



LOMBARDY FOUNDATION FOR BIOMEDICAL RESEARCH



FIRST INTERREGIONAL WORKSHOP ON PERSONALISED HEALTH

APRIL, 11 - 2018

 REGIONS 4PerMed
→



CSA: PerMed (2013-2015)

- 27 partners
 - Including Industry, Researchers, Funders and Ministries
- **Main output: Strategic research and Innovation Agenda (SRIA, 2015) with 5 Challenge Groups**

- 1- Developing Awareness and Empowerment
- 2- Integrating Big Data and ICT Solutions
- 3- Translating Basic to Clinical Research and Beyond
- 4- Bringing Innovation to the Market
- 5- Shaping Sustainable Healthcare

5 Action Item Groups

CSA: ICPerMed Secretariat (2016-2020) Support for ICPerMed

- 4 countries: Germany (coordination), France, Italy (Health Ministry), Spain

ICPerMed (2016-2020)

- **28 countries partners** (Also regions and 6 countries as observers)
- **European Commission**
 - First main output: **Action Plan** (Actionable Research and Support Activities)

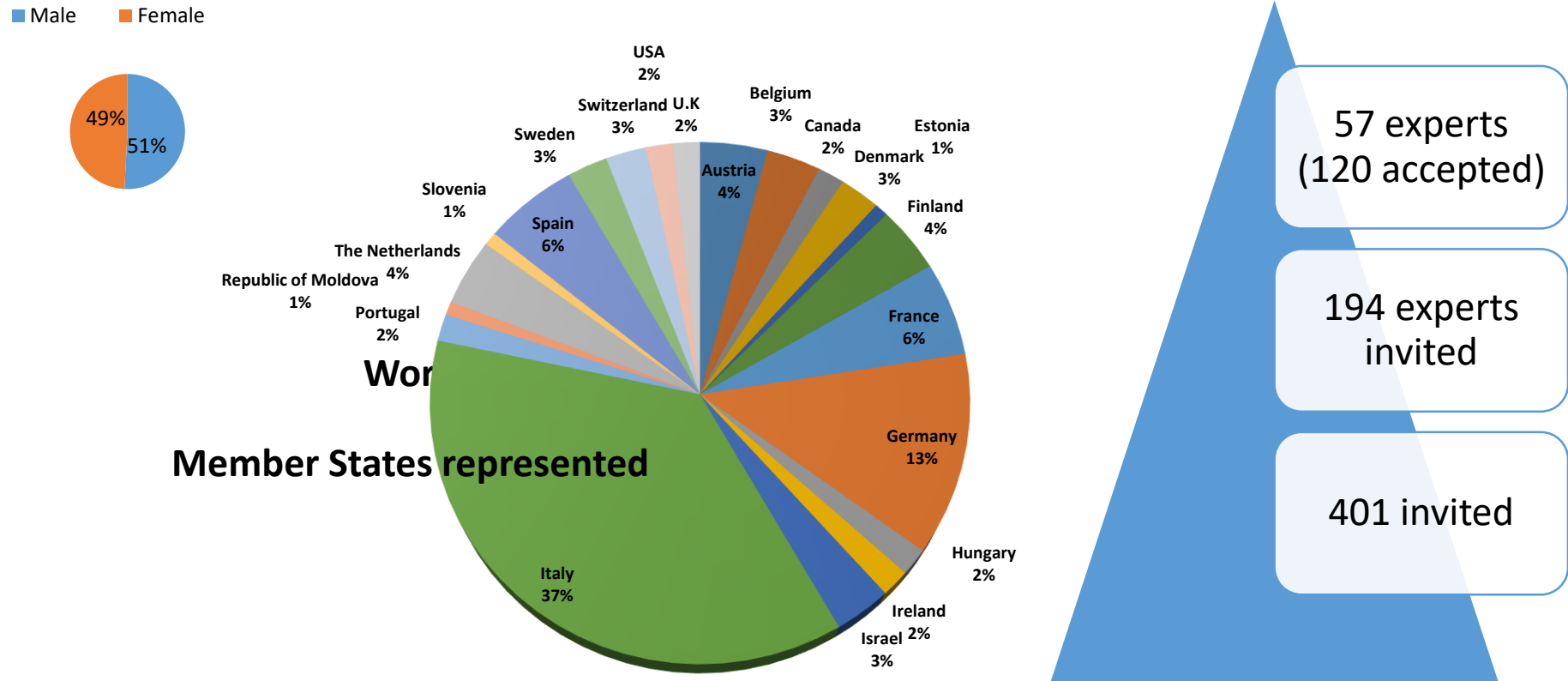
Close connection

ERAPerMed

- **2017-2021**
- **Tool to enable funding in PM**

ERA-NET-Cofund 2018

First ICPeMed Workshop June 2017 – Results and Dissemination base

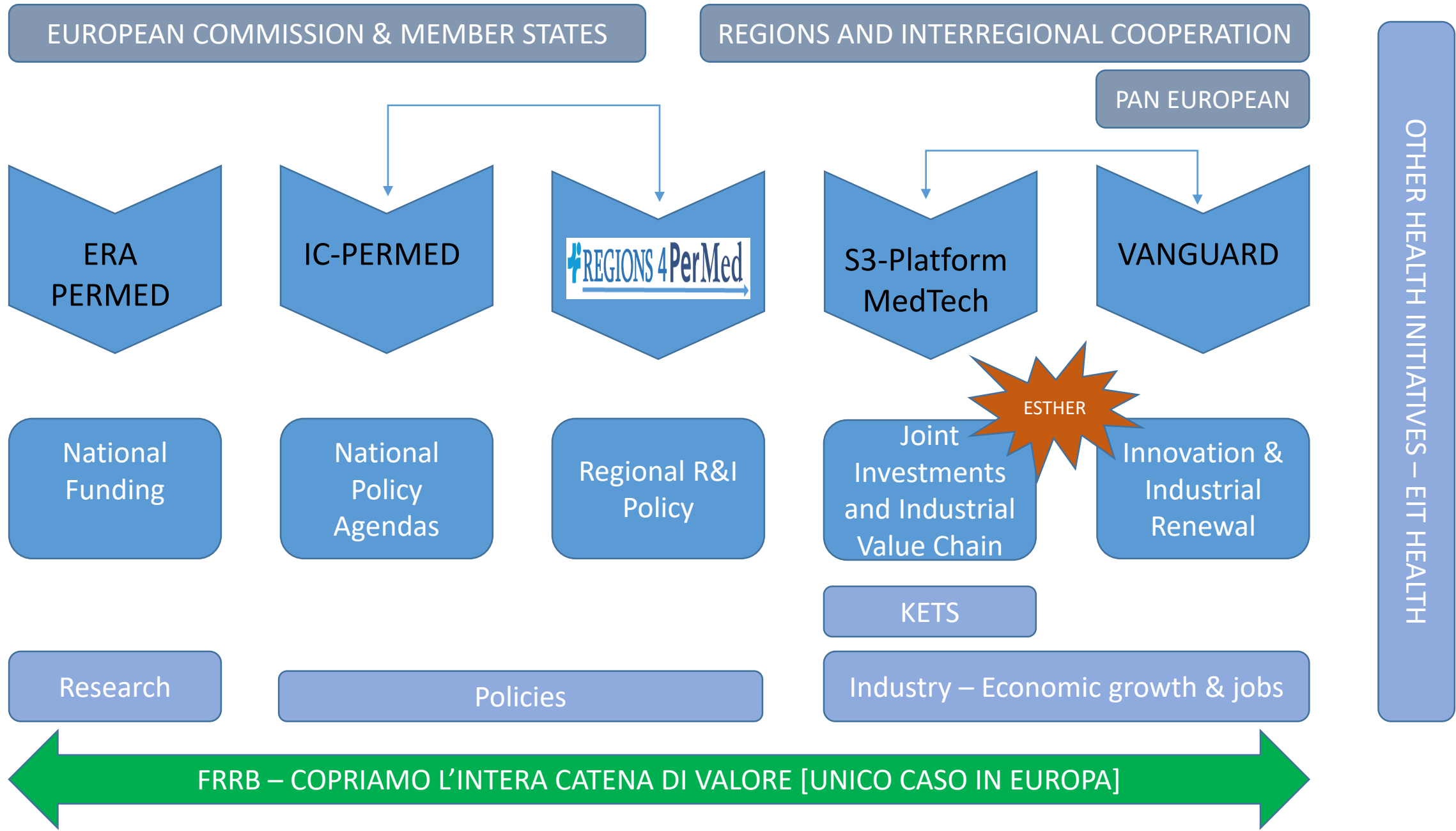


Dissemination: Streaming (130 international invited and 49 Italian Hospital Research)

Next Steps: Ending Report (two versions: short for Website, Complete as Deliverable).

Press release

CONTESTO INTERNAZIONALE – PERSONALISED MEDICINE



COMMISSION

Support to Personalised Medicine

- **Research areas**
 - "Big data"
 - "-omics"
 - Diagnostics technologies
 - Biomarkers
 - Clinical trial methodologies
 - Small patient populations
 - Personalised medicine in healthcare
 - Etc.
- **Main diseases**
 - Cancer, Cardio-Vascular Diseases, Neurological disorders, etc.






European Structural and Investment Funds (ESIF)

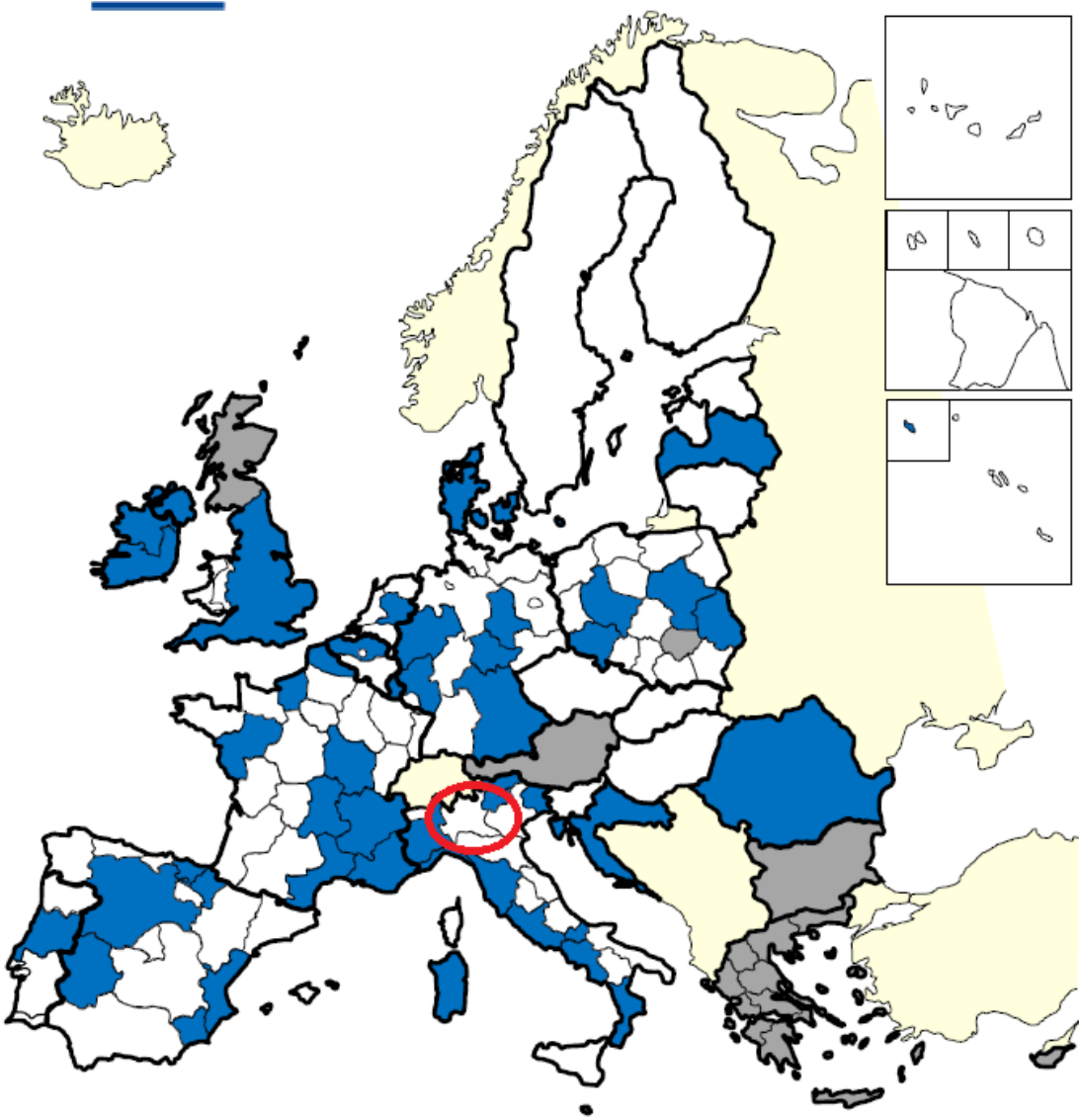
- **Concentrated on 11 thematic objectives, including:**
 1. **Research and Innovation**
 2. Information and Communication Technologies
 3. Competitiveness of Small and Medium-Sized Enterprises (SME)
 4. Shift to a low-carbon economy

R&I:
> €43 Billion
(EU)

Personalised Medicine in the RIS3 priorities

45 RIS3 out of the 129 analysed so far, explicitly prioritise **Personalised Medicine**

-  No Personalised Medicine priority in the RIS3
-  Personalised Medicine priority in the RIS3
-  RIS3 not yet analysed/ not available



THE CALL FOR PROPOSAL



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[Call budget overview](#)

CALL: BETTER HEALTH AND CARE, ECONOMIC GROWTH AND SUSTAINABLE HEALTH SYSTEMS

Call identifier: H2020-SC1-BHC-2018-2020

Publication date: 27 October 2017



Horizon 2020

Pillar: Societal Challenges

Work Programme Year: H2020-2018-2020

Work Programme Part: [Health, demographic change and wellbeing](#)

[H2020 website](#)

Topic: [SC1-HCO-01-2018-2019-2020: Actions in support of the International Consortium for Personalised Medicine](#)

[Open](#)

Publication date: 27 October 2017

Types of action: CSA Coordination and support action

DeadlineModel: single-stage

Deadline: 18 April 2018 17:00:00

Opening date: 07 November 2017

Time Zone : (Brussels time)

THE CALL FOR PROPOSAL

Scope:

Each action should focus on *one* of the following fields:

1. International aspect: The action should focus on building links with third countries by analysing the advantages of collaboration in personalised medicine (PM) with those countries, studying Europe in PM collaboration and promoting international standards in the field. In particular, personalised approaches in health systems and healthcare should be addressed, taking into account cultural aspects, health economy issues and equitable healthcare. For the 2018 call, the proposal should focus on CELAC^[2] as a group of countries, and for the 2019 call on China. Due to the specific challenge, in addition to the minimum number of participants set out in the General Annexes, proposals must include at least one participant from the international partner region CELAC or from China, respectively.
2. Regional aspect: The action should establish and support networking between regions and interregional cooperation in different European countries, in particular linking remote or sparsely populated regions with regions harbouring critical mass of medical and PM expertise while taking into account broader socio-economic and cultural aspects. The focus of the action can include aspects of genomic analysis, me-Health (mobile and electronic Health), telemedicine etc. but should aim at structuring PM application at regional level. Linkage to existing inter-regional projects (financed by INTERREG programmes) or interregional partnerships of Thematic Smart Specialisation Platforms will be actively encouraged. (2018 call).
3. Healthcare- and pharma-economic models for personalised medicine, interlinking European public health

Expected Impact:

Contributing to the implementation and reach of the ICPeMed initiative; furthermore:

1. International aspect: Integrating the country/group of countries into ICPeMed activities. Support wider adoption of standards developed in Europe. Contribute towards the UN Sustainable Development Goal 3: Ensure healthy lives and promote well-being for all at all ages.
2. Regional aspect: Strengthened links between European regions setting up or planning personalised medicine and healthcare approaches. Aligning research funding with ongoing and foreseen investments e.g. from Structural Funds. Recommendations on best practice in implementing PM at regional level.
3. Healthcare- and pharma-economic models: Increased understanding of personalised medicine perspectives on

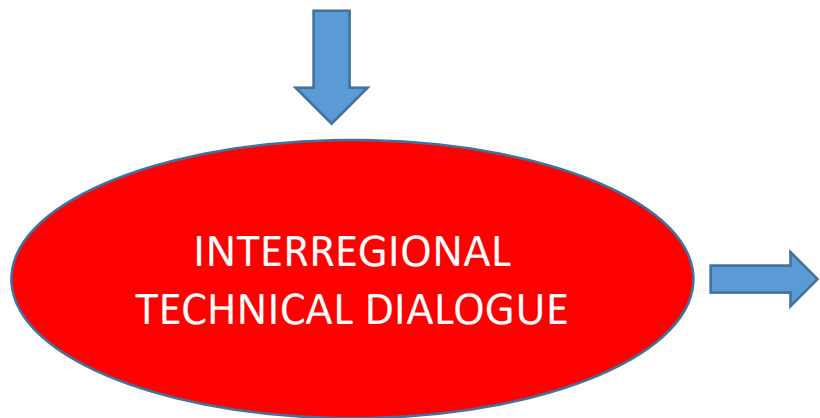
DEADLINE: 18 APRILE 2018 – 17.00

EXPECTED BUDGET: 1,5 – 2,0 M€

Project Proposal - Objectives

Overarching Goals	<ul style="list-style-type: none">• Coordinate regional policies and innovation programmes in Personalised Medicine in order to accelerate the employment of personalised Medicine for citizen and Patients• Seek cooperation Horizon 2020 and ESIF• Seek Complementarity between RIS3 diagnostics priority and RIS3 personalised medicine priority mappings• Establish a permanent dialogue between European Regions on the acceleration the full implementation of Personalised Medicine• Strengthen Industrial Specialisation areas in Europe and flourishing of the Personalised Medicine as Emerging Industries• Enable interregional Joint Investment on Personalised Medicine also through a creation a stable link with Vanguard Initiative and with the development of the European Innovation council• Provide guidance to the EC for the next MFF as well as Research Framework Programme• Provide guidance to EC, Member States and Regional Authorities on the next ESIF Operational Programme
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- SRIA on Personalise Medicine;
- FRRB Regional Public Consultation on on PM
- European Commission Workshop Report [4-5 May, 2017]
- High level debate on Open Innovation Cloud [EC – 13 March, 2018]
- IC PerMed Actiona Plan
- TO-REACH Project
- Vanguard Initiative – Pilot Action on Medical technologies;
- EAPMBelfast Congress Reports;
- Interreg Europe Projects Reports;
- Lombardy Public Consultation on PM;
- ERA-PerMed discussion and Outcomes



Specific objectives	<ul style="list-style-type: none">• Organise the technical dialogue among regions around 5 Key Strategic Areas and through thematic workshops and other events on each of the Strategic Areas• Provide a final Action Plan of strategic areas of investments;• Establish a HUB of European initiatives and partnerships on Personalised Medicine (PerMed HUB)• Contribute to the realisation of IC PerMed Action Plan• Provide Guidelines to regional authorities on how PM can boost local economies and keep the EU competitive;• Provide Guidelines on how to tackle PM within the Smart Specialisation Strategies• Build and maintain a database of Innovative Personalised Health research/innovation /monitoring Programmes and projects that can be easily replicated elsewhere
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Technical Dialogue – 5 Key Thematic Areas

MEDICAL BIG DATA
AND ELECTRONIC
MEDICAL RECORDS

M-health & e-
Health

HEALTH
INDUSTRY (drive
healthcare
innovations)

FACILITATE THE
INNOVATION
FLOW IN THE
HEALTH CARE

SOCIO-ECONOMIC
ASPECTS



MEDICAL BIG DATA AND ELECTRONIC MEDICAL RECORDS

MEDICAL BIG DATA
AND ELECTRONIC
MEDICAL RECORDS

Rationale: Technological innovation combined with automation and miniaturisation has triggered an explosion in data production that will soon reach exabyte proportions. There is a large potential of “big data” for improving health. At the same time, we face a wide range of challenges that need to be overcome. On the one hand, there is the issue of capacity: the amount of data alone is bound to put a strain on the infrastructure of any individual hospital or institute. On the other hand, integrated solutions for data sharing and analysis will be needed so as to allow for the combination of data coming from different sources and potentially different research disciplines.

INVESTMENT AREAS

- a. **Health research data opportunities in the digital age;**
- b. **Big Data Electronic Medical Records opportunities**
- c. **Tools for Big Data Analysis**
- d. **GDPR Regulation**
- e. **Cloud infrastructures**

MEDICAL BIG DATA AND ELECTRONIC MEDICAL RECORDS



Connected health

Rationale: Rationale: With many initiatives launched worldwide for the personal human genome map (Personalised Medicine Initiative in the USA, 100.000 Genomes Initiative in the UK and the Million European Genoms Alliance in Europe), it is possible to envision a future where treatments are tailored to individuals' genetic structures, prescriptions are analysed in advance for likely effectiveness, and researchers study clinical data in real-time to learn what works. Implementation of these regimens creates a situation where treatments are better targeted, health systems save money by identifying therapies not likely to be effective for particular people, and researchers have a better understanding of comparative effectiveness (President's Council of Advisors on Science and Technology, 2010).

INVESTMENT AREAS

- a. **m-/e-health technologies for continuous monitoring and self empowerment;**
- b. **m-/e-health technologies for data integration;**
- c. **Artificial Intelligence for Predictive Models;**
- d. **Personal data management;**
- e. **Remote monitoring and tele-assistance**

MEDICAL BIG DATA AND ELECTRONIC MEDICAL RECORDS

HEALTH
INDUSTRY (drive
healthcare
innovations)

Rationale: Currently a diagnosis is made based on tests and investigations of a patient's symptoms. But whilst two patients might share the same symptoms, the cause of them could be different. Knowledge of each individual's complex molecular and cellular processes, informed by other clinical and diagnostic information, will enable us to fully understand the abnormal function and determine the true cause of the symptoms. This ability to diagnose more precisely can be optimised when coupled with new and improved technologies such as those that provide rapid and real-time results and those that can be used at the point of care.

INVESTMENT AREAS

- a. **Diagnostics (IVD, Genomic diagnostics; Biomarkers, Medical Devices, Imaging);**
- b. **Imaging;**
- c. **Disease Management innovative tools;**
- d. **New business models for a wider health market uptake;**
- e. **Payment models**

MEDICAL BIG DATA AND ELECTRONIC MEDICAL RECORDS

FACILITATE THE
INNOVATION
FLOW IN THE
HEALTH CARE

Rationale: Personalised medicine must play a decisive role in the long-term sustainability of health systems. The One-Treatment-Serves-All-Patients traditional approach seems unsustainable (inefficient) and it offers low-value interventions to patients. Implementation of PM has the potential to reduce financial and time expenditure, and increase quality of life and life extension of patients. This next technological revolution – the technology redefining the healthcare industry of the future – combines highly powerful biotechnologies like biomarkers, genetics or proteomics with vast amounts of available data, cloud computing services, machine learning, artificial intelligence (AI)-based or similar ICT solutions. Together, these provide expert insights and highly valuable information to support clinical decision at a relatively low cost.

INVESTMENT AREAS

- a. **Research & Innovation infrastructures exploitation models to boost innovation**
- b. **Innovative Procurement Tools (PCP & PPI)**
- c. **Screening and prevention programmes**
- d. **Procurement based on clinical outcomes from PM technologies**
- e. **Smart and future hospitals**

MEDICAL BIG DATA AND ELECTRONIC MEDICAL RECORDS

SOCIO-ECONOMIC ASPECTS

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INVESTMENT AREAS

- a. **Regulatory**
- b. **Economics**
- c. **Cultural**
- d. **Responsible Research and Innovation**
- e. **Gender (discrimination in science)**

KICK – OFF MEETING



2nd European Alliance for Personalised Medicine Congress
Forward as One: Integrating Innovation into
Europe's Healthcare Systems

26 - 28 November 2018 - Milan Italy



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