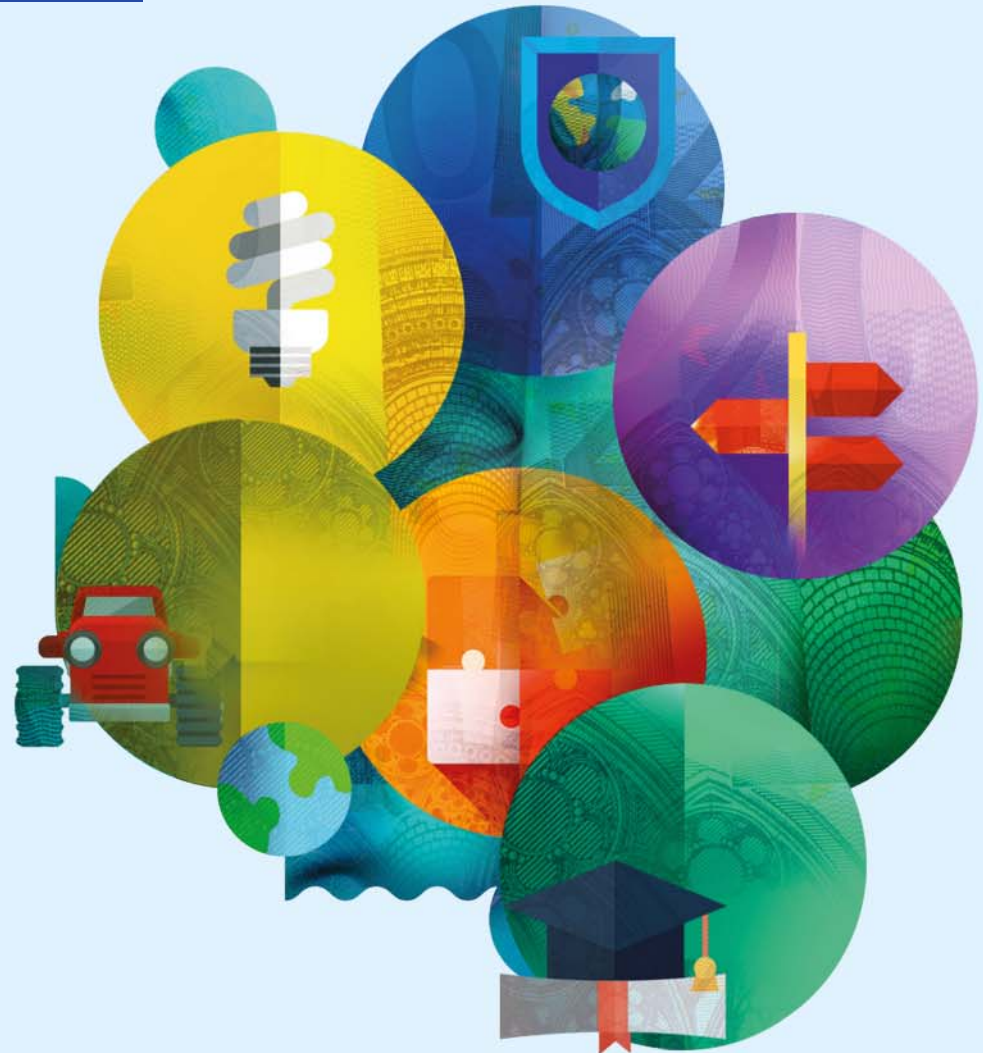


The Digital Europe programme

#EUBudget

#DigitalEurope

#FutureofEurope





‘The world is turning digital – faster than we could have imagined. Digital is already everywhere. Yet, this is only the beginning.’

Günther H. Oettinger, Commissioner for
Budget & Human Resources,
2 May 2018





'Les acteurs du numérique qui réussissent croissent rapidement et opèrent de façon global. Il faut investir beaucoup plus qu'aujourd'hui dans le numérique en Europe.'

Commissioner Gabriel, Digital Day 2018

DIGITAL IN MFF 2021-2027

- **Objective:** *ensure that Europe drives the digital transformation of the society and economy bringing its benefits to all citizens and businesses*
- More specifically:
 - Reinforce our digital capacities
(computing, data, cybersecurity, AI,...)
 - Ensure their widest roll out and maximising their benefits
 - Prepare and lead in next generation digital technologies
 - Build up a world leading Connectivity infrastructure
 - Support our creators and ensure the diffusion of their works

Coordinated public investments at EU level

- ✓ Targeting areas where **EU investment has clear added value**
- ✓ Where funding is **so significant that no Member State can do it alone**
- ✓ Areas where there is a **need to aggregate resources** (computing power, data, expertise)
- ✓ Areas where **interoperability** is important

A BUDGET ALIGNED TO POLITICAL PRIORITIES

Simplification, transparency and flexibility

In billion euro, current prices

I. SINGLE MARKET, INNOVATION AND DIGITAL €187.4

- 1 Research and Innovation
- 2 European Strategic Investments
- 3 Single Market
- 4 Space

II. COHESION AND VALUES €442.4

- 5 Regional Development and Cohesion
- 6 Economic and Monetary Union
- 7 Investing in People, Social Cohesion and Values

III. NATURAL RESOURCES AND ENVIRONMENT €378.9

- 8 Agriculture and Maritime Policy
- 9 Environment and Climate Action

IV. MIGRATION AND BORDER MANAGEMENT €34.9

- 10 Migration
- 11 Border Management

V. SECURITY AND DEFENCE €27.5

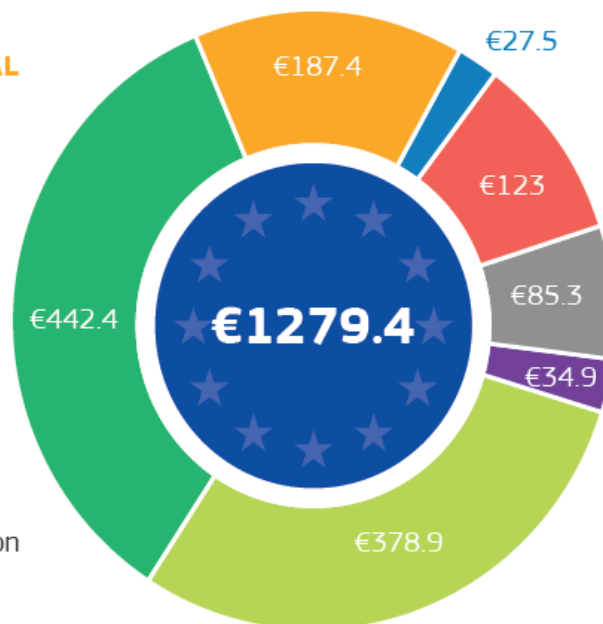
- 12 Security
- 13 Defence
- 14 Crisis Response

VI. NEIGHBOURHOOD AND THE WORLD €123

- 15 External Action
- 16 Pre-Accession Assistance

VII. EUROPEAN PUBLIC ADMINISTRATION €85.3

- 17 European Public Administration



Source: European Commission

DIGITAL IN THE NEXT MFF: OVERVIEW

Digital Europe

1. High Performance Computing (HPC)
2. Artificial Intelligence (AI)
3. Cybersecurity
4. Advanced digital skills
5. Digital transformation and interoperability

€9.2 Bn

Digital in Horizon Europe

1. Digital under "global challenges"
 - Digital and industry cluster
 - Digital in other clusters - health, mobility, energy, environment,...
2. FET Open under Open Innovation
3. Research Infra under Open Science

€100 Bn
with share
to digital

CEF - Digital

Connectivity

- Synergies with Transport /Energy
- WIFI/BB 4EU
- 5G roll out

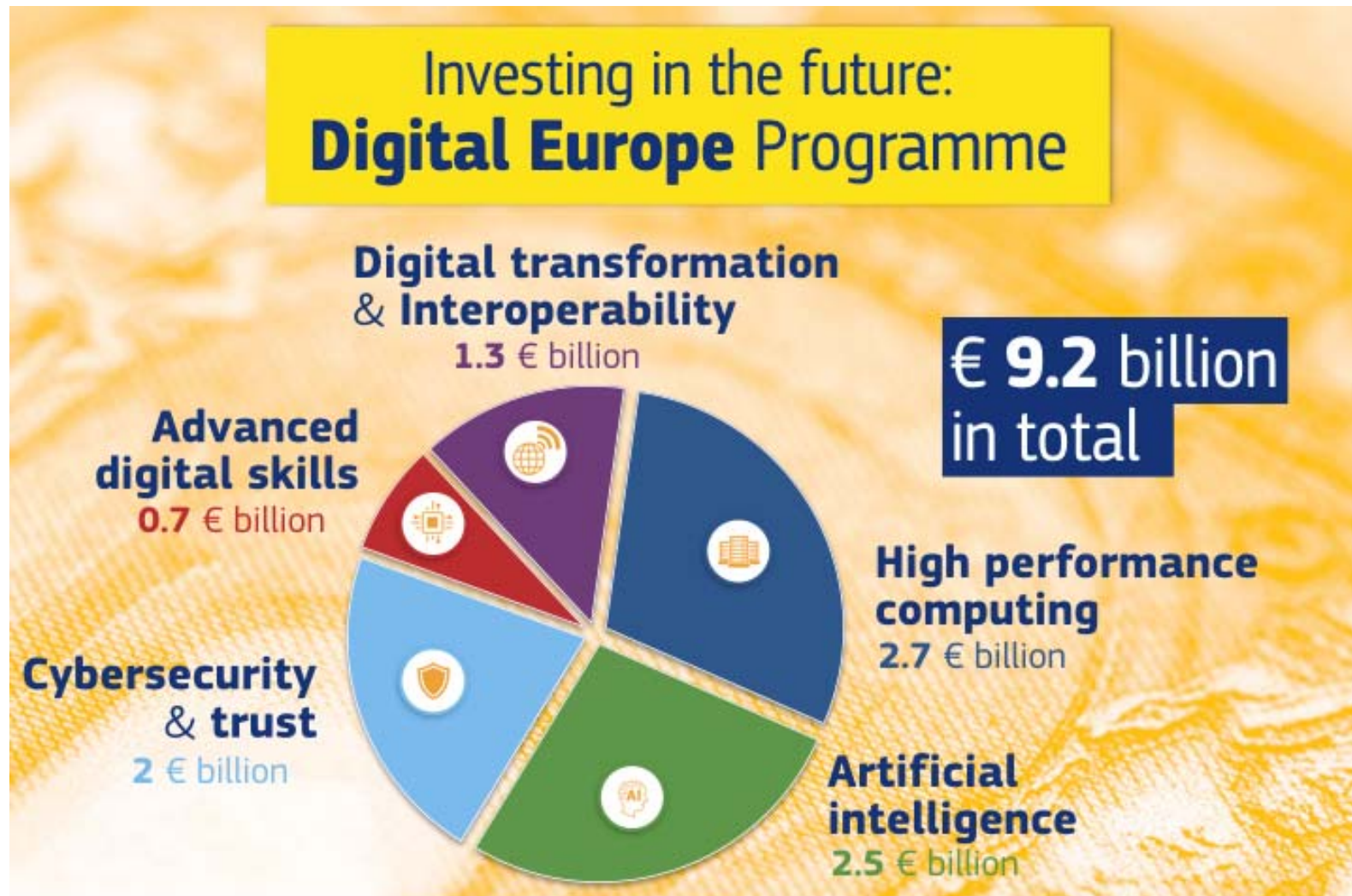
€3 Bn

MEDIA under Creative Europe within Cohesion and Values

- Distribution of works
- Creation

€1.1 Bn

DIGITAL EUROPE PROGRAMME – WHAT?



#EUBudget
#DigitalEurope



European
Commission

n
slon

A coherent package

- **Components of the programme are all prerequisite to the digital transformation of the economy and society**
- **Complementarity and synergies**
 - ✓ artificial intelligence needs cybersecurity to be trustable
 - ✓ cybersecurity needs high performance computing
 - ✓ digital services up to future standards need all three capacities
 - ✓ all need the necessary advanced skills to be deployed

Three levels of intervention

1/ Co-investing with MSs in high-cost infrastructure accessible across the EU

- **HPC**: acquisition of machines and equipment for Exascale and post-Exascale; operation and interconnection
- **Cybersecurity**: acquisition of advanced cybersecurity equipment and tools
- **AI**: infrastructures accessible across the EU; common data spaces, AI-platform (libraries of algorithms); large scale testing facilities

2/ Reinforcing existing MS capacities, networking and aggregating - making them available across the EU

- **HPC**: upgrade or acquisition of MS computing facilities; interconnecting and federating national supercomputers
- **Cybersecurity**: scaling up and networking of existing technological capacities MSs
- **AI**: reinforcing and connecting Artificial Intelligence capacities in the MSs
- **Advanced Digital Skills**: expand the EU digitally skilled labour force that enables the take-up of technologies.

3/ Ensuring best use of capacities in areas of public interest and industry

- Supporting broad use of capacities in areas of public interest and in industry
- Digital Innovation Hubs

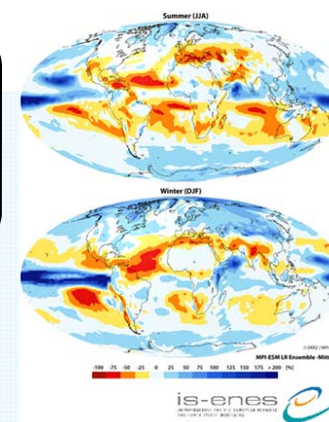
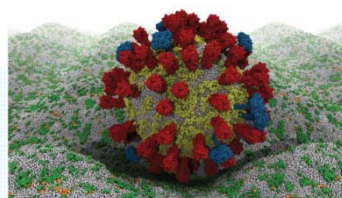
HIGH PERFORMANCE COMPUTING

Why invest in HPC?

HPC is at the core of major advances and innovations in the digital age

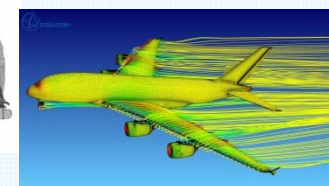
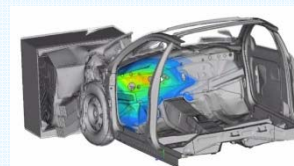
Strategic value for science

***HPC enables breakthrough science
disease treatment; new therapies; brain; climate; chemistry;
new materials; cosmology, astrophysics; high-energy physics;
environment; transportation, earthquakes, etc.,***



Strategic value for Industry

***Market potential: new products, design and production cycles,
decision processes, costs, resource efficiency, etc.***



National security and defence

***Complex encryption technologies, terrorism, forensics
cyberattacks, nuclear simulations***



Atomic Labs Across the U.S. Race to Stop Iran

By DAVID E. SANGER and WILLIAM J. BRIDGES APRIL 11, 2013



The U.S. National Security Council in Oak Ridge, Tenn. A secret report of Iran's nuclear facilities there has helped scientists develop estimates of Tehran's ability to build a nuclear weapon.
National Security Agency photo courtesy of the agency.

Investing in the future:
Digital Europe Programme

Europe needs **supercomputers**
capable of at least

1.000.000.
000.000. = 10^{18} calculation
000.000 per second

Investing in the future: **Digital Europe** Programme

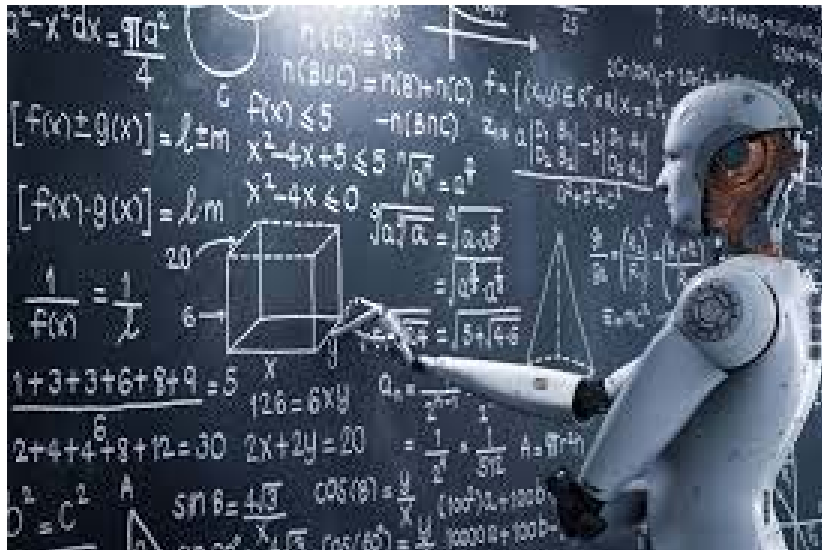
€2.7 billion for **High performance computing**



ARTIFICIAL INTELLIGENCE

ARTIFICIAL INTELLIGENCE

AI is helping to solve some of the world's biggest challenges: from treating chronic diseases or reducing fatality rates in traffic accidents to fighting climate change or anticipating cybersecurity threats



Europe's private investments in AI totalled around EUR 2.4-3.2 bln in 2016, compared with EUR 6.5-9.7 bln in Asia and EUR 12.1-18.6 bln in North America

Investing in the future: **Digital Europe** Programme

€2.5 billion for **Artificial intelligence**

Bring the power of the AI to
**businesses & public
administrations**

Strengthen **testing
and experimentation**
facilities across the EU



Facilitate safe **access**
and **storage** of data
and algorithms

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#DigitalEurope

CYBERSECURITY

CYBERSECURITY

A hooded figure, possibly a hacker, is shown in a dark, blue-toned environment. The background is filled with a dense pattern of binary code (0s and 1s). The figure is wearing a dark hood and a long, dark coat, and is looking down. The overall atmosphere is mysterious and technological.

- Europe was hit by more than 4,000 ransomware attacks per day in 2017
- 80% of European companies experienced at least one cybersecurity incident
- In 2017 Wannacry and NotPetya cyberattacks affected more than 230,000 systems in over 150 countries

Investing in the future: **Digital Europe** Programme

€2 billion for **Cybersecurity** to:



Support **procurement** of advanced equipment, tools & data infrastructures



Support the best use of **European** knowledge, capacity and skills



Ensure wide deployment of **latest solutions** across the economy



Reinforce **capabilities** for high level of network & information systems

ADVANCED DIGITAL SKILLS

90%

of all jobs require digital skills

43 %

of the EU population has no or only basic digital skills

>350.000

open

vacancies for digital
technology experts in the EU

Digital Skills across the MFF

Digital Europe Programme

- Advanced Digital Skills



European Social Fund

- Reskilling & Upskilling



ERASMUS+

- Cross border learning mobility for all

Other Programmes/actions

- Horizon Europe, EGF, SRSS

Investing in the future: **Digital Europe Programme**

€700 million for **Advanced digital skills** to support:



New opportunities for people to gain advanced digital skills (AI, HPC, Cyber)



Long-term trainings and courses for students and working people



On-the-job trainings and traineeships for young people



Short-term trainings and courses for small businesses

DEPLOYMENT, USE OF DIGITAL CAPACITIES AND INTEROPERABILITY

Investing in the future: **Digital Europe** Programme

€1.3 billion for **Deployment, use of digital capacities & interoperability**



Provide more **interoperable** public services



Bring digital technologies to **public sector** and areas of public interest



Support digital & related **technologies** for industry & SMEs



Offer **tests** and **pilots** to public administrations

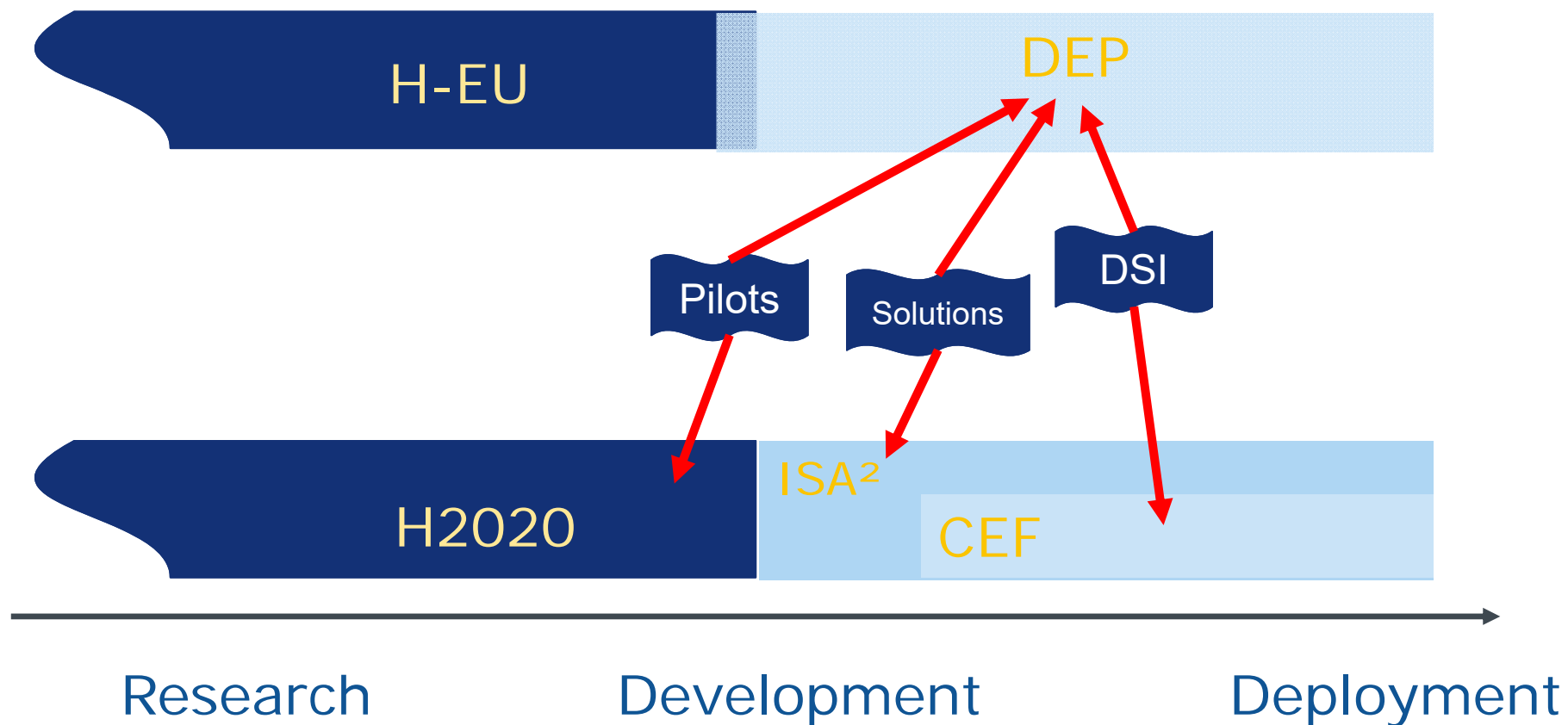


Support and follow latest **tech developments**

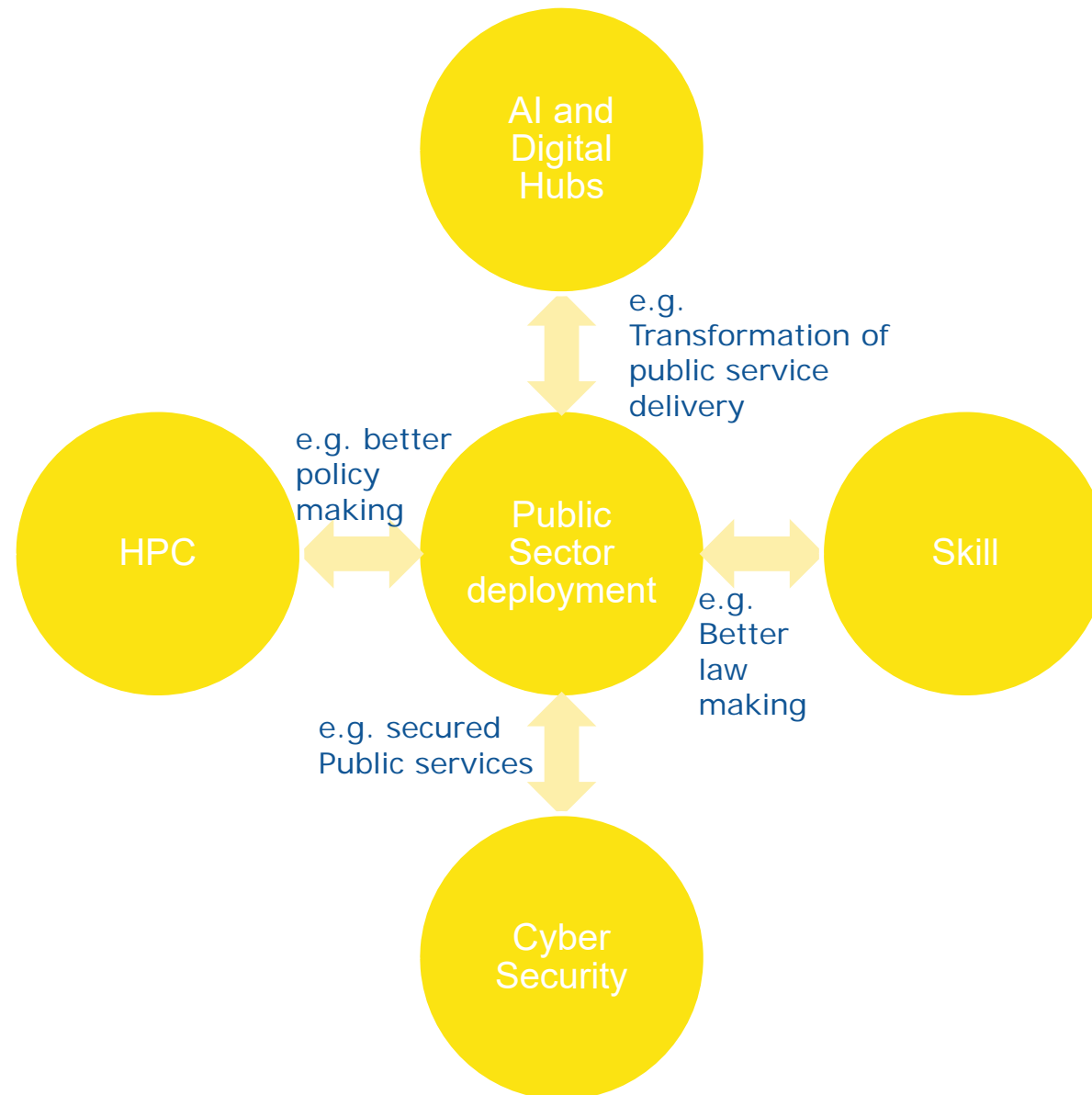


Build up and strengthen the network of **Digital Innovation Hubs**

What is the Evolution



Links with other pillars



Next steps



Find out more about the MFF digital bid!

- [Digital Europe](#)
- [Horizon Europe](#)
- [Connecting Europe Facility](#)
- [Creative Europe](#)

EU budget for the future

http://ec.europa.eu/budget/mff/index_en.cfm

Connected

[Be unbeatable on Multiannual Financial Framework!](#)

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Digital Single Market

#EUBudget
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