

Advanced digital technologies

The EU is accelerating the development and uptake of advanced technologies so citizens and businesses can enjoy the full potential of the digital world.



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There are many new technologies emerging as we enter the Digital Decade, and they all have the potential to transform our lives. Three key advanced technologies for Europe's future are the Internet of Things, blockchain and next generation Internet.

The Internet of Things (IoT) connects the physical world to a digital environment, where connected objects report on their status and the environment around them. You might use a smart watch to monitor your health or fitness, or check your home alarm system is on and your doors are locked from your phone. This is possible thanks to the IoT

The IoT also has large-scale benefits: industry uses IoT to help with running factories; sensors in fields collect data that helps farmers make better decisions; entire cities can be equipped with sensors and monitors to become smart cities.

The EU is working with industry, organisations and academia to achieve all these things and more. Its vision for the IoT can be outlined by 3 strands:

1. a thriving IoT ecosystem to help innovation
2. a human-centred approach to ensure the IoT respects EU values and empowers EU citizens

3. a single market for the IoT so people and objects can connect from anywhere in the EU

While the IoT helps us connect the physical and digital worlds, blockchain keeps our digital world secure.

Most of you recognise blockchain as the technology behind Bitcoin, the world's first virtual money or 'cryptocurrency'. But, blockchain has a huge number of uses beyond this, all of which can make your online life safer. For example, you can use it to verify your identity online, transfer important data, vote in elections and monitor supply chains securely.

You can think of blockchain as a kind of database, where entries are added permanently as 'Blocks', and this 'Chain' cannot be broken or altered in any way. The resulting 'Blockchain' is a permanent, verified record. And, blockchain distributes data from transactions among all users, so it is not held in a single place. This means you never have to trust a central authority and there is no single point of failure.

The EU is committed to fostering the growth of blockchain so European citizens can enjoy its benefits across these areas and more, and so Europe can become a global leader in blockchain.

Encompassing the EU's approach to advanced technologies is a human-centric approach: how will these technologies improve your life? This is also the case when discussing the future of the Internet.

The Internet plays a huge role in our lives. This role became even greater during the COVID-19 pandemic, when many of us relied on the Internet to work, shop and stay in touch with loved ones.

As the Internet develops, the EU must ensure it reflects the values that are important to us and that it responds to the needs of society. We will focus on making it fully accessible, so you can use it regardless of the language you speak or your disability.

We want the Internet to enhance your involvement in society and the economy, boosting your participation in politics and communities. We also want a safe internet, where you can be confident your data is secure.

Therefore, we launched the Next Generation Internet (NGI) initiative. The goal of the NGI initiative is to ensure that the development of technologies and the online world contribute to making the Internet more people-focused.

It also offers funding opportunities for technologies such as blockchain, the Internet of Things and multilingual tools. These technologies are crucial to building a safer, more open and respectful internet.

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The EU Digital COVID Certificate: a global standard with more than 591 million certificates

Today, the Commission adopted a report on the EU Digital COVID Certificate and its implementation across the EU. The report shows that the EU certificate has been a crucial element in Europe's

response to the COVID-19 pandemic, with more than 591 million certificates generated. The certificate, which covers COVID-19 vaccination, test and recovery, facilitates safe travel for citizens, and it has also been key to support Europe's hard-hit tourism industry. The EU Digital COVID Certificate is a success worldwide: it has set a global standard and is currently the only system already in operation

PRESS RELEASE | 21 September 2021

Coronavirus: 200th EU disinfection robot delivered to European hospital, a further 100 confirmed

This week the Commission delivered the 200th disinfection robot - to Consorci Corporació Sanitària Parc Taulí hospital in Barcelona. The robots, donated by the Commission, help sanitise COVID-19 patient rooms and are part of the Commission's action to supply hospitals across the EU to help them cope with the effects of the coronavirus pandemic. Further to these initial 200 robots announced in November last year, the Commission secured the purchase an additional 100, bringing the total donations to 300.

PRESS RELEASE | 01 July 2021

EU Digital COVID Certificate enters into application in the EU

As of the 1st of July, the EU Digital COVID Certificate Regulation entered into application. This means that EU citizens and residents will now be able to have their Digital COVID Certificates issued and verified across the EU.

PRESS RELEASE | 28 June 2021

Coronavirus: 100th EU disinfection robot delivered to European hospitals

On 28 June the 100th disinfection robot was delivered, part of the Commission's action to supply these to hospitals across the EU to help them cope with the effects of the coronavirus

pandemic. Emergency Clinical Hospital Bagdasar-Arseni in Bucharest is receiving the robot today and six other hospitals in Romania are set to have one delivered in the coming days, thus benefitting from these robots' ability to disinfect a standard size patient room in as quickly as 15 minutes by using ultraviolet light.

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The overall mission of the Next Generation Internet (NGI) initiative is to re-imagine and re-engineer the Internet for the third millennium and beyond.

Europe's Internet of Things Policy

The EU actively cooperates with industry, organisations and academia to unleash the potential of the Internet of Things across the EU and beyond.

Blockchain Strategy

The EU wants to be a leader in blockchain technology, becoming an innovator in blockchain and a home to significant platforms, applications and companies.

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