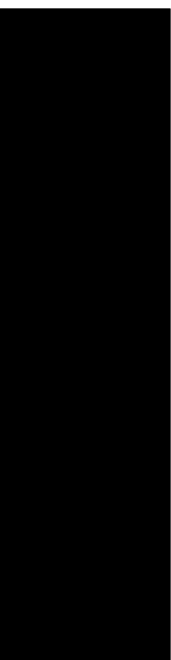# Society 5.0

A human-centered society
that bridges the physical and
digital worlds

GMIS | Global Manufacturing &
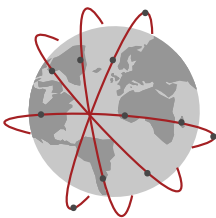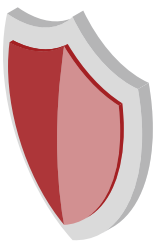Industrialisation Summit

# Contents

# The future of society

Society 5.0 is a human-centered approach that uses integrated innovative digital solutions to promote citizens' holistic well-being. The concept emerged in Japan to define the next phase of social development. Society 5.0 aims to bridge the gaps between:

- The physical and the digital worlds

- The urban and the rural worlds

- The high-income and the low-income

- Other socio-economic and environmental disparities and barriers

# Society 5.0 has the following features:

### BORDERLESS AND DECENTRALIZED
Unlock an **open, digital integrated society**, share and connect solutions with decentralized applications.

### RESILIENT AND ROBUST
Design for the **future** while ensuring an ability to **withstand and minimize** shock impacts and rapid bounce back.
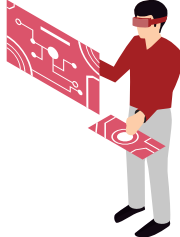
### SUSTAINABLE AND HARMONIOUS
Ensure the sustainable utilization and allocation of **resources**, and mobilize them to achieve the **highest and balanced use value**.
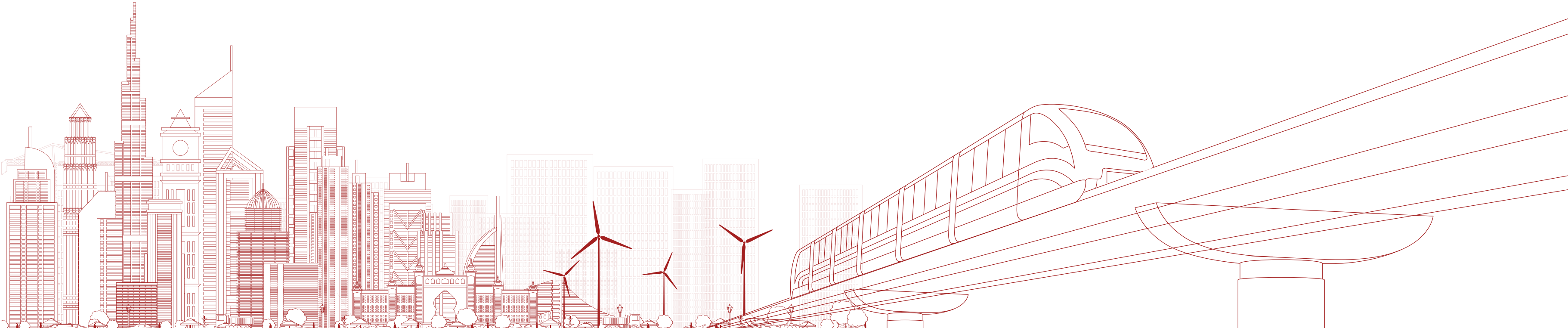
### HYPER-PERSONALIZED AND INTEGRATED
Tackle the **needs of the different personas, personalize the end-to-end** citizen journey across all sectors and well-being components.

### PROACTIVE AND PREVENTIVE
**Understand citizens' needs** and identify and **address potential challenges** before they arise.

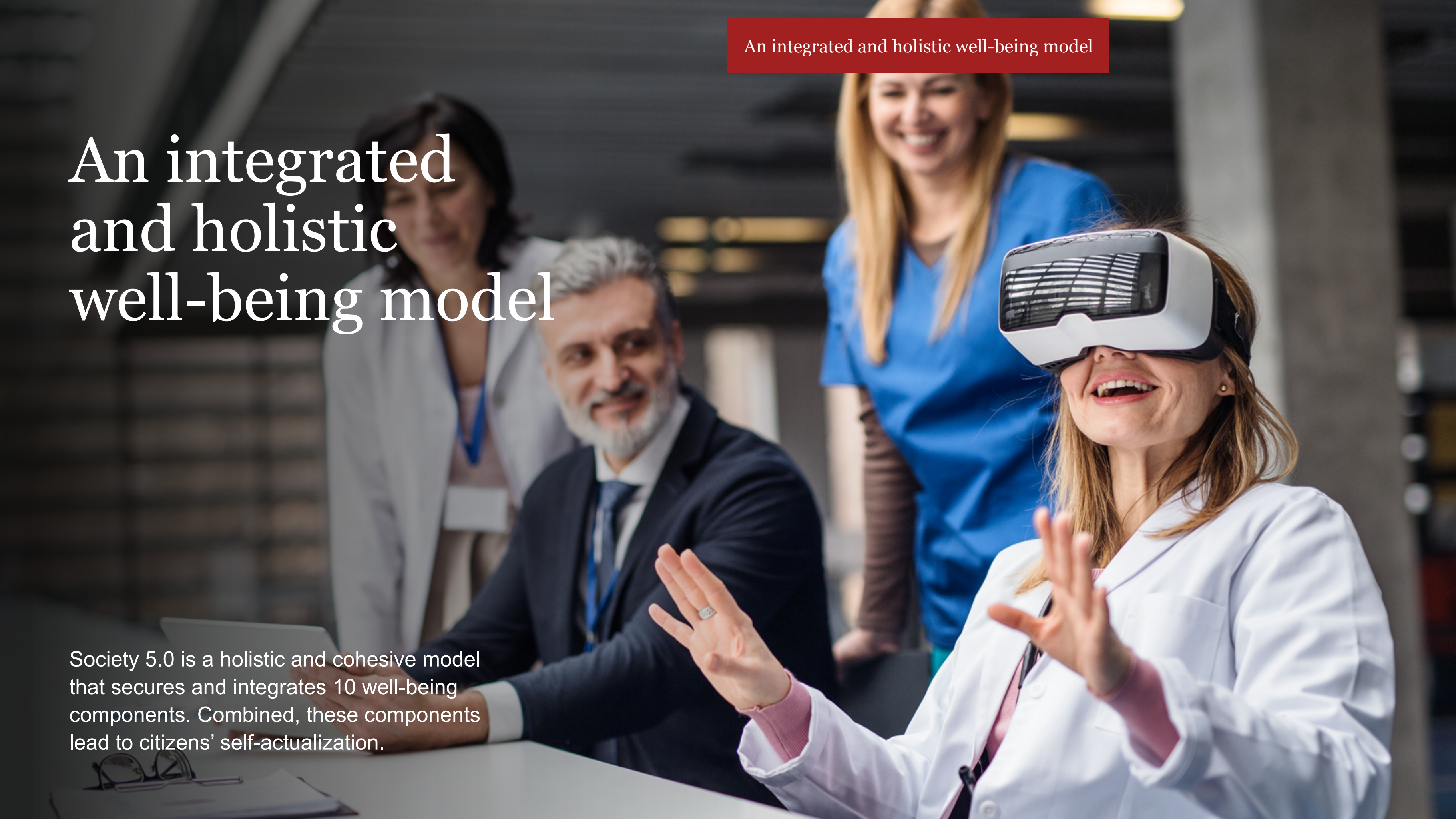### SUPER-SMART AND KNOWLEDGE-INTENSIVE
**Develop smart digital solutions** that gather required data, analyze them and revert back with actionable solutions to citizens, **autonomously**.

# An integrated and holistic well-being model

Society 5.0 is a holistic and cohesive model that secures and integrates 10 well-being components. Combined, these components lead to citizens' self-actualization.

Securing holistic well-being is broken down into 10 components, brought together in 4 complementary levers:

## Healthy, safe, and active citizens

### 1. Physical and mental health

Virtual hospitals, surgical robots, and smart monitoring wearables enhance access to quality tele-health and personalized treatment protocols.

### 2. Safety and security

AI-powered predictive policing, policy robotics, and next generation surveillance, such as facial and mobility recognition provide integrated and real-time safety management for early disaster prediction and prevention, and prompt and safe evacuation.

## Productive, empowered, competitive and creative citizens

### 3. Education

Education clouds and digital AI-enabled platforms tailor curricula to the needs and interests of each student and enable self-built curricula, life-long learning, and immersive and experimental environments.

### 4. Work and living standards

Targeted AI-enabled job matching platforms connect potential employees with employers and provide personalized career coaching, trainings, and learning factories (real-world of work training simulations).

### 5. Economy and innovation

Industry 4.0 sectors and smart manufacturing promote economic diversification and supply chain localization. Virtual banks enable digital financial services.

## Engaged and entertained citizens with a sense of belonging

### 6. Community support



Social reintegration platforms connect marginalized members of society (such as ex-prisoners or people with substance abuse problems), with therapists, employers, and volunteers. They also help create a digital networking community to assist these people become part of the social mainstream. Social security technologies facilitate the targeting of social assistance and payments. Digital resource distribution channel various surpluses, such as financial and utilities, to people in need.

### 7. Culture and entertainment

Virtual tourism, and immersive and interactive leisure and sports promote citizen engagement through real-life simulations. Heritage tech-preservation helps conserve tangible and intangible heritage assets.

# Comfortable and thriving citizens in a sustainable and automated environment

## 8. Natural environment

Autonomous farming, vertical farms and hydroponic greenhouses increase food production and reduce resource consumption. Renewable technologies and smart resource management solutions facilitate the sourcing, allocation, and sustainable consumption of water, energy and food for deprived areas and population segments that are in need. Drone reforestation, smart wildlife protection, and robotic animals monitor and protect wildlife and forests.

## 9. Urban environment

Green buildings and smart technologies optimize sustainable urban design and spatial planning, and increase infrastructure robustness and resilience.

## 10. Logistics and mobility

Anticipatory logistics and mobility, smart traffic management, and vehicles of the future, such as hyperloops, self-driving cars, and drone assisted deliveries enhance connectivity and road safety.

Green buildings and smart technologies will optimize sustainable urban design and spatial planning.

# A recreated life

Integrating sectoral solutions could redesign and recreate citizens' daily lives, notably for the personas facing the most challenges today.

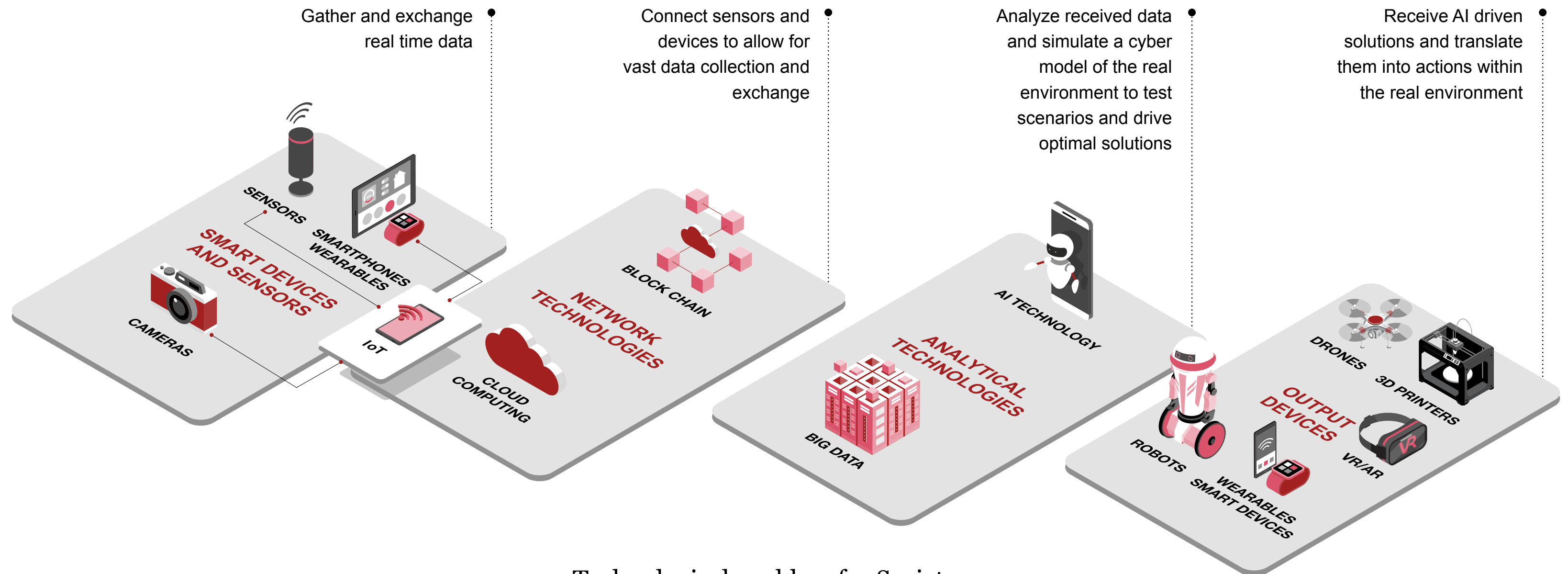**Experience the Society 5.0 model and explore the personas.**

Click here

# Six enablers for these journeys

# 1. Emerging technology and infrastructure

Advanced analytical technologies and sophisticated network systems allow the collection and analysis of vast amounts of data, identify their interconnections, eliminate restrictions of space and time, and simulate scenarios that are translated into automated and adaptable solutions in real time.

Gather and exchange real time data

Connect sensors and devices to allow for vast data collection and exchange

Analyze received data and simulate a cyber model of the real environment to test scenarios and drive optimal solutions

Receive AI driven solutions and translate them into actions within the real environment



SENSORS

SMARTPHONES WEARABLES

SMART DEVICES AND SENSORS

CAMERAS

IoT

NETWORK TECHNOLOGIES

BLOCK CHAIN

CLOUD COMPUTING

ANALYTICAL TECHNOLOGIES

AI TECHNOLOGY

BIG DATA

OUTPUT DEVICES

ROBOTS

WEARABLES SMART DEVICES

DRONES

3D PRINTERS

VR/AR

Technological enablers for Society 5.0

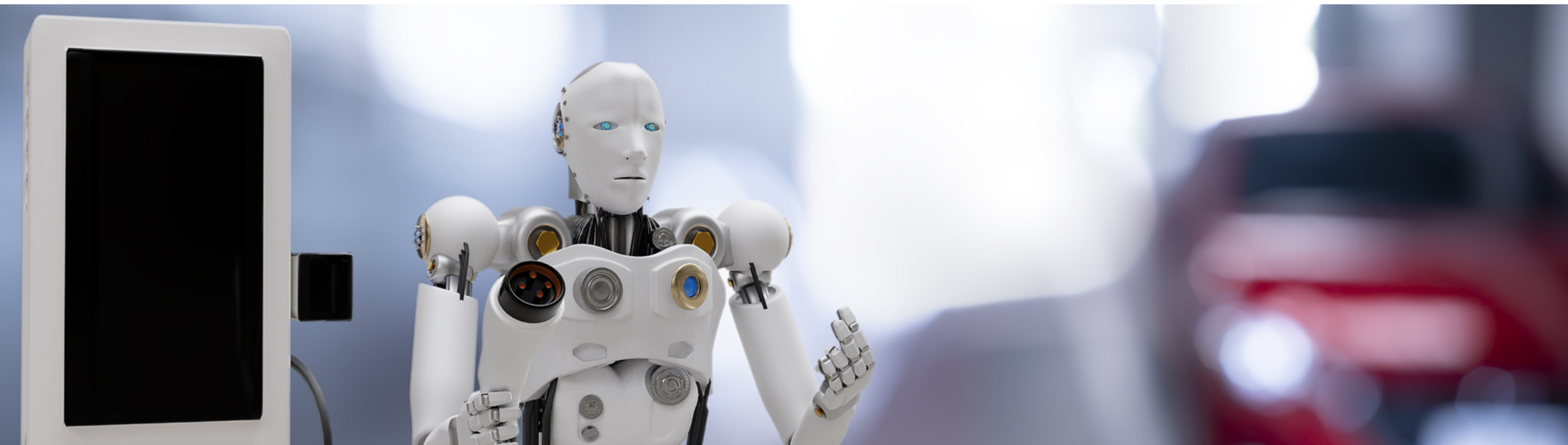Note: IoT=Internet of things, the network of connected devices.

## 2. Platforms

Cross-sectoral platforms streamline citizen, and decision maker-experiences by using:

- Digital twins that provide a virtual representation of cities and integrate insights across the different domains and sectors. These create a real-time digital counterpart of the physical objects or processes.

- Digital IDs

- Facial and movement recognition

- E-payment platforms

## 3. Regulations and policies

These are needed to ensure privacy, security, fair competition, accountability and transparency, and ethics. Technology standards should be consistent with global guidelines to allow solutions to be scalable. Regulatory sandboxes also enable the piloting and testing of technologies, thereby fostering innovation.

## 4. Centralized and collaborative governance

A central champion, potentially a Society 5.0 committee, could lead the Society 5.0 agenda and set a common vision for all players to follow. It oversees plans and budgets, reviews and monitors Society 5.0 sectoral plans, ensures the right enablers are in place, identifies potential synergies and cross-cutting projects, and facilitates knowledge transfer. The Society 5.0 model also relies on creating a collaborative network that encourages co-creation and solution implementation with citizens, the private sector, and academia.

**INDUSTRY SPECIFIC LEADERS**
Provide the sector expertise to adapt and co-create solutions.

**TECH PLAYERS**
Invest in providing the technology required and adapt their solutions and data to accelerate implementation.

**START-UPS**
Act as the driving force in developing new solutions and adapt existing ones to local markets.

**INNOVATION LABS**
Provide a supporting and collaborative environment that enables innovation, testing adaptation and scaling of solutions.

**TECHNOLOGY SPECIFIC HUBS**
Act as incubators, accelerators of specific technology development, as well as educating people about the technology and connecting them to it.

**CITIZENS**
Engage to shed light on challenges, contribute to innovative solutions in terms of skills and ideas, and co-find solutions.

**PUBLIC ENTITIES**
Institute the right regulations and establish systems and foundations to enable the sharing and transfer of resources throughout the ecosystem.

**NPOs/NGOs**
Provide experience in implementing various projects, especially in remote areas or with less represented demographics.

**FINANCIAL INSTITUTIONS**
Allocate and secure capital to drive the development and implementation of solutions at scale.
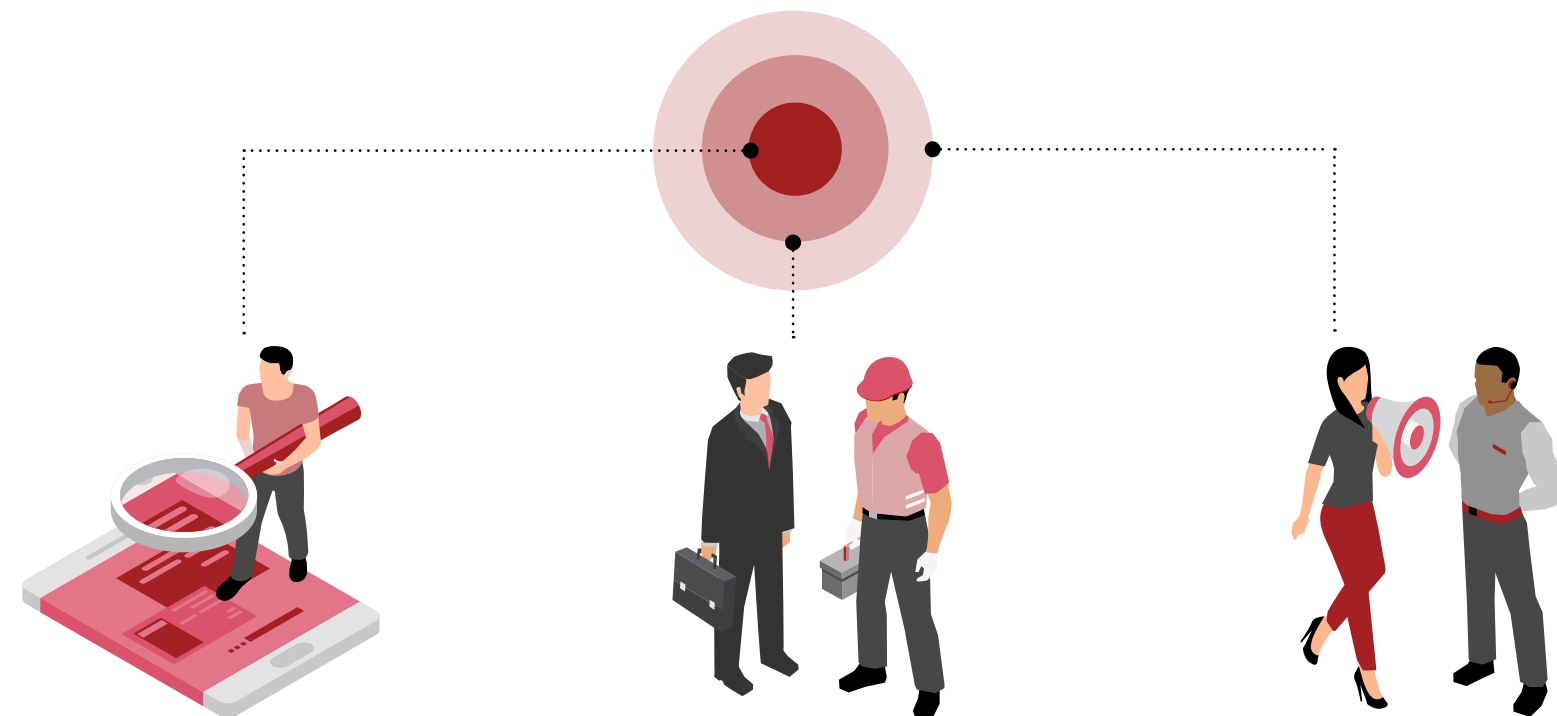
**ACADEMIC INSTITUTIONS**
Provide academic resources, and research and development capabilities to accelerate innovation potential.

**COMMITTEE**

Partnerships and ecosystem

Note: NPOs=Non-profit organizations, NGOs=Non-governmental organizations.

# 5. Talent with strong digital capabilities

Governments need to secure talent with development and application capabilities, able to research, innovate, design, prototype, and test potential solutions. They also need to educate the public about how to navigate the new ways of living and working.



### DEVELOPMENT

- Hardware developers
- Designers (eg. UI/UX)
- Software developers
- Researchers
- Emerging tech (AI, 3D) specialists
- Computer engineers / Scientists
- Data analysts / Scientists
- Entrepreneurs

### APPLICATION

- Services manager
- Digital marketing manager
- Sales development / Customer specialists
- Cybersecurity specialists
- Data management specialists
- Telecom / Network operators
- Installation and maintenance
- Digital and technology trainers

### USAGE

- Consumers
- Employees in digital jobs
- Data providers
- Students
- Government entities
- Service providers
- General public

Note: UI=User interface, UX=User experience.

# 6. Innovative, participatory funding models

Different models need to be adopted to secure the financing of the design and development of the solutions needed for Society 5.0.
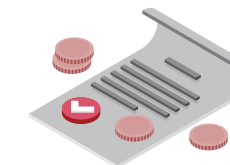
### PAY FOR SUCCESS
Investor only pays for programs if they meet agreed-upon results, typically incorporating social and / or environmental predetermined outcomes.

### BLENDED FINANCING
Public-private partnerships that can leverage technical capabilities and wide knowledge bases for targeted investments and returns.

### IMPACT BONDS
Bond-issuing organizations raise funds which are distributed to service providers to cover their operation costs. If predetermined outcomes are achieved, the commissioner proceeds with payments to the bond-issuing organization or investors.

### INNOVATION / R&D FUNDS
Grant funding that give groups and organization financial backing to find innovative ways of tackling policy problems.
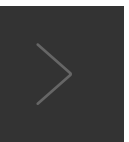
### CROWDFUNDING
Mechanism where society 5.0 stakeholders (usually citizens) contribute small amounts of capital to finance large projects.

# Conclusion

Society 5.0 is the next model of social design. It seeks to address citizens' well-being challenges, and overcome the various divisions and barriers that are so common today, by using the power of technology and data.

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