



iCare4NextG

Project ID: C2020/1-8

Start Date: 1 April 2021

Closure date: 30 March 2024

Partners:

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Budapest University of Technology & Economics (BUTE), Hungary

Danylo Halytsky Lviv National Medical University, Ukraine

Glintt S.L., Portugal

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Project Website

www.celticnext.eu/project-icare4nextg

<http://www.icare4nextg.eu/> (under construction)

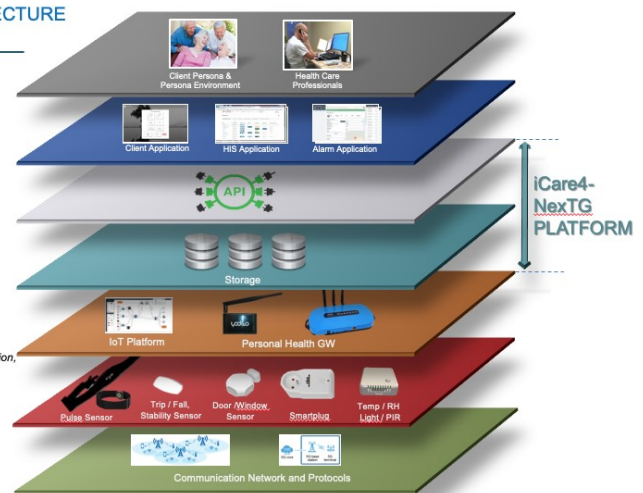
Integrated Care for Next Generation

The current and traditional business model in e-health is mainly based on technological lock-in effects such as the inability to reuse the existing infrastructure platform, the inadequacy of platform as a service and sharing of data. An open e-health service framework and development platform proposed in the iCare4NextG project would provide opportunities to break up the lock-in effect and give more companies the possibilities to compete and innovate. This would mean great possibilities for companies to establish a presence in the market and to expand with more products within a broader technology defined area. According to Research and Markets report, the global healthcare cloud computing market is expected to reach \$52.30 billion by 2026, growing at a Compound Annual Growth Rate (CAGR) of 28.5 percent during the period¹. With this focus iCare4NextG project targets to develop a service framework with increased possibilities for improved wellness and care at home which is directed by data-driven methods. A combined strategy of service framework development, business modeling, and use case solutions are undertaken within the project in this respect.

Main focus

The increased need for remote monitoring, home care and the need for fast and personalized development of new e-health services are incontrovertible. The iCare4NextG platform is intended to facilitate integration of remote health solutions in a flexible architecture offering various services tailored for different stages of life, including solutions for end users who are interested in self health tracking systems, for people who are living with home care support, for elders who are under maintenance of an elderly care system, for patients in traditional hospital care situations, for patients who are newly discharged from hospital and are looking for close monitoring at home, for family members who are assumed to look after their patients and for health care professionals who own the responsibility of all the health facilities of their patients from diagnosis to treatment and from rehabilitation to monitoring. In this respect the project comprehends 5 different use cases that are fit into one open framework. The iCare4NextG framework introduces abstraction layers between data capture,

iCare4NextG REFERENCE ARCHITECTURE



¹Global Healthcare Cloud Growth Opportunities, September 2021,

<https://www.researchandmarkets.com/reports/5457009/global-healthcare-cloud-growth-opportunities>

data management and data utilization to enable new services that can be developed in a flexible way, gathering data from diverse sources and presented in different ways depending on the user demands. This open framework will be proved with COVID19: Symptom monitoring, COVID19: care@home, monitoring of dementia and alzheimer's at home, physical home rehab and educational platform for care development during the Project lifetime.

The iCare4NextG platform allows different use cases to take advantage of cloud computing service that removes complexities such as building the infrastructure. It gives the healthcare ecosystem the opportunity to realize digital transformation using a single platform, and reduces the time, effort and resources required for transformation.

Approach

The main focus of the project is enabling support for care and wellness for people who are under various situations, based on the concept of a platform that is modularized, standardized and flexible for personalized support. Besides the requirements of the patients and health professionals in the clinic environments, home care approach stays in the focus of the project. Either as ongoing care or as preventive care, home care varies according to different health problems, illnesses and conditions. The iCare4NextG platform proposes flexibility and adaptability to create new end user applications curing different types of ill-

nesses considering the requirements and dynamics of different health conditions. Enabling real time and near real time data processing the system is supported with AI/ML techniques and edge computing in order to achieve more accurate and high performed decision making and prediction systems as well as recommendation engines with less latency issues and that seamlessly coordinates health care processes for all life stages. iCare4NextG project targets to bring the patients closer to care expertise and knowledge with the integrated care approach. The requirements of different health care levels that represent individuals, focus groups, countries, continents are engaged together in the iCare4NextG project leveraging the improvements of health conditions and quality in national and international levels aiming to decrease the economic burden and complexity of the health systems.

Main results

The main achievements and results expected from the iCare4NextG project are:

- ◆ Driving digital health care transformation from a traditional, standard based, planned based control of care to a modern, need based, data driven care.
- ◆ The vision is the creation of services for wellness and care that is in line with the concepts of prediction, prevention, personalization and participation (4P medicine approach).
- ◆ Integrated care: Coordinate day-to-day care activities with data

driven, real time or near real time processes of information by providing a multi-use platform.

- ◆ Ensuring efficient processes of best practices for all organizational levels by data driven quality improvement structures.
- ◆ Prolonging a viable, healthy living and the best quality of life for citizens by using big data analytics to prevent or delay the progress of diseases.

Impact

iCare4NextG project aims to deliver commoditized health care services by creating an integrated, fully managed, data driven, secure and efficient cloud-based platform that constructs a consumption driven purchasing model that covers a large scale of different stakeholders.

The consortium members of the iCare4NextG project from small-medium enterprises to large industries, from universities to research institutes focus equally on business, innovation and technical aspects as well as pivotal end user processes to maximize the technological progress, business impact together.

iCare4NextG project targets to enable the development of business opportunities in two dimensions: an open service framework with a technical platform, and a number of user applications that could be operational in healthcare and wellness situations. For all partners involved, this multi sided approach is followed to construct the business models which are versatile and long term sustainable to support health care actions globally.

About CELTIC-NEXT

CELTIC-NEXT is the EUREKA Cluster for next-generation communications enabling the digital society. CELTIC-NEXT stimulates and orchestrates international collaborative projects in the Information and Communications Technology (ICT) domain.

The CELTIC-NEXT programme includes a wide scope of ICT topics based on new high-performance communications networks supporting data-rich applications and advanced services, both in the ICT sector and across all vertical sectors.

CELTIC-NEXT is an industry-driven initiative, involving all the major ICT industry players as well as many SMEs, service providers, and research institutions. The CELTIC-NEXT activities are open to all organisations that share the CELTIC-NEXT vision

of an inclusive digital society and are willing to collaborate to their own benefit, aligned with their national priorities, to advance the development and uptake of advanced ICT solutions.

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