



ACCELERATING SME INNOVATION CAPACITIES WITH A LIVING LAB APPROACH

ACTION PLAN



TEHNOLOŠKI PARK LJUBLJANA
01

Project:
ACcelerating SmE innovation capacities with a Living Lab approach - ACSELL

Partner organisation:
Technology Park Ljubljana (Tehnološki park Ljubljana d.o.o.)

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TPLJ started the project in 2019 with the aim to impact and promote regional competitiveness by improving policy instruments for business support systems. At that time it was the policy instrument *Operational Programme for the Implementation of the EU Cohesion Policy in the period 2014 – 2020*. With the two specific objectives (SO) addressed in the IP1. SO1 refers to promoting and accelerating the creation of new firms, especially start-ups, whereas SO2 addresses increased added value of SMEs. According to the OP, it is “crucial to improve access to capital and funding, training, mentoring, networking and other support services” for the SMEs as it will “contribute to improving the skills and competences at the level of companies and at the level of inter-company cooperation”.

The policy instrument *Operational Programme for the Implementation of the EU Cohesion Policy in the period 2014 – 2020*, is concluding in 2022 and preparations of the new policy instrument based on the previous are already in action. To make a relevant policy change and impact, the succeeding policy instrument has been chosen to be addressed in this action plan.

The policy instrument addressed in the action plan:

Programme for the implementation of the Cohesion Policy 2021-2027

Specific objective 1.2: Strengthen the sustainable growth and competitiveness of SMEs and create jobs in SMEs, including productive investment

All three actions address the same policy instrument, with two different action types.

It is necessary to increase the competitiveness of the economy by creating products and services with high added value and to strengthen corporate social responsibility, which will enable a faster transition to a climate-neutral society. Creating high added value will be supported by innovation, fostering creativity and seizing all the opportunities offered by the fourth industrial revolution.

I. INTRODUCTION

Modern trends, such as aging population, personalized treatment, data and digitization, and the rapid development of new technological solutions are changing various areas of our lives - radically healthcare as well.

Start-ups and small and medium-sized enterprises (SMEs) are part of these changes and need to acquire new competencies to stay competitive and deliver real impact. The so-called open innovation ecosystems and user-centered approaches (eg LivingLabs) can make an important contribution in accelerating the deployment of appropriate solutions based on user experience and user requirements.

By cooperating and integrating external knowledge and experience for the development of new products and services with the needs of end users - customers, they significantly accelerate innovation processes. The most advanced innovation ecosystems in the field of health care, as Scotland, Denmark and Belgium, attach great importance and targeted support to this field.

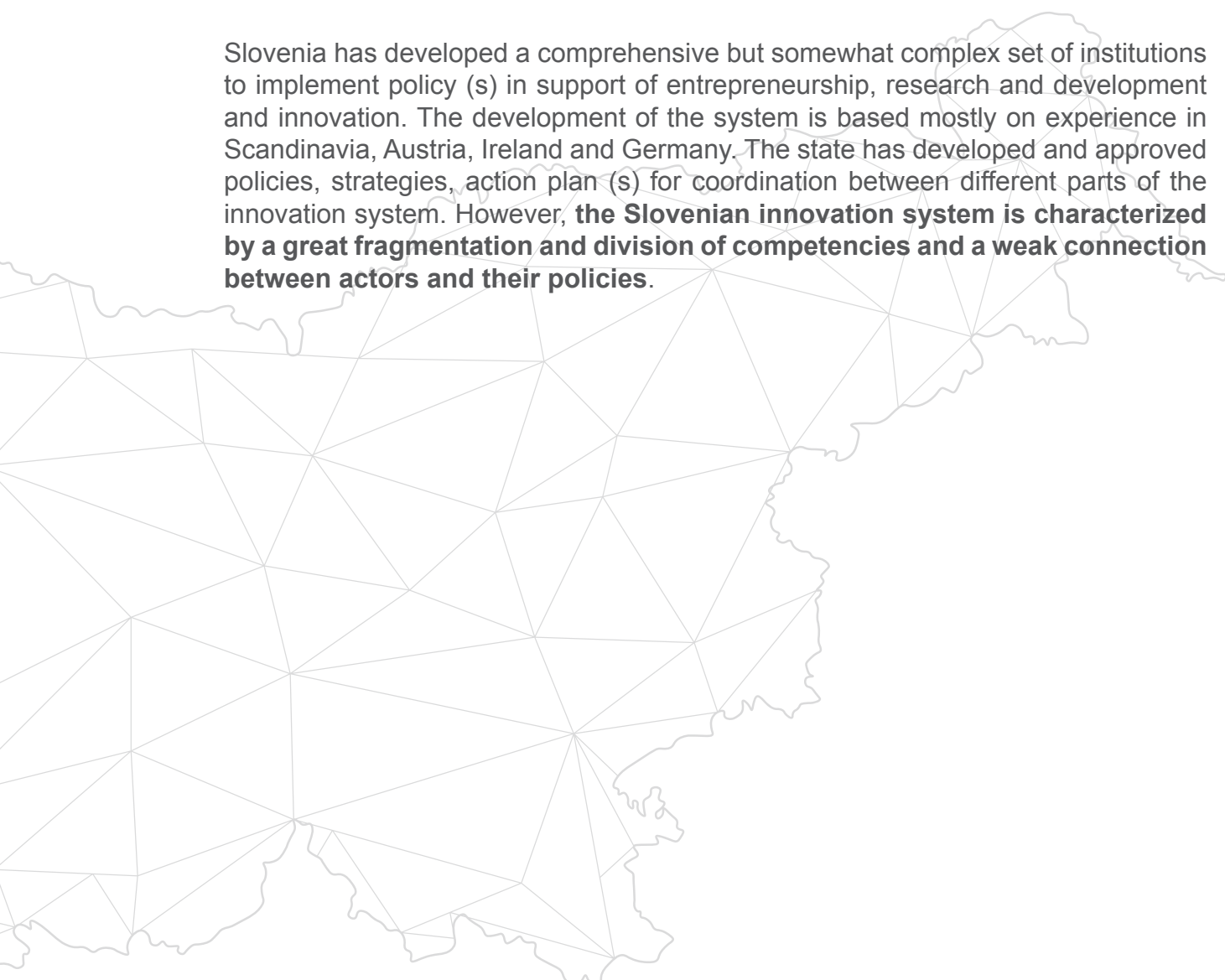
SMEs benefit greatly from innovation ecosystems that enable cross-sectoral collaboration, learning, creation, and experimentation. Access to smart and integrated (supra) regional instruments throughout the innovation process, a vibrant ecosystem (value chain) and relevant competencies will accelerate the path to testing and demand and thus efficient and sustainable solutions.



II. THE INNOVATION ECOSYSTEM IN SLOVENIA

According to the European Innovation Scoreboard 2020, since 2012 innovation performance has increased in 24 EU Member States and decreased in only two, unfortunately Slovenia is one of the latter. **Slovenia now belongs to the group of moderate innovators, as its performance compared to the EU in 2012 decreased.** Slovenia shows the largest positive difference (ie the greatest progress) in the EU in average annual GDP change, the share of employment in manufacturing and the share of SME turnover, and the largest negative difference (ie the largest decline) in R&D investment, start-ups and **public policy procurement, which is only exceptionally focused on innovative public procurement of advanced technologies, which also indicates the limited use of demand-driven innovation.**

Slovenia has developed a comprehensive but somewhat complex set of institutions to implement policy (s) in support of entrepreneurship, research and development and innovation. The development of the system is based mostly on experience in Scandinavia, Austria, Ireland and Germany. The state has developed and approved policies, strategies, action plan (s) for coordination between different parts of the innovation system. However, **the Slovenian innovation system is characterized by a great fragmentation and division of competencies and a weak connection between actors and their policies.**



III. KEY OBSTACLES FOR THE NATIONAL INNOVATION SYSTEM

Using the OSAT assessment tool from Scotland, we were able to identify the weaknesses and in this, the obstacles in our local innovation ecosystem. These key obstacles or opportunities for progress for greater efficiency of the national innovation system can be grouped into three sets:

- **Political, institutional, financial issues resulting from instability and unsustainability and long-term inconsistencies in the development of the innovation ecosystem**, with (too) frequent changes and long-term insufficient public funding for innovation and often delayed legislative response. Implementation is weak, which does not follow a number of national policies and many strategic and operational documents, neither on the implementation side nor on the appropriate allocation of funding sources and their effective use.
- **Fragmentation and lack of stakeholder participations already in the planning phase of the national innovation system**, which is reflected in the lack of knowledge exchange and especially weak cooperation in the implementation phase. Cooperation and networking between individual stakeholders in the implementation phase do exist, but all too often it is based on promotion and funding rather than product development. This also leads to a superficial, narrow, and weak understanding of innovation and related processes, while also under-utilizing innovation capacity and infrastructure.
- **Small market and lack of attention to innovation in markets**. This also means that public institutions and companies cannot reach a critical mass of resources, nor develop resource-sharing practices, where we also miss the greater role of living laboratories and demo sites and partnerships that would promote these. "Demand driven innovation".

IV. INNOVATION SYSTEM IN HEALTHCARE

The innovation ecosystem in healthcare is built of practically the same basic elements as the general innovation ecosystem in support of entrepreneurship. There are practically same legislative frameworks and administration, sources of funding, tax policy and not to forget the factor of political stability and, finally, public sector procurement policy.

But there is a very important difference - the field of use and thus users (medical staff or patients), who in the development stages are also partners in the innovation process from idea to successful market penetration and who in the transition phase play an important role in testing solutions and then equally important role as innovation customers. **The missing element in the innovation health ecosystem in Slovenia is a demo testing environment.**

The success of a company depends on knowing, connecting, and cooperating with other actors who influence the creation and their innovative technological solution. This dependence is particularly important in the context of healthcare, where knowledge and resources need to be constantly disseminated among different stakeholders - for example, doctors, medical technicians, patients, and companies - who have their own specific characteristics and motivations.

Transformation in the health sector encourages the emergence of future hospital programs and digital and other innovations to adequately address the need for greater productivity and organization of hospitals, more efficient operation and use of new technologies, better treatment outcomes and user experience for patients. High quality of care with sustainable costs of comprehensive treatment, throughout the period of treatment and monitoring of the patient.

These new trends, however, create the need for new technological innovations, which are introduced together by simultaneously innovating processes, relationships, and other subsystems, and has also created new business opportunities for healthcare-focused companies. **From the point of view of both companies and healthcare system administrators, healthcare is a challenge and an opportunity for innovation.**

V. BACKGROUND

An overall learning from the twinning experiences and good practices from the ACSELL partners resulted in the need of a structured innovation support body in Slovene healthcare ecosystem.

The self-Assessment (OSAT) with the SCIROCCO Maturity Model (the Scottish GP), has helped us identify the local needs and challenges for Demand-Driven Innovation in Health and Social Care.

- Helped to identify the weaknesses we addressed during the project or will be addressing in the actions.

We used the OSAT assessment tool at the beginning of the project and it provided us the insight into challenges of the local health ecosystem and helped us to structure future stakeholder discussions and the development of actions to address the identified needs.

Findings from the self-assessment: In the category of access to finance, the Slovene stakeholders were particularly coordinated and optimistic, which is the result of many years of development of local financial instruments to support SMEs in the early stages (vouchers, startup programs, investments). Nevertheless, there is a lack of specific support in the field of health, which is being solved limited capacities by the Technology Park Ljubljana and its DIH Healthday.si unit. There is no systematic approach to involving users in the development process, only encouraged in existing national strategies / action plans. On the field of innovation infrastructure, a basic innovation ecosystem exists, but it offers mostly outdated instruments and levels of support. SMEs are looking for support to connect with end-users and modern support instruments, but in the field of health they find it mainly in private partnerships and with individuals. Slovenia lacks the capacity to enable the development of technology (or even a feasibility study) in cooperation with the research sphere - especially not within healthcare institutions – users.

The lessons learned from Belgian GP provided the foundation for the development of living lab focused services for DIH Healthday.si.

- Outcome as Action 1.

Through the whole ACSELL project duration, we have gathered different knowledge on the Living lab approach, including the establishment of a Living Lab and its management. Most lessons we took from the twinning exchanges (online, April-May 2021) and during the partner meeting in Leuven (Belgium, September 2021) we gathered great insight in the running of LiCalab, Living & Care lab from Belgium.

We were inspired by its services to support companies and other organizations in the health, care, and social care sector by involving end-users (patients, the elderly, carers, doctors) in the innovation process from the idea phase to market launch. They always derive from the methodology of user-oriented service design and user experience, so that new developments optimally meet the needs of the end user. Their emphasis is on: care technology, including prevention and health care, active and healthy aging, rehabilitation and mental health, new models of cooperation in care and between care and business, and international cooperation in the "living-lab". LiCalab offers independent and easily accessible access to the innovation ecosystem in healthcare and has its own user platform involving patients, citizens, businesses and healthcare professionals.

The activities they support are mainly user research and market research: (international) market analysis, end-user surveys, testing with end-users in their living or working environment, and business modeling.

The lesson learned from the Danish GP has influenced the task of system development for identifying needs in the healthcare ecosystem and evaluating them by the users concerned.

► Outcome as Action 2.

The Health Hub in the North Denmark Region advance health innovation by addressing real clinical needs. It is an incubator and catalyst for clinical innovation for clinicians, students, entrepreneurs, researchers, companies, and patients. Its prime focus is to accelerate clinical innovation projects through collaboration across disciplines, sectors, and industries by providing access to specialist competences, network, close-to-clinic-facilities, proof-of-concept micro funding, and funding to free clinicians.

We learned about the practice during our partner meetings in 2021 and understood it even better after our project meeting in Aalborg, Denmark in November 2021.

VI. ACTION ACTIVITIES

For a successful policy change and impact on the competitiveness of the healthcare SMEs the following activities are planned:

1. ACTION (type 1):

Development of a testing environment with the Living lab approach

Technology Park Ljubljana will establish a knowledge sharing and testing environment in collaboration with Zavod Izriis, an already established Living Lab focusing on Health&Care from Ljubljana.

The testing environment will support the development of new products and services on the principles of early prototyping, experimentation, user-orientation and stakeholder involvement. The development will be based on the good practice of LiCaLab and Health Hub (Denmark).

Among the main activities, the following tasks based on the needs identified during the sharing of experiences and practices between ACSELL project partners and the stakeholder meetings, will be carried out:

1.1. Establish collaboration with Zavod Izriis and adding their testing support services to the range of services TPLJ provides for SMEs and startups.

1.2. Build a communication plan for raising awareness on the Living Lab approach for innovating in healthcare and its implementation through established TPLJ communication channels.

1.3. Constructing a public list of expert mentors working in the healthcare sector, medical regulation, and quality control management field to help SMEs inquire for experts help and guidance.

1.4. Developing a feasibility study tool to assess the idea of a startup or SME in their early phase – how relevant it really is for the health sector to steer innovation attacking the real problems.

1.5. The creation of a short-term, mid-term and long-term healthcare business support program with a financial plan.

2. ACTION (type 1):

Establishing a system for identification and evaluation of the real needs in the healthcare sector. The action has been inspired by the management of Health Hub North Denmark and Digital Health & Care Innovation Center. Technology Park Ljubljana and the Medical Chamber of Slovenia will construct a system to help identify the real challenges the healthcare sector is facing. An evaluation method will be designed to learn about the extent of the needs with the aim of identifying innovation potential.

Such system will help us to initiate and implement new innovation driven projects.

2.1. Develop a system of collecting barriers and challenges in the healthcare sector.

2.2. Design an evaluation method for the identified challenges.

2.3. Awareness raising and encouragement of users to co-creation, educating on new technologies and processes through the establish communication channels of TPLJ, Healthday.si community and Medical Chamber of Slovenia.

3. ACTION (type 2):

Development of MedTech vouchers with the evaluation process to target real clinical needs. Slovenia has a successfully established voucher system for SMEs, giving them simple access to incentives of smaller values, which helps them strengthen their competitiveness and build digital competences without major administrative obstacles. To accelerate innovation in healthcare a MedTech voucher is needed to financially support the SME for the co-creation in a living lab environment.

3.1. Run a pilot project between August 2022 and February 2023 to identify the requirements, time constraints and financial evaluation of a co-creation project in the living lab environment.

3.2. Develop a health innovation potential assessment tool to be used in providing objective evaluation and ensure the funding will be used on relevant innovation.

3.3. Present the results of the pilot project and financial plan to the decision makers (Government Office for Development and European Cohesion Policy and Ministry of Economic Development and Technology), to find the best way of creating such a system and its implementation and herewith influence the policy instrument: Programme for the implementation of the Cohesion Policy 2021-2027.

VII. PLAYERS INVOLVED

Technology Park Ljubljana (TPLJ) established a Digital Innovation Hub Healthday.si in 2019 with the goal to influence the digitalization of the Slovenian healthcare system. It supports the startups and SMEs with innovative healthcare solutions, for better understanding of healthcare economics, for easier navigation through complex regulatory and certification procedures for medical devices. It supports companies with technical compliance of digital solutions, quality management and provision of financing as well as provides other resources needed for accelerated application of innovative products and services in healthcare.

Manager of the Living Lab services and business support activities for healthcare SMEs

The Slovene Enterprise Fund (SEF) is a public financial fund for financial support to Slovenian micro, small and medium-sized enterprises (SMEs) with favorable guarantee, credit and equity lines for the growth and development of the SMEs and start-up lines for new enterprises. The purpose of SEF's operation is to improve access to favorable financial resources in the market. To achieve that purpose the SEF offers financial incentives and substantive support programme (coaching support, vouchers and other programmes) to foster the entrepreneurial ecosystem. Technology Park Ljubljana is collaborating with SEF since 2014, conducting workshops, trainings, and individual mentoring to SMEs through their support programs.

SEF developed and funded the Health.Tech.Growth acceleration programme for startups.

HealthDay.si, a community of health-tech innovators & stakeholders determined to co-create the Healthcare of tomorrow. HealthDay.si was established in 2014 by Technology Park Ljubljana in collaboration with Xlab, Better (Marand), and Mesi. Its initial aim was a yearly conference for entrepreneurs where they could showcase their solutions and speak about the benefits of healthcare digitization to the stakeholders. Now the community presents a communication and networking platform.

The members of Healthday.si are stakeholders in the Slovene Healthcare ecosystem with the majority of (health focused) SME representatives. They specifically represent the beneficiaries in the developed action and the strong communication channels will help us to raise awareness on the Living lab approach and changed policies.

The Medical Chamber of Slovenia (MCoS) is an independent professional organization of medical doctors and dentists. Among their main tasks are: keeping a register of doctors, management of licenses, planning, monitoring and supervising specialization and other forms of professional training and cooperating in the preparation of laws, implementing regulations, contracts, strategic planning and other documents, and other regulations regarding the medical sector.

Technology Park Ljubljana collaborated with MCoS in the last years on several occasions through the activities of Healthday.si community and running a webinar series to improve the digital competences skills of medical professionals.

MCoS represents a direct link with the medical staff nationwide and the needed medical expertise for evaluation processes.

Zavod Izriis, is a non-profit, non-governmental organization founded in Slovenia, professionally oriented on the rights of the civil society, families and older adults in the information society (health data, GDPR, e-health access – since 2013), family rights, health issues rights, youth and children rights related to addiction and inclusiveness, legislation for health rights of youth and children. Since 2019 they cover also information society policy, digital democracy activities, standards and accreditation of e-health services.

Zavod Izriis will collaborate with TPLJ in establish the living lab services for startups and SMEs for the acceleration program.

VIII. TIMEFRAME

2020

Through the dissemination activities under ACSELL project, the startup support and the innovation ecosystem build around the DIH Healthday.si and similar business support activities around EU (Health specialized accelerators as Health2B, HealthcareLab and EIT Health programmes), the Slovene Enterprise Fund recognized the local need of a business support program with trainings and individual mentoring and stable co-funding, which resulted in the creation of the Health.Tech.Growth program and launch in year 2021.

2021

The first year of Health.Tech.Growth acceleration program has launched, with 10 health and biotech startups participating. Ljubljana University Incubator and Technology Park Ljubljana coordinated the specialized workshops and individual mentoring. To start building on the co-creation part of the programme TPLJ presented the idea of Doctor.Mentor initiative to the Medical Chamber of Slovenia and a group of volunteering doctors have joined to collaborate with the startups enrolling in the acceleration program.

2022

April - July

TPLJ will establish a living lab testing environment together with Zavod Izriis and proceed on the subtask of a list of expert mentors.

July - December

TPLJ and Zavod Izriis will run a pilot living lab co-creation service with a selected SMEs under the DIH Healthday.si acceleration programme funded under the EDIH program. At the same time TPLJ will develop the feasibility study tool for early ideas.

2023

January - May

TPLJ and MCoS will develop, and test run the healthcare needs identification system. The results of the pilot project and financial plan will be presented to the identified decision makers to establish a MedTech voucher system in Slovenia.

IX. MONITORING

In the application our self-performance indicator was the number of SMEs supported through the policy change (35).

In year 2021 10 SMEs were supported through the Health.Tech.Growth programme.

To be more precise in the success of our work and established impact we will add one new performance indicator:

Number of SMEs that developed an innovative healthcare solution in collaboration with other stakeholders (10).

In year 2021 there were 3 SMEs starting to collaborate with healthcare professionals. A SME establish a business co-creation partnership with 2 startups while implementing their solution into their existing health information system which is used in 80% of Slovene health institutions.

X. COSTS AND FUNDING RESOURCES

The Health.Tech.Growth programme is running under the auspices of the Slovenian Enterprise Fund. The programme was granted 40.000€ in year 2021 and is co-finance from the ERDF (European regional development fund).

The costs of the living lab services has not been calculated yet and is part of the action plan activities to be performed in the following months. TPLJ will finance the development from from its own source. The pilots will be co-funded from the EDIH project.

Date: 22. 7. 2022

Signature: dr. Jernej Pintar, CEO

Stamp of the organisation (if available).

