology, Values

**Most significant Megatrend** — **MEGATRENDS**  
Advanced Health and Nutrition

**Technologies** — **TECHNOLOGIES**  
Brain-Computer Interfaces (BCI)  
Health Tech  
Immersive Technologies & Wearables

**Trends** — **TRENDS**  
Longevity & Vitality  
Mental Health  
Neuroscience  
Precision/Personalised Medicine

6 The Global 50 (2025)



# Health Reimagined

Redefine mental and physical health, support longer lives, drawing on science, technology, and nature towards better health and new ways to personalise access for individuals and communities everywhere.



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## What if personalised sights and sounds offered stress relief and wellness on demand?

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# Sense and Serenity

01

Within Reach

**Transitional**

Visionary

On-demand sensory experiences activated through brain waves offer immediate anxiety and stress relief tailored to each person's needs, promoting accessible, adaptive mental wellness support.

### UNCERTAINTIES

Technology, Values

### MEGATRENDS

Advanced Health and Nutrition

### TECHNOLOGIES

Brain-Computer Interfaces (BCI)

HealthTech

Immersive Technologies & Wearables

### TRENDS

Longevity & Vitality

Mental Health

Neuroscience

Precision/Personalised Medicine







## What if viruses eliminated the need for antibiotics?

# Viral Solution

02

Within Reach

**Transitional**

Visionary

Bioengineered viruses serve as a form of precision treatment for bacterial infections, eradicating antibiotic-resistant infections and eliminating the need for antibiotics.

### UNCERTAINTIES

Technology, Values

### MEGATRENDS

Advanced Health and Nutrition

### TECHNOLOGIES

Biotechnology

Nanomedicine

Real-Time Analytics

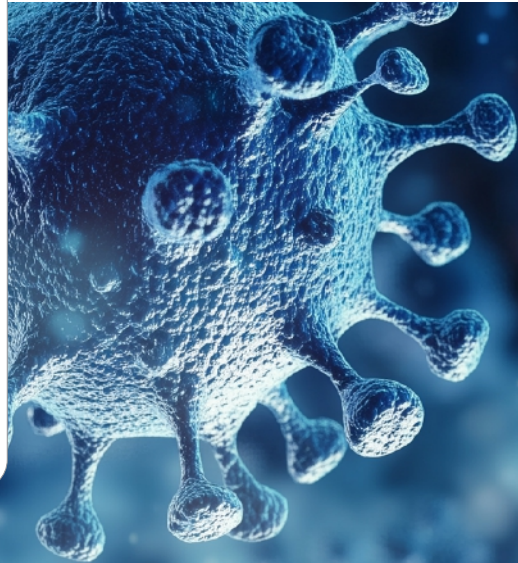
### TRENDS

Communicable & Non-communicable Diseases

Genomics

Longevity & Vitality

Precision/Personalised Medicine





## What if fungal fuel cells powered medical devices in remote communities?

# Power Fungi

03

Within Reach

**Transitional**

Visionary

Bioelectricity generated by fungi powers small medical devices in remote areas, letting doctors check on patients even where there are limited sources of micropower, allowing advanced monitoring capabilities in previously unreachable areas.

### UNCERTAINTIES

Nature, Technology

### MEGATRENDS

Materials Revolution

### TECHNOLOGIES

Fuel Cells

HealthTech

Sensor Technologies

### TRENDS

Biomimetics

Communicable & Non-communicable

Diseases

Longevity & Vitality

Mobilising Innovation





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## What if a small blood sample could predict and prevent organ failure?

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### Organ Map

04

Within Reach

**Transitional**

Visionary

Advances in mass spectrometry and plasma proteomics make it possible to identify – with a small blood sample – organ-specific age, enabling personalised medicine and early health interventions.

#### **UNCERTAINTIES**

Technology, Values

#### **MEGATRENDS**

Materials Revolution

#### **TECHNOLOGIES**

Analytical Methods and Technologies

Genomics

Open Data

#### **TRENDS**

Communicable & Non-communicable

Diseases

Longevity & Vitality

Precision/Personalised Medicine

Proteomics





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## What if a focus on early brain health provided cognitive health for life?

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# Mindscape

05

Within Reach

Transitional

Visionary

Early integration of cognitive health in education and youth-focused public policy helps build cognitive reserve for lifelong mental resilience, reduced dementia risk, and cognitive health in later years.

### UNCERTAINTIES

Systems, Technology

### MEGATRENDS

Advanced Health and Nutrition

### TECHNOLOGIES

Artificial Intelligence

Brain-Computer Interfaces (BCI)

HealthTech

### TRENDS

Longevity & Vitality

Neuroscience

Precision/Personalised Medicine





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## What if algae-powered air purification made indoor air cleaner and healthier?

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# Alg-Air Purifier

06

Within Reach

**Transitional**

Visionary

Powered by the Sun's rays or LED lighting, algal bioreactors regulate and purify indoor air, removing microorganisms and reducing respiratory issues.

### UNCERTAINTIES

Nature, Technology

### MEGATRENDS

Evolving Ecosystems

### TECHNOLOGIES

Biotechnology

Climate Tech

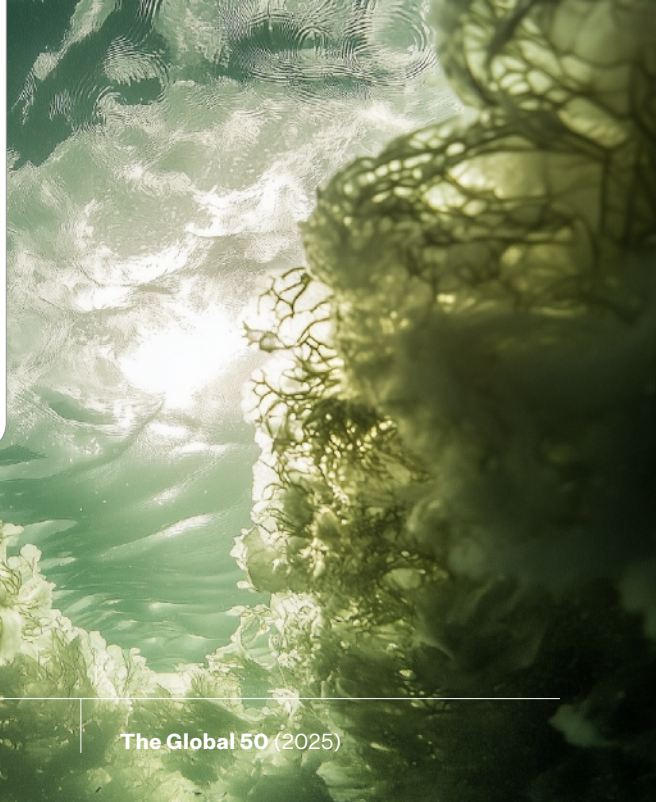
Internet of Things (IoT)

### TRENDS

Biomaterials

Carbon Capture & Storage

Tackling Air Pollution





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## What if nanomedicine made the leap from potential to reality?

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# Nanomedicine Over the Edge

07

Within Reach

**Transitional**

Visionary

Advanced machine intelligence, open data, and genomic research unlock nanomedicine's potential by solving critical toxicity challenges, enabling advances in precision medicine.

### UNCERTAINTIES

Technology, Values

### MEGATRENDS

Materials Revolution

### TECHNOLOGIES

Artificial Intelligence

Nanomedicine

Real-Time Analytics

### TRENDS

Bioinformatics

Biotechnology

Longevity & Vitality

Open Data

Precision/Personalised Medicine



## What if sports analytics improved public health?

# Game-Changing Link

08

Within Reach

**Transitional**

Visionary

Sports analytics integrates with public health through a secure data sharing platform, revealing links between fitness trends, injuries, physical activity patterns and health outcomes, and enabling breakthroughs in public health policy and targeted health interventions.

### **UNCERTAINTIES**

Systems, Technology

### **MEGATRENDS**

Boundless Multidimensional Data

### **TECHNOLOGIES**

Artificial Intelligence

Open Data

Real-Time Analytics

### **TRENDS**

Big Data

Cross-Sectoral Partnerships

Longevity & Vitality

Open Data

Precision/Personalised Medicine





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## What if a single breath diagnosed communicable diseases and automatically triggered treatment?

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# Breath of Intelligence

09

Within Reach

**Transitional**

Visionary

Autonomous nanobiomaterial-based breath diagnostics enable rapid and precise detection of communicable diseases, automatically initiating personalised treatment.

### UNCERTAINTIES

Systems, Technology

### MEGATRENDS

Advanced Health and Nutrition

### TECHNOLOGIES

Artificial Intelligence

Biotechnology

Nanotechnology

### TRENDS

Bioinformatics

Biomaterials

Mobilising Innovation

Neuroscience

Precision/Personalised Medicine







# Nature Restored

Minimise environmental risks and harness nature's capacity to restore itself or have a positive impact on crucial environmental ecosystems and habitats, creating a more stable, healthier planet for all.



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## What if we truly connected with nature?

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# The Feel of Nature

10

Within Reach

**Transitional**

Visionary

Touchless haptic technology uses ultrasonic waves and smart sensors to convert environmental data into mid-air sensations, creating immersive, real-time and tangible connections that enhance awareness of nature.

### UNCERTAINTIES

Nature, Technology

### MEGATRENDS

Boundless Multidimensional Data

### TECHNOLOGIES

Edge Computing  
Immersive Technologies & Wearables  
Internet of Things (IoT)

### TRENDS

Community-Based Solutions  
Human–Machine  
New Materials  
Air Pollution





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**What if self-evolving microhabitats restored biodiversity in urban spaces while adapting to changing needs?**

---

## Living Gardens

11

Within Reach

**Transitional**

Visionary

4D-printed microhabitats in gardens dynamically respond to environmental and biodiversity changes, creating ideal conditions for plants, insects and microorganisms to grow together naturally.

**UNCERTAINTIES**

Nature, Technology

**MEGATRENDS**

Evolving Ecosystems

**TECHNOLOGIES**

4D Printing

Biomaterials

Internet of Things (IoT)

**TRENDS**

Biomimicry

New Materials

Restoration





## What if floating ecosystems naturally cleaned polluted waters?

# Floating Filters

12

Within Reach

Transitional

Visionary

As an effective nature-based solution, floating wetlands are optimally designed using advanced machine intelligence for various water networks and locations, naturally filtering polluted water networks and making them clean and safe.

### UNCERTAINTIES

Nature, Technology

### MEGATRENDS

Evolving Ecosystems

### TECHNOLOGIES

Biotechnology

Nanotechnology

### TRENDS

Community-Based Solutions

New Materials

Sustainable Waste Management





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## What if ultrasound eliminated microplastics from oceans and lakes?

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# Sonic Sweep

13

Within Reach

**Transitional**

Visionary

A chemical-free and scalable solution, ultrasonic waves remove microplastics from water, creating cleaner oceans and safer drinking water globally.

### UNCERTAINTIES

Nature, Technology

### MEGATRENDS

Evolving Ecosystems

### TECHNOLOGIES

Climate Tech

Sensor Technologies

### TRENDS

Cross-Sectoral Partnerships

Food–Water–Energy Nexus

Mobilising Innovation

New Materials

Sustainable Waste Management





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## What if quantum sensors predicted disasters and protected lives?

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# Planet Pulse

14

Within Reach

Transitional

**Visionary**

A global quantum sensor network monitors air, land and sea environments in real time, providing instant environmental data analysis and disaster prediction enabled by advanced machine intelligence and international collaboration.

### UNCERTAINTIES

Nature, Technology

### MEGATRENDS

Boundless Multidimensional Data

### TECHNOLOGIES

Edge Computing  
Artificial Intelligence  
Internet of Things (IoT)

### TRENDS

Cross-Sectoral Partnerships  
ESG & Beyond GDP  
International Collaboration  
New Materials  
Open Data



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## What if ships generated their own energy and helped reduce emissions at sea?

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# Deep-Sea Energy

15

Within Reach

Transitional

**Visionary**

Ocean-powered ships use temperature differences between surface and deep seawater to generate their own renewable energy while autonomously identifying and following optimal routes, contributing to a more sustainable future for marine transport.

### UNCERTAINTIES

Systems, Technology

### MEGATRENDS

Energy Boundaries

### TECHNOLOGIES

Artificial Intelligence

Internet of Underwater Things (IoUT)

### TRENDS

Ideation, IP & Entrepreneurship

Net Zero

Transforming Energy

Transforming Logistics





## What if calcium became the new lithium?

# Calcium Power Play

16

Within Reach

**Transitional**

Visionary

Calcium batteries outperform lithium-ion to address energy storage needs through advances in design and materials for reliable performance across temperatures and cycles.

### UNCERTAINTIES

Systems, Technology

### MEGATRENDS

Energy Boundaries

### TECHNOLOGIES

Analytical Instruments

Battery Technologies

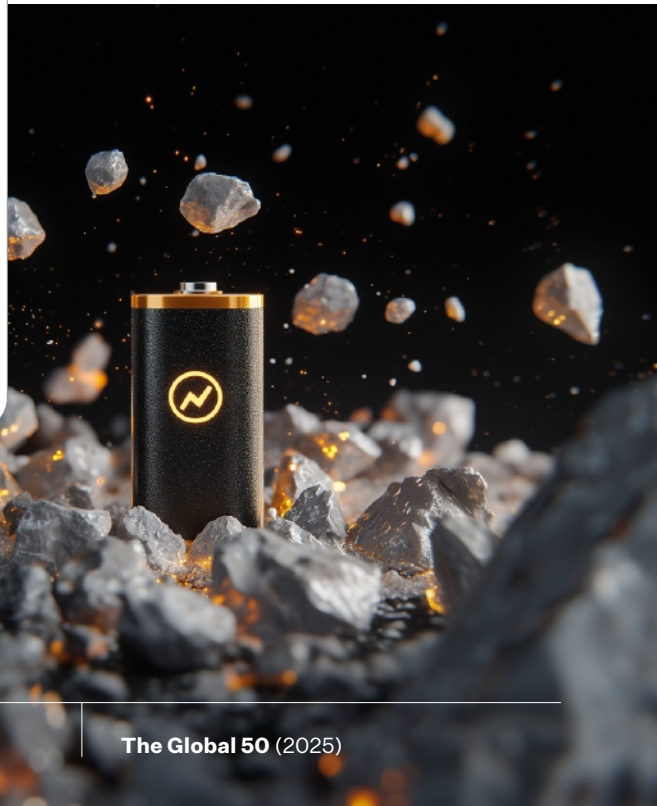
### TRENDS

ESG & Beyond GDP

Future of Raw Materials

Mobilising Innovation

New Materials







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## What if airborne wind farms became a widespread reality?

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# High Energy

17

Within Reach

**Transitional**

Visionary

Next-generation airborne wind turbines, durable and resilient to high winds, provide a new form of urban and remote energy generation by capturing energy from high-altitude winds to power future cities.

### UNCERTAINTIES

Systems, Technology

### MEGATRENDS

Energy Boundaries

### TECHNOLOGIES

Advanced Connectivity  
Energy Transformation  
Internet of Things (IoT)

### TRENDS

Cross-Sectoral Partnerships  
Net Zero  
New Materials





## What if fish waste became a great source of value?

# Fish Waste to Value

18

Within Reach

**Transitional**

Visionary

Advanced technologies and biotechnology turn fish waste collected during capture, processing and consumption, into valuable bio-based products such as fertiliser and wound-healing and cosmetic agents, enhancing efficiency in these industries and supporting sustainable fishing practices.

### UNCERTAINTIES

Nature, Systems

### MEGATRENDS

Evolving Ecosystems

### TECHNOLOGIES

Advanced Manufacturing

Biotechnology

Internet of Things (IoT)

### TRENDS

Bioeconomy

Blue Economy

Food–Water–Energy Nexus

Sustainable Waste Management





# Societies Empowered

Empower societies by offering solutions to humanity's most complex and universal needs, optimising systems they rely on, safeguarding risks that could make societies more fragile in the face of crises, and extending individual and collective potential for growth and development.



## What if humans trusted robots in the workplace?

# Robot Rapport

19

Within Reach

Transitional

Visionary

An international, cross-disciplinary research working group establishes a new model and global standards for human–robot interactions, focusing on building trust by addressing emotional responses and workplace dynamics.

### UNCERTAINTIES

Technology, Values

### MEGATRENDS

Life with Autonomous Robots  
and Automation

### TECHNOLOGIES

Automation  
Robotics

### TRENDS

Cross-Sectoral Partnerships  
Digital Communities  
Human–Robot Interactions  
International Collaboration  
Mobilising Innovation





## What if quantum theory inspired innovative solutions to global challenges?

# Quantum X

20

Within Reach

**Transitional**

Visionary

Quantum theory provides a unique way to address and unpack complex global challenges, from climate and health to urban development and logistics, inspiring a new set of innovative solutions.

### UNCERTAINTIES

Systems, Technology

### MEGATRENDS

Future Humanity

### TECHNOLOGIES

Artificial Intelligence  
Quantum Technologies

### TRENDS

Cross-Sectoral Partnerships  
Future of Purpose & Work  
Mobilising Innovation





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## What if experiencing dystopian futures inspired purposeful action towards a better future?

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# Dystopian Inspiration

21

Within Reach

Transitional

**Visionary**

Multisensory simulations of dystopian scenarios immerse decision-makers in possible futures, inspiring purposeful and collective action that shapes policies to enhance preparedness and adaptation to evolving challenges.

### UNCERTAINTIES

Systems, Values

### MEGATRENDS

Future Humanity

### TECHNOLOGIES

Artificial Intelligence  
Immersive Technologies & Wearables  
Real-Time Analytics

### TRENDS

Cross-Sectoral Partnerships  
ESG & Beyond GDP  
Government Agility  
International Collaboration  
Open Data





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## What if living meaningful lives became the new well-being?

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# Reinventing Happiness

22

Within Reach

**Transitional**

Visionary

As the world shifts towards a possible future of self-sufficient communities, eudaemonic well-being – emphasising personal growth, meaningful relationships, and collective purpose – shapes policies and institutional frameworks around a more fulfilling concept of human development.

### UNCERTAINTIES

Systems, Values

### MEGATRENDS

Future Humanity

### TECHNOLOGIES

Advanced Computing  
Advanced Connectivity  
Artificial Intelligence

### TRENDS

ESG & Beyond GDP  
Future of Education  
Future of Purpose & Work  
Longevity & Vitality  
Mental Health





## What if sustainable desalination could provide drinking water for everyone?

### Aqua Tech

GenAI

23

Within Reach

**Transitional**

Visionary

Smart, renewable desalination systems combine renewable energy and novel materials to turn seawater or groundwater into freshwater in water-scarce regions.

#### UNCERTAINTIES

Systems, Technology

#### MEGATRENDS

Evolving Ecosystems

#### TECHNOLOGIES

Climate Tech  
Nanotechnology

#### TRENDS

Biomimicry  
Cross-Sectoral Partnerships  
Food–Water–Energy Nexus  
International Collaboration  
New Materials







## What if personal algorithms let us control our digital experiences?

# My Algorithm

24

Within Reach

**Transitional**

Visionary

A personal quantum-secured algorithm empowers individuals to selectively activate or deactivate data exchange across platforms, enabling transparent and regulated digital experiences around the world and changing the way we manage our data and engage in the digital economy.

### UNCERTAINTIES

Systems, Technology

### MEGATRENDS

Digital Realities

### TECHNOLOGIES

Artificial Intelligence  
Quantum Technologies

### TRENDS

Advanced Connectivity  
Cross-Sectoral Partnerships  
Cybersecurity  
Digital Economy  
Interoperability





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## What if women attained their expectations for prosperity and well-being?

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# Women's Prosperity

25

Within Reach

Transitional

Visionary

A futures-focused women's prosperity and well-being agenda bridges gaps in subjective well-being, aligning aspirations with realities through multidimensional, data-driven approaches informed by global experiences, ushering in a new era for women and creating positive spillover effects that benefit everyone.

### UNCERTAINTIES

Collaboration, Values

### MEGATRENDS

Future Humanity

### TECHNOLOGIES

Artificial Intelligence

Open Data

Real-Time Analytics

### TRENDS

ESG & Beyond GDP

Future of Education

Future of Purpose & Work

International Collaboration

Mobilising Innovation





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## What if video games improved mental and physical health?

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# Healthy Play

26

Within Reach

**Transitional**

Visionary

Physical and mental well-being become the core of the video gaming ecosystem, unlocking gaming's potential to uplift society through research-backed insights that address well-being and support better health.

### UNCERTAINTIES

Technology, Values

### MEGATRENDS

Future Humanity

### TECHNOLOGIES

Artificial Intelligence  
Data Protection & Privacy  
Immersive Technologies & Wearables

### TRENDS

Digital Art & Design  
Digital Therapeutics  
Gaming & Entertainment  
Mental Health  
Neuroscience





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## What if our survival depended on smart, climate-resilient households?

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# Climate Ready

27

Within Reach

Transitional

Visionary

Individuals and households actively adapt to climate shifts, safeguarding their well-being and assets through tailored resilience and disaster preparedness plans informed by real-time data and advanced machine intelligence, enhancing climate resilience and contributing to community-wide climate adaptation.

### UNCERTAINTIES

Nature, Technology

### MEGATRENDS

Evolving Ecosystems

### TECHNOLOGIES

Artificial Intelligence

Data Protection & Privacy

Immersive Technologies & Wearables

### TRENDS

Community-Based Solutions

Government Agility

Mobilising Innovation

Open Data





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## What if long-term uncertainty became the greatest investment opportunity?

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# A Catalyst for Common Good

28

Within Reach

Transitional

Visionary

A global equity fund tackles humanity's greatest long-term challenges by combining decentralised governance for transparency with multilateral development bank capital to scale breakthrough innovations for climate, energy, food and water security.

### UNCERTAINTIES

Collaboration, Systems

### MEGATRENDS

Future Humanity

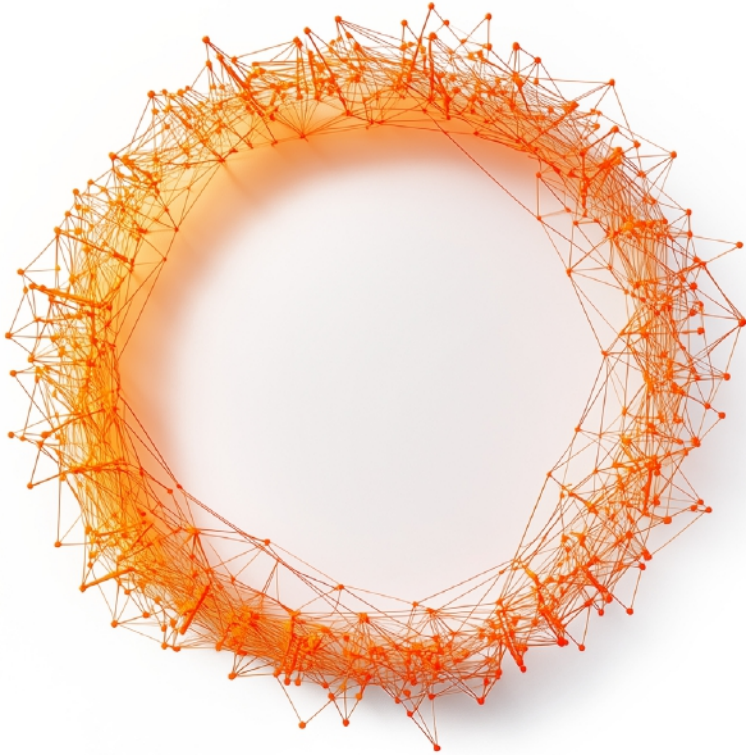
### TECHNOLOGIES

Decentralised Autonomous Organisations  
Fintech

### TRENDS

Community-Based Solutions  
Cross-Sectoral Partnerships  
ESG & Beyond GDP  
International Collaboration  
Mobilising Innovation





# Systems Optimised

Improve and build more effective and resilient systems underpinning advances in services and solutions at various levels of business, government and society.



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## What if new materials provided sustainable cooling solutions in a warming world?

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# Cool Materials

29

Within Reach

Transitional

**Visionary**

Advanced cooling systems with nanoengineered materials dynamically adapt to temperature changes, reducing air-conditioning needs and enhancing efficiency of cooling solutions.

### UNCERTAINTIES

Systems, Values

### MEGATRENDS

Materials Revolution

### TECHNOLOGIES

Internet of Things (IoT)

Nanotechnology

### TRENDS

ESG & Beyond GDP

Mobilising Innovation

Net Zero

New Materials

Urban Design





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## What if new economic classifications unlocked progress?

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# Beyond Classifications

30

Within Reach

Transitional

**Visionary**

Dynamic metrics replace traditional country development and income classifications, driving greater global cooperation, more effective trade flows, and innovation aligned with shared global goals and challenges and enabling progress beyond financial aid.

### UNCERTAINTIES

Collaboration, Systems

### MEGATRENDS

Future Humanity

### TECHNOLOGIES

Artificial Intelligence

Real-Time Analytics

### TRENDS

Cross-Sectoral Partnerships

ESG & Beyond GDP

Government Agility

International Collaboration







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## What if all academic publishing became open access?

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# Public Publications

31

Within Reach

**Transitional**

Visionary

Academic publishing shifts to a centralised platform with universal access, advanced machine intelligence and blockchain, enhancing research quality, innovation, diversity, collaboration and global research.

### UNCERTAINTIES

Collaboration, Systems

### MEGATRENDS

Borderless World – Fluid Economies

### TECHNOLOGIES

Artificial Intelligence  
Data Protection & Privacy

### TRENDS

Cross-Sectoral Partnerships  
Future of Education  
International Collaboration  
Mobilising Innovation  
Open Data





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## What if we could spray our way to personalised nutrition?

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# Nutrition Spray

32

Within Reach

**Transitional**

Visionary

Spray-based fortification uses nanoencapsulation and biomass for personalised nutrient delivery, addressing global micronutrient deficiencies and laying the foundation for 3D and 4D printed food applications.

### **UNCERTAINTIES**

Systems, Technology

### **MEGATRENDS**

Advanced Health and Nutrition

### **TECHNOLOGIES**

Biotechnology  
Nanotechnology

### **TRENDS**

Food–Water–Energy Nexus  
Mobilising Innovation  
New Materials  
Precision/Personalised Medicine



## What if cities adjusted the energy mix in real time?

# Dynamic Power

33

Within Reach

**Transitional**

Visionary

Citywide autonomous systems adjust energy generation and transmission in real time, optimising usage and extending asset life.

### UNCERTAINTIES

Systems, Technology

### MEGATRENDS

Energy Boundaries

### TECHNOLOGIES

Artificial Intelligence  
Internet of Things (IoT)  
Real-Time Analytics

### TRENDS

Cross-Sectoral Partnerships  
Food–Water–Energy Nexus  
Government Agility  
Air Pollution  
Transforming Energy





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## What if patents were adaptive?

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# Adaptive Patent

34

Within Reach

Transitional

**Visionary**

An adaptive intellectual property (IP) system that ensures equitable access to essential technologies driving social-impact-focused innovation while enhancing transparency and supporting sustainable development for societal progress.

### UNCERTAINTIES

Systems, Technology

### MEGATRENDS

Borderless World – Fluid Economies

### TECHNOLOGIES

Advanced Computing  
Artificial Intelligence  
Blockchain

### TRENDS

Cross-Sectoral Partnerships  
Ideation, IP & Entrepreneurship  
International Collaboration  
Mobilising Innovation  
Open Data



## What if synchronised robots perfected global supply chains?

# Perfect Chains

35

Within Reach

**Transitional**

Visionary

Collaborative robots reshape industries and global supply chains through intelligent task-sharing, adaptive learning, real-time problem-solving, and continuous optimising and self-improvement across domains.

### UNCERTAINTIES

Systems, Technology

### MEGATRENDS

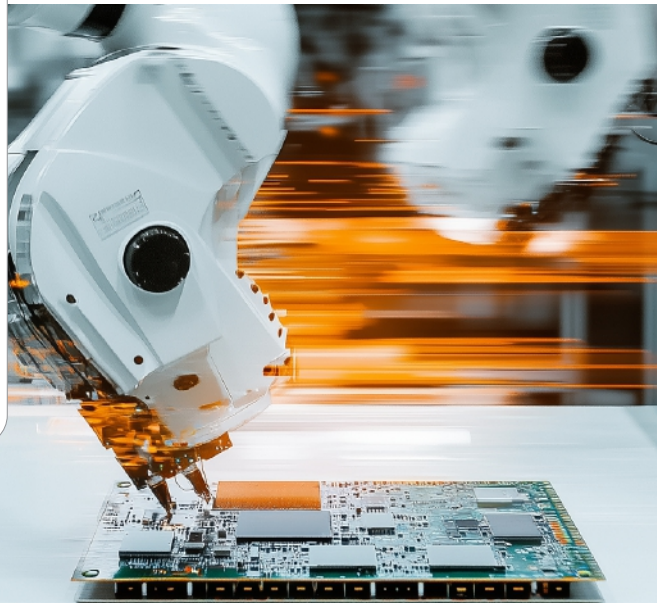
Life with Autonomous Robots and Automation

### TECHNOLOGIES

Advanced Connectivity  
Internet of Things (IoT)  
Robotics

### TRENDS

Automation  
Cross-Sectoral Partnerships  
Future of Purpose & Work





## What if a global sandbox streamlined cross-border innovation?

# Global Sandbox

36

Within Reach

Transitional

Visionary

A global sandbox enables simultaneous testing of innovations across jurisdictions, advancing regulations and accelerating market entry while ensuring consumer protection through coordinated international oversight.

### UNCERTAINTIES

Systems, Technology

### MEGATRENDS

Borderless World – Fluid Economies

### TECHNOLOGIES

Artificial Intelligence

Data Protection & Privacy

### TRENDS

Cross-Sectoral Partnerships

Government Agility

Ideation, IP & Entrepreneurship

International Collaboration

Legal Transformation



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## What if renewable wind and solar energy became fully circular?

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# Renewable Asset Loop

37

Within Reach

Transitional

**Visionary**

A global consortium advances circular standards for solar and wind assets, promoting sustainable design, recycling technologies and policies to maximise resource use and eliminate waste.

### **UNCERTAINTIES**

Systems, Technology

### **MEGATRENDS**

Evolving Ecosystems

### **TECHNOLOGIES**

3D Printing

Artificial Intelligence

Climate Tech

### **TRENDS**

Cross-Sectoral Partnerships

International Collaboration

New Materials

Sustainable Waste Management

Transforming Energy





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## What if biomimicry made cybersecurity more resilient?

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# Nature Shield

38

Within Reach

**Transitional**

Visionary

A biomimetic cybersecurity framework enhances digital ecosystems' ability to detect, respond to, and evolve against cyberthreats.

### UNCERTAINTIES

Systems, Technology

### MEGATRENDS

Technological Vulnerabilities

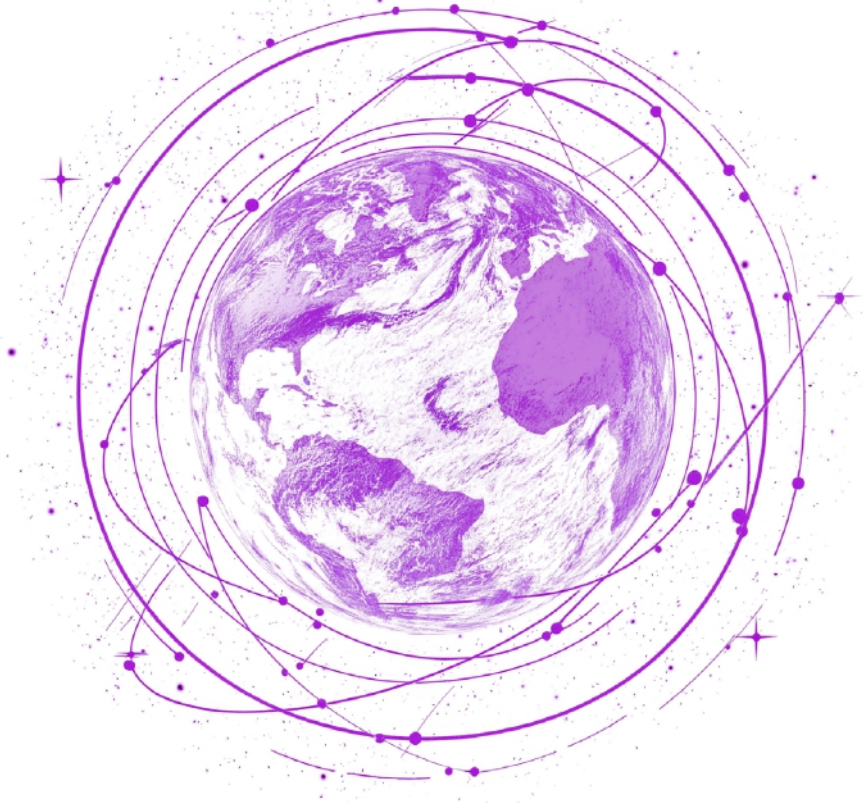
### TECHNOLOGIES

Artificial Intelligence  
Internet of Things (IoT)  
Real-Time Analytics

### TRENDS

Biomimicry  
Cybersecurity  
Government Agility  
International Collaboration  
Mobilising Innovation





# Transformational

The power to radically change ways of life by replacing the models that countries, communities and individuals live by. These new models enable individuals and communities to innovate and improve the transformation of humanity to new digital and non-digital realities.



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## What if strategic foresight guaranteed international cooperation success?

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# Future-Proof Agreements

39

Within Reach

**Transitional**

Visionary

Strategic foresight strengthens international agreements by embedding scenario planning, anticipating challenges, and developing adaptive responses, increasing the likelihood of successfully achieving shared goals.

### UNCERTAINTIES

Systems, Technology

### MEGATRENDS

Future Humanity

### TECHNOLOGIES

Artificial Intelligence  
Quantum Technologies  
Real-Time Analytics

### TRENDS

Cross-Sectoral Partnerships  
Future of Purpose & Work  
Government Agility  
International Collaboration  
Open Data





## What if energy was limitless, at room temperature?

# Energy Without End 2.0

GenAI

40

Within Reach

Transitional

**Visionary**

Breakthroughs in room-temperature fusion offer unlimited, sustainable and clean energy, transforming the global energy landscape.

### UNCERTAINTIES

Systems, Technology

### MEGATRENDS

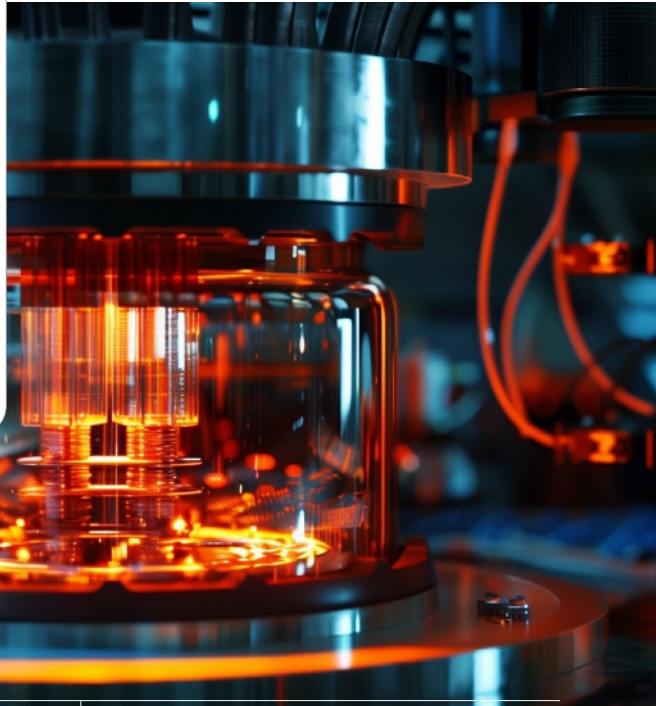
Energy Boundaries

### TECHNOLOGIES

Advanced Computing  
Next-Gen Energy

### TRENDS

Cross-Sectoral Partnerships  
Government Agility  
Mobilising Innovation  
New Materials  
Transforming Energy





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## What if national economies were centred around specific objectives?

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# Economies on a Mission

41

Within Reach

**Transitional**

Visionary

Mission-driven economies align public, private and civil society sectors to focus on specific objectives, replacing traditional economic models.

### UNCERTAINTIES

Collaboration, Values

### MEGATRENDS

Future Humanity

### TECHNOLOGIES

Artificial Intelligence  
Internet of Things (IoT)  
Real-Time Analytics

### TRENDS

Community-Based Solutions  
Cross-Sectoral Partnerships  
ESG & Beyond GDP  
Future of Purpose & Work  
International Collaboration





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## What if the world knew exactly how much water we use and could predict future water needs and shortages?

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# Better Water Meter

42

Within Reach

Transitional

**Visionary**

Industrial Internet of Things (IIoT) and satellite data form an automated and comprehensive water accounting system that provides insights into water usage and flows and a better understanding of how much water we really need to support more informed decisions on global water policies and conservation efforts.

### UNCERTAINTIES

Collaboration, Technology

### MEGATRENDS

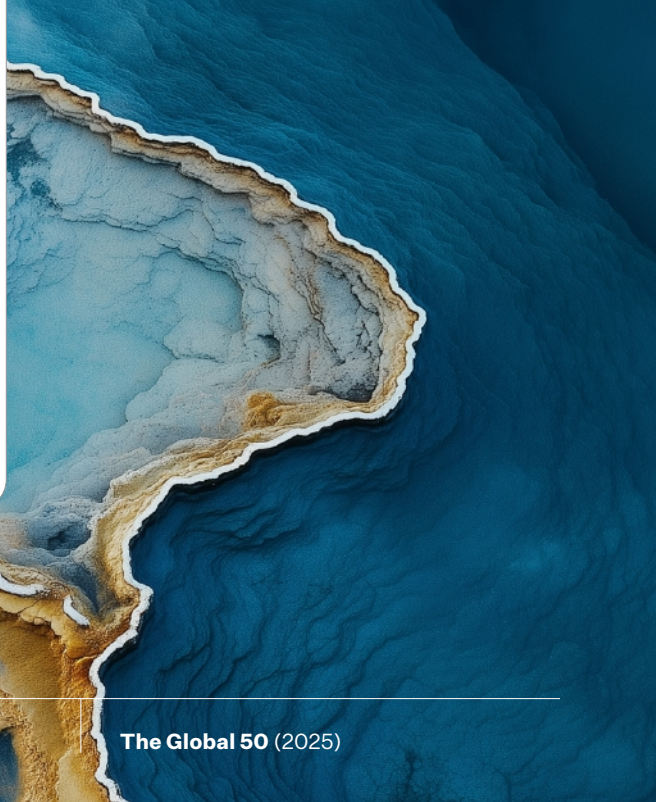
Boundless Multidimensional Data

### TECHNOLOGIES

Artificial Intelligence  
Internet of Things (IoT)  
Real-Time Analytics

### TRENDS

ESG & Beyond GDP  
Food–Water–Energy Nexus  
International Collaboration  
Open Data





## What if next-generation geothermal energy enabled universal energy access?

# Next-Gen Geothermal

43

Within Reach

Transitional

**Visionary**

Innovative approaches to geothermal energy combined with advanced machine intelligence and materials make geothermal energy accessible, cost-effective and less dependent on location, promoting a sustainable source of renewable energy.

### UNCERTAINTIES

Nature, Technology

### MEGATRENDS

Evolving Ecosystems

### TECHNOLOGIES

Artificial Intelligence

Real-Time Analytics

### TRENDS

Cross-Sectoral Partnerships

Net Zero

New Materials

Repurposing Assets

Transforming Energy





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## What if we could prevent bone loss and muscle atrophy in space?

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### Space Flex

44

Within Reach

**Transitional**

Visionary

Personalised bioengineered supplements prevent bone and muscle loss in space and on other planets, reducing limitations on humans' ability to spend extended periods beyond Earth while also offering a new solution for addressing bone and muscle mass decline on Earth.

#### **UNCERTAINTIES**

Systems, Technology

#### **MEGATRENDS**

Advanced Health and Nutrition

#### **TECHNOLOGIES**

Biotechnology

Genomics

Nanomedicine

#### **TRENDS**

Future of Space

Mobilising Innovation





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## What if frugal innovation from marginalised economies redefined global development?

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# Innovation Beyond Borders

45

Within Reach

Transitional

Visionary

Local innovation hubs connected to global networks scale innovations from economically marginalised communities worldwide, enabling local ingenuity to inspire worldwide sustainable development.

### UNCERTAINTIES

Collaboration, Technology

### MEGATRENDS

Borderless World – Fluid Economies

### TECHNOLOGIES

Advanced Connectivity  
Data Protection & Privacy

### TRENDS

Community-Based Solutions  
Cross-Sectoral Partnerships  
Mobilising Innovation







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## What if the world agreed on a charter for brain-computer interfaces (BCIs)?

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# Neural Charter

46

Within Reach

Transitional

Visionary

A global brain-computer interface (BCI) charter and framework ensure global alignment through openness, safety standards, and responsible deployment, enabling ethical implementation and equitable access worldwide.

### UNCERTAINTIES

Collaboration, Values

### MEGATRENDS

Future Humanity

### TECHNOLOGIES

Advanced Connectivity  
Brain-Computer Interfaces (BCI)  
Human-Machine Interfaces

### TRENDS

Cross-Sectoral Partnerships  
Data Protection & Privacy  
International Collaboration  
Neuroscience  
Open Data





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## What if the theoretical possibilities of dark energy inspired us to push our boundaries?

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# Dark Energy

GenAI

47

Within Reach

Transitional

**Visionary**

A deeper understanding of dark energy, the force pulling the universe's expansion, opens new doors to advance space travel, discover limitless energy for Earth, and inspire curiosity about science and humanity.

### UNCERTAINTIES

Systems, Technology

### MEGATRENDS

Borderless World – Fluid Economies

### TECHNOLOGIES

Advanced Computing  
Space Technologies  
Next-Gen Energy

### TRENDS

Future of Space  
International Collaboration  
Mobilising Innovation



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## What if stem cell therapy was the answer to autoimmune disease?

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# Autoimmune Stem

48

Within Reach

**Transitional**

Visionary

Advanced machine intelligence enables precise stem cell therapy for autoimmune diseases, moving beyond variable results to establish treatments that achieve permanent disease remission.

### UNCERTAINTIES

Systems, Technology

### MEGATRENDS

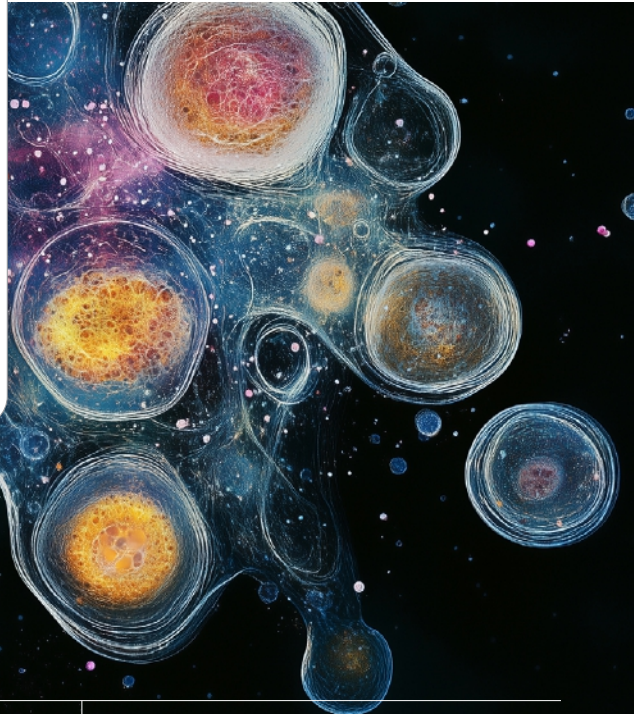
Advanced Health and Nutrition

### TECHNOLOGIES

Biotechnology  
Edge Computing

### TRENDS

Communicable & Non-Communicable Diseases  
Longevity & Vitality  
Precision/Personalised Medicine





## What if products built themselves?

# Self-Assembling Molecules

GenAI

49

Within Reach

Transitional

**Visionary**

Engineered through nanotechnology and computational design, self-assembling molecules represent the next generation of manufacturing, autonomously forming and transforming when triggered by chemicals or light.

### UNCERTAINTIES

Systems, Technology

### MEGATRENDS

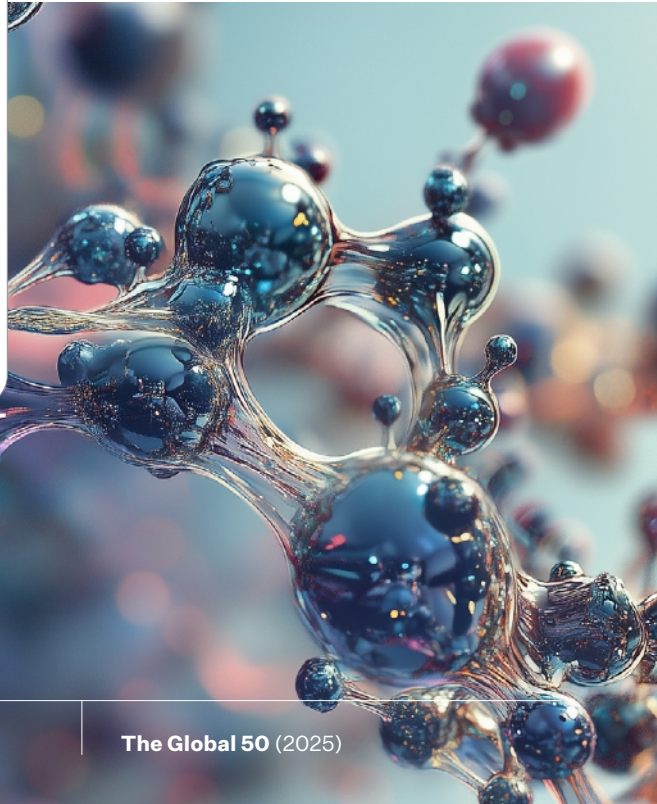
Materials Revolution

### TECHNOLOGIES

Agile & Smart Manufacturing  
Nanotechnology

### TRENDS

Automation  
Future of Raw Materials  
New Materials





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**What if higher education was no longer about the number of years but the quality of years?**

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## Higher Paths

50

Within Reach

Transitional

**Visionary**

Higher education shifts to personalised and practical learning, prioritising critical thinking and real-world problem-solving. This shapes lifelong learners, with success measured through demonstrated competencies rather than fixed time periods.

### UNCERTAINTIES

Collaboration, Values

### MEGATRENDS

Future Humanity

### TECHNOLOGIES

Digital Communities

Digital Realities

### TRENDS

Community-Based Solutions

Cross-Sectoral Partnerships

Future of Purpose & Work

Mobilising Innovation

Transforming Education



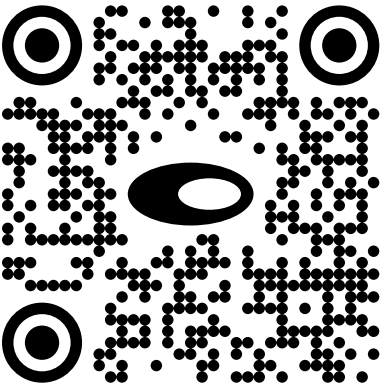


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