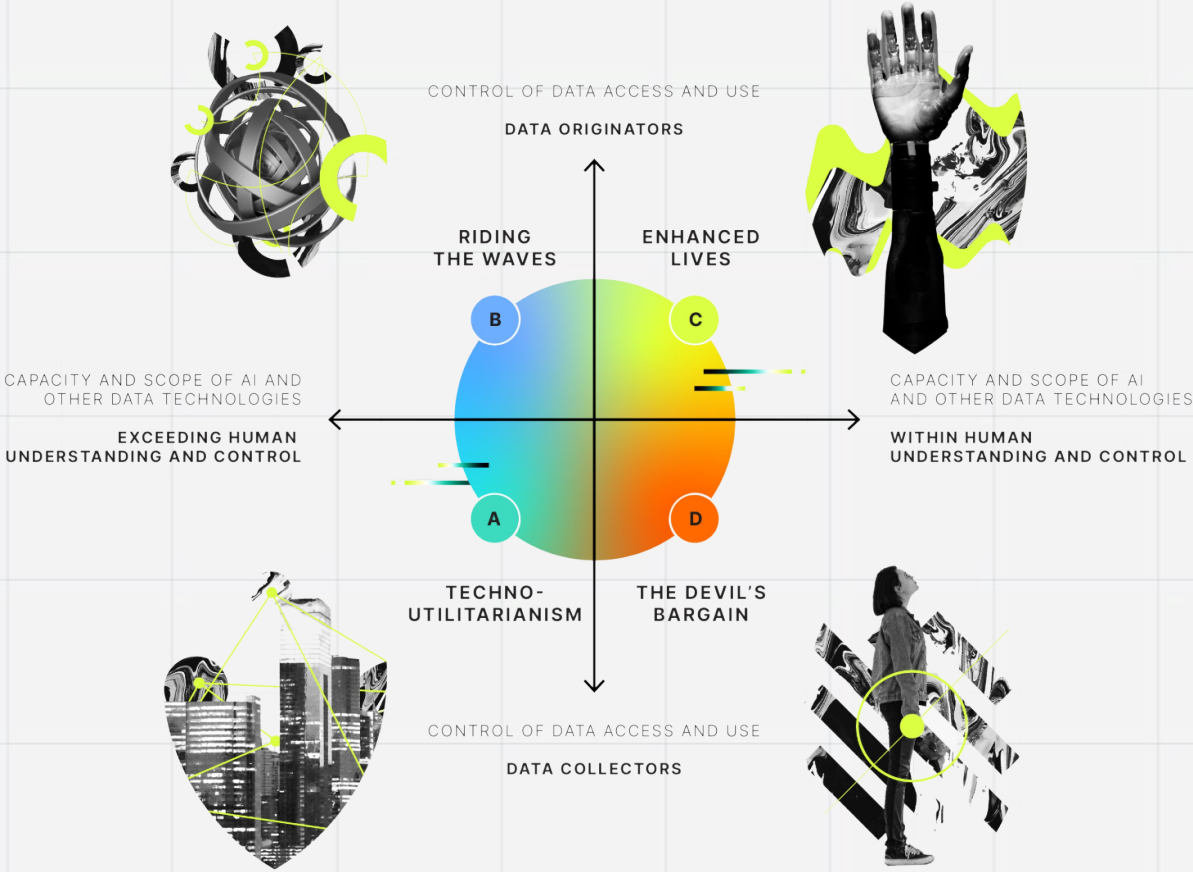


# THE FUTURE OF DATA GOVERNANCE

## SCENARIOS 2050



## **ACKNOWLEDGEMENTS**

The scenarios presented in this report are a result of a highly consultative and participatory process. We would like to express our gratitude to the High-level Committee of Programs (HLCP) sub-group on data governance, Dubai Future Forum, The Millennium Project, Inclus, Fast Future and all the experts that participated in the survey and interviews for their contribution to developing the scenarios.

The Scenario Exploration System was originally created by the European Commission's Joint Research Centre.

## **DISCLAIMER**

These scenarios are fictional descriptions of alternative futures. These should not be read as predictions nor as a reflection of the UN's position on the issue of data governance.

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## INTRODUCTION

**Data is a key driver for economic development**, but opportunities to benefit from it are unequally distributed within and across countries. As we look towards the future of data governance, it is crucial to consider how different futures might emerge and how we can prepare for them. This report presents four scenarios developed through a highly consultative and participatory process led by the United Nations Global Pulse (UNGP), to support the High-level Committee of Programs in their thematic work on digital public goods.<sup>1</sup>

Scenarios are **not predictions**, but descriptions of plausible alternative futures that allow us to explore and prepare for a broad scope of potential outcomes. They are developed as a tool to engage in dialogues exploring the implications of alternative futures for different stakeholders and geographies and to strengthen long-term thinking around the topic of data governance. The scenarios aim to mitigate global risks, identify opportunities, highlight the costs of inaction for the international community, and support the pursuit of aspirational data futures and the emergence of just global data governance. The baseline scenarios are developed based on key drivers of change, an analysis of different factors that may influence data governance. They can be used as reference scenarios that may be contextualised further to support different use cases.

The scenarios aim to explore how global data governance might play out by 2050. The scenarios are built on **two key uncertainties** defined through expert consultations:

- Who owns and controls the data, individuals or corporate entities?
- Are AI and other data technologies beyond human control or are they within our understanding?

## ABOUT THIS REPORT

This report starts with outlining four plausible scenarios: techno-utilitarianism, riding the waves, enhanced lives and the devil's bargain. Next, guiding questions are provided to help generate insights from these scenarios. The Annex provides an overview of the scenario-building process and methodology that has been followed to develop these scenarios.

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<sup>1</sup> Please consult the [Acknowledgement section](#) for an overview of the organizations that have contributed to the development of these scenarios.

# SCENARIOS

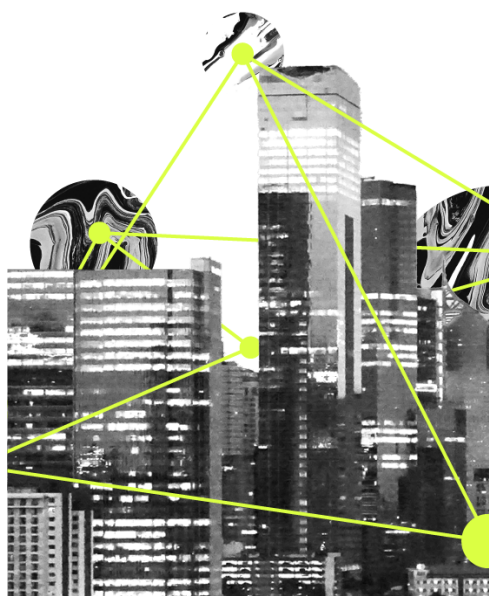
## SCENARIO A

### TECHNO-UTILITARIANISM

An AI-dominated world that improves life on the planet

Imagine a world where data pervades every aspect of life. Where everything from the food you eat to the conversations you have and the growth of trees is monitored, recorded, quantified, and controlled by all-powerful 'data-collectors.' With nearly complete control over data, the economy, society, government, and individual lives, a select few AI behemoths now run the planet.

In a tug-of-war for control, corporations optimise AGI/ASIs for economic gain while national and regional powers develop AGI/ASI technology aimed at political stability.



In this "Cold War" type scenario, humans trade data in return for goods and services, becoming tools in service of the "goals of the machine" and a means to an end for competing owners of technology. Only the most worthy individuals will thrive as a new world order is established.

A world in which global institutions and government bodies become largely irrelevant, unable to match the efficiency and accuracy of AGI/ASI technology, minorities are largely disregarded, and religion and democracy are mere echoes of the past. And yet... the future of the planet is secured.

The domination of AI has eliminated core global risks like climate change, pandemics, conflict, displacement, water and energy shortages, biodiversity loss, and more, resetting planetary balance and ensuring the continued evolution of life on Earth.

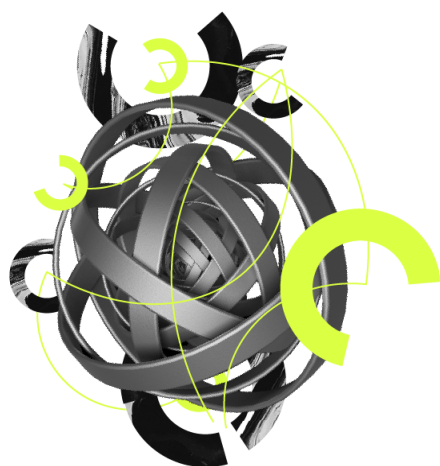
*Can societies regain control in the AGI/ASI race for optimisation and efficiency?*

## SCENARIO B

### RIDING THE WAVES

Empowered citizens in a world where AI tech develops beyond human understanding

**Faster, smarter, more capable... in the year 2050 AI has surpassed human intelligence and become the driving force of modern society. Able to perform thousands of tasks simultaneously and predict human behaviour using infinite amounts of personal data, a multitude of AGI/ASI technologies owned by numerous players with diverse value systems have taken over jobs and everyday lives, revolutionising societal dynamics, governmental systems, and the global economy.**



Data privacy has become a pivotal bargaining chip in a never-ending battle for control and access to goods and services. And while digitally literate and empowered citizens maintain control of their data, it is a luxury not all can afford.

Forced to give up their data privacy to survive, many others fall prey to tech companies, leading to unrest and breakdowns in public order. In response, a new generation of rebel developers fights to defend individuals from overexploitation and shatter big tech's stranglehold.

Decentralised Autonomous Organisations (DAO) are adopted in many nations, using voting-based governance to give citizens a greater say in national policy and resource allocation.

*But will it be enough for citizens to make informed decisions about their data? Or will the competition between the different data owners lead to inadequate solutions to the world's biggest challenges?*

## SCENARIO C

### ENHANCED LIVES

An innovation-driven world in which data is perceived as a valuable asset

**A new world dawns. On the heels of the economic, environmental, geopolitical, and health crises dominating the 2020s, stability and well-being are on the rise. United by a mutual goal to enhance life across the planet, nations and global institutions have implemented new governance approaches and redrafted their mandates.**



Technological advancements and AI help to accelerate the pace, creating more transparent taxation systems, fairly allocating resources, and boosting employment despite the automation of many jobs. An increase in digital literacy and data control allows individuals even in the poorest countries to have greater influence over the role of technology in everyday life.

Through collective action, they oust big tech companies in favour of corporations focused on promoting the common good via R&D, public IP ownership, and a democratised economy. As successive generations of increasingly forward-thinking and technologically-adept leaders drive the change agenda, significant progress is made on poverty reduction, human rights, clean energy, climate change, and environmental protection.

*Only time will tell if mounting tensions over privacy laws and public benefit will take their toll on this nearly utopian scenario.*

## SCENARIO D

### THE DEVIL'S BARGAIN

A world in which data is the price to pay for participation and convenience

Following the economic turmoil that defined the 2020s, a push towards technological innovation and widespread automation shifts power and wealth into the private sector. Governments cede control of their data and systems to tech giants with far superior capabilities in the management of government services and the allocation of public goods. Citizens forgo their data privacy in exchange for basic needs and personal profit. Global institutions dissolve completely.



With control over data now wielded by domineering tech companies, the boundaries between private gain and public benefit become blurred and the pillars of democracy and societal fabric begin to erode as key global issues take a backseat to economic greed.

Increased automation and unequal distribution of goods cause unrest, and a battle to seize back control through customer purchasing and regulatory tools ensues.

But not all are displeased with this devil's bargain. As technologies evolve and create ever more accurate insight into consumer behaviour, so too does the return on investment for select corporations and individuals.

*Is it simply the price of progress, or will the toll on the planet and humanity in 2050 ultimately prove unsustainable?*



## HOW TO USE THESE SCENARIOS

Scenarios are not meant to be static but to serve as a dynamic thinking tool. They are an ideal tool to help us rehearse alternative possible futures to make better decisions today. To develop insights about these futures, each scenario contains a specific question to help provoke discussions. In addition to these, you can ask questions like:

- Is there anything that **surprises** you, that challenges your current assumptions?
- Should this scenario materialise, what **would I do** (now, within a year, etc.)?
- What are the biggest **risks**? What can we do starting today to mitigate the risks?
- What are the **opportunities**? Can we detect any openings for supporting the emergence of positive developments?
- Who are the **actors** supporting or frustrating our agendas? What are their interests? What are their capabilities to influence the situation? How do we position ourselves?
- How well would **current strategies**, policies, and plans hold? Why? Why not?

## AN INVITATION TO CONTINUE THE FUTURES DIALOGUE

UNGP developed a **board game** to facilitate dynamic and guided conversations around the future of data governance with different stakeholder groups, based on the scenarios presented in this report.<sup>2</sup>

The game, “**The Scenario Exploration System**” allows for deep exploration of the future context through the lens of different stakeholders. Four players, or “scenario explorers”, take on the roles of a CEO of a Data Company, Government Representative, International Organization, or Private Citizen. Guided by the facilitator, they shape the future of Data Governance by taking actions and interacting with each other.

### Curious to learn more?

Head over to <https://foresight.unglobalpulse.net/scenario-exploration-system/>

Here you will find all the game materials to download, including a step-by-step facilitation guide to help you run the three-hour workshop.

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<sup>2</sup> This board game is an adaptation of the Scenario Exploration System, originally created by the [European Commission's Joint Research Centre](#).

## ANNEX - METHODOLOGY

The scenarios presented in this report result from a **collaborative process** that involved expert consultation (UN and non-UN), identification and validation of key drivers of change, and a workshop to develop and validate the scenario framework.

The scenario-building process started in August 2022 with **desk research, expert interviews** and a **first consultative survey**, which helped to identify the main trends and uncertainties related to the future of digital public goods and data governance.

To ensure a global perspective and diversity of opinions, over **200 experts** from different continents were consulted through a large second **expert survey** in September 2022. Based on the input received, the team prioritised the most relevant **drivers of change** and developed an initial scenario logic, using the two-by-two scenario matrix methodology.

**The two-by-two scenario matrix** focuses on identifying the driving forces that could have the greatest impact on the outcome and around which there is the greatest uncertainty; this allows for the exploration of a wide range of possible scenarios. This approach also helps resist the temptation to simply project out from the present-day situation or to assume an 'almost certain probable future' based on what we know and expect today.

In October 2022, a workshop was held with a group of more than **30 Global Futurists** during the **Dubai Futures Forum**, where experts helped to further validate the scenarios and explore their potential implications.

The two drivers with the highest impact and uncertainty were selected as the axes of a two-by-two matrix (see Figure 1):

- On the vertical axis: Who **owns and controls the data**, individuals or corporate entities?
- On the horizontal axis: Are **AI and other data technologies beyond human control** or are they **within** our understanding?

This resulted in four speculative scenarios, each in one cell: techno-utilitarianism, riding the waves, enhanced lives and the devil's bargain.

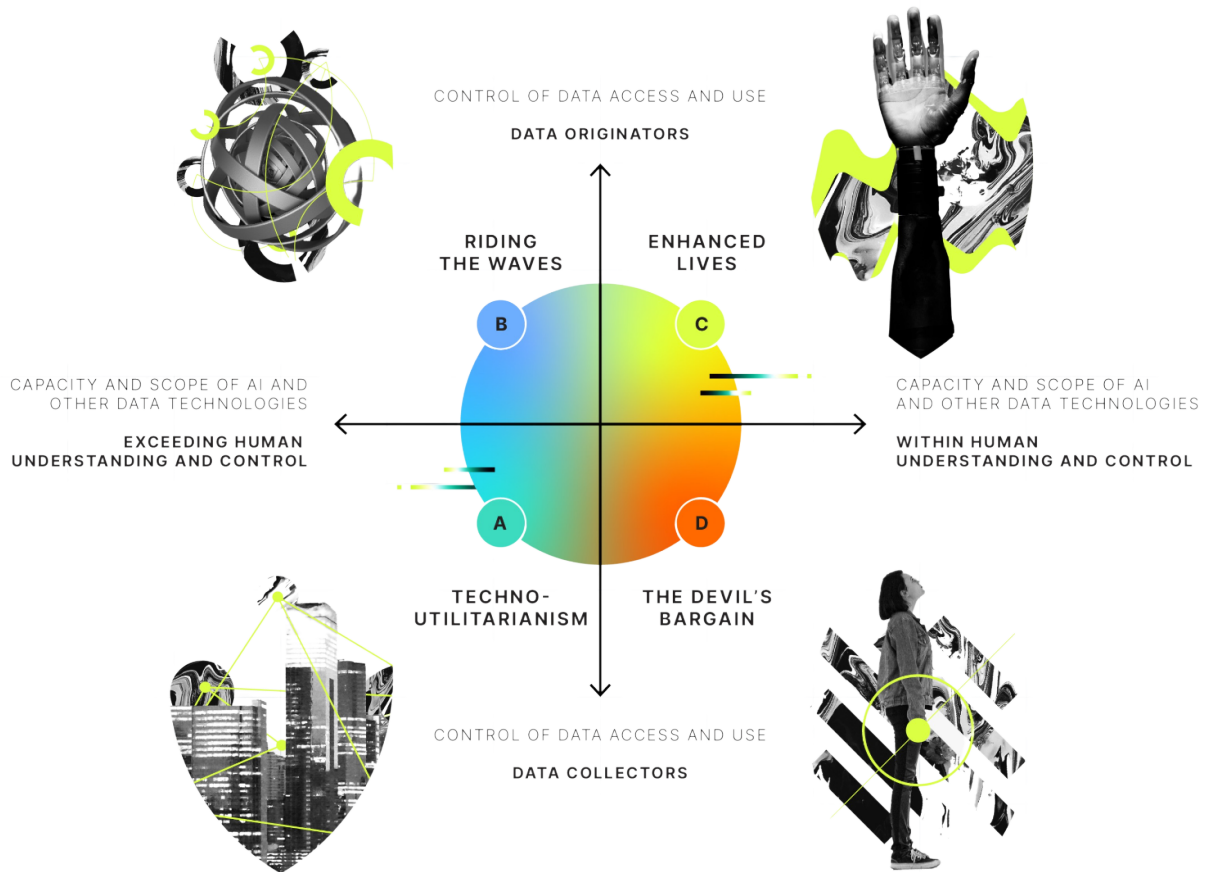


Figure 1: The Scenario Framework used in this report

Finally, in December 2022, the scenarios were presented to the **High-level Committee of Programs (HLCP) sub-group on data governance**, providing an opportunity to share the findings with key stakeholders and receive feedback.

The collaborative process used to develop these scenarios ensures that they reflect a diversity of perspectives and are grounded in the latest research and expert opinions.

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