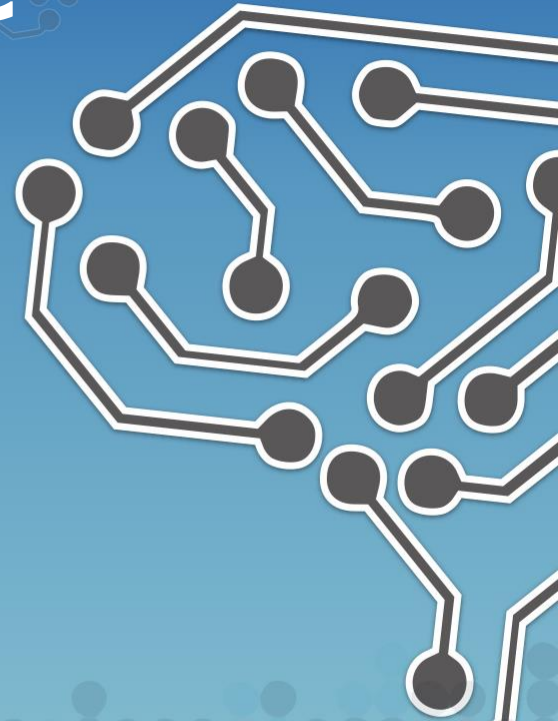# Artificial Intelligence strategy for Europe

Cécile Huet, PhD
Deputy Head of Unit
Robotics & Artificial Intelligence
DG CNECT
European Commission

OUTLINE

1. **AI strategy for Europe**
2. **European AI Alliance**
3. **AI funding in H2020:**
   - AI-on-Demand-Platform
   - Digital Innovation Hubs
   - Future Calls
4. **After H2020**

OUTLINE

1. **AI strategy for Europe:**
   1. **Be part of it!**
2. **European AI Alliance**
3. **AI funding in H2020:**
   - AI-on-Demand-Platform
   - Digital Innovation Hubs
   - Future Calls
4. **After H2020**

Maximising benefits from AI

Economic impact ✓

+

Contribution to societal challenges ✓ ✓

Healthcare
Energy efficiency
Road safety
Cybersecurity
...

European Commission

EU CHALLENGES

Staying at the forefront of in S&T

Access to Data

Inclusive: AI available/Usable for All

Evolution of the Labour landscape & Skill gaps

Acceptance/Ethical issues

Safety/Liability issues

Scattered Effort vs. Fierce International competition

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

European Commission

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

European Commission

EU investments in AI

2018-2020: €1.5 billion in = 70%+ of annual investment

R&D and excellence centers

AI-on-demand platform

Digital Innovation Hubs

Industrial data platforms

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

European Commission

Preparing for socio-economic challenges

Anticipating changes in the labour market

Re-skilling the workforce

Developing,
Attracting & retaining talent
(EIT, Digital Opportunity Traineeships, Digital Europe Programme)

European Commission

Ethical and legal framework

High level group of experts → Ethical priorities by early 2019

Joining forces

All Member States and Norway signed the Declaration of cooperation on AI

Coordinated plan with Member States by end of 2018
Interaction with Member States via the
European platform on national initiatives to digitise industry

OUTLINE

1. **AI strategy for Europe**
2. **European AI Alliance:**
   1.   **Contribute to shaping the future!**
3. **AI funding in H2020:**
   - AI-on-Demand-Platform
   - Digital Innovation Hubs
   - Future Calls
4. **After H2020**
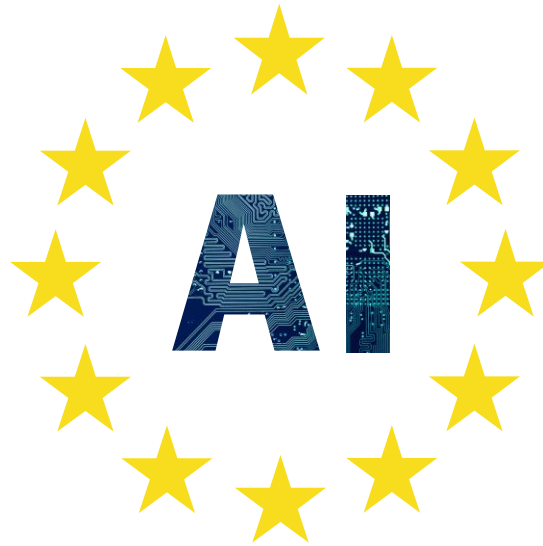
THE EUROPEAN AI ALLIANCE

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

The European AI Alliance

JOIN @
https://ec.europa.eu/digital-single-market/en/european-ai-alliance
And contribute to the debate

POLICY

The European AI Alliance

You can now officially join the European AI Alliance - a forum engaged in a broad and open discussion of all aspects of Artificial Intelligence development and its impacts.

Why join the AI Alliance?

About Artificial intelligence

Policies [+]

News

Events

Projects

Funding

Reports and studies

The on-line platform of the European AI Alliance

European AI Alliance

- Unfollow

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✏️ Edit   ⚙️ Manage

🏠 About   Blog   Forum   Documents   Open Library   Events   AI HLG   People

The European AI Alliance is a multi-stakeholder forum for engaging in a broad and open discussion of all aspects of AI development and its impact on the economy and society. It is steered by the High-Level Expert Group on AI (AI HLG), which consists of 52 experts who have been selected by the Commission for this task. The AI HLG will focus on two main deliverables, for which input from the members of the European AI Alliance will be sought:

(1) It will prepare draft AI ethics guidelines, which will offer guidance on how to implement ethical principles when developing and deploying AI, building on the work of the European Group on Ethics in Science and New Technologies and the European Union Agency for Fundamental Rights; and

(2) It will make mid- and long-term policy recommendations on AI-related challenges and opportunities, which will feed into the policy development process, the legislative evaluation process and the development of a next-generation digital strategy.
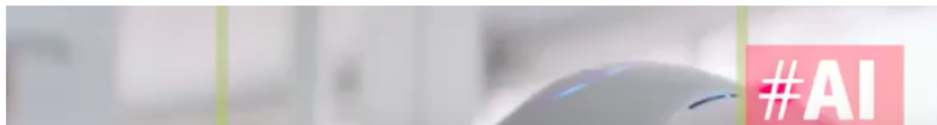
Blog

✏️ BLOG POST

Which themes should the High-Level Expert Group on AI (AI HLG) tackle?

On 27 June, the AI HLG will meet for the first time and discuss (1) the main ethical principles to focus on when preparing the draft AI ethics guidelines, and (2) the main AI-related challenges to...

Lucilla Sioli
🕐 14 June 2018 - last comment 17 hours ago

👍   💬 18
6   (18 new)

✏️ BLOG POST

Welcome to the European AI Alliance!

Outline

1. **AI strategy for Europe**
2. **European AI Alliance**
3. **AI funding in H2020: What is there for you?**
   - AI-on-Demand-Platform
   - Digital Innovation Hubs
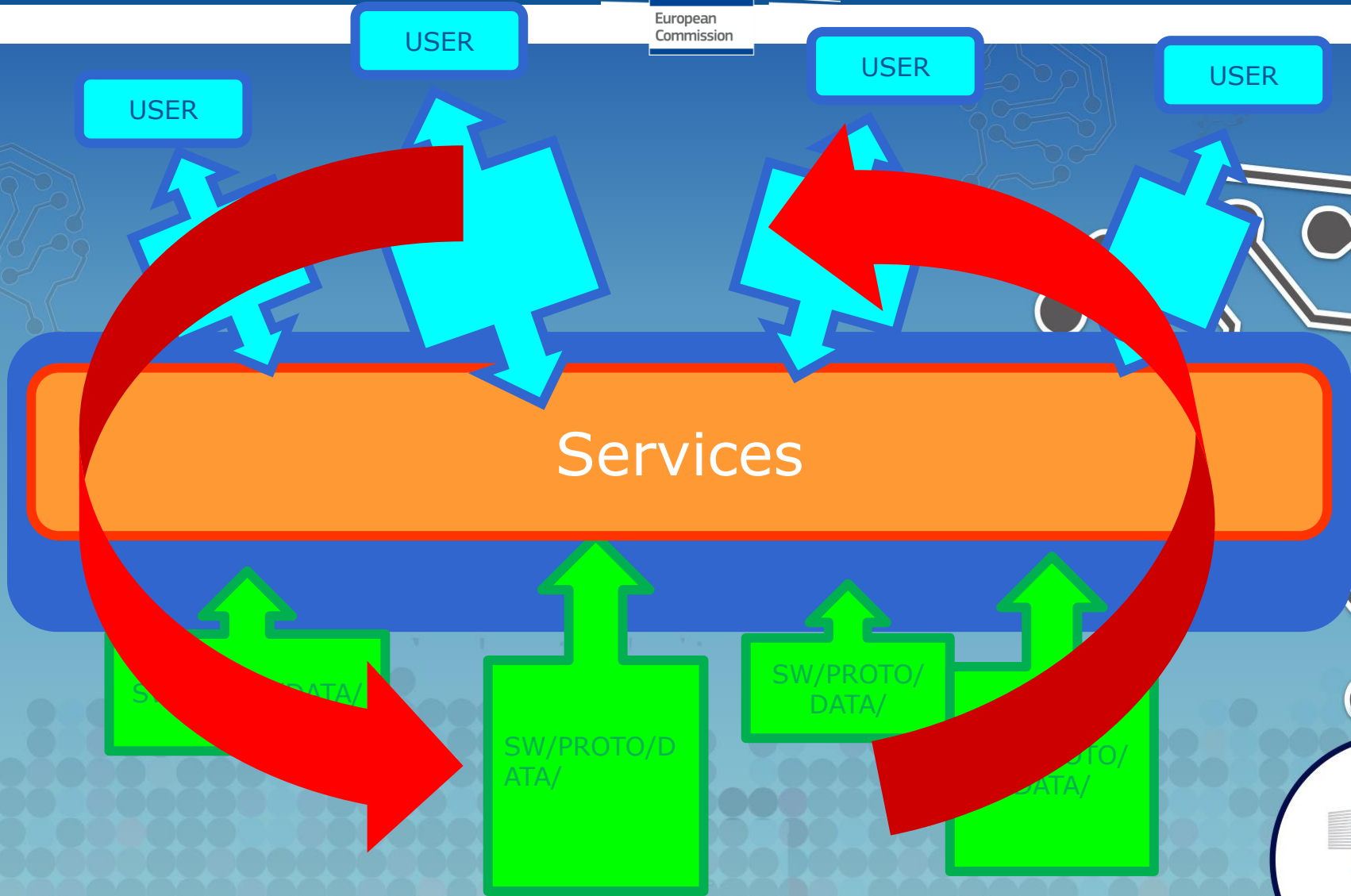   - Future Calls
4. **After H2020**

WP18-20
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**

USER

USER

USER

USER

Services

SW/PROTO/DATA/

SW/PROTO/DATA/

SW/PROTO/DATA/

SW/PROTO/DATA/

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: INGREDIENTS
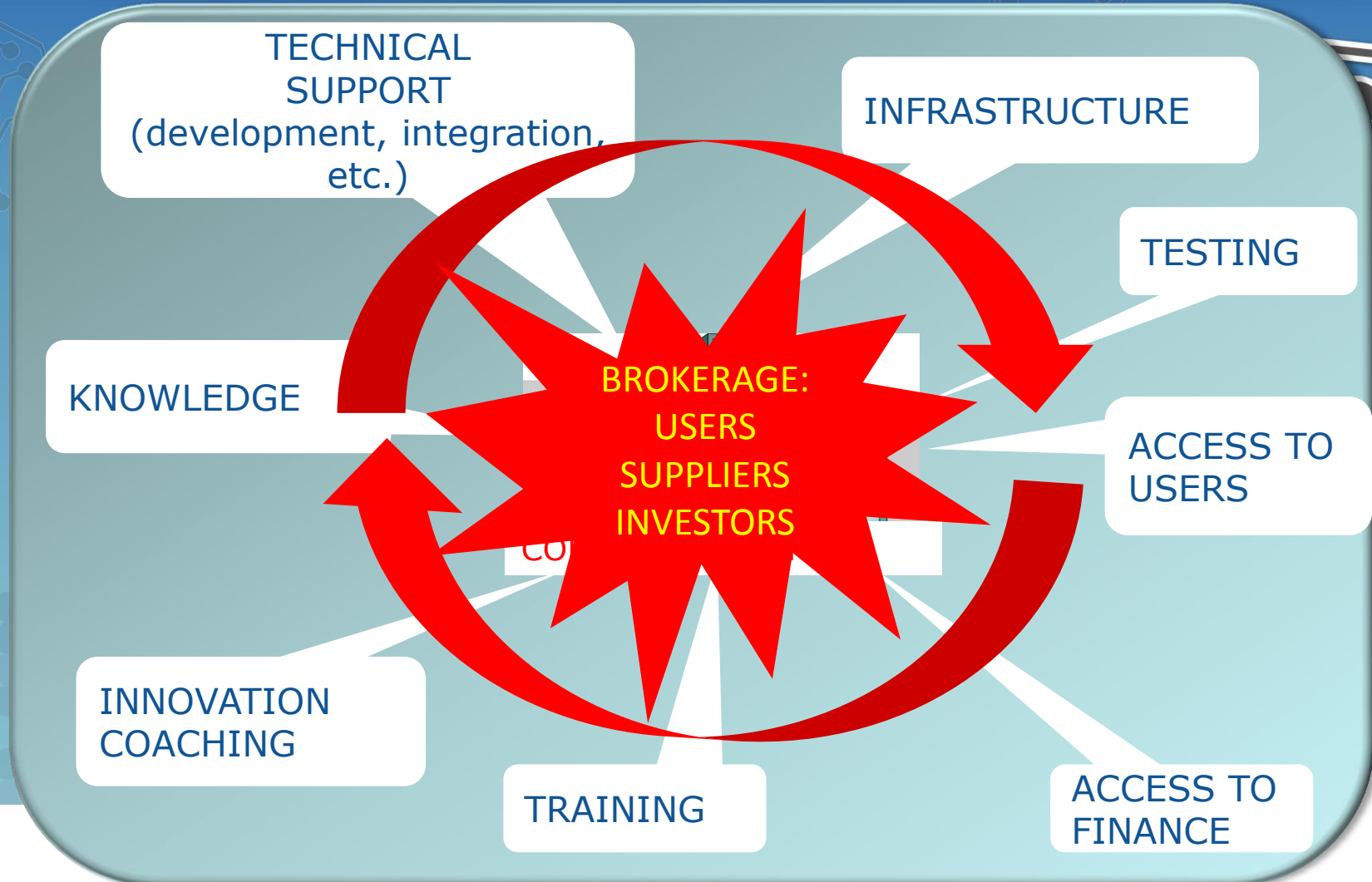
TECHNICAL SUPPORT
(development, integration, etc.)

INFRASTRUCTURE

TESTING

KNOWLEDGE

COMPETENCE CENTER

ACCESS TO USERS

INNOVATION COACHING

TRAINING

ACCESS TO FINANCE

2

DIGITAL INNOVATION HUB: ACTORS

ENTREPRENEUR

INCUBATOR

ACADEMIA

INDUSTRY

GOVERNMENT

COMPETENCE CENTER
SHARED PHYSICAL INFRASTRUCTURE & SUPPORT (TECHNICAL, LEGAL, ADMINISTRATIVE, BUSINESS,...)

USERS COMMUNITY: SMES, CITIZENS, LOCAL ECONOMIC ACTORS,...

INVESTORS

DIGITAL INNOVATION HUB: ACTORS
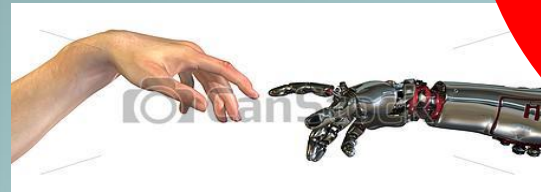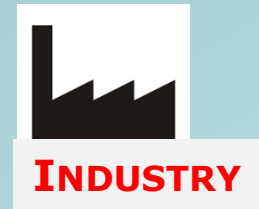
ACADEMIA

ENTREPRENEUR

INCUBATOR

INDUSTRY

GOVERNMENT

COMPETENCE CENTER
SHARED PHYSICAL
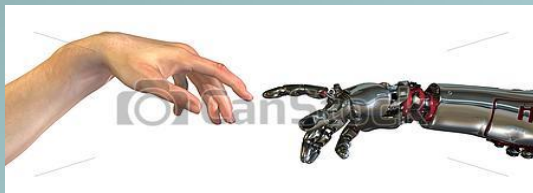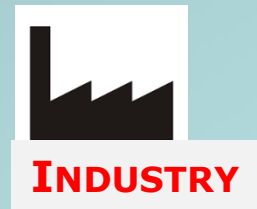INFRASTRUCTURE & SUPPORT
(TECHNICAL, LEGAL,
ADMINISTRATIVE,
BUSINESS,...)

INVESTORS

USERS COMMUNITY:
SMEs, CITIZENS,
LOCAL ECONOMIC ACTORS,...

THE HUB = CENTER OF A NETWORK
EXPLOIT COMPLEMENTARITIES
(LOCAL AND EUROPEAN)

7

COLLABORATION AND NETWORKING BETWEEN CENTRES
→ LOCAL ONE-STOP-SHOP FOR EXPERTISE, COMPLEMENTARITY & SPECIALISATION

- AI and cognitive Systems, interaction technologies, data mining and big data, robotics and autonomous systems

Services
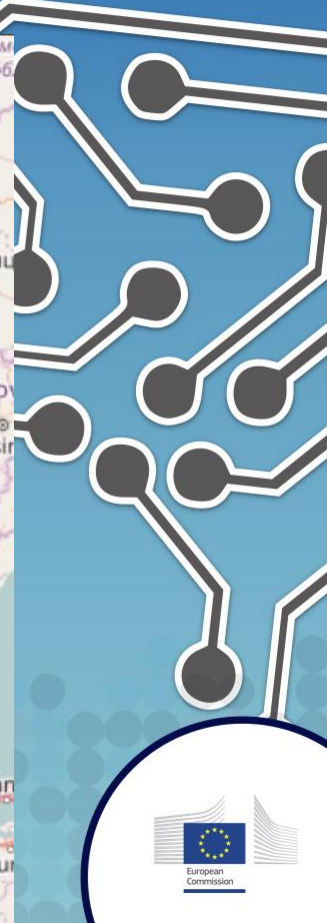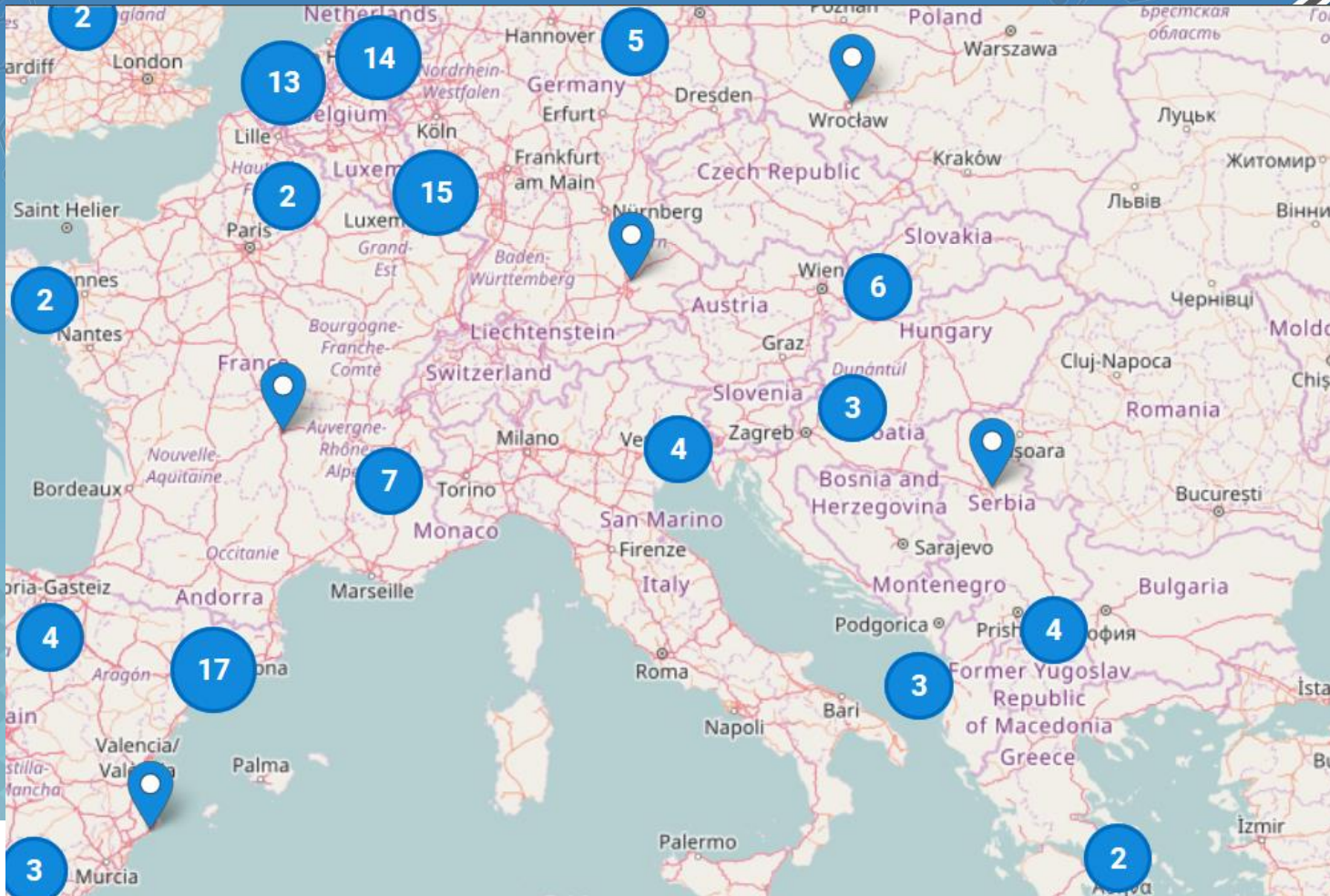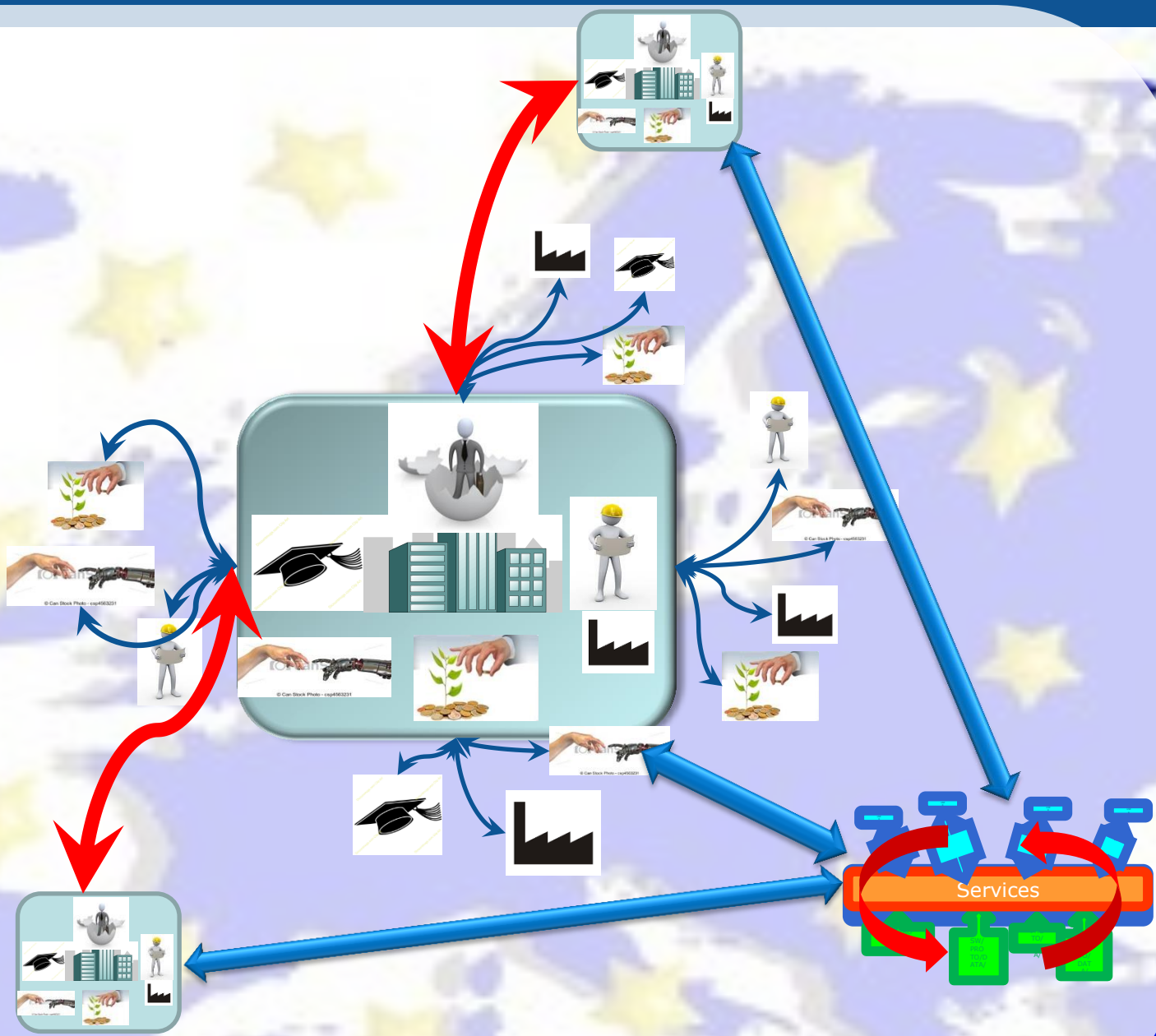
INCLUSIVE EU STRATEGY -> TOOLBOX:

AI-on-demand Platform

+

Network of Digital Innovation Hubs

➔ DISTRIBUTION CHANNEL FOR AI TO EMPOWER ALL LOCAL COMPANIES/USERS

OUTLINE

1. **AI strategy for Europe**
2. **European AI Alliance**
3. **AI funding in H2020: What is there for you?**

- AI-on-Demand-Platform
- Digital Innovation Hubs
- Future Calls

1. **After H2020**

BOOSTING THE EU'S TECHNOLOGICAL AND INDUSTRIAL CAPACITY: WP 2018 - 2020

European Commission

€1.5 billion EC investments into AI in 2018-20

BY 70% INCREASE OF ANNUAL INVESTMENT
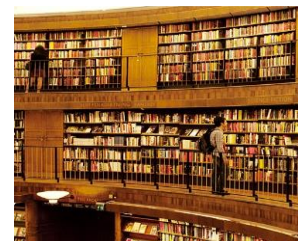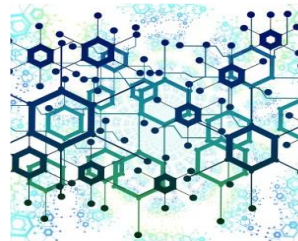
| Basic and industrial research (health, transport, agriculture, manufacturing, etc.) | AI-on-demand platform | Network of AI-focused Digital Innovation Hubs (DIHs) | Strengthening AI excellence centres | Setting up an industrial data platform |

PERCENTAGE OF WP 2018-20 - Total AI-relevant spending

ICT-LEIT	
TOTAL OPEN (ERC - SME-MC-FET)	
Transport	
NMBP	
Health	
Space	
FET (excluding FET Open)	
Food	
JU - Innovative Medicines Initiative (IMI)	
Climate	
Security	
JU - ECSEL -	
Inclusive Society	
RESEARCH INFRASTRUCTURE	
TOTAL EC INVESTMENT	100

ICT-LEIT
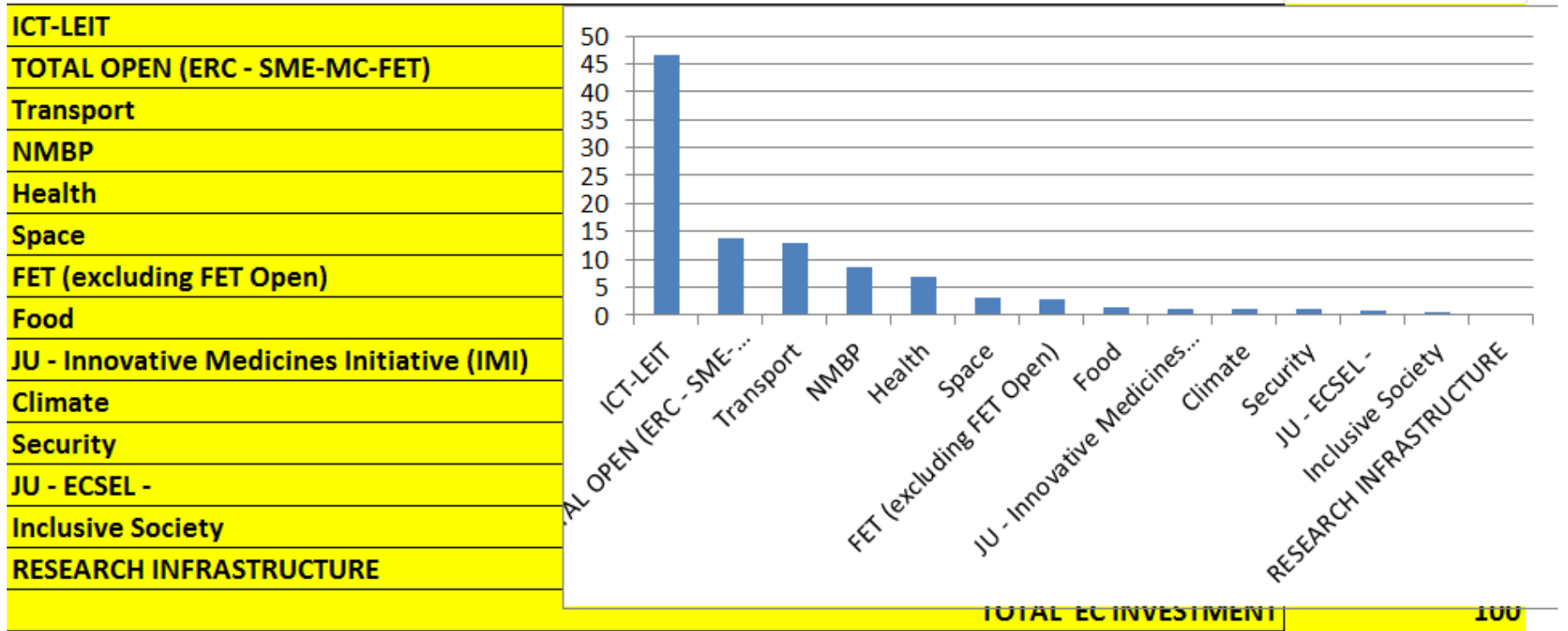
- ***ICT-08-2019****: Security and resilience for **collaborative manufacturing** environments*
- ***ICT-09-2019****-2020: **Robotics** in Application Areas*
- ***ICT-10-2019-****2020: **Robotics** Core Technology*
- *ICT-11-2018-**2019***: **HPC and Big Data** enabled **Large-scale Test-beds** and Applications*
- *ICT-12-2018-2020: Big Data technologies and extreme-scale analytics*
- *ICT-13-2018-**2019***: Supporting the emergence of **data markets and the data economy***
- ***ICT-14-2019****: Co-designing **Extreme Scale Demonstrators** (EsD)*
- *ICT-16-2018: Software Technologies*
- *ICT-24-2018-**2019***: **Next Generation Internet - An Open Internet Initiative***
- *ICT-25-2018-2020: Interactive Technologies*
- *ICT-26-2018-2020: Artificial Intelligence*
- *ICT-29-2018: A multilingual Next Generation Internet*
- *ICT-30-2020: An empowering, inclusive Next Generation Internet*
- *ICT-38-2020: Artificial intelligence for manufacturing*
- *ICT-39-2020: Digital advances for local/urban manufacturing*

ICT-LEIT

DT (DIGITAL TECHNOLOGIES)

European Commission

- *DT-ICT-02-2018: Robotics - Digital Innovation Hubs*
- ***DT-ICT-03-2019****: I4MS (phase 4) - uptake of **digital game changers and digital manufacturing platforms***
- *DT-ICT-05-2020: Big Data Innovation Hubs*
- ***DT-ICT-07-2018-2019****: Digital **Manufacturing** Platforms for Connected Smart Factories*
- ***DT-ICT-08-2019****: **Agricultural** digital integration platforms*
- ***DT-ICT-10-2018-19****: Interoperable and **smart homes and grids***
- ***DT-ICT-11-2019****: **Big data solutions for energy***
- *DT-ICT-12-2020: The smart hospital of the future*
- *SU-ICT-01-2018: Dynamic countering of cyber-attacks*
- *EUK-01-2018: Cloud, IoT and AI technologies*
- *EUJ-01-2018: Advanced technologies (Security/Cloud/IoT/BigData) for a hyper-connected society in the context of Smart City*

HEALTH

- **SCI-DTH-01-2019**: *Big data and Artificial Intelligence for **monitoring health** status and quality of life **after the cancer treatment***

- *SCI-DTH-03-2018: Adaptive smart working and living environments supporting active and healthy ageing*

- **SCI-DTH-05-2019**: *Large scale implementation of digital innovation for **health and care in an ageing society***

- **SCI-DTH-11-2019**: *Large Scale pilots of **personalised & outcome based integrated care***

- **DT-TDS-01-2019**: **Smart and healthy living at home**

- *SC1-DTH-04-2020: International cooperation in digital solutions and robotics for independent living*

- *SC1-DTH-02-2020: Personalised early risk prediction, prevention and intervention, RIA*

- *SC1-BHC-06-2020 : Digital diagnostics – developing tools for clinical decisions integrating in vitro and in vivo diagnostics*

- **Active and Assisted Living Programme** *- http://www.aal-europe.eu/wp-content/uploads/2018/03/AAL_Call-2018_29March.pdf*

TRANSPORT (1/2)

European Commission

- *DT-ART-01-2018: Testing, validation and certification procedures for highly automated driving functions under various traffic scenarios based on pilot test data*
- ***DT-ART-03-2019**: **Human centred** design for the new driver role in **highly automated vehicles***
- ***DT-ART-04-2019**: Developing and testing shared, connected and cooperative **automated vehicle fleets in urban** areas for the mobility of all*
- *DT-ART-05-2020: Efficient and safe connected and automated heavy-duty vehicles in real logistics operations*
- *DT-ART-06-2020: Large-scale, cross-border demonstration of highly automated driving functions for passenger cars*

European Commission

- *MG-3-2-2018: The autonomous ship*
- *MG-3-3-2018: "Driver" behaviour and acceptance of connected, cooperative and automated transport*
- *MG-BG-01-2018: Unmanned and autonomous survey activities at sea*
- *MG-2-1-2018: Human Factors in Transport Safety*
- ***MG-2-6-2019****: Moving **freight by Water:** Sustainable Infrastructure and Innovative Vessels*
- ***MG-2-8-2019****: Innovative applications of **drones** for ensuring safety in transport*
- *LC-GV-02-2018: Virtual product development and production of all types of electrified vehicles and components*
- ***LC-MG-1-10-2019****: **Logistics** solutions that deal with requirements of the 'on demand economy' and for shared-connected and low-emission logistics operations*
- *MG-3-1-2018: Multidisciplinary and collaborative aircraft design tools and processes*
- ***MG-4-5-2019****: An inclusive digitally **interconnected transport** system meeting citizens' needs*

FOOD

- *DT-BG-04-2018-**2019**: Sustainable European **aquaculture** 4.0: nutrition and breeding*
- *RUR-13-2018: Enabling the farm advisor community to prepare farmers for the digital age*
- *DT-RUR-12-2018: ICT Innovation for agriculture – Digital Innovation Hubs for Agriculture*
- ***SFS-31-2019**: ERANETs in **agri-food** A. [2019] ICT-enabled agri-food systems*
- *RUR-04-2018**-2019**: Analytical tools and models to support policies related to **agriculture and food***
- *EU-China FAB Flagship initiative - **SFS-37-2019**: Integrated approaches to **food safety controls** across the food chain*

SPACE

- *SPACE-12-TEC-2018: SRC–Space robotics technologies*
- *SPACE-27-TEC-2020: SRC -Space robotics technologies (continued in 2020)*
- *SPACE-20-SCI-2018: Scientific instrumentation and technologies enabling space science and exploration*
- ***DT-SPACE-EGNSS-2-2019**-2020: EGNSS applications fostering digitisation*
- *DT-SPACE-25-EO-2020: Copernicus big data algorithm factory [EUR 10.00 million]*
- *SPACE-11-TEC-2018: Generic space technologies*

NMBP*

- *DT-FOF-02-2018: Effective Industrial Human-Robot Collaboration (RIA)*
- ***DT-FOF-12-2019**: **Handling** systems for **flexible materials** (RIA)*
- ***DT-SPIRE-06-2019**: Digital technologies for improved performance in **cognitive production plants** (IA)*
- *DT-NMBP-20 Plug & Produce Platform for Manufacturing*
- *DT-FOF-09-2020 Holistic energy-efficient factory management*
- *DT-FOF-11-2020 Quality control in smart manufacturing*
- *DT-NMBP-07-2018 Open Innovation Test Beds for characterisation(IA)*
- ***DT-NMBP-08-2019** Real-time **nano-characterisation technologies** (RIA)*
- ***DT-NMBP-10-2019** Adopting **materials modelling** in manufacturing processes (RIA)*
- *DT-NMBP-11-2020 Open Innovation Test Beds for Materials Modelling (IA)*
- *NMBP-14-2018 Nanoinformatics: from materials models to predictive (eco)toxicology (RIA)*

* Nanotechnologies, Advanced Materials, Advanced Manufacturing and processing, and Biotechnology

CLIMATE

- ***SC5-10-2019**-2020: Raw materials innovation actions: exploration and **Earth observation** in support of sustainable **mining***

- *SC5-11-2018: Digital solutions for water: linking the physical and digital world for water solutions*

- *CE-SC5-03-2018: Demonstrating systemic urban development for circular and regenerative cities*

- *SC5-17-2018: Towards operational forecasting of earthquakes and early warning capacity for more resilient societies*

- ***SC5-14-2019**: Visionary and integrated solutions to improve **well-being and health in cities***

SECURITY

- **SU-DRS02-2018-2019**-*2020: Technologies for* **first responders**
- **SU-FCT02-2018-2019**-*2020: Technologies to enhance the fight* **against crime and terrorism**
- **SU-BES03-2018-2019**-*2020: Demonstration of applied solutions to enhance* **border and external security**
- **SU-FCT03-2018-2019**-*2020: Information and data stream management to fight against* **(cyber)crime and terrorism**

INCLUSIVE SOCIETY

- *DT-TRANSFORMATIONS-02-2018-**2019**-2020: Transformative impact of disruptive technologies in **public services***

- ***TRANSFORMATIONS-13-2019**: Using **big data** approaches in research and innovation **policy making***

- ***DT-GOVERNANCE-12-2019**-2020: Pilot on using the European cloud infrastructure for **public administrations***

- ***8.** Expert support for big data for **R&I performance monitoring***

JU (Joint Undertaking) (ECSEL/IMI)

- *JU – ECSEL (Electronic Components and Systems Joint Undertaking)*
- *9.3.2. Major challenge 2 Implementing AI and machine learning, to **detect anomalies** or **similarities** and to optimize parameters*
- *7.3.6. Developing platforms for wearables/implants, data analytics, artificial intelligence for **precision medicine** and **personalized healthcare and well-being***

- *JU - Innovative Medicines Initiative (IMI)*
- *2018 - F. **Big data, digital health**, clinical trials and regulatory research / 40. **Big data in oncology.***

- *INFRAEDI-02-2018: HPC PPP - Centres of Excellence on **HPC***

European
Commission

- *FET PROACTIVE*
- *FET Flagship*
- *FET Open*

OTHER OPEN SCHEMES

- *ERC (European Research Council)*
- *SMEinstrument*
- *Marie Curie*

TOPIC NAME: ICT-01-2019

Computing technologies and engineering methods for cyber-physical systems of systems

- ## Objectives of the topic:

  models, tools and methods for software and system design of dependable and physically-entangled systems of systems

- ## AI Component:

  AI will be a core technology in most cyber-physical systems. The tools and methods developed have to deal with specific issues of embodied AI (e.g. safety, fault-tolerance, response time)

- ## AI-stakeholders expected in the proposals:

  All stakeholders are impacted by AI technologies, mostly CNN (ambient recognition) and RNN (interfaces, control)

KEY FACTS AND FIGURES

- Topic budget:
  - **RIA: 38M€**
  - **CSA: 2M€**
- Deadline of the call:
  - **28 March 2019**
- Link to the call text:
  - **http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/topics/ict-01-2019.html**
- Contacts:
  - **cnect-A2@ec.europa.eu**

TOPIC NAME: ICT-08-2019

Security and resilience for collaborative manufacturing environments

- ## Objectives of the topic:

  tools and services for manufacturing guaranteeing high data security while allowing exchange of data on the factory floor and across the value chain

- ## AI Component:

  The call encourages semi-autonomous or fully autonomous solutions, in which AI is needed to guarantee a better response time and availability compared to human experts

- ## AI-stakeholders expected in the proposals:

  Industrial stakeholders as users of AI technologies, mainly those based on real-time big data analysis.

KEY FACTS AND FIGURES

- Topic budget:
  - **RIA: 11M€**
- Deadline of the call:
  - **28 March 2019**
- Link to the call text:
  - **http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/topics/ict-08-2019.html**
- Contacts:
  - **cnect-A2@ec.europa.eu**

TOPIC: ICT-09-2019-2020: Robotics in Application Areas

- **Objectives of the topic:**

    a) Research and Innovation boosting promising robotics applications (excluding the areas covered in c))

    b) Large scale pilots in Robotics for infrastructure inspection and maintenance

    c) Robotic competition in healthcare, inspection and maintenance of infrastructure, agri-food, and agile production

- **AI Component:**

    Research and deployment of advanced robotics capabilities, able to cope with the uncertainties of the real-world.

- **AI-stakeholders expected in the proposals:**

    Academia and industry developing or using intelligent robots, and end-users. The involvement of end-users is particularly important in b) and c).

KEY FACTS AND FIGURES

- Topic budget:
  - **RIA: 20€ - indicative size of project: 3-5M€**
  - **IA: 28M€ - indicative size of project: 7-9M€**
  - **CSA: 2M€ - indicative size of project: 2M€**

- Deadline of the call:
  - **28 March 2019**

- Link to the call text:
  - **http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/topics/ict-09-2019-2020.html**

- Events: (planned infodays, etc.)
  - **Brokerage event (tbc) – check: https://www.eu-robotics.net/**

- Contacts: CNECT-A1@ec.europa.eu

TOPIC :ICT-10-2019-2020: Robotics Core Technology

- **Objectives of the topic:**

    Increased autonomy in robotics systems through research in: AI and Cognition, Cognitive Mechatronics, Socially cooperative human-robot interaction, Model-based design and configuration tools

- **AI Component:**

    Intelligent and adaptable robots, Human-robot interaction, autonomous robots, AI and cognition in robotics, advanced perception & autonomous action.

- **AI-stakeholders expected in the proposals:**

    Academia and industry developing or using intelligent robots.

KEY FACTS AND FIGURES

- Topic budget:
  - **RIA: 42M€ - indicative size of project: 5-10M€**

- Deadline of the call:
  - **28 March 2019**

- Link to the call text:
  - **http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/topics/ict-10-2019-2020.html**

- Events: (planned infodays, etc.)
  - **Brokerage event (tbc) – check: https://www.eu-robotics.net/**

- Contacts: CNECT-A1@ec.europa.eu

TOPIC: ICT-11b-2018-2019 HPC and Big Data enabled Large-scale Test-beds and Applications

- ## Objectives of the topic:

  Large Scale Pilot Actions to demonstrate how effective integration of Big Data/Cloud/IoT technologies transform data intensive industrial sectors and stimulate the emergence of the data economy in Europe

- ## AI Component:

  Big data analytics, industrial transformation

- ## AI-stakeholders expected in the proposals:

  Key European industrial actors, big data analytics companies and research organisations

KEY FACTS AND FIGURES

- Topic budget:
  - **IA 40M€ - indicative size of project: 15-18 M€**
- Deadline of the call:
  - **14 November 2018**
- Link to the call text:
  - **https://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/topics/ict-11-2018-2019.html**
- Events: EBDVF, Vienna 12-14 November 2018 **http://www.european-big-data-value-forum.eu/**
- Contacts: CNECT-G1@ec.europa.eu

TOPIC: ICT-13a-2018-2019 Supporting the emergence of data markets and the data economy

- ## Objectives of the topic:

  Set up and operate platforms of proprietary and/or personal data to preserve utility of such data for analysis, and to facilitate trusted and secure sharing and trading of data assets

- ## AI Component:

  Pooling and sharing of data for the training of AI systems

- ## AI-stakeholders expected in the proposals:

  Industrial actors, data analytics companies and research organisations

KEY FACTS AND FIGURES

- Topic budget:
  - **IA 48M€ - indicative size of project: 15-18 M€**
- Deadline of the call:
  - **28 Mar 2019**
- Link to the call text:
  - **https://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/topics/ict-13-2018-2019.html**
- Events: EBDVF, Vienna 12-14 November 2018 **http://www.european-big-data-value-forum.eu/**
- Contacts: CNECT-G1@ec.europa.eu

TOPIC NAME: ICT-24-2018-2019
Next Generation Internet – An Open Internet Initiative

- **Objectives of the topic:**
  - *3 RIAs with subgranting mechanisms to find internet innovators in the areas of Privacy, Decentralized data and Search technologies.*
  - *3 CSAs to support NGI Strategy and Policy actions, Harvest and Transfer technologies and to create an Outreach Office.*

- **AI Component:**

  AI is not directly researched, but subgrantees may use AI components to enhance their research

- **AI-stakeholders expected in the proposals:**

  Academia and industry developing or using AI to improve search mechanisms, trust or decentralized data.

KEY FACTS AND FIGURES

- Topic budget: 7M € for CSA and 21M € for RIA

- Deadline of the call:*17 April 2018*

- Link to the call text:http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/topics/ict-24-2018-2019.html

- Events: Further information in NGI.eu

- Contacts: CNECT-E3@ec.europa.eu or CNECT-Next-Generation-Internet@ec.europa.eu

TOPIC : H2020 - ICT-25-2018-2020
Interactive Technologies

- **Objectives of the topic:**

Establish a sustainable competitive ecosystem of European technology and solution providers for interactive technologies.

- **AI Component:**

Human-centred interactive technologies such as: virtual and augmented reality, conversational systems

affective computing, AI are set to transform the ways in which people communicate, interact and share information on the internet and beyond.

- **AI-stakeholders expected in the proposals:**

Academia & industry & research centre.

KEY FACTS AND FIGURES

- Topic budget:
  RIA: 20M€ - indicative size of project: 2-4M€

- Deadline of the call:
  14 November 2018 17:00:00

- Link to the call text:
  http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/topics/ict-25-2018-2020.html

- Contacts: CNECT-G2@ec.europa.eu

TOPIC : h2020 *ICT-30-2020 -* An empowering, inclusive Next Generation Internet

- **Objectives of the topic:**

The objective is to support actions on smarter, open, trusted and personalised learning solutions to optimise digital learning and to allow learners to engage and interact with content and with peers.

- **AI Component:**

The project will build on cross-links and advances in the various NGI technologies (such as machine-learning, AR/VR, AI) research fields and foster synergies between all the relevant market players, researchers and educational agents working on promising and innovative products.

- **AI-stakeholders expected in the proposals:**

Academia & industry & research centre & Education.

KEY FACTS AND FIGURES

- Topic budget:
  IA - CSA: 8 M€

- Deadline of the call:
  28 March 2019 17:00:00

- Link to the call text:
  http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/topics/ict-30-2019-2020.html

- Contacts: CNECT-G2@ec.europa.eu

TOPIC NAME: DT-ICT-07-2019
Digital **Manufacturing** Platforms for Connected Smart Factories

- ## Objectives of the topic:

  Establish platforms for the connected smart production facilities of the future including their supply chains, targeting one of the grand challenges:

  - The human factor: human competences in synergy with technological progress
  - Sustainable Value Networks: manufacturing in a circular economy

- ## AI Component:

  Integration of AI, IoT, cloud, robotics, big data and other technologies in platforms. Data analytics as a service.

- ## AI-stakeholders expected in proposals:

  AI providers to integrated AI based analytics in platforms. Industrial stakeholders as users of AI technologies.

KEY FACTS AND FIGURES

- Topic budget:
  - **RIA: 45 M€**
  - **CSA: 2 M€**
- Deadline of the call:
  - **2 April 2019**
- Link to the call text:
  - **http://ec.europa.eu/research/participants/portal/desktop/en/opportu nities/h2020/topics/dt-ict-07-2018-2019.html**
- Events:
  - **Workshop "Digital Manufacturing Platforms for Connected Smart Factories", 19 Oct 2017**
  - **ConnectedFactories dissemination event, 5-6 Feb 2018**
  - **Webinar DT-ICT-07-2018 (2018 version)**
- Contacts:
  - **cnect-A2@ec.europa.eu**

DT-ICT-08-2019-**Agricultural** Digital integration platforms

- **Objectives of the topic:**

a) Building platforms integrating different technologies.

b) Sharing data and generating knowledge.

c) Developing decision support systems.

- **AI Component:**

  Use of AI To deliver tailored advices to farmers. Data analytics to enable low maintenance, robust and scalable monitoring of farm systems.

- **AI-stakeholders expected in the proposals:** Academia and industry applying AI in agriculture.

KEY FACTS AND FIGURES

- Topic budget: *30 M€*
- Deadline of the call:*14th November 2018, 17.00*
- Link to the call text: http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/topics/dt-ict-08-2019.html
- Contacts:
  - Joel.Bacquet@ec.europa.eu DG CNECT;
  - Louis.Mahy@ec.europa.eu DG AGRI

DT-ICT-10-2019- Interoperable and smart homes and grids

- ## Objectives of the topic:

a) Novel services for more comfortable, convenient and healthier living

b) The integration of renewable energy sources (RES) and promotion of energy efficiency.

c) To match user needs with the management of distributed energy across the grid, and to gain access to benefits from Demand Response.

- ## AI Component:

IoT platforms that enable the integration of relevant digital technologies like AI, cloud and big data services and where applicable, combined with blockchain technologies.

- ## AI-stakeholders expected in the proposals: industry especiallly SMEs, start-ups applying AI for new apps, services .

KEY FACTS AND FIGURES

- Topic budget: *30 M€*
- Deadline of the call:*14th November 2018, 17.00*
- Link to the call text: http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/topics/dt-ict-10-2018-19.html
- Contacts:
  - Rolf.Riemenschneider@ec.europa.eu DG CNECT;
  - Svetoslav.MIHAYLOV@ec.europa.eu DG CNECT
  - Mark.VAN-STIPHOUT@ec.europa.eu DG ENER

TOPIC: DT-ICT-11-2019
Big data solutions for energy

- ## Objectives of the topic:

  Large-scale pilot test-beds using big data tools and architectures to optimise the energy system management in the challenging situation with an increasing number of small-scale and dispersed production (e.g. windmills, solar panels) and consumption sites generating huge amounts of data

- ## AI Component:

  Big data analytics, industrial transformation

- ## AI-stakeholders expected in the proposals:

  Energy network operators and suppliers, big data analytics companies and research organisations

KEY FACTS AND FIGURES

- Topic budget:
  - **IA 30M€ - indicative size of project: 10 M€**
- Deadline of the call:
  - **2 April 2019**
- Link to the call text:
  - http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/topics/dt-ict-11-2019.html
- Events: EBDVF, Vienna 12-14 November 2018 http://www.european-big-data-value-forum.eu/
- Contacts: CNECT-G1@ec.europa.eu

HEALTH

- **SCI-DTH-01-2019**: *Big data and Artificial Intelligence for monitoring health status and quality of life after the cancer treatment*

- **SCI-DTH-03-2018:** *Adaptive smart working and living environments supporting active and healthy ageing*

- **SCI-DTH-05-2019**: *Large scale implementation of digital innovation for health and care in an ageing society*

- **SCI-DTH-11-2019:** *Large Scale pilots of personalised & outcome based integrated care*

- **DT-TDS-01-2019**: *Smart and healthy living at home*

- **SC1-DTH-04-2020**: *International cooperation in digital solutions and robotics for independent living*

- **SC1-DTH-02-2020**: *Personalised early risk prediction, prevention and intervention, RIA*

- **SC1-BHC-06-2020** : *Digital diagnostics – developing tools for clinical decisions integrating in vitro and in vivo diagnostics*

- **Active and Assisted Living Programme** - *http://www.aal-europe.eu/wp-content/uploads/2018/03/AAL_Call-2018_29March.pdf*

SCI-DTH-01-2019: Big data and Artificial Intelligence for monitoring health status and quality of life after the cancer treatment

- **Objectives of the topic:**

how to better acquire, manage, share, model, process and exploit big data using, if appropriate, high performance computing to effectively monitor health status of individual patients, provide overall actionable insights at the point of care and improve quality of life after the cancer treatment

- **AI Component:**

systems for determining and monitoring the combined effects of cancer treatment, environment, lifestyle and genetics on the quality of life, enabling early identification of effects that can cause development of new medical conditions and/or impair the quality of life

- **AI-stakeholders expected in the proposals:**

tbc

KEY FACTS AND FIGURES

- Topic budget:35M€
- Deadline of the call:24 April 2019
- Link to the call text: tbc
- Events: (planned infodays, etc.): 12 July 2018

SCI-DTH-03-2018: Adaptive smart working and living environments supporting active and healthy ageing

- **Objectives of the topic:**

Address the challenge of accelerating the translation of large scale data and knowledge to define balanced healthy conditions and to predict and prevent diseases through the development of personalised approaches and clinical tools. Focus on the clinical aspects of personalised prediction and prevention of disease

- **AI Component:**

- *Integration and use of high quality microbiome, metabolome and other -omics data produced by large scale international initiatives*

- *Clinical tools for predicting and preventing diseases*

- **AI-stakeholders expected in the proposals:**

tbc

KEY FACTS AND FIGURES

- Topic budget:25M€
- Deadline of the call:25 April 2019
- Link to the call text:
- Events: (planned infodays, etc.): 12 July 2019

SC1-DTH-05-2019: Large scale implementation of digital innovation for health and care in an ageing society

- **Objectives of the topic:**

A PPI to specify, purchase and deploy ICT based solutions for active and healthy ageing through a common supply and demand side dialogue, which can deliver sustainable, new or improved health and care services promoting patient feedback in which public procurement approaches for innovative solutions lead to improved outcomes

- **AI Component:**

- *Digital solutions integrating health, social or community care and informal care*

- *IoT enabled independent living solutions that allow the citizens to live safely and independently at home therefore avoiding institutionalisation*

- *Tele-care solutions and tools supporting for self-care and person-centred care*

- **AI-stakeholders expected in the proposals:**

tbc

KEY FACTS AND FIGURES

- Topic budget:10M€
- Deadline of the call:24 April 2019
- Link to the call text:tbc
- Events: (planned infodays, etc.): 12 July 2019

SCI-DTH-11-2019: Large Scale pilots of personalised & outcome based integrated care

- **Objectives of the topic:**

Foster the large-scale pilots for deployment of trusted and personalised digital solutions dealing with Integrated Care, with a view to supporting and extending healthy and independent living for older individuals who are facing permanently or temporarily reduced functionality and capabilities

- **AI Component:**

- *Scalable and robust digital solutions for integrated care*

- **AI-stakeholders expected in the proposals:**

tbc

KEY FACTS AND FIGURES

- Topic budget:20M€
- Deadline of the call:24 April 2019
- Link to the call text:tbc
- Events: (planned infodays, etc.): 12 July 2019

DT-TDS-01-2019: Smart and healthy living at home

- **Objectives of the topic:**

Large-scale deployment of integrated digital solutions which will bring improved quality of life to citizens while demonstrating significant efficiency gains in health and care delivery across Europe

- **AI Component:**

- *Advanced ICT ranging from biophotonics to robotics, from artificial intelligence to big data and from IoT to smart wearables*
- *Platform for smart living at home integrating technologies in an intelligent manner*

- **AI-stakeholders expected in the proposals:**

tbc

KEY FACTS AND FIGURES

- Topic budget:60M€
- Deadline of the call:14 November 2018
- Link to the call text:tbc
- Events: (planned infodays, etc.): 12 July 2019

Active and Assisted Living Programme -

http://www.aal-europe.eu/wp-content/uploads/2018/03/AAL_Call-2018_29March.pdf

NMBP

TOPIC NAME: DT-NMBP-07-2018: Open Innovation Test Beds for Characterisation

- ## Objectives of the topic:

  Establishing open user-driven characterisation test beds for novel materials characterisation techniques to accelerate uptake of new materials in new products.

- ## AI Component:

  Test beds should include all aspects of novel multi-scale and multi-modal characterisation solutions management, analytics and mining of the resulting data (Materials Informatics).

- ## AI-stakeholders expected in the proposals:

  Characterisation engineers and tool developers, data scientists, software and database engineers, modellers

KEY FACTS AND FIGURES

- Topic budget: 9 M€ per project (44 M€ total together with topic DT-NMBP-09-2018: Accelerating the uptake of materials modelling software)

- Deadline of the call: 28 June 2018

- Link to the call text: http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/topics/dt-nmbp-07-2018.html

TOPIC NAME: DT-NMBP-08-2019: Real-time nano-characterisation technologies (RIA)

- ## Objectives of the topic:
  To advance and establish nano-scale, multimodal and multi-scale materials characterisation tools and methods, allowing rapid and reliable high-resolution analyses.

- ## AI Component:
  Optimisation of existing or development of new technologies, characterisation equipment, data processing routes and data analysis strategies.

- ## AI-stakeholders expected in the proposals:
  Characterisation engineers and tool developers, data scientists, software and database engineers, modellers

KEY FACTS AND FIGURES

- Topic budget: Between 4-5 M€ per project (37,8 M€ total together with topic DT-NMBP-10-2018: Adopting materials modelling to challenges in manufacturing processes)

- Deadline of the call: 3 September 2019

- Link to the call text: http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/topics/dt-nmbp-08-2019.html

TOPIC NAME: DT-NMBP-10-2019: Adopting **materials modelling** to challenges in manufacturing processes

- ## Objectives of the topic:
  Develop an open translation environment to optimise decision making for materials producers and product manufacturers.

- ## AI Component:
  A suite of integrated and interoperable apps that combine existing materials models and databases of materials properties. Develop apps to improve decision making and facilitate the building of the required workflows.

- ## AI-stakeholders expected in the proposals:
  Materials scientists, modellers, manufacturing companies

KEY FACTS AND FIGURES

- Topic budget: 5 M€ per project (37,8 M€ total together with topic DT-NMBP-08-2019: Real-time nano-characterisation technologies)

- Deadline of the call: 3 September 2019

- Link to the call text: http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/topics/dt-nmbp-10-2019.html

ERC

EUROPEAN RESEARCH COUNCIL

- **Objectives:**

  To support excellence in frontier research through a bottom-up, individual-based, pan-European competition

- **AI Component:**

  The ERC does not prioritise any discipline or topic; AI-oriented proposals in any basic or applied research domain are welcome.

- **AI-stakeholders expected in the proposals:**

  Any researcher can apply individually, without the need to have a consortium

KEY FACTS AND FIGURES

- Budget:
  € 13 billion (2014-2020) - 1.9 billion €/year
  € 7.5 billion (2007-2013) - 1.1 billion €/year

- Deadline of the call:
  Calls are published every year

- Link to the call text:
  https://erc.europa.eu/

- Contact:
  https://erc.europa.eu/national-contact-points/

ERC GRANT SCHEMES

Starting Grants

starters
(2-7 years after PhD) up to €
1.5 Mio
for 5 years

Consolidator Grants

consolidators
(7-12 years after PhD) up to
€ 2 Mio
for 5 years

Advanced Grants

track-record of
significant research
achievements in the
last 10 years
up to € 2.5 Mio
for 5 years

Proof-of-Concept
bridging gap between research - earliest
stage of marketable innovation
up to €150,000 for ERC grant holders

Synergy Grants (re-launched 2018)
2 – 4 Principal Investigators
up to € 10.0 Mio for 6 years

OUTLINE

1. **AI strategy for Europe**
2. **European AI Alliance**
3. **AI funding in H2020:**
What is there for you?
   - AI-on-Demand-Platform
   - Digital Innovation Hubs
   - Future Calls
4. **After H2020:**
   4. **The next Multi-Annual Financial Framework (MFF)**

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 of 15Bn

CEF - Digital

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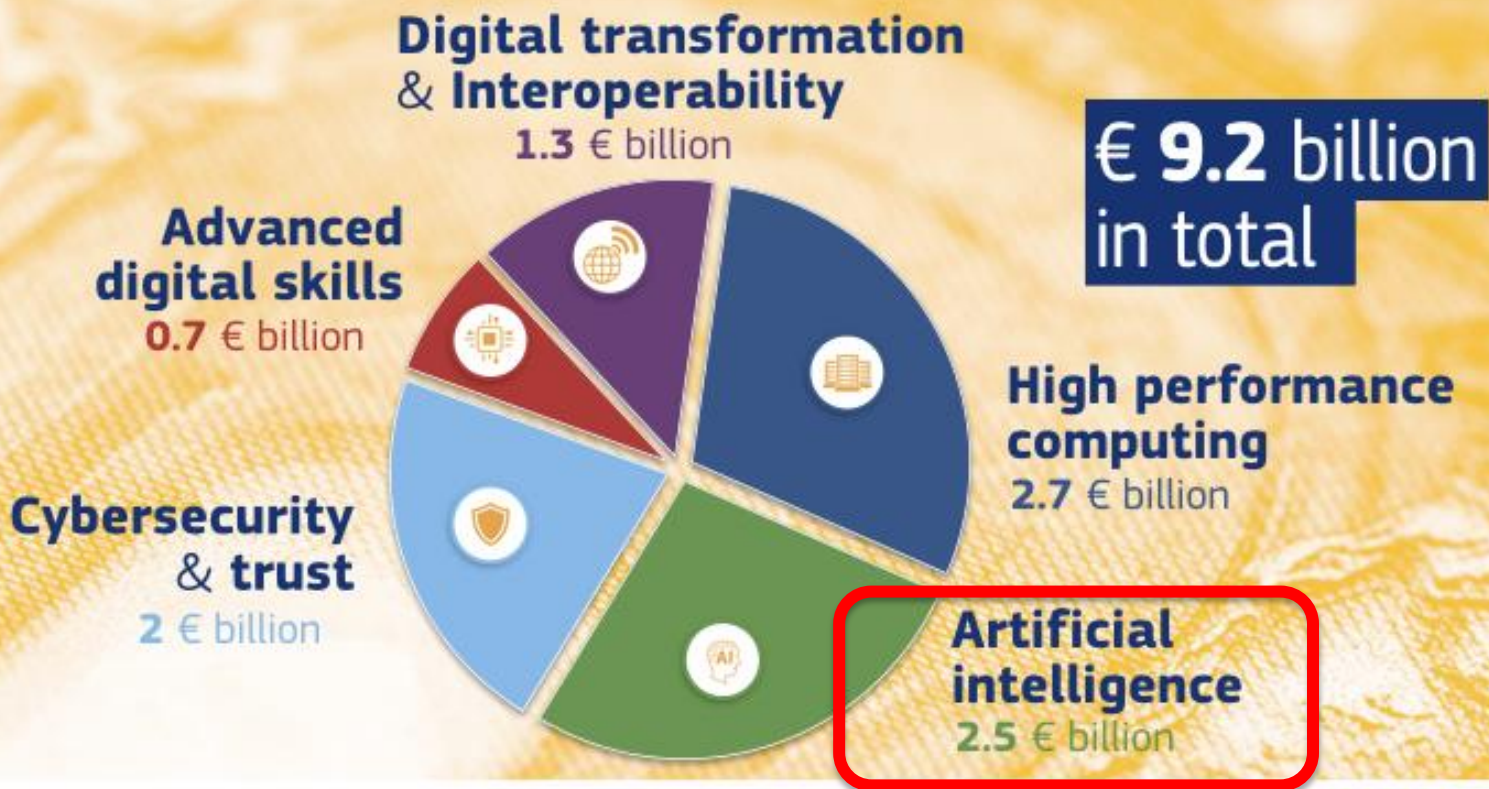- WIFI/BB 4EU
- 5G roll out

€3 Bn

MEDIA under Creative Europe within Cohesionand Values

- Distribution of works
- Creation

€1.1 Bn

DIGITAL EUROPE PROGRAMME: CAPACITY BUILDING AND DEPLOYMENT

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

Digital transformation & **Interoperability**
1.3 € billion

€ **9.2** billion in total

Advanced digital skills
0.7 € billion

High performance computing
2.7 € billion

Cybersecurity & **trust**
2 € billion

Artificial intelligence
2.5 € billion

#EUBudget
#DigitalEurope

European Commission

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sion

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

AI

European Commission

DIGITAL EUROPE PROGRAMME: CAPACITY BUILDING AND DEPLOYMENT

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

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1.3 € billion

Advanced digital skills
0.7 € billion

€ **9.2** billion in total

High performance computing
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Cybersecurity & **trust**
2 € billion

Artificial intelligence
2.5 € billion

#EUBudget
#DigitalEurope

European Commission

Thank you

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