#TECH4SOCIETY

DAS PROGRESSIVE ZENTRUM

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POLICY PAPER

TECH WITH SOCIETY

A value-based approach to promote economic, social, and ecological progress

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"We need to ensure that digital technologies preserve freedom, protect privacy, and give people control over their life."

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Thinking ahead.

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Executive Summary

This policy paper concludes the #Tech4Society innovation series, putting forward policy recommendations designed to ensure that technological change will not be an end in itself — and that instead actors from civil society, politics, business, and academia will be able to develop a European model of value creation based on co-creation. The authors draw from the intellectual expertise and hands-on experience of the #Tech4Society consortium as well as contributors and participants of three workshops held between June and November 2020.

The policy recommendations were developed or refined on the basis of six scenarios of what a post-COVID-19 society might look like. In the second part of the paper we introduce a range of benchmark projects that are instructive for shaping a more progressive innovation process. Based on this, the paper closes by defining the parameters of a high-performing European innovation ecosystem.

Introduction

WHERE ARE WE COMING FROM?

New technologies have been synonymous with human progress for a long time. Initial periods of adoption of new technologies often bring about economic growth and productivity gains — the disruptive phase — which is then followed by the comprehension of the social implications associated with change — the recognition phase. In times of transition between periods of disruption and recognition there is a plethora of social, technological, commercial, and industrial factors at play.

Most recently, as "tech" becomes associated less with machines and more with code, the overlap of the digital and physical world has made it difficult for policymakers to define the rules of this new reality and to navigate society through these periods of disruption and recognition. Ever since the internet went viral in the early 2000s and there was an exponential growth in the connectedness between humans — by 2019 more than 80% of people in the EU regularly used the internet — **policymakers have been playing catch-up**. One reason for this regulatory inversion is that it is increasingly difficult to evaluate to what extent new technologies benefit society, because under the current innovation system scaling up new technologies follows **a logic of maximising private rather than public interests**.

WHAT #TECH4SOCIETY IS ABOUT

Re-evaluating and rebalancing the economic and social value of new technologies stands at the centre of the #Tech4Society innovation series and many efforts to design effective policy frameworks for the digital at national and European level, including the Digital Services Act or the Digital Markets Act: how can new technologies best serve people and promote economic progress, social cohesion, and individual wellbeing? As a result of the COVID-19 pandemic, recent technological innovations seemed to be driven by catastrophe, in particular through the extension of digital services in the private and public sector helping to minimise social interactions. Here we take the premise that **technological change must not be an end in itself**. In order to steer technological change towards producing greater societal benefits the process must:

1. **address the major challenges of our time**, including the economic and social consequences of the coronavirus pandemic, the climate crisis, regional imbalances, and the increasing political polarisation in democracies,

2. be driven by a **set of collectively agreed values** in society (e.g. regarding measures against algorithmic bias), including the promotion of the principles of human dignity, freedom, democracy, equality, rule of law, and human rights,[1]

3. be **pluralistic in practice** considering voices and interests from different parts and interest groups of society, involving actors from civil society, politics, business, and academia (a "concept of co-creation").

HOW #TECH4SOCIETY WORKS

In 2019 and 2020, the #Tech4Society consortium representing a variety of societal groups from civil society, politics, economy, and academia has analysed the status quo of innovation policies and innovation realities, discussed trajectories towards possible futures for a COVID and post-COVID era, and **co-created a set of progressive policies**. As a starting point and common thread for the conversations and deliberation process of value-based technological change we consider the perspectives of **the economy**, **society**, and **the individual**.

HOW #TECH4SOCIETY GOT TO WHERE WE ARE

This policy paper is testimony to the **intellectual expertise and hands-on experience** of the #Tech4Society consortium as well as contributors and participants of three workshops held between June and November 2020. Yet, it also reflects on the great uncertainties caused by the COVID-19 pandemic and the possibilities of shaping a more progressive future. In order **to increase the robustness** of our final policy recommendations drawn from the discussions along the way, **we have tested the ideas against six post-COVID-19 scenarios**. This helps us

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1. Cf.: European Commission (no date): *The EU Values*, https://ec.europa.eu/component-library/eu/about/eu-values/

to imagine more and less favourable future scenarios and possible pathways for progressives emerging from the pandemic. In times of the unfolding social and economic challenges following COVID-19, **our method of looking into present and future scenarios allows us to bring together realistic policy concepts** and **to develop a vision of what will matter in the future**.

To this end, the paper is divided into three main sections. First, it presents policy recommendations on technological change along the economic, societal, and individual dimension (Section I). Second, it introduces a range of benchmark projects that are instructive for shaping a more progressive innovation process (Section II). Readers interested in the results of the #Tech4Society series should focus on these two sections. For those who want to dig in a bit deeper, in Section I there is a Deep Dive on how COVID-19 might affect the future of innovation ecosystems in five years from now. The paper closes by what it would take for Europe to be a high-performing innovation ecosystem (Section III).

I. 12 Policy Recommendations for "Tech with Society" Futures

The main objective of #Tech4Society is to rethink and redraw the social and political institutions that we need going forward to foster social and economic value creation and build up resilience within society. Resilience empowers, prepares, or protects everyone in our society from the changes that new technologies bring about, which will alter the way we produce value as a society. In order to build up this new resilience we should consider the latest developments and challenges in:

- **The economy — new economic and business models**: In the near future, we will witness the development of entirely new patterns of value due to emerging economic and business models, which are increasingly driven by data and networks. The shift in the nature of value creation involves a shift to more creative jobs with a greater demand for cognitive skills such as complex problem solving, originality, the fluidity of ideas, and active learning.

- **Society — new governance**: There is a need for new governance and new policy strategies in response to the changing parameters of the modern economy during the fourth industrial revolution. Tomorrow's regulators and institutions must facilitate the benefits of artificial intelligence and other technologies while ensuring that social cohesion is promoted and democratic values and liberal norms are protected. A democratic and open society in the digital age will crucially depend on trust in government and governance.

- **The individual — new ways of thinking**: Leveraging different perspectives Geoff Mulgan introduced the concept of collective intelligence and how it can generate public benefit with regards to transformation processes in the labour market and decarbonisation. According to him, the key is to mobilise and apply collective intelligence to these problems to turn them into common goods.

The Economy: Policies Shaping and Advancing the European Model of Value Creation

> **"We need to ask ourselves not only how to rescue 2020, but also what we need to do in order to prepare for 2030."**
>
> Danyal Bayaz
> Member of the German Parliament, Alliance 90/The Greens

There is no doubt that information and communications technology — what started with Z1 by Konrad Zuse in 1937 — has assisted humanity in making **major advancements** in communication, finance, transportation, entrepreneurship, government, education, and health. There is also little doubt that new technologies (like big data, 3D printing, quantum computing, smart robots, or artificial intelligence) will similarly advance humanity in the decades to come, further raising living standards worldwide. Yet, there are **two major challenges**:

Click the symbol to read the workshop synopsis.

1. The world's hunger for more and more data and electronics can lead to the near or complete **depletion of the world's resources of minerals and further increase our need for energy**.

2. It is essential to ask whether the economics of big tech is playing out for the common good and to what extent the **concentration of market power in the platform economy** is economically harmful with regards to competition, a decreasing labour share, and paying a fair share of taxes.

In this moment of crisis there is an opportunity to address both of these challenges as governments are taking unprecedented measures to contain the virus as well as to support the recovery of the economy. These efforts could be sustained in three ways.

1) MISSIONS TO MARS AND BEYOND

The public and private sector should collectively undertake major innovation projects, which can mobilise the population at large, demonstrating that innovation and progress are most successful when they are a long-term collective effort. Citizens should be **involved in processes of research design, decision-making, and execution, e.g. via citizen conventions on these missions**. Subsequently, new forms of small scale innovation and more incremental collective learning that are based on these experiences can be promoted at the regional and local level.

2) #TECH4SOCIETY INNOVATION IMPACT ASSESSMENTS

At the moment, the focus of impact analyses is on selective and often purely quantitative performance measurement, indicators, and short-term improvement. Making impact analysis an integral part of innovation projects in the early phase will offer useful information on the systemic effects a project is likely to have. The logic of "regulatory impact assessments" (Gesetzesfolgenabschätzung) could be applied to public and publicly funded innovation projects. Defining **societal innovation as prerequisite to technological innovation projects and assessing them accordingly** will also redefine the value (the "profit") of an innovation in economic, social, and ecological dimensions. Turned into regulation — e.g. in the context of economic stimulus packages after COVID-19

— this approach could serve as a means to create a value-based operational framework also for technological innovations in the private sector.

"**Defining societal innovation as prerequisite to technological innovation projects and assessing them accordingly will also redefine the value (the "profit") of an innovation in economic, social, and ecological dimensions.**"

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3) STRENGTHEN DATA SOVEREIGNTY

Governments should prevent big tech companies from privatising access to data and guarantee the maintenance of open access to individual data. They should establish **a public infrastructure that allows individuals to share and take their data with them** when moving between private platforms. This will facilitate respect for the data protection rules and rights regime and ultimately further strengthen ethical norms and democratic rights (the General Data Protection Regulation is already on the brink of becoming a standard even outside Europe) and, most importantly, the sense of agency people have over their personal data.

The Society: Policies Strengthening Society to Innovate the Public Sector and Safeguard Democratic Values

"**Our democracies urgently need to produce citizens, especially public servants, who can move from demanding change to making it.**"

Beth Simone Noveck
New Jersey's Chief Innovation Officer, Member of Germany's Digital Council, Director of the Governance Lab

The COVID-19 pandemic has revealed the opportunities and possible pitfalls of new technologies to the wider public. New technologies have proven to be useful and

> **"The virus has changed how governments approach challenges in public health and other areas of public services, with potential long-term ramifications."**

effective in shaping the public health response (e.g. digital contact tracing or coordination). The virus has changed how governments approach challenges in public health and other areas of public services, with potential long-term ramifications. Going digital with public services will help governments to meet the increasing expectations of the public and to become more efficient and resilient. New technologies offer the opportunity to significantly **increase administrative productivity, free up and therefore redirect scarce public resources, and serve to make our societies more equitable and sustainable**. This in turn has the potential to increase citizens' trust and confidence in government, improve the government-to-citizen relationship, and foster social cohesion.

Yet, we have also seen that there is a vast potential for improvement, in particular with regards to the provision of public services, most of which still require the physical presence of citizens, and education where primary and secondary education seems to be ill equipped for the digital age. #Tech4Society explored the future of government and the modern state and how new technologies may foster social cohesion and trust in democratic institutions. We suggest there are **two areas of reform** which the emergence of new technologies may affect:

1. building the capacities of the public sector to govern (recommendations 4, 5 & 6)
2. promoting trust and enhancing inclusion and social cohesion (recommendations 7 & 8).

4) PROMOTE DIGITAL PUBLIC ENTREPRENEURS

Moving forward with digitalisation in the public sector it will be crucial for governments to invest in their workforce. First, if governments go digital public service workers will need to meet the complex requirements of this new world. An important building block is therefore **digital skill acquisition and training for citizens, as well as for public servants**. This will be true for workers delivering first-hand services to the public but also for those who design policies in state and regional administrations. Second, while governments are designing stimuli packages and public investments at an unprecedented scale they should invest in capacities of public entrepreneurs. Public workers should have the skills and vision to leverage public investments in order to harness new technologies and create an innovation ecosystem for the future. At the moment, we often find that the private sector attracts the most talents in tech.

> **"Public workers should have the skills and vision to leverage public investments in order to harness new technologies and create an innovation ecosystem for the future."**

Further, public institutions which are reluctant to change need programmes that strengthen weakening workplace cultures and old-fashioned power structures to attract public intrapreneurs and foster their innovative capacities while being in office. These programmes could be developed in cooperation with and/or should be accompanied by collaboration with private sector organisations which have faced — and solved — similar challenges. This includes the promotion of innovation skill sets of public workers by "job shadowing" innovators and fostering the exchange with citizens in order to improve policy and public decision-making. Further, we need to move towards creating a more open public sector reducing the thresholds for outsiders to make a career.

5) PUBLIC DATA FOR INNOVATION

The public sector should promote innovations of its services based on public data. These innovation projects should be carried out not only via public tenders but also via **public–private innovation partnerships fostering intrapreneurship with public officers who cooperate with innovators from society, economy, or academia**. Public guidelines have to ensure that when the database is collected it is not only robust but also relevant and useful for public service innovations or the policymaking process. Similarly important are legality and regularity during data collection and provision, for example adhering to privacy regulations or correct licensing.

6) GLOBAL ALLIANCE OF "TECH EMBRACING PROGRESSIVE CITIES"

If innovation policies and infrastructure projects are not aligned across different levels of governance (local, regional, national, and supra-national) there is a real risk of failure. As a response, **progressives should also turn to the local level, especially to cities,** for example taking Barcelona as a role model, but also Warsaw and other cities in Eastern Europe, which despite the surge of right-wing populism at the national level continue building progressive projects in urban communities. Apart from cities, these approaches should also be brought to structurally weaker regions, which will need more support to sustain such endeavours (e.g. for public transport, health care, or subsidies for housing or childcare).

7) TECHNOLOGIES OF REPRESENTATION

Governments should make legislative processes more transparent through digitised documentation (potentially live and ex-post) and increase the resilience of democratic processes through digital solutions (e.g. parliaments under lockdown conditions). They should facilitate stakeholder involvement in a way that ensures an equal voice for all and document these processes (e.g. via transparency registers). Any documentation of democratic processes needs to be accessible and digitised enabling access for everyone.[2] The mindset developed through "technologies of representation" should also be taken up by the private sector (e.g. in cooperation with trade unions) to intensify and democratise discussions regarding co-determination[3] or new forms of ownership and governance[4] of private sector companies.

"Any documentation of democratic processes needs to be accessible and digitised enabling access for everyone."

2. See current discussion on a lobby register in Germany, https://www.transparency.de/aktuelles/detail/article/lobbyregistergesetz-wenn-dann-richtig/

3. Cf.: Social Democratic parliamentary group in Germany (2020): Mehr Mitbestimmung und mehr Teilhabe – 100 Jahre Betriebsverfassung und Schwerbehindertenrecht, Position Paper, https://www.spdfraktion.de/system/files/documents/fraktionsbeschluss_mitbestimmung-teilhabe_20201027.pdf

4. Cf.: Handelsblatt (2020): https://www.handelsblatt.com/politik/deutschland/rechtsform-fuer-verantwortungseigentum-der-ansatz-fasziniert-mich-politiker-aeussern-sich-positiv-in-debatte-ueber-neue-gmbh-variante-/26248232.html

8) PUT CITIZENS FIRST

Public sector innovation projects follow a different logic of those in the private sector. Most notably, they should mainly **set incentives for innovation where markets fail**, which can be driven by a purely political (or normative) agenda.[5] So when digitising public services, governments should put citizens at the centre of innovation in order to create services that are useful and attractive to them. Also later on, public services' processes should undergo regular user experience checks in order to improve them (just like in the private sector).

"Public services' processes should undergo regular user experience checks."

The Individual: Policies Promoting Wellbeing and Harnessing Collective Intelligence

> **"We want to use technologies to bring healthcare to the patients and meet them where they are at, and at the same time be able to use the interactions to gather anonymised data to personalise treatment and improve predictability."**
>
> Nora Zetsche Co-Founder, Veta Health

At the core of individual wellbeing stands high-quality healthcare and work. Both are essential aspects of a good and fulfilling life for many. The COVID-19 pandemic magnifies the social risks and opportunities associated with new technologies in healthcare, education, and work, including regional economic disparities, labour market polarisation, or health inequalities. On the one hand the current situation has caused a **significant level of disruption to the world of work and healthcare**, demonstrating the exposure of front line workers in healthcare and key workers to the risks of the pandemic. On the other hand these disruptions may create the

5. Cf.: UN Economic Commission for Europe (2017): Innovation in the Public Sector, https://www.unece.org/fileadmin/DAM/ceci/publications/Innovation_in_the_Public_Sector/Public_Sector_Innovation_for_web.pdf

momentum needed to update our healthcare institutions and the principles of what good work means in the modern age.

9) PROMOTE KNOWLEDGE AND FLEXIBILITY AT WORK IN RURAL AREAS

The changing world of work and the increase of teleworking provides an opportunity for rural areas to benefit from more spatially independent knowledge workers. Ambitious initiatives, such as KoDorf, establish coworking communities in rural areas, which are being integrated in the already existing local social life and infrastructure. This opens up the possibility of **bringing together the advantages of rural life and typical urban infrastructure** in order to enable a good working and living environment and improving public infrastructure links between rural and metropolitan areas. Policymakers can scale up rural coworking spaces by facilitating housing cooperatives or public property funds which would enable rural areas to pay for the building permission. All this would help to release the pressure on housing and public services in the growing metropolitan areas.

10) PROVIDE ACCESS TO DATA AND STRENGTHEN SOLIDARITY IN HEALTHCARE

So far, digitisation in the healthcare sector has been very slow. To unleash the benefits of new tech in health in the future, it will be necessary to **bring the digitisation of the sector into line with the solidarity principle of statutory health insurance**. In order to do this, first of all, we should regulate the collection of data in a way that the data is not controlled by a single actor, but shared among a variety of actors. We should build on public institutions, which can integrate innovations like artificial intelligence and the use of data. Second, the state should expand the e-health infrastructure (patient records, e-recipes). And third, the solidarity principle of the statutory health insurance should be extended to the use of data, because collecting and

"Employees should be enabled to develop into responsible innovators contributing to their employer's goals as well as to projects that are important to them as citizens."

bringing together data can contribute to improving the healthcare service for everyone.

11) UNIVERSAL EDUCATION CREDIT

For public institutions to act as pacemakers for digitisation, they have to **enable civil society to participate in technological innovation projects**. To this end, the necessary physical and digital infrastructure, access to education and platforms of co-creation, as well as incentives for citizens to participate are needed. This applies equally to private contexts, especially in small- and medium-sized companies: employees should be enabled to develop into responsible innovators contributing to their employer's goals as well as to projects that are important to them as citizens. The "universal education credit" would manifest a statutory right for lifelong learning, giving everyone a fixed amount of money, which they can invest in different types of education throughout the course of their working life.

"We need to further develop hate speech policies to identify and address prevalent harmful framings which demobilise societal actors as innovators."

12) MEET "THE OTHER" IN PUBLIC DIGITAL SPACES

Public spaces are crucial in democracies. Axel Honneth has famously suggested that democratic decision-making is frequently "impoverished" because individuals are often caught in their own filter bubbles. Meeting and debating with "the other" in society can be seen as a positive disruptive factor: someone who complements my position in the sense that they can point out to me where I may not yet have a sufficiently considered point of view. **Our societies have to create media and spaces where this exchange with "the other(s)" still happens**. Once they are established, policymakers need to safeguard these spaces for exchange by further developing hate speech policies to identify and address prevalent harmful framings which demobilise societal actors as innovators. This can be done by building on international regulatory approaches against hate speech in order to identify these frameworks and develop educational policies to counter them.

Deep Dive: What Does the Future Hold For Innovation?

BUILDING ON SCENARIOS OF PROGRESSIVE GOVERNANCE SUMMIT

In June 2020, Das Progressive Zentrum published a ▤ **scenario paper describing six possible pathways for our societies to the year 2025**. These futures are neither predictions, nor simple utopias or dystopias. Instead, each of the six scenarios is an instrument illustrating the need for progressive action. They will help us imagine challenges and opportunities of progressive action in a post-COVID-19 world. What might the world look like in five years from now? And based on that, what are progressive responses and what role can new technologies play in this?

SIX FUTURES OF TECH IN POST-COVID-19 SOCIETIES

The different innovation ecosystems are depicted according to the following structure: a brief description of the scenario sets the scene for the reasons (why) and the ways (how) society brings about innovations. This description is complemented by the options we see for progressive action in civil society, politics, business, and academia (what).

SCENARIO 1 New Golden Age: Strengthen Collective Innovation Capacities

THE WORLD IN 2025

The prevailing interpretation of the COVID-19 crisis is that liberal democracies have managed the crisis best. Using smart measures they have been able to act quickly and avert great economic, social, and health damage. They have used the crisis for a future-oriented social and ecological renewal of the economy and society.

PROGRESSIVE RESPONSES AND ROLE OF TECHNOLOGY

In this scenario, actors innovate to **address society's needs by establishing open innovation processes**. Progressives must aim to strengthen collective innovation capacities to ensure that this future society is able to live up to its standards:

- **Society:** Participate in open innovation processes to voice societal needs and to co-innovate

- **Politics:** Set standards for open innovation processes ("open source" and "open access"), promote the further development and maintenance of open innovation projects, and enable civil society to take up these offers through educational opportunities and (secure) digital infrastructures — all to ensure an informed public, to foster a fair dialogue at eye level between companies (all sizes) and civil society, and to co-innovate

- **Economy:** Understand and apply "open source" and "open access" solutions and establish the necessary infrastructures — all to establish a sensorium for the needs of civil society, to enable people to regain possession and control of their data and its use, and to co-innovate

- **Academia:** Elaborate open innovation methodologies in international scientific collaborations and multi-stakeholder contexts to collect and assess civil society's needs for innovation projects

SCENARIO 2

Varieties of Localism:
Make Cooperation for Shared Innovation Transparent

THE WORLD IN 2025

Five years after the outbreak of the coronavirus pandemic, local and regional communities have gained relevance throughout Europe. People focus on their immediate social environment and are becoming increasingly engaged in cooperatives and communal organisations. Most people's quality of life is determined locally — for better or for worse.

PROGRESSIVE RESPONSES AND ROLE OF TECHNOLOGY

Innovation focuses on **supporting local communities by bringing together resourceful actors**. Progressives looking to counter the prevailing fragmentation should advocate for synergies in highly transparent models of cooperation:

- **Society:** Outline the local community's needs and interdependencies with other communities' needs and instil a sense of community in already resourceful actors — all to encourage innovators to contribute and to foster synergies between communities

- **Politics:** Establish a legal framework for cooperation across communities that creates transparency, also vis-à-vis civil society, and put in place progressive concepts for humanitarian aid innovations, all to create synergies and to reduce inequality between highly innovative regions and those that have fallen behind

- **Economy:** Offer an attractive working environment by setting up professional exchange programmes to recruit specialists who can advance innovation processes on the basis of the resources available in the respective community

- **Academia:** Introduce transparency measures that identify participants in innovation projects and their contributions and establish infrastructures for data sharing, to be able both to enable and to evaluate innovation projects across communities

SCENARIO 3

Radial Individualism:
Shape Sustainable Tenders for Innovation

THE WORLD IN 2025

The pandemic has claimed over 10 million lives. While during the first wave nation states had still been considered the most important authority for health and economic crisis management, they have lost the confidence of their populations and most of their room for fiscal manoeuvre. Trust in collective systems has been eroded. The very concept of "society" is considered naive. It is replaced by highly individualised physical and digital gated communities.

PROGRESSIVE RESPONSES AND ROLE OF TECHNOLOGY

In this future, mainly corporate actors innovate **to secure competitive advantage by protecting both their material and immaterial innovation capital**. Apart from regulation (where political majorities can be found), progressives should also counter the logic of the system from the inside:

- **Society:** Organise "progressive boycotts" to make progressive consumption choices co-determine the direction of innovation

- **Politics:** Align public tenders, public guarantees and other financial instruments targeted at the private sector with social and ecological goals to steer innovation indirectly and to make public services a benchmark for progressive innovation

- **Economy:** Include societal stability and sustainability dimensions in definitions of long-term competitive advantage and focus on immaterial capital to bridge the divide between society and economy, to broaden innovation horizons and to improve resilience

- **Academia:** Create "safe spaces" for both basic and applied research including consultancy services regarding intellectual property issues, and promote research on the connection between value creation and societal orientation to make innovation capital outside economic narratives and corporate structures visible

SCENARIO 4

Welfare Technocracy:
Increase the Adaptability of Standard Processes

THE WORLD IN 2025

The much better crisis management in East Asia has triggered a debate about values in Europe. There are more and more voices calling on citizens to contribute to the community. This new collectivism is perceived by others as a restriction on self-realisation. Marginalised groups and minorities are increasingly being attacked under the guise of rationality. Government action is determined by evidence and competence. Expert commissions play a major role.

PROGRESSIVE RESPONSES AND ROLE OF TECHNOLOGY

In this future society, politics channel innovation **to ensure good governance by prioritising publicly funded research**. Progressives should challenge standard processes to be inclusive and responsive to societal demands:

- **Society:** Use access to information rights towards public institutions (including research institutions) and, where applicable, companies to improve the transparency of governance and policy innovations and demand representation of minority interests

- **Politics:** Design public funding programmes and quality standards (e.g. for consultation, participation, or documentation) according to transparent criteria to create accountability in innovation processes

- **Economy:** Define process standards for private innovation projects, within which biases or structural exclusions of the technocratic innovation system can be balanced and co-determination is encouraged to offer alternatives to publicly funded projects

- **Academia:** Document and publish all research results to create transparency and to evaluate governance innovations

SCENARIO 5

National Populism:
Protect Innovation Capacity from Political Instrumentalisation

THE WORLD IN 2025

Most Western societies face serious economic and social distortions. Unemployment is high, austerity is radical. An authoritarian "communitarianism" based on national solidarity and ethnically connotated social policy, as first practised in Central and Eastern Europe, has found further supporters and imitators. There has been a rollback into the parochial. The Good Life takes place at home, not in the world.

PROGRESSIVE RESPONSES AND ROLE OF TECHNOLOGY

This scenario suggests that actors innovate only **to secure political power** — and that they would do it **by forcing innovators to produce self-serving truths and electoral results**. Progressives may have to resort to protecting the few innovation capacities left from being instrumentalised:

- **Society:** Keep up-to-date with international innovation processes to remain informed and alert to the purpose of national innovation projects

- **Politics:** Secure public innovation infrastructures and ensure legal security around intellectual property and data governance to reduce populist interferences and to create safe spaces to discuss innovation needs

- **Economy:** Secure (digital) infrastructures and emphasise the role of education and research for public and private innovation to set up innovation projects without the participation of populists and to counter the high visibility of politics in innovation processes

- **Academia:** Publish non-results, failed innovations, and process documentations to ensure the integrity of academic work and sharpen the public's perception of it

SCENARIO 6

School Trip:
Diversify Access to Innovation Processes

THE WORLD IN 2025

The economic and social conditions as well as the state of international relations largely correspond to the state of the world before the coronavirus pandemic.

PROGRESSIVE RESPONSES AND ROLE OF TECHNOLOGY

In the future resembling today's society the most, innovation is encouraged **to keep societal stability and prosperity by politics supporting both academia and economy**. Progressives in all spheres should work to make innovation processes accessible to a more diverse range of people:

- **Society:** Demand and participate in (higher) education and lifelong learning opportunities to connect with academia regularly and demand a stronger voice in innovation processes

- **Politics:** Establish platforms for exchange between academia, economy, and society to improve transparency that builds upon trust and to evaluate innovations' real impact on the stability and the prosperity of society

- **Economy:** Support innovation ecosystems of smaller businesses and academia and define innovation projects' goals across societal indicators to diversify and connect innovation ecosystems, also internationally

- **Academia:** Create transparency regarding public and private funding for innovation projects, enabling an independent monitoring of who shapes innovation decisions to ensure the integrity of academic work and balance biases or one-sided developments

Main Takeaways
Derived from Tech in Future Societies

In June, the agenda for progressive action developed across the six societies in 2025 included calls for progressives in civil society, politics, business, and science. These calls can now be substantiated on the basis of the role of technology in these futures:

Society: "We must do a lot to ensure that digital spaces also become public spaces. [...] It is up to progressives to defend public spaces and to fight for their inclusiveness and quality."* Under favourable conditions, progressives in civil society need to promote broad public participation in consultations and co-innovation projects and use their information access rights extensively, applying digital tools to make transparency of (technological) innovation processes the new normal. Where civil society is under pressure, it will need tech-savvy civic educators and secure technologies to share information and organise collective action with like-minded communities.

Politics: "Progressives must be the ones that engage citizens through new forms of participation. Progressive governance has to stand out as more deliberative, more collaborative, and more participatory."* To that end, public administration needs to empower civic engagement by providing accessible and secure infrastructures and by setting up collaboration-oriented rules of procedure for innovation processes (including, for example, data sharing) that recognise the equivalence of (civic) social innovation contributions and (corporate or academic) technological innovation contributions. Policymakers need to define legal frameworks that will enable and foster — and, if needed, protect — cooperation for innovation across societal spheres and across borders. Last but not least, to ensure that (digital) public services are socially, economically, and ecologically viable, public tenders have to be spelled out along these criteria.

Economy: "Progressives must make the case for an economy that is as dynamic and tech-savvy as it is inclusive and sustainable."* To live up to this call, businesses have to learn to innovate not only for society, but with society — by including civic actors' perspectives in their innovation processes and by contributing to civic innovation projects. Where public institutions are not up to their tasks of providing trustworthy services or infrastructures, progressive businesses should consider stepping in.

Academia: "Only a democratic understanding of science is a progressive understanding of science: [...] Progressives should encourage broad debates on scientific finding, aiming at societal progress."* The centrepiece of progressive action in the academic world is transparency regarding material and immaterial contributions to the scientific process as well as transparency regarding the outcomes and impacts of scientific work. Implemented in (digital) infrastructures, methodologies, and communication tools, it broadens public debate not only by broadening the audience, but also by improving the accessibility of the scientific innovation process.

"**To live up to this call, businesses have to learn to innovate not only for society, but with society — by including civic actors' perspectives in their innovation processes and by contributing to civic innovation projects.**"

*See Neufeind et. al (2020): *What's at Stake: Our Societies after Corona. Six Scenarios for 2025*
Click the symbol to read the scenario paper.

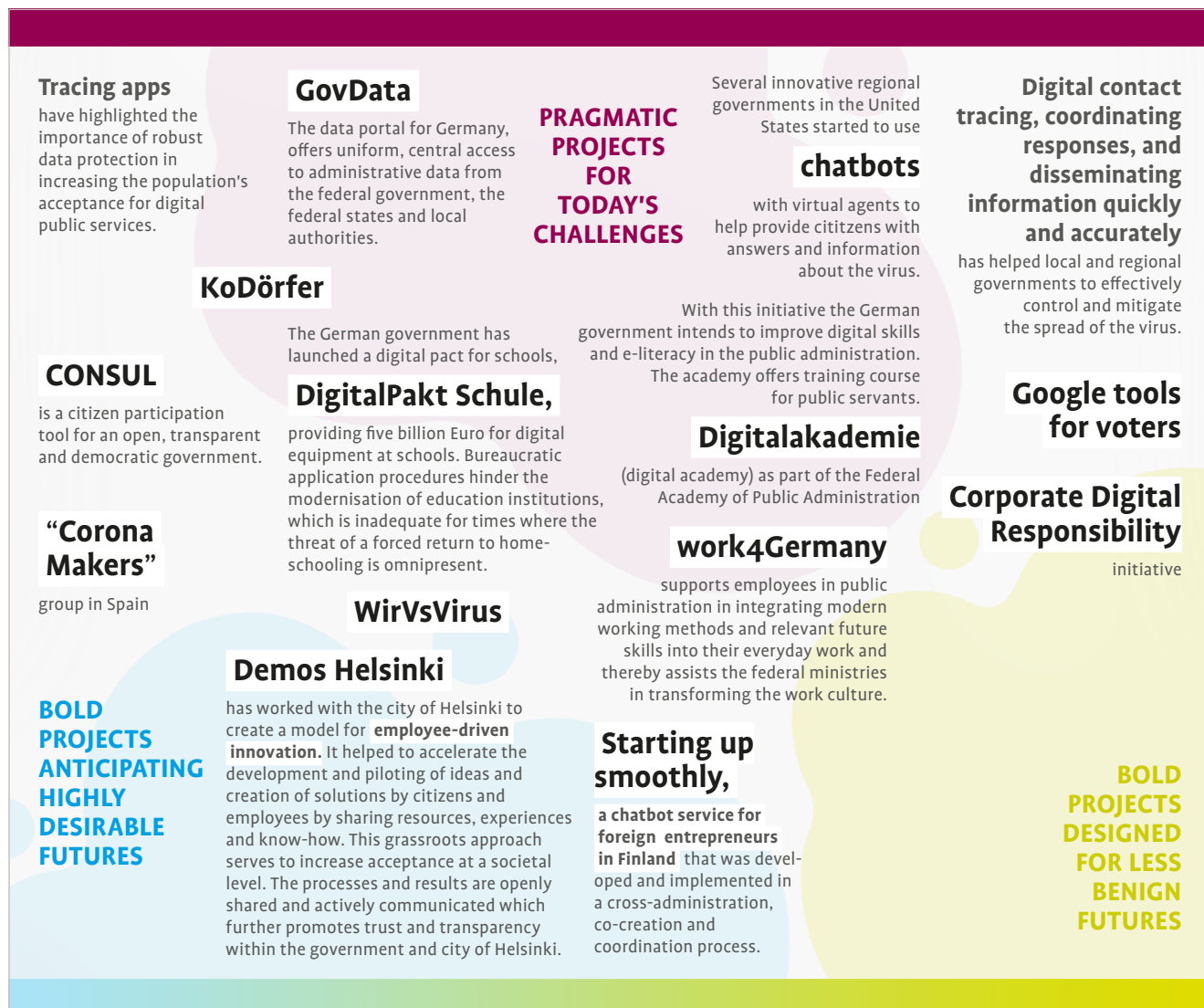# II. Benchmark Projects for "Tech with Society" Futures

Innovation realities are shaped not only by policies, but also by projects initiated and/or set up by actors from society, economy, or academia, as well as coalitions of these actors. These projects may **pilot ideas prior to policy formulation** and showcase their potential to **co-create solutions parallel to policy implementation** (as was the case for many COVID-19 related technological innovations), or **claim innovation spaces within existing policy frameworks**. They illustrate what the political strategies discussed in Section I can mean in practice — and what these strategies feel like for individuals as innovators, co-creators, facilitators, or users.

Projects setting benchmarks for different scenarios

The projects discussed as part of the #Tech4Society series are clustered along three categories, namely:

1. bold projects anticipating highly desirable futures,
2. bold projects designed for less benign futures,
3. pragmatic projects addressing today's challenges.

These projects do certainly not represent an exhaustive overview and differ considerably in origin, context, and scope. However, they show the wide range of contributions from the #Tech4Society consortium.

Tracing apps have highlighted the importance of robust data protection in increasing the population's acceptance for digital public services.

GovData The data portal for Germany, offers uniform, central access to administrative data from the federal government, the federal states and local authorities.

PRAGMATIC PROJECTS FOR TODAY'S CHALLENGES

Several innovative regional governments in the United States started to use

chatbots with virtual agents to help provide citizens with answers and information about the virus.

Digital contact tracing, coordinating responses, and disseminating information quickly and accurately has helped local and regional governments to effectively control and mitigate the spread of the virus.

KoDörfer

CONSUL is a citizen participation tool for an open, transparent and democratic government.

DigitalPakt Schule, The German government has launched a digital pact for schools, providing five billion Euro for digital equipment at schools. Bureaucratic application procedures hinder the modernisation of education institutions, which is inadequate for times where the threat of a forced return to home-schooling is omnipresent.

With this initiative the German government intends to improve digital skills and e-literacy in the public administration. The academy offers training course for public servants.

Digitalakademie (digital academy) as part of the Federal Academy of Public Administration

Google tools for voters

Corporate Digital Responsibility initiative

"Corona Makers" group in Spain

WirVsVirus

work4Germany supports employees in public administration in integrating modern working methods and relevant future skills into their everyday work and thereby assists the federal ministries in transforming the work culture.

Demos Helsinki has worked with the city of Helsinki to create a model for **employee-driven innovation.** It helped to accelerate the development and piloting of ideas and creation of solutions by citizens and employees by sharing resources, experiences and know-how. This grassroots approach serves to increase acceptance at a societal level. The processes and results are openly shared and actively communicated which further promotes trust and transparency within the government and city of Helsinki.

BOLD PROJECTS ANTICIPATING HIGHLY DESIRABLE FUTURES

Starting up smoothly, **a chatbot service for foreign entrepreneurs in Finland** that was developed and implemented in a cross-administration, co-creation and coordination process.

BOLD PROJECTS DESIGNED FOR LESS BENIGN FUTURES

Background on projects (listed in alphabetical order)

📄 **"Corona Makers" group in Spain**: "Corona Makers" group in Spain brought together more than 17.000 members to collectively work on the means of how to support doctors, policemen, and people working during the quarantine in Spain. Supported by the Barcelona City Council and the city's "fab labs" – digital fabrication laboratories – the maker community developed innovative solutions to problems encountered by essential workers on the frontline of the COVID-19 pandemic. Using rapid manufacturing processes like 3D printing, they were quickly capable of meeting the needs on the ground.

📄 **CONSUL**: CONSUL is a citizen participation tool for an open, transparent and democratic government.

📄 **Corona Warning App:** Tracing apps have highlighted the importance of robust data protection in increasing the population's acceptance for digital public services. In Germany, the Corona Warning App helps citizens to determine whether they have come into contact with an infected person and whether there is a risk of infection. This enables the community to interrupt chains of infection more quickly. The app was developed on behalf of the German Federal Government. Download and use of the app is completely voluntary. It can be downloaded free of charge.

📄 **Corporate Digital Responsibility Initiative:** In the CDR Initiative, the Federal Ministry of Justice and Consumer Protection works in dialogue with companies to discuss the substance of Corporate Digital Responsibility (CDR) and to determine the areas in which CDR activities are necessary, worthwhile and appropriate while identifying the specific measures that need to be taken.

📄 **Digitalakademie (digital academy):** With this initiative the German government intends to improve digital skills and e-literacy in the public administration. The academy offers training courses for public servants. The new digital academy (Digitalakademie) is part of the Federal Academy of Public Administration.

📄 **DigitalPakt Schule (digital pact for schools):** The German government has launched a digital pact for schools (DigitalPakt Schule), providing digital equipment to boost e-learning which is worth five billion Euro. Bureaucratic application procedures have made the roll-out of new equipment to schools difficult. In times of school lockdowns this may have severe ramifications, especially for children in less privileged households.

📄 *Click the symbol to visit the project's website*

▤ **Empowering employees:** Demos Helsinki has worked with the city of Helsinki to create a model for employee-driven innovation. It helped to accelerate the development and piloting of ideas and creation of solutions by citizens and employees by sharing resources, experiences and know-how. This grassroots approach serves to increase acceptance at a societal level. The processes and results are openly shared and actively communicated which further promotes trust and transparency within the government and city of Helsinki.

▤ **Google tools for voters:** Google offered advanced search tools and infotainment political shows for German voters prior to the 2017 federal elections.

▤ **GOVDATA**: GovData, the data portal for Germany, offers uniform, central access to administrative data by the federal government, the federal states and local authorities. The aim is to make this data accessible on one platform and, in the spirit of "Open Data", to promote the use of open licences and increase the supply of machine-readable raw data. This is a long shot and the introduction of data needs to be accompanied by a cultural shift in the administration.

▤ **KoDorf Wiesenburg**: KoDörfer are part of an initiative which establishes coworking communities in rural areas which are being integrated in the already existing local social life and infrastructure. This opens up the possibility of bringing together the advantages of rural life and typical urban infrastructure in order to enable a good working and living environment. The question for policymakers is how to scale up initiatives such as KoDorf and release the pressure on housing and public services in the growing metropolitan areas.

▤ **Starting up smoothly**: A chatbot service for foreign entrepreneurs in Finland that was developed and implemented in a cross-administration, co-creation and coordination process.

▤ **US chatbot assistance**, including in the Labour Department in New Jersey: Several innovative regional governments in the United States started to use chatbots with virtual agents to help provide citizens with answers and information about the virus and on issues of how to provide citizens with social support.

▤ **#WirVsVirus**: At the heart of the #WirVsVirus hackathon, an initiative by the German federal government and a range of civil society organisations, including the Prototype Fund and ProjectTogether, stood the question of how society can pool its creative potential and respond to the monumental challenges of COVID-19. During the peak of the first wave of the pandemic in March 2020, more than 28,000 citizens collaborated in a digital space to address the major challenges of the health crisis. Everyone who was motivated, could spare time and had internet access was welcome. The result: 1,500 solutions, a formation of a huge #WirVsVirus community and the insight that it is worth tapping into the rich ideas of civil society.

▤ **work4Germany**: Work4Germany supports public servants with integrating into modern working methods and acquiring relevant digital skills for their everyday work, thereby assisting the transformation of work cultures in federal ministries.

III. Progressing a Vision of Innovation "Made in Europe"

> **"In Europe, we have the opportunity to define a third way between the US model of private turbo-capitalism and the Chinese state-dominated model."**
>
> Alexander Schellinger
> *Head of Healthcare Development, Techniker Krankenkasse*

Throughout the history of Europe, innovation has always been at the core of prosperity and progress. Remarkably, from the medieval ages to the modern age, technological innovation has recurrently been accompanied by some form of social innovation. For instance, the invention of the cog, a new type of ship, enabled the rise of the Hanseatic League and with it the ascendancy of ambitious merchants in an otherwise feudalistic society. Similarly, the invention of the steam engine in Victorian England was followed by the formation of a self-aware working class in Europe's brutish factories. A key challenge has been and will be to unleash Europe's possibilities of innovation while promoting its values. Undoubtedly, the importance of technological innovation for Europe will further grow in the years ahead:

- **Demographic change** (the relative decrease of the working-age population compared with the dependent population) increases the necessity to both uphold and generate wealth and welfare in Europe by means of an innovation-driven productivity boost.

- **Structural damage** resulting from the COVID-19 pandemic and the even bigger challenge of decarbonising European societies until 2050 call for a transformation of Europe's economy through innovation.

- **The new global order**, in which the US and China already engage in geostrategically motivated innovation competition, demands that Europe unleashes

its full innovative capacity to prevent itself from being determined by foreign powers.

To face these challenges, we need to further develop the European innovation landscape into **a high-performing innovation ecosystem.** In general, innovation ecosystems ensure value creation from synergy effects and are based on a collaboration between a wide range of stakeholders, including academia, industry, the public sector, and civil society. As innovation ecosystems are highly complex structures they cannot easily be transferred from one context to the other (trying to copy the US or Chinese model is not advisable). In order to compete globally, Europe must pull together successful practices and knowledge from across the continent and define its own model of innovation based on strengths in areas where it can achieve or build on a competitive edge. Moreover, a one-size-fits-all approach would neither do justice to the diversity of Europe nor to its dynamism. A main task ahead is to better connect already existing and arising ecosystems across Europe in order to provide access to complementary skills, markets, and infrastructures. Innovation ecosystems that operate at a national or supra-national level most often prove to be more successful than those that are limited in scope and scale to a local level. The European Single Market offers huge opportunities in this regard.

"A one-size-fits-all approach would neither do justice to the diversity of Europe nor to its dynamism."

> **"We need to create a culture of digitalisation within the European society."**
>
> Markus Richter
> *State Secretary at the Federal Ministry of the Interior, Building and Community and Federal Government Commissioner for Information Technology*

Having a good framework *(see infobox, p.21)* is certainly a necessary but not a sufficient condition to create a functioning European innovation ecosystem.

i   The EU is aware that efforts need to be stepped up to get closer to re-gaining leadership in breakthrough innovations. Currently preparations are in full swing for **Horizon Europe** (2021–2027),[6] the new EU framework for research and innovation activities. It will involve citizens and civil society more closely and communicate the benefits of research and innovation more transparently. The **European Innovation Council** will be set up as a one-stop shop financially supporting promising technologies with great potential. The **European Innovation Ecosystems** component not only focuses explicitly on the building and strengthening of ecosystems but also addresses the need to improve ecosystem collaboration across EU member states. The **European Institute of Innovation and Technology** will play a crucial role in regard to open innovation, fostering the integration of education, research, and entrepreneurship.

What Europe needs and in many aspects still misses is an **open, inclusive and emancipatory innovation culture** that is supported by a progressive narrative of innovation. To this end, European societies should openly discuss what kind of future they collectively envision and how technological innovations could help them to realise this vision. It takes collective effort to innovate and stakeholders will neither be able to network nor cooperate in a meaningful way without a shared vision of their future.

Europe should build on its comparatively strong ability to make decisions based on consensus; the US and China may often be quicker but Europe's innovations may prove to be more inclusive and sustainable. Yet, this must not mean that Europe should follow a path whereby it creates innovation in tech alone. Instead it should explore the opportunities of knitting stronger ties with the US and the incoming Biden administration.

"A 'grand bargain' in tech over research development, security, taxation, and data rights between the EU and the US (and possibly other democratic allies) would strengthen liberal democracy."

A "grand bargain" in tech over research development, security, taxation, and data rights between the EU and the US (and possibly other democratic allies) would strengthen liberal democracy and push back the autocratic Chinese model of innovation, which has severe drawbacks when it comes to personal rights and freedom. The way forward should not rule out ex-post regulation, but focus on ex-ante strategies ensuring value-based innovation processes. The state must no longer play catch-up in regulating big tech and the internet.

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6.   Cf.: EU Commission (2020): "Horizon Europe", https://ec.europa.eu/info/horizon-europe_en

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The #Tech4Society consortium

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Das Progressive Zentrum

is an independent, non-profit think tank founded in 2007, devoted to establishing new networks of progressive actors from different backgrounds and promoting active and effective policies for economic and social progress. It involves especially next generation German and European innovative thinkers and decision-makers in the debates. Its thematic priorities are situated within the three programmes Future of Democracy, Economic and Social Transformation and International Dialogue, with a particular focus on European integration and the transatlantic partnership. The organisation is based in Berlin and also operates in many European countries as well as in the United States.

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