



Position Paper - September 2021

Digitalisation in Health and Clusters' Role

Digitalisation is an incredible changing factor in the way we use to access and utilize healthcare services. We are still facing barriers and limits in the full exploitation of such opportunity. Clusters can be part of the solution to change the paradigm. It is in this context that CEBR, and its Digitalisation Special Interest Group have identified key issues, best practices and propositions that are defined in this position paper.

Digitalisation showed its capability to be a transformative factor for healthcare sectors. There is growing evidence that digital innovations are able to: lower cost of healthcare services, empower citizens and patients, improve prediction, diagnostics and prevention, and enhance and personalize therapeutic approaches, allowing more effective and efficient management of different health and disease states. Digitalisation is a key enabling factor of the so-called “multiple Ps paradigm”. (1)

We are at the beginning of a real revolution in “where, when and how” we will be able to prevent and treat chronic and acute conditions, and we should be able to exploit all the opportunities arising from this paradigm change.

Still, many challenges remain to be overcome: a solid and consistent validation of the technological solutions, the reimbursement issues including the appraisal of prevention, the adoption, absorption and combination of innovative solutions, the sustainability of the resulting system, the issues derived from exchange and interoperability of data etc. All EU states must create the best conditions to permit the transformation of scientific discoveries into innovations in an efficient and effective way.

Different kind of actors are/will be involved as protagonists in that revolution. Universities and scientific centers, startups, life science, pharmaceutical and ICT companies, health care centers and hospitals, health authorities and politics as well as patients and the legislative and societal framework.

(1) “4 P paradigm” (Prediction, Prevention, Personalization, Participation) and “5 Ps paradigm” adding “Psycocognitive”.

This ecosystem is dynamic, fragmented at the European level, characterized by multiple layers of complexity and with several barriers limiting the full exploitation of opportunities. The need for integration is widely recognized, and there are many efforts to align all the actors.

Particularly the initial phase of development and testing of digitally and data driven solutions is key. It is not always easy to transfer and test innovative ideas in real environments. The need for “smart” networks that will enable multiple relations with actors belonging to multiple groups -ranging from research to industry to hospitals to patients association - doesn't require only the problems understanding. It is necessary to integrate multiple needs and visions with a sustainable approach, great attention to the final users and payers' desires and the knowledge of technical, regulatory and business aspects. Those aspects are also more important if we consider the importance of health data access in term of privacy and ethics in addition to scientific progression, innovation development and services and solutions for patient needs but also in term of data privacy and ethics.

Clusters should play a key role in this process as “smart system integrators”. They represent communities with a specific territorial landscape, specialized at the technological or market level. They can support different actors to develop projects and initiatives with a sustainable approach, integrating all necessary expertise to increase the chance of success. They could act to overcome the different barriers existing at the business, scientific, institutional, technological, financial, educational and legal level. Being part of different hubs, they will support the interregional and international development of the best solutions. They can act to permit the full exploitation of ideas and their scaling-up and the learning and adoption process by SMEs, public authorities, research institutions and corporations.

Life science clusters are already working to allow the development of a new “digitalised health care ecosystem” that will follow and will be aligned to the “one health paradigm” (2), based upon integration of digital, biotech, chemical and innovative material solutions.

(2) Cfr. <https://www.who.int/news-room/q-a-detail/one-health>

Clusters are creating a “common playground” for all actors involved in innovation processes and cycles. European Clusters represent an active and critical civil society. They bring together people who want to move our economy forward, but also take a broader political perspective, for example by advocating for research freedom, data protection, citizen empowerment and overall societal benefit.

The full exploitation of such approach passes through a clear understanding of single roles and distinctive capabilities at each actor at territorial level, outlining the need for a more pragmatic approach in leveraging the potentiality of digitalization concentrating activities:

- To focus more in creating the fit-for-purpose ecosystem conditions for the exploitation of research results and ideas, facilitating the realization of pilot and POC initiatives and supporting the identification and implementation of solutions to exploit health data access while respecting data privacy and ethics concerns;
- To reinforce support tools to make easier and less risky the creation of new ventures and the relations with universities and corporations;
- To stimulate multidisciplinary and multiregional initiatives in order to reach critical mass in testing and developing innovative solutions;
- To align different juridical and regulatory systems in order to facilitate the scale-up of innovative solutions at European level;
- To support also from an educational point of view, the growth of a new generation of actors, able to implement solutions in real environment;
- To integrate all the different tools and initiatives at the regional, national and European level (from S3 strategies to Digital Innovation Hubs activities from European Research Council activities to Horizon Europe, from European Innovation Council programs to structural funds in a real systemic vision of development);
- To develop systems thinking competencies, tools and methods to harness the complexity of the whole system change.

Clusters in such perspective play a key role in making possible the grounding of all opportunities derived from digitalisation in health:

- They can support scouting and selection of promising research results.
- They can facilitate the selection, development, boosting and de-risking of innovative projects.
- They can stimulate the transformation of innovative projects in successful new companies.
- They can create a network between actors of different nature and goals.
- They can support educational initiatives conceived to allow the full exploitation of developed solutions by all actors.
- They can create multiregional and interregional connections and develop high impact initiatives.
- They can support public authorities and health care providers in assessing and absorbing innovative digital solutions.
- They can work to make possible real standardization and interoperability inside the different digital health projects that are launched as tool for a larger exploitation of results.

The role of clusters on the way towards a digitalised health and care ecosystem is equally critical at the level of individual stakeholders aiming at achieving and maintaining digital maturity, as at the level of the ecosystem with regards to education, integration and coordination. They can support and boost both, the digital maturity of individual organizations and the digital maturity of regional health-care system, stimulating a positive impact on the whole system change. In this way, European clusters could be the protagonist of an equilibrate position between the risk to have a digitalization process based on a pure market-capitalistic approach and a situation where all the issues are managed only with a state-capitalist approach. This civil society component is an important unique selling point of the European Union, which we should all represent and defend together for the wealth and health of the European population.

In collaboration with:



Annex I - Examples of CEBR Members' Digitalisation Projects



DigiMed Bayern for the Medicine of the Future: P4 medicine (predictive, preventive, personalized, participatory) is one of the world's most promising developments for improved, holistic and efficient healthcare. The lighthouse P4-medicine project DigiMed Bayern was launched at the end of 2018 with more than € 20 million funding by the Bavarian State Ministry of Health and Care. [WEB](#)



Bavarian Genomes: 1000 clinical genomes for rare diseases in Bavaria. The "1000 Clinical Genomes" project is based on a network of the Centers for Rare Diseases in Bavaria and aims to identify causal sequence variants in the human genome of at least 1000 patients with rare diseases but a genetically unclear diagnosis. [WEB](#)



Interreg Blockstart Project: support programme for SMEs from the logistics, healthcare and agri-food sectors to implement blockchain-based solutions in their processes. SMEs are encouraged to participate in the SME training programme, which offers more than 40 courses on developing BC-based solutions or new business models related to digitalisation. [WEB](#)



AIQNET: funded by the German Bundesministerium für Wirtschaft und Energie, aims to establish a medical data ecosystem. AIQNET provides a platform to promote AI-based use cases for the usage of medical data to improve development and regulation processes of medical devices. Furthermore, the network aims to facilitate access to medical data. [WEB](#)

BioWin



Call for collaborative and innovative projects: BioWin cluster supports an innovation strategy based on collaborative projects that bring at least two companies and two research units together. Three calls/year are initiated. One of the strategic domain supported by BioWin is dedicated to medical devices and eHealth. Several projects have been funded: NeuroInsights, eLisa, Frite@home for applications in Parkinson disease, spleep apneas syndrome and rehabilitation at home for patients with brain lesions. [WEB](#)



S3 - Strategic Innovation Domain "Innovation for a better health": In the framework of the S3, the Walloon Government, with the support of the Biowin cluster, has defined a roadmap for a Strategic Innovation Domain on health for the next 4 years. One of the ambitions is to achieve excellence in digital health innovations with a human dimension allowing each patient to be connected in the medicine of tomorrow and to develop a personalised approach in prevention and monitoring. [WEB](#)



Défi Santé: this call for projects offers researchers, project leaders and companies offering innovative solutions, a unique field of experimentation in France to test new solutions in favor of a more efficient and patient centric care model. The call for project was organized by Eurasanté the 3rd largest healthcare cluster in France Euratechnologies, France's no. 1 startup incubator and accelerator and CHU of Lille, 2nd best French Hospital. [WEB](#)



Silver Surfer: this call for projects aims to stimulate the ecosystem of associations, companies, health professionals, research laboratories and start-ups by encouraging the development of innovative solutions based on digital technologies dedicated to the Silver Economy. Silver Surfer is on its way for its 7th edition and the winners will get support, fundings, real condition experimentation and visibility. [WEB](#)

LA SILVER ÉCONOMIE EN
RÉGION HAUTS-DE-FRANCE

Silver Eco Incubator: launched by Eurasanté and based in the Hauts-de-France region; a first in Europe to offer a unique support model to accelerate innovative projects in favor of better aging. The incubator will be the place for entrepreneurs, researchers and startups around innovation, digital technologies, new organization model of care delivery for elderly people, collaborative projects... and provide services and accommodations.

[WEB](#)



Technology Resilience Voucher Scheme: a new scheme targeted at local businesses from various sectors to help with Covid-recovery and future growth. The pilot scheme will launch in Autumn 2021 and will offer vouchers of around €1,000 to SMEs to help them adopt a new digital solution (web enhancements, digital marketing, remote working, digital equipment, internationalisation etc.). [Web not available yet.](#)



SANO: is a project implemented in the scope of the Teaming for Excellence Horizon 2020 program and the International Research Agendas program of the Foundation for Polish Science. Sano has been established as an international research foundation located in Krakow. [WEB](#)



HealthGoDigital! EDIH main objective is the process of supporting digital transformation in the field of health (digital health, digital medicine, digital therapeutics) and health care management, based on technological, process and organizational innovations, using advanced digital technologies and computational methods. [WEB \(web under construction\)](#)



DISH- – Digital & Innovation Skills Helix in Health: the Erasmus+ DISH project aims at bridging the “missing link” between the progressive digitalisation of the healthcare sector and the lack of eHealth and innovation skills among health and social care professionals to fully benefit from the use of innovative eHealth products and solutions.

[WEB](#)



The new era for prevention & Diagnostics - Opportunities for SMEs and Corporates: Stronger together. The EEN, the Interreg NWE projects Codex4SMEs, Boost4Health, MATMED and the H2020-project Digi-B-Cube join forces to reach a new level of innovation and strength in diagnostics and prevention in Europe. Health and diagnostics stakeholders will gain insights into accelerating diagnostics development, IVDR, reimbursement and market access. [WEB](#)

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