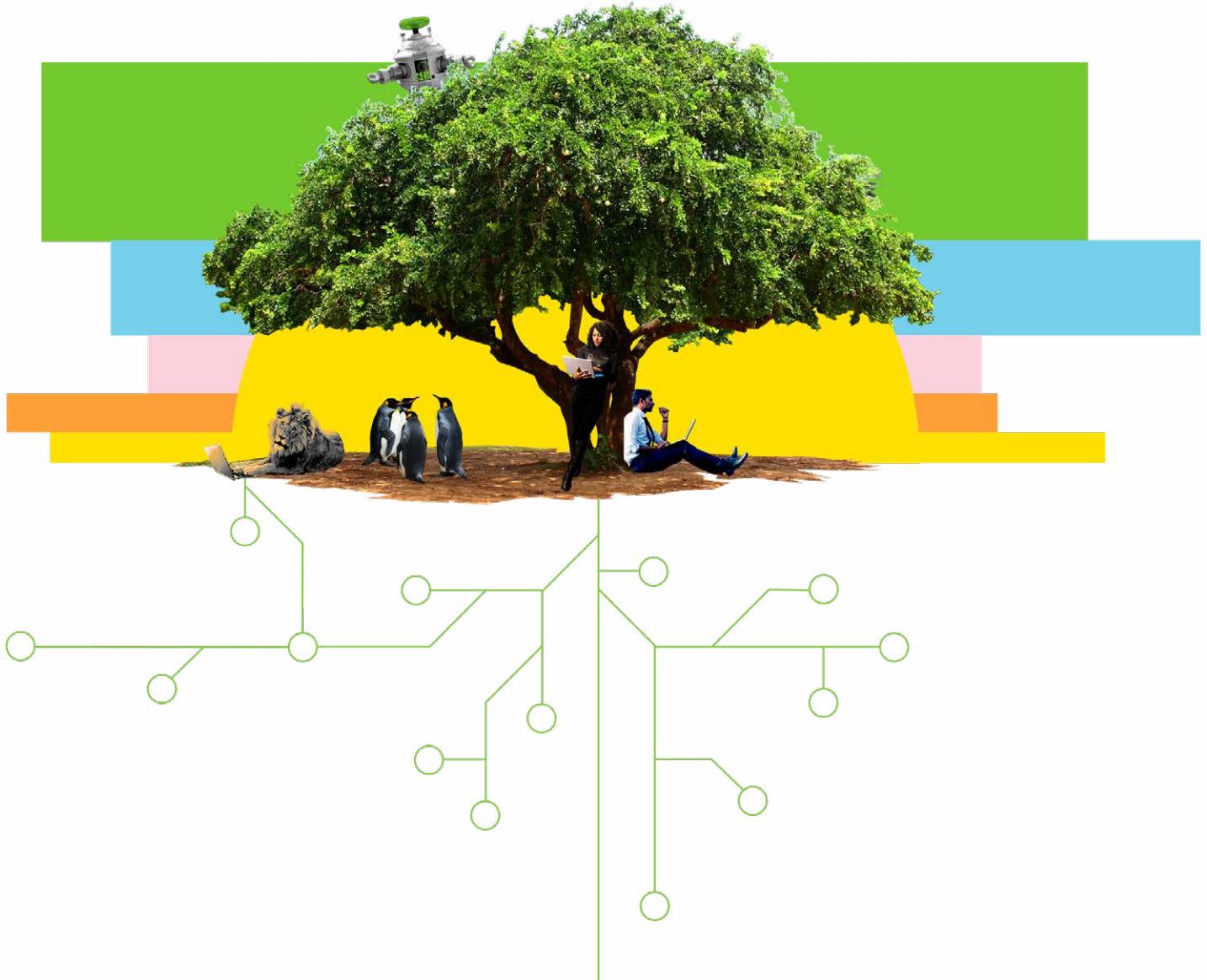


# A FAIR DATA ECONOMY IS BUILT UPON COLLABORATION

Heli Parikka (ed.), Tiina Härkönen and Jaana Sinipuro



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Sitra studies 191

**A fair data economy is built upon  
collaboration**

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**A fair data economy is built upon collaboration**

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# Preface

Data is an increasingly important raw material for economic growth. In the future, successful digital services will be based on the reliable use of data and will create value for everyone. This is how we define the strategic intent of a fair data economy and a European data economy model. Sitra's fair data economy promotion project IHAN® was launched in spring 2018 as the European Union's General Data Protection Regulation entered into force.

Our project has created a unique co-operation model for NGOs and the public and private sectors. It shows the way to a new economic and political sphere – a fair and human-driven data economy. The model stems from the MyData concept, which aims to increase trust and balance the needs, interests and rights of different stakeholders. At its core are the creation of common rules and the renewal of data-based business models.

Even just a couple of years ago, discussions on the data economy were dominated by artificial intelligence, the use of big data and blockchain technology. With a few exceptions, European companies have fallen behind in data economy development while US and Chinese platform companies succeed with their own data-based business models.

In 2018, we at Sitra were tasked with contemplating how to create an inspiring vision for a human-driven data economy in Finland and the rest of Europe. This was a fairly new economic area, with hardly any examples and understood by few. However, we estimated that it would have a significant impact on Finland's and Europe's competitiveness and people's chances of understanding their role as digital service users and data producers.

We wanted to find a technical solution and develop a model for consent-based data exchange, to make it easier to exercise data-related rights and to enable the creation of new services based on data mobility. We also wanted to build an easier and more private digital everyday life for consumers and other individuals.

In three years, the operating environment has changed enormously. Europe has risen to defend its position in the data economy and the building of a fair data economy has gradually become a joint European project. The operating environment has been and is being changed through legislative means, simultaneously at the national and the EU levels, as a result of different parties around Europe joining forces to build regulation-based technical and procedural solutions to promote the transfer and responsible use of data.

Compliance with legislation is a prerequisite for sustainable business, but building trust in digital services, for example, requires more than regulation-compliant actions. The self-regulation of companies and other organisations also plays a key role.

The project was in many ways perfectly timed. Finland's EU Presidency in 2019 promoted the emergence of the principles of a human-driven data economy alongside the discussion about artificial intelligence and the European strategy for data published in 2020, and the subsequent legislative initiatives indicated a willingness to create new rules for the data economy.

This development has also been driven by consumers' growing privacy concerns, the concept of the individual's right of self-determination with regard to data and the joint efforts of major European industrial companies to build digital independence and new data-processing architectures as part of the GAIA-X initiative. The achievement of the goal is also supported by the digital targets for 2030 published by the European Commission in 2021.

The coronavirus pandemic has contributed to a major increase in the use of digital technology. This has highlighted the significance of the technology as well as the significance of the associated responsible data use. In the future, common rules and a functional digital infrastructure will be especially favourable to smaller companies and organisations and will hopefully provide more room for choice over the kinds of digital services we are offered and the terms and conditions under which our data is used.

The joint journey of Sitra and hundreds of partners – from a vision for a fairer data economy through practical experiments towards statements on numerous action plans and legislative initiatives – has been a rewarding one. The analyses, reports and studies carried out have helped to constantly realign the project. The rapid changes in the operating environment have also sped up the work.

The transformation of the original vision into actions has required international co-operation among experienced people with different mindsets as well as bold experiments, with which the drawing-board vision has been refined from technical documents into practical applications that rely on a digital circle of trust.

It has been encouraging to notice that more and more attention has started to be paid, in both decision-making and business, to the data economy as part of the growth of European competitiveness, as the opportunities the data economy offers become increasingly visible and necessary from the perspective of the functionality of societies.

A European data economy is built through constant interaction among decision-makers, companies and civil society. However, it requires actions and activity from many different parties. Decision-making should not only support but also demand changes in companies' operating methods and models. Companies need to be active in integrating the responsible use of data as a prominent part of their strategy and operations. Consumers' understanding of this topic should be increased. In addition, consumers and civil society must apply pressure to those using their data and demand a more responsible data-use culture that better takes the individual's rights into account.

Sitra's role has been to act as an intermediary, a discussion forum provider and a uniter of different parties, enabling the specification of shared goals and the establishment of actions based on these goals. An easier, more private digital everyday life is not here yet but the first steps can be taken provided that we build and strengthen the foundation needed.

10 May 2021

**JAANA SINIPURO**

Project Director, IHAN® – Human-driven data economy, Sitra

# Summary

For a human-driven and fair data economy to work, it must be based on three important and interconnected aspects: regulation based on ethical values; technology; and new kinds of business models. With a human-driven approach, individual and social interests determine the business conditions and data is used to benefit individuals and society.

When developing a fair data economy, the aim has been to use existing technologies, operating models and concepts across the boundaries between different sectors. The goal is to enable not only new data-based business but also easier digital everyday life that is based on the more efficient and personal management of data. The human-driven approach is closely linked to the MyData concept.

At the beginning of the IHAN project, there were very few easy-to-use, individually tailored digital services. For example, the most significant data-based consumer services were designed on the basis of the needs of large corporations. To create demand, prevailing mindsets had to be changed and decision-makers needed to be encouraged to change direction, companies had to find new business with new business models and individuals had to be persuaded to demand change.

The terms and frameworks of the platform and data economies needed further clarification for the development of a fair data economy. We sought out examples from other sectors and found that, in addition to “human-driven”, another defining concept that emerged was “fair”, with fairness defined as a key goal in the IHAN project. A fair model also takes financial aspects into account and recognises the significance of companies and new services as a source of well-being.

Why did Sitra want to tackle this challenge to begin with? What had thus far been available to people was an unfair data economy model, which needed to be changed. The data economy direction had been defined by a handful of global companies, whose business models are based on collecting and managing data on their own platforms and on their own terms. There was a need to develop an alternative, a European data economy model.

One of the tasks of the future fund is to foresee future trends, the fair and human-driven use of data being one of them. The objective was to approach the theme in a pluralistic manner from the perspectives of different participants in society. Sitra’s unique position as an independent future fund made it possible to launch the project.

A fair data economy has become one of Sitra’s strategic spearheads and a new theme is being prepared at the time of the writing of this publication. The lessons learned and tools created so far will be moved under that theme and developed further, making them available to everyone who needs them.

# Tiiivistelmä

Ihmislähtöinen ja reilu datatalous edellyttää toimiakseen kolmen näkökulman huomioinnin. Se kytkee yhteen eettiseen arvopohjaan perustuvan sääntelyn, teknologian ja uudenlaiset liiketoimintamallit. Ihmislähtöisyydessä yksilöiden ja yhteiskunnan etu määrittää liike-toiminnan lähtökohtia ja dataa hyödynnetään yksilöiden ja yhteiskunnan hyväksi.

Reilun datatalouden kehittämistyössä on haluttu hyödyntää olemassa olevia teknologioita, toimintamalleja ja konsepteja poikkileikkaavasti, eri toimialoilta. Tavoitteena on mahdollistaa paitsi uutta datapohjaista liiketoimintaa myös aiempaa helpompi digitaalinen arki, joka pohjautuu tehokkaampaan ja henkilökohtaisempaan tiedon hallintaan. Ihmislähtöisyyssä kytkeytyy vahvasti omadata- eli MyData-ajatteluun.

Helppokäyttöisiä ja juuri meille sovitettuja digitaalisia palveluita ei hankkeen alussa juuri ollut. Esimerkiksi merkittävimmät datapohjaiset kuluttajapalvelut suunniteltiin suurten yritysten lähtökohdista. Kysynnän luomiseksi tuli muuttaa vallitsevia ajatusmalleja ja rohkaista päättöksentekijöitä vaihtamaan suuntaa, yrityksiä löytämään uutta liiketoimintaa uusilla liike-toimintamalleilla, ja kansalaisia vaatimaan muutosta.

Alusta- ja datatalouteen liittyvät termit ja -viitekehystä ovat vaatineet selkeytystä suhteessa reilun datatalouden kehittämistyöhön. Haimme esimerkkejä muulta toimialoilta. Määrittelevänä käsitteenä ihmislähtöisyyden rinnalle nousi reilus, joka määriteltiin projektin keskeiseksi tavoiteeksi. Reilu malli ottaa huomioon myös taloudellisen näkökulman ja tunnistaa yritysten ja uusien palveluiden merkityksen hyvinvoinnin lähteenä.

Mutta miksi Sitra halusi alun perin tarttua haasteesseen? Tarjolla oli epäreilun datatalouden malli, johon haluttiin muutosta. Datatalouden suuntaa oli määritetty kourallinen globaalaje yrityksiä, joiden liiketoimintamallit perustuvat datan keräämiseen ja hallinnoimiseen omilla alustoillaan ja omilla ehdollaan. Oli tarve kehittää vaihtoehtoinen, eurooppalainen datatalouden malli.

Tulevaisuustalon tehtävä on ennakoida tulevaisuuden suuntaviivoja, joista reilu ja ihmislähtöinen datan käyttö tunnistettiin yhtenä. Teemaa haluttiin lähestyä moniarvoisesti yhteiskunnan eri toimijoiden näkökulmista. Sitran ainutlaatuinen asema riippumattomana tulevaisuustalona mahdollisti projektin aloittamisen.

Reilusta datataloudesta on tullut yksi Sitran strategisista kärjistä ja uusi teema on julkaisun kirjoitushetkellä valmisteilla. Tähän asti saadut opit ja työkalut siirtyvät siihen ja jatkokehittelyyn sekä kaikkien niitä tarvitsevien käyttöön.

# Sammanfattning

Det finns tre perspektiv att ta hänsyn till för att en människoorienterad och rättvis dataekonomi ska fungera. En rättvis dataekonomi förenar reglering utifrån en etisk värdegrund med teknologi och nya affärsmodeller. Människoorientering handlar om att utgångspunkterna för affärsverksamheten definieras av individernas och samhällets intresse och om att utnyttja data för individernas och samhällets bästa.

När vi arbetat med att utveckla en rättvis dataekonomi har vi velat använda oss av befintliga teknologier, verksamhetsmodeller och koncept från olika branscher på ett sektorsövergripande sätt. Dels för att möjliggöra ny datadriven affärsverksamhet, dels för att skapa en enklare digital vardag som grundar sig på en effektivare och mer personlig datahantering. Människoorientering har dessutom en stark koppling till MyData-tänket.

När vi inleddes projektet fanns det nästan inga användarvänliga digitala tjänster som var anpassade just för oss. Till exempel de viktigaste datadrivna konsumenttjänsterna designades utifrån de stora företagens perspektiv. För att skapa efterfrågan behövde vi förändra de rådande tankemodellerna och uppmuntra beslutsfattarna att byta riktning, företagen att hitta ny affärsverksamhet med nya affärsmodeller och medborgarna att kräva förändring.

I samband med att utveckla rättvis dataekonomi har behövde vi skapa klarhet kring termerna och referensramarna inom plattformsekonomin. Som hjälp använde vi oss av exempel från andra branscher. Ett grundläggande begrepp vid sidan av människoorientering blev rättvisa, som fastställdes som ett centralt mål för projektet. Den rättvisa modellen tar också hänsyn till det ekonomiska perspektivet och betydelsen av nya tjänster som en källa för välfärd.

Men varför ville vi på Sitra från början anta utmaningen? Det som fanns tillgänglig var en modell för en örättvis dataekonomi, något som vi ville förändra. Riktningen för dataekonomi hade bestämts av en handfull globala företag med affärsmodeller som utgick från att samla in data och hantera dem på sina egna plattformar och sina egna villkor. Vi behövde utveckla en alternativ, europeisk modell för dataekonomi.

Som framtidshus har vi i uppgift att förutse framtida riktlinjer, och vi identifierade en rättvis och människoorienterad dataanvändning som en sådan. Vi ville närra oss temat på ett pluralistiskt sätt från olika samhällsaktörers perspektiv. Projektet kunde startas tack vare Sitrars unika ställning som ett oberoende framtidshus.

Rättvis dataekonomi har blivit ett av de strategiska fokusområdena för Sitra, och när denna publikation skrivs håller vi på att förbereda ett nytt tema. Alla lärdomar och verktyg vi hittills skaffat oss kommer att överföras till användning och vidareutvecklas där samt bli tillgängliga för dem som behöver dem.

# 1 Towards a fair and human-driven data economy

The fair use of data requires sustainable solutions. Organisations that operate responsibly will be able to participate in trust-based data-sharing ecosystems in which the value of data increases. Co-operation and European values are the engine of a fair data economy and trust is its fuel.

## A fair data economy enables more sustainable solutions

The data economy is an area of the economy in which business models are based on various forms of data use. In a fair data economy, the use of data is combined with a people-oriented approach and model in which different parties have common ground rules for sharing data and using it in services (Raunio 2020).

### WHAT IS A FAIR DATA ECONOMY?

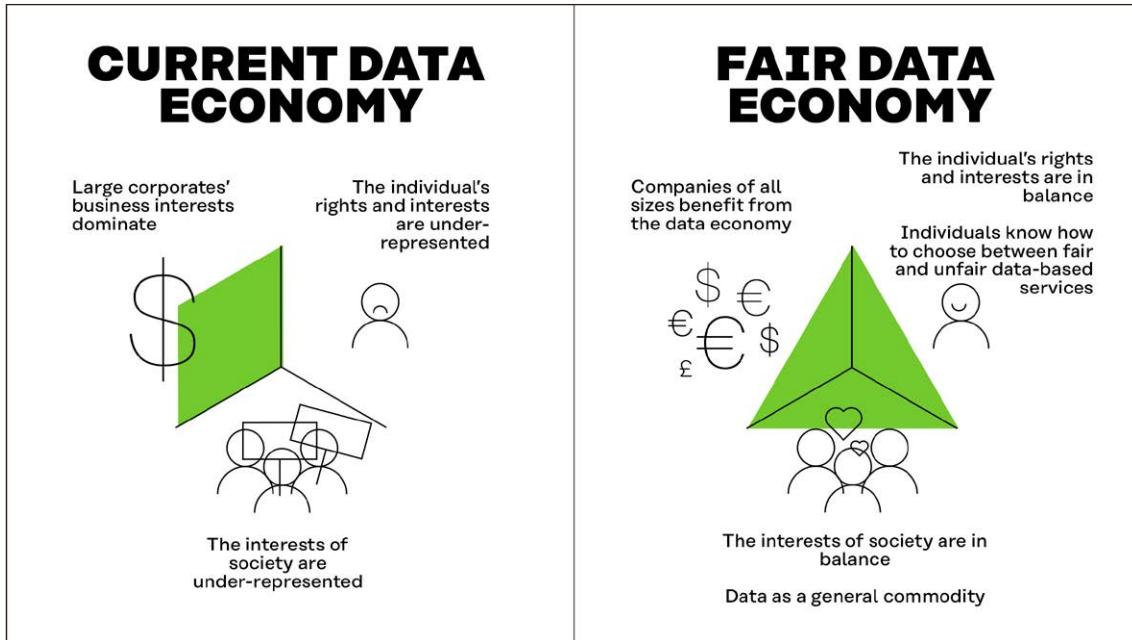
The part of the economy that focuses on creating services and data-based products in an ethical manner. Fairness means that the rights of individuals are protected and the needs of all stakeholders are taken into account in a data economy.

Originally, Sitra's work had four goals. The first goal was to lay a foundation for a fair data economy, or rules for the consent-based sharing of data concerning individuals as well as technical architecture and model solutions, encompassing the whole of Europe.

The second goal was to strengthen individuals' opportunities to influence the terms of the data economy by familiarising consumers with the rights guaranteed by the EU's General Data Protection Regulation (GDPR) and by offering them the opportunity to opt for fair digital services.

In addition, there was the aim of turning Finland into a data economy pioneer by influencing companies' and organisations' awareness of the benefits of responsible data use for pursuing a competitive advantage. Efforts were made to distribute the operating model throughout Europe so that parties operating not only in Finland but also in other countries would uphold and apply the principles of a fair data economy.

**FIGURE 1. IN A FAIR DATA ECONOMY, BENEFITS ARE DISTRIBUTED EQUALLY**

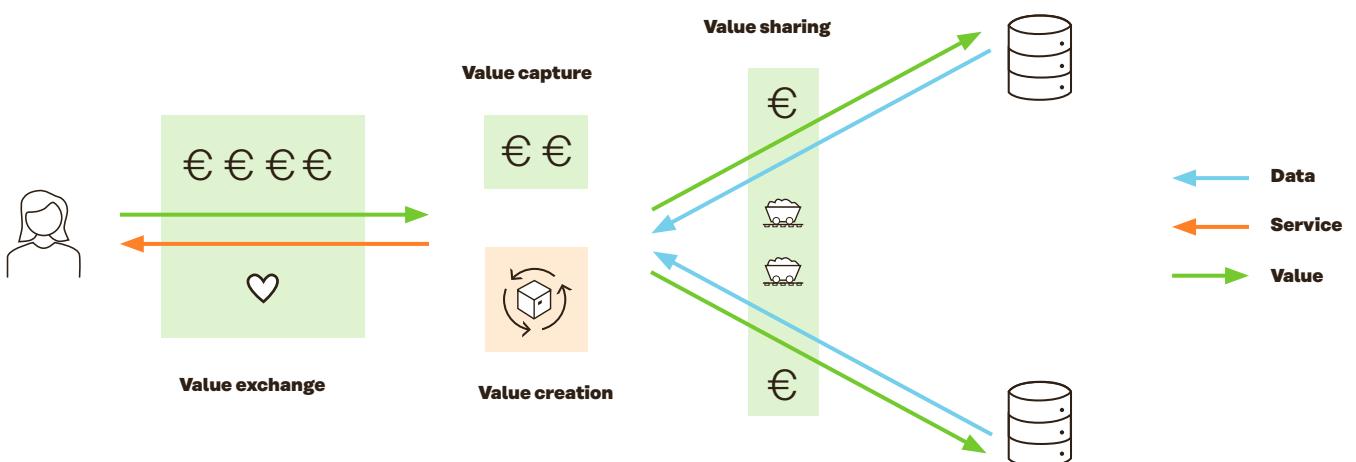


### The value of data increases in ecosystems

In individual organisations, the maintenance of trust in the digital era requires the realisation of many aspects simultaneously.

Technology makes privacy protection and secure solutions possible, the data generated by it must be used transparently and under common rules, and incentives promote the sharing and reuse of data.

**FIGURE 2. VALUE CREATION IN A FAIR DATA ECONOMY HAPPENS THROUGH DATA SHARING**



The value of data can be increased by crossing organisational boundaries and combining it with other data in data ecosystems. Ecosystems typically refer to co-operation among companies, entrepreneurs, researchers, public administration or the third sector, its supporting structures and common value creation.

Ecosystems attract R&D investment and, according to estimates, companies participating in ecosystems are on average more profitable than their reference companies. Ecosystems also play a key role in promoting the digital transformation and a green transition and in influencing national and EU economic policy.

Integrated, cross-sectoral data is the most valuable form of data. To enable the better

integration of data, business models and data-management practices and policies must be reformed.

Various approaches to promoting the movement of data across sectoral boundaries have been proposed in [the road map for a fair data economy](#) (2019) and the [35 proposals to make the European data strategy work](#) working paper (2020), for example.

To find solutions, the challenges associated with the large-scale sharing and use of data must be identified. When risks are identified, the next step is to create solutions that strengthen people's and companies' trust in data management and data-use protection so that data is actually shared.

## 2 Mission: to build a new data economy model

The development of Europe's data economy in the coming years will influence the economic success of the entire region and the fairness of the processing of people's data. Paying attention to the opportunities offered by the data economy and to digital development opens up new prospects for different sectors of economy.

A European data economy model will be created by developing regulation and co-operating. An unfair data economy creates imbalance as far as the individual's rights, companies' competitiveness and opportunities, and societies' democratic development are concerned. The keys to tackling these challenges are in the hands of not only legislators but also consumers and experts.

The European data economy development has proceeded convincingly in the past few years. The General Data Protection Regulation, which entered into force in 2018, fired the starting pistol on a data economy based on European values. The GDPR improved EU citizens' rights to personal data protection as well as their privacy protection and sought to build trust in the field of data processing. The GDPR

introduced common rules for the processing of personal data for companies operating in the EU.

Expectations for the GDPR were high but its deficiencies soon became apparent. The practical opportunities that the GDPR offers to individuals to exercise influence are still limited. Even though it lays a solid foundation for strengthening the individual's rights, the tools for realising these rights are still lacking. In addition, it has been noted that companies also need extensive support to learn how to capitalise on the benefits offered by the data economy.

[The European strategy for data](#) published in 2020 and subsequent EU legislative initiatives, such as [the Regulation on European data governance](#), play a significant role in enabling a single data market and the competitiveness of those in Europe.

**FIGURE 3. THERE ARE MANY ONGOING LEGISLATIVE INITIATIVES RELATED TO THE EUROPEAN STRATEGY FOR DATA**

### EUROPEAN STRATEGY FOR DATA LEGISLATION

Nov 2020 Data Governance Act	Ensure <b>TRUST</b> in data sharing	Public-sector data, private-sector data and personal data voluntarily made available by data holders
Dec 2020 Digital Market Act	Regulate <b>MARKET POWER</b> based on data	Personal data and private-sector data held by online platforms and originating from the users (both businesses and individuals)
Q1 2021 Implementing Act High-value Datasets	Unleash the socio-economic potential of data as a <b>PUBLIC GOOD</b>	Public-sector data of high value
Q3 2021 Data Act	Ensure <b>FAIRNESS</b> in the allocation of data value among those in the data economy	Private-sector data, personal data and co-created (IOT) data

The recent [declaration](#) on Europe's Digital Decade presents both the vision and the avenues for a successful digital transformation of Europe by 2030. The ambition is to make the EU digitally sovereign by pursuing digital policies that empower people and businesses to create a human-centred, sustainable and more prosperous digital future.

Given the wide range of challenges, the development of a data economy requires extensive measures at national and EU levels. In Finland, the key policy measures promoting the data economy have included the publication of the national [information policy report](#) (Ministry of Finance 2018) and the conclusions of Finland's EU Presidency and [the data economy principles](#) (EU Council 2019) that were published at the end of the Presidency.

The aim is that data is transferable between different sectors and operating areas and is shared more smoothly among different parties. In addition to legislation, common rules and structures are needed that are based on the legislation currently being prepared. Rulebooks, such as Sitra's Rulebook for a Fair Data Economy, lay a foundation for common practices, while soft regulation provides guidelines for them.

A joint European data infrastructure is being built with [the GAIA-X project](#), for example. The project defines standards and operating models for sharing data based on European values. A key element of the GAIA-X project is creating data spaces, which aim to build interoperability and support the creation of new services and innovations based on data sharing and use. These data spaces are usually sector-specific, logically defined and restricted entities that have common principles and rules for the processing of data.

Joint [statements](#), [proposals](#) and co-operation-based [initiatives](#) have also

generated valuable input for legislation and official preparation, for example. New initiatives have brought together parties from around Europe, and even from across the world, and also generated new ideas that promote new kinds of thinking.

Participating in the activities of national and international co-operation networks, providing support for the networks and promoting the solutions developed in them through one's own actions are important aspects in building a fairer and more competitive data economy. The significance of networks will increase even further in the future.

### **MYDATA GLOBAL**

[An international initiative](#) originating from Finland. It has grown into an NGO that emphasises a human-driven approach and ethical solutions in data use. Its activities have brought together hundreds of individuals and organisations from different sectors around the world and its aim is to empower individuals to act globally for the better management of their data.

### **DATA SOVEREIGNTY NOW INITIATIVE**

The [Data Sovereignty Now](#) initiative brings together organisations that are pioneers in the data economy. Its goal is to promote the development of a European data economy based on data sovereignty. It boosts the creation of a joint European soft infrastructure by influencing the development of European data legislation, among other things.

## The biggest challenges and opportunities on the path towards a fair data economy

The development and challenges of a data economy should be viewed from different perspectives and efforts should be made to influence policy proposals. A comprehensive overview with the aid of various studies and surveys, for example, makes it easier to understand the kinds of impact mechanisms that are needed to ensure that the benefits of the data economy are distributed equally to companies and consumers, and, eventually, throughout society.

In the big picture, Europe's competitiveness is challenged by the unfair distribution of the benefits of the data economy. Europe largely relies on the services of international platform companies and is predominantly a raw material producer for the data economy. Added value is created elsewhere and its benefits are also enjoyed elsewhere (Raunio 2020).

*The current platform economy model demonstrates that the value of data collected from consumers is often higher than the value of the actual business and the benefits are eventually reaped by global platform giants.*

From the point of view of consumers, challenges in particular concern privacy protection issues, the terms and conditions, and insufficient opportunities to influence the use of their data. Unfair terms and conditions, which are typically longer than Shakespeare's plays and, according to an analysis carried out by the BBC in 2018, would require the reader to have university-level education to understand them, have become the established standard in the market.

In practice, it is not possible for individuals to read through long and complex terms and conditions or time-consuming cookie statements. Consumers have to accept the use of their data in return for using the service. According to the [On the trail of personal data](#) report, the total amount of data collected about an individual in two weeks, for example, corresponds to more than 400,000 A4 pages of text and the data is transferred to an average of a hundred different companies.

Consumers' interest in the fair use of their data is still somewhat sporadic and following up on this topic is not very popular. The question is whether the operating culture can be changed and data collection and use made more transparent without pressure from consumers (Raunio 2020).

The development of business based on reliable and responsible data use and the creation of innovations requires more extensive sharing of data among different parties, as one organisation alone does not have sufficiently versatile data. Data sharing demands trust in other ecosystem participants, common rules and clear benefits for all parties. As far as implementation is concerned, this requires open interfaces and technological solutions.

A typical challenge in moving over to data-based business is to create a profitable business model. The desirability of the service must be ensured but there may also be the additional challenges of the difficulty of pricing, low return on capital or the reaching of the critical number of users. Technical challenges and competence gaps are also key problems in enabling business (Paavola, Seppänen, Eloranta 2021.)

The main obstacle to the development of inter-company innovation ecosystems is the reluctance of companies to share data with other parties. So far, there are very few examples of extensive data-based ecosystems (Raunio 2020).

## **FIGURE 4. THE MANY CHALLENGES FACING THE DEVELOPMENT OF DATA-BASED BUSINESS**



Data does not wear out when used or reduced when shared; instead, its value can even increase. From this point of view, data should be used maximally. On the other hand, attention should also be paid to the environmental issues related to its use. The energy consumption of the ICT sector is constantly growing and accounts for an increasingly significant part of the world's electricity consumption. The energy consumption of digital devices has extensive environmental impacts.

However, the increased use and improvement of digital technology offers solutions for reducing emissions. For example, data is an absolute necessity for the

circular economy. Improved data-based monitoring can reduce activities that have negative impacts on the climate and the environment (Paavola, Seppänen, Eloranta 2021.)

### **The European data economy offers a wide range of opportunities**

The value of the European data markets, or the data economy, is estimated to grow to more than 800 billion euros in the next four years. If the estimate is accurate, this would correspond to six per cent of the entire EU's GDP ([The EU's data strategy](#)).

Data and information are part of nearly all human activity and we are more and more dependent on digital solutions, both as individuals and as society. Reliable real-time data helps companies and public organisations design, target and optimise services.

From the perspective of companies, the more efficient use of data and the digital transformation can enhance access to markets and boost new kinds of business. Fairness and trust-based rules give European companies a competitive advantage when compared to the United States and China, for example. Companies obtain new tools for adopting a more human-driven approach.

A more extensive use and sharing of data offers opportunities to transform business in the SME sector, for example, where new innovations and business prospects are sorely needed throughout Europe. At its best, data-based business can have positive effects on revenue streams, reduce costs and increase companies' agility and their operational and organisational efficiency (Paavola, Seppänen, Eloranta 2021.)

### **BENEFITS OF DATA SHARING**

According to the ETLA Economic Research [report](#) (2019), the competitiveness of companies' supply chains is in particular influenced by how companies make data available to third parties. Companies must be readier to share their data more extensively but they must also specify precisely which types of data resources they treat as proprietary and which types they can share to other parties for refinement.

From the point of view of consumers, the more efficient use of data can make everyday life easier in the form of different applications and services.

For example, data that people have collected from wearable devices and then authorised by them for use can be used as raw material for healthcare and well-being services. When individuals have an opportunity to participate in the ecosystems of pharmaceutical companies and healthcare service providers by voluntarily disclosing their data and real-life experiences, it also becomes possible to create applications that contribute to people's health and make pharmaceutical research more efficient.

### **MORE TRANSPARENCY OF HEALTH DATA USAGE FOR THE PATIENT, ON THE PATIENT'S TERMS**

Oriola's and Sitra's joint [pilot project](#) developed a digital platform based on the principles of fair data use. The aim was to increase transparency of health data usage for the patient in real-world evidence (RWE) studies, which investigate effectiveness of medical treatment.

RWE studies help to develop quality of treatment and improve opportunities to get new medical treatments for Finnish patients. The research platform is based on strong identification and secure data handling. With the platform, examinees can at any stage change their consent to use their data in research or give their consent to a new study.

# 3 Trust in the digital era is built with fair data economy tools

The responsible and fair use of data is a strategic choice, which can also be seen in practical management and the organisational culture. Successful co-operation requires technical functionality, special attention to privacy protection and ease of use and transparency in the processing of data.

## New, responsible business based on data

Of the data economy business models, the platform economy in particular has witnessed not only success stories but also significant societal, business and individual-related problems. It is necessary to learn from the past and avoid making the same mistakes again. This is particularly important when designing services targeted at consumers.

As a rule, the business models of the largest platform companies have been problematic from the perspective of other data economy participants. This has resulted in the eroding of trust at many levels.

Building trust in the data economy and its parties among individuals, companies and society as a whole is a prerequisite for the realisation of a fair data economy.

*Organisations' own data strategies should define how data is used, in what kinds of networks the organisation operates, from whom data is sourced and with whom data is shared.*

The operations of a company developing digital services must be transparent and customer-driven. Technology is not an obstacle to new operating models but their enabler. Digital services are used when they are trusted.

In organisations, the maintenance of trust in the digital era requires the realisation of many aspects simultaneously. Technology makes privacy protection and secure solutions possible. The data generated by it must be used transparently and under common rules. Incentives promote the sharing and reuse of data.

An organisation must build a data governance model and include data in its overall strategy, with the aid of a data strategy, for example. A data strategy cannot be implemented in practice without the right kind of organisational culture and the commitment of staff. The development of new business and technical competence is crucial for successful companies.

In addition, an organisation must be economically viable and socially responsible. Innovation must not supersede information security or privacy protection requirements. Data is raw material for digital services and should be sourced and refined into services in a responsible manner while taking the needs of different parties into account.

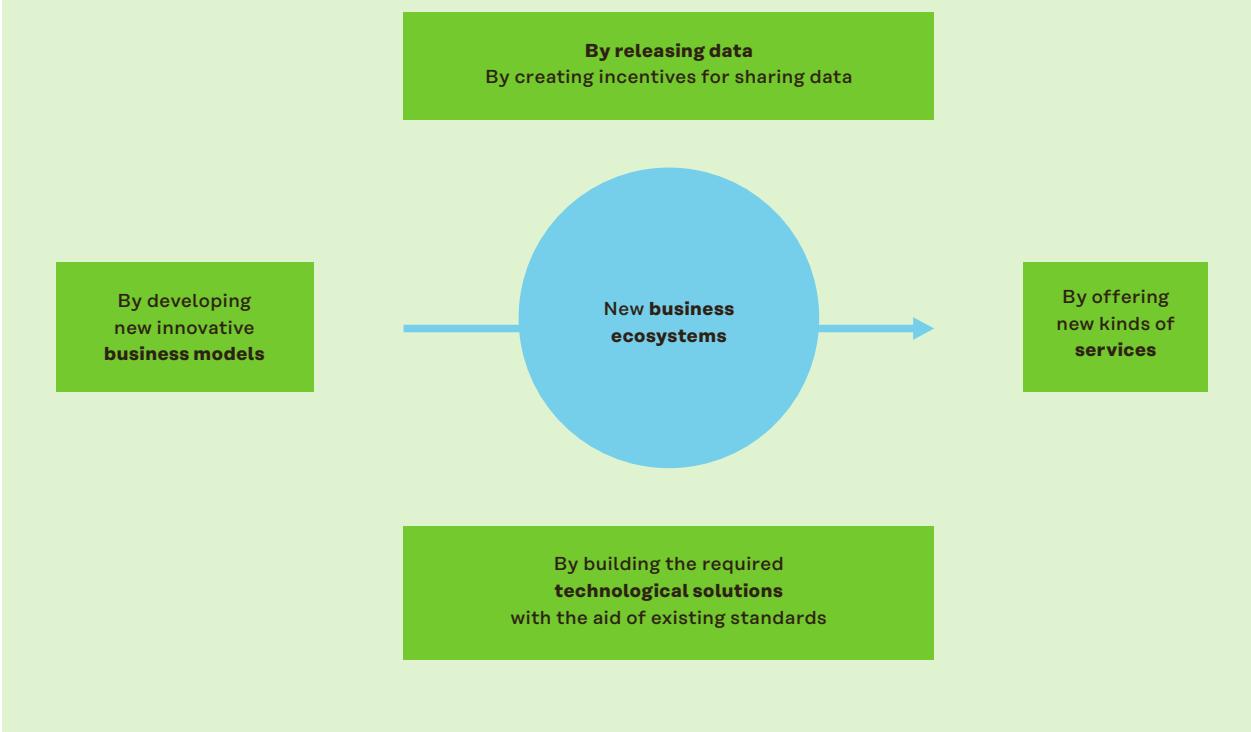
Legislation sets the minimum level for operations, but instead of necessity forced by regulation the gaining of trust should be based on a genuine desire to do so. To build

trust, an organisation must be honest and truthful, know how to communicate actively and clearly, and operate professionally.

## **FIGURE 5. A FAIR AND FUNCTIONAL DATA ECONOMY IS BUILT IN BUSINESS ECOSYSTEMS**

### **HOW TO CREATE A FAIR AND COMPETITIVE DATA ECONOMY**

**BY BUILDING A GOVERNANCE MODEL, WHICH ENABLES INNOVATION, INFORMATION SECURITY AND DATA PROTECTION**



Source: 5 Priorities adopted from Gartner 2019 "2019 Hype Cycles: 5 Priorities Shape the Further Evolution of Digital Innovation: A Gartner Trend Insight Report"

## Individuals should be a priority in a fair data economy

The building of a human-driven data economy that is fair to all requires that individuals be included as equal data economy parties and active participants. Both public and private organisations must recognise the significance of the individual's rights and their impact on the different areas of data use as well as the role of individuals in their own processes.

Companies that see individuals as an asset to their digital services get higher-quality data than other companies and attract customers who are willing to share their data with the company. This promotes service development and customer commitment.

### MAKING DATA PART OF CSR

In fair data economy development, the concept of [data as part of corporate social responsibility \(CSR\)](#) was developed from an idea into the first definitions and practices, with the support of dozens of Finnish companies. [Customer interaction](#) in particular significantly promotes dialogue between organisations and individuals, supports the building of trust between different parties and accelerates the development of sustainable data business.

Individuals' skills in and attitudes to data use have been studied using attitudinal surveys conducted among the general public in four EU member states (Hyry 2019, Turja and Sandqvist 2021). According to the latest survey (Turja and Sandqvist 2021), consumers trust service providers if a few basic requirements are met. Services evoke trust if they have easy-to-understand terms and conditions, the purpose of data use is

expressed clearly and the consumer knows what data is collected and can accept or forbid the disclosure of their data to third parties.

However, at the same time it is evident that Europeans have gaps in data economy skills and knowledge. The knowledge gap intensifies distrust towards digital services, increases frustration and even has a negative impact on the willingness to use the services. People are also concerned about their privacy and need to find fair digital services and distinguish them from other services. Many agree that a fair data consumer label would be a good way of identifying fair services (Hyry 2019, Turja and Sandqvist 2021).

There are differences between companies' and individuals' views on the data economy and its operating principles. Companies value a consumer label considerably less than individuals and the percentage of companies in favour of it continues to decrease (Ulander etc. 2019, 2021). In the platform economy model, different parties have been too far apart, so in a fair data economy, one result of increasing trust would be to bring individuals and companies closer.

In genuinely human-driven business, the sustainable use and management of data is an essential part of corporate social responsibility (CSR). The integration of data practices into their CSR approach and framework helps companies define their own principles and plan their actions to promote the responsible use of data.

To reap more benefits from data as a raw material in order to develop new, improved digital services, the individual has to be a willing and competent participant in the data economy. Willingness to share data with companies can only be achieved through trust, which requires legislative means, the company's own input and the individual's skills and knowledge.

### DIGIPROFILE TEST INCREASES UNDERSTANDING OF DIGITAL EVERYDAY LIFE

The [digiprofile test](#) helps people understand the fundamentals of the data economy and the opportunities to protect their data. The test also helps people recognise and assess their behaviour on the internet and offers practical tips for digital everyday life. For example, according to the digiprofile test, those under the age of 20 have the least understanding of data economy mechanisms and the weakest data protection ability among all age groups.

### WHAT DOES DATA SOVEREIGNTY MEAN?

Data sovereignty, or the right of self-determination with regard to one's own data, refers to the creation of simple, uniform and safe ways for consumers and companies to reuse their decentralised data, wherever and whenever. It is based on the development of functional, legal, technical and operation co-operation agreements, or so-called "soft structures". From the perspective of companies and organisations, it could be applicable as a general design principle for a data strategy, for example.

The realisation of a fair data economy requires that Europeans' skills and knowledge be developed at several levels and across all age groups. Both formal education and low-threshold access to information are needed. Children's skills need to be developed equally to those of adults and young people.

Co-operation with universities and organisations to develop preliminary ideas for fair data economy training has been valuable for influencing know-how in different target groups. The aim should be that the fundamentals of the data economy become strong civic skills among Europeans.

For companies operating in the consumer business, the change must take place in corporate social responsibility and in customer and marketing strategies. Individuals must be able to use the services the company offers so that they can maintain the control and visibility of their own data. This is especially important in sensitive areas, such as health or personal finance.

### Companies need more trust and competence development

Companies in Europe feel that they have to operate under different rules to US and Chinese companies, with legislation often restricting them more. As the ability to create digital innovations is based on skills and the availability of raw material – in other words, data – it is important to ensure that European companies have access to versatile data, available in sufficient volumes.

There must be an increase in the level of companies' trust and better access to opportunities for support offered by decision-makers, legislation and society for the development of new digital services and new business.

The significant lead that technology giants have opened up over others in the data economy cannot be closed by just copying old operating models. New business models based on ecosystem thinking and data networks require mutual trust between European companies and other parties.

Operating in ecosystems requires most companies to change radically and learn entirely new business models. Technology develops by leaps and bounds and demands companies to perform a constant balancing act when it comes to skills and capabilities.

*There is enormous B2B potential beyond the consumer business.*

The significance of data ecosystems as a source of innovation and new business has proven to be even greater than was previously assumed. A human-driven data economy focuses especially on consumer services but a fair data economy also pays attention to the considerable of potential offered by B2B data business.

The foundation for mutual trust between companies has been laid by bringing different parties together to experiment with operating in data ecosystems. The tools used include [data network workshops](#) and a technical [testbed](#) for corporate use.

The establishment of data ecosystems has also been supported with the co-creation of

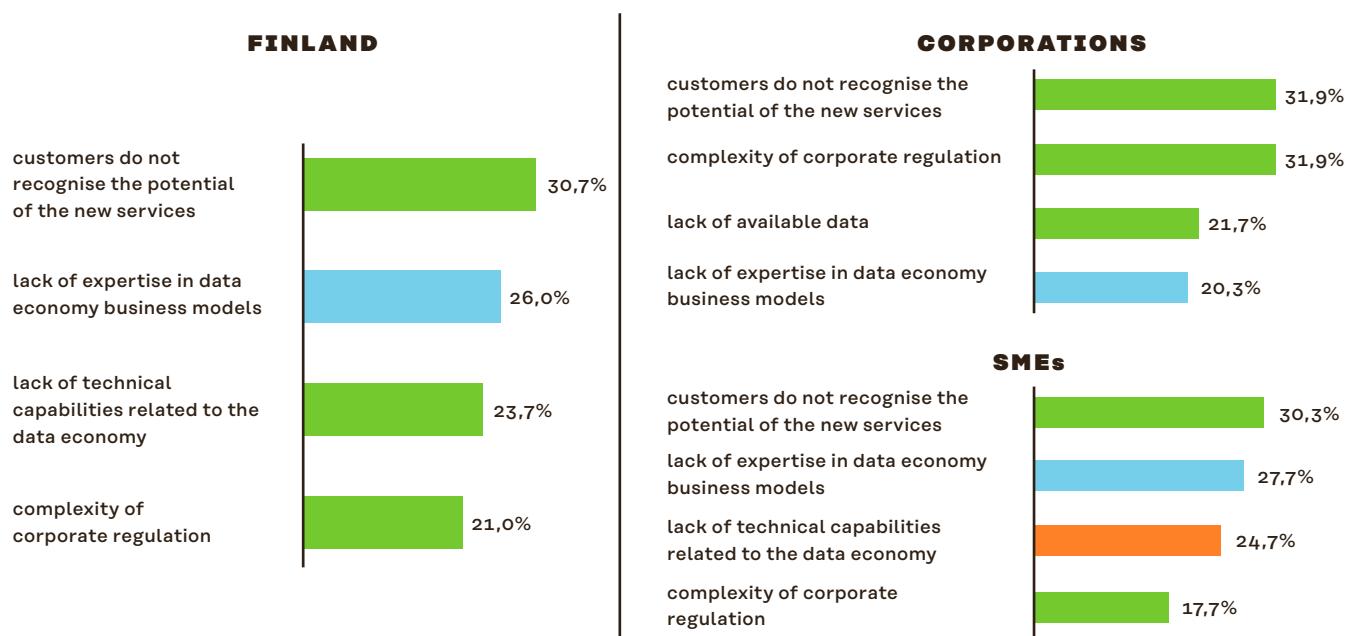
other tools for companies. Of these, [the Rulebook for a Fair Data Economy](#), targeted at trust-based ecosystem participants, has been published in several languages.

#### RULEBOOK FOR A FAIR DATA ECONOMY

The Rulebook for a Fair Data Economy offers tools and agreement templates to facilitate data network building. Its aim is to make it easier to develop digital services according to the principles of a fair data economy.

European companies' data economy capabilities and competence, especially in the SME sector, is a major challenge for Europe. Companies lack the appropriate resources, which is a great cause of concern for them. Finnish SMEs in particular encounter challenges when it comes to business models and technical capabilities. The most significant challenge for Finland seems to be a lack of insight into customer needs (Ulander etc. 2019, 2021).

**FIGURE 6. THE MAIN CHALLENGES TO THE CREATION OF DATA-BASED SERVICES LIE IN THE APPLICATION OF THE CUSTOMER-DRIVEN APPROACH AND LACK OF COMPETENCE**



This competence-related challenge was already apparent in the 2019 survey of businesses and a business programme pilot project has since been used to tackle it. The programme offered coaching that was intended especially for SMEs, with the aim of helping them create new business with data and improve their preparedness to adapt to post-crisis times in co-operation with partners.

#### BUSINESS PROGRAMME

The companies chosen committed to a demanding six-month development programme in which experts from 22 organisations were trained to master the business models required by a fair data economy. The programme laid the foundation for a Finnish data economy SME network and supported companies in creating new services.

A key outcome of the programme was an understanding of the importance of a comprehensive development model: in development, just sticking Post-it notes to the wall is not enough; you need to look "under the hood" and build competence. Different tools are used at different stages to gradually develop preliminary business models and to analyse them one element at a time.

The structure and content of the programme will be further developed and productised in 2021, to make the programme easier and more cost-efficient to implement next time.

The requirements of a fair data economy are still new for many companies but some companies are already moving towards responsibly produced digital services and looking for new sustainable business models to boost growth. The fair data economy maturity model helps organisations to evaluate their level of development when it comes to a fair data economy. The tool also offers guidelines for taking the operations to the next level.

#### FAIR DATA ECONOMY MATURITY MODEL

The development of [the fair data economy maturity model](#) was based on the EU's data economy principles and the fair data economy principles derived from them. The participants in development and evaluation included representatives of companies, NGOs, public administration and the academic world as well as international data economy experts.

Future developments could include sector-specific maturity model versions, for example. The model can serve as a databank of companies' fair data-processing capabilities and as a benchmark tool. It can also be used when developing a potential fair data economy consumer label.

### From pilot projects to a testbed

The concept of a human-driven data economy is fairly new, and the related principles and operating models remain largely undefined. The blueprint ([IHAN Blueprint](#)) produced by one Sitra project describes the roles of data economy participants, such as data providers and service providers, and the key components of authorising the use of individual-related data (Luoma-Kyyny, Suokas 2020).

To move from the blueprint to more concrete actions, components were realised in technical pilot projects but they did not yield a single comprehensive deployment solution. To resolve this problem, a [testbed](#) was created in a Sitra project, for building and testing services that adhere to the fair data economy principles. A new way to build data-based services and make good use of digital technology requires the participating organisations to be prepared to experiment and proceed through pilot projects. Joint practical experiments strengthen mutual trust.

Numerous practical pilot projects have been carried out using the testbed, including that by Wärtsilä and SEB.

### WÄRTSILÄ AND SEB TO DIGITISE THE EXPORT LETTER OF CREDIT PROCESS

Letters of credit (LCs), used in the import and export trade, are a long-standing term of payment, providing security for the buyer and the seller. The current process is manual and, therefore, slow and prone to errors.

Finnish technology group Wärtsilä and its partners tried out a new digital letter of credit process using Sitra's fair data economy testbed. Under the new project, a large part of the letter of credit process based on paper documents and PDF files was digitised by data productisation. This shortens the time required for processing, reduces error sensitivity and improves security.

Data productisation and transparent, real-time sharing of data between different parties offers companies opportunities to boost their current processes and reduce risks and also to create a new form of value together with partners.

## 4 The future fair data economy will also be built on co-operation

Resolving complex problems requires co-operation across industrial and sectoral boundaries. A fair data economy develops with the aid of data exchange and sharing. In the future, innovations will be created through co-creation.

### **Building a fair data economy requires positive action**

Innovation ecosystems provide the framework in which social or global problems can be resolved together (Ståhle and Pirttivaara 2015). The fair data economy, the circular economy and the green transition are all closely linked as they share common challenges and solutions. Digital technology is needed to monitor and steer a circular economy. On the other hand, the ICT industry causes considerable carbon dioxide emissions. A sustainable, fair data economy requires common rules and solutions. (Sinipuro 2021.)

In addition to talk, actions and solution options are needed. For this reason, Sitra and its partners contribute to the GAIA-X project that builds a digital future for Europe. Its aim is to create an open ecosystem that is based on European values and builds a reliable, open and safe infrastructure for data sharing and use.

In addition, Sitra co-ordinates a co-operation project among 25 European

countries, [the Joint Action for the European Health Data Space – TEHDAS](#), which develops joint European principles for the use of health data and the planning of infrastructure.

The above-mentioned extensive joint European projects are good examples of how a European data economy is currently being built. Co-operation requires experts from many fronts. To succeed, this work needs strict co-ordination and steering but, first and foremost, committed participants and sufficient resources.

This publication outlines the means Sitra has used to promote the development of a fair data economy. The means chosen include network co-operation, development of tools and influencing attitudes, competence, understanding and legislation. For all the concepts, theories and ideas underpinning the fair data economy to become a reality, there must be mutual interaction and co-operation between all parties involved to ensure that the fair operating methods and models are implemented and work in practice.

## SITRA'S WORK AND THE DEVELOPMENT OF THE EUROPEAN DATA ECONOMY

**2018**

### Sitra's work begins

The starting point of the IHAN project was to create a data exchange mechanism resembling the IBAN code. The MyData concept, originating from Finland, was the foundation we built upon.

The project started building rules, a governance model and technical capabilities. The opportunities offered by consent-based data exchange were demonstrated with technical pilot projects.

**2019**

### Fair data economy picks up speed

A European data economy model (the "Fair data economy" as Sitra's concept) was launched in 2019 and a human-driven data economy emerged alongside the discussion about artificial intelligence and was one of the spearhead themes during Finland's EU Presidency.

Who needs humans?

**2020**

The coronavirus crisis highlights the increased reliance on digital technology and alerts Europe to the need for digital independence. Ethical and responsible data use is slowly making its way onto companies' and decision-makers' agenda. Europe's potential lies in industrial data and cross-sectoral data use.

**2021**

### Desired partner

Sitra is a valued co-operation partner for the European Commission and co-operates very closely with European business networks. One of these is the GAIA-X initiative. The Finnish GAIA-X Hub wants to focus especially on the promotion of the competitiveness of Finnish SMEs.

#### Mydata-thinking develops

"At the end of 2014, The Ministry of Transport and Communications presented its report MyData – *an introduction to human-centric use of personal data* which lists 12 parties, projects or initiatives related to mydata." Source: Wikipedia

#### GDPR comes into effect

The General Data Protection Regulation (GDPR, 2018) highlights the individual's rights in data management and is the first example of joint European regulation.

Want a cookie?  
(I have to ask...)



#### Data sovereignty attracts interest

The Data Sovereignty Now coalition, consisting of companies, organisations and universities, is established to promote data sovereignty and the creation of a common set of rules for steering technological development, to serve as a basis for planning data markets.

#### EU data strategy released

In 2020, the EU published its data strategy, with many of its key themes created during Finland's Presidency. The General Data Protection Regulation could serve as a driver of open ecosystems but practices and tools are missing.

#### Data strategy in action

The implementation of the EU's data strategy extends to 2024. In addition to the data strategy, several new legislative proposals create a foundation for data markets and strengthen the position of the individual. The goals of the Digital Decade emphasise a green transition and digital technology.

## Is there sufficient belief in change?

In the 2010s, Europe had come to a digital and data economy crossroads. It has chosen to take the road towards a human-driven approach and at the same time has shown the way to others. As the EU has struggled with questions about competitiveness and wrestled against the data economy giants, it has endeavoured to build a data economy based on ethical principles and consistent regulation.

The aim of regulation is to provide a level playing field for all parties. It enables innovation while investing in development that is more favourable for people and companies than current development.

The Covid-19 pandemic has illustrated how the digital transformation and the real-time use of data play a significant role in crisis resolution. Tackling crises requires that the EU and its member states commit to reform in key political areas, with the emphasis on digital technology being one of the most important themes.

Innovative solutions often emerge under pressure but also need financial support. Investing in competence and supporting companies in difficult circumstances are means to promote the innovative use of data and ecosystems. This requires action and input from political decision-makers.

At the moment, we can only guess at the effects of a fair data economy on companies' competitiveness in the future. In the discussion about the responsible use of data, doubts have been raised about its direct business benefits. However, the connection between a company's reputation and operating methods and the trust or distrust felt for it by consumers is indisputable. Reliability and responsibility are also

competitive factors in the establishment of partnerships between organisations.

The business of the future will be based on transparency and companies that operate ethically will be able to prove their sound business foundations and principles to their partners, customers and consumers. At best, they will have tools and established practices in place to enable them to demonstrate their reliability.

The purpose of fair, common rules is to help companies find opportunities and ways to build new kinds of business as a part of a larger ecosystem, in which members operate under shared rules and benefits are distributed fairly. Companies need to take a leap and have the courage to embark on new initiatives.

## Will there be a fairer future?

A fair and human-driven data economy supports democratic development and is directly linked to it. Network-based operating methods and algorithm- and data-based means of operating and influencing can be harnessed to support democracy, engagement and co-operation.

At this stage of the journey, we know that European SMEs still find it difficult to see opportunities in the data economy. In addition, the general public's trust in data use has continued to decrease (Turja, Sandqvist 2021). Consequently, it is even more important to invest in building opportunities for companies and consumers to influence and participate in the data economy.

Actions should be targeted so that it can be ensured that in the future individuals will have more opportunities to influence the use of their data and a better understanding of

the data economy. By influencing companies and decision-makers, we can also increase understanding of the interdependencies between responsible business and sustainable development. By developing operating models and tools, we offer practical solutions to future problems. By acting in networks and involving parties with different mindsets, we develop our own thinking and promote innovation.

Digital development must also take the planet's carrying capacity into account. A green transition and a digital transition are closely intertwined. There is an increasing

need to assess to what extent technology promotes the transition to the post-fossil era and to what extent technology hinders it. Building a fair and sustainable future requires comprehensive, systemic changes and the change needs all of us.

This is why we are now calling on parties from different sectors to join the co-operation. The promotion of a fair data economy will continue to be one of Sitra's strategic spearheads in the coming years. The journey goes on, but to reach the goals national and international co-operation is required at all levels of society.

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