



Regional Innovation Scheme: Innovation Call 2019

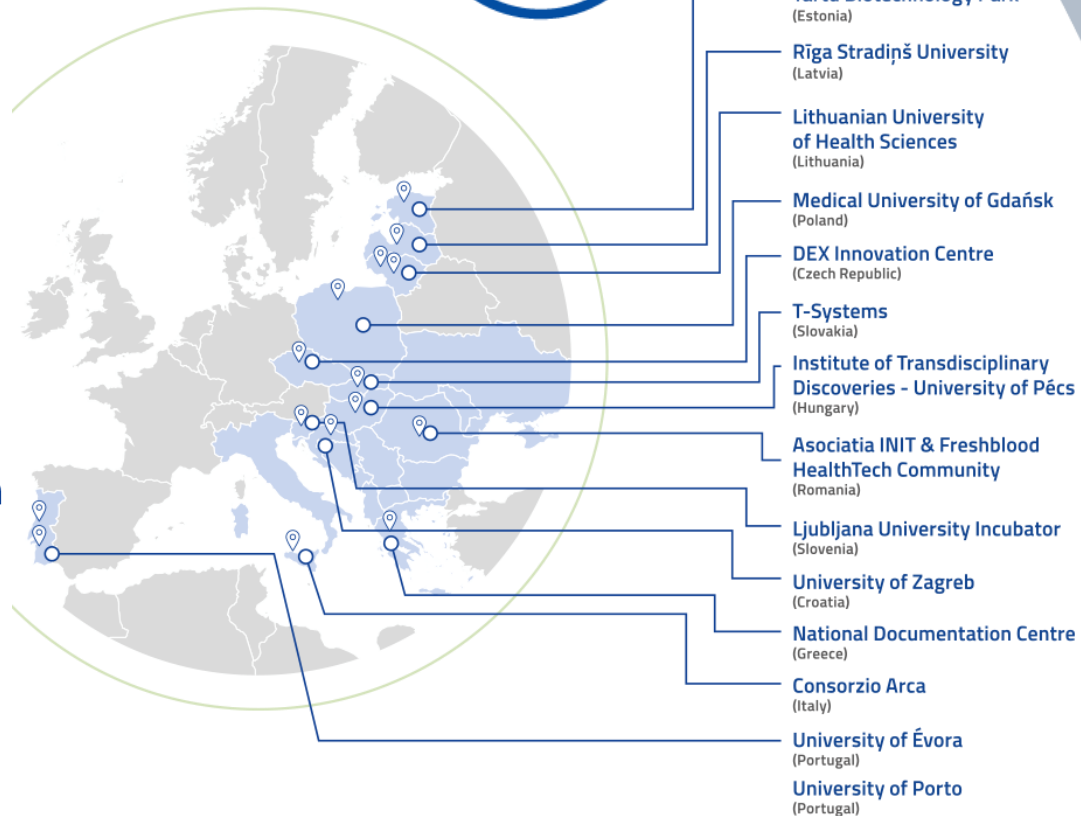
Final results

August 2019

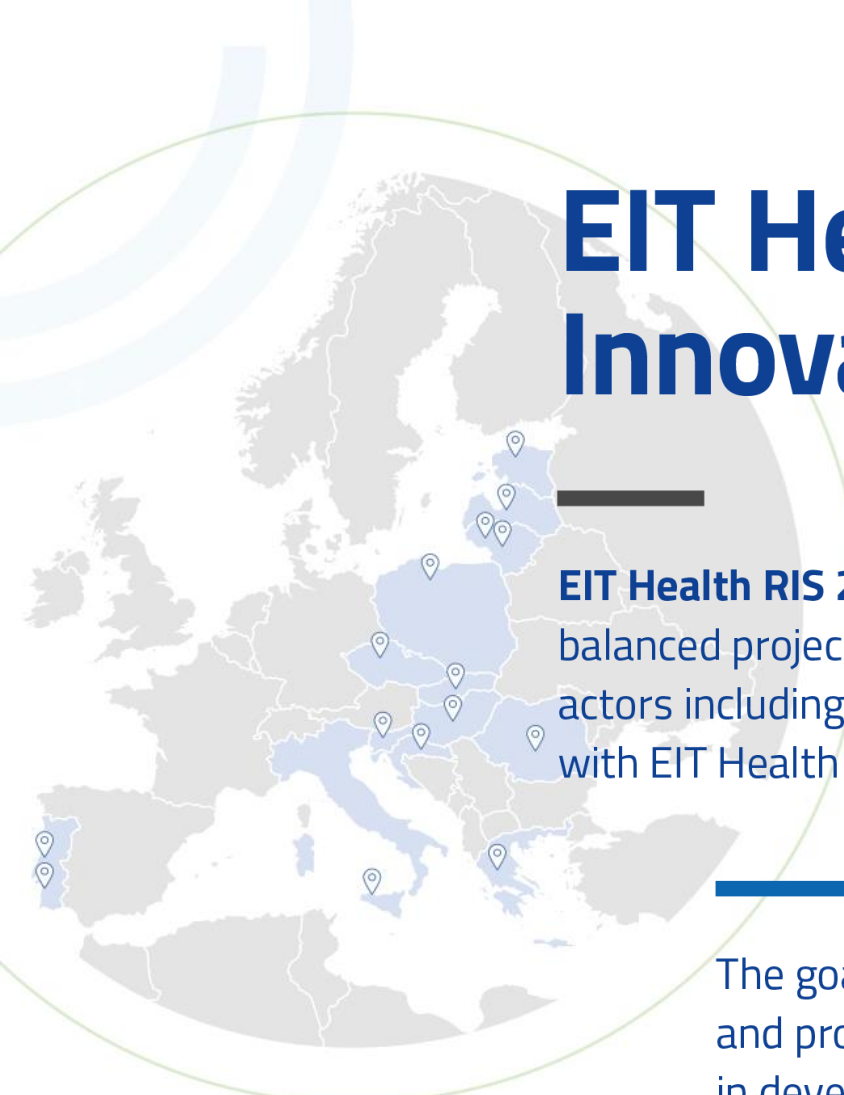
Regional Innovation Scheme (RIS)

Regional Innovation Scheme (RIS) is a programme created by the EIT (European Institute of Innovation and Technology) in aim to increase the innovation capacity in areas of Europe not directly benefitting from the activities of EIT Health and other EIT Knowledge and Information Communities (KICs).

EIT Health's RIS is designed to close the gap between regions that are leaders in healthcare innovation and areas that have more moderate innovation. The goal is to help citizens in less developed European countries enjoy the benefits of innovation – and have access to new products and services supporting active aging and healthy living.



EIT Health RIS Innovation Call 2019



EIT Health RIS 2019 Innovation Call aims at funding high-quality, strong, balanced projects, targeting our six Focus Areas to be developed by local actors including both academic and non-academic partners in collaboration with EIT Health Hubs.

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

104
Received applications



84
Passed formal check



46
Evaluators



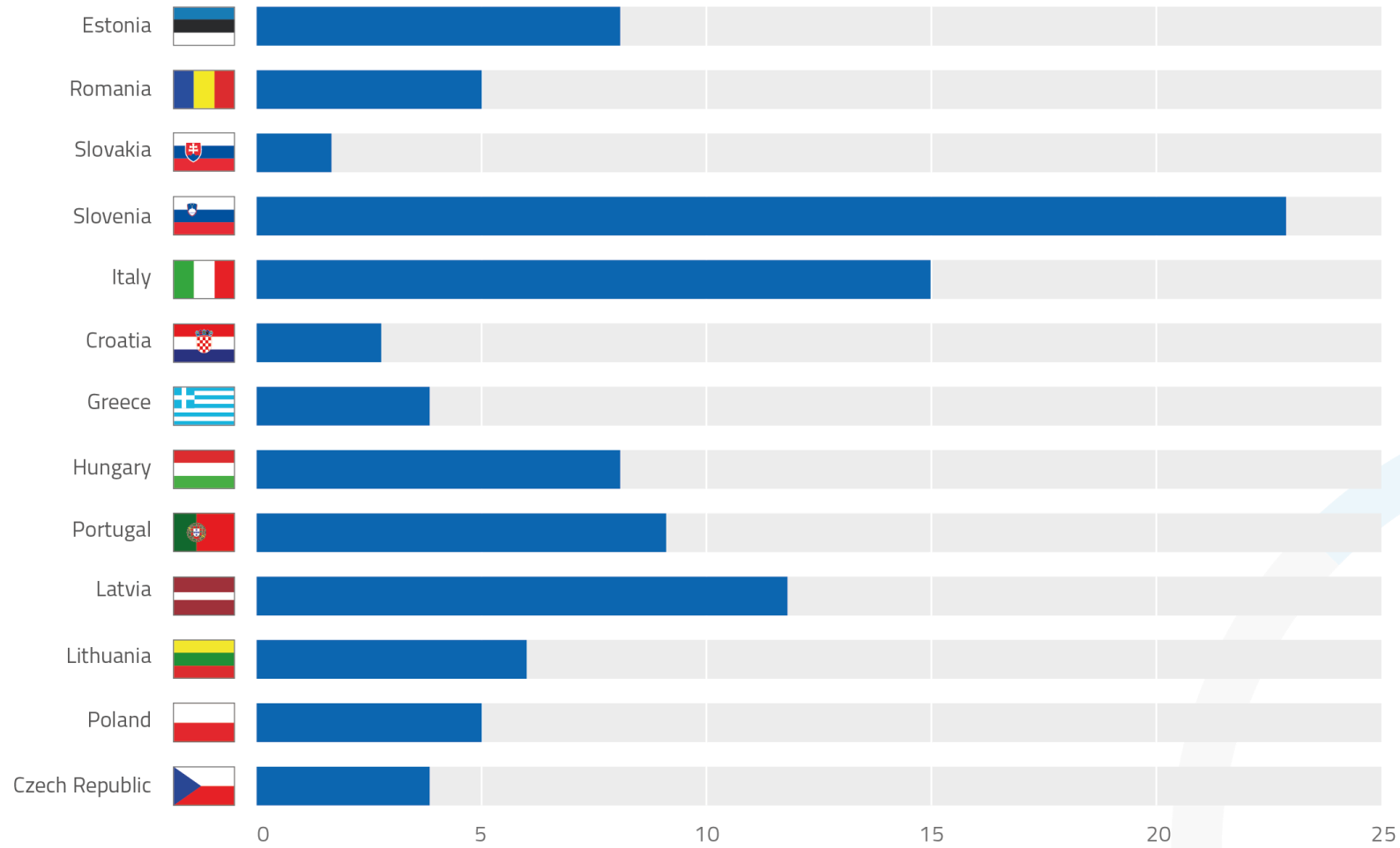
12
Selected projects



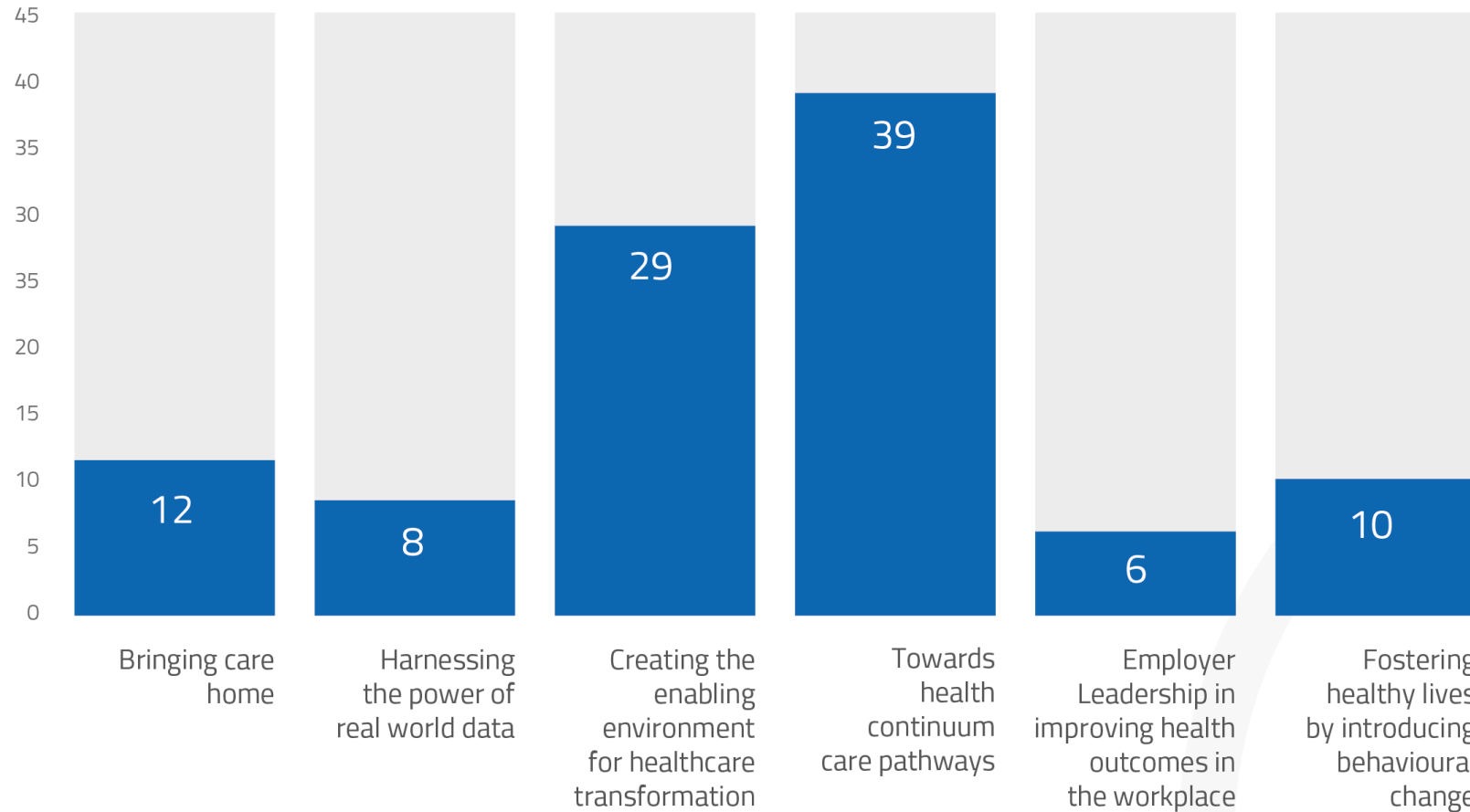
Programme attractiveness:
867%* in its first year

*It's calculated as applicants/
selected applicants, winners;
it's an EIT Health KPI
(ActOutcome1)

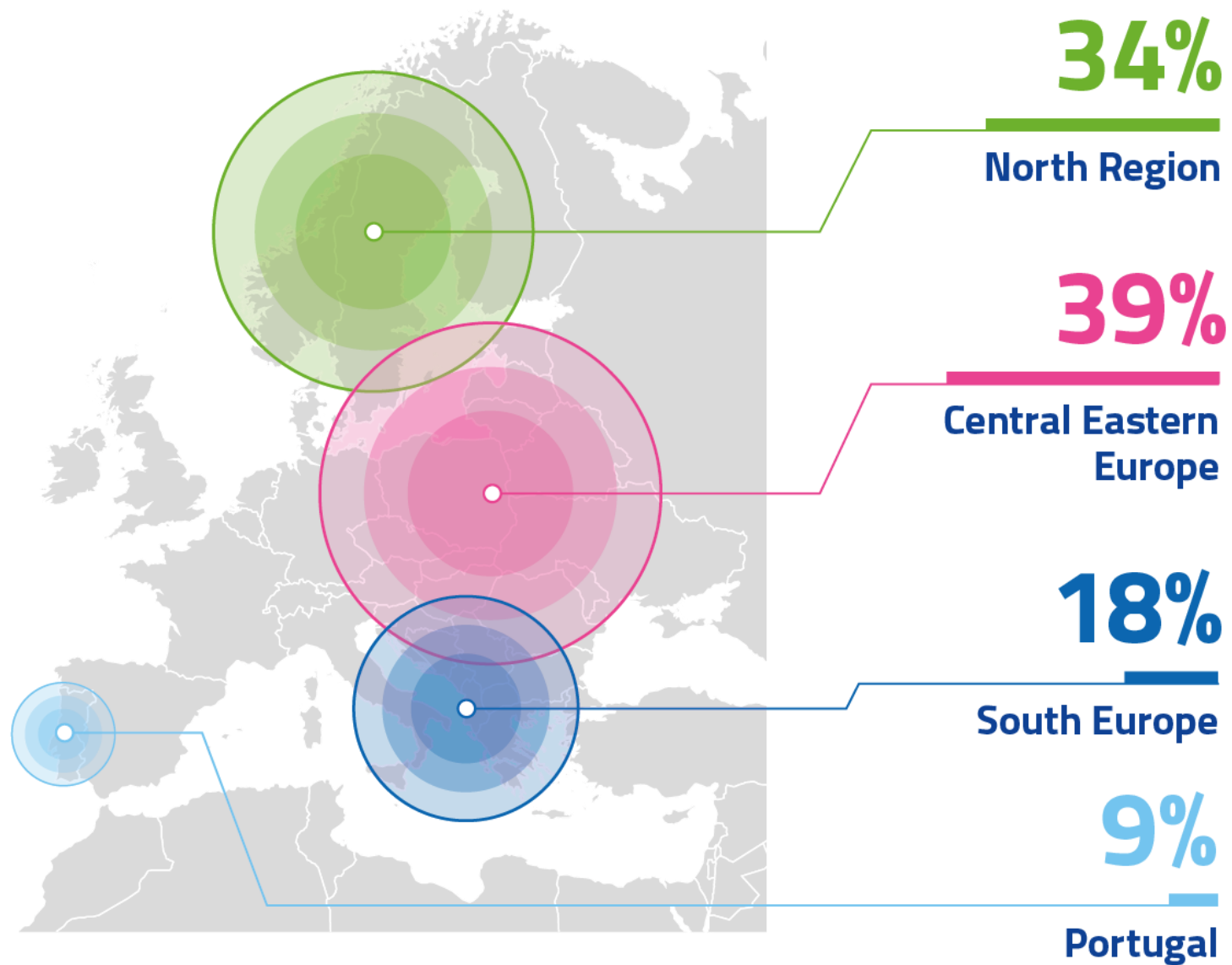
Applicants by Countries



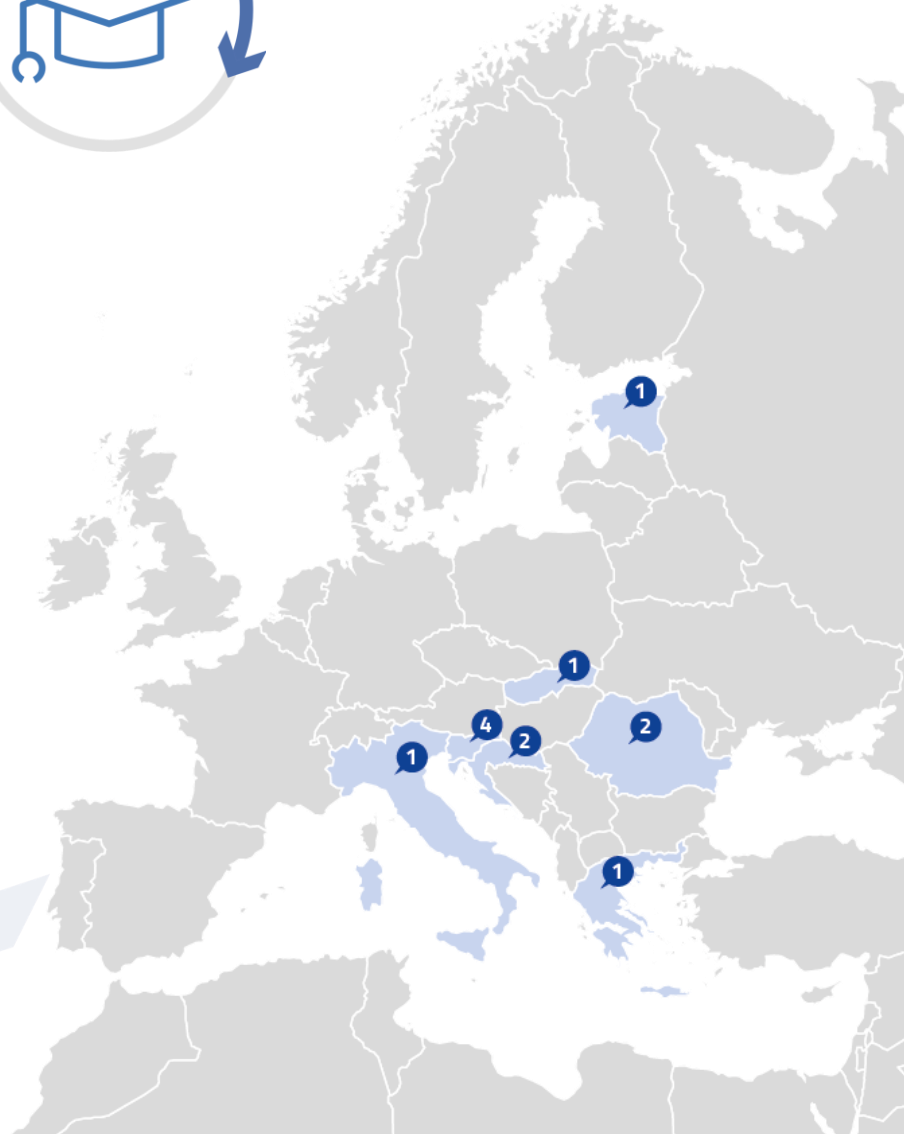
Applicants by Focus Areas



Applicants by Regions



Granted projects by Country



1 Estonia



1 Slovakia



2 Romania



4 Slovenia



2 Croatia



1 Italy



1 Greece

Granted solutions



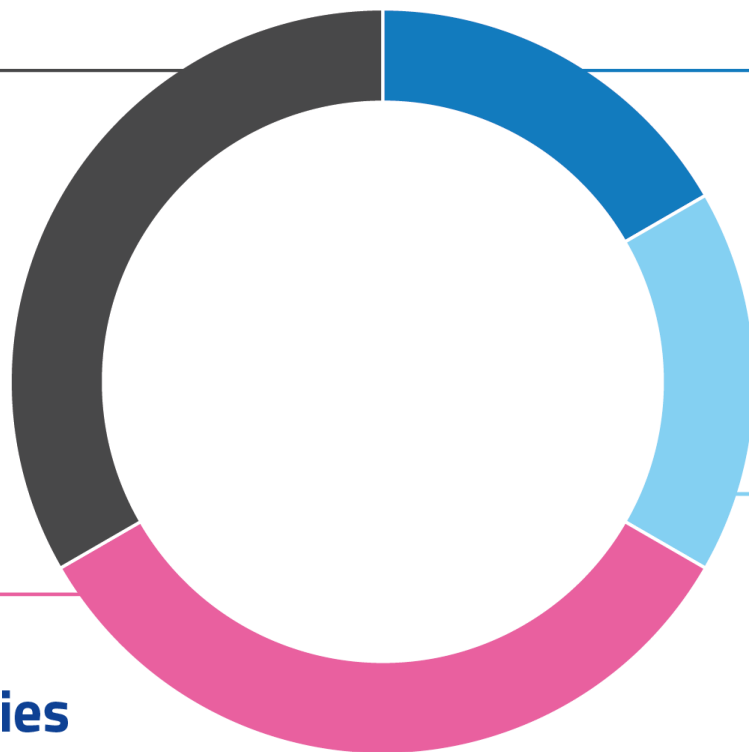
33%

**Big data/
Cloud**



33%

**New
technologies**



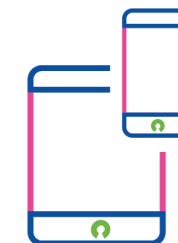
17%

**Mobile
app**



17%

**Wearable
device**



Granted projects

(in non-particular order)



Romania 7

An innovative robotic system for upper limb rehabilitation – InnoHealth (Cluj Napoca)

Croatia 8

KneEMG - Personal electromyograph for knee rehabilitation (Zagreb)

Croatia 9

COM2LLD (Zagreb): solution for an indirect measurement of the leg length by tracking the body mass centroid position

Slovenia 10

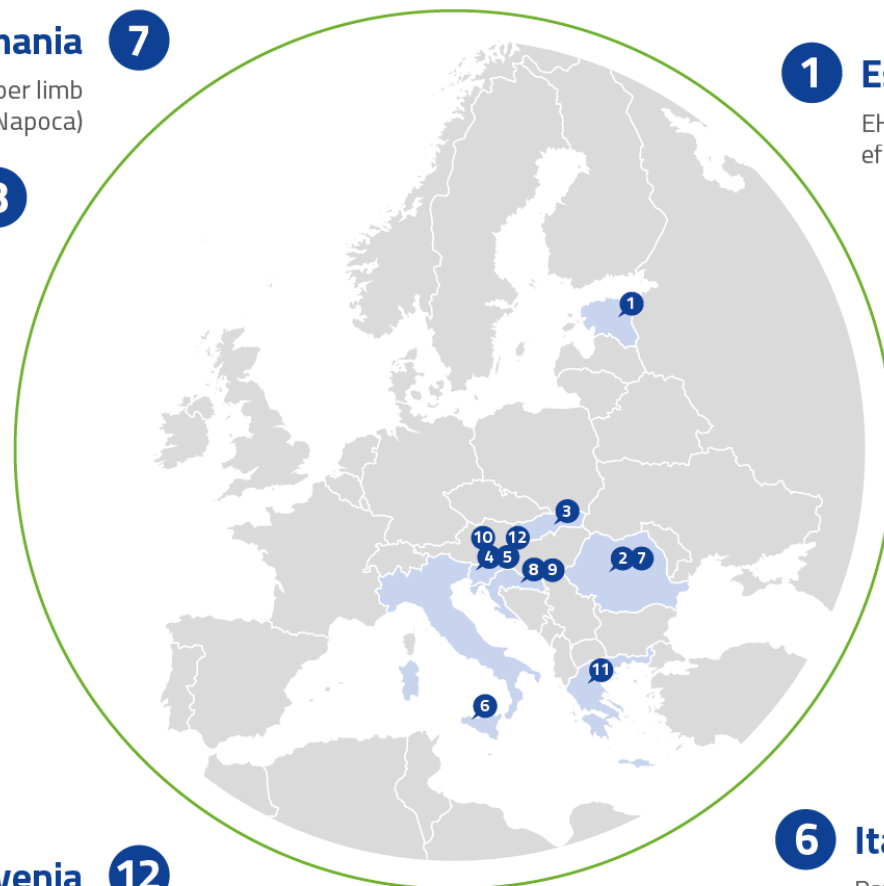
LifeECG - Remote AF detection with full EKG signal to the cloud (Ljubljana)

Greece 11

PredictOHSS (Athens): app that addresses the clinicians' need for an individualized prediction check-point of severe OHSS based on each patient's profile

Slovenia 12

NEUS (Ljubljana) - software solution for detecting MCI



1 Estonia

EHR optimization for improving clinical efficiency in psychiatry (Tartu)

2 Romania

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

3 Slovakia

STEMI: virtually connecting *paramedic - doctor - dispatch operator* to save time when diagnosing Stroke

4 5 Slovenia

PVR System (Ljubljana) - device that addresses peripheral arterial disease in patients with DFU

HomeCare 2020 (Ljubljana) - device which provides all notification related to safety

6 Italy

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

Learn more
about selected projects





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

EHR optimization for improving clinical efficiency in psychiatry (Tartu)

- Around 70% of people with mental health disorder are misdiagnosed initially and remain misdiagnosed for an average of 5.0-7.5 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: digitized, structured and 'tick mark' choice
 - 2) Treatment module: the whole list of registered psychotropic medications with their doses and regime;
 - 3) History and routine assessment modules. It also provides access for patients to portal to support bilateral communication with mental health teams and services; the evaluators praised the project for its adequate methodology and for its high level of solution readiness



The evaluators praised the project's quality and deemed highly likely to successfully complete the project;

One evaluator noted:
"It is very likely that the planned product will be suitable for the diagnosis of other lung diseases as well"

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

- Due to late detection, only 15% of the patients suffering from lung cancer being able to survive for 5 years after diagnosis.
- Recently published data estimates an increase of lung cancer deaths worldwide from 1.6 million in 2012 to 3 million in 2035.
- The consortium plans to tackle this issue by an early detection standardized non-invasive test procedure using transthoracic ultrasonography (TUS) based image analysis, helping to decide whether a lesion has a benign or malignant character.



The evaluators pointed out that the planned deliverables can have a remarkable impact on healthcare.

An evaluator wrote:
"High-quality, strong, balanced project targeting EIT Health focus areas that promote the development of the local innovation ecosystem in RIS region."

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

- Cardiovascular diseases (CVDs) cause 1.8 million deaths in the EU every year.
- Time to treatment - time between the symptoms onset and the treatment execution in the hospital - is the main factor affecting both short and long-term mortality & morbidity of STEMI (ST-Elevation Myocardial Infarction), Stroke and severe Trauma patients - *top 3 most time critical cases*.
- The project aims to save crucial time diagnosing Stroke, severe Trauma and Infarction in the pre-hospital phase by virtually connecting *paramedic - doctor - dispatch operator* via a software solution available in app and on the web.



Evaluators pointed out that the usefulness of carboxytherapy in the treatment of DFU has been previously reported, looks well-founded and feasible.

PVR System (Ljubljana)

- According to WHO the number of people with diabetes has risen from 108 million in 1980 to 422 million in 2014
- Between 12-24% of diabetes patients develop Diabetic foot ulcer (DFU)
- A third of ulcers fail to heal and lead to amputations. Meta-analysis of 19 studies showed that roughly 40% of patients have a recurrence within 1 year of ulcer healing.
- Current solutions fail because they insufficiently tackle the core issue of impaired wound healing process in DFU – *poor blood circulation in the foot*
- 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 prevention non-invasively, using safe and controlled transcutaneous application of CO₂ to the lower extremities.

HomeCare2020 (Ljubljana)



All evaluators have given the maximum point for the adopted methodology and praised the level of readiness and qualification of team members to execute the objectives

- The lack of independence causes elderly to go to nursing homes sooner than they would and visit doctors more often.
- All this puts a burden on social and healthcare system with over-crowded nursing homes and hospitals which causes higher health-care expenditures.
- Homecare2020 project tries to solve the issue with a combination of a tablet which provides emergency call, notifications and reminders, smart home management, care documentation, information for carers etc., and a smart wristband which works anywhere outside and automatically monitors behaviour (activity levels), detects dangerous situations (e.g. falls), enable alerts anywhere and provides long battery life.



All evaluators have given maximum scores for their methodology and praised for its great solution and great potential impact

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

- Currently only open surgery therapies available for the treatment of Abdominal Aortic Aneurism which reduces the survival rate of the patients by 20% due to unavoidable post-surgery compliances.
- ANEURIS is an innovative endoprosthesis which allows to replace the open surgery with endovascular treatment. 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 written positive feedback by more than 10 vascular surgeons as well as by more than 5 devices resellers.



Evaluators gave maximum scores on the project feasibility and praised its highly qualified team.

An innovative robotic system for upper limb rehabilitation – InnoHealth (Cluj Napoca)

- Upper limb impairment affects between a half and three quarters of stroke survivors.
- This combines with a serious shortage of caregivers (United Kingdom, 2013 approx. 77,000, France, 2012 approx. 19,000, Belgium, 2013 approx. 7,500)
- 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 having adjustable elements to cover the 95th percentile of the population. It brings Cost efficiency, Distinct functionality and Easier maintenance by Modularity and reconfigurability.



One evaluator wrote:

"The added value is its price affordability, its home based strategy and the chances of correcting the exercise in real time."

KneEMG - Personal electromyograph for knee rehabilitation (Zagreb)

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



Evaluators noted that the team has already been working together successfully on projects; one wrote:
"The proposal is extremely well thought and brings much value to a clinical problem where solutions have not changed for many years"

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 has on average € 1 billion of costs (work and health) on persons with LLD.
- 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 these data, the program changes the configuration of the movable platforms to achieve the displacement of the center of the body mass to the desired position where both lower extremities are equally loaded.



One evaluator said:

"It is clear to notice a solid demonstration of a potential pathway (regulatory, reimbursement) to reach patient care within the desired timeframe in order, to also, scale and commercialize."

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

- ECG 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 defects result in higher risk for complications, stroke, and decrease the possibility of survival. There's an estimated 33.5 million affected individuals in 2010 and is growing.
- LifeECG is a cloud service that is integrated with a mobile ECG device and allows unique non-stop 24/7 live streaming of ECG recordings together with detected heart abnormalities.
- The solution is cost effective, has customizable storage of ECG recordings for further data analytics (AI), open - via standardized interfaces - for integration with other ECG devices, services and HIS, flexible in deployment scenarios (cloud, on-premise) and secure by design.



Evaluators praised the project for its logical methodology, for its well defined work packages and implementation plan.

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 of In Vitro Fertilisation (IVF) treatment.
- It is associated with mortality, with a reported frequency of 3 deaths per 100,000 women undergoing ovarian stimulation, and 2040 cases of severe OHSS were reported from European countries for the year 2014.
- The "PredictOHSS" app would address the clinicians' need for an individualized prediction check-point of severe OHSS based on each patient's profile.
- The model will require the input of 4 values measured 3 days after egg retrieval. The output will be the % probability of a specific patient developing severe OHSS.



All evaluators gave a maximum score for their Methodology, one wrote: *"The proposed solution is novel. Offering it in subscription model will additionally work on its benefit. The project will be implemented in partnership that already has experience in collaboration which increases chances for success."*

NEUS (Ljubljana)

- Mild cognitive impairment (MCI) is a precursor to Alzheimer's disease (AD) which is the most common form of dementia and contributes to 60–70% of the cases.
- Currently there is no cure for dementia, yet at the very early stage 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 not giving results in real-time.



Want to know more?
Do not hesitate to contact us.

eithealth.eu

innostars.ris@eithealth.eu