The experience of the UNCAP project on active and healthy ageing funded by the European Commission

99th OGC Technical Committee
Dublin, Ireland
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Ubiquitous iNTeroperable Care for Ageing People

Horizon 2020

Duration: 36 Months
Total budget: 3.8 M€

Coordinator: Trilogis Srl – Rovereto
"The Union recognises and respects the rights of the elderly to lead a life of dignity and independence” (Lisbon Treaty)
Who are we?

[Map showing locations of technical partners and pilot sites across Europe, with a list of partners on the right side of the map.]

Technical partner
Pilot site
Unsustainable “dependance ratio”
Aging and CI
“if dementia care were a country, it would be the world’s **18th largest economy**, ranking between Turkey and Indonesia. If it were a company, it would be the **world’s largest** by annual revenue exceeding Wal-Mart (US$414 billion) and Exxon Mobil (US$311 billion)”

(World Alzheimer Report)
Strategy: Reduction of environmental stressors

Patients with mild or moderate CI can function best in an environment that is safe, calm, and predictable.
The scenarios
The scenarios
The scenarios
## User groups

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<th>Typical user groups</th>
<th>General needs addressed by UNCAP</th>
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| Aging citizens with minor cognitive impairments | • To re-acquire an autonomous life with high quality, be this at their homes or within formal care environments.  
• To reduce the number of visits to health care system. |
| Caregivers and family members            | • To ensure safety and high quality of life for their family member.  
• To reduce physical and psychological burden of care activities.  
• To be constantly updated about state of patients and promptly contacted in case of emergency.  
• To facilitate empowerment of patients and their families, becoming more active in the decision regarding their health. |
| Nursing Homes                            | • To control the night activity of the patient affected by mobility and/or behavioural problems.  
• To monitor the daily activities in the common spaces (ambulation, posture, possible falls or exit from the safe areas, etc.) |
| General practitioners                    | • To be able to monitor “sentinel events” of a patient at home through automatic recording of relevant data based on specific test scales (InterRAI™) to help them improve monitoring of patients’ health or effects of therapies. |
| Clinical staff (in general)              | • To access patient’s health records via interoperable standards.  
• To accurately monitor patients’ physical and cognitive state.  
• To promote healthy lifestyle among patients. |
| Medical helpdesk                         | • To remotely assess patient’s conditions/vital signs and needs.  
• To deliver high-quality low-cost services based on remote and reliable monitoring of patient’s habit patterns and vital signals. |
Technological landscape
Wondering scenario
Daily activities scenarios (support to daily tasks)
Prevention scenario (games)
UNCAP will integrate

- Smartphones, tablets, smartwatches, HDMI Android dongles, biosensing units, IP cameras, home automation systems, ...
The big picture

[Diagram showing various components and interactions, including UNCAP CLOUD, KNX, UNCAP-BOX, interoperable communication, emergency call, daily activities, and communications.]
New business models

- General practitioners
- Medical helpdesk or other service provider
- UNCAP CLOUD
- Nursing homes
- Private homes
- General practitioners
- Medical helpdesk or other service provider
- UNCAP CLOUD
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Overall architecture

**Outer world**

**Home or protected environment**

**UNCAP services in the cloud**

- Value added services from 3rd parties
- Public health IT services (based on standards)

Interoperable channels

**UNCAP BOX**

- Proprietary data format

**Location information (users & objects)**
- Camera based localisation
- ZigBee localisation
- Smart flooring - based localisation
- Other...

**User’s clinical data**
- Biometric sensors
- Wearable sensors
- Other...

**Overview**

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Thank you!

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www.uncap.eu