

Artificial Intelligence: European Strategy

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OUTLINE

AI strategy for Europe

AI funding in H2020 & beyond:

- AI-on-Demand-Platform
- Digital Innovation Hubs
- Additional calls
- Post-H2020

Ethics Framework

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Maximising benefits from AI

.....



Economic impact



Contribution to societal challenges



Healthcare



Energy
efficiency



Road safety



Cybersecurity

...



European
Commission

EU strengths



Excellent research centres



World-leading position in robotics



Strong business-to-business domain



Strong industrial and services sectors: automotive, healthcare, agrifood



Industrial data

EU strategy for AI

.....

A STRATEGY FOR EUROPE TO LEAD THE WAY

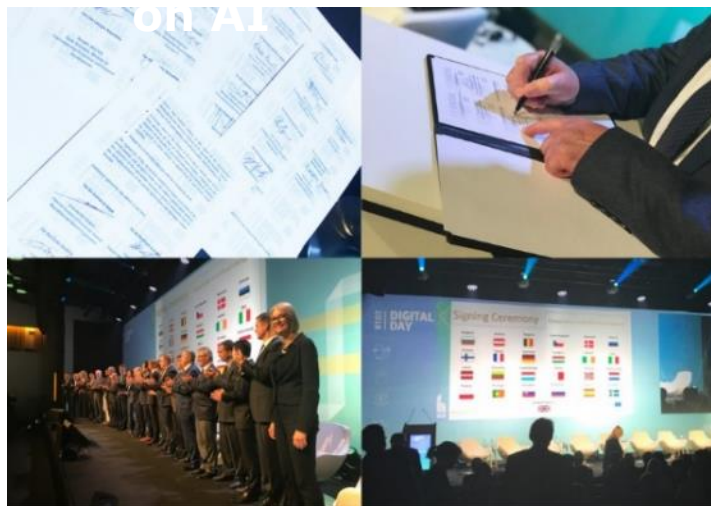
**Boost
technological
and industrial
capacity & AI
uptake**

**Prepare for
socio-
economic
changes**

**Ensure an
appropriate
ethical & legal
framework**

AI FOR GOOD AND FOR ALL

COORDINATED PLAN on AI



Joining forces EC with MS

**All Member States
& Norway + Switzerland
signed a Declaration of cooperation on AI**

**7 December
2018:
Coordinated
plan on AI
published**

**Member States agreed to work together
on:**

- **ensuring Europe's competitiveness in the research and deployment of AI**
- **dealing with social, economic, ethical and legal questions**

EU strategy for AI

.....

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AI FOR GOOD AND FOR ALL

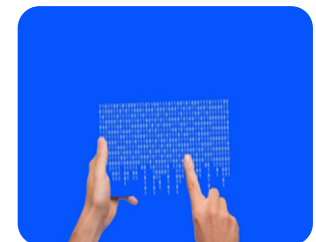
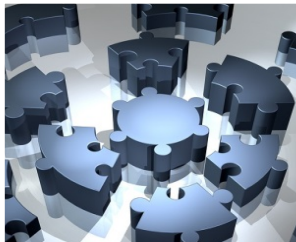
BOOSTING THE EU'S TECHNOLOGICAL AND INDUSTRIAL CAPACITY:



WP 2018 - 2020



€1.5 billion EC investments into AI in 2018-20
BY 70% INCREASE OF ANNUAL INVESTMENT



Basic and industrial research
(health, transport, agriculture, manufacturing, etc.)

AI-on-demand platform



Network of AI-focused Digital Innovation Hubs (DIHs)

Strengthening AI excellence centres

Setting up an industrial data platform

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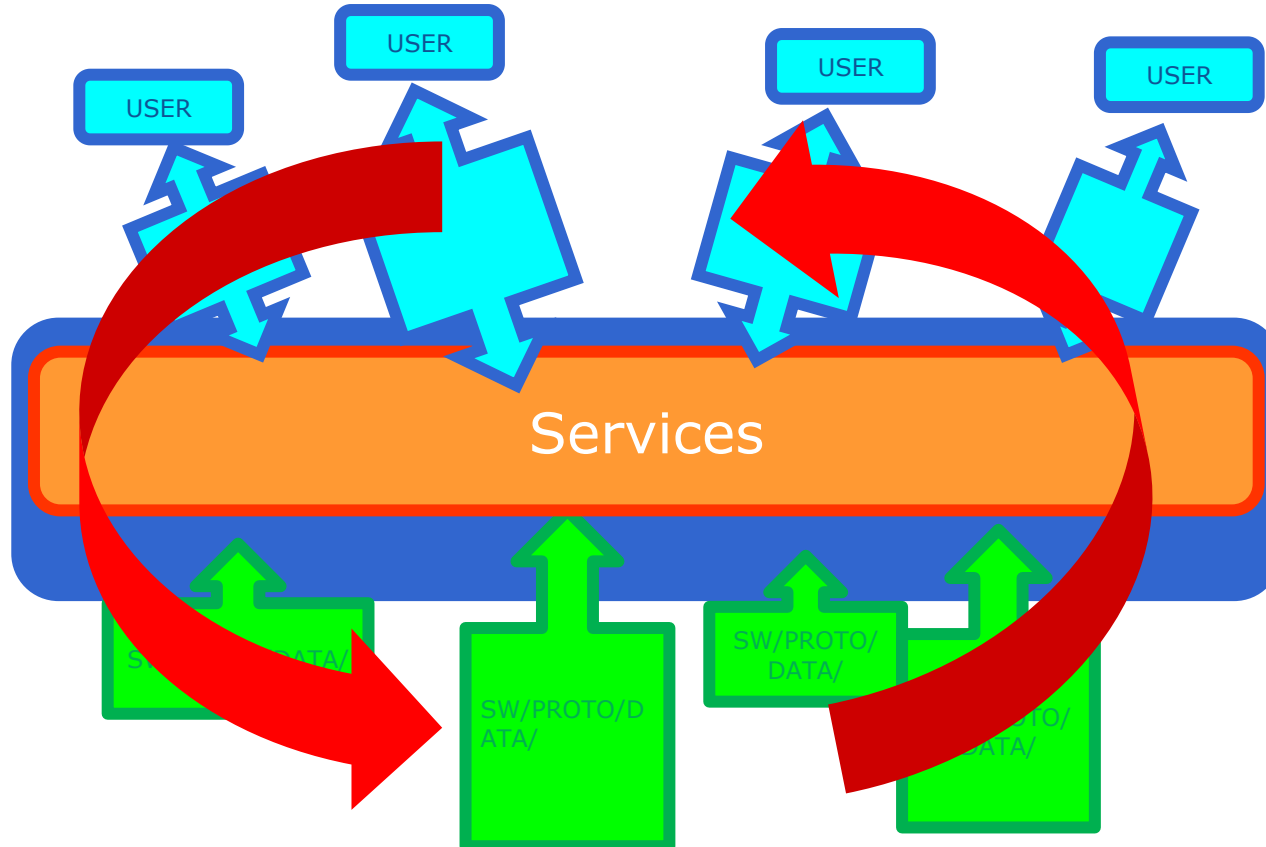
Ethics Framework



Work Programme 2018-20 EUROPEAN AI-ON-DEMAND PLATFORM

- Central access point:
 - integrating tools and resources
 - offering solutions and support to all users of AI to integrate such technology into application, products and services

<https://www.ai4eu.eu/>



THE PLATFORM = CENTRAL POINT



- Develop a **European AI ecosystem**
 - knowledge, algorithms, tools and resources available and making it a compelling solution for users, especially from non-tech sectors.
- **Build on and link to existing** relevant initiatives
 - platforms, data repositories, cloud computing, HPC, etc.
- **Connect** and cooperate with other relevant activities of this **work programme**
 - DIHs, pilots, etc.

➔ **OBJECTIVE – CENTRAL ACCESS POINT TO ALL AI RESOURCES in EUROPE, including RESULTS FROM ALL EU PROJECTS ➔ ALSO YOUR RESULTS**

DIGITAL INNOVATION HUBS (DIH) ?

Commissioner Oettinger:

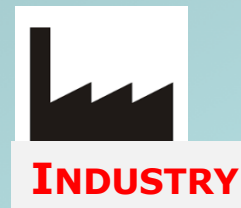
*"My objective is to have at least one world class **digital innovation hub** in every region in Europe."*

Objective:

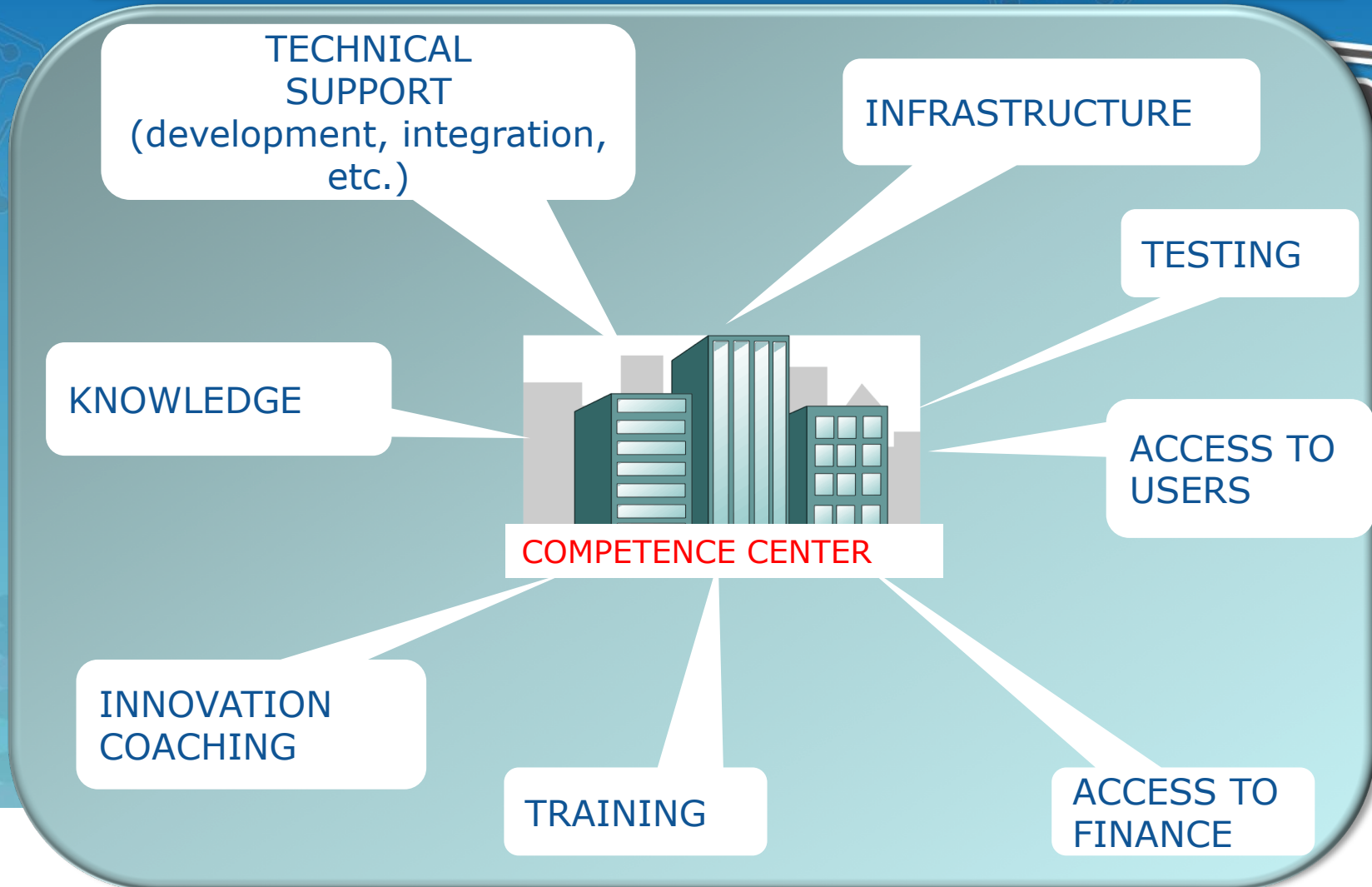
Access to digital technologies and expertise within "working distance" for any industry in Europe, especially SMEs, mid-caps, non-tech

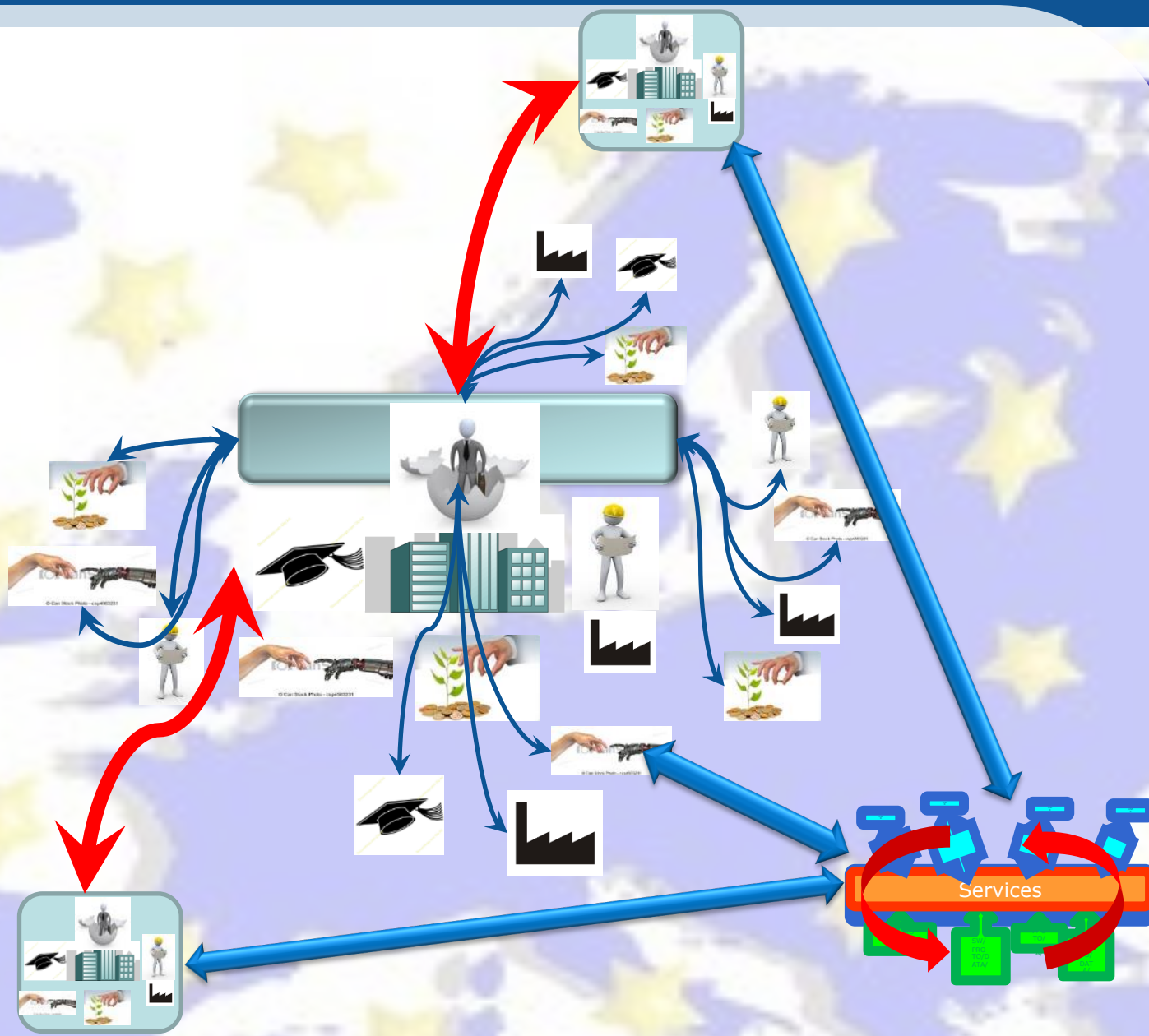
- Regions and local authorities have a key role to play***
- EU funding: at least 500 million € in H2020***

DIGITAL INNOVATION HUB: ACTORS



DIGITAL INNOVATION HUB: INGREDIENTS

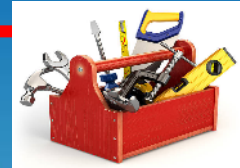




AI-ON-DEMAND PLATFORM:
Toolbox & Services

+

NETWORK OF DIGITAL INNOVATION HUBS IN AI
Distribution Channel for AI to empower
ALL local companies/Users



OTHER RELEVANT UPCOMING CALLS

(CHECK [PRE-PUBLICATION](#))



ICT-46-2020: **Robotics** in Application Areas and Coordination & Support

ICT-47-2020: Research and Innovation boosting promising **robotics** applications

ICT-48-2020: Towards a vibrant European **network of AI excellence** centres → [infoday](#) [50M€] – bring the best researchers to progress faster / make Europe a powerhouse for AI & attractive for scientists

ICT-49-2020: Artificial Intelligence **on demand platform**

ICT-38-2020: Artificial intelligence for **manufacturing**

DT-ICT-05-2020: **Big Data** Innovation Hubs.

DT-ICT-12-2020: AI for the **smart hospital** of the future

**Goal beyond 2020: Increasing investments from
€4-5 billion / year today to €20 billion / year**

The next Framework program: post H2020

DIGITAL IN THE NEXT MFF: OVERVIEW

Digital Europe Programme

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
of 15Bn**

CEF - Digital

Connectivity

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

€3 Bn

MEDIA under Creative Europe within Cohesion and Values

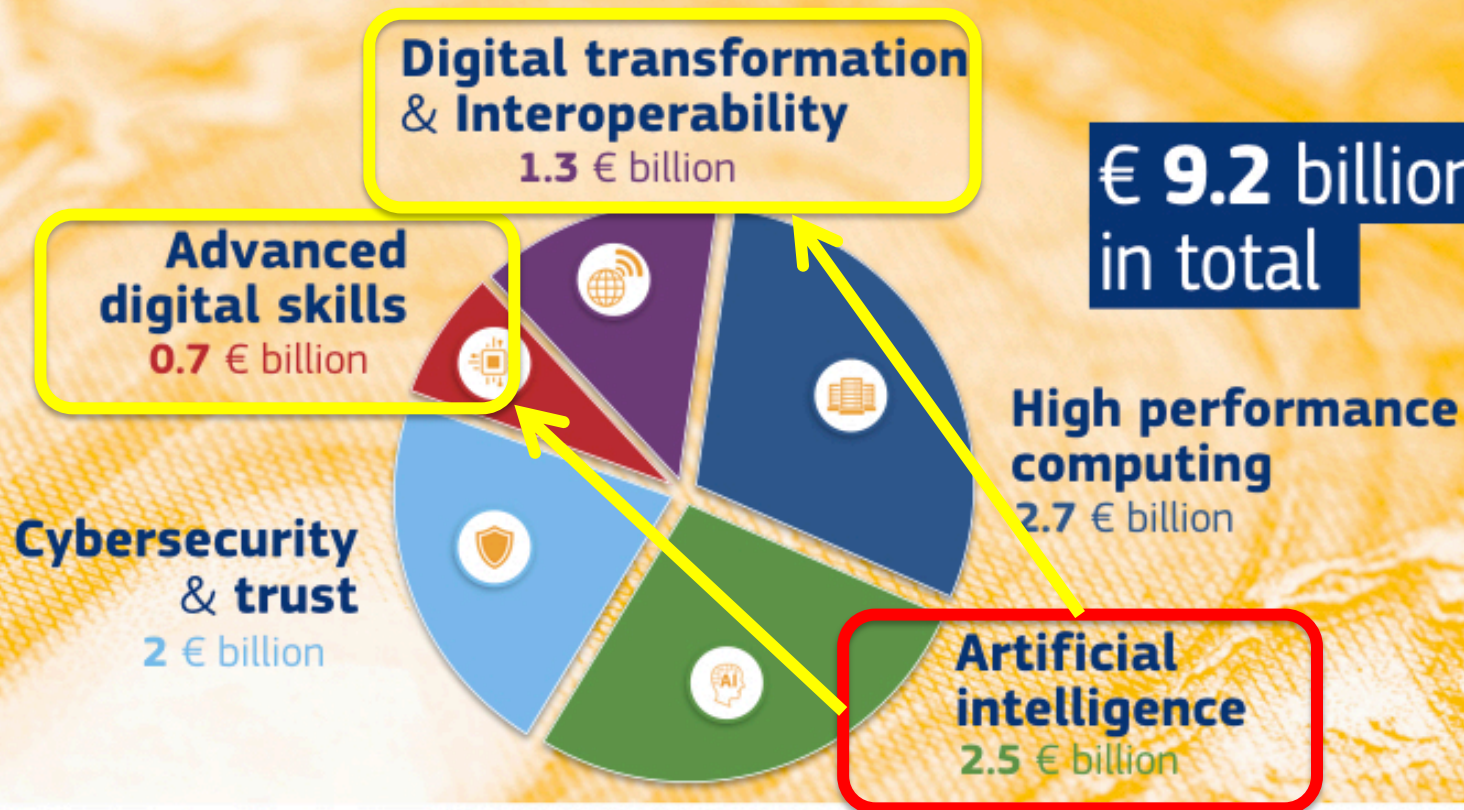
- Distribution of works
- Creation

€1.1 Bn

DIGITAL EUROPE PROGRAMME: CAPACITY BUILDING AND DEPLOYMENT

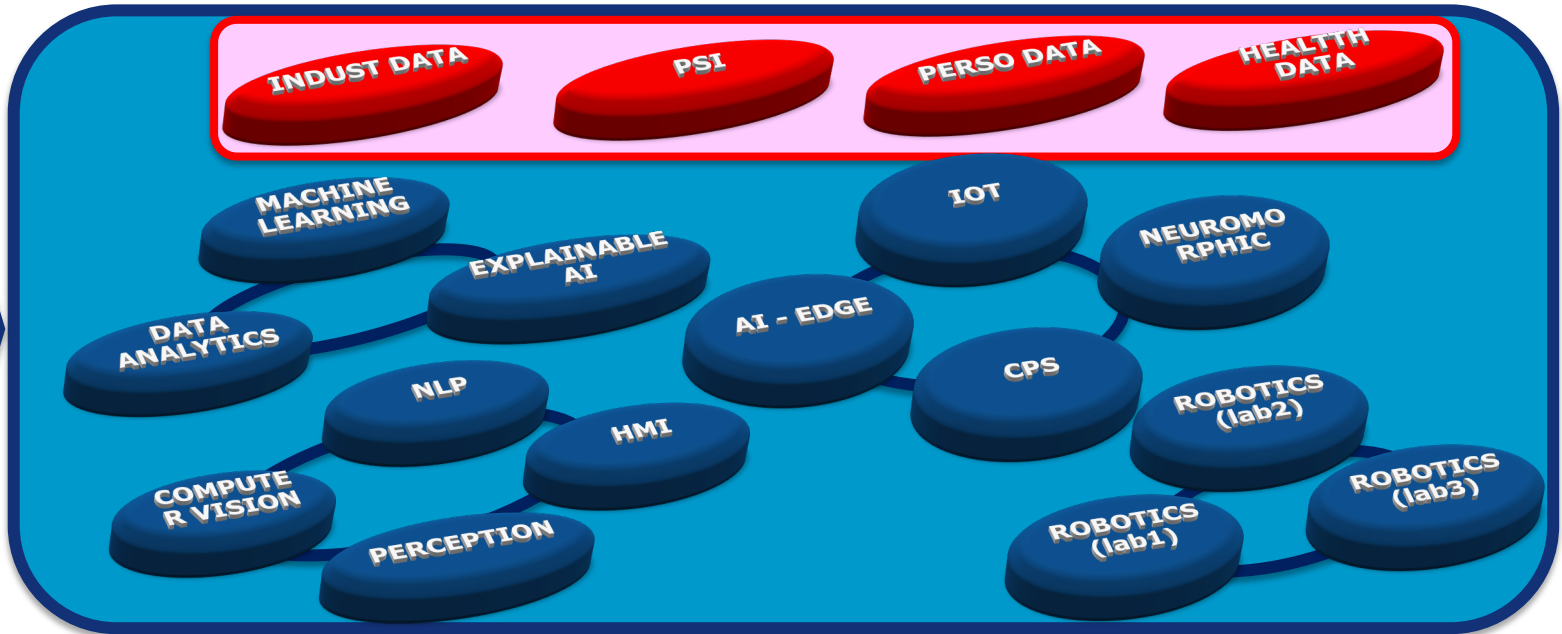
Investing in the future:
Digital Europe Programme

€ 9.2 billion
in total



AI & Digital Europe Programme (DEP): CAPACITY BUILDING & DEPLOYMENT

CAPACITY:
Technology
infrastructure
(DATA/ALGO/HW)

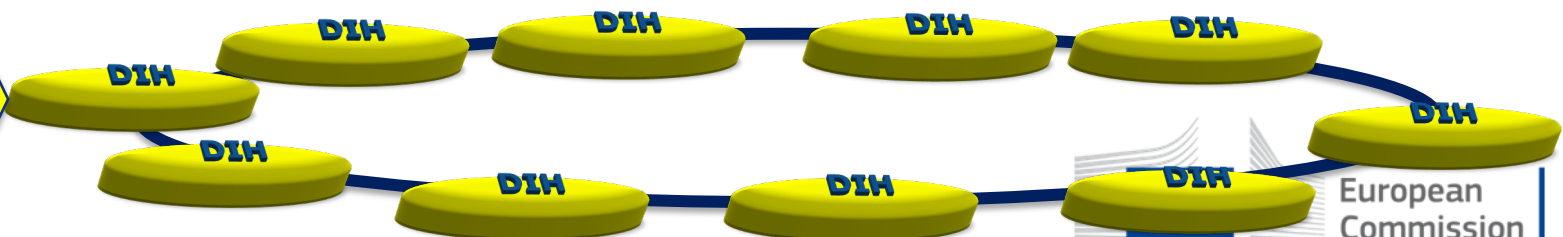


LARGE SCALE
AI REF.
TESTING*
FACILITIES



* Only some examples, others include manufacturing, security, finance, etc

DEPLOY:
DISTRIBUTION
ON
CHANNEL



Definition (Coordinated Plan)

- *A Reference Testing and Experimentation Facility is a technology infrastructure that has specific expertise and experience of **testing mature technology in a given sector**, under **real or close to real conditions** (e.g. smart hospital, smart city, experimental farm, corridor for connected and automated driving, etc.).*

World-class Testing and Experimentation Facilities

- ***Limited number*** per sector
- ***Common resource*** available to all European stakeholders to ***validate new AI-based solutions*** in real settings.
- *Validate all the aspects: technical, socio-economic, legal*
- ***Results*** available to all ***throughout Europe*** (directly, or via the channel of Digital Innovation Hubs).



- ***Co-investment with Member States in world class reference sites for experimentation and testing in real setting*** *focusing on the applications of AI in essential sectors such as **health, mobility, security, manufacturing or finance**. The sites should be open to all actors across Europe and connected to the Network of Digital Innovation Hubs. They should be equipped with large computing and data handling facilities as well **as latest AI technologies** including **emerging** areas such as neuromorphic computing, deep learning and robotics.*

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Ethical and legal framework

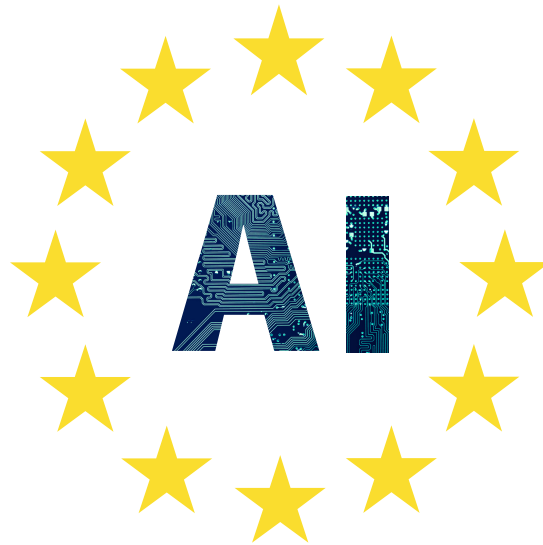


High level group of experts



Ethics guidelines
&
Policy & Investment recommendations

The European AI Alliance



JOIN @

<https://ec.europa.eu/digital-single-market/en/european-ai-alliance>

And contribute to the debate

THE EUROPEAN AI ALLIANCE

Joint reflection on
the future of AI in
Europe

Full mobilisation
of all stakeholders
needed: industry,
academia, civil
society

Supported by
high-level expert
group on AI and
an online platform

Goal: Making it the world-wide reference
platform for thinking and reflecting on AI

Building Trust in Human-Centric AI (COM(2019)168)



4 ETHICAL PRINCIPLES

- Respect for human autonomy
- Prevention of harm
- Fairness
- Explicability

7 REQUIREMENTS

- Human agency and oversight
- Technical robustness and safety
- Privacy and data governance
- Transparency
- Diversity, non-discrimination and fairness
- Societal and environmental wellbeing
- Accountability

ASSESSMENT LIST

- **Operationalise the requirements**

BE PART OF IT!
→ REGISTER TO THE PILOTING PROCESS

via the European AI Alliance



Ethics Guidelines for AI – Piloting Process

- ❑ How to participate? Register today*
 - Test out the assessment list
 - Provide us with feedback through an online survey
- ❑ In parallel: in-depth feedback process with selected stakeholders

* <https://ec.europa.eu/futurium/en/register-piloting-process>



Next steps

- ✓ 26 June: Presentation Recommendations & Kick-off Piloting
- ❑ Feedback gathering on assessment list from July till December 2019
- ❑ Revised version assessment list & sectorial recommendations in 2020
- ❑ Commission will then decide on Next Steps

Policy and Investment recommendations



High level group of experts  Policy & Investment recommendations

Policy and Investment recommendations

Key Take-Aways



1. Empower and protect **humans and society**
2. Take up a **tailored approach** to the AI landscape
3. Secure a **Single European Market for Trustworthy AI**
4. Enable **AI ecosystems** through Sectoral Multi-Stakeholder Alliances
5. Foster the European **data economy**
6. Exploit the multi-faceted role of the **public sector**
7. Strengthen and unite Europe's **research** capabilities
8. Nurture **education** to the Fourth Power
9. Adopt a **risk-based governance** approach to AI and an ensure an appropriate regulatory framework
10. Stimulate an open and lucrative **investment environment**
11. Embrace a **holistic way of working**, combining a 10-year vision with a rolling action plan

EU actions and funding relating to AI:



Adobe Acrobat
Document

Thank you

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