FUJITSU

# Fujitsu Technology and Service Vision 2022

Executive Summary

English edition

10th Anniversary

# Introduction

Fujitsu Technology and Service Vision (FT&SV) is a story of foresight, describing the future Fujitsu wants to create together with our various stakeholders. We have updated FT&SV every year since its launch in 2013, reflecting the potential of emerging technologies and the impact of dynamic socio-economic trends.

We believe the headline theme for the next 10 years is to drive sustainability transformation through digital innovation. Sustainability transformation means transforming business to bring about positive change in our environment, society and economies. This tenth anniversary edition FT&SV explores how digital technology can help to drive sustainability transformation. We hope this provides useful insights to navigate your own transformation journey in this increasingly uncertain and changing world.

# We are facing a sustainability crisis

The world is facing a global environmental, social and economic crisis.
Global warming has continued over the past 10 years, causing glacial retreat, the destruction of coral reefs and extreme weather conditions around the world.
This has impacted biodiversity, with more than 1 million species now endangered.
In addition, we face significant social challenges such as poverty, human rights violations, limited access to healthcare and education and an aging population.
Moreover, we are faced with unprecedented uncertainty, brought about by the pandemic and geopolitical issues.

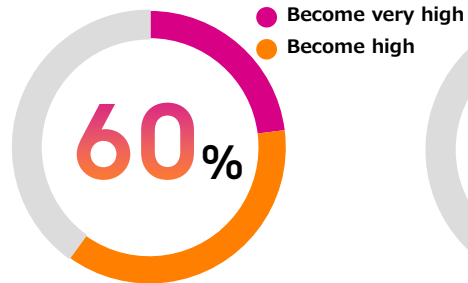**What actions should we take to overcome these critical challenges?**
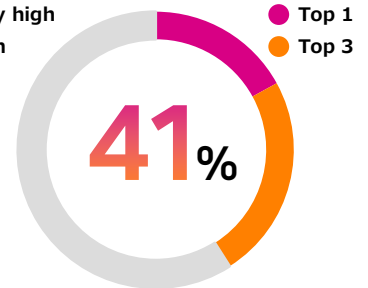
# Sustainability is a top management priority

The mindset of business leaders has changed rapidly. Fujitsu's commissioned survey conducted by Forrester Consulting has revealed that sustainability is now a higher priority compared to two years ago. Without doubt, sustainability is now a global imperative that organizations must address to achieve mid-to-long term growth.

Source: Fujitsu's commissioned survey conducted by Forrester Consulting in February 2022

**Change in the priority of sustainability in your organization over the last 24 months**

- Become very high
- Become high

**60%**

**Sustainability is top 3 management priority**

- Top 1
- Top 3

**41%**

# Digital transformation leading to successful sustainability transformation

Data and digital technologies are key to bringing about positive impact on our environment, society and economies. In our survey, two out of three organizations told us that digital is already helping them to implement sustainability transformation and that they plan to increase their investment in data and digital technologies to support their sustainability initiatives.

**A digital-first approach to sustainability transformation is clearly extremely important.**

Source: Fujitsu's commissioned survey conducted by Forrester Consulting in February 2022

Digital transformation will help organizations to implement sustainability transformation

**67%**

Plan to increase investment in data and digital technologies to support sustainability initiatives

**60%**

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# Driving sustainability transformation through digital innovation

The headline theme for the next 10 years is to drive sustainability transformation through digital innovation.

Fujitsu is your sustainability transformation partner. We are focused on enabling you to transform your business for a more sustainable future.

To achieve this, we are delivering digital innovation that creates business resilience against uncertainty, while enhancing environmental and social value.

The next 10 years

**Sustainability Transformation**

**Digital Transformation**

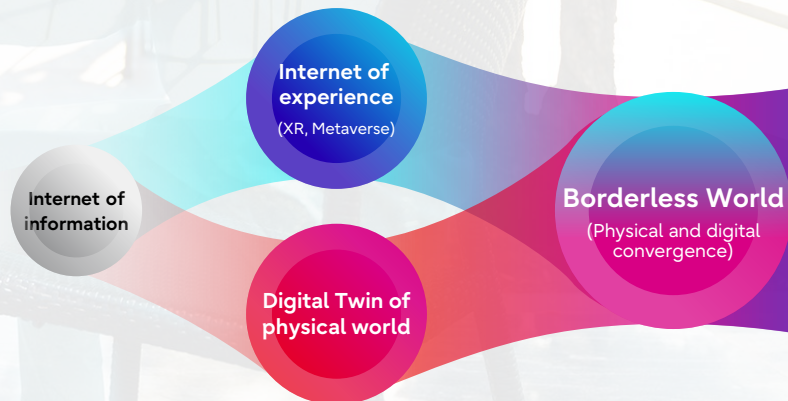# Technology Vision driving the future

We believe that the three key elements that will drive a more sustainable world are Human Centric, Data Driven and Connected. In a networked society, where physical and digital worlds converge, technology can empower people to create continuous innovation. We will introduce the four future visions that will guide the next 10 years, alongside these three elements.

**Borderless World**

# Maximizing your potential

How can technology ensure that everyone lives with dignity? Intelligent, ultra-fast next generation networks will enable a borderless world, where physical and digital experiences will be converged. People will be empowered by intelligent services supporting the whole cycle of their lives, from healthcare and mobility through to education and shopping.

**Internet of experience**
(XR, Metaverse)

**Internet of information**

**Borderless World**
(Physical and digital convergence)

**Digital Twin of physical world**

**Social Digital Twin**

Simulation of real-world scenarios combining insights of behavioral sciences

Dynamic real-time digital twins

Physical World

**Dynamic Resilience**

# Digitally rehearsing an uncertain future

To respond to uncertainty like pandemics, natural disasters or geopolitical disruption, the concept of rehearsing the impact of unforeseen situations using digital twin technology is becoming mainstream. By using real-time data, this technology will enable us to quickly allocate resources either to prevent them occurring or at least to mitigate their impact.

**Discovery Revolution**

# Accelerating discovery

Now, innovation timescales can be shortened from years to months – or even days. This is being achieved by exploiting ever-increasing computing power to enable ultra-high-speed simulation and next-generation AI technology to formulate hypotheses and infer causalities.

The democratization of ultra-scale computing power and the evolution of AI will dramatically accelerate innovation across a wide range of fields, from drug discovery and new material development through to engineering.
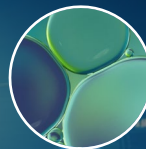
**Healthcare    Materials    Finance    Science    Engineering**

**Computing Workload Broker Cloud Platform**

**Quantum Computing**

Photo: Riken

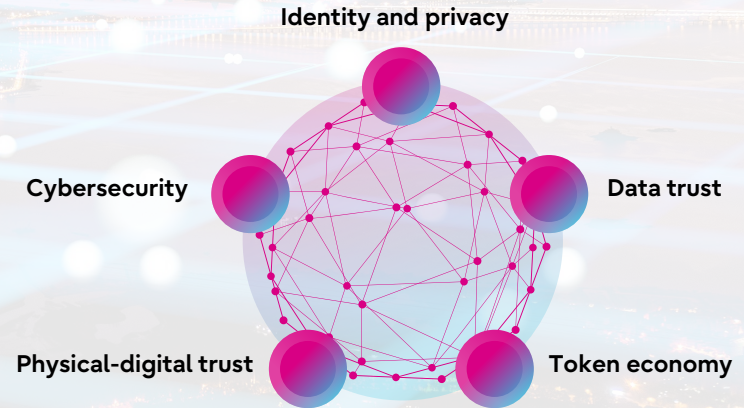**Quantum Inspired Computing**

**HPC**

**Trust in Everything**

# Enabling a regenerative society with trust

While a borderless world will empower people, it will also increase the complexity of society. Distributed trust technology will become essential to ensure safety and security across both physical and digital domains. A trusted, regenerative society will be realized by protecting digital identity and privacy, ensuring data authenticity and exchanging intangible, non-financial value such as environmental value.

Identity and privacy

Cybersecurity

Data trust

Physical-digital trust

Token economy

# Fujitsu's cutting-edge technologies

These four technology visions will be driven by integrating technologies of five key areas: Computing, Network, AI, Data & Security, and Converging Technologies. To deliver innovation, Fujitsu is focused on developing these technologies embracing open collaboration with our partners, universities and research institutes around the world.

## Computing

- High Performance Computing
- Digital Annealer, a quantum inspired computer
- Quantum computer
- Quantum simulator

## Network

- 5G Open RAN with cloud native virtualized architecture
- Optical networks
- 6G technology
- Photonics-electronics convergence technology
- Optimization of networks by AI

## AI

- Trusted AI technologies including Explainable AI and Ethical AI
- Discovery AI to find causal inferences of large-scale data
- Automation of machine learning

## Data & Security

- Multi biometrics authentication
- Decentralized ID (IDYX)
- Connection chain technology to connect multiple blockchains
- Transparent trust transfer technology to ensure data authenticity
- AI Cybersecurity

## Converging Technologies

- Real-time dynamic digital twin infrastructure (Dracena)
- Social digital twin
- High-precision automatic sensing and recognition technology (Actlyzer)

# First step

To realize our vision of the future, we are driving sustainability transformation in a variety of areas.

## Borderless World



### Borderless way of working

Fujitsu has migrated 130,000 global employees to remote working, introducing 'Work Life Shift' to allow them to choose where they wish to work.

## Dynamic Resilience



### Sustainable cities

Hexagon and Fujitsu are working together on smart monitoring solutions that collect data from various sensors in and around cities in real time, visualizing the usage status of shared mobility.

## Discovery Revolution



### Future of cancer treatment

Aichi Cancer Center and Fujitsu are engaged in research and development on an AI system that helps physicians quickly select the most effective medicine from a variety of therapeutic options.

## Trust in Everything



### Safe water for everyone

Botanical Water Technologies and Fujitsu have used blockchain technology to build a water exchange platform (Botanical Water Exchange), creating a marketplace for trading safe and secure water.

# Fujitsu Uvance

To realize our purpose of making the world more sustainable by building trust in society through innovation, Fujitsu launched Fujitsu Uvance as our new business focus.

Through Fujitsu Uvance, we are building new possibilities by connecting people, technology and ideas, creating a more sustainable world where anyone can advance their dreams.

## Vertical Areas

Sustainable Manufacturing

Consumer Experience

Healthy Living

Trusted Society

## Horizontal Areas

Digital Shifts
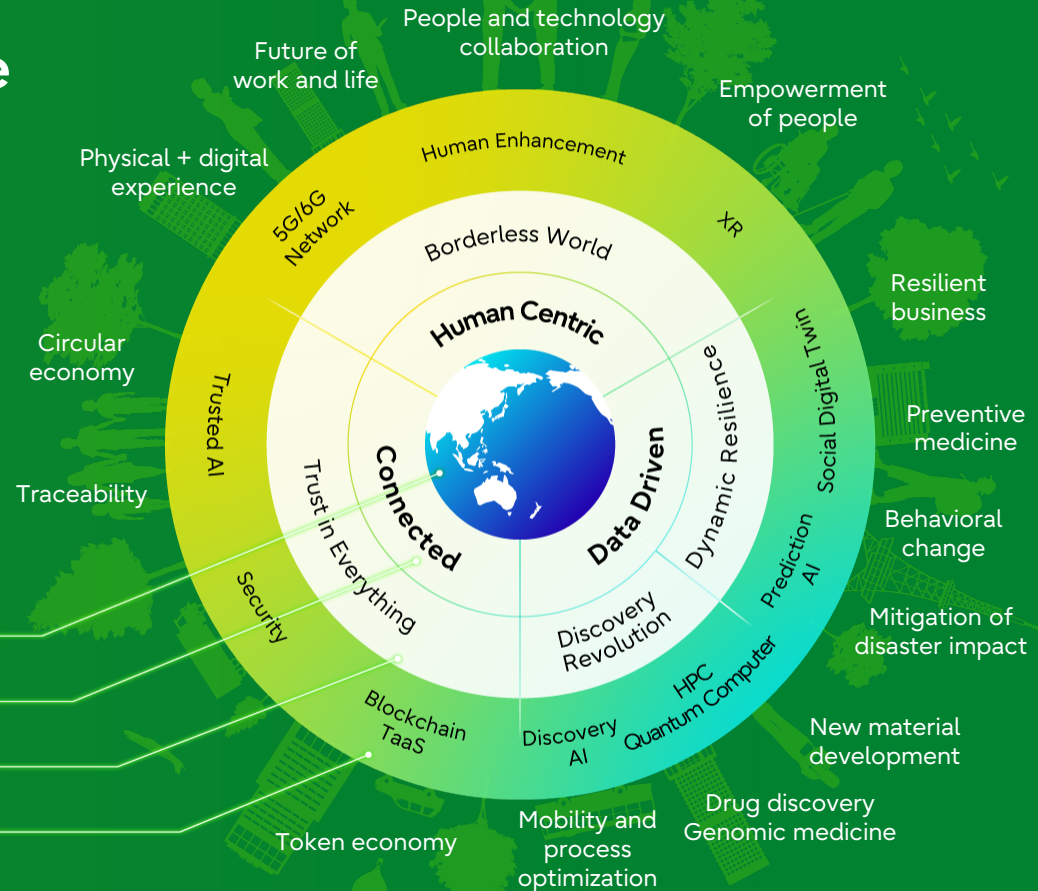
Business Applications

Hybrid IT

# Toward a sustainable future

Fujitsu is your partner, driving sustainability transformation through digital innovation.

Fujitsu Technology Service Vision 2022 (full document) provides more detailed information on our technology visions, enabling technologies and business transformation scenarios. Please take a look.

Purpose oriented to sustainability

Key elements for sustainability transformation

Technology vision

Enabling technologies

People and technology collaboration

Future of work and life

Empowerment of people

Physical + digital experience

Human Enhancement

5G/6G Network

XR

Borderless World

Resilient business

Circular economy

Trusted AI

Human Centric

Social Digital Twin

Preventive medicine

Dynamic Resilience

Traceability

Connected

Behavioral change

Trust in Everything

Data Driven

Prediction AI

Mitigation of disaster impact

Security

Discovery Revolution

HPC Quantum Computer

New material development

Blockchain TaaS

Discovery AI

Drug discovery Genomic medicine

Token economy

Mobility and process optimization

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May, 2022