

The diversity of challenges for eHealth solutions

Hungarian Assisted Living Research Programme

Eleonora Kovacs
Segment Marketing Leader
Home Health,
GE Healthcare



What is Telecare?

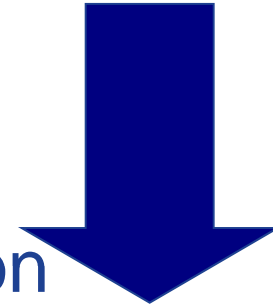
Continuous, automatic and remote monitoring of real time emergencies and lifestyle changes over time in order to manage the risks associated with independent living.



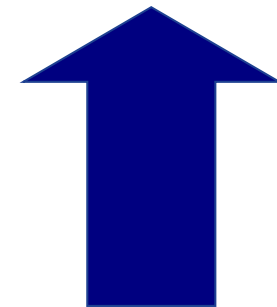
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The challenge for Hungary

- Population in decline:
- 2000: total population 10.1 million
- 2050: predicted total population 8.4 million



- Proportion of elderly citizens (65+ years) rises
- 2000: ~ 15%
- 2050: predicted ~ 30%



- * *Source US Census Bureau model*

Hungarian challenges reflect European-wide challenges

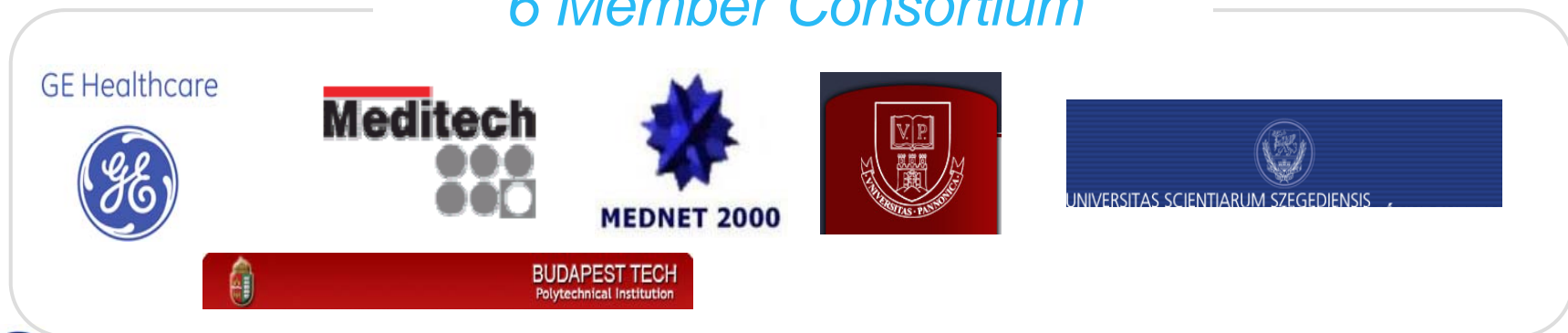
- Delivering cost effective healthcare
- Chronic disease burden
- Demographic changes
- Empowering the elderly citizen, helping them to stay in their own home
- Early intervention: keeping elderly citizens as healthy as possible, as long as possible



Hungarian Assisted Living Programme

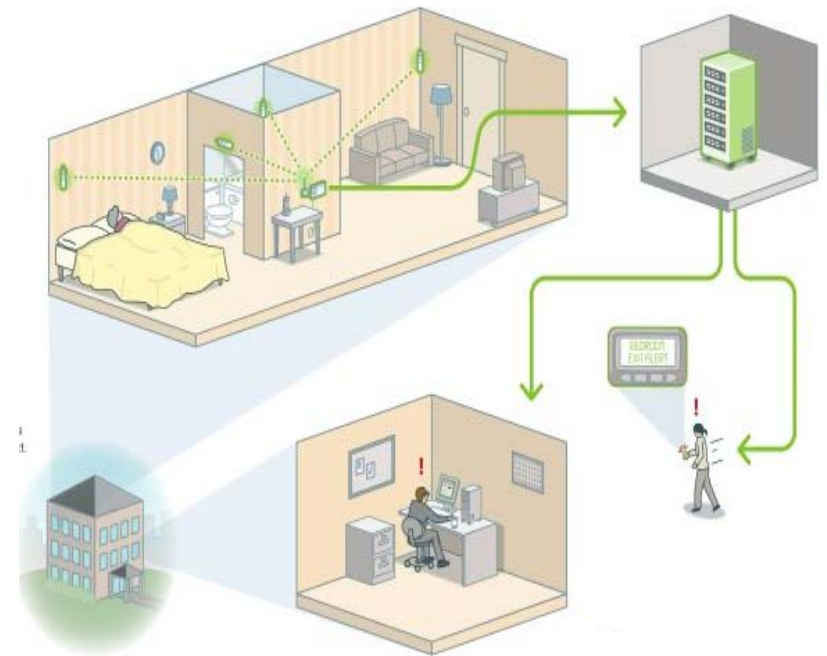
- Initiated and majority-funded by Hungarian government
- Consortium of leading healthcare companies and Hungarian universities
- Three year programme 2008-2011
- €3.1M investment by Hungarian government
- GE healthcare investment €0.83m
- Total investment €4.0m

6 Member Consortium



Why is GE Healthcare interested in Hungary and Assisted Living?

- GE Healthcare announced New Home Health venture in US:
 - 2008 partnership with Living Independently Group
 - Remote monitoring technologies for Assisted Living facilities
 - Based on technology which “learns behaviour of the elderly person”



Telecare

QuietCare Features:

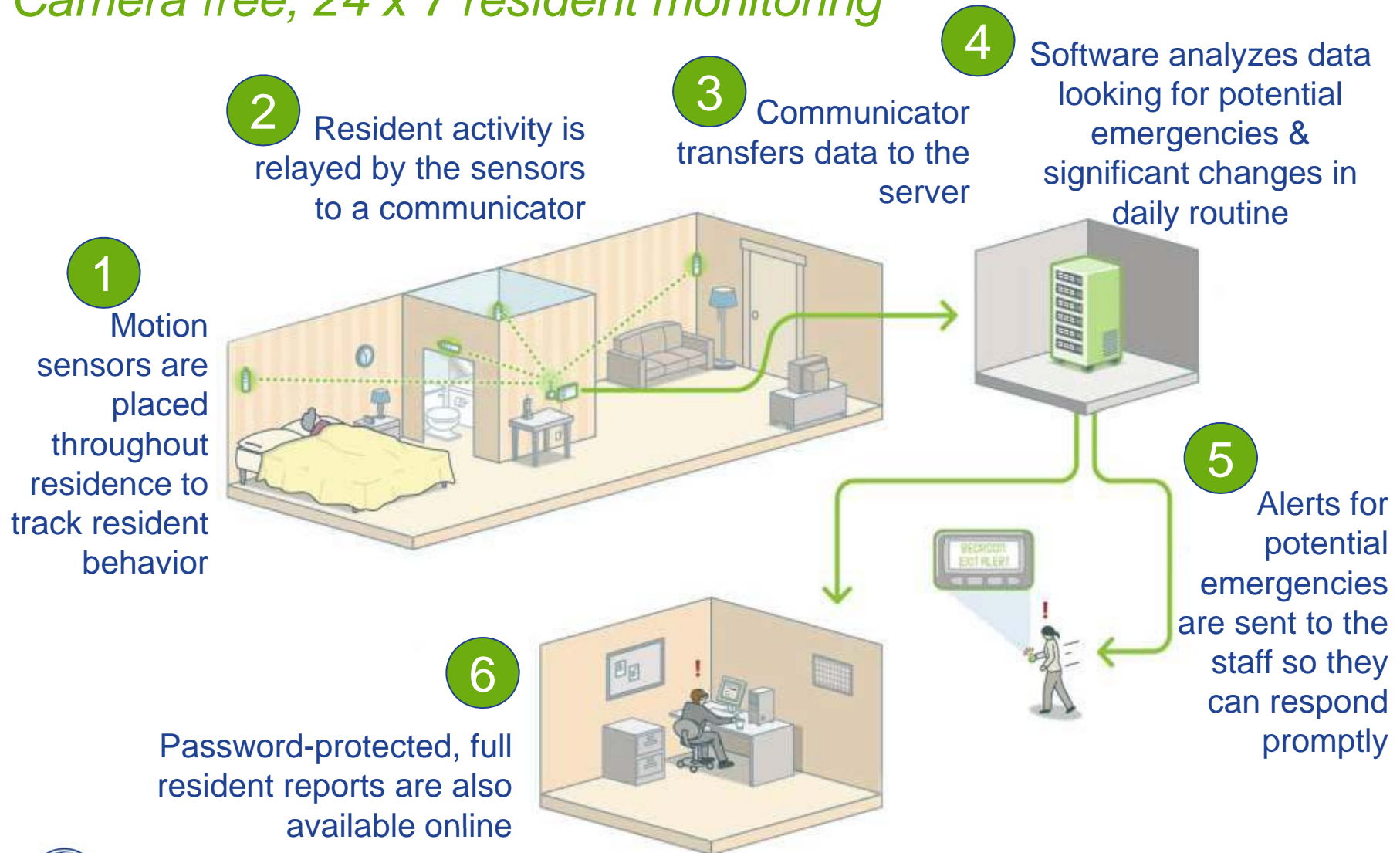
- Passively monitors behavioral patterns
- Motion sensors vs. cameras
- Learns residents' daily in-home routines
- Sends alerts when certain out-of-the-ordinary situations occur



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How it works

Camera free, 24 x 7 resident monitoring



What kind of information can be provided

- ❑ Has the resident's overall activity changed?
- ❑ Are there changes in the resident's daily routine?
- ❑ Has the resident interacted with their medicine cabinet/drawer today?
- ❑ Is the room temperature dangerously too hot or too cold?
- ❑ Has the resident interacted with their refrigerator?
- ❑ Has the resident exceed their normal time in the bathroom?

The right information at the right time to improve the

QUALITY OF CARE



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What the provider sees

Password protected, resident information

Target residents with red and yellow alerts

Current Status [Show all active clients](#)

Resident	#	Bedroom Exit	Bath Falls	Meds	Meals	Activity	Night Bath	Bathroom Visits	Door Motion	Room Temp	Client Settings
Libby D	122	08:41 AM	●			●	●	●	●	●	●
Walter W	123	●	07:54 AM			●	0	●	●	●	●
Carolyn R	125	●	●			●	●	●	●	64	●
Olga S	157	●	●			●	●	●	●	●	●
Alice S & Roslyn I	211	●	●			●	●	●	●	●	●
Bess L	231	●	02:10 AM		●	●	●	●	●	●	●
Renee R	233	●	06:54 AM			●	●	●	●	●	●
Oswald McC	240	09:38 AM	●		●	●	●	●	●	●	●
Ruth N	243	●	●			●	●	●	●	●	●
Jean G	249	●	●		1	●	●	●	●	●	●
Eveline L	254	●	●		●	●	●	●	●	●	●
Ruth P	255	●	●			●	●	●	●	●	●
Peter C	257	●	●		●	●	●	●	●	●	●
Francesca C	312	●	●			●	●	●	●	●	●
Selma H	326	●	●		0	●	●	●	●	●	●
Loretta C	400	●	●			●	●	●	●	●	●

Provides both trending information and alerts



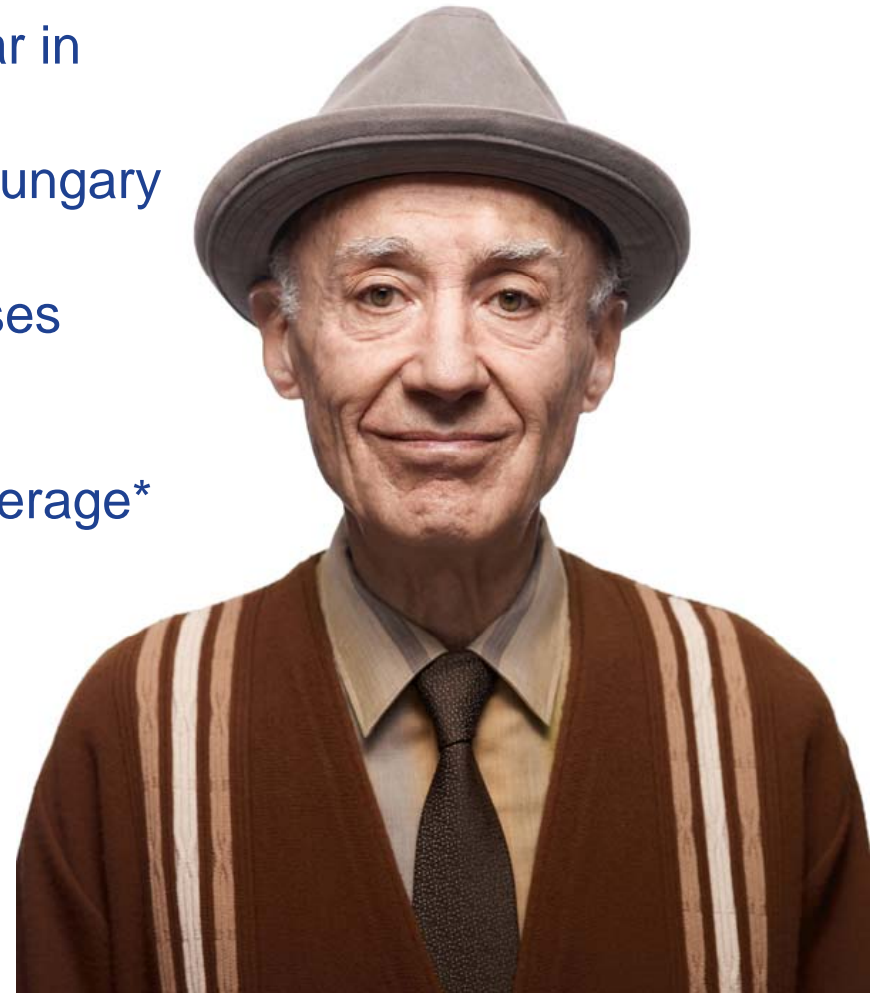
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Hungarian Assisted Living Programme

Key drivers for Hungary:

- Elderly population: 600,000 live alone
- Stroke: 30,000 – 35,000 new cases/year in Hungary
- Dementia: approx. 100,000 people in Hungary with some form of Dementia*
- Depression: Incidence of depression rises with age – highest in 60+ years
- Serious depression major problem for Hungary - suicide rate almost x2 EU average*

Sources: Consortium partner estimates and World Health Organization data, KSH Social Situation Report, 2005



Hungarian Assisted Living

Programme







- Focus areas: elderly citizens, stroke, dementia, depression
- Stroke application:
 - Prevention via vital signs monitoring (e.g. blood pressure, ECG)
 - Management post-event (e.g. blood pressure, mobility, exercise compliance)
- Combination of expertise and knowledge of healthcare companies and universities
- Develop existing technologies

eHealth – add the “health” expertise to the “e”

Formation of the Consortium

GE Healthcare drove formation of consortium

Invited partners who bring expertise and skills needed

 MEDNET 2000	Mednet	Medical service provider, hands-on experience in service delivery
	Meditech	Equipment manufacturer, practical technology expertise
	Veszprem University	AAL & medical engineering expertise
	Szeged University	World-class medical expertise for disease areas in focus and practical software engineering experience
 BUDAPEST TECH Polytechnical Institution	Budapest Polytechnic	Engineering, IT, Software design, data mining, networking
 GE Healthcare	GE Healthcare	Multinational company with expertise in commercialising technology

Greater chance of success if consortium partners already have a previous long term and good working relationship

Desired Objectives of the Hungarian Programme

Research effective solutions to manage chronic diseases and aging conditions in a home environment, targeted at better clinical and economic outcomes

R&D of new sensors and algorithms that can identify early changes in health in the home environment, including physiological parameters and behavioral parameters

R&D on the next generation of algorithms to correlate activities of daily living with the progression of clinical diseases

Build clinical expertise/knowledge into next generation ehealth technologies

Provide funnel of innovations for next generation of home health products



Hungarian Assisted Living Programme

Regional approach is key

- ✓ Development of solutions appropriate for entire country depends on regional input
- ✓ Harness “best in country” expertise



Summary

- Chronic disease and care of elderly is a key focus for EU health policy
- Hungarian ambient assisted living Programme
 - Coordinated programme of research
 - Localised technologies – scalable for European and global reach
 - Putting the “Health” into “eHealth”
- Help the elderly and chronically ill stay as well as possible, for as long as possible



GE Healthcare

