SC1-DTH-02-2020: Personalised early risk prediction, prevention and intervention based on Artificial Intelligence and Big Data technologies

1. What are you looking for?

- Innovative ICT solutions for early personalised risk prediction through data, data analytics, advanced or novel digital technologies, services, products, organisational changes

- Increase health literacy, including on own personal data and advancing professionals' proficiency in novel, data-oriented health services (e.g. with visualisations like dashboards, etc.)

- Validation and active stakeholder engagement in the design

- Personalised early risk prediction, prevention and intervention approaches and better understanding of disease symptoms and effects and behavioural changes

- Addressing the needs of individuals, improving the uptake of preventive approaches and leading to more effective health and care systems

- Clear and coherent set of recommendations or guidelines for public health authorities in Europe to implement person-centred health and care pathways (<-> disease-centred)

SC1-DTH-02-2020: Personalised early risk prediction, prevention and intervention based on Artificial Intelligence and Big Data technologies

2. What do you <u>NOT</u> want?

- NO large-scale piloting or clinical trials are expected
- BUT

  validation (testing on a prototype and/or proof of concept)

- AND

  demonstration of feasibility of their respective models, technologies and scenarios

SC1-DTH-02-2020 – topic evolution

3. Is this new or has it been called before?

- Health systems must put more emphasis on prevention and adopt a person-centred approach;
- Overcome service fragmentation and move towards integration and coordination of interventions;
- *Personalised* early risk prediction models;
- Develop and validate comprehensive models based on AI or other technologies for prediction, prevention and intervention using data.
- Focus on data-driven health services through the use of digital solutions;

SC1-DTH-02-2020 – topic evolution

4. Unique instructions for evaluators on this WP topic? Excellence, Impact and more

- The thresholds for each criterion will be 4 (Excellence), 4 (Impact) and 3 (Implementation). The cumulative threshold will be 12.

- In recognition of the opening of the US National Institutes of Health's programmes to European researchers, any legal entity established in the United States of America is eligible to receive Union funding to support its participation in projects supported under this topic.

SC1-DTH-02-2020 – topic evolution

5. Current project portfolio *(if relevant)*

- Project outcomes from PHC-21-2015 "*Advancing active and healthy ageing with ICT: Early risk detection and intervention*"

  https://cordis.europa.eu/programme/rcn/665192/en

SC1-DTH-02-2020 – Key actors

6. Who are the leading players?

- Industry (incl. SMEs) and service providers active in the field of (but not limited to) data collection, outside the controlled environment of clinical trials, through IoT enabled devices, wearables, mobile devices, data source networks or data lakes etc.

- Public health authorities and health & care professionals/organisations

- Relevant research actors involving behavioural, sociological, medical and other disciplines.

- Stakeholder engagement (esp. considering vulnerable user groups, i.e. persons belonging, or perceived to belong, to groups that are in a disadvantaged position or marginalized)

SC1-DTH-02-2020

8. Are there any additional / background documents?

[Communication on enabling the digital transformation of health and care in the Digital Single Market; empowering citizens and building a healthier society](#) (COM(2018) 233)

[Connected Digital Single Market](#)

[European Open Science Cloud](#)

[European Free Flow of Data initiative](#)

[Silver Economy initiative](#)

SC1-DTH-04-2020: International cooperation in smart living environments for ageing people

Type of action: Research & Innovation action

Opening: 19/11/2019   Deadline: 22/04/2020

Total budget: €8 M

Indicative EU contribution/proposal: €2-4 M

SC1-DTH-04-2020: International cooperation in smart living environments for ageing people

What are you looking for?

- Develop and validate new solutions that provide personalised advice, guidance and follow-up in smart living environments for ageing people, supporting independent active and healthy lifestyles, fostering social participation (considering ethics, privacy, security and regulatory aspects, gender issues),

- Building on active user engagement

- Validation in realistic test sites (eg. home or care centres)

- Collaboration with Japan (standardisation)

- Collaboration with Canada (Transitions in Care Initiative)

SC1-DTH-04-2020: International cooperation in smart living environments for ageing people

What are you looking for?

Expected impact:

- Independent living, and quality of life of older persons compared to current state of the art;
- Usefulness and effectiveness of personalized recommendations and follow-up
- Evidence of user-centred design and innovation, effective ways of human computer interaction, and user acceptance;
- Reducing social exclusion's risks
- Validation of non-obtrusive technology
- Strengthened international cooperation in Research and Innovation on ICT for AHA.

SC1-DTH-04-2020– topic evolution

Is this new or has it been called before?

The topic is new, expanding on international cooperation.

Relevant DG CNECT WP topic**:**

SC1-PM-14-2016: EU-Japan cooperation on Novel ICT Robotics based solutions for active and healthy ageing at home or in care facilities https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/sc1-pm-14-2016

SC1-DTH-04-2020– topic evolution

Current project portfolio

CARESSES: Culture Aware Robots and Environmental Sensor
Systems for Elderly Support
https://cordis.europa.eu/project/rcn/206852/factsheet/en

ACCRA: Agile Co-Creation of Robots for Ageing
https://cordis.europa.eu/project/rcn/207079/factsheet/fr

SC1-DTH-04-2020 – Key actors

Who are the leading players?

- Users: ageing population and healthcare professionals
- Industry
- Academia

SC1-DTH-04-2020

Are there any additional / background documents?

Horizon 2020 Work Programme 2018-2020 Health, demographic change and wellbeing:

http://ec.europa.eu/research/participants/data/ref/h2020/wp/2018-2020/main/h2020-wp1820-health_en.pdf

Partnering Tool for the Canada-EU Smart Living Environments Addressing Transitions in Care for Ageing People:

- http://www.cihr-irsc.gc.ca/f/51567.html (French)
- http://www.cihr-irsc.gc.ca/e/51567.html (English)

Upcoming events

Digital Excellence Forum @ ICT Proposers' Day 2019
19-20 September 2019, Helsinki, Finland

https://ec.europa.eu/digital-single-market/en/news/digital-excellence-forum-ict-proposers-day-2019

SC1-DTH-06-2020: Accelerating the uptake of computer simulations for testing medicines and medical devices

1. What are you looking for?

Accelerating the uptake of individualized computer simulations in the **regulatory evaluation** of **medicines and/or medical devices** to become closer to the market. Applicants will provide proofs of validation of computer modelling solutions that **gain the trust of regulatory bodies** for innovation, in order to, in collaboration with academic and industrial experts, **develop the framework of standards, protocols and shared resources required to evaluate the safety and the efficacy** of medical devices and/or medicines **at the end of the drug development process**.

SC1-DTH-06-2020: Accelerating the uptake of computer simulations for testing medicines and medical devices

2. What do you NOT want?

Resubmissions of previous call topics related to in silico modelling/computer simulations for just developing and assessing medical products (such as SC1-PM-16-2017) which do not give high attention to the important issues:

- **Regulatory evaluation** of **medicines and/or medical devices** to become closer to the market

- Gaining of trust of users (healthcare professionals and patients), investors and stakeholders at industry and academia

- **Development of the framework of standards, protocols and shared resources required to evaluate the safety and the efficacy** of medical devices and/or medicines.

SC1-DTH-06-2020– topic evolution

3. Is this new or has it been called before?

This call topic is new.

Selected WP topics relevant (current project portfolio):

SC1-PM-16-2017: In-silico trials for developing and assessing biomedical products: https://cordis.europa.eu/programme/rcn/702013/en

SC1-PM-17-2017 - Personalised computer models and in-silico systems for well-being: https://cordis.europa.eu/programme/rcn/702028/en

SC1-DTH-07-2018 - Exploiting the full potential of in-silico medicine research for personalised diagnostics and therapies in cloud-based environments:

https://cordis.europa.eu/programme/rcn/703111/en

The main differences between the current DTH-06 and previous WP topics are pointed out in section 2 of this presentation.

SC1-DTH-06-2020– Key actors

4. Who are the leading players?

Users (healthcare professionals and patients), investors and stakeholders at industry and academia

Check out the project portfolio and pertinent research conferences and journals.

SC1-DTH-06-2020: Accelerating the uptake of computer simulations for testing medicines and medical devices

5. Are there any additional / background documents?

• Horizon 2020 Work Programme 2018-2020 Health, demographic change and wellbeing and General Annexes of the Main Work Programme 2018-2020

• Avicenna* roadmap :

"in Silico Clinical Trials: How computer simulation will transform the Biomedical Industry"

https://www.vph-institute.org/avicenna.html

*Avicenna was a 2-year EU funded project, led by DG Connect that run from Oct 2013 to Sept 2014. The project goal was to create a research and technological development Roadmap outlining a strategy for in silico Clinical Trials. The VPHi was one of the project partners, together with University of Sheffield, Linkeus and Obsidian, tasked with the main goal of developing a pre-competitive Alliance for in silico clinical trials.

Upcoming events / information days

6. Relevant Events

- The H2020 project **EUSTANDS4PM** coordination action (01-01-2019 to 31-12-2021)

(A European standardization framework for data integration and data-driven in silico models for personalized medicine) organises a stakeholders workshop as a satellite event to the COMBINE (Computational modelling in Biology) annual meeting on Thursday July 18th.

http://co.mbine.org/events/COMBINE_2019

- CompBioMed Conference 2019: 25-27 September, 2019, London

https://www.compbiomed-conference.org/

- VPH2020, Aug 26-28th, Paris

http://vph-conference.org/

SC1-DTH-14-2020

Pre-commercial Procurement for Digital Health and Care Solutions

Horizon 2020

Work Programme 2018-2020

8. Health, demographic change and wellbeing

Orestis KALLIANTZIDIS

DG CNECT H3 - eHealth, Well-being & Ageing

NCP TRAINING, Brussels, 18 July 2019

What are you looking for? (1 of 3)

Applicants who are:

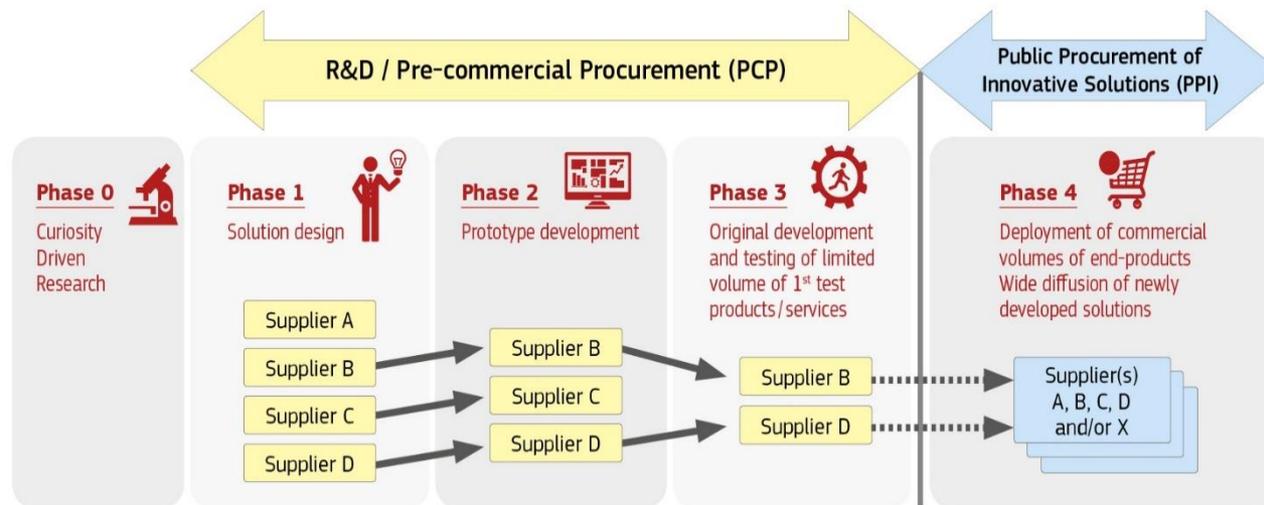- **Public procurers** and, possibly, private procurers and other entities,

who will submit **proposals** which will:

- Support health and care service providers to procure the development of digital services, facilitating the transition to integrated care models across health and social services and country-specific cross-institutional set-ups;

- Address key challenges such as patient empowerment, self-management, patient safety, patient involvement, chronic disease management, diagnosing, hospital logistics, skills and independent living by ICT-based solutions such as, e-Health, telemedicine, and mHealth (to be defined through the market consultation process);

- Focus on interoperable solutions based on open platforms, best practices and standardisation initiatives;

- Facilitate the early adoption and transferability;

- Ensure compliance with ethical standards, patients' rights and privacy protection.

What are you looking for? (2 of 3)

Proposals for **Pre-Commercial Procurement (PCP) projects** which:

1) Respect the **design** of this particular H2020 funding instrument

A PCP steers the development of solutions towards concrete public sector needs, whilst comparing/validating alternative solution approaches from various vendors.

2) Respect the **specific H2020 proposal template** and other PCP-related templates provided by the European Commission:

Expected impact (appropriate indicators) for:

- Established path to innovation, evidence of benefits of disruptive technologies that can support the development of sustainable business models, improved user and market engagement, strengthened procurement community, evidence of healthy innovation ecosystems. Evidence in key performance areas i.e., quality in health and care, sustainability of the delivery system and economic value.

- Increased opportunities for solution uptake across wider international procurement markets by aiming at interoperable solutions validated through field testing.

SC1-DTH-14-2020: Topic profile

Type of action: **PCP – Pre-Commercial Procurement**

Opening: 19/11/2019   Deadline: 22/04/2020

Total budget: €9 M

Indicative EU contribution/proposal: €4-5 M

Funding rate for PCP actions is limited to **90%** of the total eligible costs to leverage co-financing from the procurers in this specific case.

*US legal entities allowed to receive funding.

*Members of consortium are required to conclude a consortium agreement, in principle prior to the signature of the grant agreement.

Work Programme topic – topic evolution

Is this new or has it been called before?

This call topic is based on SC1-DTH-10-2019-2020 - Digital health and care services (PCP).

Other selected DG CNECT WP topics relevant (current project portfolio):

- *SC1-HCC-04-2018: Digital health and care services – support for strategy and (early) adoption (CSA)*

- *SC1-PM-12-2016: eHealth innovation in empowering the patient (PCP)*

- *PHC-27-2015: Self-management of health and disease and patient empowerment supported by ICT*

Current project portfolio

*Potential applicants can find **ongoing PCP projects**, as well as relevant EU-funded actions at an earlier stage (Coordination & Support Actions – CSAs) or more mature stage (Public procurement of Innovative solutions – PPI) at the following address:*

https://ec.europa.eu/digital-single-market/en/eu-funded-projects

Who are the leading players?

- (Public) Procurers
- Hospital clusters, care services providers
- Patients & their communities

Check out the project portfolio (previous slide) and relevant links provided in the slides.

Are there any additional / background documents?

MUST-READ:

The general FAQ list for PCP actions

http://ec.europa.eu/information_society/newsroom/image/document/2016-37/questionsandanswers_pcp_actions_16995.pdf

BACKGROUND INFORMATION

What is a PCP – Objectives & Design – Assistance & complementary funding opportunities

https://ec.europa.eu/digital-single-market/en/pre-commercial-procurement

Advice & Toolkit from the European innovation Partnership on Active & Healthy Ageing

https://ec.europa.eu/eip/ageing/public-procurement-platform/resources-pcp-and-ppi_en

BUT

The official WORK PROGRAMME text is the only legally binding source of information on this topic:
http://ec.europa.eu/research/participants/data/ref/h2020/wp/2018-2020/main/h2020-wp1820-health_en.pdf

Upcoming events / information days

Digital Excellence Forum @ ICT Proposers' Day 2019
19-20 September 2019, Helsinki, Finland

2 sessions on ICT for Health & Care (19/09): networking & presentation of project ideas for the new 2020 topics by potential applicants

More info & Registration: https://ec.europa.eu/digital-single-market/en/news/digital-excellence-forum-ict-proposers-day-2019

Also, stay up to speed (Innovation Procurement newsletter): https://ec.europa.eu/digital-single-market/en/innovation-procurement

Do you have further questions?

Please contact:

CNECT-H3-H2020-TOPICS@ec.europa.eu

Thank you!

SC1-HCC-06-2020

Coordination and Support to better data and secure cross-border digital infrastructures building on European capacities for genomics and personalised medicine

VALVERDE ALBACETE Jose

- # **SC1-HCC-06-2020**

Opening: **9 July 2019**
Deadline: **13 November 2019**

Type of Action: Coordination and support action

Grants: beneficiaries may provide support to **third parties** either in form of grants or prizes

Request expected: up to **4 M€**

SC1-HCC-06-2020: Challenge

- Data being used in personalised medicine tackles major health challenges as cancer and rare diseases, and helps delivering better and more effective health outcomes.

- There is need to:
  - support pooling of genomic and other data;
  - common standards for generating, analysing and sharing of data;
  - develop cross-border data sharing expertise and linking genomic and other health data;
  - identify relevant initiatives and projects and best practices;
  - identify common standards for data quality, security, interoperability, privacy, ethical guidelines and governance models for sustainable cross-border digital infrastructures and networks.

SC1-HCC-06-2020: Scope (I)

- Support identification of **common standards, cross-border digital infrastructures and coordination** for personalised medicine;

- Build on existing initiatives, projects and resources at all levels;

- Identify appropriate **practices, standards and governance models** for establishing cross-border digital infrastructures supporting genomics research and personalised medicine;

- Develop **coordination mechanisms** for sharing expertise and for linking genomic and other health data, respecting legal and ethics requirements;

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SC1-HCC-06-2020: Scope (II)

- Facilitate exchange of **best practices**;

- Provide overview of **relevant standards** for data quality, security, interoperability, privacy and ethics;

- Identify **critical elements of transparent governance** system enabling cross-border linking of genomic and other data;

- Develop a **quality risk management**.

SC1-HCC-06-2020: Expected Impact

- The proposal should provide indicators to measure progress and impact in:

  - Standards and mechanisms for cross-border linking and analysis of genomic and other health data;

  - Basis for developing cross-border digital infrastructure for linking such data;

  - Secure use of genomic and other health data for personalized medicine;

  - Basis for investment decisions in personalized medicine;

  - Support of Europe's global leadership in personalized medicine.

SC1-HCC-06-2020

1. What are you looking for?

- Coordination and Support actions to our policies on personalised medicine (genomics).
- Focus on Pillar 2 of the Communication (Communication on enabling the digital transformation of health and care in the Digital Single Market; empowering citizens and building a healthier society, COM(2018) 233, 24/04/2018).

SC1-HCC-06-2020

2. What do you <u>NOT</u> want?

- Actions missing some objectives.
- Generic support to "all eHealth" policies.
- Not considering critical elements of a system of transparent governance of a digital infrastructure enabling the cross-border linking of genomic and other health data in Europe

SC1-HCC-06-2020 – topic evolution

3. Is this new or has it been called before?

It is new.

It focuses on support actions to European Genomics policy.

*It is linked to Topic **DT-TDS-04-2020**: AI for Genomics and Personalised Medicine.*

SC1-HCC-06-2020 – topic evolution

4. Unique instructions for evaluators on this WP topic? Excellence, Impact and more

- _Objectives:_ *All of them need to be covered by the proposal. If not, under threshold.*

- _Impact:_ *KPIs → quantitative, explain how are they going to be achieved.*

SC1-HCC-06-2020 – Key actors

5. Who are the leading players?

- Health & Research Departments.
- European infrastructures.
- Industrial partners.

6. Is there a key group of actors (eg. cPPP or other) driving this?

See above.

SC1-HCC-06-2020

7. Are there any additional / background documents?

- Communication on the Digital Transformation of Health and care (April 2018): https://ec.europa.eu/digital-single-market/en/news/communication-enabling-digital-transformation-health-and-care-digital-single-market-empowering

- Declaration "Towards access to at least 1 million sequenced genomes in the European Union by 2022" (Digital Day 2018): https://ec.europa.eu/digital-single-market/en/european-1-million-genomes-initiative

SC1-HCC-06-2020: Further Information

For further information on
- **Topic SC1-HCC-06-2020**
- **Conditions for the Call** – Coordination and Support to better data and secure cross-border digital infrastructures building on European capacities for genomics and personalised medicine

please refer to
- *Horizon 2020 Work Programme 2018-2020 Health, demographic change and wellbeing* and
- *General Annexes of the Main Work Programme 2018-2020,*

Contact for SC1-HCC-06-2020: CNECT-H3-H2020-TOPICS@ec.europa.eu

SC1-HCC-07-2020
Support for European eHealth Interoperability roadmap for deployment

Type of Action:Coordination and support action

Opening: 9 July 2019
Deadline: 13 November 2019

SC1-HCC-07-2020
Challenge

- <u>Take advantage of (big) health data</u>, both clinical and citizen-generated, to improve healthcare and advance research

- <u>Overcome data fragmentation </u>in healthcare through enabling better access to data, data exchange and interoperability

- Bring together <u>stakeholders and expertise </u>to promote eHealth cross-border interoperability

SC1-HCC-07-2020
Scope

- Support deployment and monitoring of <u>eHealth interoperability</u> in real life interoperable digital platforms and solutions for cross border use

- <u>Enable significant number of citizens</u> in several Member States to <u>access and share</u> their health data

- Consider the <u>cross-border interoperability of EHR</u>, empower citizens and comply with relevant legislation (GDPR, NIS Dir.)

- Build on the EC Recommendation on the <u>European EHR exchange format</u> and relevant activities of the <u>eHealth Network</u>

SC1-HCC-07-2020
Expected impacts (1)

- <u>Citizen-centred</u> secure electronic health data use

- Cross-border and inter-institutional <u>interoperability solutions</u>

- Improved health conditions, healthy working conditions and quality of life and health economics and occupational health

- Citizens' <u>management of own healthy life </u>continuum across borders, actors and confinements

- <u>Accessibility, control and portability </u>of health data for citizens

SC1-HCC-07-2020
Expected impacts (2)

- Open, extensible and harmonisation-based <u>citizen health records solution</u> for service and app developers;

- Easy and safe for citizens to provide and <u>donate their health data</u> for research;

- <u>Requirements, specifications and guidelines for the exchange</u> of images, image reports, laboratory results and discharge letters

- Integration with <u>Connecting Europe Facility</u>

SC1-HCC-07-2020
Practical aspects

- Grants: beneficiaries may provide support to third parties either in form of <u>grants or prizes</u>;

- Request expected: up to <u>EUR 3 million</u> (submission of different amounts allowed).

SC1-HCC-07-2020
Further information

- Horizon 2020 Work Programme 2018-2020 Health, demographic change and wellbeing and

- General Annexes of the Main Work Programme 2018-2020

Contact: CNECT-H3-H2020-TOPICS@ec.europa.eu

SC1-HCC-07-2020
Background information (EU policy)

- European Commission, Communication on enabling the digital transformation of health and care in the Digital Single Market; empowering citizens and building a healthier society, COM(2018) 233, 24/04/2018

- European Commission, Recommendation on a European Electronic Health Records Exchange Format, C(2019) 800, 6/02/2019

SC1-HCC-07-2020
Background information (projects)

- Selection of relevant (recent) EC topics and projects:

  - PHC-34-2014: eHealth interoperability
    https://cordis.europa.eu/programme/rcn/665205/en

  - SC1-HCO-15-2016: EU eHealth Interoperability conformity assessment
    https://cordis.europa.eu/programme/rcn/700407/en

  - SC1-DTH-08-2018: Prototyping a European interoperable Electronic Health Record (EHR) exchange
    https://cordis.europa.eu/programme/rcn/703803/en

SC1-HCC-08-2020: Scaling up innovation for active and healthy ageing

1. What are you looking for? – Part I

- Active involvement of partners from the **European Innovation Partnership on Active and Healthy Ageing** as well as from other EU relevant stakeholder groups and R&I projects to **facilitate further uptake**

- Successful **support to supply and demand sides** (also facilitating regular exchanges) in implementing **scaling up strategies for innovative solutions** (technology, integration of health and social care, systemic change)

- Focus on the development and implementation of **long-term strategy leveraging and blending funding sources** from EU, national and/or regional programmes, promotional banks and private investments, also involving new players and partners

SC1-HCC-08-2020: Scaling up innovation for active and healthy ageing

1. What are you looking for? Part II

- **Financial support tasks for upscaling measures and large-scale deployment** should be defined (including twinning programmes and capacity building for local and regional authorities)

- Set of **recommendations or guidelines for public health authorities**

- **Fields**:
  - mHealth solutions for active and healthy ageing,
  - smart age-friendly homes and independent living,
  - chronic disease management

SC1-HCC-08-2020: Scaling up innovation for active and healthy ageing

2. Expected impact

- Accelerated progress on scaling-up digital innovation for active and healthy ageing across the EU.

- Contribution of the policy activities to i) The Quality of Life of the EU population, ii) The Sustainability of Health and Care delivery and iii) Economic growth and job-creation

- Increased levels of investment by public authorities and private investors in digital innovation for health and active ageing.

- Wider commitment to investment leading to successful and cost-effective implementation of digitally-enabled, person-centred care solutions

- Enhanced market conditions that can facilitate economies of scale for the suppliers of technology and services

SC1-HCC-08-2020: Scaling up innovation for active and healthy ageing

Practical aspects

Coordination and Support Action,
2 M€ - 1.5-2M€/proposal

SC1-HCC-08-2020: Scaling up innovation for active and healthy ageingic – topic evolution

3. Is this new or has it been called before?

• The work will build on previous actions. In particular, complementarity and consistency should be ensured with the outcomes, guidelines and strategies delivered in projects funded from:

  • SC1-HCO-17-2017 ("Support for large scale uptake of Digital Innovation for Active and Healthy Ageing"),

  • SC1-HCC-01-2018 ("Supporting investment in smart living environments for ageing well through certification")

  • SC1-HCC-05-2018 ("Support to a Digital Health and Care Innovation initiative in the context of Digital Single Market strategy").

SC1-HCC-08-2020: Scaling up innovation for active and healthy ageing– Key actors

4. Who are the leading players?

- Partners from the European Innovation Partnership on Active and Healthy Ageing as well as other relevant stakeholder groups (e.g. Joint Programming Initiative on More Years Better Lives, Active and Assisted Living programme, EIT Digital and EIT Health), and research and innovation projects, at European, national and regional levels.

- Industry (incl. SMEs)

- Public health authorities and health & care professionals/organisations

SC1-HCC-08-2020

5. Are there any additional / background documents?

Communication on enabling the digital transformation of health and care in the Digital Single Market; empowering citizens and building a healthier society (COM(2018) 233)

Connected Digital Single Market

Silver Economy initiative

Upcoming events / information days

- 19 September 2019 - ICT Proposers' Day 2019, Helsinki, Finland

Work Programme topic

SC1-HCC-09-2020:

Supporting deployment of eHealth
in low and lower middle income countries in
Africa
for better health outcomes

SC1-HCC-09-2020: Supporting deployment of eHealth in low and lower middle income countries in Africa for better health outcomes

Scope

- Support the coordination of a registry of relevant existing e-Health solutions with their services and potential for low and lower middle income African countries or regions
- Roadmap and strategic implementation plans building on the requirements of end-user communities and policy makers
- Take into account national and regional policies and (best) practices regarding health and care services and health infrastructures, incl. lessons learned from existing eHealth policies and programmes at all levels of the health system
- Build on relevant existing and emerging initiatives and capacities in Europe and Africa for future cooperation and deployment
- Consideration of ethics and data protection of health data, socio-economic and gender issues
- Involvement of relevant stakeholders (incl. end-users) through national, regional and international workshops and communication and dissemination actions

Expected impact

➢ Higher level of international cooperation and networking in eHealth programmes and policies between European countries or regions and low and middle income African countries, focusing on areas that are beneficial to the target countries / regions and their citizens in eHealth

➢ Increased opportunities for e-health innovators, patients, medical staff and health system stakeholders in Europe and Africa

➢ Better accessibility of eHealth Services

Practical aspects

Coordination and Support Action, 2 M€ - 1.5-2 M€/proposal

Third countries eligible for funding:

http://ec.europa.eu/research/participants/docs/h2020-funding-guide/cross-cutting-issues/international-cooperation_en.htm#support-non-eu-countries

Work Programme topic

2. What do you <u>NOT</u> want?

Narrow use

Closed proprietary systems

Privacy concerns

Security concerns

Work Programme topic – topic evolution

3. Is this new or has it been called before?

This is a new topic, expanding on eHealth deployment to specific situations in countries in Africa

Work Programme topic – topic evolution

4. Current project portfolio *(if relevant)*

There is one ongoing RIA project under H2020

mHealth4Afrika

Healthcare delivery, a key requirement of end-user communities in developing countries, and priority area in both the 2015 Millennium Development Goals and Post-2015 Sustainable Development Goals. Aligned with Horizon 2020 Societal Challenges, mHealth4Afrika will research and evaluate the potential impact of co-designing an open source, multilingual mHealth platform on the quality of community based maternal and Newborn healthcare delivery in Southern Africa (Malawi, South Africa), East Africa (Kenya) and Horn of Africa (Ethiopia).

Research and Innovation actors from three European and four African countries will engage with local end-user communities (i.e. representatives of parents and local community leaders, Ministry of Health, healthcare professionals and volunteers, health oriented NGOs). This project will leverage a User-centred Design, Living Labs and Collaborative Open Innovation based approach.

Work Programme topic – Key actors

5. Who are the leading players?

Open - Key stakeholders from EU and African side

6. Is there a key group of actors (eg. cPPP or other) driving this?

No

Work Programme topic

7. Are there any additional / background documents?

No, but consider development programmes and work of DG DEVCO

Future Outlook

8. Do you have information about future trends, emerging initiatives, roadmaps, key players in this area? How are you bridging to Horizon Europe?

The current developments in eHealth on the European level are driven by the work of the eHealth Network of the Member States,
the Digital Service Infrastructure under the Connecting Europe Facility
as well as the Interoperability framework ISA2 under the Digital Single Market policy

DT-TDS-04-2020
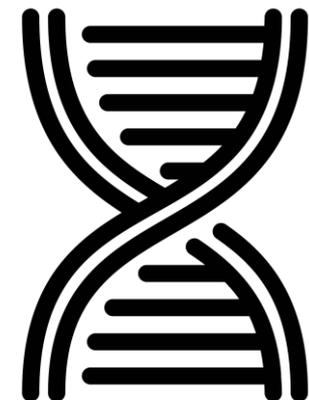
AI for Genomics and Personalised Medicine

VALVERDE ALBACETE Jose

Disclaimer: *The official work programme text is the only legally binding source of information on this topic.*

DT-TDS-04-2020

Opening: **19 November 2019**
Deadline: **22 April 2020**

Type of Action: Research and Innovation action

Request expected: up to 10 M€.

DT-TDS-04-2020 : Challenge

- Make use of the existing infrastructures and initiatives for the successful **exploitation of genomic data** to facilitate personalised medicine;

- To demonstrate potential and benefits of **AI technologies** for identifying new knowledge, support clinical research and decision making **by linking Europe's relevant genomic repositories**, while ensuring full compliance with data protection legislation and ethical principles.

DT-TDS-04-2020 : Scope (I)

There is a need to:

- **Link** relevant genomics data and **repositories**;

- **Combine** –omics **data** with other data;

- **Ensure compliance** with the relevant privacy, cybersecurity, ethical and legal rules;

- **Consider** sex and gender **aspects**;

DT-TDS-04-2020 : Scope (II)

There is a need to:

- **Use data** from European Open Science Cloud Initiative, employ High Performance Computing, and European Open Science Cloud

- **Address specifications and standards** for the secure access and exchange of cross-border genomic and other health data.

DT-TDS-04-2020 : Expected Impact

- Supporting the development and testing of AI technologies on genomics and health data repositories;

- Sharing of data and infrastructure for personalised medicine research;

- Effectiveness of AI technologies for genomics and personalised medicine;

- Measuring patient-based value healthcare outcomes;

DT-TDS-04-2020 : Expected Impact

- Developing technical specifications;

- Interoperability of relevant registries and databases;

- Pooling of health data and resources across the EU;

- Standards for genomic and associated data generation, analysis, privacy and sharing;

- Contribution to European Cloud Initiative;

- Increasing the trust of users on AI solutions.

Work Programme topic

1. What are you looking for?

- Research & Innovation on AI for Genomics
- Personalised Medicine (as the mid-long term objective)

Work Programme topic

2. What do you <u>NOT</u> want?

- Just research on generic AI.

- AI research on personalised medicine not related/linked to genomics.

Work Programme topic – topic evolution

3. Is this new or has it been called before?

- It is related to previous research on AI and also on Personalised Medicine.
- It is new because of the focus on genomic information linked to other health data.
- It is related to Topic **SC1-HCC-06-2020.**

Work Programme topic – topic evolution

4. Unique instructions for evaluators on this WP topic? Excellence, Impact and more

- ***Excellence*** *is key (as a RIA), both on AI and Genomics.*

- ***Impact****: KPIs → quantitative, explain how are they going to be achieved.*

Work Programme topic

5. Are there any additional / background documents?

- European Commission, Communication on enabling the digital transformation of health and care in the Digital Single Market; empowering citizens and building a healthier society, COM(2018) 233, 24/04/2018

- Ethics Guidelines for Trustworthy AI:https://ec.europa.eu/futurium/en/ai-alliance-consultation/guidelines#Top

- Coordinated Action Plan on AI: https://ec.europa.eu/digital-single-market/en/news/member-states-and-commission-work-together-boost-artificial-intelligence-made-europe

- Commission Communication on AI: https://ec.europa.eu/digital-single-market/en/news/communication-artificial-intelligence-europe

- Factsheet on AI: https://ec.europa.eu/digital-single-market/en/news/factsheet-artificial-intelligence-europe

Work Programme topic

5. Are there any additional / background documents?

- Declaration "Towards access to at least 1 million sequenced genomes in the European Union by 2022" (Digital Day 2018): https://ec.europa.eu/digital-single-market/en/european-1-million-genomes-initiative

Future Outlook

6. Do you have information about future trends, emerging initiatives, roadmaps, key players in this area? How are you bridging to Horizon Europe?

Both, **AI** and **Genomics**, are key elements of forthcoming research programmes.

DT-TDS-04-2020 : Further Information

For further information on
- **DT-TDS-04-2020**
- **Conditions for the Call** – AI for Genomics and Personalised Medicine

please refer to
- *Horizon 2020 Work Programme 2018-2020 Health, demographic change and wellbeing and*
- *General Annexes of the Main Work Programme 2018-2020,*

Contact for DT-TDS-04-2020: CNECT-H3-H2020-TOPICS@ec.europa.eu

DT-TDS-05-2020
AI for Health Imaging

Type of Action: Research and Innovation action

Opening: 9 July 2019
Deadline: 13 November 2019

DT-TDS-05-2020
Topic / Work Programme

- Call Trusted digital solutions and Cybersecurity in Health and Care

  - Focus Area on Digitising and transforming European industry

- Together with topics:

  - DT-TDS-04-2020: AI for Genomics and Personalised Medicine

  - DT-TDS-01-2019: Smart and healthy living at home

DT-TDS-05-2020
Challenge

- <u>Take advantage of AI advances</u> in healthcare applications - health imaging in particular

- <u>Pool and curate health images</u> to develop and train AI applications for cancer diagnosis, prediction and follow up

- Focus on <u>most common forms of cancers</u> (e.g. lung, breast, colorectal, prostate, skin, stomach)

DT-TDS-05-2020
Scope (1)

- Set up and populate a <u>large interoperable repository of health images</u> enabling the development, testing and validation of AI–based health imaging solutions to improve cancer diagnosis, disease prediction and follow-up

- Pool <u>high quality, interoperable, anonymised or pseudo-anonymised data</u> sets of annotated cases, based on data donorship, using open APIs

- Develop <u>AI tools and analytics</u> for prevention, prediction and treatment of the most common forms of cancer while providing solutions to securely share health images across EU

- Demonstrate <u>effectiveness</u>, <u>validity</u>, <u>safety</u>, <u>reproducibility</u>, <u>usability,</u> <u>reliability</u> and <u>explainability</u> of AI solutions

DT-TDS-05-2020
Scope (2)

- Build on relevant national and EU activities bringing together:

- Expertise to <u>set up data infrastructure</u> and to ensure appropriate <u>data sharing</u>, <u>data quality</u> and <u>interoperability</u>

- AI developers and expertise for <u>developing and testing AI applications</u> using the repository of health images while ensuring <u>compliance with relevant legisl</u>ation

DT-TDS-05-2020
Expected impact

- Creation of a <u>EU-wide repository of health images</u> dedicated to the most common forms of cancer, enabling experimentation of AI-based solutions to improve diagnosis, treatment and follow-up and contribute to a more precise and personalised management of cancer

- Developing <u>technical, organisational and ethical standards</u> for AI for health imaging

- Promoting <u>access to anonymised health image data sets</u> to be made more openly reusable across the EU for training AI

- <u>Increasing trust in AI solutions</u> among users (healthcare professionals and patients), investors and stakeholders at industry and academia

DT-TDS-05-2020
Further information

- Horizon 2020 Work Programme 2018-2020 Health, demographic change and wellbeing and

- General Annexes of the Main Work Programme 2018-2020

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DT-TDS-05-2020
Background information

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