Autumn 2021 — Report

vodafone

friends of europe

connected europe

A digital brand for a just transition

connected europe

This report is part of Friends of Europe's **Connected Europe** initiative. It has been drafted on the basis of a substantial crowdsourcing exercise, including a series of citizen focus groups, expert working group meetings and public debates carried out by Friends of Europe.

The contributors to this report have participated in their personal capacities and their views do not necessarily reflect those of the organisations they represent, nor of Friends of Europe and its board of trustees, members or partners. Their positions are those held at the time of their contribution.

Friends of Europe is grateful for the financial support received from Vodafone towards this initiative.

Publisher Geert Cami
Director Dharmendra Kanani
Senior Managers Amanda Rohde & Joe Litobarski
Programme Manager Elizabeth Wiltshire
Editors Lindsey Nefesh-Clarke & Dr Andrea Ashworth
Design Lucien Leyh
Programme Assistant Chloe Gorgemans

Partner vodafone

Co-funded by the Europe for Citizens Programme of the European Union

connected europe

Contents

Foreword

Vodafone has proudly partnered with Friends of Europe for the past year to build Connected Europe – an initiative designed to foster a greener, successful, and more resilient Europe. The insights gathered in this report summarise our work so far and our vision to harness digital's role as a force for good, for our society, for the environment, and for generations of citizens to come.

By speaking to Europeans, and seeking their opinions on pertinent digital subject matters, and combining those insights with input from experts and policymakers, we hope to dig deep into issues concerning Europe's digital future, and crowdsource solutions to some of the challenges and opportunities we collectively face.

Whilst insights from focus groups are anecdotal, personal and not representative of the entire population, they are invaluable in our journey towards inclusive digitalisation, and helping ensure citizens' points of view are taken into account during the policy-making process. We hope this latest report makes a small, but positive contribution towards this endeavour.

We truly believe that the potential power of connectivity is beyond imagination. If deployed effectively and fairly, connectivity can boost the economy, improve lives, build community, and enable Europe to live up to its values. Connectivity opens up a world of opportunities: access to education, skills and training, improving mobility and agriculture, helping to tackle critical challenges like climate change or the housing crisis – and so much more.

Europe's future recovery, resilience and global leadership depend on digital infrastructure. Every corner of our continent must be supported by gigabit networks, meaning all Europeans have access to vital online tools.

But in order to get there, it is essential Europe prioritises investment in digital infrastructure, and that monetary commitments are backed up by a supportive and nurturing policy and regulatory ecosystem. Only if this is achieved, can we make the most of 5G technology and build an inclusive Industry 4.0, free from the digital exclusion and divides that were exposed during the last 18 months.

These are tough challenges for today's policymakers. The stakes have never been higher, and global competition has never been fiercer. But, if industry, policymakers and civil society work together, we can achieve the Digital Decade that European businesses and citizens deserve.

Collaboration is the cornerstone of the Connected Europe initiative, starting with citizen involvement. This is no echo chamber: we have involved society, industry, policymakers and academics. We've talked less and listened more, because we believe that collaboration is the only way forward, if we are to successfully achieve the green and digital transition.

At Vodafone, we know our connectivity services are eminently well-placed to enable this transition. Our reach of 139 million homes across 12 markets in Europe with next-generation network infrastructure, provides us with the largest mobile and fixed network operator in Europe and a leading global Internet of Things (IoT) connectivity provider. We cover 98% of the population in the markets we operate in with 4G, and we have launched 5G in 243 cities in 10 markets in Europe, which will help businesses to use IoT and save around 350 million tonnes of carbon dioxide by 2030 – equivalent to Italy's total annual carbon emissions. We realise we have an important role to play in shaping Europe's digital future and we're eager to join forces with everyone involved.

Together, we can do more. So, this report is a call to policymakers, industry and society to work together to enable and drive the urgently needed green digital transition. We hope the following key insights can help to set appropriate priorities for future collaboration, empower stakeholders to take action and to course-correct where needed:

1. We talk about 'twin green and digital' processes but, in fact, there can be only **one, joint transition: a green digital transition for Europe.**

2. In driving towards society's digital and green future, **no one can be left behind.**

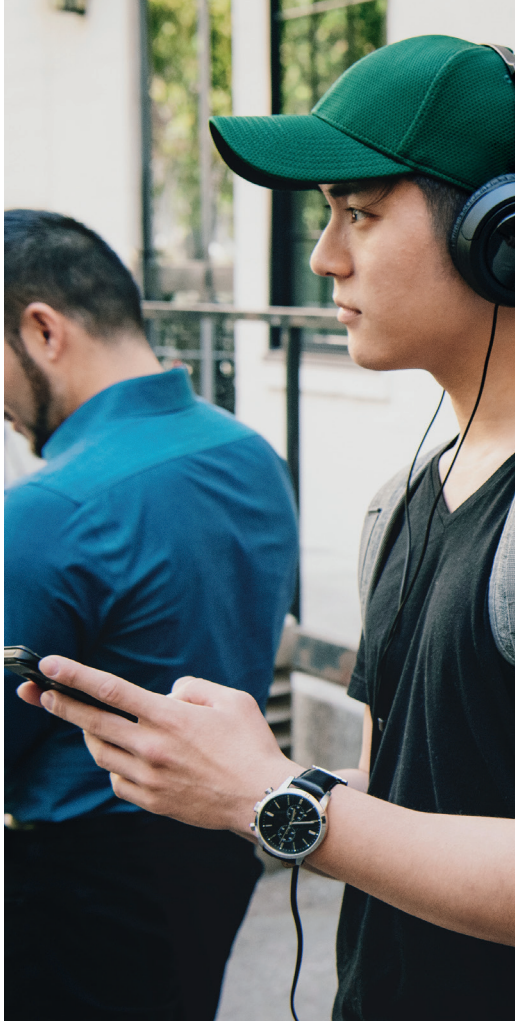
3. Europe must **utilise the full potential of data**, such as mobility data analytics, to help enhance the accuracy and efficiency of public and private services and become an Industry 4.0 leader.

4. We need to **improve trust in digital** and harness it as a true force for good.

This starts with closing the digital divide. We need to ensure that our policy environment and investments are aligned with this bold digital ambition. At Vodafone, we are in this for the long-term and we are passionate about doing what it takes to make the benefits of digitalisation a reality for Europe.

So, we are happy to contribute to this challenge through our partnership with Friends of Europe, and we hope this Connected Europe report brings you closer to the heart of our joint initiative.

Ben Wreschner
Chief Economist & Head of Public Affairs
Vodafone Group



Preface

There is much soul-searching about how Europe will achieve the green and digital "twin transition". If the EU is to meet its goal of climate neutrality by 2050 and its associated objectives – net-zero greenhouse gas emissions, halting biodiversity loss and moving towards a circular economy – it must harness the power of digital technologies, such as high-speed connectivity, big data, machine learning and artificial intelligence (AI). Delivering on the Green Deal will also require significant lifestyle changes on the part of European citizens; the way we live, work, travel and consume will have to fundamentally change. This shift will require sweeping changes that cannot be dictated top-down. On the contrary, these changes must be agreed upon and embraced bottom-up, using the tools of participatory democracy.

The EU should prepare for a managed transition, with citizens in the driving seat. The *gilets jaunes* protests in France are an example of the potential backlash policymakers face if they do not win the buy-in of citizens on key policy decisions. Citizen input cannot be limited to election time, every four to five years: it requires opening up deliberative, participatory forums throughout the policymaking process, whether local or municipal citizens' panels, national citizens' assemblies or consultations, or pan-European democratic exercises such as the Conference on the Future of Europe. To secure broad-based support for societal transformation, co-decision with citizens must become the standard approach, across all areas of policy.

Connected Europe aims to foster this culture of co-decision, engaging citizens in a debate with policymakers about how we should navigate the transformation. Friends of Europe, in partnership with Vodafone, has brought together a diverse range of stakeholders in a continent-wide conversation to explore what exactly we all hope for and expect from the green, digital transition. What does this transformation concretely mean to industry, to academia, to politicians and to citizens? What do they aspire to? What are their fears? What would success look like? And which ideas and policies can help us to successfully navigate this transition?

If we resist change, Europe risks losing control. If we fail to take decisive action against climate change, then heatwaves, floods, droughts and other extreme weather events (not to mention the resulting geopolitical tensions and conflicts, the displacement of climate refugees and authoritarian populism) will impact society in more destructive ways, widening inequalities and increasing economic and political instability. The same logic applies to the digital revolution and the transformative impact of automation and AI on society.

By harnessing the power of technological change, Europe has everything to win. Throughout the Connected Europe project, we have listened attentively to citizens to discover their hopes and fears. In focus groups and online debates, citizens have told us that they hope a greener, digital and more participatory Europe will mean a fair transition to a higher quality of life and a more sustainable economy. Citizens worry that some people may be left behind, particularly those living on lower incomes and/or in rural areas. They hope the new economy will be based on principles of both sustainability and quality (for example, higher quality education and work, thanks to improved connectivity; more durable, sustainable products; an improved quality of life, thanks to lower pollution levels as mobility is transformed; a higher-quality diet, better health and healthcare, and so on).

Europe needs to compete globally—and our values can keep us competitive. Participants in our focus groups want "Made in Europe" to stand for fairness, quality and sustainability. Connected Europe argues that Europe's digital brand must be built on these values to ensure a just transition.

Preface co-signed by the following trustees of Friends of Europe:

Anna-Michelle Asimakopoulou – Member of the European Parliament

Daniel Daianu – Board member of the National Bank of Romania; former Finance Minister of Romania

Connie Hedegaard – Chair of the Board of Denmark's green think tank – CONCITO; Chair of KR Foundation; Chair of OECD's Round Table for Sustainable Development; former European Commissioner for Climate Action

Magid Magid – Founder and Director of Union of Justice; former Lord Mayor of Sheffield, UK; 2018 European Young Leader (EYL40)

Cecilia Malmström – Former European Commissioner for Trade and Home Affairs

Baroness Pauline Neville-Jones – Member of the UK's House of Lords; former Governor of the BBC; former Chairman of the British Joint Intelligence Committee (JIC); former Minister of State for Security and Counter Terrorism

Introduction

Citizens at the heart of a connected Europe

As more money than ever flows into digitalisation and the mitigation of the climate emergency, the next generation stands to gain the most – or lose the most – depending on the investments we make and the actions we take today. For their sake, it is imperative to get this transition right.

Digitalisation plays a crucial role in attaining the EU's sustainability goals. The €723.8bn Recovery and Resilience Facility (RRF) sets out clear objectives for member states' recovery and resilience plans to effectively contribute to the so-called 'twin green and digital transitions', establishing the digital transformation as a cornerstone of European recovery.

The vision, money and ambition to build a more successful, resilient and green Europe are clearly there – but action is urgently needed now to translate vision into reality. As the latest Intergovernmental Panel on Climate Change (IPCC) report has underscored, there must be no delay in taking action to cut carbon emissions and ensure a sustainable future for the planet.

It is imperative to move beyond jargon and high-level discourse and to take concrete action that focuses on citizens – their hopes, concerns, needs and their individual and collective capacity to be part of a paradigm shift.

This is the premise of Connected Europe, which acknowledges that connected people and communities must be at the heart of the green digital transition, with citizens playing a key role in shaping the outcomes.

Connected Europe is a Friends of Europe and Vodafone initiative that explores how policymakers and industry can work better together to boost Europe's connectivity and foster a transformation that is sustainable and fair and builds resilient communities, societies and economies.

Through a series of online focus groups and discussions, the Connected Europe initiative consulted over 300 citizens from 16 European countries, as well as experts and policymakers, to dig deep into pressing issues and crowdsource solutions for building a more successful, green and resilient Europe.

The recommendations of this citizen-centric initiative clearly indicate that it is time for Europe to build its digital 'brand'.

Citizens want 'Made in Europe' to stand for fairness, quality and sustainability – with products and services contributing to mitigation of the climate emergency while remaining affordable and of high quality.

While the majority of European citizens and businesses can now access affordable digital services, next-generation networks that can bring a step change are required to enable a range of services that can improve citizens' lives across the board – from healthcare and transport to clean energy and manufacturing – while boosting economic renewal.

Though much of industry has signalled a willingness to step up to the challenge – to adapt their ways of operating, to innovate and play a part in building a better Europe – some industry pioneers have gone further and are working hand-in-hand with governments and civil society to take bold action. At stake is the opportunity not only to scale up European tech, but also to generate and harness jobs in new fields and improve Europe's global competitiveness.

This report summarises the main reflections and recommendations of Connected Europe on three themes – successful, green and resilient – and presents the key insights on issues that many citizens agree must be taken into account to successfully navigate this century's green digital transition:

1. **The twin transitions must become one: the green digital transition.**
2. **No one can be left behind.**
3. **Data must be harnessed to drive value for industry and social good.**
4. **Digital must be a tool that people can trust.**

Top actions

To ensure the sustainable future that the next generation needs and deserves – and to achieve the 2030 Sustainable Development Goals – the public, private and civil society sectors must work together, through strong partnerships, to deliver a paradigm shift for the planet. Action and cooperation must be based on the acknowledgement that there can be no distinction between the green and digital dimensions upon which our common future depends – they are inextricably linked. There can be only one transition—a green digital transition—for Europe.

This report proposes a number of recommendations for national and European policymakers, the private sector and civil society actors to consider in order to build a more successful, green and resilient Europe. By no means exhaustive, the aim is to help inform policy and inspire effective action.

Insight 1

The twin transitions must become one: the green digital transition

1. Building on the EU's "Path to the Digital Decade" 2030 Policy Programme to ensure digital infrastructures and technologies become more sustainable by 2030, continue advocating for 'greening' the Digital Economy and Society Index (DESI)
2. Ensure a pan-European approach in the design and roll-out of user-friendly 'digital product passports' to empower citizens to contribute to the green digital transition
3. Ensure a facilitative, pro-investment environment, aligned with EU taxonomy principles, to fill the investment gap and support the green digital transition by leveraging the critical role of digital infrastructure

Insight 2

No one can be left behind

1. Prioritise the resilience of 'anywhere, anytime' education systems and work with member states to develop and deploy a coherent, end-to-end European strategy for education over the next five to ten years, including improved digital infrastructure
2. Embrace the 'start-up nation' concept and create an enabling environment for success which fosters a competitive, facilitative and inclusive ecosystem and incentivises European-grown companies to remain on the continent

to take

Insight 3

Data must be harnessed to drive value for industry and social good

1. Address the need for a comprehensive, end-to-end data lifecycle approach, putting in place the right policies to allow for effective generation and monetisation of data – from inception to subsequent aggregation and analysis, and then on to decommissioning and eventual deletion
2. Create a sustainable EU-wide framework for the generation and sharing of data insights to help the EU navigate crises in real time, be more preventative and develop better-informed policy solutions

Insight 4

Digital must be a tool that people can trust

1. Support member state governments and industry to make cyber-security and safety infrastructure and training available and to encourage uptake in schools, local governments and companies
2. Ensure that citizens have access to mechanisms that allow them to seek recourse in the event of violations of their digital human rights and engage in a wide-reaching public awareness campaign

Insight 1

The twin transitions must become one: the green digital transition

Despite political framing as 'twin transitions', there can be only one transition in Europe's future: the green digital transition.

Citizens, policymakers and industry representatives can all agree that Europe's future must be at once greener and more digital, and that strategy must ensure that these two dimensions are mutually reinforcing and do not yield negative trade-offs for producers, consumers or the planet. Digital policy proposals must incorporate green impact assessments, and green policy proposals must incorporate digital impact assessments.

But member states have different starting points and are not equally prepared to deliver on the green digital transition. To get there, Europe will need to prioritise and invest in research and development (R&D). The latest OECD statistics from 2019 show the EU exhibiting a low R&D intensity – R&D expenditure as a percentage of GDP – of only 2.1%, as compared to other major economies, with the United States at 3%, South Korea at 4.6%, and Israel at 4.9%.[i]

> For me, one priority is education and the other one is considering the use of technology in combination with sustainability or with climate change, let's say.
>
> **Felix, Germany**

To successfully mark out its digital brand and support the green digital transition, Europe must increase its R&D investment and capacity.

However, while investment is essential, it is only part of the equation. Comprehensive, effective monitoring of the actions taken to drive the green digital transition will be crucial to ensure the intended impact.

Monitoring frameworks remain disjointed and not fully formed. Aside from the Commission's commitment to establishing a 'scoreboard' to keep track of Recovery and Resilience Facility (RRF) spending and commitments, it is not yet clear how member states will be held to account in delivering the requisite minimum of 37% of expenditure on climate investment and reform and 20% on digitalisation.[ii]

The Digital Economy and Society Index (DESI) monitors digital performance in Europe and serves to benchmark progress on delivering the EU's Digital Decade Targets.[iii] Already proven as an effective monitoring tool, the Index must be upgraded to incorporate green indicators in order to effectively monitor the green digital transition.

1. Building on the EU's "Path to the Digital Decade" 2030 Policy Programme to ensure digital infrastructures and technologies become more sustainable by 2030, continue advocating for 'greening' the Digital Economy and Society Index (DESI).

As one private sector participant of the Connected Europe Working Group noted, "Decarbonisation is an outcome; digitalisation is a means to an end." The two are inextricably linked.

To ensure a coherent and impactful green digital transition, it is critical to incorporate both green and digital indicators into policy instruments and monitoring tools. Doing so will demonstrate how digital and green initiatives can be harnessed to be mutually reinforcing and will enable us to measure how digital advancement promotes – and even accelerates – a sustainable transition.

A single European framework is urgently needed to consistently measure digital solutions across various sectors – such as energy, transport, construction, agriculture, manufacturing, retail and so on – in order to demonstrate their green credentials (e.g., emissions reduction or avoidance).

As Nuno Lacasta, CEO of the Portuguese Environment Agency, warned during an online Connected Europe debate in April 2021, such a standard will also be necessary to "monitor the deployment of European funds, including our [Recovery and Resilience] fund … so as not to foster greenwashing, so as not to see these funds go into activities which have little to do with climate change mitigation and/or adaptation".

The nascent European Green Digital Coalition, formed in March 2021 and comprised of 26 founding ICT companies, has similar objectives. Among its three

Will Digital Technologies save the planet?

The case for and against relying on technology to fight climate change

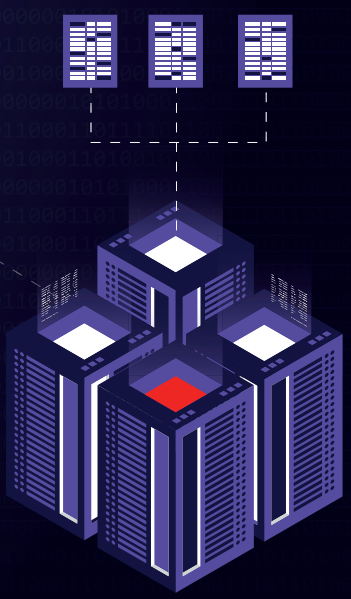
Yes!

Through the use of data, we can

- Improve efficiency in industry, agriculture, transport and energy grids
- Reduce waste and increase recycling, reusing and sharing
- Predict extreme weather events and prepare for them
- Monitor carbon emissions and develop mitigation policies
- Improve workplace efficiency to work from home or work less overall

No!

- Efficiency gains do not automatically reduce environmental harm
- Power demand for artificial intelligence produces growing emissions
- Data-based solutions can reinforce existing biases and raise privacy concerns
- Relying on data distracts from the overall need to reduce consumption
- Incentives to use AI to combat climate change remain low



The take away?

Digital technologies will save the planet! – But not by themselves.

Tech can help:

- Governments to promote the ethical employment of data and AI against climate change
- Citizens make informed choices and reduce consumption
- Businesses and industry reduce their carbon footprint

Sources: Capgemini Research Institute, Climate Change AI, Forbes, Vodafone Institute for Society and Communications

> When I think Europe and technology I first think about regulation. I think the penalty of the GAFAM (Google, Apple, Facebook, Amazon, and Microsoft) and I think it is a good thing to work on regulation. It's one of Europe's successes. But Europe should have a real policy on tech; not only delegating to private interests but building services that could help citizens access education, culture, memory and open our humanity

Jean-Marie, France

objectives is the commitment to develop "methods and tools to measure the net impact of green digital technologies on the environment and climate" in cooperation with relevant expert groups, NGOs and academia with a strong focus on enablement.[iv]

Also, the recently published 2030 Policy Programme "Path to the Digital Decade" aims to "ensure digital infrastructures and technologies become more sustainable and energy and resource efficient, and contribute to a sustainable circular and climate neutral economy and society in line with the European Green Deal."

By leveraging and building on such initiatives and processes already under way, including work being carried out with stakeholders to develop and implement a taxonomy of sustainable activities[v] and existing DESI indicators, the ultimate goal should be to design a single, standardised set of transparent metrics that would enable digital opportunity assessments and sustainability assessments to be carried out in tandem.

Such a standardised set of metrics could 'green' the DESI and serve as a single, transparent framework for monitoring and evaluating policies and actions implemented as part of the green digital transition across Europe.

The creation of a set of standardised metrics must take into account the different starting points and capabilities of member states. As one respondent to Connected Europe's policymakers' survey cautioned: "Every country should be measured in relation to its relative progress and not in absolute terms."

Involving industry leaders from across Europe in the process – leaders who have already demonstrated their commitment to the green digital transition – could offer an immense opportunity for the EU, member states and the private sector to strive to keep pace with one another and co-design solutions to drive the green digital transition.

2. Ensure a pan-European approach in the design and roll-out of user-friendly 'digital product passports' to empower citizens to contribute to the green digital transition

Many citizens are calling for a tool to help them better understand the impacts and externalities of their individual consumer and lifestyle choices.

"I'm just caught in this branding issue of what is really environmentally-friendly or not," observed Marta, a Polish citizen participating in the Green Europe focus group. "How will I really know? There are so many products that are presented as environmentally-friendly and sold at a higher price. Maybe they're not really sustainable?"

'Digital product passports' could be the solution that citizens are seeking and could play a significant role in catalysing a paradigm shift.

Supported through a ministerial declaration during the 2021 Portuguese European Council Presidency, ministers agreed to work together to "develop a digital product passport for tracking and tracing products and materials, to increase information flows along value chains, facilitate value retention processes, new and sustainable business models, and to improve consumer empowerment and sustainable choices through information and awareness." [vi]

Offering a dataset that captures relevant information concerning a product's components, production, life cycle, and so on, such a passport could serve as

a powerful tool to promote and build a circular economy.[vii]

Alongside more complex data, the 'digital product passport' should provide a simplified snapshot of a product's green credentials, for example, an overall sustainability score, providing users with a framework for informed decision-making, without overwhelming them with information. A user-friendly interface would be essential to encourage widespread uptake.

The provision of such green credentials could empower citizens to make informed consumer and lifestyle choices and 'vote with their wallets' by weighing the pros and cons of their choices and purchases – ranging from factors related to biodiversity or a product's carbon emissions, to efficient production methodologies or efforts to source components locally.

The success of such a tool will require a coherent, pan-European strategy, to ensure that it is adopted as an EU standard and is developed and deployed alongside the requisite digital logistical tools that can track products throughout the whole value chain.

At the same time, the passport could benefit European producers by enabling them to demonstrate their green credentials – such as the efficient use of resources, the use of more sustainable materials and manufacturing methods, the use of renewable energy sources, better waste management, etc. Such a bold initiative could also play a role in industrial transformation, increase the standing and competitiveness of European products worldwide and encourage producers in other parts of the world to follow suit.

> "The internet connection here is very bad. Awful. Now I'm on my phone to make sure that the connection is okay because I cannot rely on my landline connection... Maybe more people are using the internet so the bandwidth, I think, can be a big problem. I live in a small town. In terms of infrastructure, yes, this is a big problem for me.
>
> **Mariana, Slovenia**

3. Ensure a facilitative, pro-investment environment, aligned with EU taxonomy principles, to fill the investment gap and support the green digital transition by leveraging the critical role of digital infrastructure

Digitalisation plays a critical role in enabling functioning societies and economies. When done right, digitalisation empowers European citizens and businesses to reap the benefits of secure, powerful and sustainable digital infrastructure – from education, e-health and employment opportunities to e-government, from e-agriculture and smart solutions in industry, powered by the Internet of Things (IoT), to the growth of small businesses as they increase their productivity through greater connectivity.

Going forward, digital will play an increasingly essential role in ensuring Europe's industrial competitiveness and digital sovereignty on the world stage.

But reaping the full potential of digitalisation also requires significant investments – and an environment conducive to such investments. European policymakers have unlocked unprecedented levels of investment for the green digital transition, through the Recovery and Resilience Facility, with additional private funding expected. Nevertheless, the European Investment Bank estimates that a further €42 billion per year will be required, until 2025, to meet the needs of the digital transformation alone.[viii]

The Recovery and Resilience Facility is an urgently-needed start but falls far short of the funding needed to fill Europe's digital investment gap.

Achieving investment on the scale required demands the mobilisation of both the public and private sectors. To fill the gap, policymakers must foster a facilitative, pro-investment environment through policy reforms that ensure standardisation, reset the regulatory environment and create a level playing field for green digital investments.

According to Jakob Haesler, Managing Director of Foxdixneuf and 2013 European Young Leader (a programme run by Friends of Europe engaging the continent's most promising talents), "What we really

> The EU should focus on its own research as much as possible, so that it becomes a powerhouse to compete on the world stage. When they say a 'green recovery', if this means producing green technology ourselves then that's hugely positive. If it means buying everything from China and just implementing it, then that's not as positive.
>
> **Angelos, Greece**

need, at this stage, is an agreement on how to actually value assets, in view of the impact of the green transformation. And I think that's where banks and investors are struggling today, because there is no common standard yet."

The recently proposed European Green Bond Standard, aligned with EU taxonomy principles, is already an important step in this direction. It will "allow companies and public bodies to more easily raise large-scale financing for climate and environmentally-friendly investments, while protecting investors from greenwashing".[ix]

The Platform on Sustainable Finance, initiated as a permanent body of experts to advise the Commission on EU taxonomy principles and sustainable finance questions, could go even further and provide much-needed answers to investors' questions regarding standardisation.[x]

To fill the gap and make the most effective use of the substantial transition and recovery funds available, the Platform on Sustainable Finance could devise a regulatory framework that enables some member states to create financial frameworks that use blended financing. This could contribute to more financing schemes that encourage smaller, private sector actors to invest in the green digital transition.

Such investments would strengthen European economies, unleash the benefits of digitalisation and reduce disproportionate risks for shareholders. Industry players could invest more in much-needed R&D. And consumers could benefit from improved quality and – ideally – increased affordability.

Insight 2

No one can be left behind

"Having 'best in class' infrastructure across the EU is pointless if we don't bring businesses and citizens along with us," cautioned one working group member from industry in a discussion about increasing European resilience.

Put simply: in the green digital transition, no one can be left behind.

The EU has laid out ambitious goals in this regard, as part of its Digital Decade targets, which include equipping at least 80% of Europeans with basic digital skills, achieving greater gender parity in the field of ICT, ensuring universal 5G access, and doubling the number of 'unicorn' start-up companies by 2030.[xi]

Given the starting point – arguably a digital (gender) divide – these goals are clearly necessary. The 2020 DESI calculated that only 58% of citizens possess at least basic digital skills, while Eurostat reported that only 18.5% of all ICT specialists in the EU are women.[xii]

A recent survey by PWC estimated that, in 2019, €353bn in revenue were lost in the EU as a result of skills shortfalls in the private sector alone.[xiii]

Europe must invest in a diverse, digitally-skilled workforce by boosting access to 'anywhere, anytime'

> The EU should set standards and regulations for such things as sustainability labels. As an individual consumer, I go into a shop nowadays and see one label after another. Most of them I don't know. Are they used for marketing and, you know, slightly greenwashing campaigns? You are just confused. I need something that is simple, easy to understand, and it should be the same across the EU.
>
> **Julia, Germany**

digital education and training. This is crucial in order to empower people of all ages and backgrounds and unlock job opportunities by providing citizens with the technology and skills they need to access employment, enjoy full digital citizenship and increase their resilience.

This will also require that people are able to access and afford high-quality digital infrastructure – regardless of where they live, study or work. The public and private sectors must work together in consultation with civil society to create a conducive environment for investments in such infrastructure, ensuring that every cent of public and private money spent provides as much digital capacity as possible.

Though more will need to be done, training and upskilling the workforce will contribute to creating an enabling environment for young companies to grow and flourish in Europe, improve their productivity and be globally competitive. Member states will also need to promote the 'start-up nation' concept, to catalyse the growth of SMEs.

1. Prioritise the resilience of 'anywhere, anytime' education systems and work with member states to develop and deploy a coherent, end-to-end European strategy for education over the next five to ten years, including improved digital infrastructure

A 2019 OECD survey, carried out prior to the onset of the pandemic, reported that only 39% of teachers in the EU felt well prepared to use digital technologies in their daily work.[xiv]

Meanwhile, a public consultation launched as part of the EU's 2021-2027 Digital Action Plan reports that nearly 60% of contributors had not used distance or online learning tools prior to the pandemic, and 95% agreed that the crises triggered by the COVID-19 pandemic marked a decisive turning point in the role of digital technology in education and training.[xv]

> With school teachers, some of them are maybe not that, let's say, 'technology-savvy' and they were not able to provide proper lessons for school children. I don't have a solution for that but it was also a problem in my country.
>
> **Anastasia, Estonia**

Just as the pandemic has opened up a discussion about European competence with regard to health systems, financing and digital infrastructure, it is clear that Europe must also prioritise the resilience of its education systems. The European Commission should therefore work with member states to develop a new and better digital educational infrastructure over the next five to ten years.

This will be no small task. To meet the Digital Decade targets for increasing digital skills across Europe, "hundreds of millions of specialised classes" will need to be put in place, requiring the active involvement of a wide range of stakeholders, according to Victor Negrescu, Vice-Chair of the European Parliament Committee on Culture and Education and former Romanian minister for EU affairs. At a Friends of Europe debate in February 2021, he noted: "It's important to have a strategy… that goes beyond nice remarks about education, about digital skills. We need to have milestones. We need to have clear guidelines."

The EU, member states and all stakeholders need to step up efforts to train people of all ages and backgrounds for next-generation jobs and industries, harnessing the DESI and the Women in Digital (WiD) Scoreboard [xvi] to monitor progress towards achieving the goals set out in the Digital Strategic Compass.

It is urgent to provide teachers with adequate training in the use of digital and remote learning tools and methodologies. In parallel, teachers must be equipped with innovative tools to impart and assess the different dimensions of critical thinking. To facilitate idea-sharing and lessons learned, the European Commission and member states should ensure that teachers across Europe are consulted in the development of the Digital Education Hub, which will be launched in early 2022, and that teachers have access to an interactive portal so they can access and share relevant content and best practices. [xvii]

With regard specifically to the education of children and youth, curricula need to be adapted to current realities and the labour market of tomorrow. The Commission should support member states to design a European educational infrastructure that teaches the essential digital skills needed for future jobs. Such curricula should also place emphasis on critical thinking and help

21st Century Digital Education in the EU

The pandemic forced teaching to move online

8 weeks

Median duration of school closure in 2020

Teachers had to adapt to online classes

20% of schools connected to high-speed Internet (2019)

25% of schools had insufficient digital policies or support

46% of teachers do not feel confident (and not supported) in their digital skills

49% of lower-income parents are not involved with their children's education

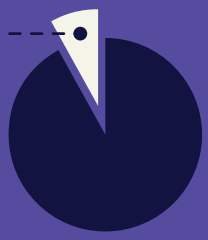
60% of teachers had to self-teach digital skills

What is being done?

€7.5 Billion to expand EU Digital capacities

600 Million

to be invested in expanding digital skills (public and private)



EU Digital Education Action plan (2021 – 2027)

- Invest in schools' digital infrastructure
- Enhancing teachers' digital skills and competences

Other EU funded projects

- Develop training platforms
- Connect educators

Is it enough?

- Teachers in EU member states lacked crucial digital skills during the pandemic.
- Coordination across member states and training opportunities were missing.
- How can the EU ensure that teachers are prepared for digital education?
- How can the EU leverage the skills and infrastructure of the private sector?

Sources: European Commission, Council of the European Union, Digital Europe, Euractiv, European Data Portal, UNICEF

educators to better foster creativity and innovation and nurture students' potential.

Furthermore, Europe's educational infrastructure needs to ensure continuous education and lifelong learning opportunities. According to the World Economic Forum's Future of Jobs Report 2020, 50% of employees will need to undergo reskilling by 2025 as a result of digitalisation and the economic disruption caused by the pandemic.[xviii] Europe must be prepared to support the lifelong learning needs of its population.

Civil society organisations and the private sector should be engaged by the Commission and member state governments in the creation of new, adapted, and inclusive educational models and platforms.

There is much to do to develop an educational system in Europe that meets citizens' needs – from upgrading education infrastructure and curricula to training teachers. In all of this, the Commission must consistently prioritise and address the needs of vulnerable, marginalised groups to ensure that they can access affordable digital infrastructure and education. The Commission should complement and bolster targeted measures by member states and strengthen relevant EU-wide benchmarking metrics to accelerate and monitor digital inclusion and capacity-building.

> Today, the advantages of online training are more important than ever. School closures and other disruptions to my daily life don't have to prevent me from growing and learning. Online learning makes it simple and convenient to keep building vital skills for my future.
>
> **Annita, Romania**

2. Embrace the 'start-up nation' concept and create an enabling environment for success which fosters a competitive, facilitative and inclusive ecosystem and incentivises European-grown companies to remain on the continent

Among the EU's new Digital Decade ambitions is to "grow the pipeline of its innovative scale-ups and improve their access to finance, leading to doubling the number of 'unicorns' in Europe".[xix]

This is a highly ambitious goal, particularly given that, in early 2021, Europe was reported to be home to only 70 unicorn start-ups, compared to the United States, with 288, and China, with 133.[xx] [xxi]

Success will require that governments and institutions begin to think and act differently – embracing the 'start-up nation' concept to create an inclusive and enabling environment for success. With many nations' public and private actors proactively seeking out start-ups and using incentives to attract them abroad, governments and industry leaders in Europe must work hand-in-hand to create an environment that incentivises homegrown European companies and innovators to keep their expertise and business on the continent.

Connected Europe's policymakers' survey revealed mixed reactions to what conditions might be needed to create an enabling environment for businesses to succeed. While some argued for more flexibility and less stringent regulation as a path to greater innovation, others called for more supportive frameworks to be in place to encourage better chances of success for new businesses and SMEs. Such reactions reveal the different conditions in member states, and the challenges confronting the EU as it aims to achieve its Digital Decade ambitions.

As member states work to ensure enabling business environments, the European Commission should support a start-up nation culture by creating an EU-wide technology 'sandpit' that is able to identify next-generation technology ideas, develop partnerships with higher-education institutions to foster innovation and invest in high-risk ventures. European Digital Innovation Hubs (EDIHs), expected to come into operation in 2022, could serve this purpose.[xxii]

Other factors are also important. The World Economic Forum highlighted, in its latest Global Competitiveness Report: "a need to incentivise firms to embrace diversity, equality and inclusion to enhance creativity" as a priority for "reviving and transforming the innovation ecosystem" over the next three to five years.[xxiii] However, recent reports show that tech companies with founding teams made up of one or more women receive only an estimated 7% of all

> Europe is likely to be more of a consumer than a creator of technology in the not-too-distant future.
>
> **Roni, Spain**

available venture capital in Europe.[xxiv] In 2019, the gender pay gap in the EU showed women making an average of 14.1% less than men in their gross hourly earnings.[xxv] The OECD highlights the "sizeable" economic costs associated with discrimination and exclusion when large segments of a population are prevented or dissuaded from joining the workforce.[xxvi]

Whatever the starting point, governments, supported by the EU, will need to address a wide range of issues to ensure that Europe is attractive to both companies and the talent that they require, including:

- access to skilled workers (affected by educational infrastructure and migration rules);
- fair taxation practices (which make some countries more attractive to start-ups than others);
- the overall administrative and regulatory environment (e.g., easing the regulatory burden for industry to increase global competitiveness);
- inclusive and equitable access to capital for entrepreneurs; and
- both hard and soft infrastructure (e.g., accessible internet connectivity and commuting options, fair housing prices, affordable childcare options, and so on).

Fostering an attractive, inclusive and enabling environment for businesses and workers would be a long-term investment in Europe's future and would pay off many times over, further enhancing the green digital transition as start-ups and SMEs would make essential contributions to R&D and innovation in the process of transition.

Insight 3

Data must be harnessed to drive value for industry and social good

Effective data and information sharing is key to enabling better cooperation among EU member states, ultimately increasing European resilience and improving citizens' lives. It is also an enormous asset for building Europe's digital 'brand'.

But to truly reap the benefits of Europe's industrial data, an enabling policy environment is required, one that allows for the sharing of such information while also keeping European companies in control and ensuring that their value stays on the continent.

The European data strategy, and its ambition to create a data-driven society with the EU at the helm, is a vital tool in this regard. The strategy aims to create a single market for free-flowing data, with strong emphasis on privacy and data protection.

As the Commission puts it: "People, businesses and organisations should be empowered to make better decisions based on insights from non-personal data, which should be available to all." [xxvii]

Increased access to industrial and commercial data can have wide-ranging beneficial applications. By using such data, for example, wind farms can optimise their power generation, and information about train delays can save millions of working hours – and the associated labour costs.[xxviii]

1. Address the need for a comprehensive, end-to-end data lifecycle approach, putting in place the right policies to allow for effective generation and monetisation of data – from inception to subsequent aggregation and analysis, and then on to decommissioning and eventual deletion

Recent EU policy interventions have had a tendency to concentrate on efforts to promote the sharing and reuse of data that is already in existence. Policymakers, working with industry and civil society, should go beyond this to address the need for a comprehensive end-to-end data lifecycle approach. Such an effort should put in place the necessary policies for effective generation and monetisation of data – from inception to subsequent aggregation and analysis, and then on to decommissioning and eventual deletion.

Such an approach that takes into account the full lifecycle of data should go hand-in-hand with measures to support investment in enabling technologies – such as 5G, Internet of Things (IoT), AI, Cloud and so on – and the promotion and adoption of skills within the private sector, with a particular focus on SMEs and SMBs. This investment would lead to better use of data in companies across the board, while also facilitating cross-border data sharing, as appropriate.

Such investment is sorely needed. A 2018 report from PWC found that only 5% of European manufacturers could be considered "digital champions", as opposed to 11% in the United States and 19% in the Asia-Pacific region.[xxix] Furthermore, research commissioned by Vodafone has shown that the rate of IoT adoption and sophistication is much lower in Europe than in the United States and Asia-Pacific, which has an impact on the rate of machine-generated data.[xxx]

By addressing the full data lifecycle, Europe will progress towards becoming a true data economy, unlocking significant economic benefits: a 2018 Vodafone-commissioned model and analysis produced by Deloitte, using publicly available datasets and an expert survey, estimated that sharing machine- generated, non-personal data could add €1.4tn in economic value to the EU's GDP by the year 2027.[xxxi]

2. Create a sustainable EU-wide framework for the generation and sharing of data insights to help the EU navigate crises in real time, be more preventative and develop better-informed policy solutions

What this period of health and economic crises has already taught us is that governments, industry and civil society groups must work together to power Europe's industrial core into the Industry 4.0 revolution and make our continent a global tech powerhouse. To emerge with better, more digital societies, European countries will need the ability to harness data insights to truly achieve a data economy, taking into account the need for citizens to have control over their data and building on Europe's leadership in terms of privacy protection.

Key to Europe's long-term success and resilience will be the understanding that crises and shocks are bound to come around again. For 'Team Europe' to succeed and work in a more coherent manner, the European Commission should establish a process that helps monitor emerging issues and trends that empower member states to navigate crises in real time, and develop better-informed policy solutions. This would help transition Europe from reactive to proactive.

Through increased foresight and preparedness, governments, institutions and businesses can take an anticipatory approach, looking ahead and at the same time examining the ways in which infrastructure and systems should be designed to be more inclusive and resilient.

> Digitalisation needs to be pushed by the EU. We need to have good internet connections everywhere in Europe. If you're in Berlin or a big city you're lucky. If you're somewhere in the countryside, ... you probably have two tin cans and a wire in the middle, that's it.

Oliver, Germany

To achieve the ambitious objectives set out in the Digital Decade proposal and operationalised through the 2030 Policy Programme, the Commission "will accelerate and facilitate the launch of multi-country projects, building on the Recovery and Resilience Facility, the Cohesion Funds and other EU funding".

As a first step, governments should identify the tools that already exist to facilitate information-sharing – conducting a mapping exercise for the adoption and scaling-up of existing digital solutions. This should be a cross-border effort and could be coordinated by the European Commission.

The Commission could then work with governments to design a data sharing framework that helps facilitate access to information, tools and initiatives across borders and play a role in foresight and crisis prevention. The array of uses could be vast, spanning every field from healthcare to education, leveraging data to drive value for European industrial ecosystems, businesses and citizens.

A supporting policy environment is essential to enable the next generation of innovative European companies to scale up and prosper, allowing Europe to compete on the global scale as a true tech leader - while also keeping European companies in control and ensuring that their value stays on the continent.

When it comes to citizens, aggregated, anonymised and privacy compliant insights must be the criteria, in order to ensure European values and rights are upheld and protected, and that citizens are always ultimately the ones to control their data.

"Imagine being able to have one system, which includes unified data where you as a user can simply create and get a virtual transcript of all your educational achievements through your entire life, and then share this information with universities and institutions in other member states," suggested Vasia Vasilopoulou, Deputy CEO at Stellar Capacity, during Friends of Europe's first public Connected Europe debate. "That would be the dream."

Reflecting upon the outcomes of the Successful Europe strand of activities, Taavi Rõivas, Connected Europe Senior Fellow, former Estonian Prime Minister (2014-2016) and Chairman of Auve Tech, highlighted the success that such cross-border information sharing has already had: 'The first 'real-life' cross-border digital public service in the EU is digital prescriptions that work both in Estonia and Finland. Imagine if all the Finns or Germans living in Costa del Sol could get their home country family doctor's prescriptions sent directly to the Malaga pharmacies... It could save lives, money and time."

To support such a framework, the Commission will need to invest in a secure information exchange platform capable of connecting to each member state's IT systems, to leverage value of industrial data for European businesses and, at the same time, ensure a strong legal framework to protect citizens' personal data.

Efforts are already under way in the field of health, where a European Health Data Space is being developed as a Commission priority alongside the European Health Emergency Preparedness and Response Authority (HERA).

Such a system could furthermore be integrated with other tools and used, for example, to monitor member states' progress towards implementing their recovery and resilience plans.

Insight 4

Digital must be a tool that people can trust

For the green digital transition to succeed, people, communities and businesses must be confident that they can place their trust not only in governments and institutions, but also in the products they consume and the digital tools with which they interact.

Every day, websites and apps ask for personal data, and users must regularly decide whether to trust a given provider with their personal information. Citizens in the Connected Europe focus groups (conducted between January and April 2021) described feeling powerless when it comes to making such decisions and lacking confidence about how their personal information might be used.

As Julia, a German citizen participating in the Green Europe focus group, put it: "I have thought about the privacy issues. You have no idea how many times I have deleted Zoom from my phone and then reinstalled it when I needed it. After a while, I realised that as much as I would love to be safer in this regard as well, I can't be. Even if a European company tried to create a new Zoom that respected privacy more, or whatever, then it wouldn't necessarily be used by everybody in Europe. Even then, it would be the market that decides which app is going to be used."

Many citizens in the focus groups expressed other serious concerns. "I'm worried about what our data might be used for beyond just advertising," said Tomás, a Portuguese citizen participating in the Resilient Europe focus group.

While most participants reported having a personal hierarchy of sensitivity and priorities regarding data, a common refrain was: "They know it all anyway—so why bother trying to do anything about it?"

Since the pandemic struck in early 2020, mis- and disinformation have spread unchecked online, with grave consequences for public health (among other things).

In a survey carried out for the European Commission, at least half of respondents reported encountering fake news at least once a week. While 71% of respondents

reported that they felt generally confident in their ability to distinguish reliable information from misinformation or fake news, 26% were not confident in their ability to do so.[xxxii]

Dan, a Romanian citizen participating in the Resilient Europe focus group, lamented: "My parents are on WhatsApp, and they have this group of late-middle-aged people that they're communicating with, and it's insane how relentless the misinformation and disinformation is in that group, and how everything is so negative and so toxic."

In the tech sphere, rumours about 5G infrastructure have led to the physical destruction of connectivity infrastructure in the EU, adversely impacting essential everyday services such as the provision of e-health solutions and the functioning of connected smart cities. The reality and impact of climate change has been the subject of debate and disagreement for years, often aggravated by mis- and disinformation.

The prevalence of misinformation – whether related to governance, climate change, health issues or digitalisation – is a threat that may hamper progress towards a greener and more resilient Europe. While many citizens are concerned about these issues and aware of the challenges, they are unsure how best to deal with such risks and threats.

The EU has implemented or proposed strategies and instruments to regulate the digital sphere, bolster cybersecurity and address threats such as disinformation, ranging from the EU's Cybersecurity strategy and proposed AI regulatory framework to a series of instruments and initiatives to tackle online disinformation.[xxxiii] Nevertheless, it is crucial to raise awareness among citizens about these critical issues, and to strengthen safeguards and recourse mechanisms.

1. Support member state governments and industry to make cybersecurity and safety infrastructure and training available and to encourage uptake in schools, local governments, and companies

Greater dependence on technology entails increased cybersecurity and privacy risks. As digitalisation becomes increasingly far-reaching and ubiquitous, it is essential to prioritise cybersecurity across the digital sphere and in critical infrastructure. This is the ambition of the EU's Cybersecurity Strategy.

Citizens must also be empowered to protect themselves from threats that slip through cracks and loopholes of security architecture.

In order to create a safe and secure online environment for all citizens, with a particular focus on youth and the most vulnerable, governments and institutions should work with industry leaders who may already be applying state-of-the-art security and safety measures.

Additionally, enhancing critical thinking skills and embedding them in educational curricula and systems is also a powerful, bottom-up approach to enable citizens to better protect themselves from misinformation, disinformation and fake news.

The public and private sectors should also work together with civil society organisations to make cybersecurity training available for everyone, encouraging uptake in schools, local governments, and companies.

This could include working with existing European disinformation initiatives – such as the European External Action Service's East StratCom Task Force – and establishing a multi-stakeholder platform involving public, private and civil society actors, with the aim of further understanding the prevalence of disinformation, the measures to address and prevent it, and the role that civil society can play in monitoring and reporting.

2. Ensure that citizens have access to mechanisms that allow them to seek recourse in the event of violations of their digital human rights and engage in a wide-reaching public awareness campaign

Citizens and consumers must be assured that they can exercise their rights and seek recourse in the event of violations of their digital human rights.

The EU's General Data Protection Regulation (GDPR) and e-Privacy directive have been important starting points, laying out clearer rules concerning privacy and giving individuals more control over their data.

The recently proposed framework of digital rights and principles included in the EU's Digital Compass is an opportunity to clearly set out the EU's digital values and EU citizens' digital rights. The Commission has announced plans to set a common benchmark at the European level for fundamental rights and values in the digital space and guide the EU and the member states in designing and enforcing coordinated policies. Given the extremely high stakes – across the board – of improving trust in digital, the rapid and effective deployment of such a framework is crucial.

The Digital Services Act (DSA) and the Digital Markets Act (DMA) are much-needed policy tools that can also enhance trust in the digital space. These instruments

How can we build trust and safety online?

The world is becoming more connected

Integration
The Internet connects phones, cars, and homes

Automation
Transport, industry, and computing are more autonomous

Data
Leisure, healthcare, and shopping are more efficient thanks to big data

Digitalisation can be risky...

65% of Europeans do not think the Internet is safe

On the Internet
Users can become victims of fraud, hate speech and abuse online

For our data
Companies and governments can fall victim to ransomware and data leaks

To our infrastructure
Physical infrastructure and elections can be targeted by digital attacks

What must be done?

Education
Internet users must be taught to identify digital threats and fraudulent actors

Resilience
Businesses and government agencies must invest in cyber-security

Rules
Governments must enact clear rules for companies and platforms to create a secure online environment for their users

Sources: CSIS, Eurobarometer European Commission, Spectrumlabs, Vodafone Institute

> I really, really like the Digi-ID system in the Netherlands, and I would like to have it in Germany as well. But I don't trust the technical infrastructure of Germany because, right now, the Covid-19 infection tracking system is a catastrophe. You have server crashes and data leaks and I think it just wouldn't work with the digital infrastructure we currently have here.

Lea, Germany

address underlying business models and platform design to prevent exploitative data gathering. Proposed by the European Commission in December 2020, they are a legislative package designed to create a safe digital space for users of digital services and establish a level playing field, both within Europe and abroad. Currently under negotiation, the package is expected to be finalised by mid-2022.[xxxiv]

The DMA, in particular, will establish a clear set of criteria that define an online platform as a 'gatekeeper' – a company that "has a strong economic position, significant impact on the internal market and is active in multiple EU countries; has a strong intermediation position, meaning that it links a large user base to a large number of businesses; has (or is about to have) an entrenched and durable position in the market, meaning that it is stable over time".[xxxv]

As the EU builds up and reinforces its legal infrastructure to regulate the digital sphere, the EU and member states must also ensure that:

i. citizens have access to mechanisms that allow them to seek recourse in the event of violations of their digital rights; and

ii. citizens are aware of the recourse mechanisms available to them.

If implemented effectively, the EU's proposed framework of digital rights and principles could help raise awareness about citizens' digital rights and build trust in digital. It is imperative, however, that such a framework goes hand-in-hand with a comprehensive public-awareness campaign to ensure citizens are also aware of the safeguards and recourse mechanisms in place to protect their (digital) rights.

Conclusion

The multiple crises – health, educational, economic and environmental – during the global COVID-19 pandemic have thrown into stark relief the vital role of digital technology and connectivity.

The success of Europe's recovery, the continent's chance to "build back better" and our resilience in the face of future challenges all depend on how Europe navigates the digital transition.

If we harness the potential of digital technology and connectivity effectively, we can build a greener, successful and more resilient Europe. But to achieve this, the public, private and civil sectors must come together, through strong partnerships, to deliver a paradigm shift.

There can be only one transition in Europe's future: the green digital transition.

Policymakers and industry must work together to boost Europe's connectivity and drive a transformation that is inclusive, sustainable and fair—and builds resilient communities, societies and economies. To achieve this, the investments flowing into digitalisation and the mitigation of the climate crisis through the RRF are, of course, necessary – but they are not sufficient. Digital and green policy initiatives and strategies must be aligned and integrated.

The EU and national governments must close regional infrastructure gaps and invest in enabling technologies that improve business productivity, growth, innovation and sustainability. They must foster an enabling, facilitative environment that encourages green investment and attracts and supports business and innovation.

Europe must progress towards a data economy, unleashing the benefits while ensuring a regulatory framework that protects businesses and citizens.

Connected people and communities must be at the heart of the green digital transition: citizens must be empowered to contribute to this paradigm shift. This requires levelling up access to digital infrastructure and ensuring that citizens are equipped with digital skills fit for the digital age. It also requires the implementation of regulatory frameworks and instruments to improve citizens' trust in digital, protect citizens' (digital) rights and enable citizens to make informed lifestyle and consumer decisions.

Today, Europe has an opportunity to build its digital 'brand', one that stands for fairness, quality and sustainability, a brand that can contribute to the green digital transition and strengthen Europe's global competitiveness and leadership. Everyone stands to gain from this: citizens, communities, businesses, economies.

A number of ambitious programmes and initiatives are under way in Europe – at the level of the EU, national governments and involving cross-border, cross-sector alliances – that can contribute to building Europe's digital 'brand' and drive the green digital transition. This is a source of hope. But urgent, bold action is required from leaders and actors across all sectors, particularly in view of the climate emergency, to deliver on these ambitious targets, ensure accountability and rise to the immense challenges that we face.

We hope the insights and recommendations in this report will inform effective policy, inspire bold action and contribute to realising our vision of a successful, green, resilient Europe.

Acknowledgements

Friends of Europe would like to thank the following members and contributors to the Connected Europe Working Group and MEP Group for their support and valued contributions to the initiative. We are also grateful to the members of our Board of Trustees who provided input and feedback on the initial recommendations, and to our Connected Europe Senior Fellows, Lindsey Nefesh-Clarke and Taavi Rõivas, for their insights and support along this journey.

Joaquín Almunia
Visiting Professor, London School of Economics (LSE) and Sciences Po Paris, former Vice-President of the European Commission

László Andor
Secretary General, Foundation for European Progressive Studies (FEPS); former European Commissioner for Employment, Social Affairs and Inclusion

Anna-Michelle Asimakopoulou
Member of the European Parliament

Dionysia-Theodora Avgerinopoulou
Chair, Hellenic Parliament Special Permanent Committee on Environmental Protection; European Young Leader (EYL40)

Antonella Battaglini
Chief Executive Officer, Renewables Grid Initiative

Franc Bogovic
Member of the European Parliament

Franziska Brantner
Member of the German Bundestag & Trustee of Friends of Europe

Patrick Child
Deputy Director-General, European Commission Directorate-General for Research and Innovation (DG RTD)

Dorothée D'Herde
Head of Sustainable Business, Vodafone

Maria Da Graça Carvalho
Member of the European Parliament

Daniel Daianu
Member, Board of the National Bank of Romania, former Finance Minister of Romania & Trustee of Friends of Europe

Massimo Deandreis
General Manager, SRM - Economic Research Center

Jaap de Hoop Scheffer
Minister of State, President of the Dutch Advisory Council on International Affairs, former NATO Secretary General, former Dutch Foreign Minister & Trustee of Friends of Europe

Ciaran Devane
Chairman of the Irish Health Service Executive, Director of the Centre for Trust, Peace and Social Relations, former CEO of the British Council & Trustee of Friends of Europe

Mikołaj Dowgielewicz
European Investment Bank Director General for relations with EU institutions, former Polish Secretary of State for European Affairs and Economic Policy & Trustee of Friends of Europe

Sorin Ducaru
Director of the EU Agency SatCen, former Assistant Secretary General for emerging security challenges at NATO & Trustee of Friends of Europe

Pilar del Castillo Vera
Member, European Parliament

Manon Dufour
Head of Brussels Office, Third Generation Environmentalism (E3G)

Hauke Engel
Partner, Sustainability, McKinsey & Company

José Manuel Fernandes
Member, European Parliament

Mary Fitzgerald
Journalist and Analyst specialising in the Euro-Mediterranean region with a particular focus on Libya & Trustee of Friends of Europe

Julie Foulon
Founder and CEO, Girleek

Baron Jan Grauls
Senior Adviser at Ernst & Young, former Secretary General of Belgium's Foreign Affairs Department & Trustee of Friends of Europe

Joe Griffin
Senior Manager in the Sustainability Team, Vodafone

Harald Gruber
Head of Division, Digital Economy and Education, European Investment Bank (EIB)

Jakob Haesler
Managing Director, Foxdixneuf & European Young Leader (EYL40)

Ben Hammersley
Founder, Hammersley Futures & European Young Leader (EYL40)

Connie Hedegaard
Chair of the Board for Denmark's green think tank CONCITO, KR Foundation, and OECD's Round Table for Sustainable Development; Former European Commissioner for Climate Action & Trustee of Friends of Europe

John Higgins
Chairman, Global Digital Foundation

Ilias Iakovidis
Advisor on Green Digital Transformation, European Commission Directorate-General for Communications Networks, Content & Technology (CNECT)

Baron Daniel Janssen
Member of the Executive Committee of the Trilateral Commission, former President of the Board of Directors of Solvay & Trustee of Friends of Europe

Lynn Kaack
Postdoctoral Researcher, Swiss Federal Institute of Technology (ETH) Zürich

Zanda Kalniņa-Lukaševica
State Secretary of the Latvian Ministry of Foreign Affairs & Trustee of Friends of Europe

Constance Kann
Director for Institutional Relations and Public Affairs, European Investment Bank (EIB)

Sony Kapoor
Managing Director of the think tank Re-Define & Trustee of Friends of Europe

Adem Kumcu
President, New European Business Confederation (UNITEE)

Ilhan Kyuchyuk
Member, European Parliament

Astrid Ladefoged
Head of Unit - Sustainable Development Goals Green Finance & Economic Analysis, European Commission Directorate-General for the Environment

Pascal Lamy
Honorary President of Notre Europe - Jacques Delors Institute, former Director General of the World Trade Organisation, former European Commissioner for Trade & Trustee of Friends of Europe

John Latsis
Member of the John S. Latsis Public Benefit Foundation, Associate Professor in Social and Organisational Theory (University of Reading) & Trustee of Friends of Europe

André Loesekrug-Pietri
Chairman and Scientific Director, JEDI - Joint European Disruptive Initiative & European Young Leader (EYL40)

Tiia Lohela
Special Advisor, The European Centre of Excellence for Countering Hybrid Threats (Hybrid CoE)

Philip Lowe
European Commission Director General (2002-2014) & Trustee of Friends of Europe

Magid Magid
Union of Justice Founder, former Lord Mayor of Sheffield, UK & Trustee of Friends of Europe

Andrea Mairate
Economic Advisor, European Commission Directorate-General for Economic and Financial Affairs

Cecilia Malmström
Former European Commissioner for Trade and Home Affairs & Trustee of Friends of Europe

Fabio Marchetti
Group Head of International Affairs, Generali

Linda McAvan
Executive Director, European Relations, European Climate Foundation (ECF)

Daniel Mes
Member of Cabinet, Transport, Digital, Competition, Relations with the European Parliament, Cabinet of European Commission Executive Vice President Frans Timmermans

Roberta Metsola
Vice-President of the European Parliament & Trustee of Friends of Europe

Martha Mghendi-Fisher
Founder, European Women Payments Network (EWPN)

Iskra Mihaylova
Member, European Parliament

Mario Monti
Italian Senator for life, former Prime Minister, former European Commissioner & Trustee of Friends of Europe

Camino Mortera-Martinez
Senior Research Fellow, EU Counter-terrorism Policies, Criminal Law, Centre for European Reform (CER)

Lindsey Nefesh-Clarke
Founder and CEO, W4.org & 2012 European Young Leader (EYL40)

Victor Negrescu
Member, European Parliament & Romanian EU Affairs Minister (2017-2018)

Baroness Pauline Neville-Jones
Member of the UK's House of Lords, former Governor of the BBC, former Chairman of the British Joint Intelligence Committee (JIC), former Minister of State for Security and Counter Terrorism & Trustee of Friends of Europe

Andris Piebalgs
Former European Commissioner for Development & Trustee of Friends of Europe

Sirpa Pietikäinen
Member, European Parliament

Dragos Pislaru
Member, European Parliament & former Minister of Labour, Family, Social Protection and Elderly of Romania

Martin Porter
Executive Chair, University of Cambridge Institute for Sustainable Leadership (CISL)

Cristina Pozzi
Board Member, COO and Head of Contents, Treccani Futura & European Young Leader (EYL40)

Andrea Rappagliosi
Vice President, Market Access and Public Affairs, EMEA, Canada and Latin America, Edwards Lifesciences European Headquarters

Milena Richter
Head of EU Office & Senior Director European Public Affairs, Sanofi

Taavi Rõivas
Chairman, Auve Tech & former Prime Minister of Estonia (2014-2016)

Jacek Saryusz-Wolski
Member of the European Parliament, former Polish Minister for European Affairs & Trustee of Friends of Europe

Marietje Schaake
President of the Cyber Peace Institute, Director of Policy at the Stanford Cyber Policy Centre & Trustee of Friends of Europe

Giampaolo Silvestri
Secretary-General, AVSI Foundation

Susana Solís Pérez
Member, European Parliament

Rozina Spinnoy
Director and Founder, BIDs Belgium

Maria Spyraki
Member, European Parliament

Ana Teles
European Commission Independent Expert

Anna Terrón
Chair of the United Nations University Institute on Globalization, Culture and Mobility, former Secretary of State for Immigration and Emigration of the Government of Spain & Trustee of Friends of Europe

Margo Thomas
Founder and CEO, Women's Economic Imperative

Helle Thorning-Schmidt
Former Prime Minister of Denmark, former CEO of Save the Children International & Trustee of Friends of Europe

Stephanie Trpkov
Executive Director, Intech Ventures

Vasia Vasilopoulou
Deputy CEO, Stellar Capacity

Caroline Walerud
Chairman & Founder, Volumental

Veronika Wand-Danielsson
Swedish Ambassador in Paris & Trustee of Friends of Europe

Ben Wreschner
Chief Economist & Head of Public Affairs, Vodafone

Annex I

What citizens told us — Focus group synopsis

As part of the citizen engagement component of Connected Europe, Friends of Europe conducted a series of online focus groups involving over 300 citizens from across 16 European countries. Participants were recruited from Friends of Europe's citizen engagement platform, Debating Europe, and screened according to a range of attributes (age, gender, nationality, educational attainment). Participants were divided into two groups of equal number.

Group A was comprised of young Europeans, aged 18-40, all of whom had attained or were currently working towards at least one higher education qualification.

Group B was comprised of older Europeans, aged 41+, none of whom had attained or were currently working towards any form of higher education qualification. We chose these two attributes (age and educational attainment) because both are associated with a greater or lesser risk of marginalisation in the context of globalisation.

A key takeaway from the focus groups is that citizens are not concerned about digitalisation as an end goal. Rather, they care about quality of life, and they hope that digitalisation can be a tool to achieve a higher quality of life. Issues of fairness, convenience, and quality were recurrent during focus group discussions.

While participants appreciated the convenience of digital tools, they were concerned that the transition would not be fair and that too many people would be left behind.

Successful Europe

The first series of focus groups asked citizens what they thought a "Successful Europe" might look like in the context of digitalisation. The language of fairness came up often during these focus groups; one participant, for example, thought it was not "fair" for digital companies to pay lower taxes by headquartering in Ireland or Luxembourg. Another participant did not think it was fair for large companies to buy up European start-ups so they can't scale up and become competitors. The language of fairness was also used in the context of privacy and data protection, with one participant saying they were not sure how much their data were "worth" and whether they were indeed getting a fair price for their data.

Of particular note, fairness came up again and again in terms of connectivity and digital access.

People did not think it was fair that Internet speeds were slower in rural areas, or that people were being passed over for job opportunities if their Internet was not strong enough, or, indeed, if they lacked the digital skills to participate effectively in online life. Focus group participants were also worried about quality of life in a digital Europe; one student, for example, said he worried his online degree was worth less than an offline degree. Participants said the quality of social interaction felt lower online. Online activities were often seen as a poor substitute for offline activities.

Offsetting issues of both fairness and quality, however, was the factor of convenience. Participants often said they preferred online shopping because it was so much more convenient. Participants said that during lockdown, they missed going outside and socialising with large groups, but they did not miss their daily commute. Some participants said they really liked the convenience of more flexible work arrangements. One participant told us she cares about data privacy, but that the apps she worries about are just too convenient not to use.

Green Europe

Our second series of focus groups asked what Europeans thought a "Green Europe" might look like in practice, and what sort of lifestyle changes it might require. Again, concerns about fairness were recurrent. The question of individual change versus government or business behaviour change was often mentioned, and participants who raised this question made the point that it was not "fair" to place the burden of change too much on individuals. In response to this, however, some (particularly younger) participants pointed out that the responsibility lies with individuals to be more politically active in order to effect change at the level of government and industry.

Sustainability "fatigue" was a common theme running through the focus groups. Participants complained it was exhausting to constantly have to consider whether their actions were sustainable or not, and few had the time to properly research and calculate the impact of a given product or behavioural change. Several participants (both younger and older) were concerned about "greenwashing", and said they wanted to know for sure if buying a more expensive product was genuinely going to benefit the environment. Many participants said they wanted clearer labelling of the environmental impact of products, so they wouldn't need to think too much about sustainability when making purchase decisions.

Finally, convenience and quality were important themes. Economic circumstances permitting, participants were willing to tolerate a certain degree of inconvenience (e.g., a longer travel time to work, having to pay more, less variety) for the sake of sustainability, but nobody in the study was willing to compromise on quality. In fact, most participants hoped a "Green Europe" would entail a significant increase in quality (e.g., more durable products that last longer, citizens enjoying higher-quality foods, a better quality of life, etc.).

Resilient Europe

Our final series of focus groups asked how we can build a more "Resilient Europe" in terms of developing resistance to disinformation and reducing cybersecurity vulnerabilities. We began our focus groups by asking participants whether they had ever encountered information online (e.g., a website, video, or social media update) that was trying to mislead them. Several (younger) participants responded by giving examples of their (older) relatives "relentlessly" forwarding them disinformation about the pandemic. Younger participants often said they felt that older generations were less familiar with technology and hence more vulnerable to disinformation. On the other hand, older participants were clearly more concerned about freedom of speech.

When asked how they determined what information was trustworthy online, many participants initially said they regularly verified information using multiple trusted sources. However, when pressed further about how often they actually did this, participants usually agreed that checking multiple sources was exhausting, and most admitted to using 'short cuts' (particularly if they felt the information was less urgent or not very important). Some participants said they would just shut out information on certain topics entirely.

Most participants said they trusted official websites and preferred to access government services online. The most common complaint (particularly among older participants) about government services was that the online services were confusing to navigate and poorly presented. Several participants (both young and old) said they worried most about the competence of their government to deliver digital services. They liked the idea of e-government in principle, but did not trust their national government's ability to manage ambitious technical projects.

Annex II

Methodology

The notion of connected people and communities is central to Connected Europe's approach, and citizens have played a key role in shaping the policy recommendations in this report. Our citizen-centric journey has brought together citizens, experts and policymakers to dig deep into issues and crowdsource solutions.

We have drawn on a range of tools and formats to connect key stakeholders and encourage debate and idea-sharing.

1. Setting the tone and communicating our ambition

We began the initiative with a curtain-raiser virtual roundtable discussion which aimed also to raise awareness about the work of Connected Europe and our objectives among key policymakers. The discussion 'Digital: essential infrastructure for a green transformation' was livestreamed to a wide audience and complemented by an integrated communications campaign.

2. Digging deep and crowdsourcing ideas

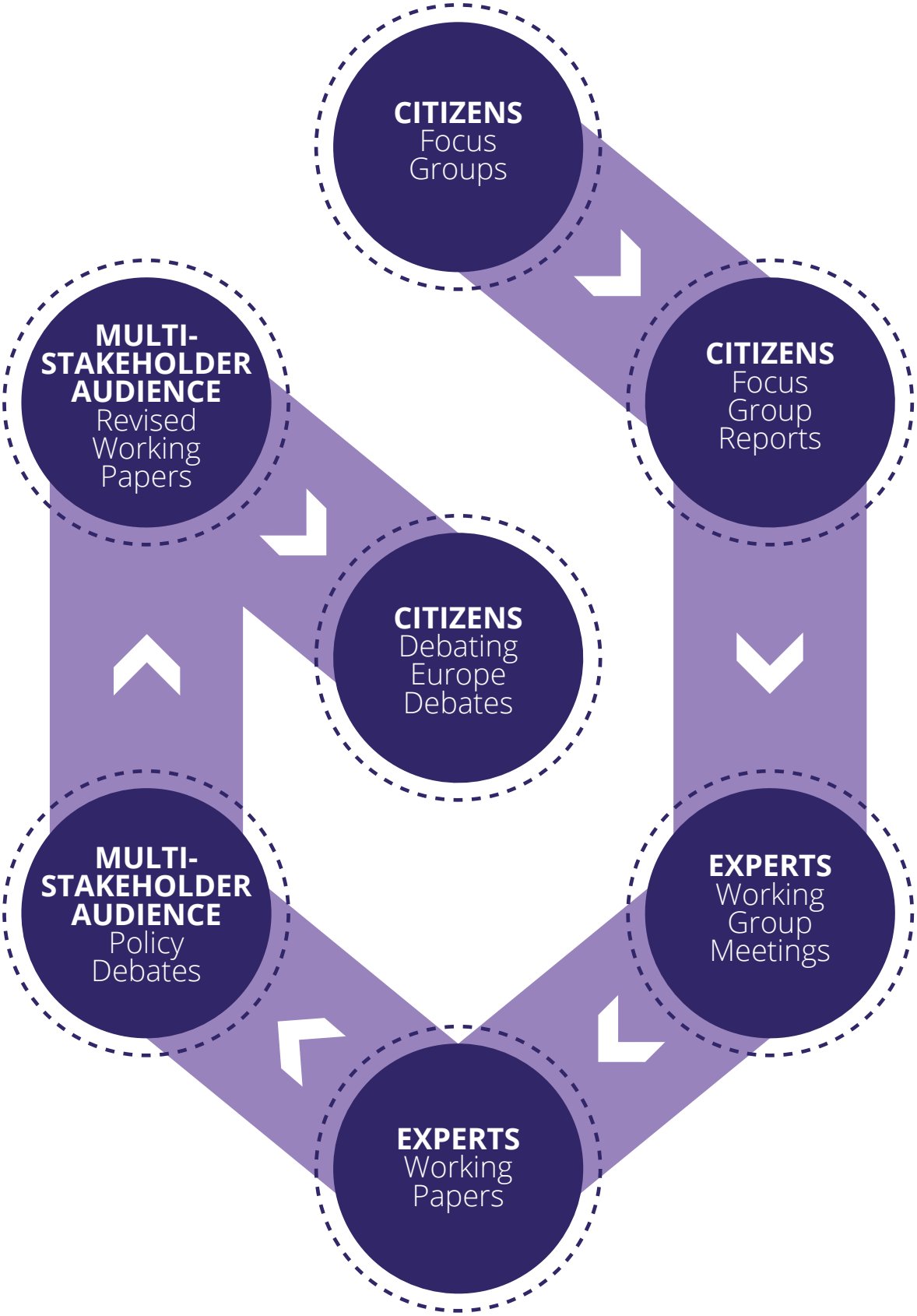
Citizens' concerns and priorities served as the starting point for each of the three thematic strands of Connected Europe – successful, green and resilient. Through Debating Europe focus groups, we canvased the opinions of representative groups of citizens, engaging over 300 citizens from across Europe. We then mobilised a multi-stakeholder network of government, institutional, private and civil sector representatives and experts to crowdsource solutions that address the concerns of citizens.

Each thematic strand included a working group meeting, a working paper, and a public policy debate. We have drawn on the ideas and insights from these activities to generate a selection of policy recommendations and key recommended actions. In turn, we've put forward these policy proposals and recommended actions to citizens through Debating Europe online debates.

3. From ideas to informing policy

In order to take the ideas and insights garnered through Connected Europe to the next level, Friends of Europe has published the focus group findings and the initiative's full set of recommendations in this final report. Our aim is to disseminate this report and run a promotion campaign to ensure wide- and high-reaching visibility and, we hope, promote the sharing and uptake of this report's recommendations.

The online and in-person events held within the frame of Connected Europe were complemented by related articles by thought leaders that were published on the Friends of Europe website and disseminated across our wide-reaching social media networks and via the Friends of Europe weekly newsletter.


CITIZENS
Focus
Groups
CITIZENS
Focus
Group
Reports
EXPERTS
Working
Group
Meetings
EXPERTS
Working
Papers
MULTI-
STAKEHOLDER
AUDIENCE
Policy
Debates
MULTI-
STAKEHOLDER
AUDIENCE
Revised
Working
Papers
CITIZENS
Debating
Europe
Debates

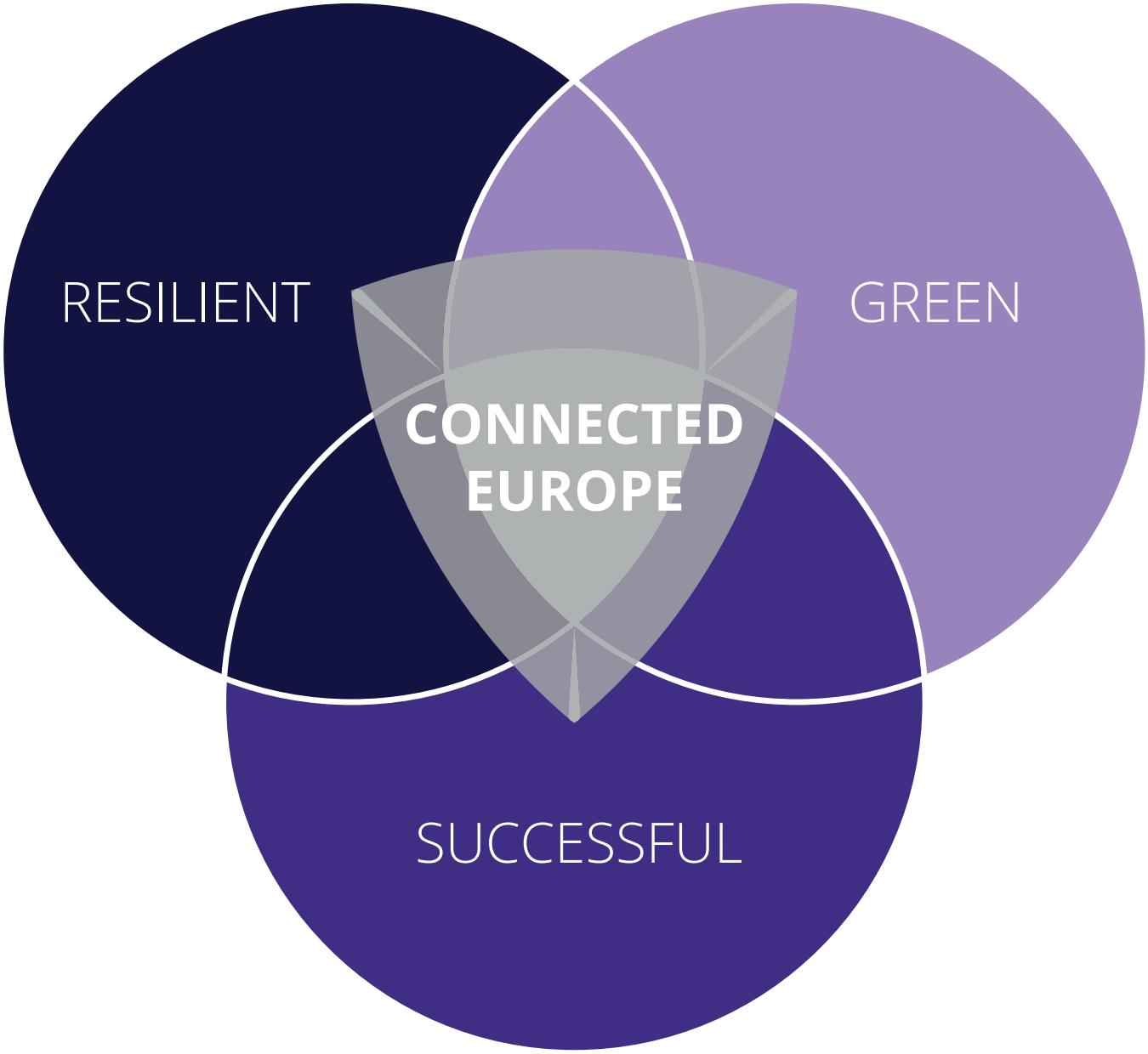
Setting the tone and communicating our ambition

Successful Europe

Green Europe

Resilient Europe

From ideas to shaping policy


RESILIENT
GREEN
CONNECTED EUROPE
SUCCESSFUL

Endnotes

[i] "OECD Main Science and Technology Indicators". OECD, March 2021. https://www.oecd.org/sti/msti-highlights-march-2021.pdf

[ii] "Questions and answers: The Recovery and Resilience Facility". European Commission, 10 February 2021. https://ec.europa.eu/commission/presscorner/detail/en/qanda_21_481

[iii] "The Digital Economy and Society Index (DESI)". European Commission, 9 June 2021. https://digital- strategy.ec.europa.eu/en/policies/desi

[iv] "Companies take action to support the green and digital transformation of the EU". European Commission, 19 March 2021. https://digital-strategy.ec.europa.eu/en/news/companies-take-action-support-green-and-digital-transformation-eu

[v] "EU Taxonomy for Sustainable Activities?" https://ec.europa.eu/info/business-economy-euro/banking-and-finance/sustainable-finance/eu-taxonomy-sustainable-activities_en

[vi] "A Green and Digital Transformation of the EU". Government of Portugal, 19 March 2021. https://www.portugal.gov.pt/download-ficheiros/ficheiro.aspx?v=%3D%3DBQAAAB%2BLCAAAAAAABAAzNDQxMwMAT7AwdwUAAAA%3D

[vii] "Shaping digitalisation for humans and the environment". German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety, February 2020. https://www.bmu.de/fileadmin/Daten_BMU/Download_PDF/Digitalisierung/digitalagenda_policy_paper_en_bf.pdf

[viii] "Commission staff working document: identifying Europe's recovery needs". European Commission, 27 May 2020. https://ec.europa.eu/info/sites/default/files/economy-finance/assessment_of_economic_and_investment_needs.pdf

[ix] "Questions and Answers: European Green Bonds Regulation". European Commission, 6 July 2021. https://ec.europa.eu/commission/presscorner/detail/en/QANDA_21_3406

[x] "Platform on Sustainable Finance". European Commission, accessed 7 September 2021. https://ec.europa.eu/info/business-economy-euro/banking-and-finance/sustainable-finance/overview-sustainable-finance/platform-sustainable-finance_en

[xi] "Europe's Digital Decade: digital targets for 2030". European Commission, accessed 7 September 2021. https://ec.europa.eu/info/strategy/priorities-2019-2024/europe-fit-digital-age/europes-digital-decade-digital-targets-2030_en

[xii] "ICT specialists in employment". Eurostat, July 2021. https://ec.europa.eu/eurostat/statistics-explained/index.php?title=ICT_specialists_in_employment

[xiii] "Europe, Middle East and Africa (EMEA) Private Business Survey 2019". PWC, 2019. https://www.pwc.com/epbs2019

[xiv] "TALIS 2018 Results (Volume I): Teachers and School Leaders as Lifelong Learners". OECD, 19 June 2019. https://www.oecd.org/education/talis-2018-results-volume-i-1d0bc92a-en.htm

[xv] "Digital Education Action Plan (2021-2027)". European Commission, accessed 7 September 2021. https://ec.europa.eu/education/education-in-the-eu/digital-education-action-plan_en

[xvi] "The Digital Economy and Society Index (DESI)".

[xvii] "Digital Education Hub". European Commission, accessed 7 September 2021. https://ec.europa.eu/education/education-in-the-eu/digital-education-action-plan/european-digital-education-hub_en

[xviii] "These are the top 10 job skills of tomorrow – and how long it takes to learn them". World Economic Forum, 21 October 2020. https://www.weforum.org/agenda/2020/10/top-10-work-skills-of-tomorrow-how-long-it-takes-to-learn-them/

[xix] "Europe's Digital Decade: digital targets for 2030".

[xx] "Europe now has 70 startup unicorns". Sifted, 10 May 2021. https://sifted.eu/articles/europe-unicorns-2021/

[xxi] "Number of global unicorns in 2021, by country". Statista, 23 April 2021. https://www.statista.com/statistics/1096928/number-of-global-unicorns-by-country/

[xxii] "European Digital Innovation Hubs". European Commission, 20 September 2021. https://digital-strategy.ec.europa.eu/en/activities/edihs

[xxiii] "The Global Competitiveness Report". World Economic Forum, 2020. http://www3.weforum.org/docs/WEF_TheGlobalCompetitivenessReport2020.pdf

[xxiv] "Gender Smart Financing Investing In & With Women: Opportunities for Europe". European Commission, July 2020. https://ec.europa.eu/info/sites/info/files/economy-finance/dp129_en.pdf

[xxv] "Gender pay gap statistics". Eurostat, February 2021. https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Gender_pay_gap_statistics

[xxvi] "All Hands In? Making Diversity Work for All". OECD, 2020. https://www.oecd-ilibrary.org/sites/5f8c1531-en/index.html?itemId=/content/component/5f8c1531-en

[xxvii] "European data strategy". European Commission, accessed 24 September. https://ec.europa.eu/info/strategy/priorities-2019-2024/europe-fit-digital-age/european-data-strategy_en#data-governance

[xxviii] "European data strategy".

[xxix] "Global Digital Operations Study 2018". PWC, 2018. https://www.pwc.nl/nl/assets/documents/pwc-global-digital-operations-study-digital-champions-2018.pdf

[xxx] "Vodafone IoT Barometer 2019". Vodafone, February 2019. https://www.vodafone.com/business/news-and-insights/white-paper/vodafone-iot-barometer-2019

[xxxi] "Realising the economic potential of machine-generated, nonpersonal data in the EU". Deloitte, July 2018. https://www.vodafone.com/content/dam/vodcom/files/public-policy/Realising_the_potential_of_IoT_data_report_for_Vodafone.pdf

[xxxii] "Fake News and Disinformation Online". Eurobarometer, March 2018. https://europa.eu/eurobarometer/surveys/detail/2183

[xxxiii] https://digital-strategy.ec.europa.eu/en/policies/cybersecurity-strategy; https://digital-strategy.ec.europa. eu/en/policies/european-approach-artificial-intelligence; https://digital-strategy.ec.europa.eu/en/policies/ online-disinformation

[xxxiv] "The Digital Services Act package". European Commission, 2 September 2021. https://digital-strategy.ec.europa.eu/en/policies/digital-services-act-package

[xxxv] "The Digital Markets Act: ensuring fair and open digital markets". European Commission, accessed 8 September 2021. https://ec.europa.eu/info/strategy/priorities-2019-2024/europe-fit-digital-age/digital-markets-act-ensuring-fair-and-open-digital-markets_en

Image credits

Unsplash — Pages 7,8,23

BigStock — Pages 17,19,27,29,32

Friends of Europe
Connect. Debate. Change.

+32 2 893 98 18
info@friendsofeurope.org
Square de Meeûs 5-6, B-1000 Brussels
friendsofeurope.org