M-Sec

HOME MONITORING SECURITY SYSTEM FOR AGEING PEOPLE

SENIOR CARE

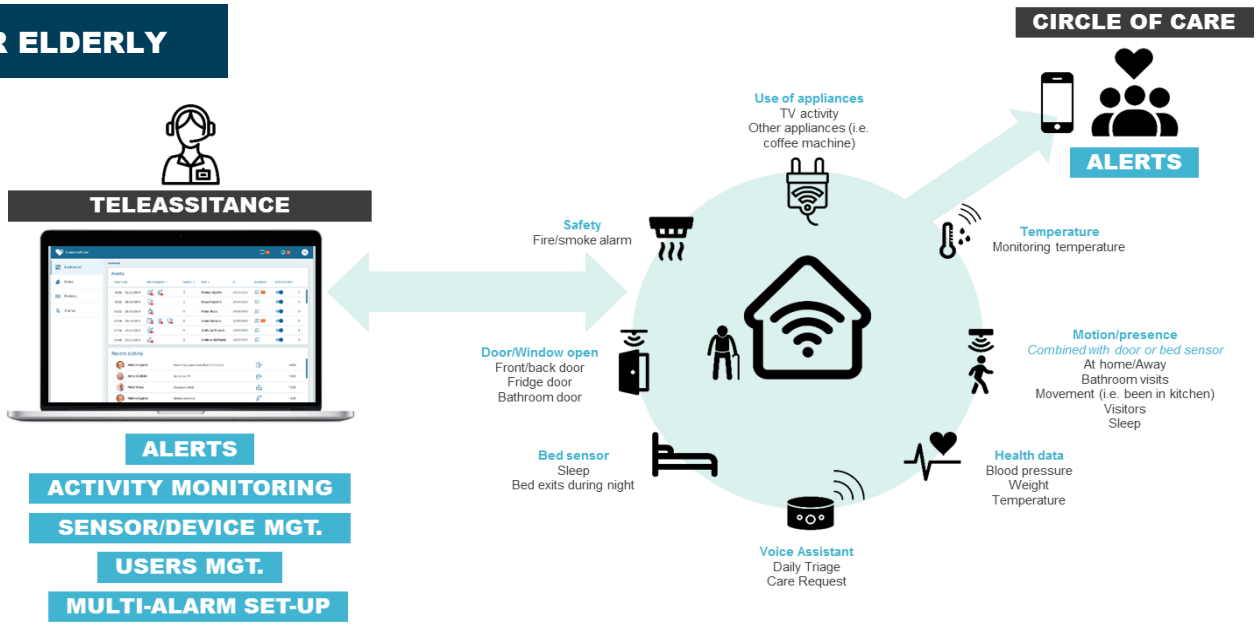
The rapid increase in the population in recent years, caused by the increase in life expectancy due to medical, social and economic advances, the lack of close family ties, the result of living alone, together with the increase in the demand for social services and the risks generated by the Covid-19 crisis, make it necessary to rethink in secured innovative solutions and services, as well as find complementary or alternative models to the current ones.

Senior Care guarantees the safety and tranquility of people who may be at risk due to factors of age, frailty, loneliness or dependency through an IoT platform that allows users to be monitored by deploying a series of sensors for the home (bed occupancy sensor, door / window opening, movement sensor, etc.), as well as detecting emergency situations based on a series of rules and alerts previously configured, and thus give an immediate response to them.

SIMPLE, SECURE & SMART REMOTE HOME ACTIVITY MONITORING PLATFORM

FOR DETECTING EMERGENCY SITUATIONS BASED ON HOME SENSORS AND A SERIES OF PREVIOUSLY CONFIGURED RULES AND ALERTS

GUARANTEE THE SECURITY & SAFETY OF OUR ELDERLY



SENIOR CARE AND THE MAIN CHALLENGE IN THE PROCESSING OF SENSITIVE DATA

Security and integrity of the data collected continues to be a big concern around these types of solutions for its applicability and scalability. The **home sensors deployed continuously collect personal information that a malicious actor can use to track down and commit inappropriate actions.**

M-SEC AS A SOLUTION TO THE GREAT CHALLENGE IN PRIVACY & DATA SECURITY

- **Access to data only by authorized and authenticated entities**

Thanks to **Eclipse Sensinact** and its fine grained security mechanism, only authenticated and authorized entities can access to the data collected by the home sensors.

- **Prevention of malicious attacks to access the full content of database.**

M-Sec **Crypto Companion Database** encrypts sensitive data with an asymmetric public/private key pair. Each user has it own key pair to access to the encrypted database.

- **End to end approach**

All the flow of data (from device to cloud to application) is secured thanks to the **Security Manager** that ensures Authentication, Accounting and Authorization in the whole system.

- **Synergy between on-chain and off-chain data**

A hash is generated from all the encrypted data and stored in the **Quorum blockchain** for data tamper proof allowing to verify at any time if the data has been modified since any attempt to manipulate the data would change the resulting hash.

- **A Marketplace to monetize anonymous data**

Data that is not personal or sensitive is sent automatically to the M-Sec **Marketplace** for secure IoT data exchange. The Marketplace includes a **Trust&Reputation** component capable to evaluate the actual content being shared.

UNIQUE VALUE PROPOSITION

Non-intrusive (wireless sensor network)

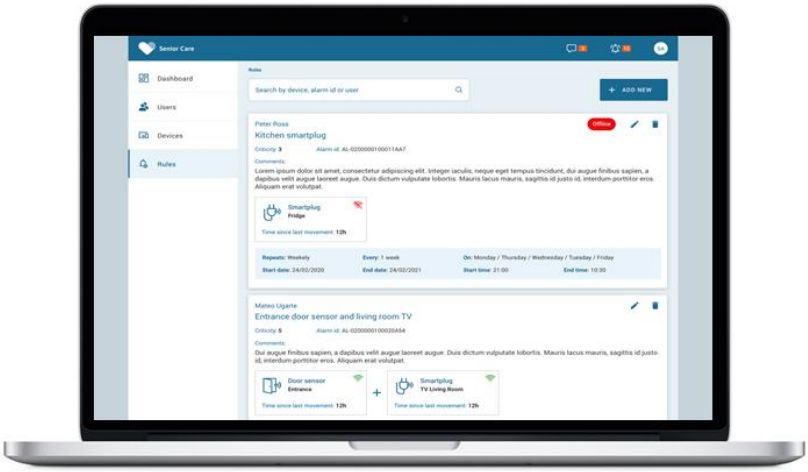
Friendly (no technical skills required)

Multi-Vendor (interoperate from the richness of the variety)

Scalable

System Resilience

End to End Security (personal data encryption with asymmetric public/private key, blockchain technology for data tamper proof, distributed data, access control)



FOR WHOM MAY BE USEFUL?

Are you a Tele-assistance provider and want to check a digital solution that replaces your current analogic solution?

Are you an IoT Provider and want to partner to expand your business?

Are you a telecommunication company and want to expand your portfolio?

Are you the Municipal Services and want to provide innovative secured solutions for elderly?

Are you a citizen and want to know more about how these types of solutions can help on your daily life?

PILOT TESTIMONY

"It is a service that does not require complicated installation, and provides very complete information on user habits"

(Atenzia Teleassistance Services, Spain)

"I feel very safe, it is something simple that gives me a lot of peace of mind"

(end-user, Spain)

ABOUT M-SEC

The M-Sec project is jointly funded by the European Union's Horizon 2020 research and innovation programme (contract No 814917) and by the Commissioned Research of National Institute of Information and Communications Technology (NICT), JAPAN (contract No. 19501).

The M-Sec consortium is a strong partnership of leading European and Japanese universities and research centers as well as companies in the area of Big Data, IoT, Cloud Computing, Blockchain and all of them have an extensive experience in smart city related projects.

The overall M-Sec consortium is made of 12 partners, 6 from 4 different European countries (France, Spain, Greece, Ireland) and 6 from Japan.

One of the main results of the project is based on providing a set of components that provide security and integrity of data traffic, end to end, from the device to the Cloud and to the application in a secure and transparent way, with a modular approach for the IoT and Smart City domain.