



**EU Open Day, 31 st of January 2012,
Cambridge**

Avec le soutien de l'Union européenne et de la Région wallonne



Older People's Remote Monitoring and e-Services @ Home

“OLDES” and “eHealth for Citizens Projects

Philippe Massonet



www.cetic.be

Your connection to ICT research

Applied Research & Technology Transfer

- ❑ **Accredited “collective” R&D centre in Wallonia (Belgium)**
 - ❑ Founded in 2001
 - ❑ Applied Research & Technology Transfer to benefit the SMEs
 - ❑ Connection between Business/Industry & Research/Academia
- ❑ **Key Figures 2009:**
 - ❑ Total staff: 41 employees (36 researchers)
 - ❑ Budget: 3,600,000€
- ❑ **Serving the ICT sector**
 - ❑ Contribution to Regional Economic Development
 - ❑ International focus – European Research Area
- ❑ **Initiative by:**



CETIC in European Research Area

- Strategic positioning in the European Research Area (ERA)

- **FP6**

- CoreGRID
 - EverGrow
 - BEinGRID
 - QualOSS (C)
 - HPC4U
 - GridTrust (C)
 - AssessGrid
 - Oldes

- **FP7**

- RESERVOIR
 - Deploy
 - PONTE (C)

- **Other European projects**

- AgentLink III (Coord. Action)
 - Extra (CORNET)
 - C2A (Interreg IVa)



Older People's e-Services at Home

- ❑ FP6 European Project (STREP)
- ❑ Objective 2.6.2
 - ❑ “Ambient Assisted Living for the Aging Society”
- ❑ Started in January 2007
- ❑ Duration: 44 months
- ❑ 11 partners
- ❑ Coordinated by ENEA
(Mr. Massimo Busuoli)
- ❑ www.oldes.eu



OLDES: Context & Objectives

- ❑ 2020 Healthcare Challenges
 - ❑ The ageing of the population in EU
 - ❑ 23% of the population will be aged 65 or over by 2020 and 31% by 2050 with major implications for 'the labour market and the health and long-term care sector' (European Commission, 2005: 19)
 - ❑ Growing lack of medical and paramedical staff
- ❑ Oldes Project had 2 main objectives
 - ❑ To develop new technological solutions to improve the quality of life of older people through a "low cost and easy to use" entertainment and health care platform;
 - ❑ To develop a living environment and a living platform in order to engage the stakeholders in the system co-creation.

OLDES: Innovative Solutions

- ❑ Digital companion for elderly persons at home
- ❑ Specifically designed to meet their needs
 - ❑ Connected to the TV set
 - ❑ Adapted graphical interface
 - ❑ Easy to use remote control



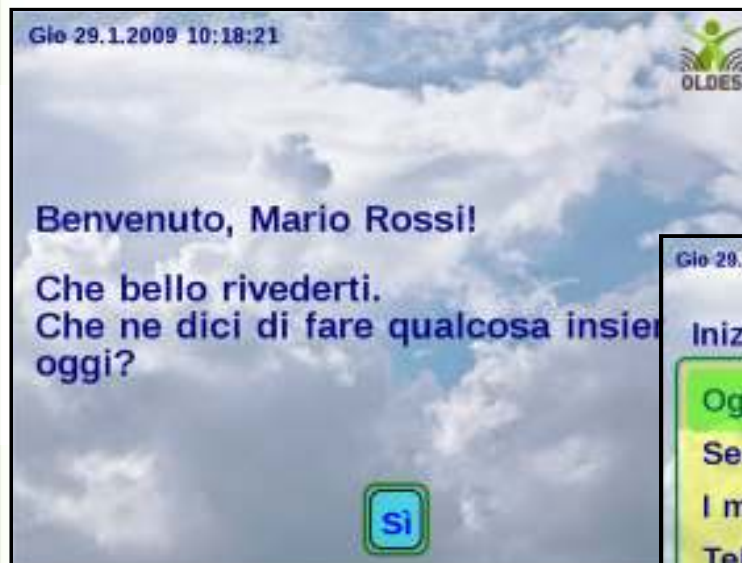
OLDES: User Interface Design

- ❑ Graphical user interface designed with the elderly persons



OLDES: User Interface Design

□ User interface prototypes



OLDES: Telemonitoring Services

- ❑ Integrated Telemonitoring services based on:
 - ❑ Wireless medical devices with automatic data collection
 - ❑ Data analysis system (Support Vector Machine and Fuzzy Logic)
 - ❑ Automatic decision support system



OLDES: Entertainment Services

- VOIP communication system
 - Discussion group (tele-conferences) with social workers and animators
 - 1 to 1 calls
- Adapted on demand video and audio content
- Text information
- Personal Agenda
- Interactive Questionnaires

OLDES: pilots

- ❑ 2 pilot projects in Bologna and Prague in order to validate OLDES platform:
 - ❑ Bologna:
 - ❑ 100 elderly persons in order to evaluate the communication and entertainment services
 - ❑ Including 10 patients suffering from heart failure
 - ❑ Prague:
 - ❑ 10 elderly persons suffering from diabetes

Bologna Pilot

- ❑ In the piloting phase in Bologna the OLDES project has enrolled 136 potential users
- ❑ Almost 88 mature adults' homes have been installed with the OLDES tele-accompany system
- ❑ 10 patients suffering from heart failure have been provided with 4 Bluetooth devices for the monitoring of their health status by
 - ❑ controlling the patient weight
 - ❑ measuring the blood pressure
 - ❑ analysing the level of oxygen saturation in the blood
 - ❑ performing electrocardiograms to measure the heartbreak



Observed Benefits

- ❑ OLDES Tele-company helps seniors defeating their fears and sense of insecurity
- ❑ OLDES was perceived by the users as a useful device to manage everyday life
- ❑ OLDES allows to become and stay involved in the territory's activities is also a fundamental aspect of the service
- ❑ OLDES uses user friendly wireless/ Bluetooth devices for health monitoring and provides measurement are available real time to the cardiologist



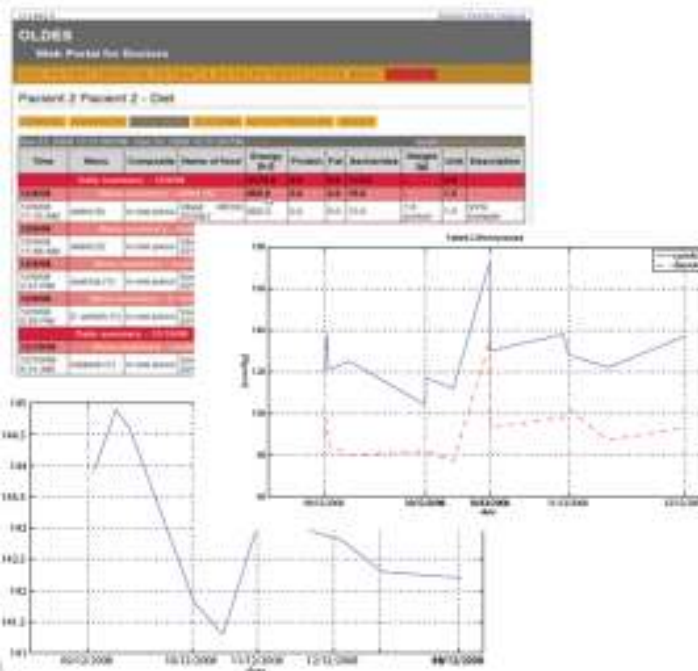
Prague Pilot

- ❑ 10 patients suffering from diabetes
- ❑ Diabetes compensation by
 - ❑ Monitoring glucose level, blood pressure, weight
 - ❑ Keeping saccharine diet
- ❑ Stakeholders
 - ❑ Prague Technical University
 - ❑ Charles University Hospital
 - ❑ Elderly patients at home



Observed Benefits

- Better diabetes compensation is possible
- OLDES system is useful for diet management



« eHealth for Citizens » Project

- ❑ Coordinator : CETIC
- ❑ Partners: UCL, FUNDP, Immunehealth
- ❑ Duration: 5 years
- ❑ General Objective
 - ❑ To develop and deploy in Walloon Region a service oriented platform able to support and combine eHealth services
 - ❑ Accelerate the development of an eHealth eco-system in Walloon Region
 - ❑ New service providers
 - ❑ Technological developments

eHealth Project : Validation

- ❑ **3 pilots will be implemented in order to validate the platform**
 - ❑ Elderly persons at home suffering from a chronic disease like diabetes
 - ❑ Elderly persons at home suffering from epilepsy
 - ❑ Elderly persons at home suffering from a multi-pathology chronic disease
- ❑ **The project is supported by**
 - ❑ SSMG, MLOZ
 - ❑ Walloon industrial partners
 - ❑ Réseau Santé Wallon
 - ❑ CHU Charleroi

Case Study: Home Monitoring for Diabetic Patients

- ❑ Services provided by the platform
 - ❑ Home Telemonitoring (Glucometer, Sphygmomanometer, weight scale)
 - ❑ Shared Agenda
 - ❑ VOIP Communication
- ❑ Improvement of the communication between the healthcare providers
 - ❑ Communication system based on the “Walloon Health Network” to make the data available for all the registered health care providers
 - ❑ Automated report generation
 - ❑ Automated alarm and alert generation

Touch Screen With Adapted Interface





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Your connection to ICT research



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Thanks for your attention
Merci de votre attention
Dank u voor uw aandacht
Grazie per la vostra attenzione



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Your connection to ICT research

CETIC's Research & Development

❑ **Software & Service Technologies (SST)**

- ❑ Helping businesses to exploit faster new distributed, dynamic, service-oriented architectures



❑ **Software & System Engineering (SSE)**

- ❑ Helping businesses to improve Software & Services quality and security



❑ **Embedded & Communication Systems (ECS)**

- ❑ Helping businesses to develop « ambient intelligence » systems based on mobile / wireless technologies

