



IoT-enabled eHealth: The VICINITY Way to Smart and Inclusive Cities

Grant agreement: 688467

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European
Commission

Horizon 2020
European Union funding
for Research & Innovation

Public



European
Platforms
Initiative



- Optimise total load balance
- Peak consumption management
- Charging Plan
- Leverage predicted use
- Energy flexibility
- Neighbourhood level



- IoT enabled energy services
- Energy cluster effect, knowledge transfer
- Shared assets performance
- Demand response analysis
- DER RES IoT enabled services management



- Quick response team
- Shared resources - multimodal integration
- Multi-domain integration
- On-demand assignment
- Area management
- User access management



- Analyse buildings and eHealth IoT info
- Correlate information
- Identify "abnormal behaviour"
- Introduce preventive medicine
- Promote fit lifestyle
- Urban-scale competition

Using IoT systems to convince healthy people to change their living habits and to help sick patients adhere to doctors' prescriptions would be a true breakthrough.

\$1.1T

Potential annual value of IoT from monitoring and treating patients with chronic diseases

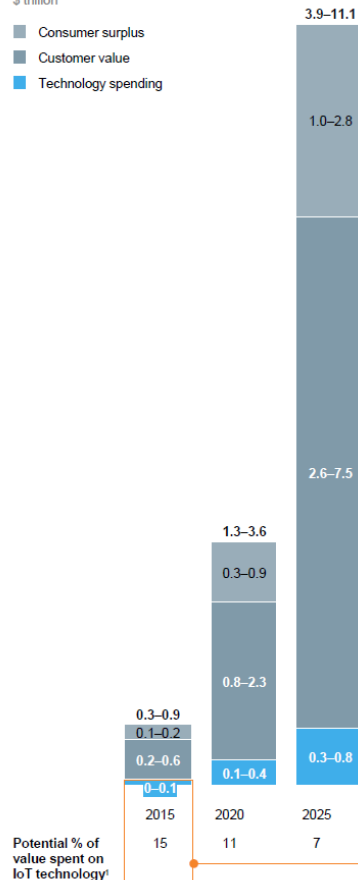
MCKINSEY GLOBAL INSTITUTE

**THE INTERNET OF THINGS:
MAPPING THE VALUE
BEYOND THE HYPE**

JUNE 2015

Potential economic benefit per year \$ trillion

- Consumer surplus
- Customer value
- Technology spending



Potential % of value spent on IoT technology¹

15

11

7

Value split for IoT technology spending, 2015

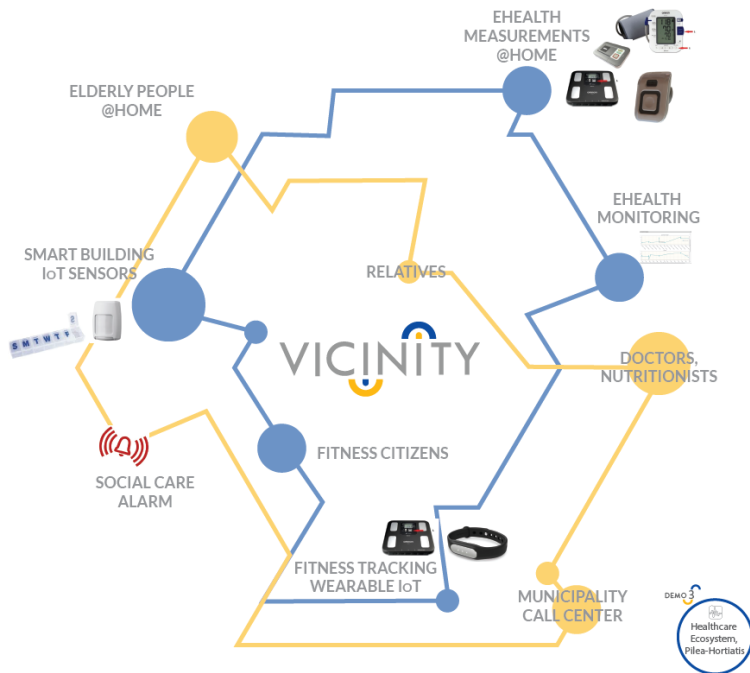
100% = \$50 billion-140 billion

Integration services 20-40	Physical setup	10-20
	General contracting/ project management operations	10-20
Software/app development 20-35	Algorithms	0-5
	Business apps	10-15
	Packaged software	10-15
Software infrastructure 5-20	Device cloud	0-5
	Security	0-5
	Analytics tools	5-10
Connectivity 0-10	Connectivity	0-10
Hardware 20-30	Other hardware costs	15-20
	Sensors	5-10

¹ IoT technology spending includes internal technology spending by IoT customers.
NOTE: Numbers may not sum due to rounding.

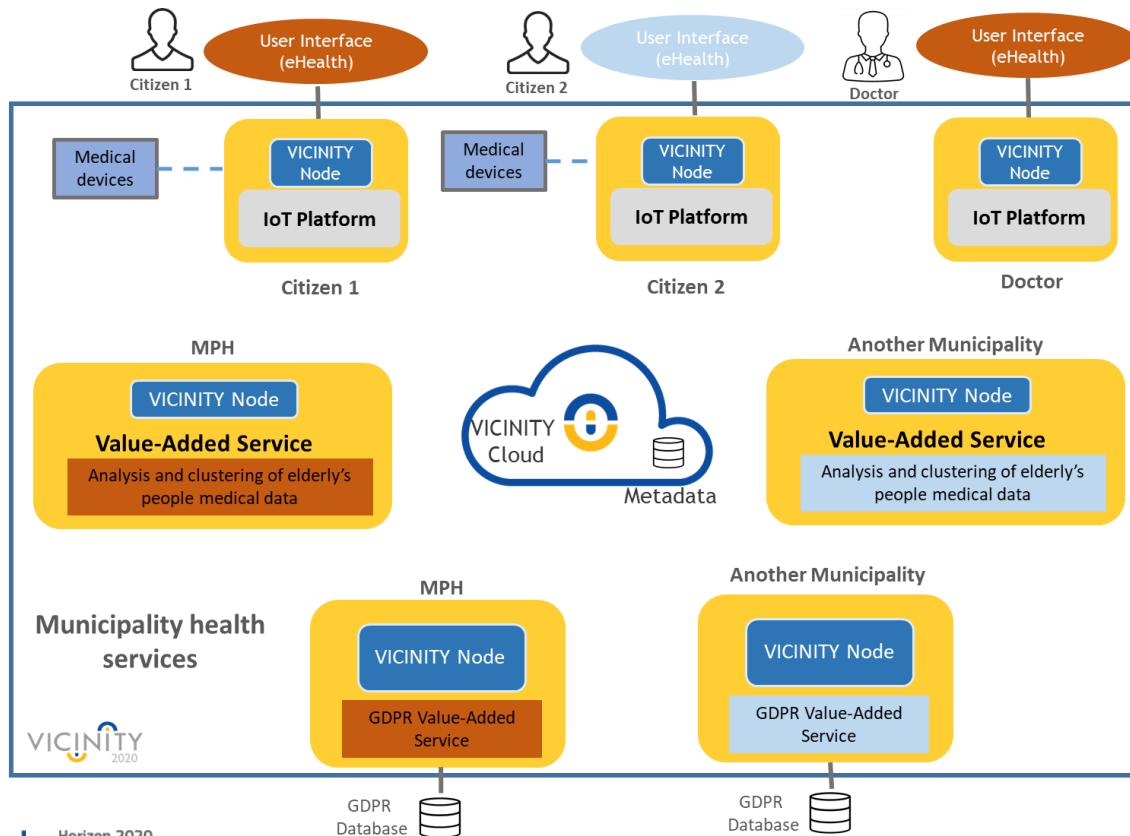
SOURCE: Industry interviews; McKinsey Global Institute analysis

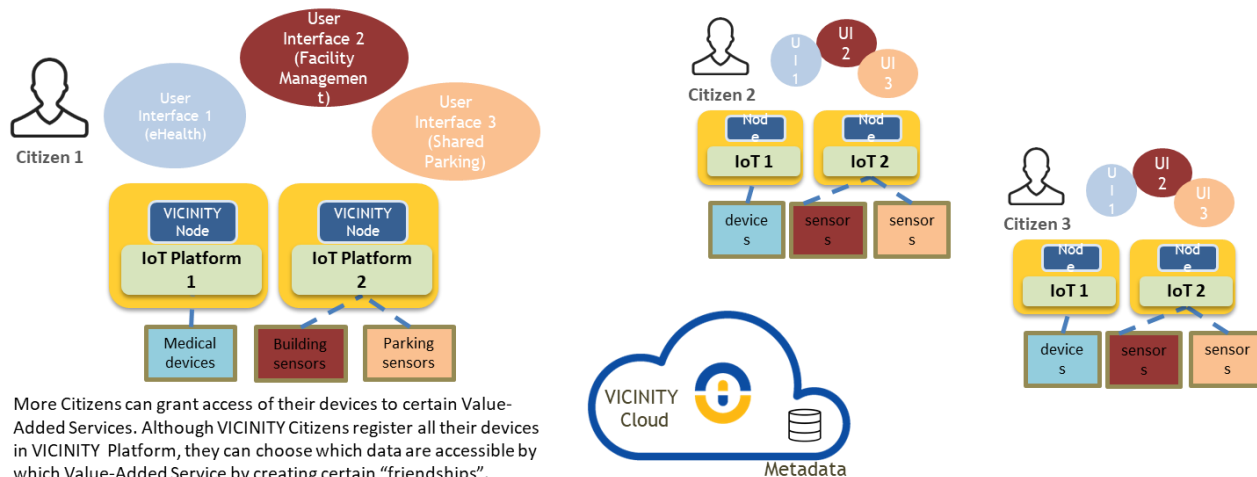
MUNICIPAL SCALE ASSISTED LEAVING & EHEALTH ECOSYSTEM, GREECE



- Healthcare institutions have software which are not compatible with the hardware that is used. This means **lack of interoperability** and leads to **investing considerable funds** to make systems that operate with different standards interoperable
- Lack of **cyber security requirements** for medical devices. Handling personal data through the internet and new technologies have emerged the need to protect those data in order to use them only for medical purposes and not for commercial ones
- **Not** major investments in **interactive technologies** – static websites just providing health information
- 73% of Member States do not have an entity responsible for the regulatory oversight of mobile health apps for quality and safety despite widespread use of such technology
- 38% of Member States have yet to establish a dedicated telehealth policy

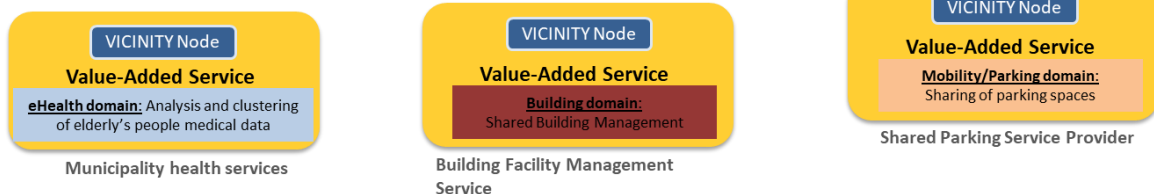
General concept of eHealth Domain



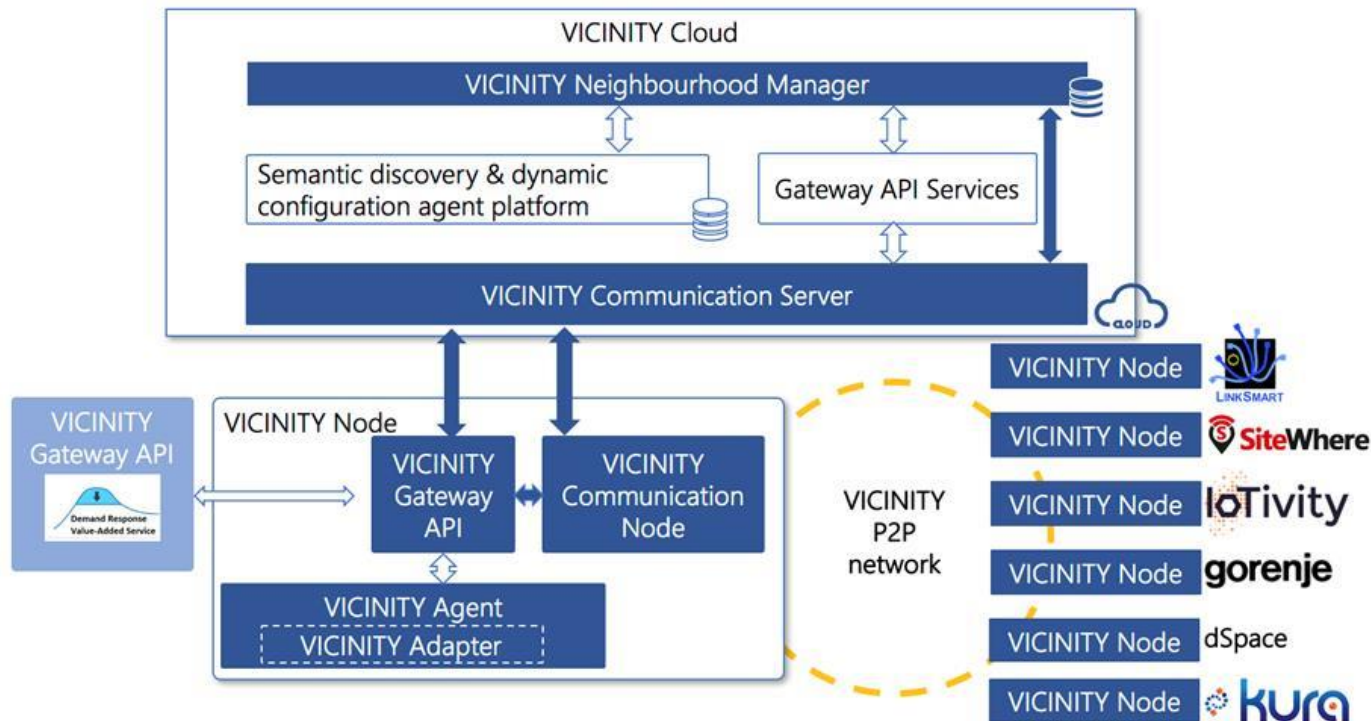


More Citizens can grant access of their devices to certain Value-Added Services. Although VICINITY Citizens register all their devices in VICINITY Platform, they can choose which data are accessible by which Value-Added Service by creating certain “friendships”.

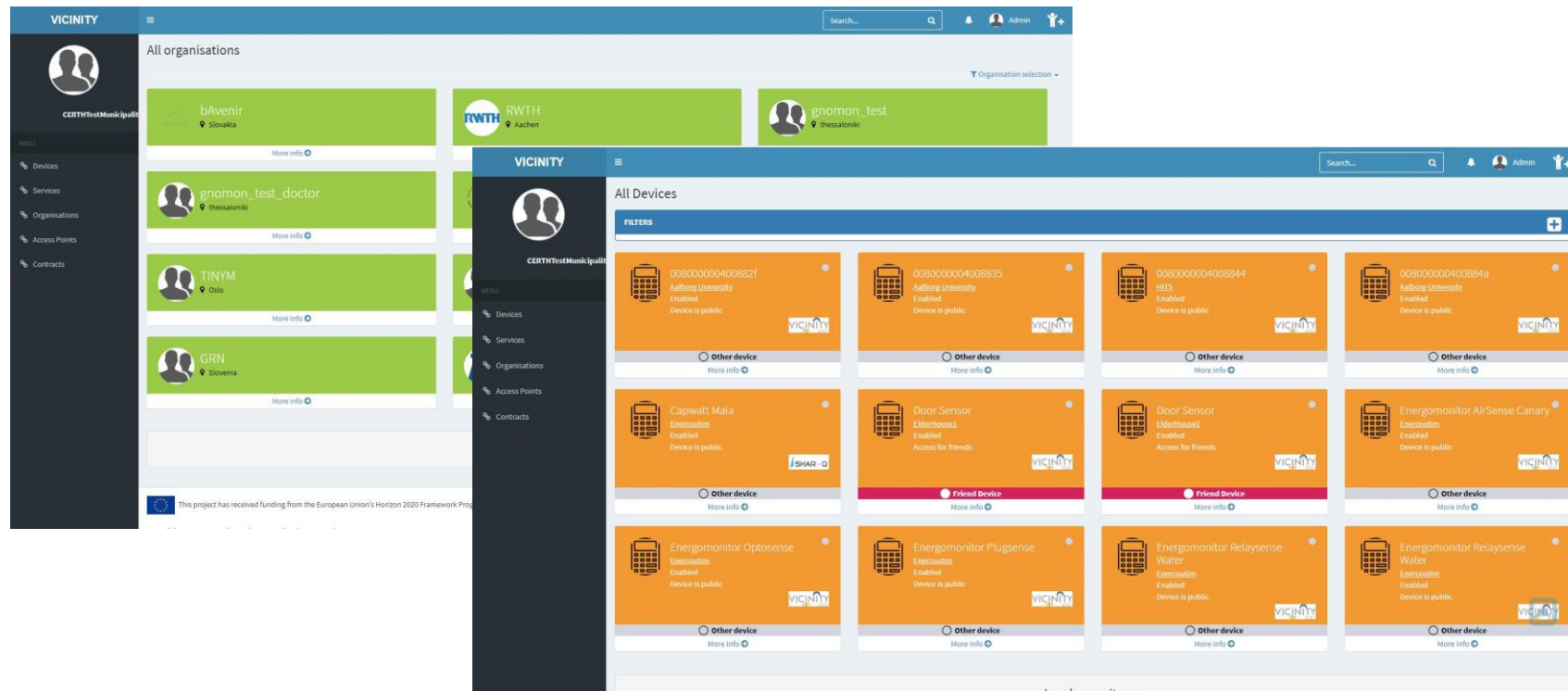
For example, a Citizen with medical devices and building sensors can authorize eHealth domain VAS to access only the medical devices.



Key Value Point : Integration



Key Value Point II: Manageability



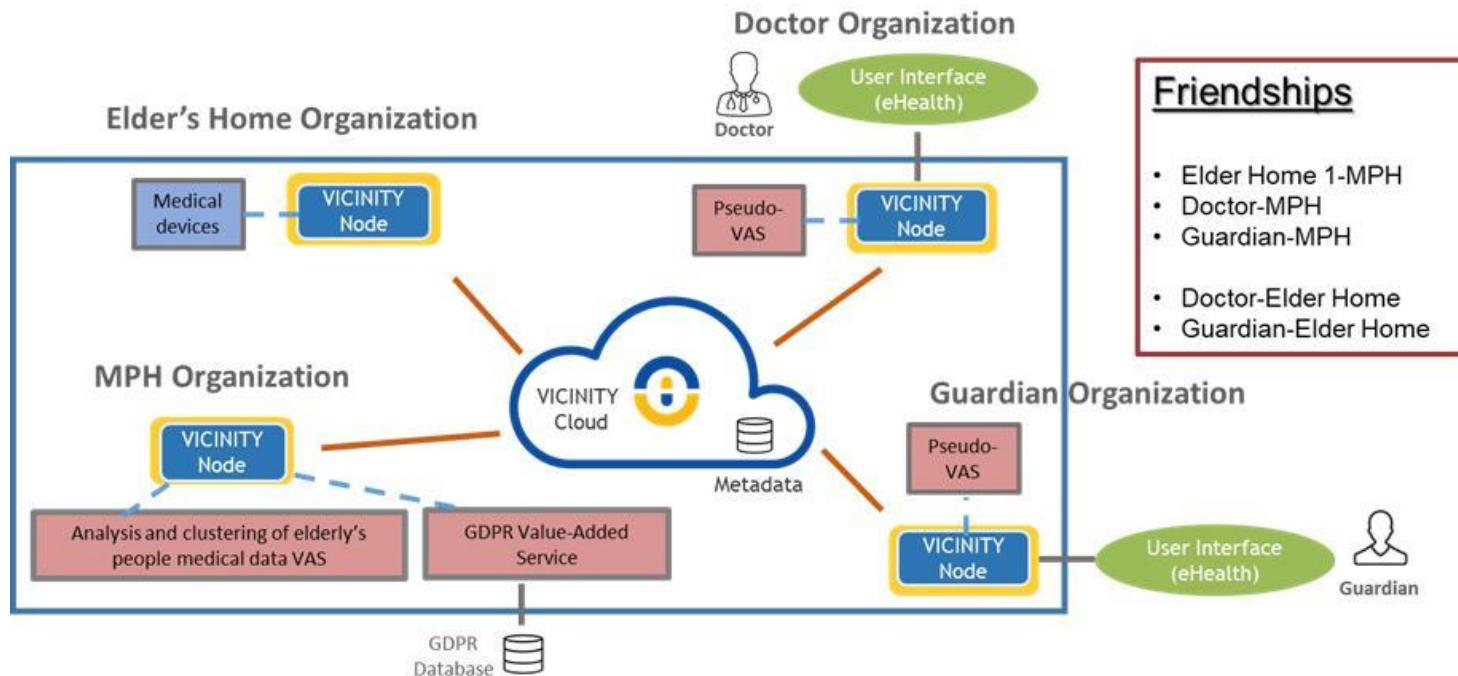
The screenshot displays the VICINITY 2020 web application interface. The top navigation bar includes a search bar, user profile, and admin links. The left sidebar contains a menu with options: Devices, Services, Organisations, Access Points, and Contracts.

The main content area is divided into two sections:

- All organisations:** This section lists several organizations, each with a profile picture, name, location, and a 'More info' link. The organizations shown are:
 - bAvenir (Slovakia)
 - gnomon_test (thessaloniki)
 - TINYM (Oslo)
 - GRN (Slovenia)
- All Devices:** This section displays a grid of device cards. Each card includes a device ID, name, status, and a 'More info' link. The devices shown are:
 - 0080000040082f (Sublime University, Enabled, Device is public)
 - 00800000400835 (Sublime University, Enabled, Device is public)
 - 00800000400844 (IDS, Enabled, Device is public)
 - 0080000040084a (Sublime University, Enabled, Device is public)
 - Capwatt Maia (Enerosolm, Enabled, Device is public)
 - Door Sensor (Eidertown2, Enabled, Access for friends)
 - Door Sensor (Eidertown2, Enabled, Access for friends)
 - Energomonitor AirSense Canary (Enerosolm, Enabled, Device is public)
 - Energomonitor Optosense (Enerosolm, Enabled, Device is public)
 - Energomonitor Plugsense (Enerosolm, Enabled, Device is public)
 - Energomonitor Relaysense Water (Enerosolm, Enabled, Device is public)
 - Energomonitor Relaysense Water (Enerosolm, Enabled, Device is public)

At the bottom of the interface, there is a footer with the text: "This project has received funding from the European Union's Horizon 2020 Framework Programme for Research and Innovation".

Key Value Point III: Extensibility



Service for semantic cross domain interoperability



VICINITY 2020 Partners



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ΔΗΜΟΣ
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Tiny mesh



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