Cross-border alliances and Transdisciplinary Research

Cross-border alliances and transdisciplinary research

❖ Introduction to SwissCore and IGLO

❖ Introduction to building strategy for impact: UAS4EUROPE

❖ Forming consortia: tools and tactics

❖ Understanding the changing EU R&I landscape

  ➢ EU priorities shaping R&I and technology programmes

  ➢ Cross-cutting initiatives

    European Universities Initiative

    European Research Area

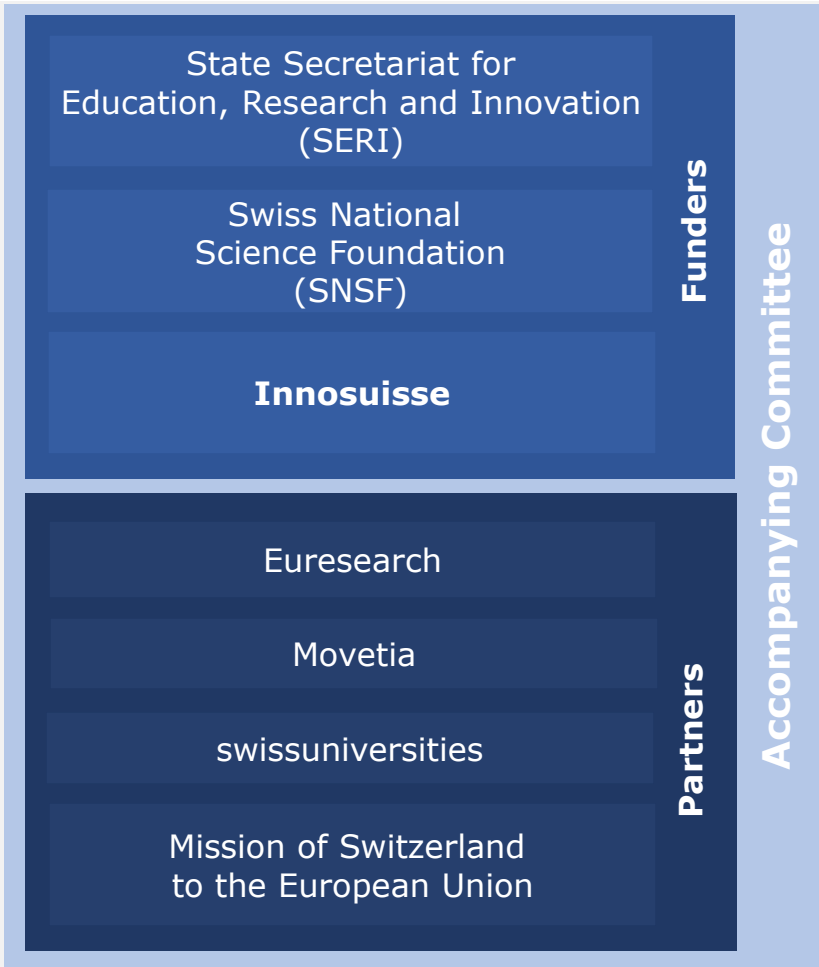   European Innovation Agenda

  ➢ EU strategic planning for next years

❖ SwissCore serves as the Contact Office for European Research, Innovation and Education for the Swiss knowledge landscape;

❖ Founded in 1995;

❖ Acting as a bridge between Swiss and European institutions and communities;

❖ Informing, liaising, supporting and promoting Switzerland's research, innovation, and education communities;

❖ Supporting participation in European knowledge programmes, especially in the EU Framework Programme for Research and Innovation
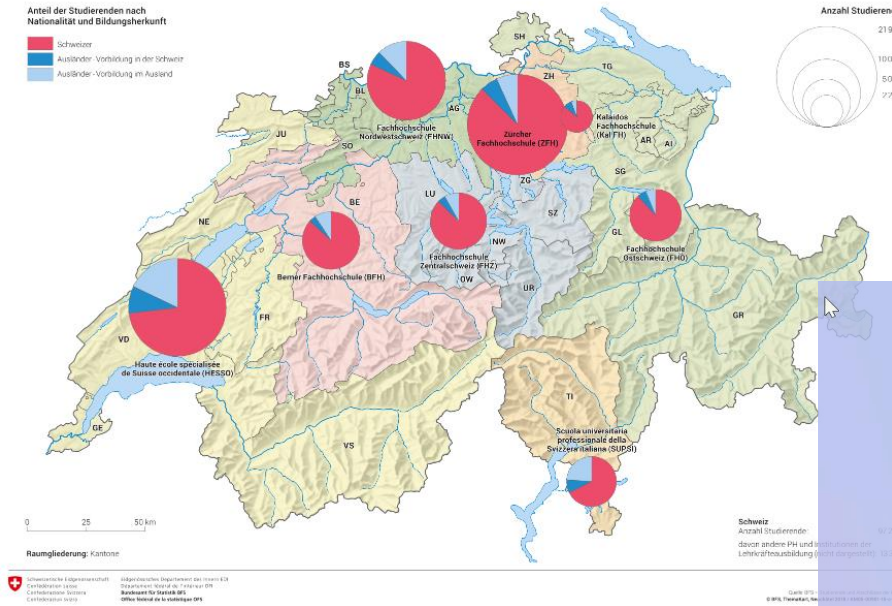
Funders and partners

Accompanying Committee

Funders

- State Secretariat for Education, Research and Innovation (SERI)
- Swiss National Science Foundation (SNSF)
- **Innosuisse**

Partners

- Euresearch
- Movetia
- swissuniversities
- Mission of Switzerland to the European Union

Stakeholders

- ETH Board
- Swiss Academies of Arts and Sciences
- Swiss Conference of Cantonal Ministers of Education (EDK)
- Swiss ERI Institutions
- Other ERI related actors

Swiss R&I actors

Lage und Grösse der Fachhochschulen in der Schweiz, 2017

08/12/2022

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Informing stakeholders

- On developments in existing projects
- On developments in running programmes
- On developments in work programmes
- On developments in EU strategic planning
- On developments in EU policy and legislation

Supporting stakeholders

- Finding partners, linking with the Commission, finding information,
- Lobbying

Promoting stakeholders

- Visibility events, networking opportunities, success-stories

Liaising for stakeholders

- Brokering in case of issues (e.g. disputes on eligibility)

EU Institutions
European Commission
European Parliament
Council of the European Union

Mission of Switzerland
to the European Union

Interest Groups
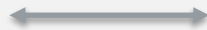European Associations
Lobby Groups
Stakeholder Advisory Groups

Interest Groups

SCIENCE EUROPE — Shaping the future of research	SNSF
eua EUROPEAN UNIVERSITY ASSOCIATION	swissuniversities
LE RU	UniGE – UniZH
The Guild of European Research-Intensive Universities	UniBE
CESAER	ETHZ – EPFL
BUSINESSEUROPE	economiesuisse
UAS4EUROPE	swissuniversities
ALLEA ALL European Academies	Académies suisses
EARTO IMPACT DELIVERED	CSEM – SIB

SwissCore
Contact Office for European Research
Innovation and Education

UAS **4** EUROPE
UNIVERSITIES OF APPLIED SCIENCES FOR EUROPE
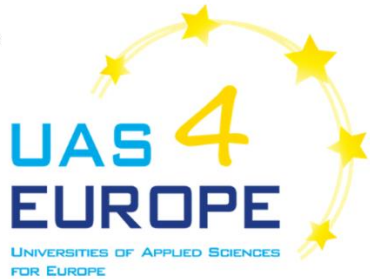
Vision:
Empowering Europe
to RISE
to global challenges

Purpose:
Strengthening and advocating for UAS as key actors
in European applied research & innovation

Mission:
We are the entry point for UAS to connect actors in applied research
and engage with European policymaking to unlock the innovation
potential of Europe's regions

Applied Research / Universities of Applied Sciences

R Regional
•UAS as engines of regional innovation ecosystems, close collaboration with regional actors

I Inclusive
•Low access barriers for talents with all backgrounds

S Sustainable
•Direct impact on achieving the SDGs through problem-oriented research

E Engagement
•UAS as the interlinkage between education, research & innovation

Our founding members

Representing all Swiss institutions of higher education, including 10 UAS

swissuniversities

Representing 600+ institutions in over 40 countries within and outside the European Higher Education Area

EURASHE

Representing 150 institutions in eight European countries through national Rectors' Confrences

UASnet | disolved since 31.12.2019

Representing the 20 Bavarian UAS

Hochschule Bayern

Representing all 21 Austrian UAS

FHK

Our current members

swissuniversities

swissuniversities

Representing all
Swiss institutions of
higher education,
including 9 public
UAS

Current Chair
June 2022-May 2024

Vereniging Hogescholen

Vereniging
Hogescholen

Representing all
36 public - funded
UAS of the
Netherlands

EURASHE

EURASHE

Representing
over 600
institutions in
European Higher
Education Area

Hochschule
Bayern e.V.

Representing
20 Bavarian
UAS

FH|K
ÖSTERREICHISCHE
FACHHOCHSCHUL
KONFERENZ

Fachhochschul-
konferenz

Representing all
21 Austrian UAS

DANSKE
PROFESSIONS-
HØJSKOLER

Danske
Professionshøjskoler

Representing all 8
UAS of Denmark

ARENE

ARENE

Representing
24 Finnish UAS

Hochschulallianz
für den Mittelstand
Anwendungsorientierte Hochschulen in Deutschland

Hochschulallianz
für den
Mittelstand

Representing
12 German UAS

HAW | BW
Hochschulen
für Angewandte Wissenschaften
Baden-Württemberg

HAW BW

Representing
24 UAS in the
region of Baden-
Württemberg

Vice-chair/ Incoming
Chair
June 2024-May 2026

Over 2,000,000 students

60,000+ research staff

More than 600 UAS
Across 24 countries

9 member associations

Organisational structure

UAS4EUROPE Governing Board

Meeting of the members' presidents.
Four times per year.
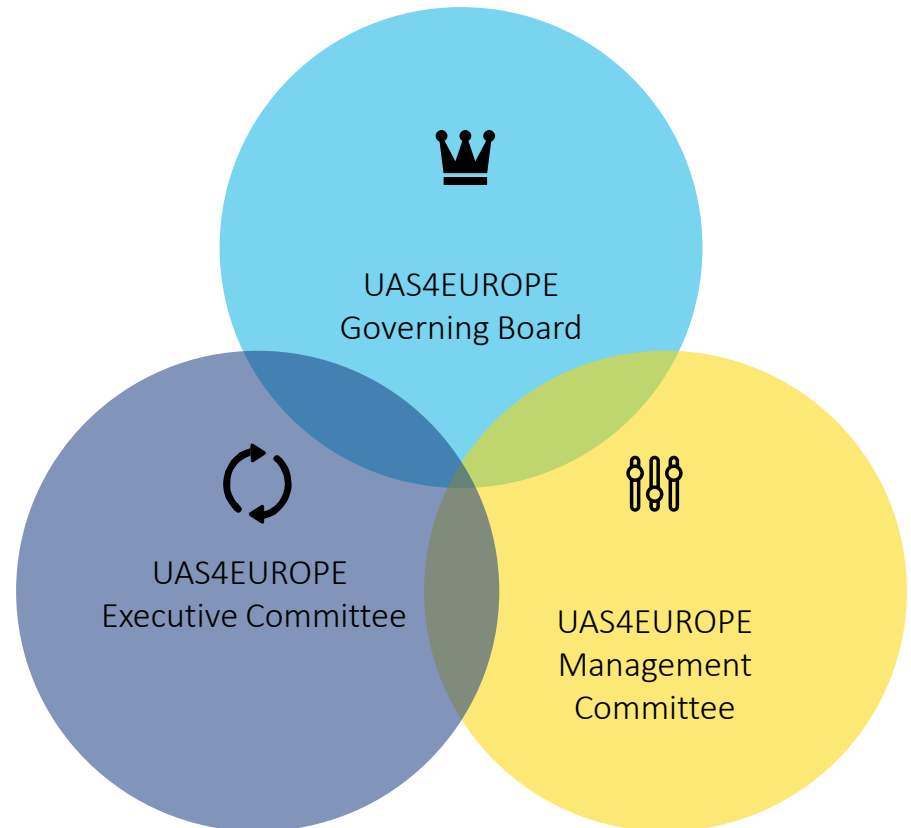Comparable to a General Assembly, all major decisions are taken by this body.

UAS4EUROPE Executive Committee

One of the members' presidents is representing UAS4EUROPE for a period of two years, assisted by a vice chair.
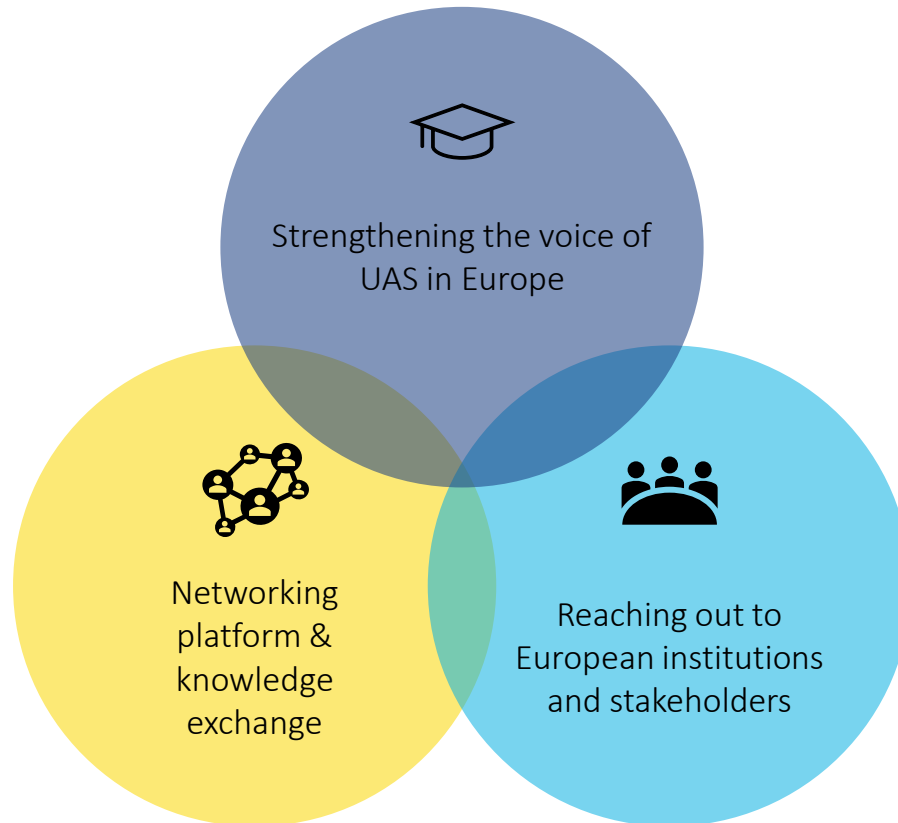*Chair: Prof. Marjolijn Brussaard (Vereniging Hogescholen)*
Vice-chair: Prof. Heidi Fagerholm (ARENE)

UAS4EUROPE Management Committee
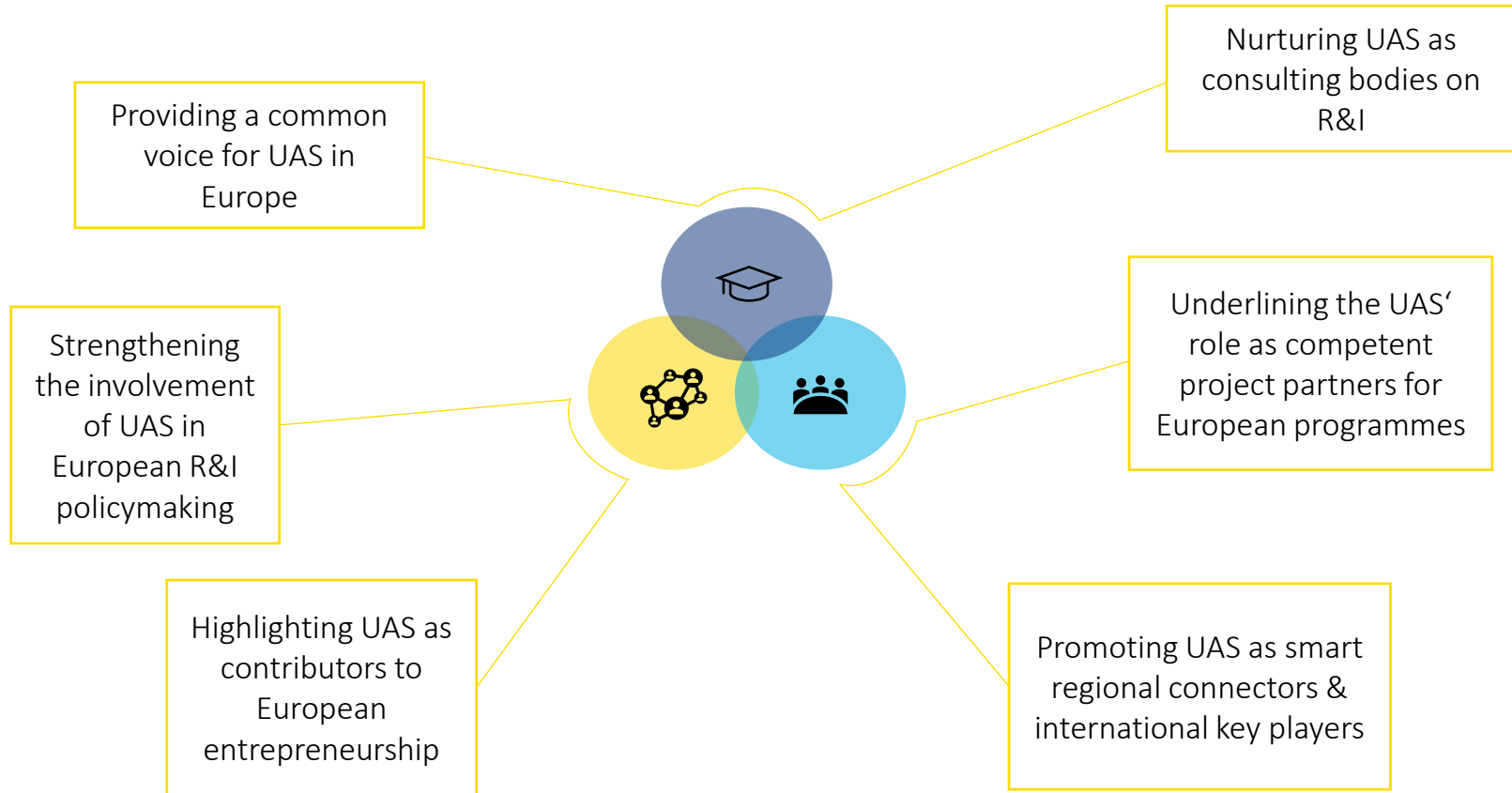
One or two persons from each member organisation are carrying out the daily operational business of UAS4EUROPE.

UAS4EUROPE
Governing Board

UAS4EUROPE
Executive Committee

UAS4EUROPE
Management
Committee

Our Actions – Promoting the UAS model

Our Goals/Objectives

Nurturing UAS as consulting bodies on R&I

Providing a common voice for UAS in Europe

Underlining the UAS' role as competent project partners for European programmes

Strengthening the involvement of UAS in European R&I policymaking

Highlighting UAS as contributors to European entrepreneurship

Promoting UAS as smart regional connectors & international key players

Strategic interests for member associations and for member UAS

Influence

- Input to policy papers

- Representation in policy-making bodies:
  ERA Forum,
  EU Council Presidency events,
  expert groups,
  consultations

Visibility

- Promoting the UAS model at EU level

- Promoting UAS best practices at EU level

Network

- Connecting to other actors in applied research
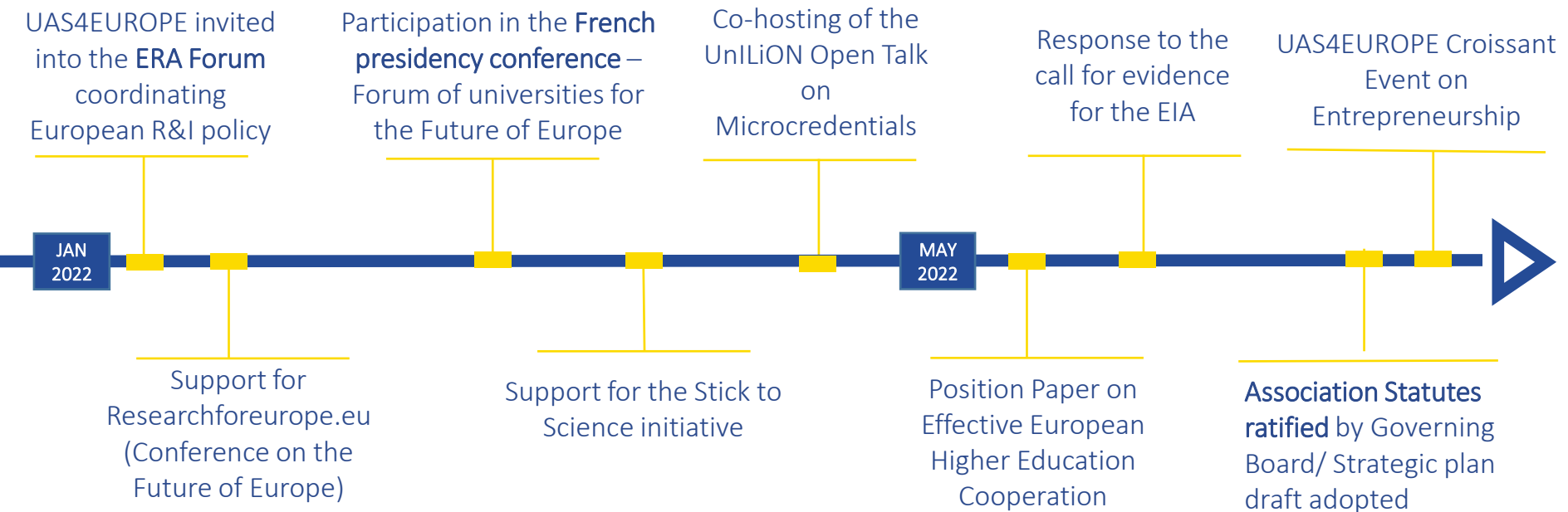
- Connecting to EU policy-makers

Swissuniversities presidency activities

Support of the Open Letter on the participation of Switzerland in HEU

Publication of the Conference Report of the UAS4EUROPE Networking Conference (05/21)

Participation on the AESIS conference on access to EU research funding

Launch of the UAS4EUROPE Newsletter

Innovation expert group meeting with Fabienne Gauter, EISMEA

JUNE 2021

DEC 2021

Establishment of the innovation expert group

Drafting of the Innovation Action Plan & EIA Launch Event

Participation and video message for the ERA conference of the Slovenian Council presidency

Publication of the SDG Survey

Swissuniversities presidency report of activities

UAS4EUROPE invited into the **ERA Forum** coordinating European R&I policy

Participation in the **French presidency conference** – Forum of universities for the Future of Europe

Co-hosting of the UnILiON Open Talk on Microcredentials

Response to the call for evidence for the EIA

UAS4EUROPE Croissant Event on Entrepreneurship

JAN 2022

MAY 2022

Support for Researchforeurope.eu (Conference on the Future of Europe)

Support for the Stick to Science initiative

Position Paper on Effective European Higher Education Cooperation

Association Statutes ratified by Governing Board/ Strategic plan draft adopted

Swissuniversities presidency report of activities

A UAS'ers guide to building innovation ecosystems

How to join Universities of Applied Sciences in democratizing entrepreneurship across Europe

UAS4EUROPE innovation expert group convenes on EIA

UAS4EUROPE nominated to represent University sector in ERA Forum on tech-transfer and deployment

UAS4EUROPE engages with European University Alliances

Response to the EIA published

UAS4EUROPE Networking event

June 2022

January 2023

Preparation of input on EIA

UAS4EUROPE joins the Coalition for Research Assessment Reform

Strategic partnership with European Regions R&I Network

Association Status finalized

5) ERA Forum

- **Remark by the Secretariat:** It is very important for us to be vocal in the sector of higher education institutions because:

  - UAS4EUROPE is the only network representing applied research interests only

  - ERA Forum is the exchange platform between EC, MS and stakeholders with the objective to serve as the implementation vehicle for the ERA

  - Precedent for future expert group invites

- **Next steps:**

  - UAS4EUROPE nominated to represent University Sector for subgroups developing knowledge valorisation activities and technology deployment activities

UAS4EUROPE General Assembly

Pre-Lisbon Lobbying

Post-Lisbon Lobbying

Upstream Phase

Ordinar

Comito

Lobbying is not about you but about understanding what is in it for the other

Drafting phase : a foggy power

100 %

DG working in isolation

80% first reading agreement

Second reading & concilation very rare

Secondary legislation: a case by case approach

Curve of Influence

0 %

Drafting   First Reading   Second Reading   Conciliation   Comitology

?
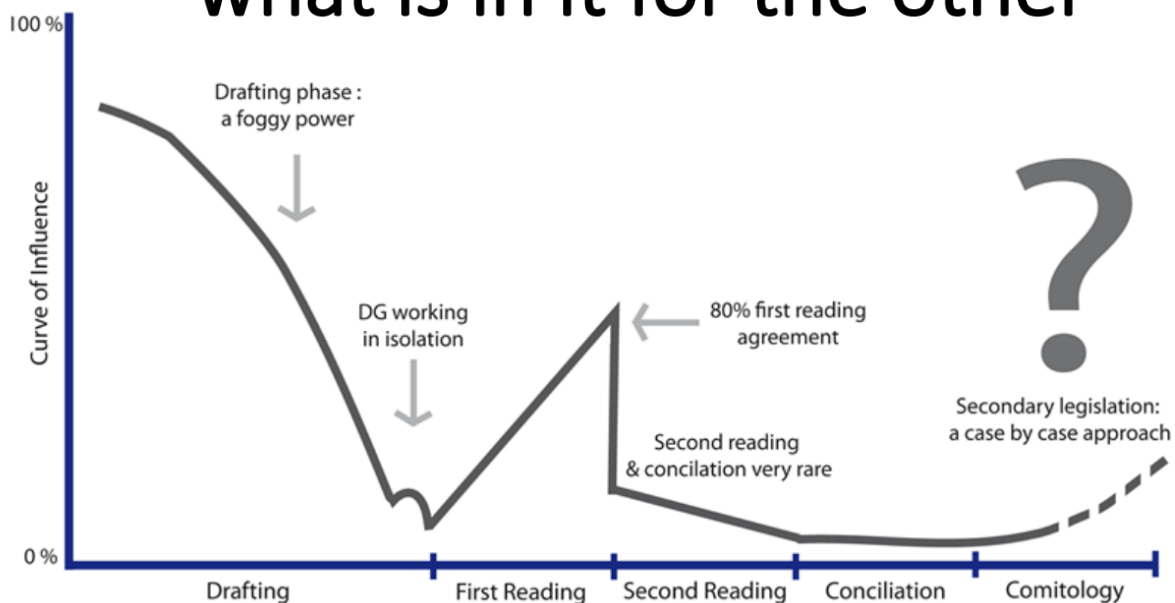
Influence strategy
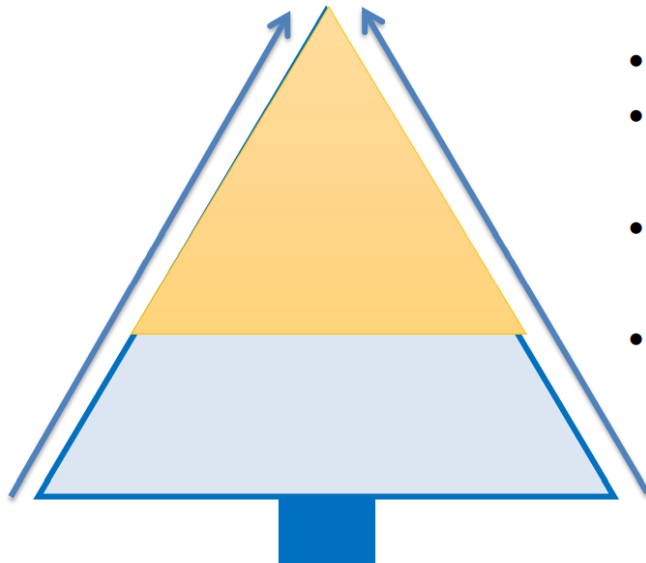
- Working with experts
- Intervention at a very early stage
- Still possible to modify proposals
- Intervention is based on expertise

➤ **Position paper**

➤ **Draft amendment**

➤ **Face-to-face contact**

➤ **Round-table (transversal dialogue)**

➤ **Press releases**

➤ **Press conferences/events**

➡ **CONCENTRATING ACTION ON 1 PRIORITY**

➡ **WORK VIA AN APPROPRIATE VEHICLE**

➡ **TRY TO CONVINCE IN A PROACTIVE SPIRIT**

➡ **CREDIBILITY IS THE MOST PRECIOUS GOOD**

➡ **DO NOT UNDERESTIMATE THE IMPORTANCE OF COMMUNICATION**

Formal processes:

- Internal discussion in COM

- Discussion with Advisory Groups

- Hearings of European Technology Platforms ETP's

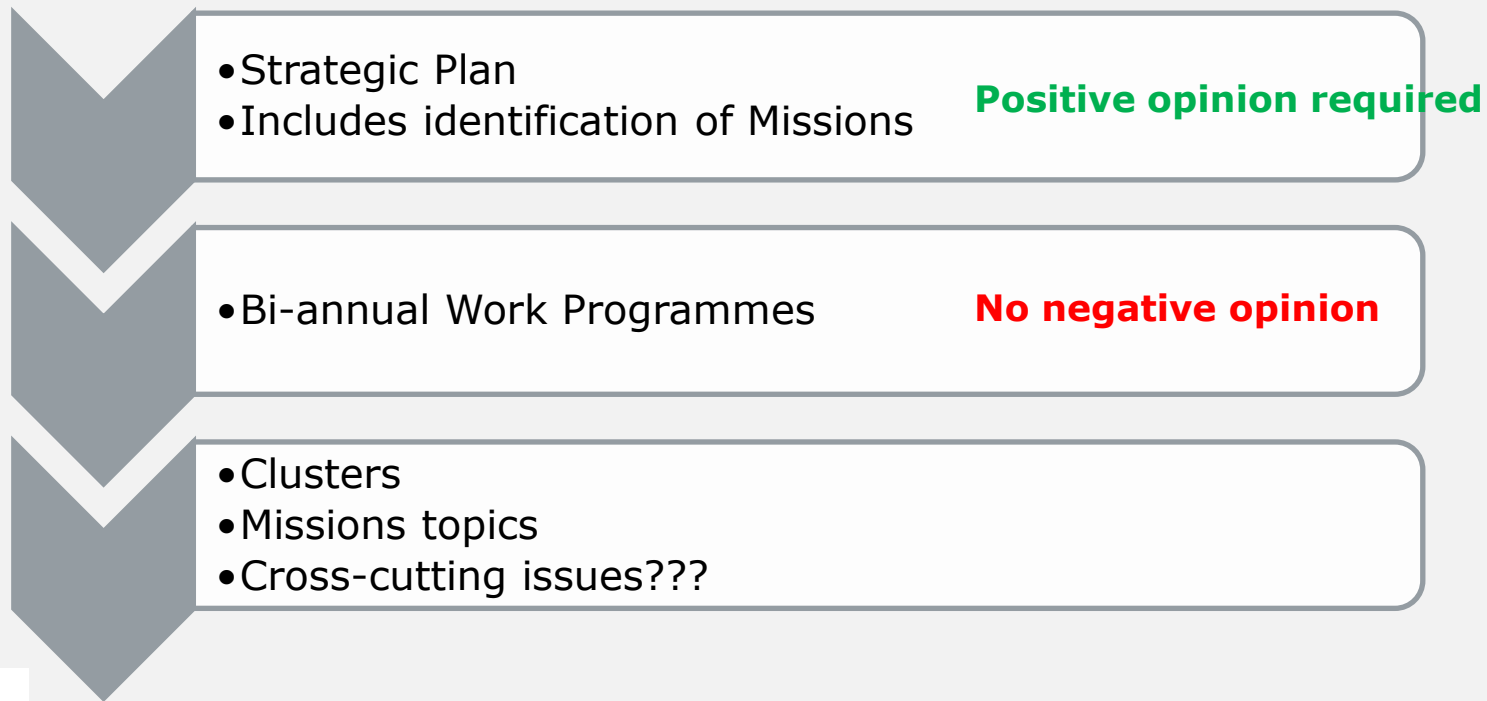- Public / Stakeholder consultations

EXPERT GROUPS

Co-Creation

Co-Design

Informal processes:

- Bilateral contacts

- Conferences, workshops etc.

- Current events

- Strategic Plan
- Includes identification of Missions

Positive opinion required

- Bi-annual Work Programmes

No negative opinion

- Clusters
- Missions topics
- Cross-cutting issues???

Scoping paper

Pre-draft

Non-paper

Orientation paper

Issues paper

Destinations orientation...

COM discusses scoping paper with MS

Typically 3-4 meetings with MS and associated countries
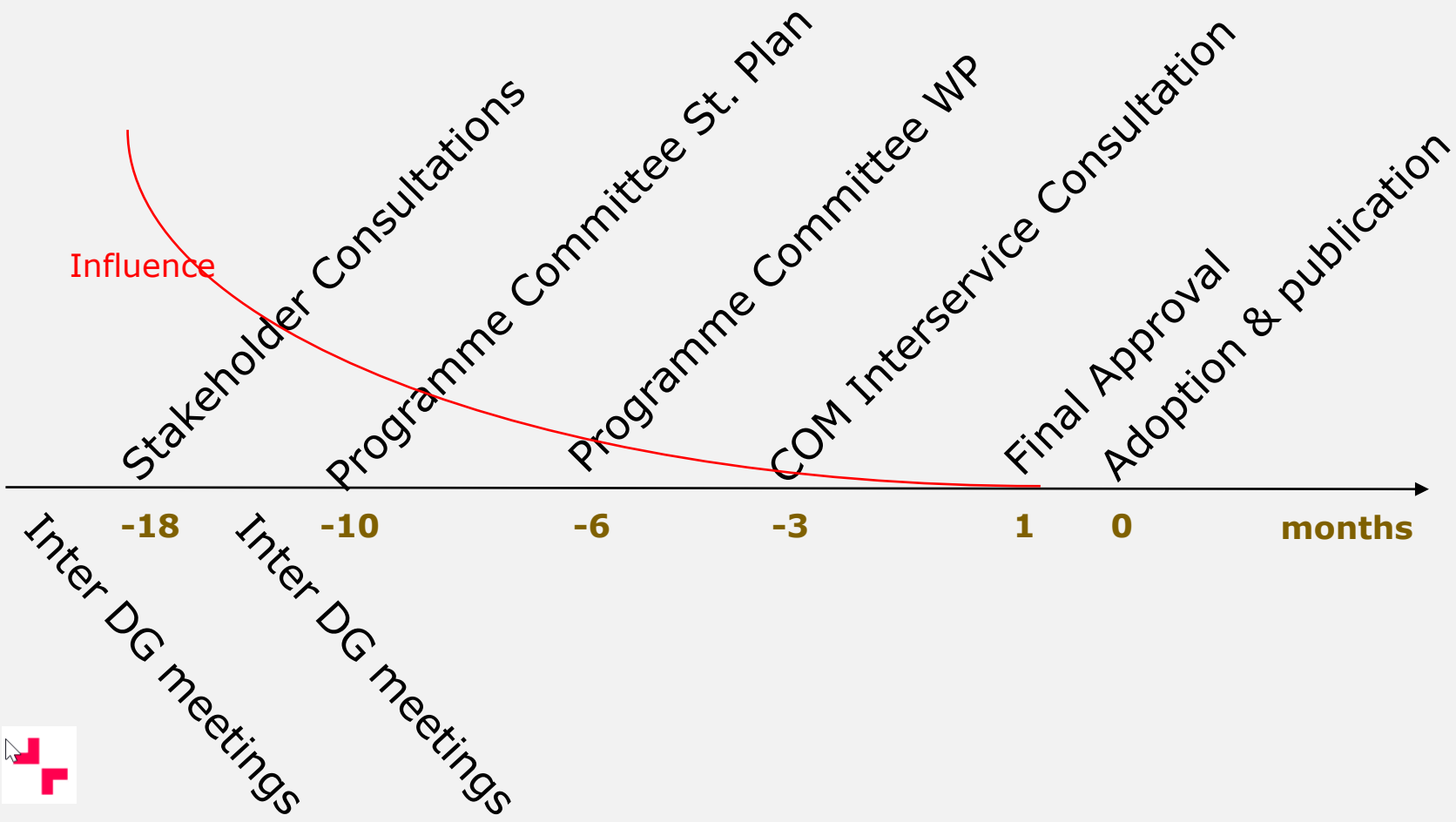
Associated countries are observers with right to speak in PC's

COM must seek opinion of MS

Traditionally consensus sought, but now always

Influence

Stakeholder Consultations

Programme Committee St. Plan

Programme Committee WP

COM Interservice Consultation

Final Approval

Adoption & publication

Inter DG meetings

Inter DG meetings

-18   -10   -6   -3   1   0   months

Tools:
- COST actions
- EIT KICs
- Sectoral Associations
- IGLO offices
- NCP networks
- Enterprise Europe Network
- EDIHs
- European University Initiative
- Eureka Network (or Eurostars)
- Strategic Coordination and Support Actions

ERA

Green Deal / Just Transition

Resilience

Re-power EU

Strategic Autonomy

Council and European Parliament

Skills
- ICT Specialists: 20 million + Gender convergence
- Basic Digital Skills: min 80% of population

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

Secure and sustainable digital infrastructures
- Connectivity: Gigabit for everyone, 5G everywhere
- 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

Digitalisation of public services
- Key Public Services: 100% online
- e-Health: 100% of citizens having access to medical records
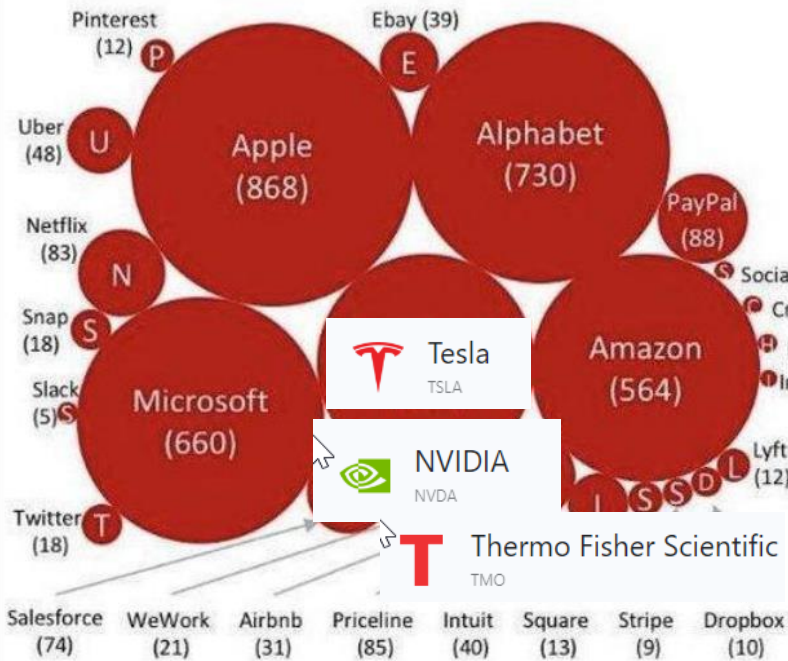- Digital Identity: 80% of citizens using digital ID

Die Unwucht der Plattform-Ökonomie

Die 60 wertvollsten Plattformen der Welt (Mrd. Dollar (Börsenwert; jüngste Finanzierung / Stand 31. Dezember 2017))
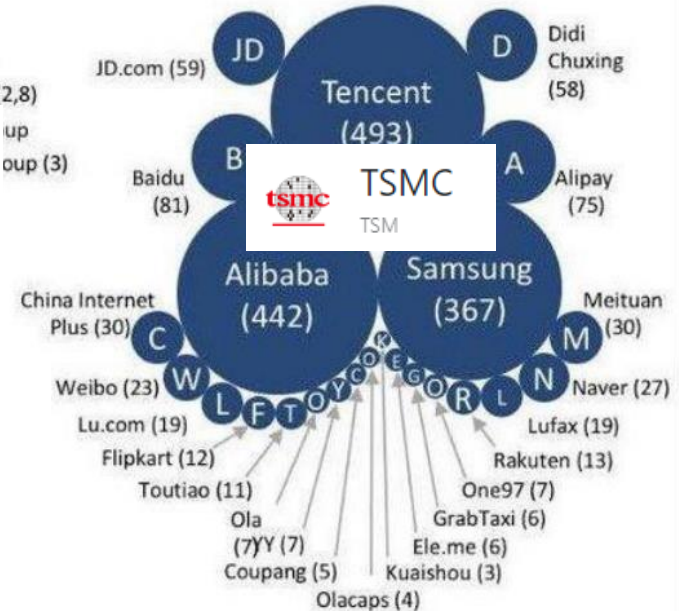
USA
(Anteil: 64% (2015: 67%))

Pinterest (12) P
Ebay (39) E
Uber (48) U
Apple (868)
Alphabet (730)
Netflix (83) N
PayPal (88)
Snap (18) S
Social Finance (4)
Credit Karma (4)
Houzz (4)
Instacart (3)
Slack (5) S
Microsoft (660)
Amazon (564)
Twitter (18) T
Lyft (12)
Salesforce (74) WeWork (21) Airbnb (31) Priceline (85) Intuit (40) Square (13) Stripe (9) Dropbox (10)

Tesla — TSLA
NVIDIA — NVDA
Thermo Fisher Scientific — TMO

Europa
(Anteil: 3% (2015: 3%))

Spotify (16)
Zalando (11) Z
SAP (137)
Auto1 Group (2,8)
ASML — ASML
Scout24 (4)
Hero (6)

Afrika
(Anteil: 2% (2015: 2%))

Naspers (120) N

Asien
(Anteil: 31% (2015: 28%))

JD.com (59) JD
Tencent (493)
Didi Chuxing (58) D
Baidu (81)
TSMC — TSM
Alipay (75) A
China Internet Plus (30) C
Alibaba (442)
Samsung (367)
Meituan (30) M
Weibo (23)
Naver (27) N
Lu.com (19)
Lufax (19)
Flipkart (12)
Rakuten (13)
Toutiao (11)
One97 (7)
Ola (7) YY (7)
GrabTaxi (6)
Ele.me (6)
Coupang (5)
Kuaishou (3)
Olacaps (4)

Quelle: Netzoekonom.de / Idee: Peter Evans

Dr. Holger Schmidt | Netzoekonom.de | Handelsblatt | TU Darmstadt | Ecodynamics.io | Platformeconomy.com

What are European Universities? European Universities are highly ambitious transnational alliances of higher education institutions developing long-term institutional structural and strategic cooperation, based on common values and agreed principles, and aiming to achieve sustainability of their cooperation. The European Universities initiative responds to a **long-term vision that has the potential to transform the institutional cooperation between higher education institutions and bring it to the next level.**

The Commission has co-created the European Universities initiative with Member States and stakeholders as of 2018 and launched under Erasmus+ *three calls for proposals in 2019, 2020 and 2022*. Currently, *44 European Universities* have been selected and are up and running collectively involving *340 higher education institutions* of various sizes and types located across Europe.

→ **Confirmation of the European Universities' concept**

→ **Role models for European higher education transformation**

→ **Balance between inclusion and excellence**

→ **Synergies education and R&I at the service of society**

→ **Geographical balance**

→ **Diversity of higher education institutions**

→ **Subsidiarity, institutional autonomy, academic freedom**

→ **Sustainable funding for the European Universities**

Deep level of inter-university cooperation with a joint long-term strategy

Structural, Systemic and Sustainable impact

- ➢ Promote **European values** and strengthen **European identity**
- ➢ Improve **quality, performance, attractiveness** and **international competitiveness**
- ➢ **Institutionalised cooperation** with **systemic, structural** and **sustainable impact**
- ➢ **Whole-institution** approach
- ➢ **Mobilise all missions** of higher education institutions
- ➢ Deliver on **EEA, ERA and EHEA** objectives
- ➢ Act as **role models**

Cities and regional development

Social sciences

European identity

Global Health

Active citizenship

Culture

Digital transformation

Migration

Multilingualism

Fine arts

Climate change

UN SDGs

Sustainable Blue Growth

Space

Biodiversity

Energy and transport

Circular economy

European Innovation Agenda

Improved access to finance

Increased use of regulatory sandboxes

Strengthening Europe's innovation ecosystems

Attracting deep tech talent

Improved policy support

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37

European research area (ERA)

The European Research Area (ERA), ERAvCorona action plan, recommendations to EU countries in the European Semester, timeline to revitalise ERA, news

PAGE CONTENTS

What is ERA?

Commission's plan for a new ERA based on excellence

ERA in the regions

ERAvsCorona action plan

Recommendations to EU countries

ERA progress reports

Revitalising ERA: timeline

Documents

Factsheets

Latest

Events

What is ERA?

The European Research Area (ERA) is the ambition to create a single, borderless market for research, innovation and technology across the EU.

It helps countries be more effective together, by strongly aligning their research policies and programmes. The free circulation of researchers and knowledge enables

- better cross-border cooperation
- building of critical mass
- continent-wide competition

ERA was launched in 2000 and a process to revitalise it began in 2018.

DEVELOP
NEW SKILLS

Thank you.

🌐 www.SwissCore.org

✉ infodesk@SwissCore.org

🐦 @SwissCore

Towards Horizon Europe.

19.03. Provisional Agreement on Horizon Europe

New European Parliament and New Commission College

Identification of Missions and Assessment of proposed partnerships

Agreement on Budget

Adoption of Work Programmes

Strategic Planning

Negotiations Multiannual Financial Framework

2019

2020

2021

March

Summer-Fall

November

Autumn

End

Horizon 2020

Horizon Europe

Towards Horizon Europe.

EU digital strategy

2030 Digital Compass

Coordinated Plan on Artificial Intelligence

Identification of Missions and Assessment of proposed partnerships

Agreement on Budget

Adoption of Work Programmes

Orientations for 2023-24

Pact for R&I

New European Research Area

Knowledge valorisation

2020

2020

2021

February

March

November

Autumn

End

Horizon 2020

Horizon Europe

Open Science:

- Results shall be published by default in open access journals

- Stronger open data policy

Partnerships & Missions:

- Rationalisation of partnership landscape

- Mission-based approach to increase outreach to citizens

Support for disruptive innovation through all stages including scaling up

- New unified institution for disruptive innovation: European Innovation Council

- Cornerstone equity investments by EIC Fund managed by EIB in addition to grant of up to €2.5m

Horizon Europe (2021-2027).

Pillar I	Pillar II	Pillar III
Excellent Science €25.8 bn	**Global Challenges and European Industrial Competitiveness** €52.7 bn	**Innovative Europe** €13.5 bn

Pillar I — Excellent Science

European Research Council €16.6 bn

Marie Skłodowska-Curie Actions €6.8 bn

Research Infra-structures €2.4 bn

Pillar II — Global Challenges and European Industrial Competitiveness

Civil Security for Society

Culture, Creativity and Inclusive Society

Digital, Industry and Space

Health

Climate, Energy and Mobility

Food, Bioeconomy, Natural Resources, Agriculture and Environment

Joint Research Centre

Pillar III — Innovative Europe

European Innovation Council €10 bn

European Institute of Innovation and Technology €3 bn

European Innovation Ecosystems €0.5 bn

Widening Participation and Strengthening the European Research Area

Widening Participation and Spreading Excellence at least 3.3%

Reforming and Enhancing the European R&I-System €0.4 bn

European Research Council

Marie Skłodowska-Curie Actions (MSCA)

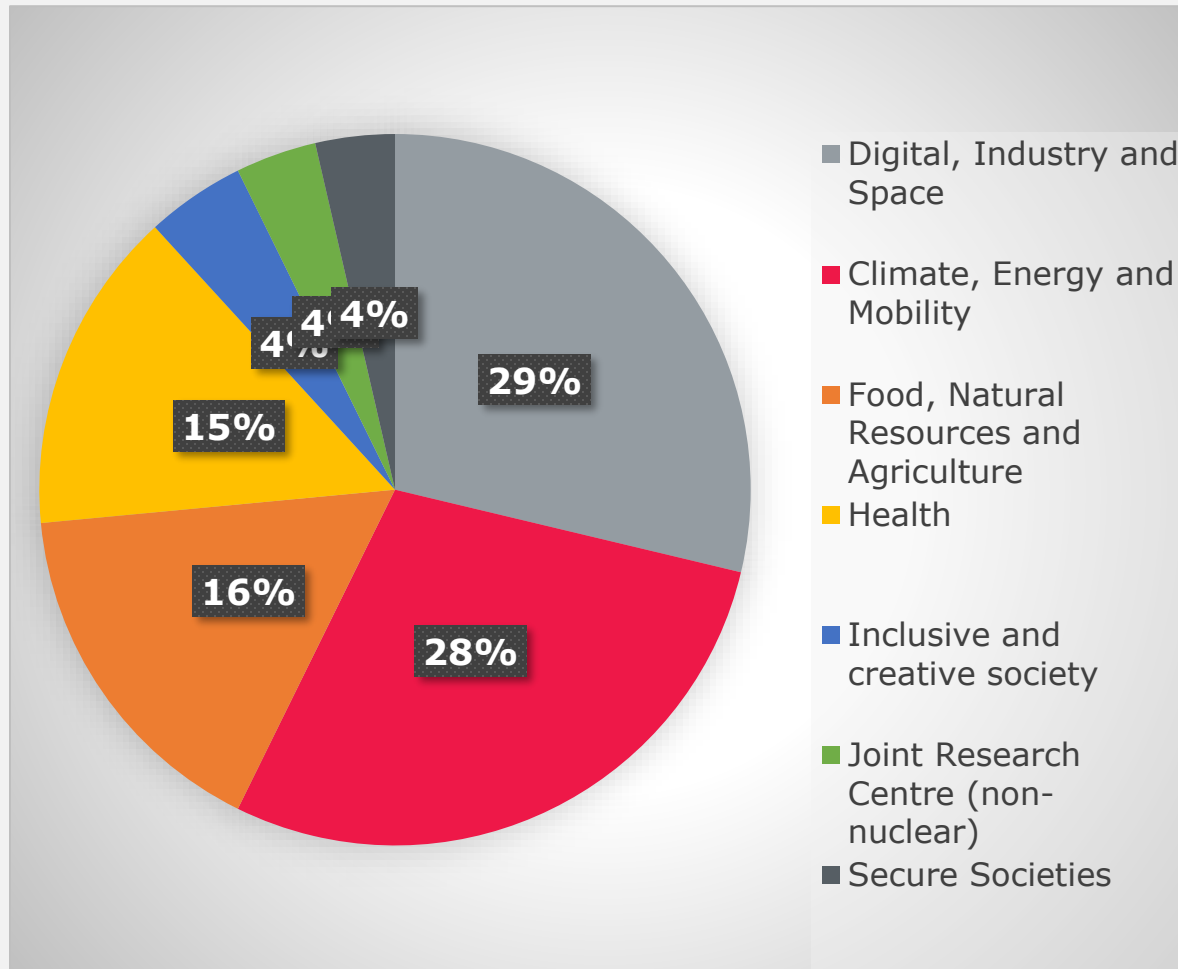Research Infrastructures

Horizon Europe (2021-2027) Budget Division.

Pillar I

Excellent Science
€25.8 bn

European Research Council
€16.6 bn

Research Infra-structures
€2.4 bn

Marie Skłodowska-Curie Actions
€6.8 bn

Pillar II

Traditionally programmed calls for projects
At least 40 %

Partnerships
Up to 50%

Missions
up to 10%

Pillar III

Innovative Europe
€13.5 bn

European Innovation Council
€10.5 bn

European Institute of Innovation and Technology
€3 bn

European Innovation Ecosystems
€0.5 bn

Widening Participation and Strengthening the European Research Area

Widening Participation and Spreading Excellence
at least 3.3%

Reforming and Enhancing the European R&I-System
€0.4 bn

Global Challenges & European Industrial Competitiveness

Clusters	Areas of Intervention (Implemented through usual calls, missions & partnerships)
Health	Health throughout the life course; Environmental and social health determinants; Non-communicable and rare diseases; Infectious diseases, including poverty-related and neglected diseases; Tools, technologies and digital solutions for health and care, including personalised medicine; Health care systems.
Culture, creativity and inclusive society	Democracy and governance; Culture, cultural heritage and creativity; Social and economic transformations.
Civil Security for Society	Disaster-resilient societies; Protection and security; Cybersecurity.
Digital, Industry and Space	Manufacturing technologies; Key digital technologies, including quantum technologies; Emerging enabling technologies; Advanced materials; Artificial intelligence and robotics; Next generation internet; Advanced computing and Big Data; Circular industries; Low carbon and clean industries; Space, including earth observation.
Climate, Energy and Mobility	Climate science and solutions; Energy supply; Energy systems and grids; Buildings and industrial facilities in energy transition; Communities and cities; Industrial competitiveness in transport; clean, safe and accessible transport and mobility; Smart mobility; Energy storage.
Food, Bioeconomy, Natural Resources, Agriculture and Environment	Environmental observation; Biodiversity and natural resources; Agriculture, forestry and rural areas; Seas, oceans and inland waters; Food systems; Bio-based innovation systems in the EU bioeconomy; Circular systems.
Joint Research Centre	support to the functioning of the internal market and the economic governance of the Union; support to Member States with implementation of legislation and development of smart specialisation strategies; analytical tools and methods for policy making; knowledge management; knowledge and technology transfer; support to science for policy platforms.

Pie chart legend:
- Digital, Industry and Space — 29%
- Climate, Energy and Mobility — 28%
- Food, Natural Resources and Agriculture — 16%
- Health — 15%
- Inclusive and creative society — 4%
- Joint Research Centre (non-nuclear) — 4%
- Secure Societies — 4%

SwissCore
Contact Office for European Research
Innovation and Education

R&I Missions

Connecting to citizens: Missions will relate EU's research and innovation to society and citizens' needs, with strong visibility and impact

A mission will consist of a portfolio of actions intended to achieve a bold and inspirational as well as measurable goal within a set timeframe, with impact for science and technology, society and citizens that goes beyond individual actions.

Horizon Europe proposal defines mission characteristics and criteria

Specific missions will be co-designed with Member States, stakeholders and citizens and programmed within the Global Challenges and Industrial Competitiveness pillar (drawing on inputs from other pillars)

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1. Adaptation to Climate Change including Societal Transformation

2. Cancer

3. Healthy Oceans, Seas, Coastal and Inland Waters

4. Climate-Neutral and Smart Cities

5. Soil Health and Food

- **Mission boards**: 15 prominent experts charged with the proposition of concrete candidate missions until end 2019 (members announced on 30 July).

- **Mission assemblies:** up to 30 experts per area to support the work of the mission boards, support citizens engagement work and receive targeted questions. One meeting with mission boards in January 2020.

- **Experts from member states:** nominated by Shadow Programme Committee Strategic Configuration, 1 expert per country per mission area (involvement of member states and decision making on proposed missions with European Commission)

Implementation and Synergies

- **Coordination with national programmes, regional programmes**

  - CSAs within each mission area to elaborate coordination

  - CSAs cross-cutting to look at mission governance overall

  - Work packages on sharing best practices, coordinating with authorities and engaging stakeholders

- Conclusion in 2023: How to implement governance.

New generation of objective-driven and more ambitious partnerships in support of agreed EU policy objectives

Key features

- **Simple architecture and toolbox**
- **Coherent life-cycle approach**
- **Strategic orientation**

Co-programmed	**Co-funded**	**Institutionalised**
Based on Memoranda of Understanding/ contractual arrangements; implemented independently by the partners and by Horizon Europe through open calls	Based on a single joint programme agreed by partners; commitment of partners for financial and in-kind contributions & financial contribution by HEU, can go beyond HEU funds	Based on long-term dimension and need for high integration; partnerships based on Articles 185 / 187 of TFEU and the EIT-Regulation supported by Horizon Europe

Areas for Institutionalised Partnerships.

Health Innovations

Key digital and enabling technologies

Metrology

EU air traffic, aviation and rail

Areas for possible institutionalised partnerships (Art. 185/7)

Sustainable bio-based solutions

Hydrogen and sustainable energy storage

Clean and connected mobility

Innovative SMEs
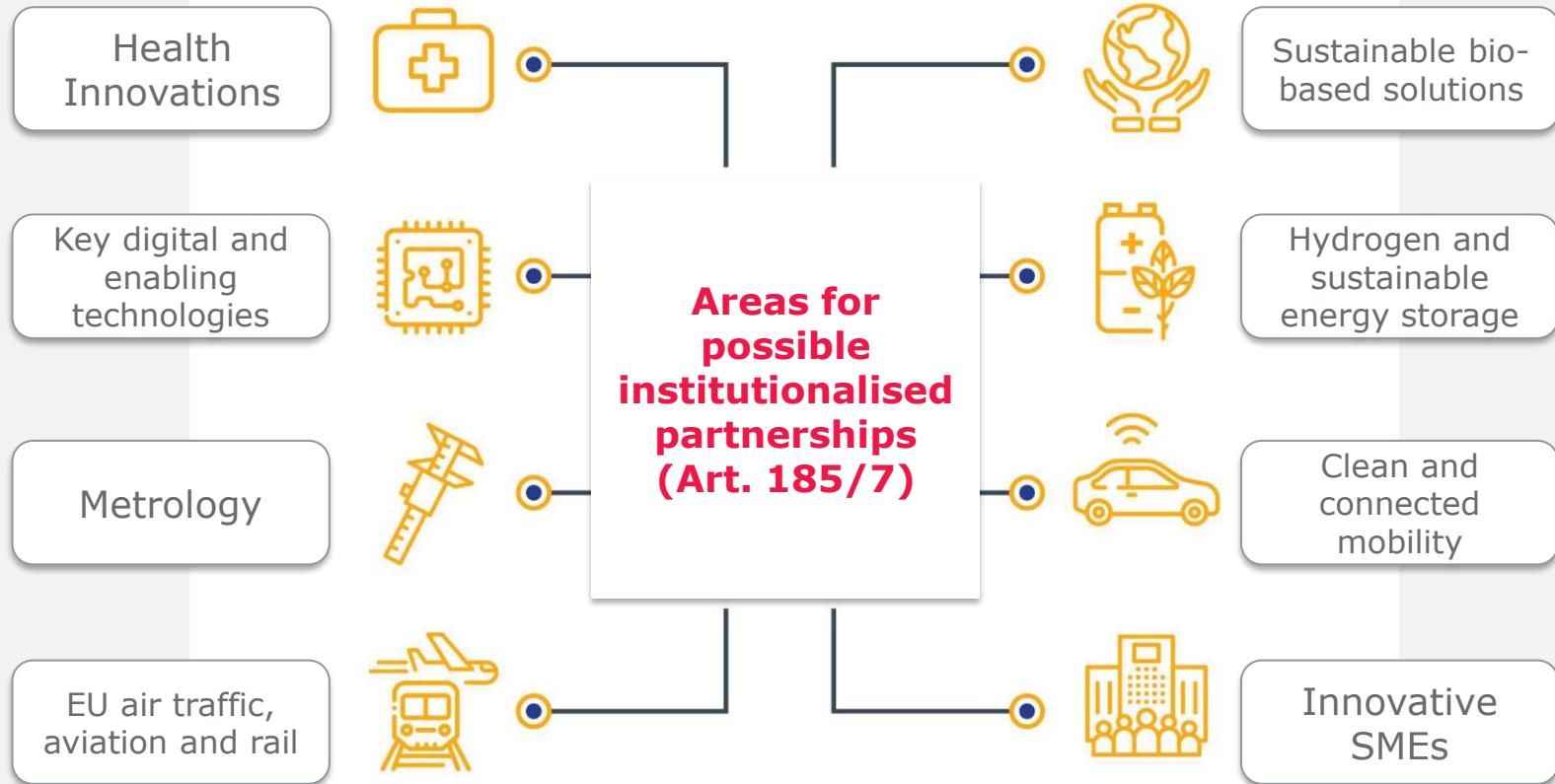
Horizon Europe (2021-2027).

Pillar I

Excellent Science
€25.8 bn

European Research Council
€16.6 bn

Marie Skłodowska-Curie Actions
€6.8 bn

Research Infra-structures
€2.4 bn

Pillar II

Global Challenges and European Industrial Competitiveness
€52.7 bn

Civil Security for Society

Culture, Creativity and Inclusive Society

Digital, Industry and Space

Joint Research Centre

Health

Climate, Energy and Mobility

Food, Bioeconomy, Natural Resources, Agriculture and Environment

Pillar III

Innovative Europe
€13.5 bn

European Innovation Council
€10.5 bn

European Institute of Innovation and Technology
€3 bn

European Innovation Ecosystems
€0.5 bn

Widening Participation and Strengthening the European Research Area

Widening Participation and Spreading Excellence
at least 3.3%

Reforming and Enhancing the European R&I-System
€0.4 bn
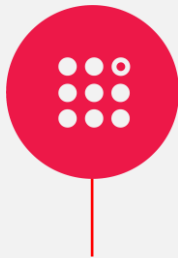
Innovative Europe.

European Innovation Council (EIC)
- **The Pathfinder**: Funding for early stage development (both monobeneficiary and consortia)
- **The Accelerator**: grants and equity for scale-ups (mono-beneficiary)
- Additional activities of the EIC (fellowships, prizes)

European Innovation Ecosystems
- EIC Forum of innovation agencies
- Co-fund activities
- Eureka Eurostars
- Sharing best practices
- Citizen and gender science
- Supporting international cooperation
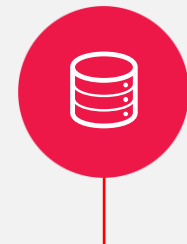
EIT
- Sustainable innovation ecosystems across Europe
- Entrepreneurial and innovation skills in a LLL perspective and the entrepreneurial transformation of EU universities
- New solutions to the market
- New additional KICs including one on cultural and creative industries (due to start 2022)

European Innovation Council.

The Pathfinder: €3bn

- Supporting researchers, innovators and innovative companies with ideas relating to future and emerging breakthrough technologies
- From proof of concept to prototypes for technology validation
- Programme managers
- Business acceleration services
- Transition activities

The Accelerator: €7bn

- Grants and Equity funding for scaling up disruptive innovation
- From TRL 6 to 9
- Grant-only funding will be available (€3bn earmarked)
- Equity-only funding will be available for companies who have already received grants (eg. SME instrument)
- Candidates for equity will undergo "market test" to crowd in private capital.

Swiss success stories in the current pilot of the European Innovation Council:

2018: Swiss companies constitute 93 of the 1350 beneficiaries of SME instrument phase 1
(€ 50'000 award for feasibility study)

- **6.8% of total SME phase 1 beneficiaries**

2018: Swiss companies constitute 2 of the 5 EU Innovation Radar prize winners

2019: Swiss companies constitute 9 Of 137 final interviewees of SME instrument phase 2
(late stage development grants €500k - € 2.5 m) in February and 12 of 174 finalists in May.

- **6.9% of total SME phase 2 and growing**
  (interview stage)

The Accelerator: €7bn

- Grants and Equity funding for scaling up disruptive innovation
- From TRL 6 to 9
- Grant-only funding will be available (€3bn earmarked)
- Equity-only funding will be available for companies who have already received grants (eg. SME instrument)
- Candidates for equity will undergo "market test" to crowd in private capital.

The Digital Europe Programme (DEP)

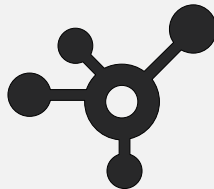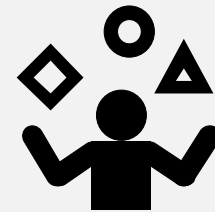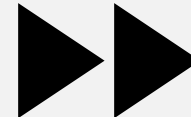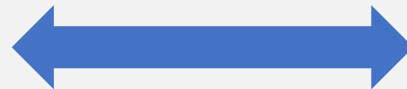## General Objective of the Programme:

- "To support the digital transformation of industry and to foster better exploitation of the industrial potential of policies of innovation, research and technological development, for the benefit of businesses and citizens all over the Union, structured into five specific objectives"
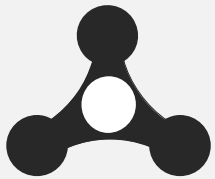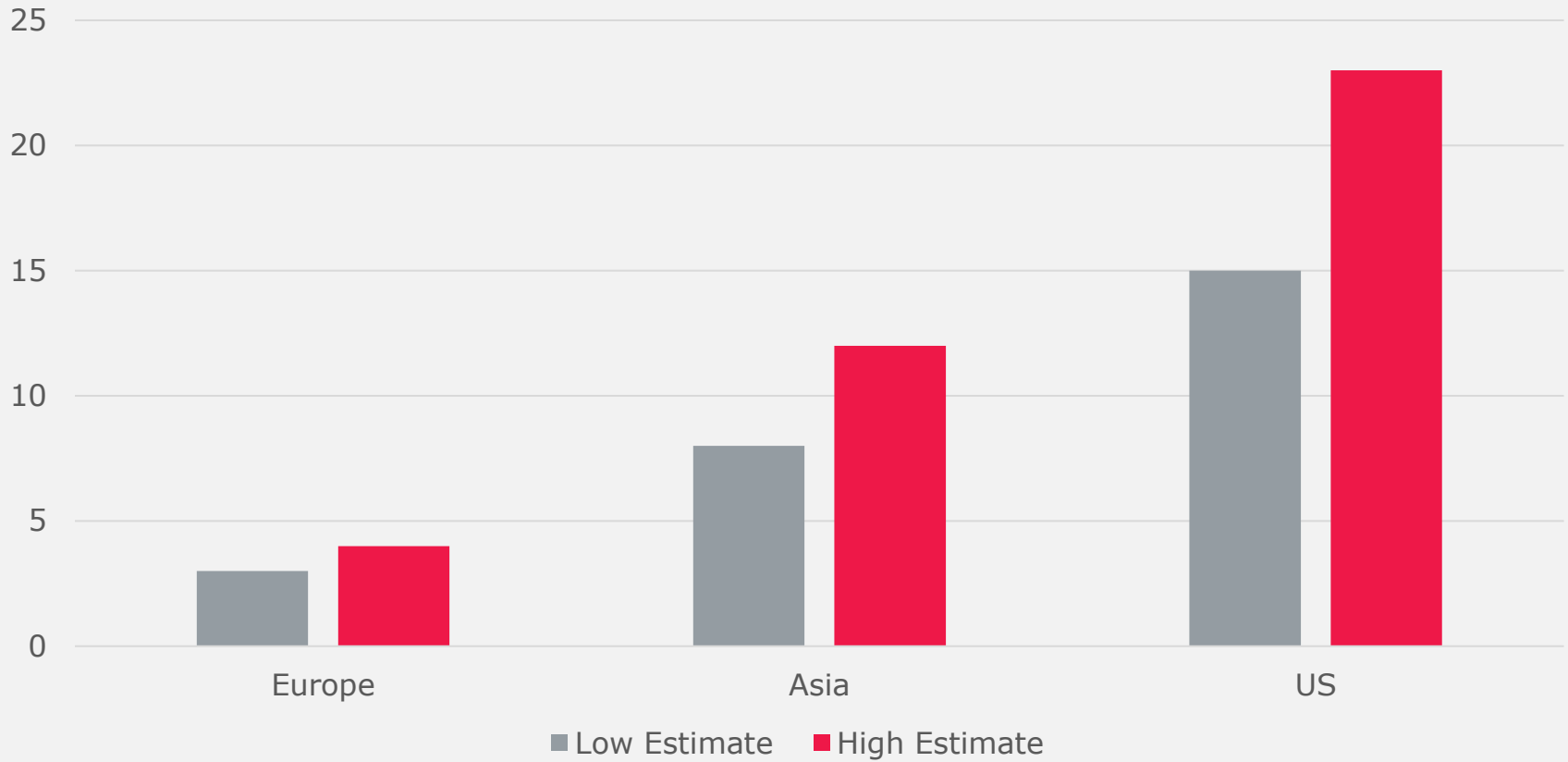
CEF

Horizon 2020

Current Programming Gap

One among top 10 priorities, 30 legislative initiatives since 2015

- Facilitate access for consumers and businesses to digital goods and services;

- Create a level playing field across Europe to create the right framework conditions to stimulate innovation;

- Maximise the growth potential of the digital economy.

Investment in AI (2016).

Bar chart titled "Investment in AI (2016)." comparing Low Estimate (grey) and High Estimate (red) by region:

Region	Low Estimate	High Estimate
Europe	3	4
Asia	8	12
US	15	23

Legend: ■ Low Estimate ■ High Estimate

>35% of top-cited publications
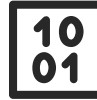
pioneering in fields like AI, 5G

digital divide across the EU

striking investment gap

low uptake of digital technologies in public sector

low private investment in R&D (especially in ICT sector)

low digitisation of companies
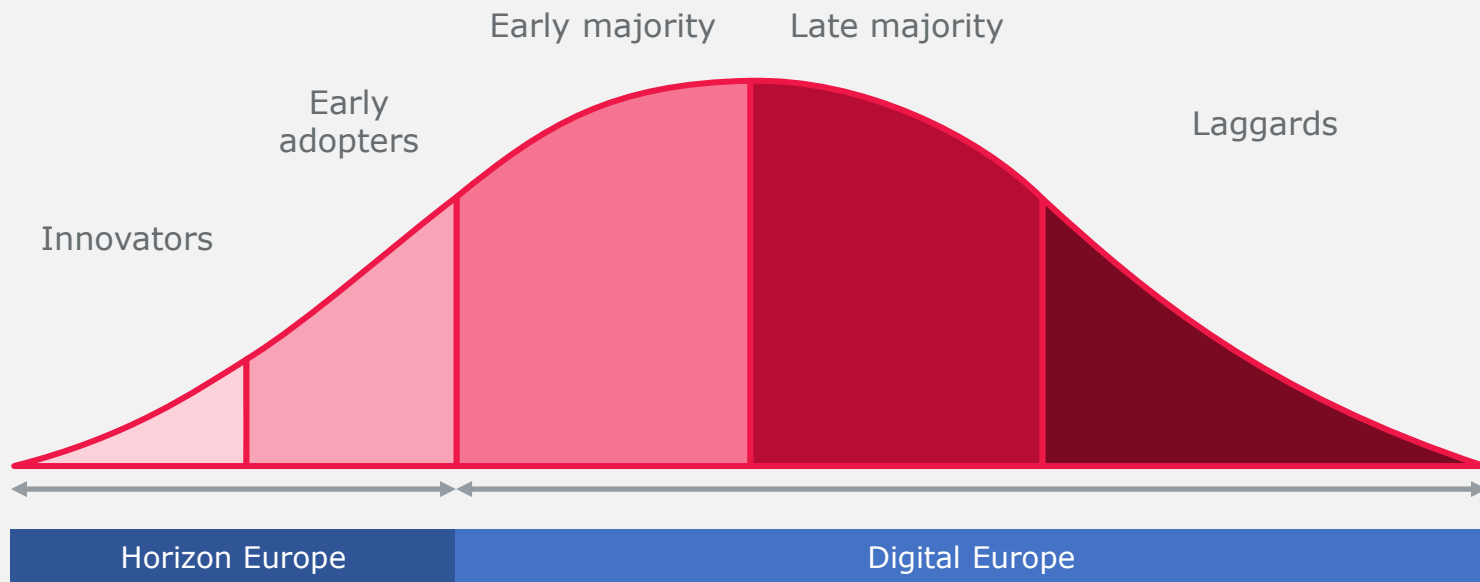
pronounced skills gap

The five specific objectives.

10
01

Specific Objective 5
Deployment, Best Use of Digital Capacities and Interoperability

| Specific Objective 1 **High Performance Computing** |
| Specific Objective 2 **Artificial Intelligence** |
| Specific Objective 3 **Cybersecurity** |
| Specific Objective 4 **Advanced Digital Skills** |

Capacity building

Technology adoption

Horizon Europe focuses on innovative SMEs developing new products

Digital Europe should foster wide uptake of digital technologies

The five specific objectives.

High Performance Computing (HPC)
- Institutionalised Partnership (CH to be a member)
- Building up supercomputing infrastructure

€2.7 bn

Artificial Intelligence (AI)
- Direct management (mainly joint procurement & grants)
- Data resources and libraries, large experimentation facilities

€2.5 bn

Cybersecurity
- Institutionalised Partnership (only EU states)
- Advanced cybersecurity equipment and data infrastructure

€2.0 bn

Advanced Digital Skills
- Digital Innovation Hubs
- HPC, AI, Cybersecurity, Big Data, Distributed ledger, Robotics

€0.7 bn

Deployment, best use of digital capacities and interoperability
- Digital Innovation Hubs; digitisation of administration and industry

€1.3 bn

Digital Europe: Level of ambition

High Performance Computing

- o Two exascale machines by 2022-2023
- o One post-exascale machine by 2027
- o Hybrid HPC-Quantum infrastructure by 2027

Cybersecurity

- o By 2022: at least one cybersecurity competence centre per Member State
- o By 2025: encryption techniques that can resist quantum computing

Advanced Digital Skills

- o Increase ICT specialist employment from 8.2 million in 2016 to at least 12.3 million in 2027
- o Increase growth rate of ICT specialists from 3.3% (2007-2016) to 4.3% (2016-2027) p.a.

Digital Innovation Hubs

- o 270 Hubs across the EU
- o 90 experiments per hub
- o Reaching ~42000 SMEs

Modernisation of Public Administration

- o By 2030: 450 million citizens and 24 million SMEs benefit from 'once only principle' for their administrative information

Digital Health

- o By 2022: 1 million of sequenced genomes
- o By 2027: 450 million citizens have access to health records and 100 million citizens have digital tools and services to improve the management of their health condition
- o Data from 10 million citizens available for new discoveries

Advanced Digital Skills.

Currently:

- Digital Skills and Jobs Coalition under New Skills Agenda for Europe

- Skills divide and lack of highly-trained professionals (1 million vacancies)

- First pilot actions (Digital Opportunity Traineeship)

Under DEP

- Long-term trainings (Master's, PhD)

- On-the-job trainings and traineeships

- Short-term trainings and courses

Deployment, best use of digital capacities and interoperability.

Currently:

- Low uptake of digital technologies in European industry and administrations

- Digitising European Industry Initiative

- Tallinn Summit in 2017, defining priorities and declaration on e-Government

Under DEP

- Two rather separate parts:

  – digitising the public sector and areas of public interest

  – digitising industry

- European Digital Innovation Hubs (supported by grants) playing a key role in implementation

Digital Innovation Hubs.

28 National HPC Competence Centres 28 National Coordination Centres for Cybersecurity 4-8 AI Reference Sites	250+ European Digital Innovation Hubs
Specialised in their topic	Generalists in their topic with a strong outreach to SMEs
Providing products/services that can be further disseminated by the DIH	Helping SMEs to apply the products/services according to the needs of the SME
Disseminating latest knowledge to DIHs through regular "train the trainer" programmes	Going back to the specialist centres if they are not able to help the SME

Widening Participation and Strengthening the European Research Area.

Widening Participation and Spreading Excellence
- Teaming
- Twinning
- ERA Chairs
- Excellence Initiatives
- COST

Reforming and enhancing the European R&I system
- Strengthening the evidence base for research and innovation policy
- Transition towards Open Science
- Support to national R&I policy reform
- Supporting the modernisation of universities in ERA
- Supporting the effective international cooperation with third countries
- Foresight
- EU R&I programme implementation
- Scientific input to other policies