

## CONSORTIUM

**ACIN, Vienna University of Technology**  
Austria



**AAT, Vienna University of Technology**  
Austria



**MetraLabs GmbH**  
Germany



**Hella Automation GmbH**  
Austria



**Foundation for Research and  
Technology Hellas**  
Greece



**Lund University**  
Sweden



**Academy for Aging Research at HB**  
Austria



**Otto Bock Mobility Solutions GmbH**  
Germany



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[www.hobbit-project.eu](http://www.hobbit-project.eu)



Photo: Erik Andersson

### HOBBIT Project Objectives

The HOBBIT Project sets out to develop a robot that enables older people to **feel safe and stay longer in their homes**. In order to achieve this goal, we focus on two core elements:

- The Mutual Care Concept which uses the physical presence (embodied agent) of the robot and findings from the helper and attachment theories to increase acceptance for all domestic robots.
- Integrating the rich set of functions to realise the Mutual Care concept on an actual, affordable robot that can be tested by the target users.

The main goal of the robot is to provide a "feeling of safety and being supported" while maintaining or increasing the user's feeling of self-efficacy (one's own ability to complete tasks). Consequently, the functionalities focus on emergency detection (mobile vision and AAL), handling emergencies (calming dialogs, communication with relatives, etc.) as well as fall prevention measures (keeping floors clutter-free, transporting small items, searching and bringing objects, and reminders).



**The goal of the HOBBIT project is to advance towards a robot solution that will enhance wellness and quality of life for seniors, and enhance their ability to live independently for longer at their homes.**

### PROJECT NAME

HOBBIT – The Mutual Care Robot

### PROJECT ACRONYM

HOBBIT

### STRATEGIC OBJECTIVE

FP7-ICT-2011-7 ICT and Ageing

### START DATE

1st November 2011

### PROJECT DURATION

36 Months

## Why HOBBIT?

It is no secret that our society is getting older. The EU is moving from four working persons per person aged over 65 years to two people in two decades. This raise in old people will stress the health care system and economy.

Falling sat home is the single most critical factor for older persons to need extensive care and institutionalization. Hence, HOBBIT sets out to

- prevent falls in the first place: HOBBIT cleans the floor from objects, carries a heavy bag, learns and brings objects, and
- motivate for activity: water the flowers together, go a round the flat together, and help with fitness training and physical exercises.

And, if a fall happens nevertheless, HOBBIT is there to reduce the consequences to a minimum by reacting rapidly. Users of HOBBIT will not fall and be not recognised in their home, fall detection will initiate an emergency procedure.

**Fall prevention and Fall detection will increase your feeling of safety at home significantly.**



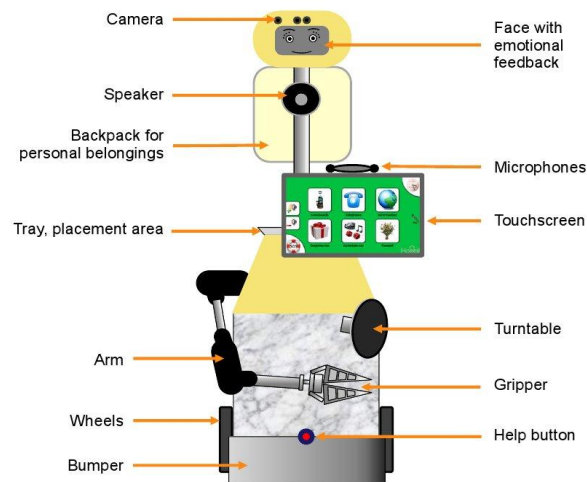
## Approach

HOBBIT is conceptualized, designed, and evaluated following a user-centred approach for guaranteeing high usability and user acceptance. To this end we conduct user trials in Austria, Greece and Sweden.

## HOBBIT Fall Prevention and Detection

HOBBIT has an arm to be able to do physical actions in the home. HOBBIT can clear the floor from objects and assist the user by bringing objects (medicine, glasses) and picking up objects from the floor when the user feels dizzy. HOBBIT makes sure you do not fall over a pen or other obstacle. And HOBBIT will detect when you fall and raise alarm.

### HOBBIT – The Robot Functions



## ROBOT COMMANDS

**HOBBIT, Learn Objects** You can teach HOBBIT objects that you want it to remember

**HOBBIT, Bring me X** HOBBIT can bring you Object X (e.g. X = aspirin)

**HOBBIT, Clean up** HOBBIT can pick up things from the floor

## HELP

HOBBIT will assist you in an emergency situation. You can press the SOS button on the touchscreen, the

physical button on the robot, make the help gesture or say “help me”.

HOBBIT will also detect if you fall and initiate an emergency procedure.

## PLAY GAMES

Choose from different games, music and videos to entertain you or keep you mentally fit

## SURPRISE ME

Try out and see what happens

## TELEPHONE

HOBBIT will connect you to your friends and relatives

## INFORMATION

Read the news, see the local weather forecast or surf favourite website

## REWARD

“HOBBIT, well done!” Reward HOBBIT if it pleased you

## ENTERTAIN ME

HOBBIT can play music, videos and games

