



Recommendations
to European
Governments on a
post-COVID-19
Recovery Plan

May 2020

These are challenging times. The COVID-19 pandemic poses a worldwide threat to our social, economic and political life. In Europe, the economy, the educational system and social life largely came to a standstill. Public administrations, companies, logistics, ... our systems are being stress-tested. While there are areas in which a tremendous amount has been achieved through individual efforts, volunteering and innovative solutions, other areas have shown alarming shortcomings.

As discussions on future recovery plans to relaunch our economies have begun, now is the time to look at what works, and what needs to be improved. The crisis can be a compass; it shows us which areas are relatively strong and in which ones Europe is less well positioned.

In this context, IBM has developed a set of recommendations to governments and international institutions as they are developing recovery plans. Europe can drive economic growth and set a model internationally by taking these steps, in partnership with IBM and industry.

These recommendations range from how technologies can help prepare for a future pandemic to ensuring continuity of supply chains, strengthening cybersecurity and telecommunications networks in Europe. They describe what European governments could achieve through increased digitisation of industries and public services and how to unlock the potential of data faster and more securely to get there.

1. Prepare for future pandemics

Planning the recovery of European economies starts with making the healthcare sector more resilient and flexible, ensuring critical digital infrastructure keeps functioning and increasing digital skills throughout Europe.

A cure for the health sector

Investments in the digital infrastructure of hospitals should be promoted. Hospitals could realise cost savings by digitising and improving administrative processes while enhancing doctors' efficiency and time spent treating patients.

Remote healthcare solutions, such as AI chatbots and other digital applications, have reduced the strain on doctors. They give doctors more time to treat heavily infected patients.

Video consultations, e-prescriptions and Electronic Health Records should be fostered in Europe. This would significantly reduce the risk of infection between patients and doctors and allow for quicker access to health services.

Cloud technologies enable resource sharing and increase scalability and speed of testing strategy simulations. This means more resilience and readiness of healthcare systems in times of crises.

Improve availability of data. The public sector, researchers and private companies should be able to share essential data on a voluntary and revocable basis and in cooperation with data protection authorities. This will give them a better fighting chance against future pandemics.

A common European Health Data Space should be set up, which would help governments invest in collaborative, international research. The creation of an open and secure health platform can be especially important as it would allow learning from the data and recognising patterns faster.

Exempt critical infrastructure workers

With so many European employees working from home, incentives such as funding programmes or tax benefits will **help companies invest in quality connectivity**, cloud-based services and increased cybersecurity necessary to support telework. Foreign direct investment in the digital economy can especially help bring technology, know-how, jobs and growth to developing countries.

Critical infrastructure ICT workers should be categorised as essential workers. They should be able to move both domestically and cross-border without restrictions. Limited access to data centres and operational support facilities supporting remote working equipment and critical infrastructure would put unnecessary strain on the

European economy. Governments should lay the groundwork for remote work templates that would be needed in times of lockdown.

Move to modern training

Governments should invest in continuous **digital skills education and training**. Broad-based computer literacy increases our economy's resilience in case of another public health crisis. It also facilitates knowledge and information sharing during crises.

Move towards 'blended learning', a combination of attendance and e-learning. Appropriate digital learning platforms should be made available in a secure and scalable way. A coordinated approach is needed to implement such a modern digital learning strategy.

Lifelong learning should be promoted, as should vocational training in companies. Digital learning platforms should be established and expanded in order to create a modern lifelong learning offer for employees.

Governments are recommended to promote **non-traditional educational pathways**, including apprenticeships, certifications, and other training programs as we move to a remote economy. This could be achieved through more public private partnerships aimed at helping students build the digital skills they need for tomorrow's careers.

As economies move back to the workplace, the switch should be to a

culture that applies the underlying principles of agility across all aspects of the business, enabled by strong digital communication methods, tools and ways of working that focus on iterative development by small teams with frequent user feedback.

2. Ensure the continuity of supply chains

Ensuring the supply of food, everyday goods and medical equipment requires robust and secure logistics.

More resilient, efficient and transparent supply chains

The COVID-19 pandemic has made it clear that individual sectors are often dependent on one another. **Supply chains need more adequate monitoring** to ensure real-time insights and the best possible transparency throughout the entire ecosystem about the delivery status of shipments of crucial products and parts, and to identify vendor risk.

Supply chains and logistics can become faster, more secure and transparent if companies are given incentives to invest in blockchain-based technologies.

Blockchain-based industrials platforms with IoT capabilities increase traceability, security and transparency throughout global supply chains. As a result, it can help reduce fraud caused by defective materials.

Increased flexibility to address current needs

With increasing medical supply shortages, new manufacturing technologies can help swiftly fill the gap. By creating a flexible regulatory framework for open-source 3D printing technologies, governments can tap into the potential of easily distributing digital manufacturing technologies.

Protectionism is not the answer

Governments should pursue **ambitious digital trade policies**. Growing Europe's digital economy is paramount to Europe's overall economic recovery. Governments opting for protectionist measures risk blocking the growth of their digital economy. Instead, governments are encouraged to support ambitious bilateral and multilateral trade negotiations together with a future-proof WTO reform.

3. Build resilient telecommunications networks through open architectures

Acknowledge that broadband is now an essential utility

Invest in high-quality telecommunications infrastructure and broadband / 5G next generation wireless networks, including in rural areas. Government policies should **promote rural broadband deployment** and facilitate affordable, universal access to the Internet, to allow for remote working.

5G networks will make possible an astonishing range of innovative products and services. Government policies should **accelerate 5G adoption**, emphasizing the need for open standards and open source architectures. This will lead to innovative and reliable software solutions, increased cybersecurity and a healthy competitive landscape.

The role of government is key in incentivising digitalisation of supply chains, by creating e-identity systems for blockchain, providing SMEs with blockchain education and training and creating regulatory sandboxes.

Invest in a cloud computing future that focuses on hybrid and multi-cloud strategies

Business software and cloud computing services have been crucial in the sudden shift to remote working. By encouraging the use of these tools and services, governments can safeguard economies, organisational stability and cross-border operations to adapt to evolving economic and societal realities.

Open 5G together with secure cloud technologies has the potential to transform the way we live and work for the better.

Becoming an agile digital organisation is essential, and it needs to happen now. Cloud-based software can be scaled endlessly across multiple platforms, has decentralised data and drives the growth of the 'remote economy'. **Governments can speed up the uptake of cloud services and lead by example in adopting cloud services.**

Digital architecture needs to be open

To ensure technological choice, digital architectures need to be open. The use of open source software allows for greater control, flexibility and innovation. In open source software, actors can easily identify what's not working, and improve it. Therefore, **national 5G strategies should promote the adoption of open architectures** and open source-driven cloud technologies, which in turn can support open data accessible for economic growth over open networks.

Governments can use existing methods to advance open 5G technologies. For instance, by issuing grants or interest-free loans in a competitive market with **trusted partners**. Tax incentives to **accelerate 5G R&D and skills** developments will ensure more competitiveness.

Governments should encourage the use of software tools and cloud services as mission-critical operations. Moving assets exclusively to the cloud will enhance resilience, enable workload commoditisation and cost optimisation.

4. Strengthen Europe's cybersecurity capabilities

Government policies, including stimulus measures and stay-at-home orders, should **prioritise cybersecurity** and cyber-hygiene education as a critical function by raising awareness and sharing best practices.

They should increase investments and funding programmes to strengthen **cybersecurity standards** for strategic sectors (eg. health, energy, digital infrastructure, public sector), and create international and interoperable cloud security standards to increase resilience.

Government policies should also ensure that all levels of government have the tools and capacity to respond to the increasing threat of cyber incidents, and to **drive cybersecurity into infrastructure** and applications rather than be viewed separately from systems' development.

Cyber authorities should collaborate with the private sector to provide guidance on remote work security for businesses, that are at increased risk of cyber-attacks during the crisis. Best practices and information have been shared by coalitions such as the [Charter Of Trust](#), where IBM is a founding member.

As more organizations move to cloud operations, cybersecurity resilience needs to evolve as well.

5. Leverage the digital transformation to achieve Europe's climate objectives without hampering competitiveness

COVID-19 has made clear that countries, sectors and information are all connected — communication technologies have an important role to play in accelerating solutions. These technologies do not need to be re-invented but need proper scale implementation and support.

Prioritise green investments

Governments should **invest in digitisation**, research in clean technologies and clean energy focusing on reducing carbon emissions while providing opportunities for job creation. Invest in renewable energy, IoT systems for smarter mobility and smarter cities and blockchain to reduce the carbon footprint of supply chains.

Use tech as a 'green' ally. Frontier technologies can help in combatting climate change with appropriate government support to climate action. Maximising on technology's transformative potential will depend on an increasingly collaborative, integrative approach to development and deployment.

Governments should **promote climate-friendly practices** and incentivise the entire value-chain to care about climate resilience. Technology can help by tracking human impact on the environment, making industrial processes more efficient and less energy-intensive and augmenting the impact of sustainability solutions such as smart traffic management systems for better mobility.

6. Accelerate the digitisation of industry and public services

Prioritise key sectors, follow with the rest

Prioritise the **digitisation of key sectors** such as health, transport, education, public administration, agriculture, manufacturing.

Governments should **identify and review policies preventing key sectors from using cloud technology**: fast-tracking plans to migrate more applications to the cloud guarantees security, flexibility and consistent access within these sectors.

Priorities should include: a **'single view'** that streamlines citizens' interactions with government; **upgrading virtual assistants** can augment the effectiveness of human workers; **focusing on fraud** and error

reduction via identity verification and authentication; and **upgrading analytic tools** to track public health cases.

Invest in future-oriented and scalable solutions

Public sectors across Europe not only need security and flexibility. They also require **scalable solutions**, such as hybrid cloud infrastructure, to help them run more efficiently and allow them to adapt to agile working methods.

Digitising the public sector also means **protecting data sensitivity**. Which is why all solutions must comply with international security standards from the outset (by default).

Comprehensive change management – agile methods, short processes and continuous adjustments are the key to a resilient organization, both private and public. Governments should be agile when dealing with volatile demand in IT infrastructure. Optimisation and burst capacity can help cope with volatile peaks and support shifts in utilisation.

Regulators should provide and **promote practical guidance** for organisations' procurement teams on legal requirements and compliant solutions for remote working activities (including applicable certifications) – particularly in sectors sensitive to data privacy and security concerns, such as the health, education and finance sectors. Legislative bodies should also include a **legislative check** of measures affecting the economy.

7. Trust is the key to the power of Data

Data is at the centre of the digital economy.
And trust is at the centre of using that data.

Collaboration is key

Europe's remote economy will increasingly rely on cross-border collaboration. **Governments should harmonise norms** that remove barriers to collaboration and the promise of the remote economy, such as:

- Restrictions on the transfer of data across borders, particularly data localization measures;
- Custom duties and other customs requirements imposed on software and other digital products/services;
- Measures that discriminate against foreign persons, products, services or technologies, such as protectionist subsidies, payments or tax measures;
- Mandatory national standards that do not adhere to internationally recognised, consensus-based standards;
- Trade barriers in digitally and remotely delivered services, as well as barriers to trade digital products and services.

Treat data responsibly

For Europe to ensure its economy is innovative and future-proof, data needs to be able to flow freely and in a trusted way within and across its borders.

To allow international companies across all sectors to provide services to European citizens, policymakers should seek to advance a **global concept of trusted free data flows** through relevant channels.

Policy makers should create and enforce national **privacy frameworks** that provide strong consumer rights, create strong obligations for businesses, and reflect companies' roles in handling consumer data responsibly.

Developing **tracing apps based on voluntary participation** and informed consent to increase adoption across Europe of Coronavirus 'tracing' solutions, such as apps and other technologies will lead to better target testing and self-isolation as the lockdown measures are eased. The apps should be compatible across borders and respect privacy.

Trade agreements should include provisions that **facilitate the flow of data across borders**; prohibit requirements to localise the storage and processing of data or to disclose source code, algorithms, or encryption keys or other proprietary information relating to cryptography; and prohibit the imposition of tariffs or customs duties on electronic transmissions.

Governments should support the WTO Joint Statement Initiative on E-Commerce as a key forum for expanding digital trade commitments in a broad and inclusive manner.

Make the most of data

Exponential demand can be met by the exponential power of digital tools. Digital tools and procedures are resource efficient and effective and can be quickly implemented and scaled. That is why they are likely to become even more important business tools in the post-crisis era.

Therefore, governments should create the conditions for companies to develop new **text and data-mining techniques** to help the scientific community answer high-priority challenges.

Companies would then be able to ensure **real-time access to scientific data** through secure and user-friendly cloud technologies.

Governments can use data analytics and **AI tools to inform policies** and drive appropriate responses.

Policy makers should draft **clearer standards** for business-to-government data sharing.

Finally, governments should accelerate the **creation of data spaces** for strategic sectors, based on open cloud architectures.

Now it is time to draw the right conclusions.

It has become obvious that digitisation is the central building block to increase the resilience of key sectors and our economies. However difficult, this crisis gives us the chance to be radical and rebuild a better, more connected and stronger European economy.

IBM's recommendations to the EU and governments across Europe

1.

Prepare for future pandemics by further digitising the healthcare industry, categorising ICT workers and services as essential to limit mobility restriction, and by adopting different ways to ensure e-learning and increase digital skills.

2.

Logistics are the backbone of our economy. Through the broad use of blockchain technology we can achieve transparency, increased efficiency and security of supply chains and a trustful cooperation of all parties in the global ecosystem.

3.

Broadband, wireless networks and cloud computing have become essential for a resilient remote economy in Europe. As open architectures lead to increased economic gains, governments should invest and accelerate their adoption and lead by example.

4.

Governments should prioritise cybersecurity and collaborate with private sector initiatives like the Charter Of Trust to ensure proper standards and safe interoperability.

5.

Further deploy existing technologies such as IoT systems to track, steer and augment climate solutions to reach Europe's green objectives.

6.

Public Administrations and key sectors should adopt a 'digital first' mentality to allow secure, scalable and agile work methods, based on regulatory standards and data protection.

7.

The power of data will benefit European citizens if Member States remove barriers to cross-border collaboration, treat data and approach 'tracing' responsibly and leverage AI and open-cloud tools for scientific research, data-sharing and economic activity.

