



SENET-HUB
SINO-EUROPEAN HEALTH NETWORKING HUB

INTERNATIONAL COOPERATION OPPORTUNITIES: HORIZON EUROPE 2021-2027

Hicham Abghay (Steinbeis 2i GmbH)

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This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 825904.

Project Identity: **SENET**

Funding: EU Research & Innovation Programme **Horizon 2020**

Runtime: 01/2019 - 06/2021

Consortium: Five in Europe & Four partners from China



SENET Major Objectives



Overall objectives

SENET aims to

- **increase collaborative efforts** addressing common health research and innovation challenges.
- **create a sustainable health networking and knowledge hub**, which facilitates favourable conditions for a dialogue between Chinese and EU research and innovation entities.

Specific objectives

SENET aims to

- **identify health challenges of common interest** between the EU and China
- **develop a sustainable health networking hub** between the EU and China
- **implement collaborative health research initiatives** between the EU and China



SENET Main Activities

Create a collaboration environment with mutual interest to tackle common health challenges

- Panorama of Health Research Priorities in China & Europe: *“Scoping paper: Review on health research and innovation priorities EU & China”*
- Catalogue of Health Research and Innovation Initiatives and Actors: *“Map of major funding agencies and stakeholders in EU & China”*
- “Guide for health researchers from Europe and China through the funding landscape”

See our public reports under: <https://www.senet-hub.eu/public-report/>

- Series of Stakeholder Engagement Workshops: → [Call for experts OPEN!](#)
- Define future health priorities with us [HERE!!](#)



Recommendations for EU-China health research and innovation cooperation

- Overview of the health priorities in the EU and China
 - Reinforcing the prevention and control of major and **infectious diseases**;
 - Strengthening the management of **environmental problems affecting health**;
 - Promoting the development of **sustainable healthcare systems**;
 - Cooperating on **standardisation** and research ethics;
 - Improving the health funding mechanisms in China.



SENET Partnering Opportunities

Increase transnational collaboration and capacity building

Power Partnering events:

- [Global Alliance for Chronic Diseases – Prevention and/or early diagnosis of cancer](#)
- [Towards the new generation of clinical trials – trials methodology research](#)
- [New approaches for clinical management and prevention of resistant bacterial infections in high prevalence settings](#)
- [Advancing the safety assessment of chemicals without the use of animal testing](#)
- [AI for Genomics and Personalised Medicine](#)

Calls Closed ☹️



SENET Virtual Hackathons



Increase transnational collaboration and capacity building

Virtual Ideation Hackathons (2020-2021):

- ❖ AI for Health Imaging in cancer research
- ❖ AI applications for health management notably chronic diseases
- ❖ Simulation technologies and animal free testing for rare diseases/precision medicine
- ❖ Biological scaffolds for tissue regeneration and repair
- ❖ Environmental effects on health and wellbeing
- ❖ Novel technologies for next generation vaccines





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Questions?



Horizon Europe

is the Commission proposal for an **initial € 100 billion** research and innovation funding programme for seven years (2021-2027)



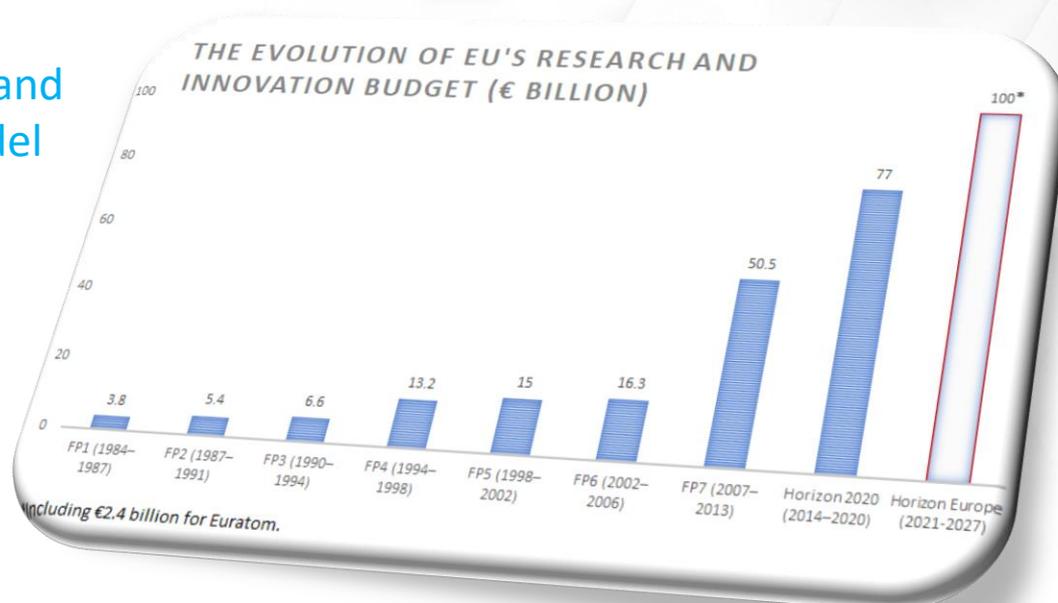
to strengthen the EU's scientific and technological bases



to boost Europe's innovation capacity, competitiveness and jobs



to deliver on citizens' priorities and sustain our socio-economic model and values



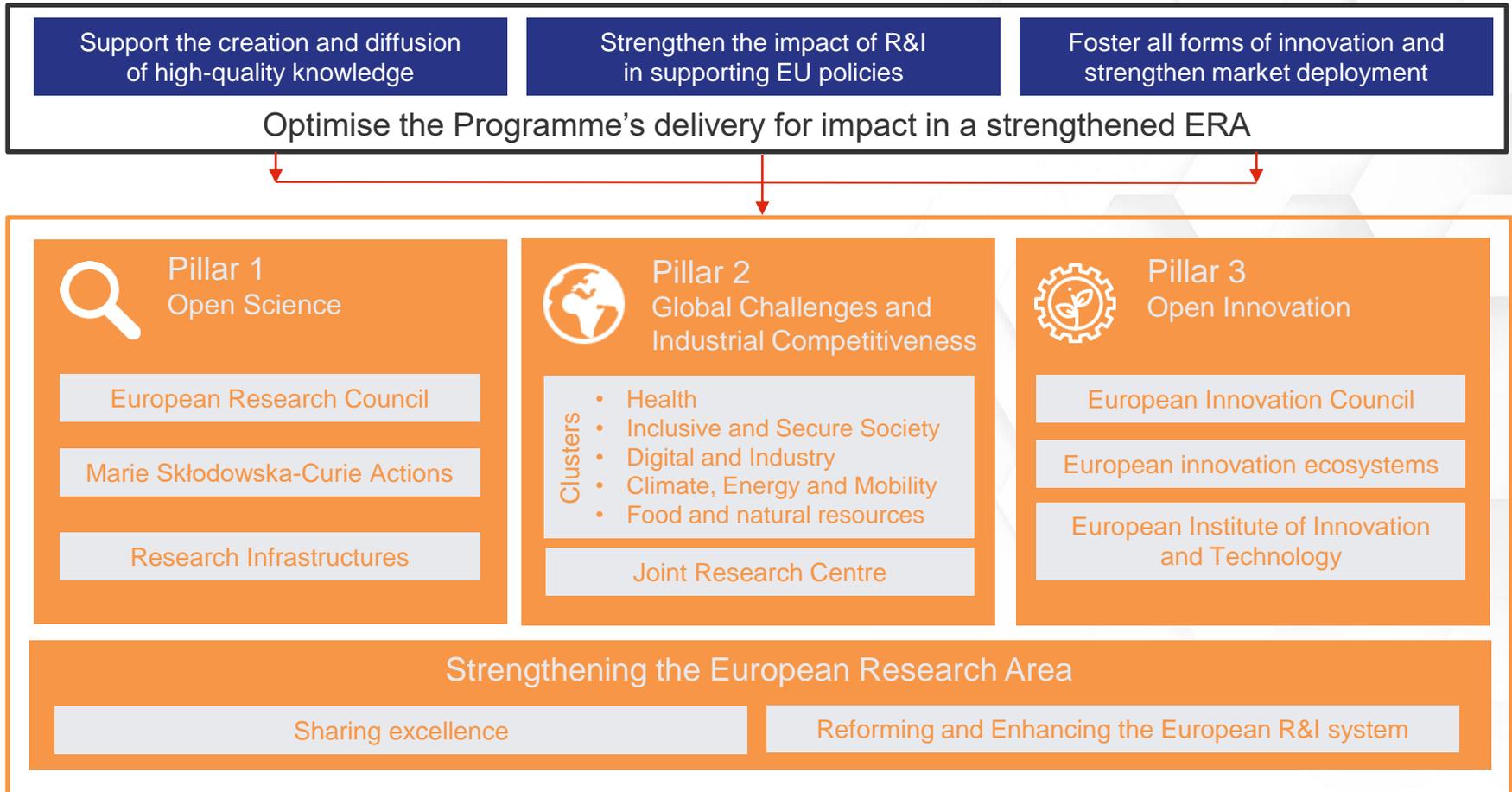
Horizon Europe: investing in R&I to shape our future

- The vision:
 - " a Europe that protects,
a Europe that empowers,
a Europe that defends"
- Jean-Claude Juncker*
- Tackling climate change
- Helping to achieve Sustainable Development Goals & Green Deal
- Boosting the Union's competitiveness sustainability and resilience

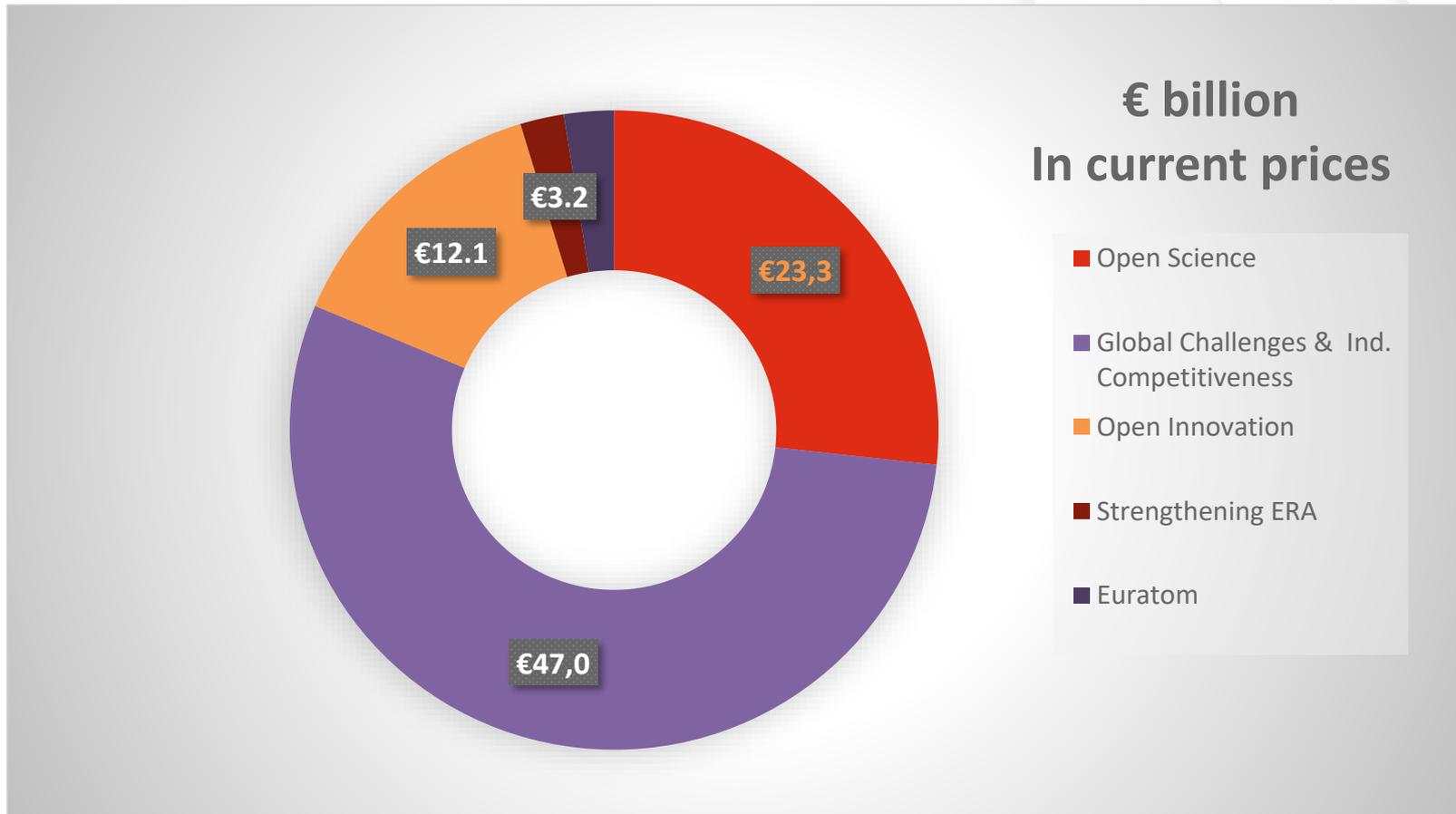


Horizon Europe: *evolution not revolution*

Specific objectives of the Programme



Budget: ~ €85,5 billion*



* Council proposition as of 29.09.2020



Horizon Europe: Framework Layers

Multi-Annual Strategic planing (Valid ~ 7 years)

Outlined structure, research modalities, measures & instruments

Strategic planing Process (SPP) (valid ~4 Years)

Outlined Strategy and consultations with MS, MEP and *stakeholders*

Work Programm (Valid ~1-2 years)

Setting into context, rational, scope, single topics & budgets

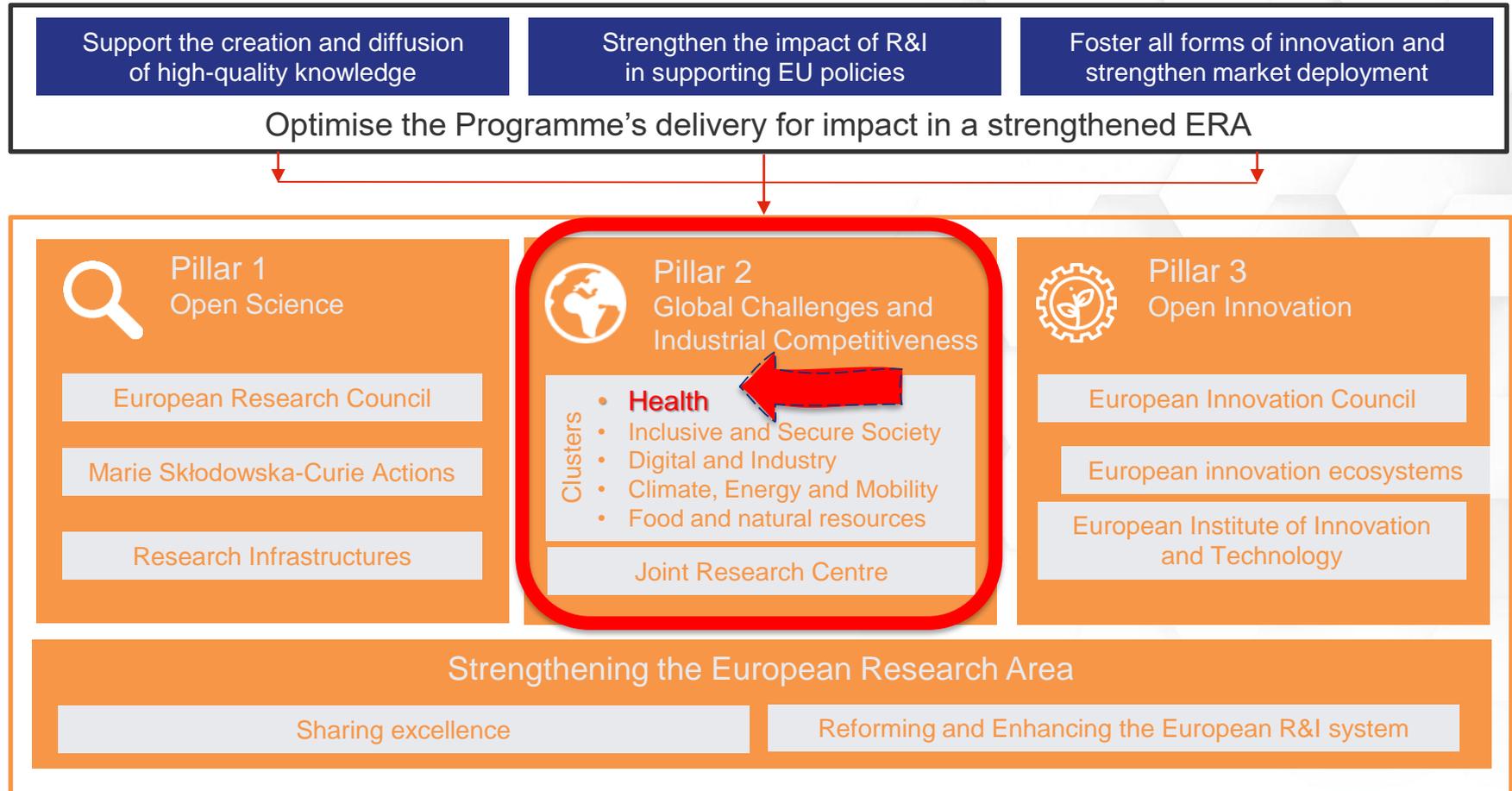


Achieved steps so far: One Billion Question!



Horizon Europe: evolution not revolution

Specific objectives of the Programme



R&I Expected Impacts and Intervention Areas

Expected Impacts (destinations)	Intervention areas covered	European Partnerships (co- programmed and co-funded)
1. Staying healthy in a rapidly changing society (...)	1.2.1. Health throughout the Life Course 1.2.2. Environmental and Social Health Determinants	Fostering a European Research Area for Health Research (ERA4HEALTH)
2. Living and working in a health-promoting environment (...)	1.2.2. Environmental and Social Health Determinants 1.2.1. Health throughout the Life Course	Partnership on Risk Assessment of Chemicals
3. Tackling diseases and reducing disease burden (...)	1.2.3. Non-Communicable and Rare Diseases 1.2.4. Infectious Diseases, including poverty-related and neglected diseases	EU-Africa Global Health partnership (EDCTP) Rare Diseases One Health AMR
4. Ensuring access to innovative, sustainable and high-quality health care (...)	1.2.6. Health Care Systems	Transformation of Health Care Systems EIT KIC Health
5. Unlocking the full potential of new tools, technologies and digital solutions for a healthy society (...)	1.2.5. Tools, Technologies and Digital Solutions for Health and Care, including personalised medicine	Personalised Medicine
6. Maintaining an innovative, sustainable and globally competitive health-related industry (...)	1.2.5. Tools, Technologies and Digital Solutions for Health and Care, including personalised medicine 1.2.6. Health Care Systems	Health Innovation Partnership (Innovative Health Initiative- former IMI)



Impact Areas

Expected Impact	Impact Areas
1. Staying healthy in a rapidly changing society (...)	<ul style="list-style-type: none">➤ healthier lifestyles & behaviours, healthier environments, improved evidence-based health policies effective solutions➤ better understanding of specific health & care needs throughout the life course, incl. age-specific & sex/gender-specific needs➤ develop innovative services, guidelines and digital solution for people & communities➤ availability of real-world health data
2. Living and working in a health-promoting environment (...)	<ul style="list-style-type: none">➤ Better understanding of environmental, occupational, social and economic determinants of health in living and working environments➤ identify and assess the risks and benefits for health, to enable health promoting and disease preventive actions provide solid evidence➤ stimulate uptake into environmental, occupational, social, economic, fiscal and health policies➤ collaborations across sectors and with other clusters
3. Tackling diseases and reducing disease burden (...)	<ul style="list-style-type: none">➤ infectious, poverty-related, neglected diseases, non-communicable & rare diseases➤ reduce the disease burden on patients➤ better understanding of diseases➤ improve existing prevention strategies to create tangible impacts➤ better ability & preparedness to manage epidemic outbreaks➤ new prevention, public health interventions, diagnostics, vaccines, therapies, alternatives to antibiotics



Impact Areas

Expected Impact	Impact Areas Expected
4. Ensuring access to innovative, sustainable and high-quality health care (...)	<ul style="list-style-type: none">➤ equal access to innovative, sustainable and high-quality health care➤ development and uptake of safe, cost-effective & people-centred solutions➤ focus on population health, health systems resilience, and evidence-based health policies➤ innovative solutions in various dimensions (governance, financing, generation of human and physical resources, patient empowerment etc.)
5. Unlocking the full potential of new tools, technologies and digital solutions for a healthy society (...)	<ul style="list-style-type: none">➤ New tools, health technologies & digital solutions for biomedical research, prevention, diagnosis, therapy & monitoring tailored to specific needs➤ safety, effectiveness, inter-operability, accessibility, appropriateness, affordability, sustainability➤ translate innovations into health policies & practice➤ multidisciplinary, cross-sector cooperation with key stakeholders (patients, care providers, researchers, regulatory bodies, policy-makers, funders)➤ AI for analysis of health data advance care
6. Maintaining an innovative, sustainable and globally competitive health-related industry (...)	<ul style="list-style-type: none">➤ Need for cross-sectorial research and innovation (integrating medical technologies, pharmaceuticals, biotechnologies, digital health and eHealth technologies)➤ Supporting the standardisation policy, driving innovation from the demand side and providing evidence and guidelines for stakeholders and regulators to ensure take-up of innovations➤ Support to studies for health assessment procedures, clinical performance demonstration, quality assurance schemes and standardisation



Call Topics *(draft!!)*

Intervention/Destination Area	Calls & Topics
1. Health throughout the Life Course	<p>Call 1.1 – Staying healthy (2021)</p> <ul style="list-style-type: none">➤ Topic 1.1 Prevention of obesity through the life course➤ Topic 1.2 Towards a molecular and neurological understanding of mental health and mental illness for the benefit of citizens and patients➤ <i>CSA 1.1 Supporting digital empowerment and health literacy</i> <p>Call 1.2 – Staying healthy (2022)</p> <ul style="list-style-type: none">➤ Topic 1.3 Boosting mental health in Europe in times of change➤ Topic 1.4 The Silver Deal➤ Topic 1.5 Personalised blue print of chronic inflammation in health-to-disease transition➤ Topic 1.6 AI tools to predict the risk for chronic diseases➤ <i>CSA 1.2 Population cohorts for health research (international cooperation dimension)</i>
2. Environmental and Social Health Determinants	<p>Call 2.1 – Environment and health (2021)</p> <ul style="list-style-type: none">➤ Topic 2.1 Health risks related to exposure to electromagnetic fields (EMF)➤ Topic 2.2 Indoor air quality and health➤ Topic 2.3 - Health impacts of climate change, costs and benefits of action and non-action <p>Call 2.2 – Environment and health (2022)</p> <ul style="list-style-type: none">➤ Topic 2.4 Methods for assessing health-related costs of exposure to environmental stressors➤ Topic 2.5 The role of environmental pollution in non-communicable diseases



Call Topics *(draft!!)*

Intervention Area	Calls
3. Non-Communicable and Rare Diseases	<p>Call 3.1 – Tackling diseases (2021)</p> <ul style="list-style-type: none">➤ Topic 3.1 Comparative effectiveness research for healthcare interventions in areas of high public health need➤ Topic 3.2 Building a European innovation platform for the repurposing of medicinal products➤ Topic 3.12 Clinical development of health technologies relevant in sub-Saharan Africa➤ Topic 3.13 Advancing innovative Artificial Intelligence (AI)-based solutions for treatment <p><i>CSA 3.2 One Health AMR</i></p> <p><i>CSA 3.3 EU Wide Clinical Trials Network - public health emergencies</i></p> <p>Call 3.2 – Tackling diseases (2022)</p> <ul style="list-style-type: none">➤ Topic 3.3 Towards improved palliation and/or end-of-life care➤ Topic 3.4 Pre-clinical development of the next generation immunotherapies➤ Topic 3.5 Vaccines 2.0 - using knowledge on host-pathogen interactions and novel technologies for the development of next generation of vaccines➤ Topic 3.6 Development of effective therapies for rare diseases with an unmet medical need



Call Topics *(draft!!)*

Intervention Area	Calls
4. Infectious Diseases, including poverty-related and neglected diseases	<p>Call 4.1 – Ensuring access to innovative, sustainable and high-quality health care (2021)</p> <ul style="list-style-type: none">➤ Topic 4.1 Improving quality of care and patient safety via quality assurance in health care➤ Topic 4.2 Data-driven decision-support tools for better health and care delivery and policy-making➤ Topic 4.3 Personalised medicine and infectious diseases: understanding the individual host response to viruses (e.g., SARS-CoV-2) <p><i>➤ Topic CSA 4.1 Health innovation procurers network</i></p> <p><i>➤ Topic CSA 4.2 Identifying gaps to understand the full potential of personalised prevention</i></p> <p>Call 4.2 – Ensuring access to innovative, sustainable and high-quality health care (2022)</p> <ul style="list-style-type: none">➤ Topic 4.4 Pre-commercial procurement for environmentally sustainable and low-carbon health and care systems➤ Topic 4.5 Better economic foresight, financial planning and procurement/contractual strategies for health systems➤ Topic 4.6 Innovation procurement instruments (PCP & PPI) for building the capacity of health and care systems in the context of recovery



Call Topics *(draft!!)*

Intervention Area	Calls
5. Tools, Technologies and Digital Solutions for Health and Care, including personalised medicine	<p>Call 5.1 – Tools and technologies for a healthy society (2021)</p> <ul style="list-style-type: none">➤ Topic 5.1 Smart medical devices and their surgical implantation for use in resource-constrained settings➤ Topic 5.2 Next generation advanced therapies to treat frequent and serious medical conditions with unmet needs➤ Topic 5.9 - Innovative tools for use and re-use of health data (in particular electronic health records and/or patient registries) <p>Call 5.2 – Tools and technologies for a healthy society (2022)</p> <ul style="list-style-type: none">➤ Topic 5.3. Optimising effectiveness in patients of existing prescription drugs, with the use of biomarkers, for major diseases (except cancer)➤ Topic 5.4 New methods for the effective use of real-world data and/or synthetic data in regulatory decision-making and/or in health technology assessment➤ Topic 5.6 Computational models for new patient stratification strategies



Call Topics *(draft!!)*

Intervention Area	Calls
6. Health Care Systems	Call 6.1 – A competitive health-related industry (2021) <ul style="list-style-type: none">➤ Topic 6.1 Green pharmaceuticals➤ Topic 6.2 New payment models for cost-effective and affordable health innovations/new models of pricing➤ <i>CSA 6.1 Uptake of Technical specifications for “Quality and Reliability of Health and Wellness Apps” – promoting a trusted ‘mhealth label’ in Europe</i>
	Call 6.2 – A competitive health-related industry (2022) <ul style="list-style-type: none">➤ Topic 6.3 Enhancing Cybersecurity of connected Medical Devices➤ Topic 6.4 Scaling up anonymization techniques, including secure multi-party computation for interoperable, trustable, cross-border health data hubs➤ Topic 6.5 Development and procurement of new antimicrobials➤ <i>CSA 6.2 Setting up a ‘European Smart Health Innovation Hub’</i>➤ <i>CSA 6.3 Uptake of European Electronic Health Record Exchange Format</i>



Lessons Learned

from Horizon 2020 Interim Evaluation

Key Novelties

in Horizon Europe



Support breakthrough innovation



European Innovation Council



Create more impact through mission-orientation and citizens' involvement



R&I Missions



Strengthen international cooperation



Extended association possibilities



Reinforce openness



Open science policy



Rationalise the funding landscape



New approach to Partnerships





International Cooperation

International Cooperation

Will ensure effective tackling of global societal challenges; access to the world's best talents, expertise and resources; enhanced supply and demand of innovative solutions

Extended openness to association

- Third countries with good capacity in science, technology and innovation
 - Taking into account objective of driving economic growth in Europe through innovation
-
- General opening for international participation
 - Intensified targeted actions (flagship initiatives, joint calls, etc.)





International Cooperation

- Infectious diseases, antimicrobial resistances and public health emergencies.
- Global Health, through cooperation with the World Health Organisation (WHO)
- Personalised medicine, through dedicated actions and multilateral initiatives, such as the International Consortium for Personalised Medicine (ICPerMed)
- Chronic diseases, through dedicated actions and multilateral initiatives, such as the Global Alliance for Chronic Diseases (GACD) and the International Rare Diseases Research Consortium (IRDiRC).
- Cohorts-based clinical studies of health and diseases, through common approaches and protocols.
- Brain and Mental Health, through dedicated actions and multilateral initiatives, such as the International Initiative for Traumatic Brain Injury Research (InTbIR).
- Impact of the environment on human health, through dedicated research actions on the exposome and human biomonitoring, through e.g. cooperation with the WHO-Europe
- Improving access, sustainability and quality of health care in low- and middle-income countries (LMICs), in particular in Africa, through implementation research.

* US participants of projects funded under the health cluster shall continue to be eligible for funding, in response to the openness of the USA NIH program to European researchers.





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Questions?





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