MASTERCLASS

EU funding for AI projects: from research to usage

Marina Zanchi
Director HaDEA

web summit

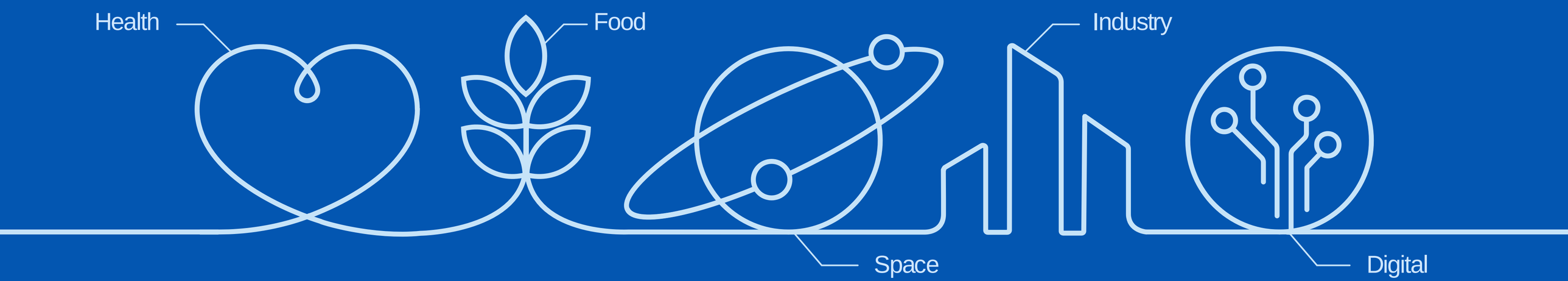
European Commission | European Health and Digital Executive Agency (HaDEA)

Who we are & what we do

European Commission

Our mandate

The European Health and Digital Executive Agency (HaDEA) implements European programmes and initiatives on behalf of the European Commission, by managing projects that are related to health, digital, food, industry and space.



The programmes we manage

Health

EU4Health

-

Horizon Europe – Health Research

Food

Single Market Programme (SMP): Food Safety

Digital

Horizon Europe – Digital

-

Connecting Europe Facility – Digital

-

Digital Europe Programme

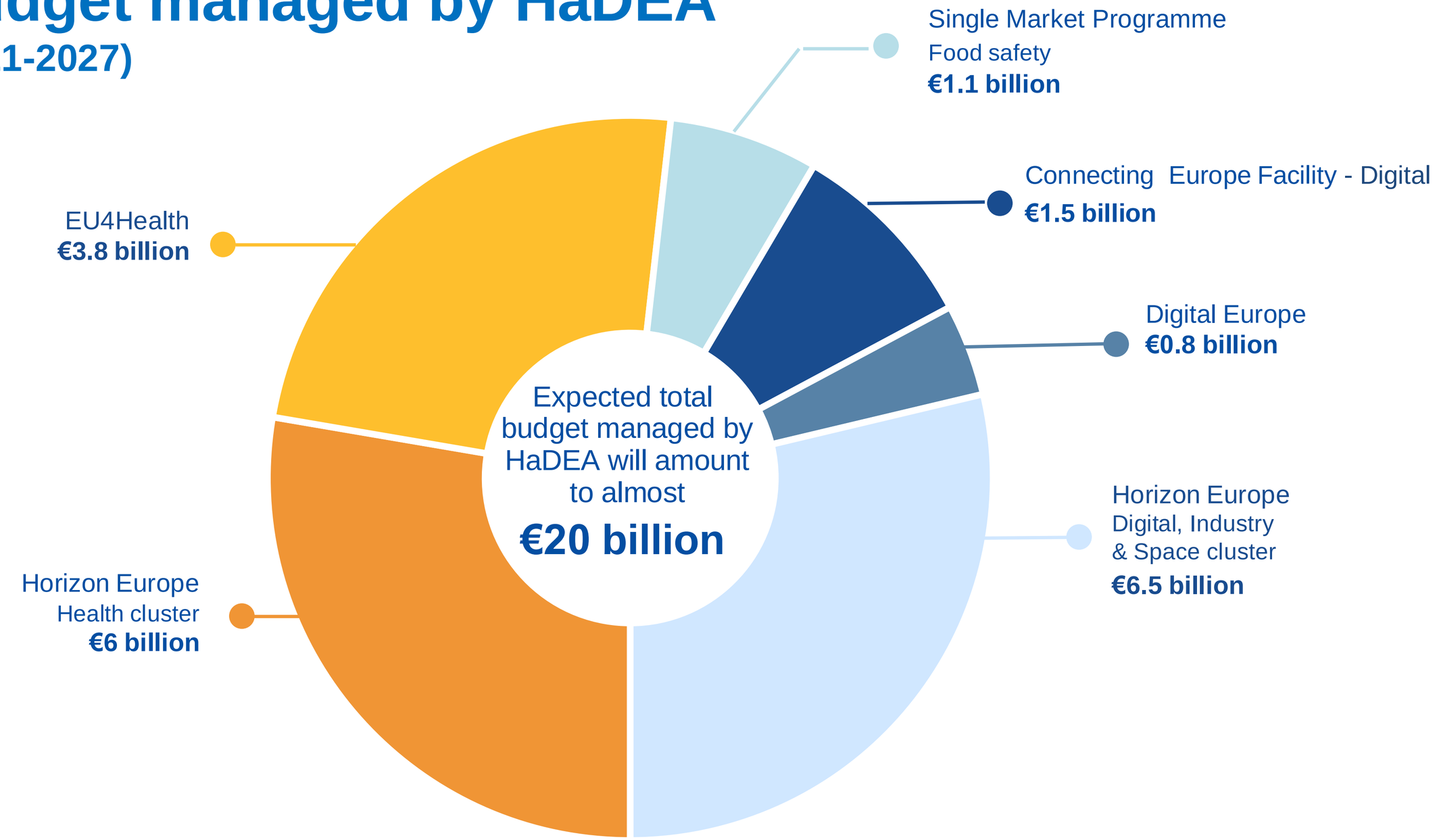
Industry

Horizon Europe – Industry

Space

Horizon Europe – Space

Budget managed by HaDEA
(2021-2027)



Zooming into some of the EU funding programmes we manage

European Commission

Horizon Europe
Cluster 1 Health

1. Staying healthy in a rapidly changing society
2. Living and working in a health-promoting environment
3. Tackling diseases and reducing disease burden
4. Ensuring access to innovative, sustainable and high-quality health care
5. Unlocking the full potential of new tools, technologies and digital solutions for a healthy society
6. Maintaining an innovative, sustainable and globally competitive health industry

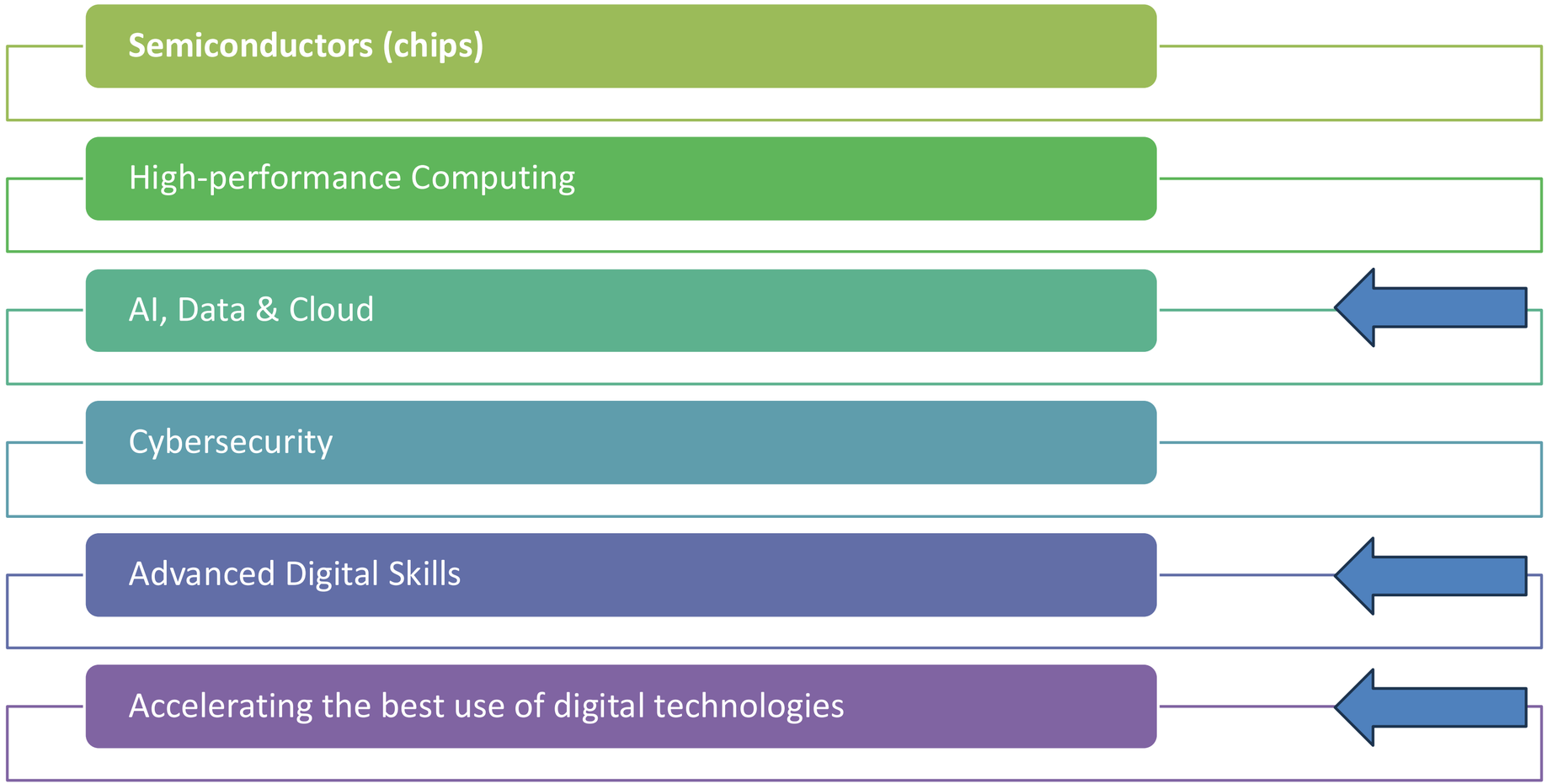
Horizon Europe Cluster 4

DIGITAL, INDUSTRY & SPACE

Six destinations:

1. Climate neutral, circular and digitised production (call: ID: TWIN-TRANSITION)
2. A digitised, resource-efficient and resilient industry (call: ID: RESILIENCE)
3. World leading data and computing technologies (call: ID: DATA)
4. Digital and emerging technologies for competitiveness and fit for the green deal (call: ID: DIGITAL-EMERGING)
5. Strategic autonomy in developing, deploying and using global space-based infrastructures, services, applications and data (call: ID: SPACE)
6. A human-centred and ethical development of digital and industrial technologies (call: ID: HUMAN)

Digital Europe Programme



EU4Health

Strands of action

CANCER

CRISIS PREPAREDNESS

HEALTH PROMOTION & DISEASE PREVENTION

HEALTH SYSTEMS & HEALTHCARE WORKFORCE

DIGITAL TRANSFORMATION

From programmes to EU-funded projects

European Commission

Synergies for Digital Health

Horizon Europe Cluster 1

Total number of projects: 158
EU contribution: €1.9 billion

Horizon Europe Cluster 4

Total number of projects: 18
EU contribution: €91.7 million

EU4Health
Focus on primary and secondary uses of health data

Total number of grants: 87
EU contribution: 116.4 MIL EUR

Total number of procurements on eHealth Data Space: 9
Total budget: €15.3 million

Digital Europe Programme
Three Specific Objectives addressing Digital Health

Total number of projects: 5
EU contribution: €37.2 million

CEF- Digital
5G for healthcare applications in hospitals

Total number of projects: 14
EU contribution: €42.5 million

Looking at AI in projects & calls managed by HaDEA

Horizon Europe Cluster 1

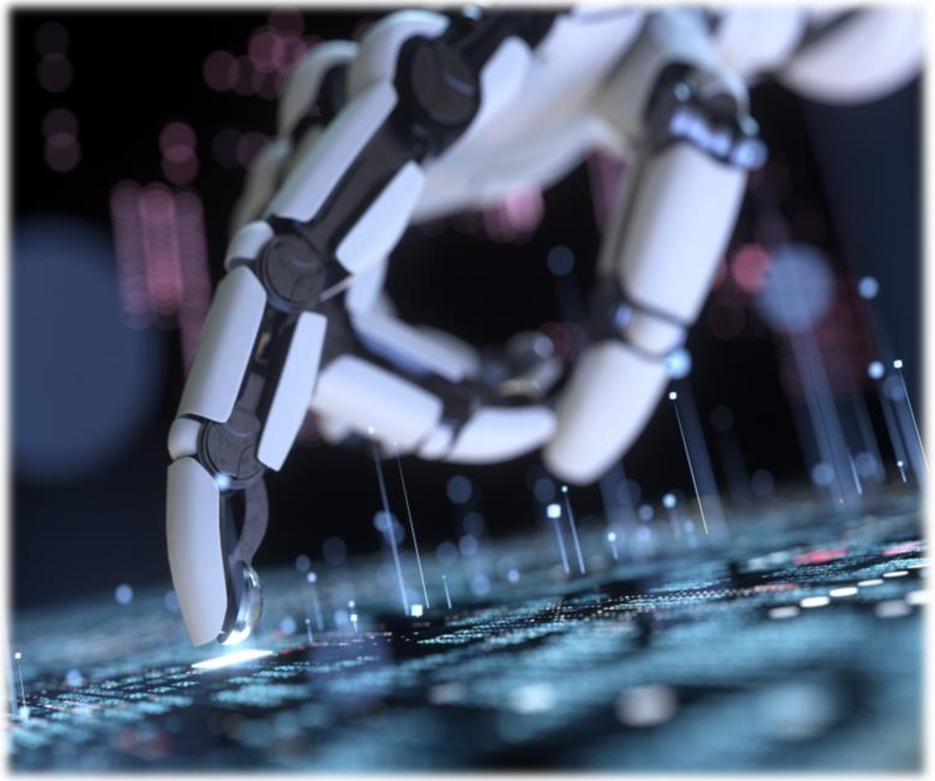
Total number of projects: 241
EU contribution: €1.83 billion

Horizon Europe Cluster 4

Total number of projects: 148
EU contribution: €975.2 million

Digital Europe Programme

Total number of projects: 48
EU contribution: €158.9 million



EU4Health

EU4Health Call for proposals on Advancing the adoption of artificial intelligence in health

Budget: € 4.5 million
Deadline: 22 January 2025

MASTERCLASS

EU funding for AI projects: from research to usage

web summit

JF Junger
Deputy Head of Unit, Digital

European Commission | European Health and Digital Executive Agency (HaDEA)

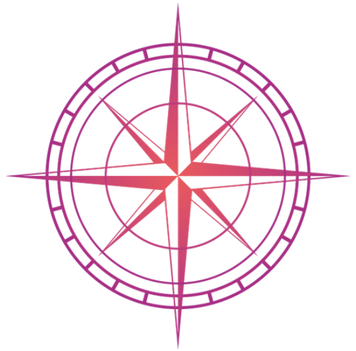
A Digital Decade to shape EU's transformation

VALUES

TARGETS

Skills
ICT Specialists: 20 millions + more women in ICT
Basic Digital Skills: min 80% of population

Government
Key Public Services: 100% online
e-Health: 100% of citizens with online access to health records
Digital Identity: 100% citizens have access to digital ID



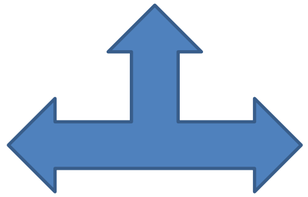
Infrastructures
Connectivity: Gigabit for everyone
Cutting edge Semiconductors: double EU share in global production
Data – Edge & Cloud: 10,000 climate neutral highly secure edge nodes
Computing: first computer with quantum acceleration

Business
Tech up-take: 75% of EU companies using Cloud, AI or Big Data
Innovators: grow scale ups & finance to double EU Unicorns
Late adopters: more than 90% of European SMEs reach at least a basic level of digital intensity

2030 Destination

In a nutshell, focus on:
- People
- Sovereignty/leadership /economic ecosytem
- Society
- Greening

GOVERNANCE MECHANISM
Annual report, recommendation, peer review, Digital Decade Bord



MULTI COUNTRIES PROJECTS
agility to invest together in digital infrastructures (EDIC)

Action

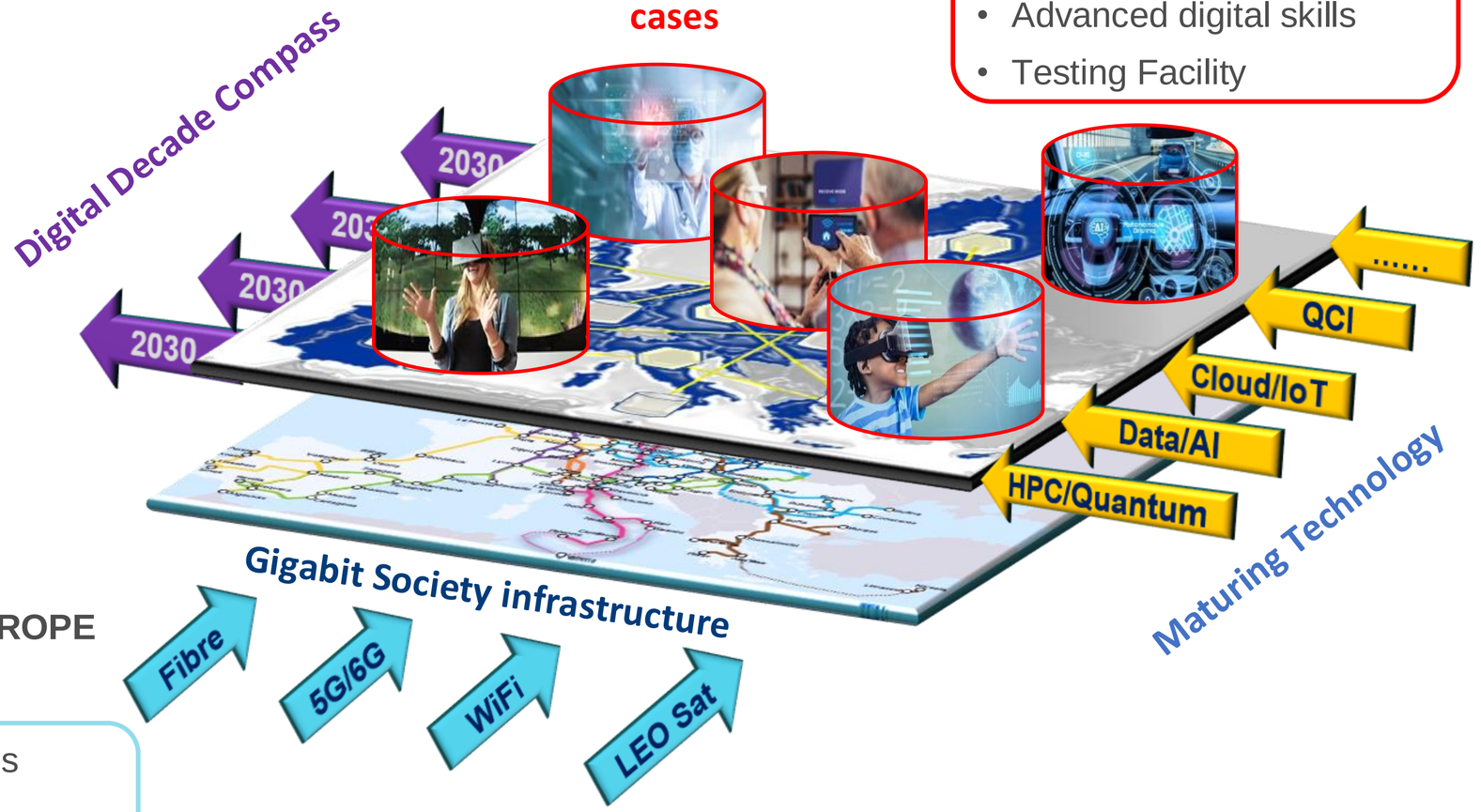
2030 Digital COMPASS Communication (March 2021)

Vision

Complementary programmes

DIGITAL EUROPE

- EU-Wide deployment
- Strategic capacities
- Advanced digital skills
- Testing Facility



HORIZON EUROPE

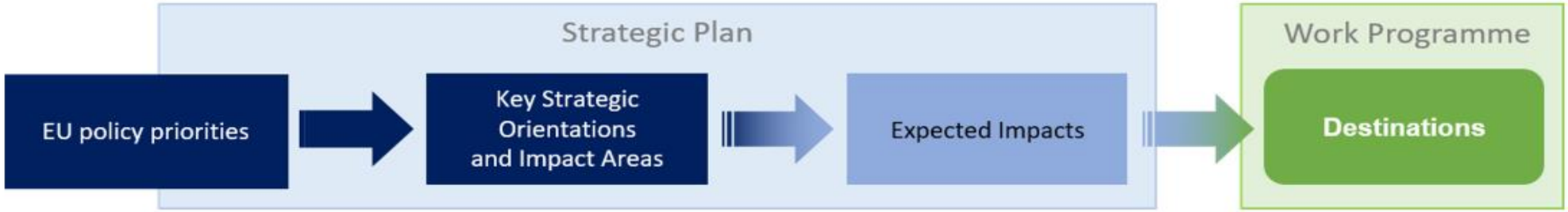
- Preparing/maturing technology & progress (AI/Quantum…)
- By-design regulatory compliance (e.g. privacy friendly, unbiased AI)
- Leading & best in-class (e.g. strategic open autonomy, quantum)
- Prosperity, people & planet lens (green tech, societal challenges, industrial lead...)

CONNECTING EUROPE FACILITY

- Strategic Backbones
- Fixed + Wireless Connectivity

Horizon Europe Cluster 4: Digital, Industry, Space

From EU priorities to Work Programme Destinations



Development and mastery of **key digital technologies** supporting a **green and digital transformation,** and a human-centered ethical development of **emerging digital technologies** for competitiveness and the European Green Deal

EUR 6.5 billion for topics covered in 2021-2027, to lead the development of key digital, enabling and emerging technologies, sectors and value chains

strategic autonomy

Digital Europe Programme

Building strategic digital capacities in EU - Facilitating wide deployment of digital technologies

Compete globally

Other regions of the world invest huge amount of public capital in advanced technologies. For example, the US and China spend € 10-20 billion annually on AI alone

Achieve scale through collective co-investments

Given the size of investments needed, scale required and risks involved Europe needs to pool the resources together

Regain control over Europe's value chains

and ensure Europe's technological sovereignty

Better address Europe's economic and societal challenges

E.g. climate, health, mobility and public services

Ensure broad take-up of digital technologies across all regions of EU

In deploying latest technologies to offer best services to citizens and business

Support SMEs to acquire or access the latest technologies and skills

More than 400,000 EU vacancies in these fields

Source: https://digital-strategy.ec.europa.eu/en/activities/digital-programme

Under the Horizon Europe

- Funding schemes :
    - Research and Innovation Actions: 100% funding
    - Innovation Action: 100% funding for Non-Profit entities, 60% for the others
    - CSA at 100%
    - Price
    - …
- Focus is on delivery of efforts.
- Open for funding to EU & Associated States, possibility for others to participate at zero costs

European Commission

Under the DEP

- Funding schemes : Similar but not exactly the same to Horizon Europe, e.g.
  - Grants with cost reimbursement 50% for everybody or with 75% for SMEs (if support to SME actions
  - CSA at 100%
  - Wider use of procurement
- Focus is on delivery of actual results. It will make use of the most recent research results, but it does not support research.
- The Call texts specify the detailed information needed to submit a proposal
- The programme has specific restrictions to participation of entities not in the EU or in the EEA. These restrictions are specified in the WP and in its annexes.

Calls opportunities

Digital Europe Programme Opportunities:

Currently Open calls (Deadline 21/11):

AI calls:	Towards networked Local Digital Twins in the EU
Best Usage:	European Digital Media Observatory
Digital Skills:	Specialised Education Programmes in Key Capacity Areas
Cyber security	

2025

WP Adoption for the end of 2024
8th call open Q1 2025

9th call open Q4 2025

Horizon Europe Opportunities:

2025

WP Adoption for the Q2 2025
call open Q2 2025

https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/home

Meet the projects

Daniele Lezzi

AI-Sprint

Andreas Maier

FeatureCloud

Maria do Carmo Gomes

ManagiDiTH

Leonor Cerda Alberich

PRIMAG E

European Commission

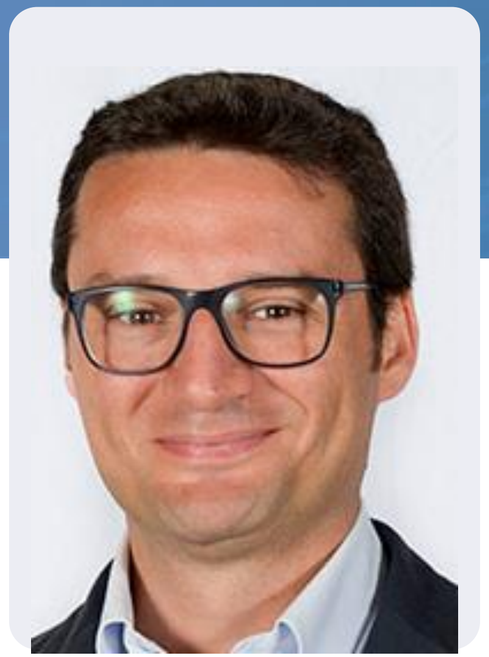
Hearing from projects

What is your project about and what are its concrete outcomes?

How has the EU funding helped?

What practical piece of advice or key takeaway would you offer to future applicants?

European Commission



PROJECT

AI-SPRINT

Daniele Lezzi
Institute for Barcelona Supercomputing Center
Barcelona, Spain

web summit

Co-funded by
the European Union

Delivering AI applications at the edge

Secure application and data

Provide performance guarantees to applications

Project name

AI-SPRINT

Short description

Accelerating the development of AI applications through edge computing

EU funding programme

Horizon 2020

Project duration

1 January 2021 - 31 December 2023

Budget

€ 4 997 750 (€ 4 997 750 EU contribution)

Number of project partners

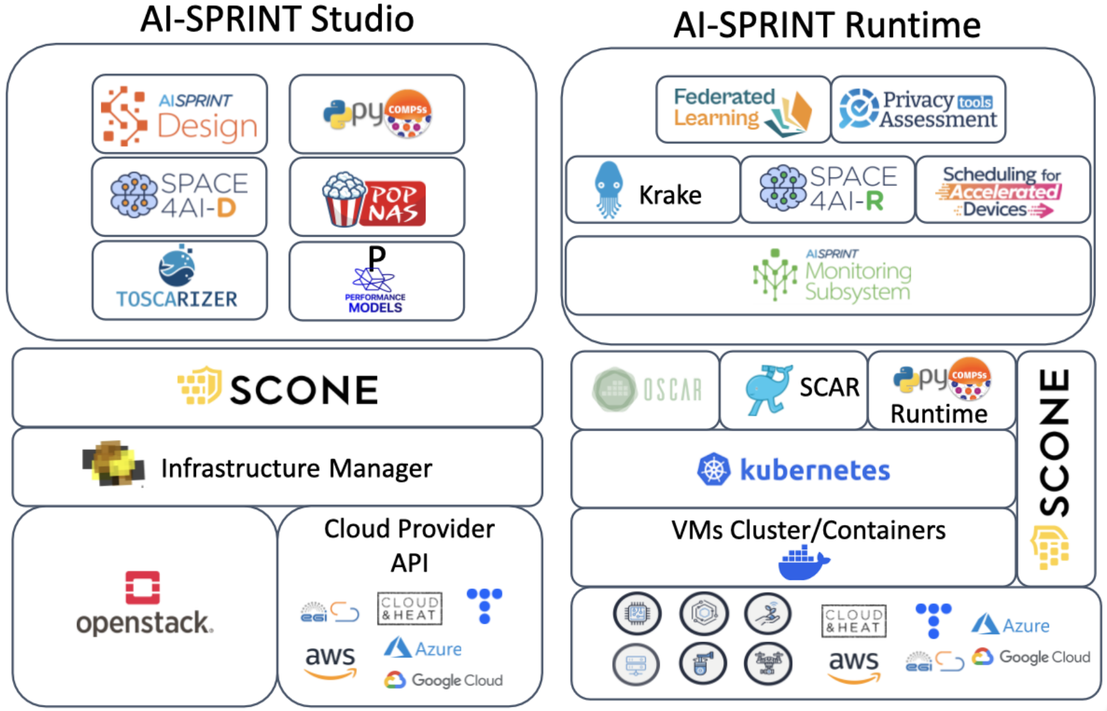
- 11

Co-funded by the European Union

Alliance includes 46 members

Additional UC at Niguarda Hospital

3+1 joint assets



onecareai

web summit

Project objectives/results

- Desing and runtime environment for AI applications at the edge
- AI-SPRINT Alliance including 46 members
- 4 joint assets for technology transfer and one start-up

AI elements developed or used

- Machine learning models for applications performance prediction
- AI models for farming 4.0, wind farms maintenance & inspection, and for stroke risk assessment
- Neural Architecture Search

Categories of AI

- Statistical ML, DNN for image analysis; Time series analysis

Co-funded by the European Union

Takeaways and advices to future applicants

AI SPRINT
AI IN SECURE PRIVACY-PRESERVING COMPUTING CONTINUUM

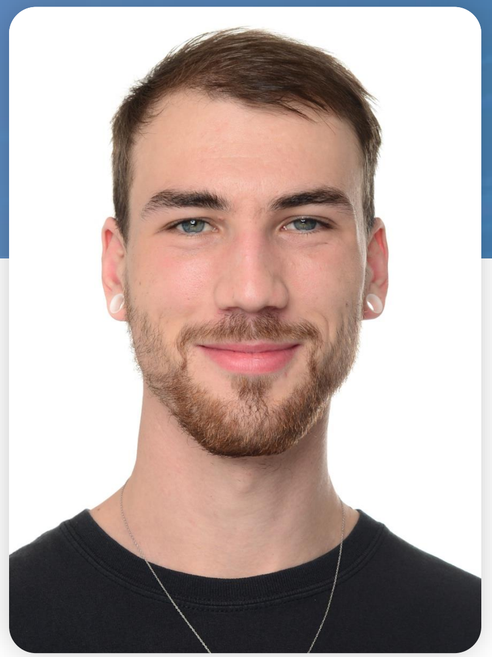
- Greening AI, focus on AI@edge
- Rely on standards when possible, even if you pay on performance
- The edge is the bottleneck, size the system for peak load, resource scaling is crucial
- Containers orchestration needs more work for performance guarantees
- Consider cascade funding for testing your tools

web summit

Co-funded by the European Union

Privacy-preserving AI with

FeatureCloud



PROJECT

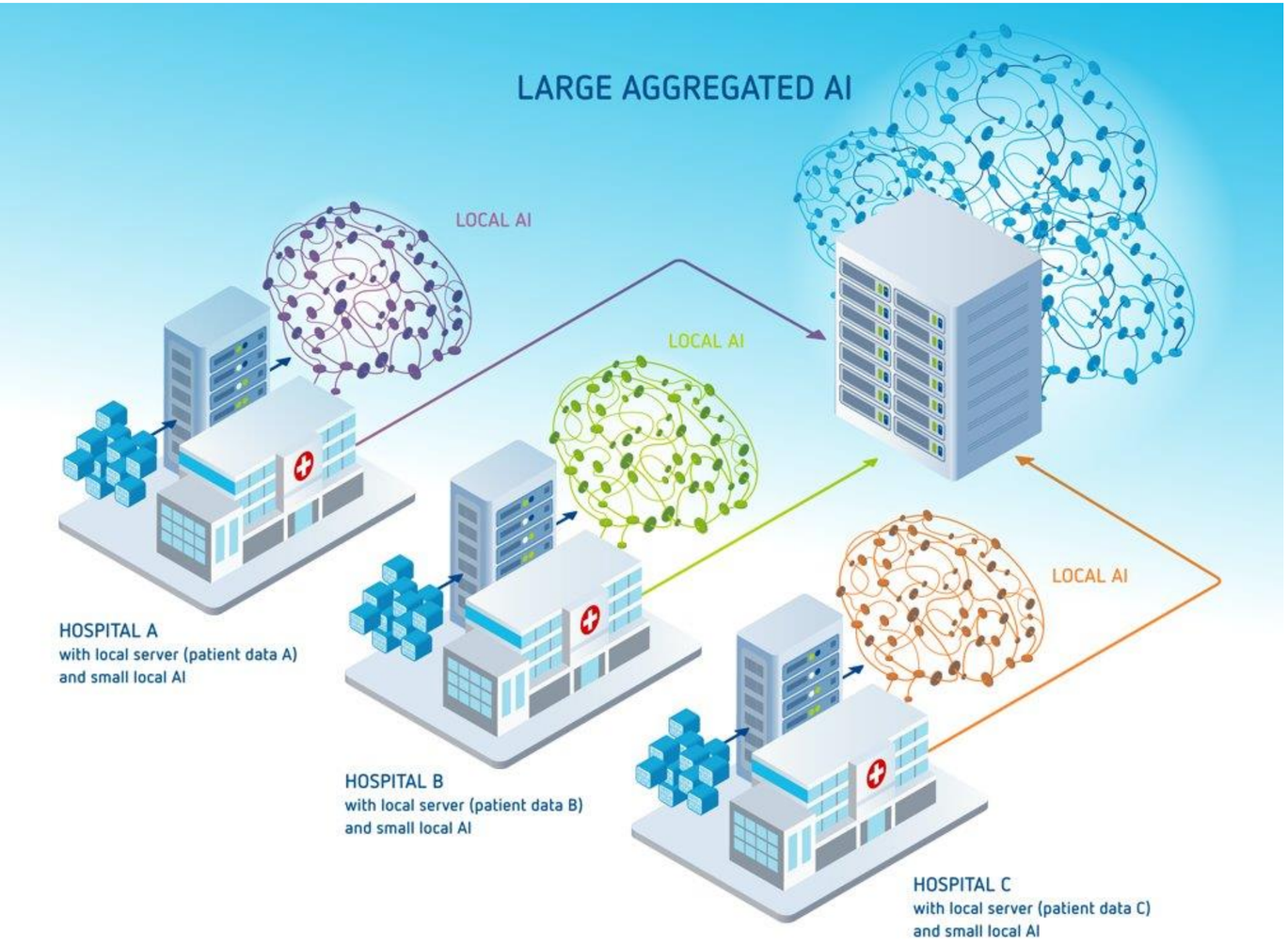
FeatureCloud

Andreas Maier
Institute for Computational Systems Biology
University of Hamburg
Hamburg, Germany

web summit

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 826078. This presentation reflects only the presenter's view and the European Commission is not responsible for any use that may be made of the information it contains.

Co-funded by the European Union



https://featurecloud.ai @2024 FeatureCloud

Project name

FeatureCloud

Short description

Privacy preserving federated machine learning and blockchaining for reduced cyber risks in a world of distributed healthcare

EU funding programme

Horizon 2020

Project duration

1 January 2019 - 31 December 2023

Budget

€ 4 646 000 (€ 4 646 000 EU contribution)

Number of project partners over the course of the project

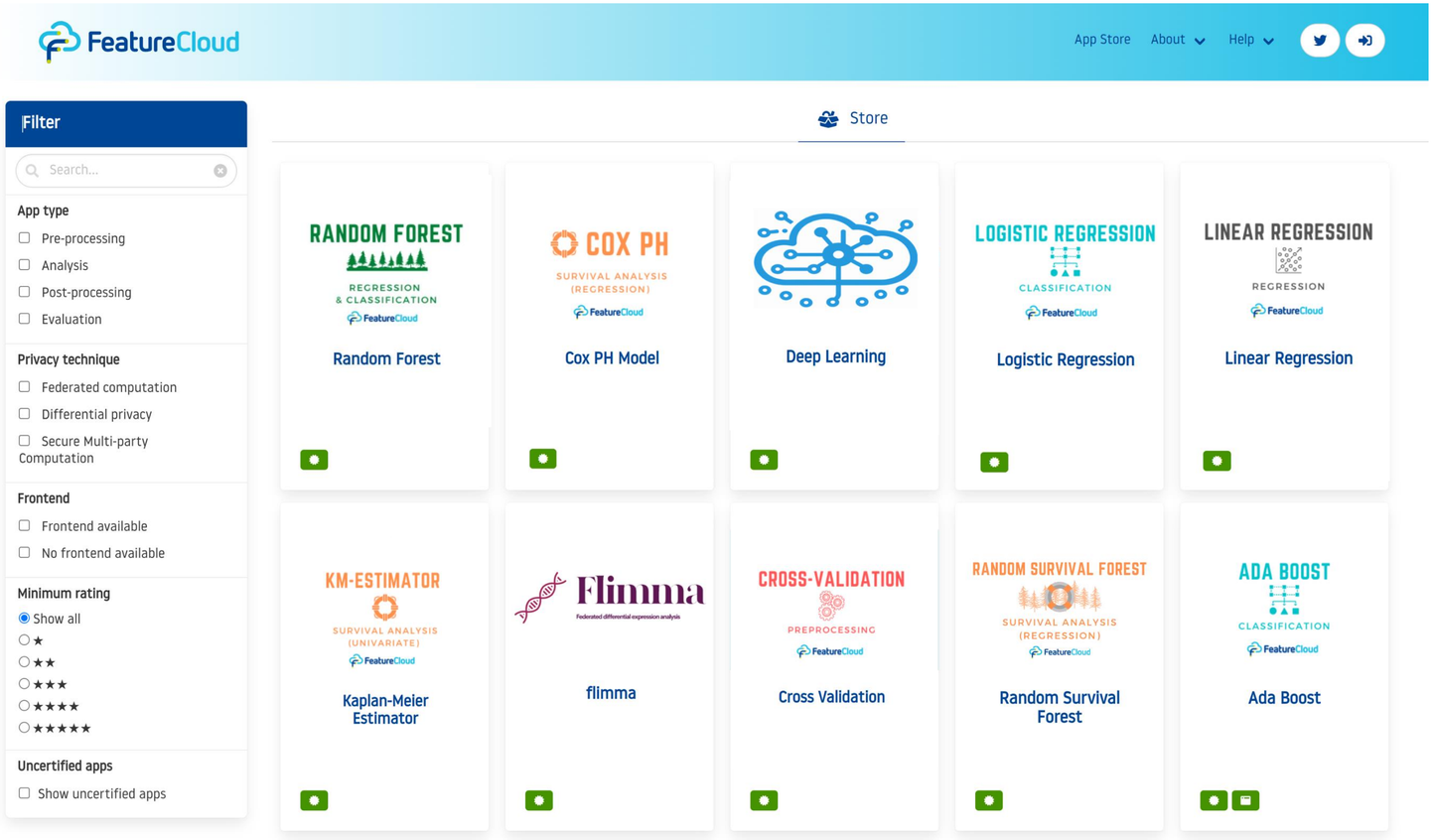
10

web summit

Co-funded by the European Union

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 826078. This presentation reflects only the presenter's view and the European Commission is not responsible for any use that may be made of the information it contains.

What is FeatureCloud



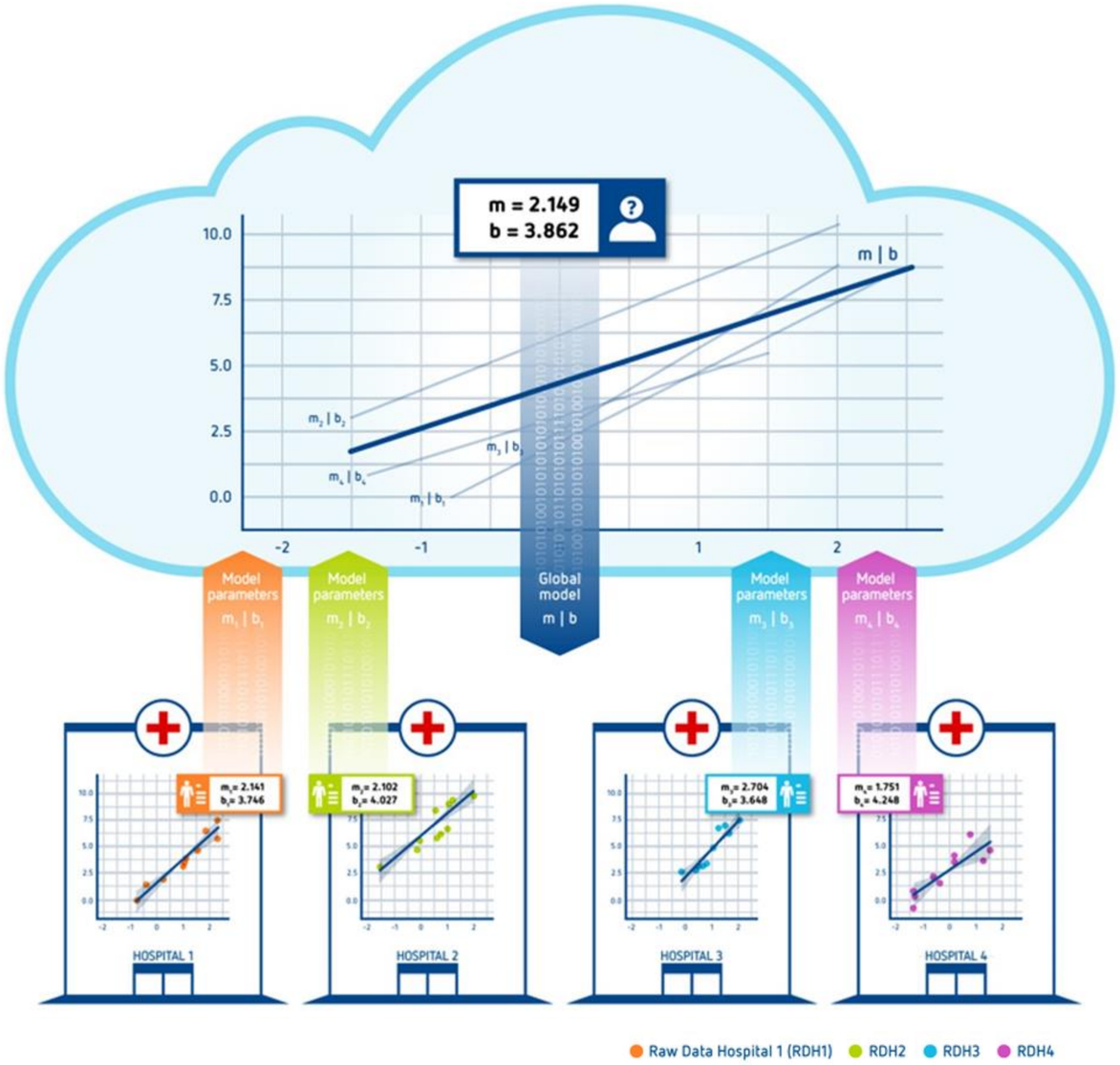
https://featurecloud.ai/app-store @2024 FeatureCloud

Project objectives/results

- Development of first healthcare-focused federated learning infrastructure
- App Store with >40 certified federated applications
- Workflow system to allow chaining of federated Apps

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 826078. This presentation reflects only the presenter's view and the European Commission is not responsible for any use that may be made of the information it contains.

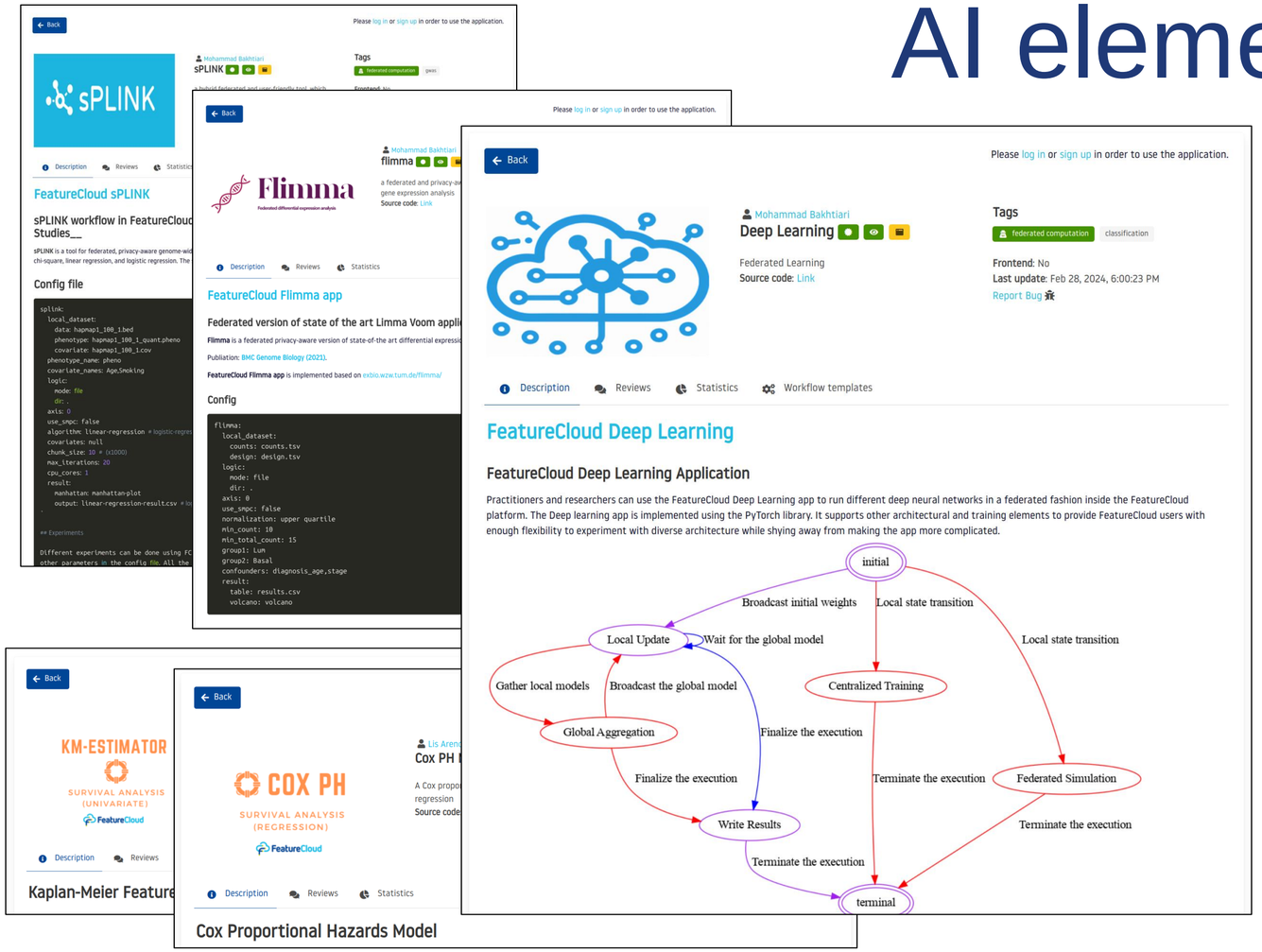
Co-funded by the European Union



https://featurecloud.ai @2024 FeatureCloud

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 826078. This presentation reflects only the presenter's view and the European Commission is not responsible for any use that may be made of the information it contains.

AI elements developed or used



- Federated implementation of commonly used algorithms
- General support for federation of any deep learning algorithm
- Development of new models and federated learning algorithms

https://featurecloud.ai/app-store @2024 FeatureCloud

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 826078. This presentation reflects only the presenter's view and the European Commission is not responsible for any use that may be made of the information it contains.

Co-funded by the European Union

How did the EC funding help?

- From **proof of principle (TRL3)** to apps for the end users **(TRL6)**
- Introducing **FL for** the **medical field**, raising acceptance of collaborative methods
- **Different R&D cultures** met and successfully worked together (legal, ethics, software development, AI, bioinformatics, clinics)

--> ***The whole is more than the sum of its pieces***

https://featurecloud.eu @2024 FeatureCloud

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 826078. This presentation reflects only the presenter's view and the European Commission is not responsible for any use that may be made of the information it contains.

Co-funded by the European Union

Takeaways and advices to future applicants

https://featurecloud.ai

- **Know your customers**
- **GDPR definitions** are unclear wrt. FL

--> need for **legal certainty**

- **Federated Learning** does **NOT relieve** data **harmonization** and **quality** checks

--> **LLM support** in digital health **is hope, not curse**

- **Data privacy** is a **solved issue** with Federated AI combined with PETs like SMPC and DP
- **Federated edge learning** will be the future, and compatible with EHDS, will provide grass root federated/hybrid EHRs

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 826078. This presentation reflects only the presenter's view and the European Commission is not responsible for any use that may be made of the information it contains.

Co-funded by the European Union

PROJECT

ManagiDiTH

Maria do Carmo GOMES
Iscte – Instituto Universitário de Lisboa
(University Institute of Lisbon)
Lisbon, Portugal

web summit

Co-funded by
the European Union

Managing Digital Transformation in the Health Sector

ManagiDiTH

Short description

Creating a new master's degree curriculum that equips professionals with the competencies needed to develop digital services in the health sector, including AI.

EU funding programme

Digital Europe Programme

Project duration

1 January 2023 - 31 December 2026

Budget

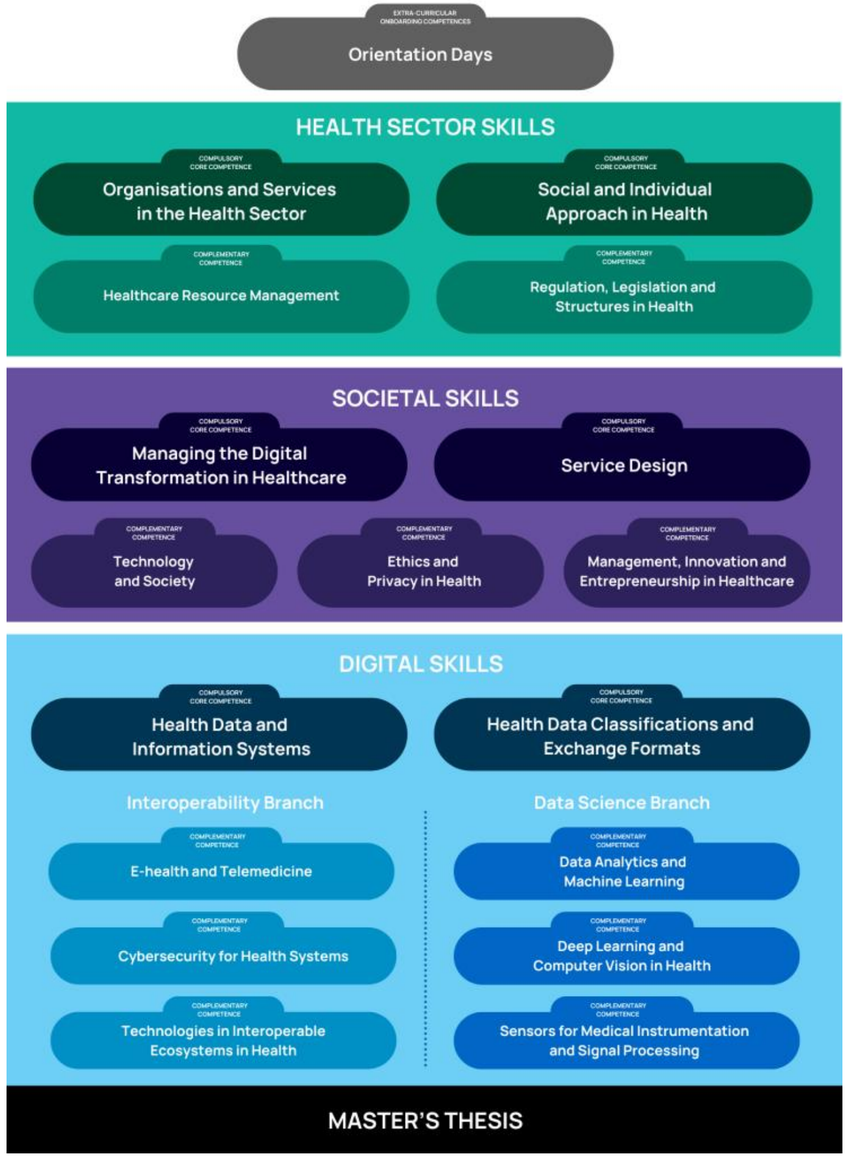
€ 5 897 697 (€ 2 948 848 EU contribution)

Number of project partners

7 project beneficiaries

web summit

Co-funded by the European Union



Project objectives/results

- Multidisciplinary Master Program on Digital Transformation in Health Sector (EQF Level 7) designed and launched.
- More than 180 students in the first cohort, in which 60% are women.
- Digital Health Ecosystem mapping with relevant and emerging stakeholders

AI elements developed or used

- Specific Curricular Unit "**Data Analytics and Machine Learning**" within the component of Digital Skills

- Development of new models/algorithms and/or use of existing AI solutions in health care explored through case studies

Categories of AI

- Data Analytics
- Machine Learning

Co-funded by the European Union

Takeaways and advices to future applicants

Info on the Master Program
https://admin.digihealthedu.eu/

- If you are a **professional in healthcare**, and you are enthusiastic and curious about digital transformation processes in the sector, **APPLY**!
- If you are a **professional in the digital industry**, enthusiastic and curious about digital transformation processes in the health sector, **APPLY**!
- If you are **eager to learn** in a flexible, online and customized learning journey about the most recent developments in the digital landscape, **APPLY**!
- If you are a **company/start-up** in the digital field, do not miss the opportunity to reach us at https://managidith.eu/.

If any question, do not hesitate
to contact us **info@managidith.eu**

Co-funded by
the European Union

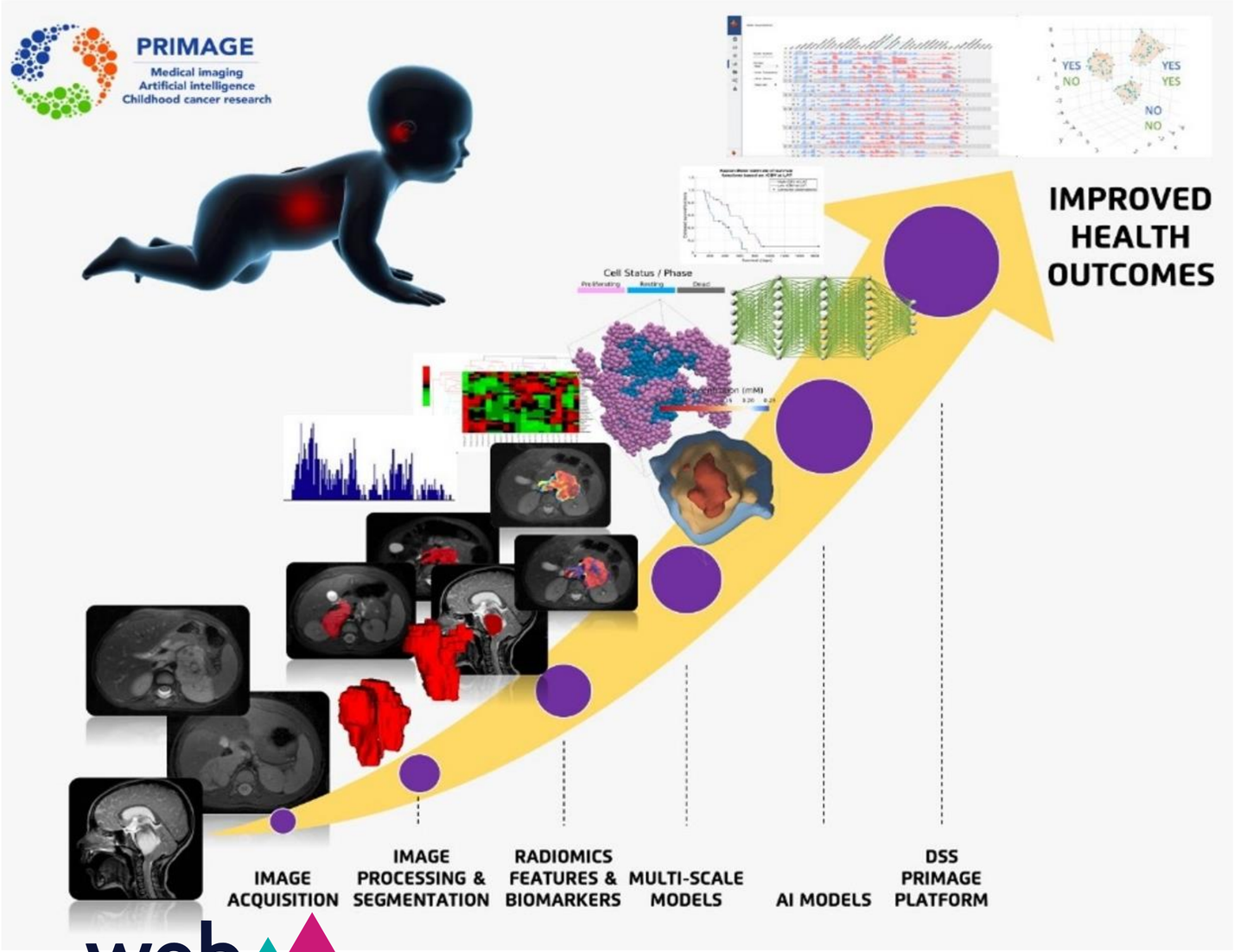
PROJECT

PRIMAGE

Leonor Cerdá Alberich, PhD
Head of Computing / AI at the Biomedical Imaging Research Group
La Fe Health Research Institute
Valencia, Spain

web summit

Co-funded by
the European Union



Project name

PRIMAGE

Short description

PRedictive In-silico Multiscale Analytics to support cancer personalized diaGnosis and prognosis, Empowered by imaging biomarkers

EU funding programme

Horizon 2020

Project duration

1 December 2018 - 31 May 2023

Budget

€ 10 312 360 (€ 10 312 360 EU contribution)

Number of project partners

16 European partners

web summit

Co-funded by the European Union

Project objectives/results

- Software/tools to identify imaging biomarkers from MR, CT and MIBG imaging data.
- Computational models for tumor growth.
- A visual analytics environment for data discovery, including clusterization, uncertainty estimation and AI-based explainability methods.
- A PRIMAGE Platform to perform a personalized diagnosis in Neuroblastoma and DIPG diseases to support the decision-making process by clinical practitioners.

AI elements developed or used

- Development of AI models for the prediction of overall survival and event-free survival
- Development of Deep Learning models for tumor automatic segmentation
- Development of Machine Learning models for categorization of MR series and image quality classification

Categories of AI

- Machine Learning for clinical + molecular data + radiomics models
- Deep Learning for image segmentation
- AI for visual analytics

Co-funded by the European Union

Takeaways and advices to future applicants

- Data collection and curation are tedious but essential tasks for developing robust, generalizable AI models with large, high-quality (annotated) datasets.
- Clinical experts and technical/AI specialists should collaborate from early stages to define relevant variables and targets, and to understand and minimize model biases and errors.
- Integrating data from diverse sources is crucial for enhancing model performance beyond current clinical pathways and state-of-the-art methods.
- AI explainability is necessary to increase the adoption of AI in clinical practice.
- AI development and validation require robust methodologies to ensure usability and reproducibility of results.

Co-funded by the European Union

COME MEET US

HaDEA stand E304 in Pavilion 3

15.30 - 16.00 Marina Zanchi and JF Junger

16.00 - 17.00 project representatives

European Commission