ΓΕΝΙΚΗ ΓΡΑΜΜΑΤΕΙΑ
ΕΡΕΥΝΑΣ ΚΑΙ ΤΕΧΝΟΛΟΓΙΑΣ

Ενημερωτική Ημερίδα

Χρηματοδοτικές Ευκαιρίες για την Έρευνα και την Καινοτομία στον τομέα της Υγείας

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INSTITUTE OF APPLIED BIOSCIENCES
ΙΝΣΤΙΤΟΥΤΟ ΕΦΑΡΜΟΣΜΕΝΩΝ ΒΙΟΕΠΙΣΤΗΜΩΝ
CERTH

Horizon Europe – Why?

European Commission

Horizon Europe

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

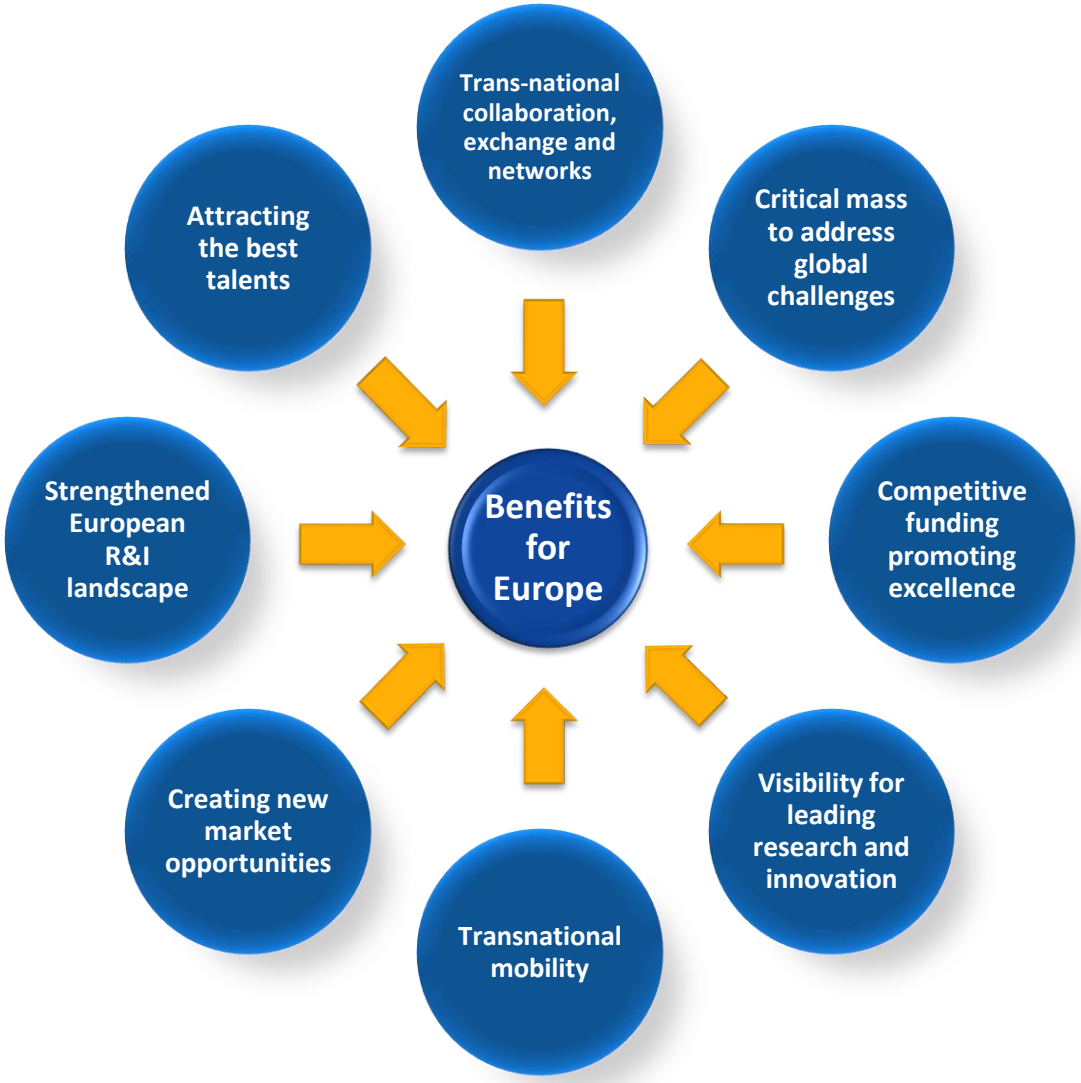
to strengthen the EU's scientific and technological bases

to boost Europe's innovation capacity, competitiveness and jobs

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

€ 4.1 billion are proposed to be allocated for defence research, in a separate proposal for a European Defence Fund

European Commission



added value through Horizon Europe

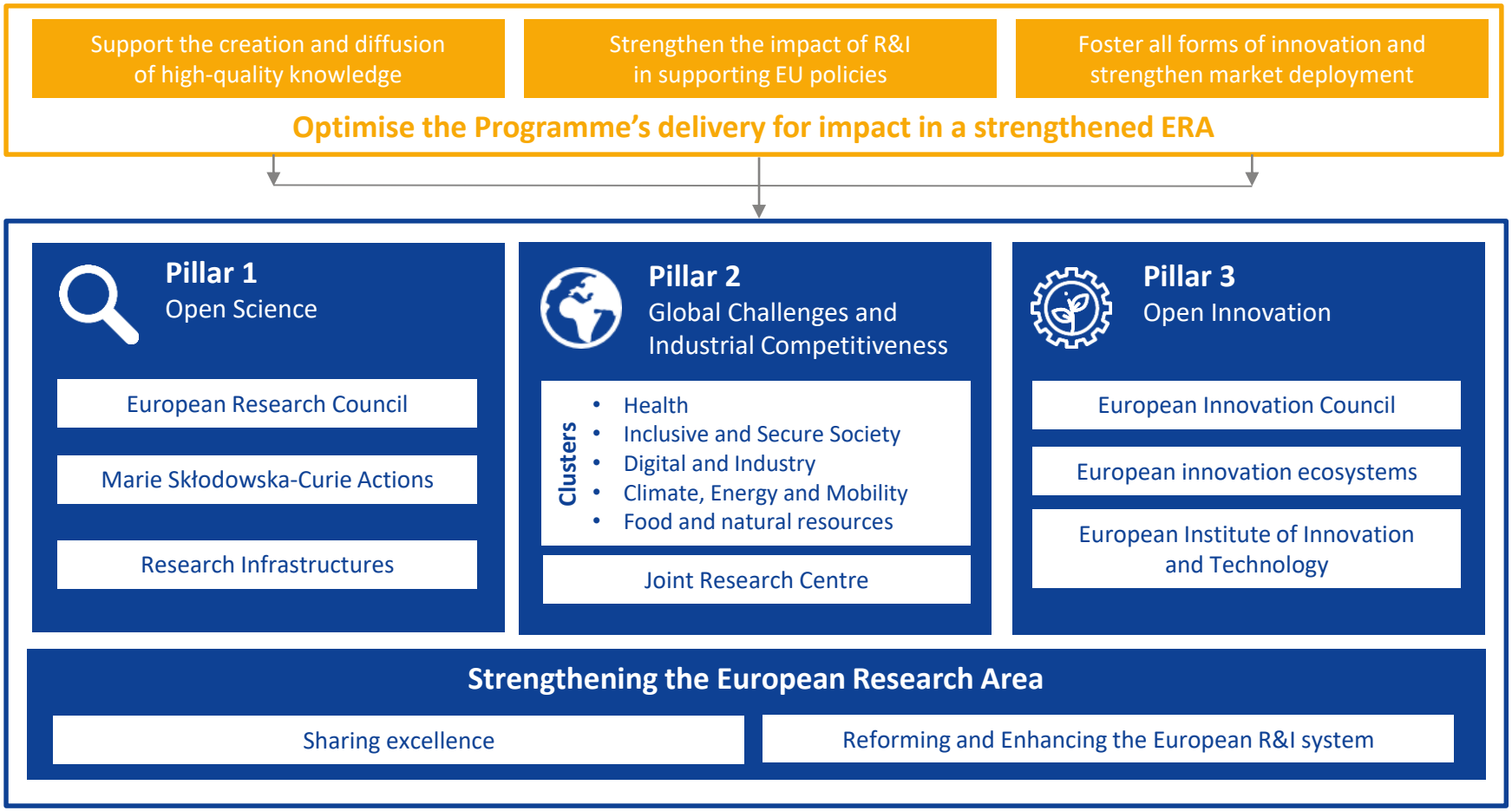
European Commission

Horizon Europe – What?

European Commission

Horizon Europe: evolution not revolution

Specific objectives of the Programme



European Commission

Pillar 2

Global Challenges & Industrial Competitiveness: boosting key technologies and solutions underpinning EU policies & Sustainable Development Goals

Clusters implemented through usual calls, **missions & partnerships**	Budget (€ billion)
Health	*€ 7.7*
Inclusive and Secure Societies	*€ 2.8*
Digital and Industry	*€ 15*
Climate, Energy and Mobility	*€ 15*
Food and Natural Resources	*€ 10*
Joint Research Centre supports European policies with independent scientific evidence & technical support throughout the policy cycle	€ 2.2

European Commission

Horizon Europe – What's new?

European Commission

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

European Commission

Lessons Learned
from Horizon 2020 Interim Evaluation

Key Novelties
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Support breakthrough innovation → European Innovation Council

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European Commission

Lamy report

Recommendation 5: Adopt a mission-oriented, impact-focused approach to address global challenges.

Action

Set research and **innovation missions that address global challenges and mobilise researchers, innovators and other stakeholders** to realise them.

R&I Missions

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.

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)

European Commission

Criteria for selecting R&I missions

proposed by Prof Mazzucato

Bold, inspirational, with wide societal relevance

A clear direction: targeted, measurable and time-bound

Ambitious but realistic R&I actions

Cross-disciplinary, cross-sectoral and cross-actor innovation

Multiple bottom-up solutions

Key factors for implementing R&I missions at EU level

Engagement of diverse national and regional stakeholders

Measurement of progress and impact by goals and milestones

A portfolio of instruments to foster bottom-up solutions

Flexibility, pro-active management and building in-house capabilities

Public engagement

- Public participation in the selection process
- Public inclusion in the implementation/citizens as active participants in missions

Mission areas

Adaptation to climate change including societal transformation

Cancer

Healthy oceans, seas, coastal and inland waters

Climate-neutral and smart cities

Soil health and food

European Commission

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why cancer?

an urgent global need

Noncommunicable diseases (NCDs) kill 40 million people each year, equivalent to 70% of all deaths globally.

Each year, 15 million people die from a NCD between the ages of 30 and 69 years.

Cardiovascular diseases, respiratory diseases, diabetes and **cancer** account for over 80% of all premature NCD deaths.

Detection, screening and treatment of NCDs, as well as palliative care, are key components of the response to NCDs.

World Health Organization

World Health Organization

GLOBAL ACTION PLAN

FOR THE PREVENTION AND CONTROL OF NONCOMMUNICABLE DISEASES

2013-2020

World Health Organization

TOGETHER

WE CAN PREVENT AND CONTROL

THE WORLD'S MOST COMMON DISEASES

The challenge is unprecedented -- a 25% reduction by 2025 in premature deaths from noncommunicable diseases.

R&I Missions: how?

A **mission board** established for each mission: around 15 members including end-users

Mission Boards have an **advisory role** in designing the mission and its implementation

Missions will be implemented through a coherent **portfolio** of projects

Missions will be implemented **through existing executive agencies** according to the content of the mission

European Commission

change begins at home

missions first and foremost have to tap into the rich stock and flow of high quality science and innovation already funded under different European programmes

Mazzucato report

change begins at home

a pioneering Greek version

PRECISION MEDICINE HELLENIC NETWORK

Hellenic Precision Medicine Network in Oncology

update and future steps

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PRECISION MEDICINE HELLENIC NETWORK

aims and benefits

wider ability of doctors to use patients' genetic and other molecular information as part of routine medical care

improved ability to predict which treatments will work best for specific patients

better understanding of the underlying mechanisms by which various diseases occur

PRECISION MEDICINE HELLENIC NETWORK

aims and benefits

improved approaches to preventing, diagnosing, and treating a wide range of diseases

better integration of genomic medicine into patient care

a unique research resource

PRECISION MEDICINE HELLENIC NETWORK

the potential for Precision Medicine

increased cancer care quality

a new comprehensive and integrated approach to wellness

metrics and timeline

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5.4 M for 2018-2020

4 Units
- 7 research centers
- 4 universities

9 different disciplines (so far)

Phase A	M1-M6
Phase B	M7-M24

PRECISION MEDICINE HELLENIC NETWORK

a step-wise process

Phase A | Sep 2018 – Feb 2019

Standardizing procedures

Common pre-analytical pipelines

Analytical phase – NGS protocols

Post-analytical phase – data analysis and interpretation

PRECISION MEDICINE HELLENIC NETWORK

a step-wise process

Phase A | Sep 2018 – Feb 2019

lab accreditation

ISO 15189
ISO 27001
GDPR compliance

interlaboratory quality control

between all Network units

for all analytical phases

PRECISION MEDICINE HELLENIC NETWORK

a step-wise process

Phase A | Sep 2018 – Feb 2019

actionable genes – on which criteria?

solid tumors
blood cancers
hereditary cancer syndromes

close collaboration with scientific societies

Hellenic Society of Medical Oncology
Hellenic Society of Haematology
Hellenic Society of Pathology

PRECISION MEDICINE HELLENIC NETWORK

a step-wise process

Phase A | Sep 2018 – Feb 2019

Data management

electronic prescription and reporting system

interoperability with the national electronic prescription system and other initiatives of the Ministry of Health | registries

ethicolegal aspects

links to European initiatives

COUNTRY	COMPANY/INSTITUTION	TIME	SCOPE	FUNDING	PROGRESS	MEDICAL FOCUS
ENGLAND	Genomics England Ltd. (GeL)	2013-2018	100,000 genomes	£411 M	~34,000 genomes	Rare Diseases Cancer
SCOTLAND	The Scottish Genomes Partnership (SGP)	2015-perpetual	~3,000 genomes	£23 M	~3,000 genomes	Rare Diseases Cancer Population Studies
THE NETHERLANDS	Hartwig Medical Foundation (HMF)	2015-2017	>10,000 cancer patients	€30 M	~3,000 patients	Cancer
FRANCE	France Medécine Genomique (AVIESAN)	2015-2025	235,000 WGS/annum by 2020	€670 M (-2020)	Two platforms selected	Rare Diseases Cancer
IRELAND	Genomics Medicine Ireland (GMI)	2016-perpetual	45,000 genomes	$40 M	Incorporated Series A	Population studies Rare Diseases
SWITZERLAND	Swiss Personalized Health Network (SPHN)	2017-2020	Informatics structure	CHF 68	Funding calls	Rare Diseases Cancer Infectious Diseases
FINLAND	Finland´s Genome Strategy (FGS)	2017-2020	National infrastructure (operational by 2020)	€17 M (Request for €50 M)	Planning phase	Rare Diseases Cancer Pharmacogenetics Genetic Risk Susceptibility
NORWAY	The Norwegian Strategy for Personalised Medicine in Healthcare	2017-2021	<13,000 WGS/annum	NOK 8 M (pre-analysis)	Planning phase	Rare Diseases Cancer Infectious Diseases
DENMARK	National Strategy for Personalized Medicine (Per Med)	2017-2020 2020-perpetual	~100,000 genomes	DKK 5 M (pre-analysis) DKK 100 M	Initiated	Rare Diseases Cancer Diabetes Companion Dx
SWEDEN	Genomic Medicine Sweden	2017-2023	~25,000 genomes/annum	SEK 4 M (pre-analysis)	Planning phase	Rare Diseases Cancer Complex Disease Microbiome

Cyprus, Serbia, Slovenia, Hungary, Czech Republic

next steps
and challenges

Phase B

state-of-the-art NGS-based diagnosis

translational research

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PRECISION MEDICINE HELLENIC NETWORK

challenges

evolving technologies and needs

targeted panels | whole exome seq | whole genome seq

constantly changing knowledge base concerning variant significance

reimbursement and regulatory issues

actionability - accessibility

ethics and legal aspects

challenges

promoting genomic literacy

patients | providers | decision makers

tackling disparities - making patient's voice heard

include patient advocates in strategic planning

striving for equity

PRECISION MEDICINE HELLENIC NETWORK

complementary perspectives

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