



Intelligent Sensor Networks

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Background



Step counter



Heart rate monitor



Sensors in smartphones



Fall detector



Blood pressure monitor



Our innovative contribution

We combine machine learning and sensor technologies

- Enable sensors to complex data fusion in real time
- On-line retraining/reconfiguration of data fusion mechanisms
- Personalization of data fusion mechanisms

Advantages

- More intelligent and tiny sensors
- Can become even more pervasive
- Can disappear to the user



Active projects



foremi

- *Decrease of cognitive decline, malnutrition and sedentariness by elderly empowerment in lifestyle Management and social Inclusion*
- November 2013 – October 2016.
- Objective ICT-2013.5.1 Personalised health, active ageing, and independent living.



- *Robotics Ubiquitous Cognitive Network*
- April 2011 – March 2014.
- Objective FP7-ICT-2009-6 “cognitive systems and robotics”.



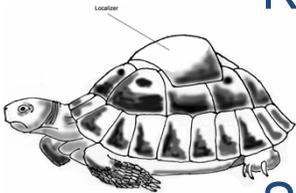
Our current applications



- Adaptive robot localization and navigation
- Activity recognition systems for AAL



- Identify activities of patient at risk of dementia
 - Exercise, eat, sleep, ...
- Quantify and assess their quality
- Relate these parameter and the patient treatment



Wildlife protection

- Sensor for the localization of tortoises nests (patent)



Perspectives

Potentially any field that requires intelligent, adaptive, non invasive, autonomous sensors

AAL

- Technologies to support, monitoring, and assist elderly/disabled in their homes, at work,...

Health

- Real-time patient monitor
- Early alerts



Our Network

AIT, Austria
Stuttgart Univ., Germany
Fraunhofer, Germany
UCD, Ireland
Imaginary, Italy
IFC – CNR, Italy
ISTI – CNR, Italy
SI4Life, Italy
Univ. Carlos II, Spain
Tecnalia, Spain
MySphera, Spain
Robotnik, Spain
Orebro Univ., Sweden
Ulster Univ., UK
Extracare, UK
De Montfort Univ, UK
Utrecht Univ., Netherland
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