

# Latvian Biomedicine ecosystem and OuluHealth from Northern Finland have started collaboration

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Latvian biomedicine ecosystem and OuluHealth have started a practical collaboration by connecting networks and introducing relevant companies and stakeholders from both sides enabling new interaction and growth.

2 practical seminars with introductions from Oulu and Latvian ecosystem leaders are being organized in autumn 2021 and will be continued also in 2022.

The health and life science sector of Oulu includes about a hundred thriving companies that develop solutions to answer challenges in the healthcare sector. These companies belong to OuluHealth, which is one of the leading health ecosystems in the Nordics.

OuluHealth is largely focusing on digital health solutions and open collaboration to accelerate innovation by bringing various partners together. The ecosystem is very diversified- from wearables and knowledge in printed electronics relevant for medical and life science purposes, to medical imaging and 5G.

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🗨️ “We are happy to cooperate with Latvian companies and startups as OuluHealth Labs is open for companies interested to test their products and services and getting direct feedback from healthcare professionals and end users,” explains Minna Komu, Oulu Health Network director.

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3 lab paths are available for product or service development and training staff:

Oamk SimLab - 7 versatile simulated learning environments. It consists of simulation studios as well as lab environments of different professional health care areas. It is possible to utilize both students' from different study programs and teachers' feedback during testing and development processes.

Oulu WelfareLab enables developing new solutions and innovating with real end-users: customers, patients and professionals in social and healthcare centers and homes. This model has been co-created by social and healthcare services in the City of Oulu.

OYS TestLab- located in the Oulu University hospital (patient restricted area) –a test environment for specialized health care products and services. There it is possible to replicate various hospital units, such as an operating theatre, clinics, wards and control rooms. It offers facilities and feedback needed to test and develop products or services in an authentic hospital environment and with genuine users.

DigiHealth hub is welcoming data innovation through collaborative R&D.

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🗨️ “Latvian and Oulu ecosystems have both interest in advancing new companies based on data use. Other areas – from wearables and learning from novel solution use within the hospitals is a valuable experience that we hope to further build on” comments Anna Janberga, LIAA technology scout for biomedicine.

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Data specialization is quite unique in Oulu and it enables increasing expertise and capability in the health data management and modelling as well as enabling data and knowledge transfer between the universities, research teams and companies.

In addition, the competence is also very valuable for startups and other companies building data analytics and AI tools. Oulu is constantly investing in digital health innovations especially by increasing the expertise in the secondary use of data for R&D

purposes.

For the future projects Oulu is welcoming cooperation within Horizon Europe and Digital Europe research program frameworks aimed at creating new tools for using health data.

The mutually beneficial cooperation can be developed by connecting companies, research institutes and hospital operators.

Hospitals have an important stake in the innovation ecosystem, for example, Esko EHR was the world's first electronic health record system and it was developed by the Oulu University Hospital rather than by a company.

Both in Latvia and in Finland hospitals are looking for new solutions that are improving their work or making the patient experience more enjoyable and digital.

Oulu is the city with ongoing Future Hospital - OYS 2030 program, which aims to turn Oulu University Hospital into one of the smartest hospitals in the world. By using technologies and automating processes, patient driven and more human care can be offered allocating more time to customers. The hospital is in a construction phase and will be finalized by 2030, substituting the old hospital with a new.

More about Oulu

Oulu in northern Finland is the fastest growing region in the Nordics. The strong and diverse hi-tech industrial base is supported by numerous experts in ICT, life science and cleantech business sectors. Oulu is a well-known leader in digitalisation and an international research and development centre, with 25 000 students at two universities. The city is setting an example by introducing innovative cooperation models, working towards innovations and creating new business opportunities. Oulu is also a recognised pioneer in development of 5G / 6G technologies. With the average age of 38.5 – Oulu has one of the youngest populations in Europe eager to adapt new technologies.

More about Biomedicine in Latvia

Latvia's biomedicine sector combines strong R&D capability, established manufacturing infrastructure, geographic and cultural proximity to eastern and western markets and experience from global exports. Historically Latvia has been strong in the pharma sector ranked 4th by turnover amongst manufacturing industries in Latvia. The industry expertise goes beyond pharma to hardware area such as laboratory equipment, optical fibers and large-scale genome sequencing capacity. The start-up ecosystem sees more and more newcomers in the healthcare and especially digital health area. Latvia's research and innovation interests include personalized medicine, biomarkers, cancer, microbiome, vaccines, and biomaterial fields.

Advanced research institutes are open for collaboration - such as Latvian Institute of Organic Synthesis, the leading drug discovery and development centre in the Baltics and Latvian Biomedical Research and Study Center that holds the national biobank in Latvia and it performs basic as well as applied research in five major directions: human genetics and disease mechanisms, cancer research, biotechnology and structural biology, molecular microbiology and virology, molecular pharmacology and drug targets..

The new research area that is currently developing in Latvia and that also Finnish companies can benefit from is the Biomaterial Centre of Excellence that will enable next generation biomaterials to emerge and substitute the currently commonly used ones.

Personalized medicine and data use- from genomics to electronic patient record systems and extracting the knowledge from the vast databases for personalized routine as offered by the company Smartomica, is the market shift that is currently happening in Latvia.

As of today, there are around 400 Finnish students in Riga Stradins university. The university has 9000 students, and 2000 are foreign students making it the highest number in the Baltics. Thus Latvian contribution to the next generation Finnish doctors means also long term connections in the medical area and extended knowledge of the Latvian hospital and medical system.

In addition, highlighting the recently established capacity of MGI Latvia with the highest gene sequencing throughput capacity in

the Nordics is a good prerequisite for broader scientific and corporate collaboration not only in the domain of human genome sequencing but also for animal, plant and microorganism studies.

More corporate collaboration and research interconnection in the region will bring benefit both to Latvian and Oulu ecosystems.

For example, The Children's University Hospital in Latvia has started creating a Children's Health Ecosystem that highlights the role of the hospital not only being the main Healthcare facility for children in Latvia but also giving significant contribution in the education system, R&D and scientific projects.

The hospital is currently in the planning phase for the development of new infrastructure- new buildings with improved environmental footprint. The digital improvements will strengthen the "paperless hospital" approach and also enable use of new remote personalized consultations and other tools improving the children care in Latvia with shorter hospital stays and reduced stress levels supporting recovery process.

There is an initiative for a common competence centre among all 3 university hospitals in Latvia to capture the knowledge exchange.

Currently the Children's University Hospital in Latvia is particularly interested in:

new "entertainment" solutions for children and teenagers to promote health literacy – for example, a virtual 3D human anatomy explorer, simulation of processes that have negative effect on a human body.

VR and other solutions to reduce anxiety during the hospital stays and apps improving physical activity especially for adolescents with chronic diseases.

Wearable devices for children;

Digital therapeutic solutions for children;

Simulation solutions for HCW (children of different ages).

Would you like to showcase your innovation/company?

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<https://www.liaa.gov.lv/en/article/latvian-biomedicine-ecosystem-and-ouluhealth-northern-finland-have-started-collaboration>