The EIT Regional Innovation Scheme (EIT RIS) was created by the European Institute of Innovation and Technology (EIT) to close the gap between regions that are leaders in innovation and those regions which are progressing. The programme is implemented with the involvement of local Hubs. An EIT Hub is a local organisation selected by means of an open process to act as an interaction point between Knowledge and Innovation Communities (KICs) and local community stakeholders.

The network of EIT Health Hubs includes leading regional incubators, accelerators, prominent medical universities, research centres and institutes. These Hubs are located in 13 countries in Southern, Central and Eastern Europe.

In the field of healthcare, the programme has been developing since 2016, and it is co-ordinated by EIT Health InnoStars. The purpose of the programme is to promote healthcare innovation in countries with modest and moderate innovation capacity. The goal is to help citizens in less developed European countries enjoy the benefits of innovation – and develop and introduce new products and services supporting active ageing and healthy living. Additionally, its aim is to match healthcare innovators from the EIT Health network with the talent pool and innovative organisations from EIT Health RIS regions.
What does the EIT Regional Innovation Scheme bring to the European innovation ecosystem and EIT Health Partners?

Access to talents
Access to markets
Access to start-ups
Great research potential
Regional test-beds and living labs
Access to innovative ideas and project teams
Access to external project partners

JOANNA BARANOWSKA
Medical University of Lodz, EIT Health Core Partner

Co-operation within the RIS network brings us a lot of satisfaction, new contacts and experiences. We have had the opportunity of sharing our experiences and freshly-acquired knowledge, and we’ve systematised our approach in creating and managing innovation. We have similar backgrounds, have met interesting people and learnt how others solve similar problems. In our own example, we have been able to create a new standard in teaching innovation and entrepreneurship to medical students. Most importantly, the opportunity to teach others has turned out to be an opportunity for us to learn.
EIT Health Hubs

There are already 14 EIT Health Hubs established in 13 countries across Europe.
Meet the EIT Health Hubs

TARTUB IOTECHNOLOGY PARK

REGION
Estonia
Tartu, Estonia

POPULATION OF THE REGION
1 324 820

GDP IN THE REGION
€23 615 million

RĪGA STRADIŅŠ UNIVERSITY

REGION
Latvia
Riga, Latvia

POPULATION OF THE REGION
1 919 968

GDP IN THE REGION
€27 033 million
Meet the EIT Health Hubs

EIT HEALTH HUB LITHUANIA
(co-ordinated by Lithuanian University of Health Sciences [LSMU] - the Lead of the Hub and Kaunas University of Technology [KTU])

REGION
North East Region
Kaunas, Lithuania

POPULATION OF THE REGION
2 000 000

GDP IN THE REGION
€25 014 million

MEDICAL UNIVERSITY OF GDANSK

REGION
Pomeranian Region
Gdansk, Poland

POPULATION OF THE REGION
2 285 800

GDP IN THE REGION
€27 257 million
Meet the EIT Health Hubs

DEX INNOVATION CENTRE

REGION
North East Region
Liberec, Czechia

POPULATION OF THE REGION
1 507 209

GDP IN THE REGION
€22 981 million

INNOVLAB, SLOVAKIA

REGION
Eastern Slovakia
Kosice, Slovakia

POPULATION OF THE REGION
1 620 413

GDP IN THE REGION
€18 045 million
Meet the EIT Health Hubs

**INSTITUTE OF TRANSDISCIPLINARY DISCOVERIES, UNIVERSITY OF PÉCS**

**REGION**
South Transdanubia Region
Pécs, Hungary

**POPULATION OF THE REGION**
933,800

**GDP IN THE REGION**
€7,479 million

**ASOCIATIA INIT AND FRESHBLOOD HEALTHTECH COMMUNITY**

**REGION**
North West Romania
Cluj, Romania

**POPULATION OF THE REGION**
2,576,777

**GDP IN THE REGION**
€22,114 million
Meet the EIT Health Hubs

UNIVERSITY OF ZAGREB - UNIZG

REGION
Continental Croatia
Zagreb, Croatia

POPULATION OF THE REGION
2,939,900

GDP IN THE REGION
€33,240 million

LJUBLJANA UNIVERSITY INCUBATOR (LUI)

REGION
Western Slovenia
Ljubljana, Slovenia

POPULATION OF THE REGION
933,800

GDP IN THE REGION
€24,306 million
Meet the EIT Health Hubs

**CONSORZIO ARCA**

**REGION**
Sicily
Palermo, Italy

**POPULATION OF THE REGION**
5 029 675

**GDP IN THE REGION**
€88 112 million

**NATIONAL DOCUMENTATION CENTRE**

**REGION**
Attica
Athens, Greece

**POPULATION OF THE REGION**
3 756 453

**GDP IN THE REGION**
€85 285 million
Meet the EIT Health Hubs

UNIVERSIDADE DE ÉVORA

REGION
Alentejo
Évora, Portugal

POPULATION OF THE REGION
718 087

GDP IN THE REGION
€12 736 million

UNIVERSITY OF PORTO

REGION
North Portugal
Porto, Portugal

POPULATION OF THE REGION
3 689 173

GDP IN THE REGION
€57 241 million
The EIT Regional Innovation Scheme impact

EIT Health RIS activities are focused on two main areas of action: the involvement of RIS stakeholders in EIT Health programmes and the development of local innovation ecosystems in the regions, through the dissemination of the knowledge triangle integration model.

- **14** EIT Health Hubs
- **13** countries
- **100** participants in EIT Health Campus Programmes in 2019
- **700** students participating in Innovation Days in RIS regions in 2019
- **220+** executives and professionals participating in EIT Health RIS training programmes in 2019
- **12** supported innovation projects in 2019
- **50+** supported start-ups in 2019
Top EIT Health RIS projects in 2019

EIT Health RIS Innovation Call 2019

In 2019, RIS launched its first EIT Health RIS Innovation Call 2019 in the search for innovative and promising local projects in the field of health-care in the emerging regions. The main aim was to identify and find high-quality, strong, balanced projects, targeting EIT Health Focus Areas such as bringing care home or harnessing the power of Real World Data. One of the criteria was that the project needed to be developed by well-settled consortia comprising local actors, including both academic and non-academic partners in collaboration with EIT Health Hubs.

Setting the basis for future innovation projects in the region

The goal of this activity was to support projects from the RIS regions and provide funding for the preparation phase; this can help in developing local innovation projects to the maturity level, that meets the application conditions of the EIT Health Business Plan 2021 Innovation Calls.

104
Received applications

84
Passed formal checks

46
Evaluators

12
Selected projects

Best projects selected in the EIT Health RIS Innovation Call 2019
Projects receiving grants in the EIT Health RIS Innovation Call 2019 by Focus Area

- **33%** - Big Data / Cloud
- **17%** - Mobile app
- **17%** - Wearable device
- **33%** - New technologies

**SIMONA BREZAR**
a member of HomeCare 2020, a selected project in EIT Health RIS Innovation Call 2019

*The RIS innovation programme is very useful for us too because of the opportunity of being engaged with the EIT Health network and its activities (workshops, partner meetings), being part of a research consortium, developing valuable solutions for the healthcare market and enjoying the benefits of innovation.*
12 healthcare innovation teams looking for partners

**Romania, Cluj Napoca** 7
InnoHealth: An innovative robotic system for upper limb rehabilitation

**Croatia, Zagreb** 8
KneEMG: Personal electromyograph for knee rehabilitation

**Croatia, Zagreb** 9
COM2LLD: Solution for an indirect measurement of the leg length by tracking the body mass centroid position

**Slovenia, Ljubljana** 10
LifeECG: Remote atrial fibrillations detection with full EKG signal to the cloud

**Greece, Athens** 11
PredictOHSS: An app that addresses the clinicians' need for an individualised prediction check-point of severe ovarian hyperstimulation syndrome based on each patient's profile

**Slovenia, Ljubljana** 12
NEUS: software solution for detecting mild cognitive impairment
1. **Estonia, Tartu**
   DocuMental: EHR optimisation for improving clinical efficiency in psychiatry

2. **Romania, Cluj Napoca**
   Lung cancer Diagnosis and Monitoring System based on transthoracic ultrasonography and neural networks

3. **Slovakia**
   STEMI: Connecting virtually *paramedic - doctor - dispatch operator* to save time when diagnosing stroke

4. **Slovenia, Ljubljana**
   PVR System: A device that addresses peripheral arterial disease in patients with diabetic foot ulcer (DFU)

5. **Slovenia, Ljubljana**
   HomeCare 2020: A device which monitors activities of elderly people to detect emergency situations

6. **Italy, Palermo**
   Patient: specific device for Abdominal Aortic Aneurism (AAA) with Additive Manufacturing (AM)
The evaluators praised the project for its appropriate methodology and for its high level of solution readiness.

Lung cancer Diagnosis and Monitoring System based on transthoracic ultrasonography and neural networks (Cluj Napoca)

- Due to late detection, only 15% of patients suffering from lung cancer survive for five years after diagnosis.
- Recently published data estimates an increase in lung cancer deaths worldwide from 1.6 million in 2012 to 3 million in 2035.
- The consortium plans to tackle this issue with a standardised non-invasive early detection test procedure using transthoracic ultrasonography (TUS) based image analysis, helping to decide whether a lesion has a benign or malignant character.

The evaluators praised the project’s quality and deemed it highly likely to be successful.

One evaluator noted, “It is very likely that the planned product will be suitable for the diagnosis of other lung diseases as well”.

COM2LLD (Zagreb)

- Statistics have shown that up to 90% of the population suffers from leg-length discrepancy (LLD).
- An analytical study conducted on available publications has established a connection between musculoskeletal disorder problems and LLD.
- A study shows that each EU country spends on average €1 billion in costs (work and health) on people with LLD.
- The COM2LLD solution introduces an indirect measurement of the leg length by tracking the body mass centroid position.
- The complete body posture is measured by a vision device while tracking the targeted anatomical points.
- By processing this data, the programme changes the configuration of the movable platforms to achieve the displacement of the centre of the body mass to the desired position where both lower extremities are equally loaded.
The evaluators pointed out that the usefulness of carboxytherapy in the treatment of DFU that has been previously reported, looks well founded and feasible.

PVR System (Ljubljana)

- According to the WHO, the number of people with diabetes rose from 108 million in 1980 to 422 million in 2014.
- Between 12% and 24% of patients with diabetes develop diabetic foot ulcers (DFU).
- A third of ulcers fail to heal and lead to amputations. Meta analysis of 19 studies showed that roughly 40% of patients have recurrence within one year of the ulcer healing.
- Current solutions fail because they do not sufficiently tackle the issue of impaired wound healing process in the poor blood circulation in the feet of those affected.
- PVR system is a device that addresses peripheral arterial disease in patients with DFU to achieve faster healing time, improved nutritive blood perfusion in the foot and non-invasive prevention, using safe and controlled transcutaneous applications of CO2 to the lower extremities.

STEMI: Saving minutes, Adding life in Europe and beyond (Kosice)

- Cardiovascular diseases (CVDs) cause 1.8 million deaths in the EU every year.
- The time between the onset of symptoms and treatment in hospital is the main factor affecting both short- and long-term mortality and morbidity of STEMI (ST-Elevation Myocardial Infarction), stroke and severe Trauma patients’ top three most time-critical cases.
- This project aims to save crucial time in diagnosing stroke, severe Trauma and Myocardial Infarction in the pre-hospital phase by virtually connecting a paramedic doctor dispatch operator via a software solution available in app form and on the internet.
HomeCare2020 (Ljubljana)

- A lack of independence causes the elderly to move into nursing homes sooner than they would need to under normal circumstances and visit doctors more often.
- This puts a burden on social and health-care systems with over-crowded nursing homes and hospitals, which causes higher health-care expenditures.
- The Homecare2020 project tries to solve this issue with a combination of a tablet computer which offers, for example, emergency calls, notifications and reminders, smart-home management, care documentation, and information to carers, and a smart wristband which works anywhere outside and automatically monitors behaviour (activity levels), detects dangerous situations (e.g. falls), enable alerts anywhere. The device also has along battery life.

Patient specific device for Abdominal Aortic Aneurism (AAA) with Additive Manufacturing (AM) (Palermo)

- Open-surgery therapies are currently the only treatment options available for Abdominal Aortic Aneurism. This reduces the survival rate of patients by 20% due to unavoidable post-surgery complications.
- ANEURIS is an innovative endoprostesis which allows endovascular treatment to replace open surgery. It uses Additive Manufacturing (3D printing) Technology which:
  - Shortens the production time by 75%;
  - Reduces surgery time by 75%
  - Simplifies surgical procedure by 60%.
- ANEURIS has received positive written feedback from more than 10 vascular surgeons, as well as from more than five device resellers.
An innovative robotic system for upper limb rehabilitation InnoHealth (Cluj Napoca)

- Upper limb impairment affects between half and three quarters of stroke survivors.
- This is combined with a serious shortage of care-givers (the United Kingdom in 2013 approximately 77 000; France in 2012 approximately 19 000; Belgium in 2013 approximately 7 500).
- The InnoHealth consortium aims to develop an innovative modular rehabilitation robotic system designed for post-stroke patients with impaired upper limb, consisting of three robotic modules.
- Each module is exoskeleton, with adjustable elements to cover the 95% of the population. It brings cost efficiency, distinct functionality and easier maintenance by modularity and reconfigurability.

KneEMG Personal electromyograph for knee rehabilitation (Zagreb)

- Knee injuries occur in both sexes and across all age groups.
- One of the consequences of a knee injury is atrophy of the quadriceps muscle.
- KneEMG is a biofeedback device which measures electromyographic signals from multiple muscles in the knee, and performs analyses to estimate muscle activity and muscle fatigue in real time.
- The user receives immediate feedback as to whether the exercise is being performed correctly.
- The device is supported by cloud infrastructure which enables a remote supervisor (such as a physician) to provide instructions on necessary changes in the method or regime of training.
EHR optimization for improving clinical efficiency in psychiatry (Tartu)

- Around 70% of people with mental health disorders are misdiagnosed initially and remain misdiagnosed for an average of 5 to 7.5 years; additionally, the WHO estimates that 35% - 50% of people with severe mental disorders receive no treatment.
- DocuMental is an online decision-supporting tool to assist with patients in three steps:
  1. Diagnostic module: digitised, structured with a ‘tick-box’ choice
  2. Treatment module: a full list of registered psychotropic medications, together with their doses
  3. History and routine assessment modules. DocuMental also provides access for patients to the web portal to support bilateral communication with mental health teams and services.

The evaluators praised the project for its appropriate methodology and for its high level of solution readiness.

LifeECG Remote AF detection with full EKG signal to the cloud (Ljubljana)

- LifeECG is recorded by patients only with a time delay after the patients come to the physicians.
- Measurements are short-term, typically covering a few seconds to a day or two; vital abnormalities are often missed.
- Non-detected atrial fibrillations (AF) and other cardiac effects result in higher risk for complications and stroke, and decrease the possibility of survival. There were an estimated 33.5 million affected individuals in 2010 and this number is growing.
- LifeECG is a cloud service that is integrated with mobile ECG device and allows a unique non-stop 24/7 live streaming of ECG recordings, together with detected heart abnormalities.

The solution is cost-effective, has customisable storage of ECG recordings for further data analytics (AI), open via standardised interfaces or integration with other ECG devices, services and HIS, flexible in deployment scenarios (cloud, on premise) and secure by design.
PredictOHSS (Athens)

- In Europe, approximately 780 000 IVF treatment cycles are performed annually.
- OHSS (Severe ovarian hyperstimulation syndrome) is a serious complication affecting women undergoing in vitro fertilisation (IVF) treatment.
- It is associated with mortality, with a reported frequency of three deaths per 100 000 women undergoing ovarian stimulation; 2 040 cases of severe OHSS were reported in Europe in 2014.
- The “PredictOHSS” app aims to address clinicians’ need for an individualised prediction check-point of severe OHSS based on each patient’s profile.
- The model requires the input of four values measured three days after egg retrieval. The output is the % probability of a specific patient developing severe OHSS.

NEUS (Ljubljana)

- Mild cognitive impairment (MCI) is a precursor to Alzheimer’s disease (AD) which is the most common form of dementia; it contributes to 60% - 70% of cases.
- There is currently no cure for dementia, yet in the very early stages, existing therapies can improve and prolong the cognitive function.
- NEUS is a software solution for detecting MCI. It combines eye-tracking technology, digitalised neuropsychological tests with an AI-based decision support system.
- Other solutions either require the presence of a neurologist, are more costly or do not give results in real time.
What stakeholders think about the EIT Health Regional Innovation Scheme

**ROXANA RUSU-BOTH**
a member of UTCN Lung Cancer Diagnosis, an awarded team in EIT Health RIS Innovation Call 2019

*The RIS innovation programme represents a big opportunity by supporting the development of our AI health-care project in order to reach a higher maturity level, and also, by giving us the possibility to meet other research partners to discuss ideas and collaborations.*

**VIDA GROZNİK**
PhD, a member of NEUS Diagnostics, an awarded team in EIT Health RIS Innovation Call 2019

*The collaboration with high-level expertise RIS partners and their developed network, together with received funding, will facilitate NEUS in upgrading its diagnostic model to tackle the problem of late detection of dementia and bring the solution a step closer to doctors, patients and their families.*
JAKOB GAJSEK
EIT Health Hub representative, CEO Ljubljana University Incubator

The study visit to Oxford was very enlightening. I learnt a great deal about technology and innovation transfer, and how the innovation community in Oxford works. I especially liked the lecturers who were actually involved in the spin-out companies they were talking about, and that most, if not all, had real business experience.

DÁVID BREITENBACH
Business Development Executive, Sineko Global Ltd., a start-up competing in InnoStars Awards Programme

The programme proved to be a great journey whereby international mentors helped us develop, fun and interactive workshops showed us the way how to pitch and EIT’s undeniable professionalism supported us in the product development process. Furthermore, the programme provides us with the chance of great networking opportunities, and business and financial support as well.

NERINGA ŠEPERIENĖ
CEO, Co-founder, BrachyDOSE, a start-up competing in InnoStars Awards Programme

We had a great experience at EIT Health’s InnoStars Award bootcamp. Working on pitching, expression and presentation skills were very helpful for us. We also met inspiring people and had the opportunity to present our product to future investors. BrachyDOSE undoubtedly became stronger and more prepared to enter the med-tech market.
GÁBOR TÓTH  
CEO, Co-founder of Insimu Patient, a start-up competing in InnoStars Awards Programme  

We found the InnoStars programme of EIT Health an exceptionally unique programme in the rough ocean of start-up ecosystems and health care. It provides early-stage start-ups with what they need the most: a flexible attitude, a network specific to their product, and passionate, experienced mentors of their choice. I would highlight that the short time for spending the grant and demonstrating results turned out to be a great and beneficial push. I call it another way of accelerating development. The fantastic team of programme organisers achieved a remarkable and rare balance. They provided all the help when help was needed, but they also let us explore our visions in the way we had imagined.

VIDA GROZNIK  
PhD, Neus Diagnostics, a team participating in an innovation project development training  

The structure of the programme and the way you were able to bring us from the basic idea of the project to thinking about every aspect of the business and the solution was mind-blowing. I also admired the way you were able to give each and every one of us relevant comments about our solutions and what we should be watching out for.

DANIELA TRUDEN  
Director of Derma Art, a team participating in an innovation project development training  

The EIT Health programme was incredibly helpful in the development of our project. The workshops helped us focus on the key elements of our project to achieve more efficient and faster development, and the grant will help us advance the project more quickly.
Would you like to learn more about the EIT Regional Innovation Scheme?

Reach out to EIT Health Hubs through the InnoStars RIS team! Contact us: innostars.ris@eithealth.eu