

# Digital Health Infrastructures - Assessing Greek National Telemedicine Network



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Greek National Telemedicine  
Network

Έργο: «SUB3.Εθνικό Δίκτυο Τηλεϊατρικής (ΕΔΙΤ)» με κωδικό ΟΠΣ ΤΑ 5158648 του  
Ταμείου Ανάκαμψης & Ανθεκτικότητας – Τμήμα 1»



**ΕΔΙΤ**  
ΕΘΝΙΚΟ  
ΔΙΚΤΥΟ  
ΤΗΛΕΙΑΤΡΙΚΗΣ



**INFORMATION  
SOCIETY**

# Digital Transformation

72% of EU individuals



150 Million

subscriptions

fixed Broadband

130 mobile subscriptions

per 100 people



ICT drives 1/3<sup>rd</sup> EU GDP growth 1995-2007

DIGITAL BUSINESS



HALF of EU enterprises

provide mobile devices for business use

276.5 million EUR turnover

of EU B2C eCommerce (2012)

14% of EU SMEs



selling online

28% EU enterprises

use Social media

29% of EU enterprises

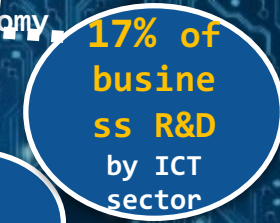
use e-Invoices



## Digital revolution "Do or Die"

7% of GDP

Size of the digital



38% EU venture capital

17% EU patents

## ICT professionals

900 000 estimated demand/supply gap by 2020

55% work outside ICT sector



2.4% of workforce

+ 4.1% yearly employment growth

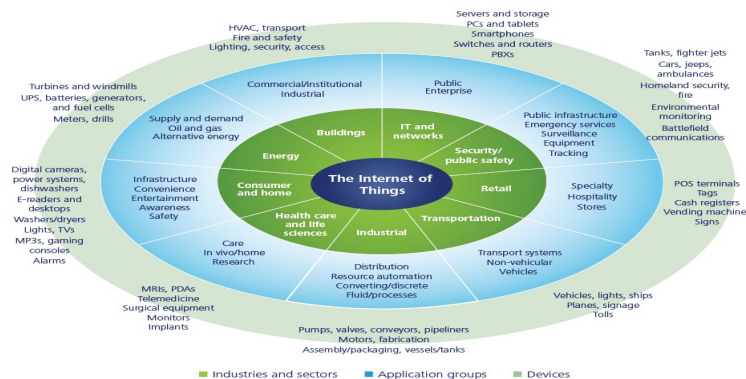
# eHealth

**eHealth** is about tools and services that use information and communication technologies (ICT) to improve the prevention, diagnosis, treatment, monitoring and management of health issues, and to monitor and manage lifestyle habits that affect health.



The internet is an effective means by which medical information can be retrieved anywhere, anytime, in a cost-effective manner.

The "patient" becomes a "consumer" of e-health services and requires a more active role in the management of their health.



Source: Beecham Research, *M2M/IoT sector map*, 2013.  
Graphic: Deloitte University Press | DUPress.com

# Medical science ...in change

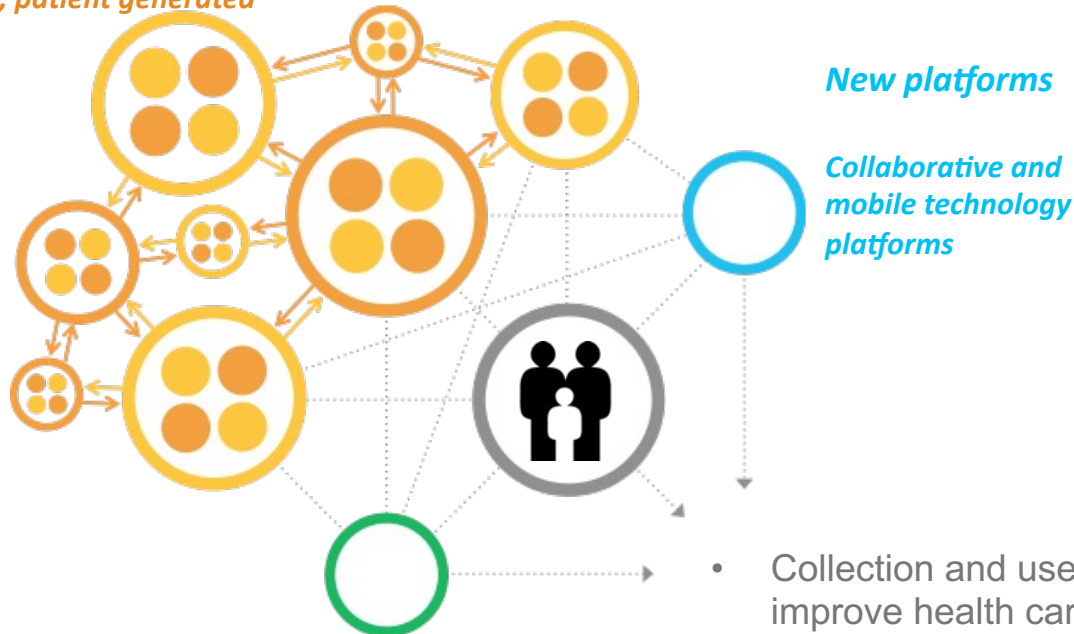
- As a result, medical science and practice is going through an era of intense change, which has not yet settled down to a new way of practicing medicine.
- Holistic approaches, such as **integrated care** and **patient empowerment**, are in conflict with classic notions of traditional ways of practicing medicine.

*Medicine is slowly and painfully transforming from a **science of disease** to a **science of health**.*

# Health data must be released and work for our benefit

*New and multiple data sources*

*Structured data, text, signals, images, video, patient generated data*



*New platforms*

*Collaborative and mobile technology platforms*

*Innovative analytical technologies*

*Advanced, predictive & prescriptive analytics*

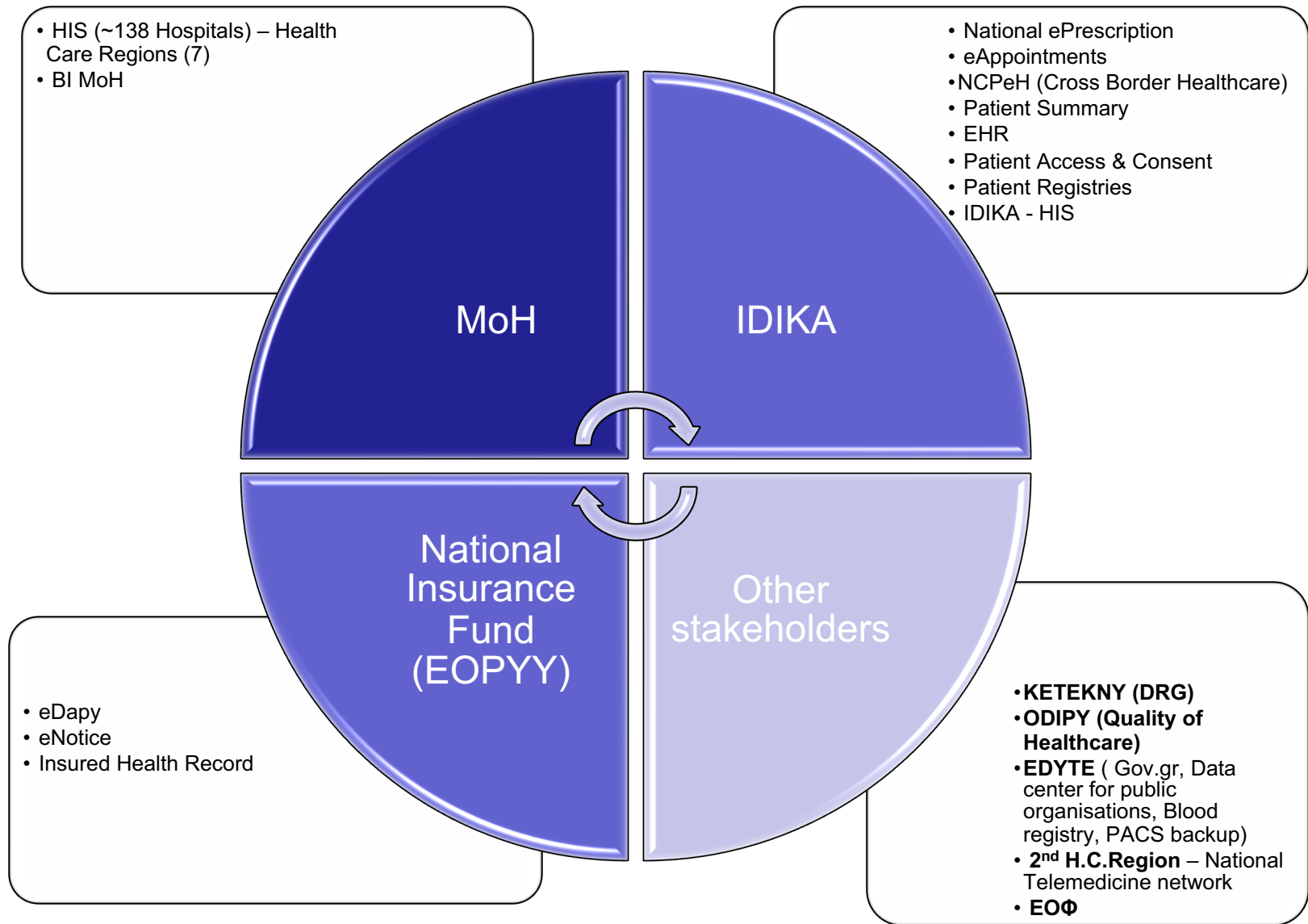
- Collection and use of data leads to new insights to improve health care.
- The data will support medical research, evidence-based medicine, personalised medicine and the improvement of healthcare in general.

# Key challenges in leveraging the power of health data

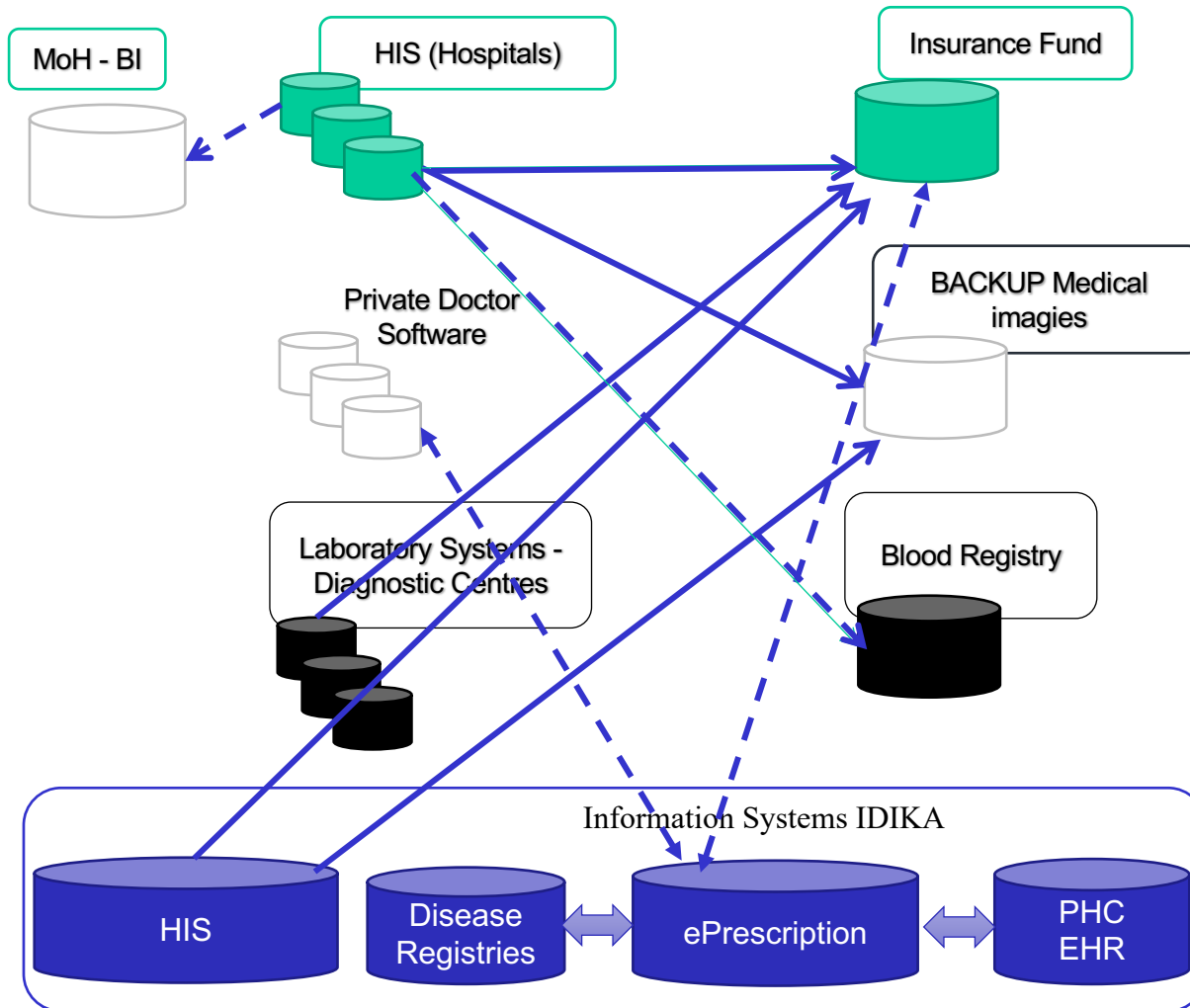
- Citizens find it difficult to access and control their health data.
- Health professionals find it difficult to access health data.
- Providers of digital health services and products face barriers.
- Policy makers and regulators cannot easily access health data.
- Limited research and innovation is based on health data.



# Key players for eHealth in Greece



# Existing Infrastructure





# New projects (RRF Funding EUR 344.2 million)

1. National Electronic Health Record
2. Installation of RIS PACS and transcription of medical procedures and reports in public hospitals and PHC facilities in the country
3. Integrated care system for haematological oncology patients
4. Improvement of Digital Readiness of Hospitals - Upgrading of hospital information systems & infrastructure
5. Horizontal digital transformation interventions in supervised institutions of the Ministry of Health
6. Digital Transformation of the National Health Service
7. Creation of a National Health Map
8. Development of National Standards, Procedures, Policies and Indicators of Quality and Safety of Health Services
9. Development of a common quality assessment framework
10. Establishment of a system of Hospital Care at Home (HCH)
11. Public health projects
12. Expanding National Telemedicine Network

# Current Greek National Telemedicine Network

A challenge of immense importance originating from the Greek Ministry of Health

- In 2011, a strategy was established to successfully deal with the matter
- In 2016, the operation started in 3 phases until now.

The National Telemedicine Network (EDIT 1, 2 & 3) now consists of the following elements

**Patient Doctor Telemedicine Stations**

66

**Home Care Stations**

170

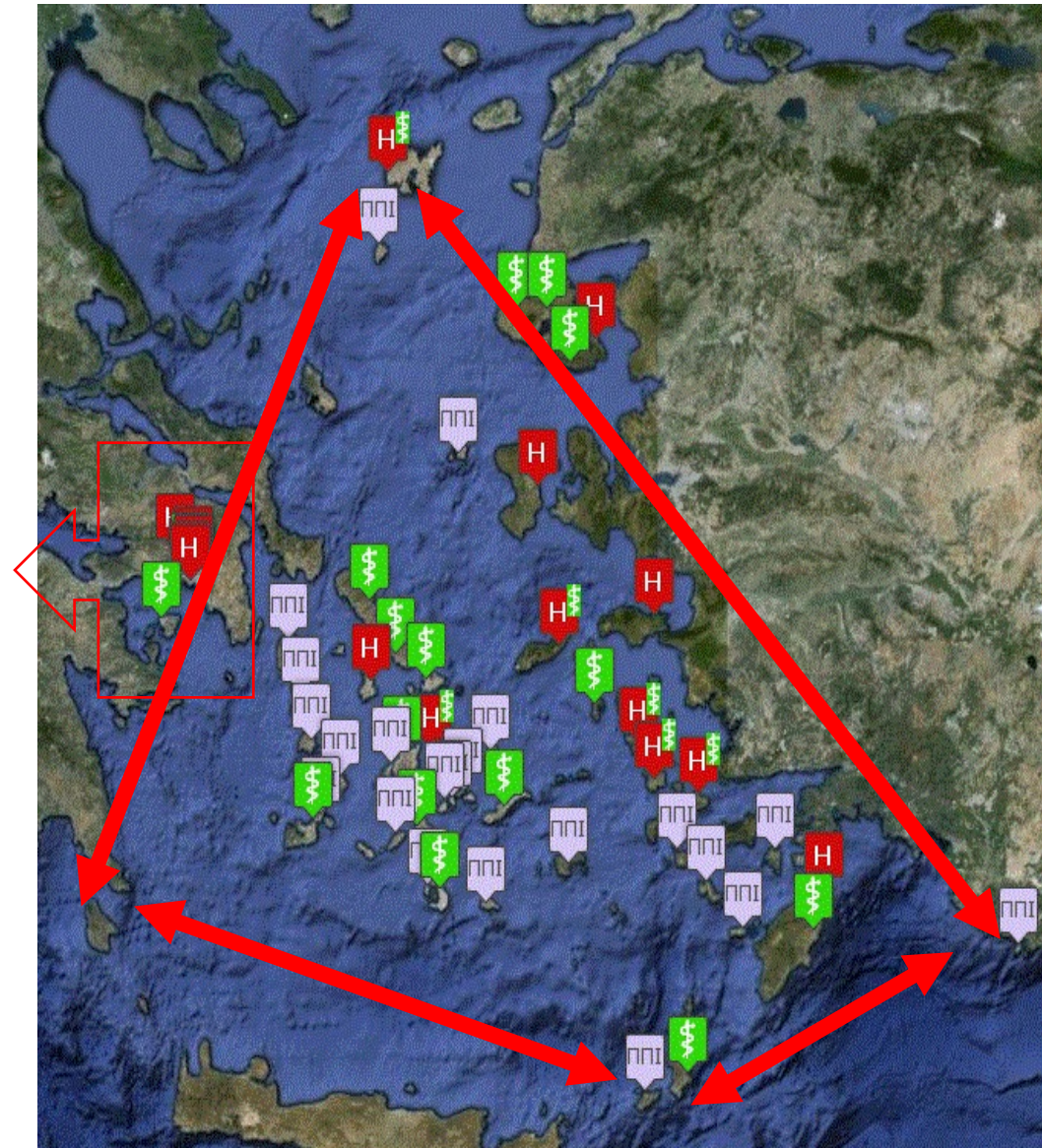
**Consultant Telemedicine Stations**

21

# 2nd Health Care Region EDIT 1, 2 & 3

## Geographical area of 2<sup>nd</sup> Health Care Region

- About 15% of the country's population
- Almost all of the Aegean islands except Crete and Sporades
- 1/3 of the population concerned live permanently on islands

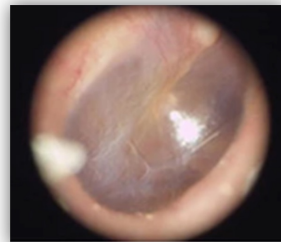


# Telemedicine Station

- Direct Medical Consultation by qualified Doctors
- Synchronous and asynchronous examination
- Transfer of medical examination data
- Available regardless of location/place of hospitalization
- Implementing telepsychiatry programs
- Ensuring equal access to healthcare services



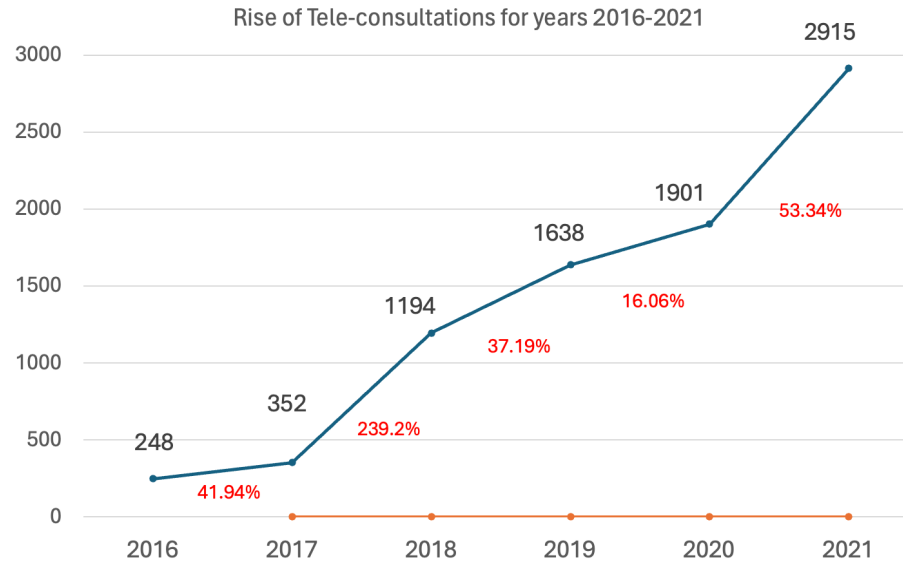
## Telemedical Equipment



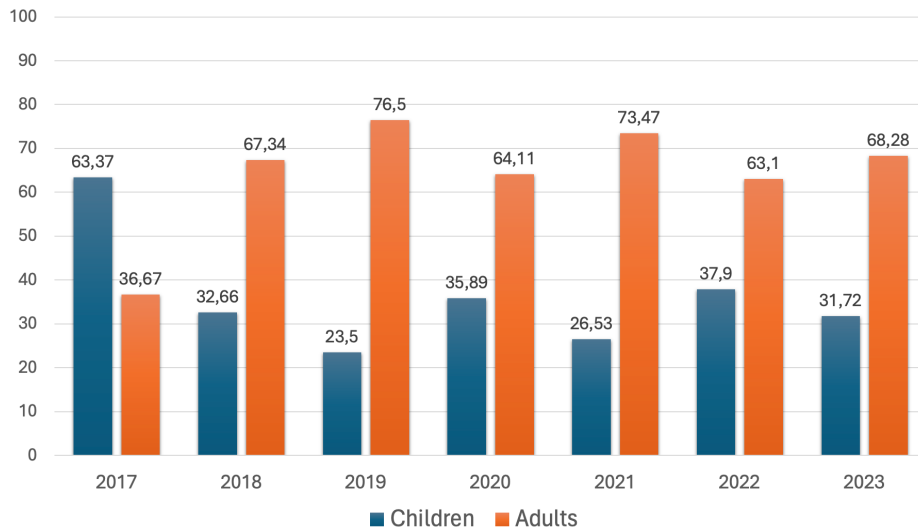
- Digital Stethoscope
- Examination Camera
- Dermoscope
- Otoscope
- Ophthalmoscope
- Vital Signs Monitor
- ECG
- Digital Microscope
- Ultrasound
- Pathology Examination Systems
- Medical Cameras for general examination



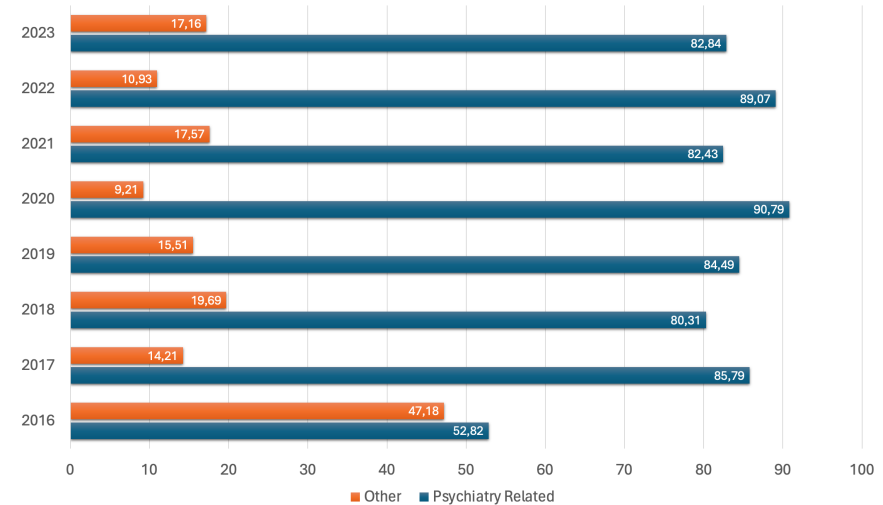
# Operational data 2016 - 2023



Children VS Adult Consultations



Psychiatry Related VS Other Types of Consultations



# EDIT 4 Expanding National Telemedicine Network

An ongoing National Programme is currently being implemented to facilitate the expansion of the National Telemedicine Network. The National telemedicine network will undergo expansion throughout the 1st, 3rd, 4th, 5th, 6th, and 7th Health Regions.

305 **New Patient Doctor Telemedicine Stations**

35 **New Consultant Telemedicine Stations**

5 **Telemedicine Training Stations**

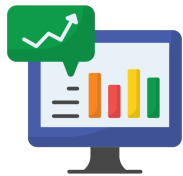
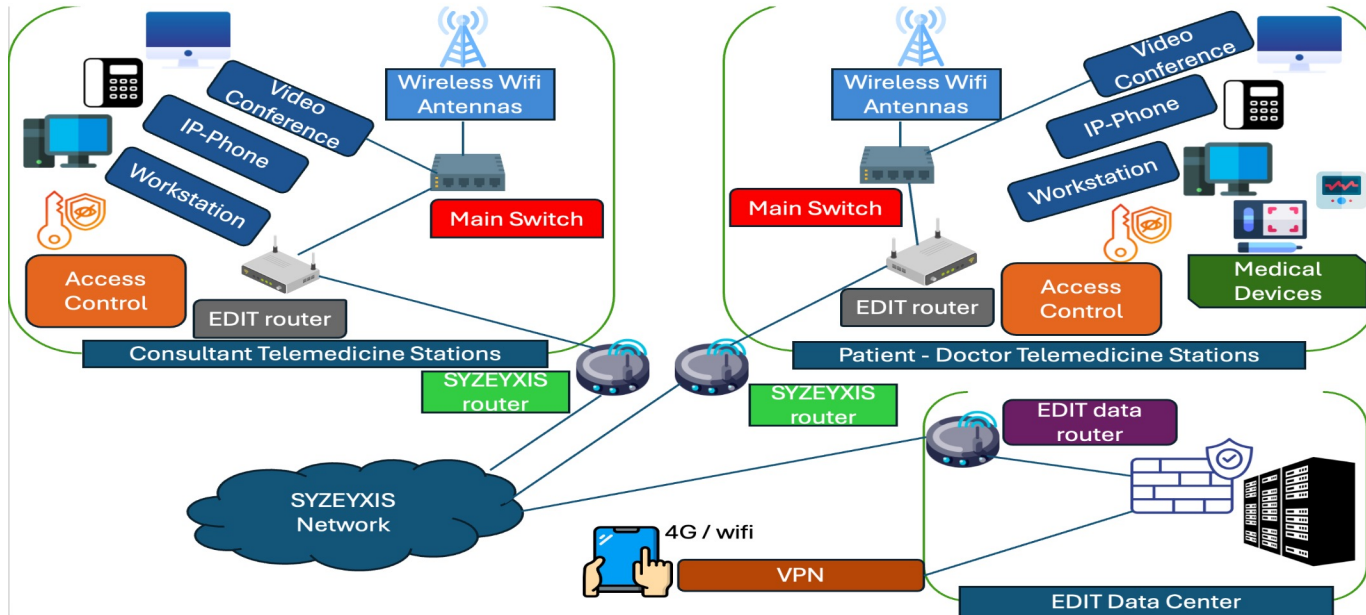
3000 **Home Monitoring Systems**

3 **New Control Centres**

500 **Doctor tablets**



# EDIT 4 Expanding National Telemedicine Network



**Business Intelligence System**



**Clinical Decision System**



**Command and Control Centre  
at the Ministry of Health**

# ATA 2022 Annual Conference & Expo

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DATE:

- Sun May 1, 2022
- Mon May 2, 2022
- Tue May 3, 2022

TYPES:

- ATA TV
- CEO Spotlight

MONDAY 11:20AM - 11:35AM

Evaluation of the Greek National Telemedicine Network services in the Aegean Archipelagos, during the years 2016-2018

Research Oral Presentation

← Previous Share this session Next →

MONDAY 11:20AM - 11:35AM

Evaluation of the Greek National Telemedicine Network services in the Aegean Archipelagos, during the years

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**HARALAMPOS KARANIKAS**  
DEPARTMENT OF COMPUTER SCIENCE AND BIOMEDICAL INFORMATICS, UNIVERSITY OF THESSALY

[www.gotelehealth.org](http://www.gotelehealth.org)

## Now What?

*Creating Opportunity in a Time of Uncertainty*  
May 1-3, 2022 | Boston, MA

The world's largest telehealth innovation event for providers, technology developers, business professionals and leaders from across the healthcare sector.

1st National Telemedicine Network  
3 sites of the 2nd Regional Health  
n located in islands of Aegean  
ervices for the years 2016-2018.



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300+  
Speakers

6 Tracks  
to choose from

100+  
Sessions



# Cross-Border Telehealth Services in the EU **A Dream or a Reality?**

19<sup>th</sup> March, 2021  
14h CET

## **PPUE21 Digital Health Initiatives**

**Luís Goes Pinheiro**

*President of the Board of Directors of the  
Shared Services of the Ministry of Health*



eHealthsummit.pt

1 - 2 JUNE, 2021



# Telehealth challenges...

Technology does not solve the problem entirely

We need legislative interventions and a framework law for eHealth and in particular for Telehealth:

- ❑ Model of governance and cooperation of the relevant ministries/agencies
  - One entity for the central management of the National Telemedicine Network
- ❑ Incentives for health professionals and citizens
  - Reimbursement of medical practices, citizens' rights, medical responsibility, etc.
- ❑ Ability to evaluate economic and clinical efficiency, including quality and patient safety
- ❑ System certification - product safety
- ❑ Integration of telemedicine services into existing NHS structures
  - Healthcare protocols in telemedicine
  - Governance of the health interoperability framework - Open systems
- ❑ New models for financing and sustainability of the system

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