



TECHNOLOGY WITH A HUMAN TOUCH







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The SILVER project searches for new technologies to assist the elderly people in their everyday lives. By the use of new robotics based technologies, the elderly can continue independent living at home even if they have physical or cognitive disabilities.

OVERVIEW

SILVER (Supporting Independent LiVing for the Elderly through Robotics) is a development project funded by the European Commission under the Seventh Framework Programme for research and technological development (FP7).

As people get older, they face increasing risk of some severe condition that will affect their ability to continue living independently at home.

The new technologies and solutions are sought by using a Pre-Commercial Procurement (PCP) process. Pre-Commercial Procurement is a method for procuring research and development (R&D) services, or of the result of R&D services, with the purpose of developing a new product or solution. It is conducted in several phases to manage risk. (Figure 1)

In Europe, the PCP has so far been an under-utilised tool for promoting innovation. One of the aims of this project is to demonstrate the effectiveness of this approach to address societal and governmental needs.

OBJECTIVES

The first objective of the project is to *establish, and execute, an agreed Pre-Commercial Procurement process* to run a cross-border Pre-Commercial Procurement call for tender. This generic process should also

form a basis for national Pre-Commercial Procurement calls designed outside of the SILVER project.

The aim is that in the future public organisations in the participating countries and in the EU be familiar with the Pre-Commercial Procurement process and tools and use them to meet their needs.

The second objective is to use the Pre-Commercial Procurement process developed in the project *to identify new technologies and services to support the independent living of the elderly.*

By 2020 new solutions implemented in the care for the elderly are expected to make it possible to care for 10% more care recipients with the same number of care givers. The aim is also to increase the quality of life for the elderly by making them more independent and improving their health.

PROJECT DETAILS:

- **Project acronym:** SILVER
- **Project full title:** Supporting Independent LiVing for the Elderly through Robotics
- **Coordinator:** Innovate UK
- **Starting date:** 01/01/2012
- **Duration:** 56 months
- **Purchasing budget:** 2,150,000 EUR

DARE TO THINK DIFFERENTLY

In order to stimulate the possibility of more radical approaches being proposed and “out of box” thinking being used, the challenge description was phrased as an open challenge. Specifically, there was not a detailed specification of a product or service being sought but instead there was a description of the challenge needing to be addressed and the desired outcome.

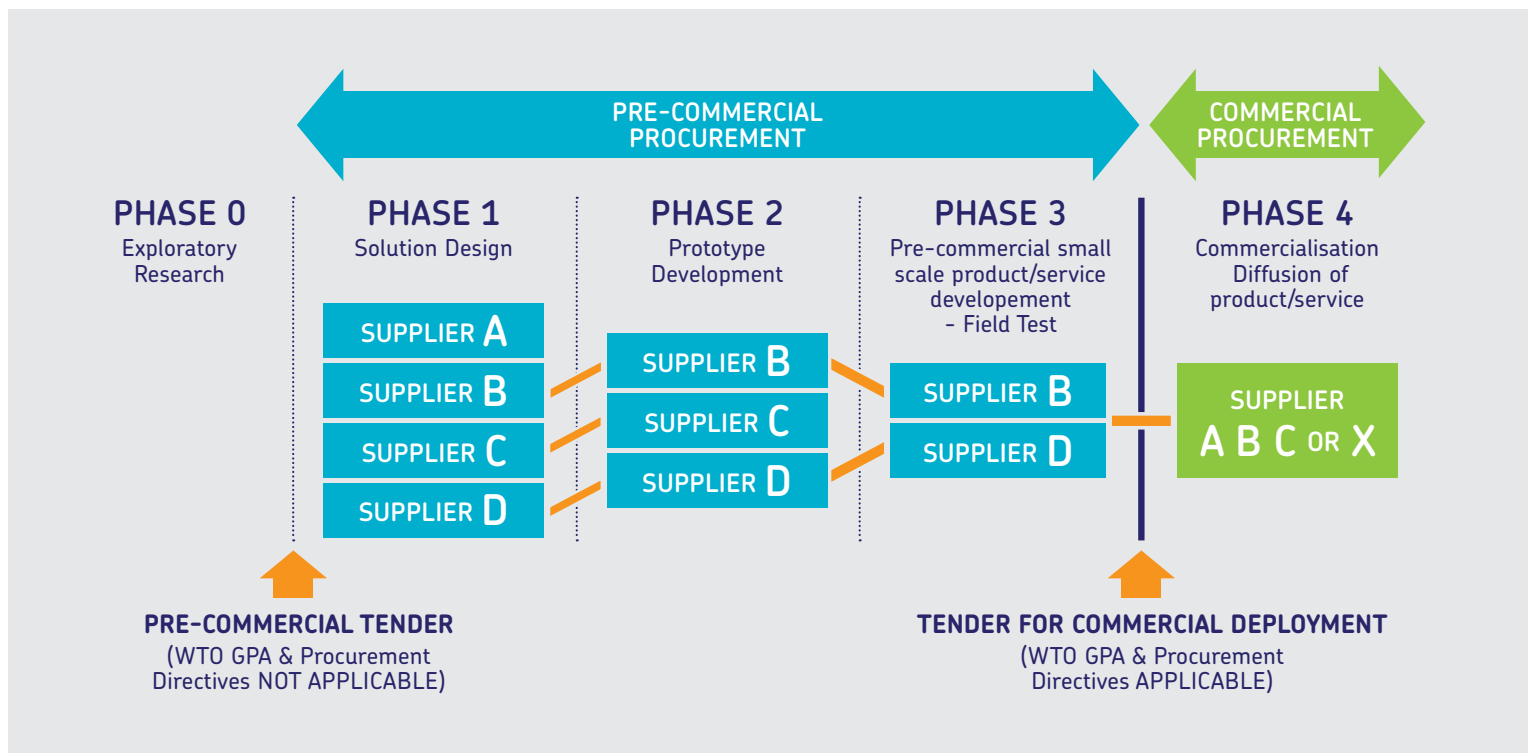


FIGURE 1: PRE-COMMERCIAL PROCUREMENT PROCESS (Source: ICT for ageing and wellbeing info day, Brussels, 15 October 2010: Slide 9)

Open competition was run to find solutions to the challenge of Supporting Independent Living for the Elderly through Robotics. The challenge was specified to fit the scope of R&D services, with at least 50% of the contract value relating to services.

After closing the call, the Pre-Commercial Procurement process started the result being up to three prototypes

to be tested in all partnering countries: Denmark, Finland, Sweden, the Netherlands and the United Kingdom.

The three “phases” of Solution design, Prototype development, Pre-Commercial small-scale development and Field test (Figure 1) fall within the scope of the SILVER PCP call.



PHASE 1

SOLUTION DESIGN

This phase is a feasibility study of the selected technologies and proposals, which aims to verify the technical, economic and organizational feasibility of each company's offer. The expected output from participating companies is a report describing the results of the feasibility study and the conclusions for the start of the development activities in Phase 2.

Successful tenderers are expected to demonstrate the feasibility of their idea through simulations and models.

PHASE 2

PROTOTYPE DEVELOPMENT

The purpose is to take the most promising ideas that have been shown to be feasible in Phase 1 and develop them into well-defined prototypes.

The aim is to verify to what extent the prototype's main features meet the functional and performance requirements. Companies are expected to deliver:

- Prototype specification
- Lab demonstration
- Plan for original development of first solutions and field-testing
- Updated cost/benefits evaluation including a preliminary business plan

PHASE 3

PRE-COMMERCIAL SMALL SCALE PRODUCT/SERVICE DEVELOPMENT

Phase 3 aims to verify and compare the full feature set and performance of solutions in real-life conditions of the targeted public service. Expected output from companies:

- Field testing
- Field test specifications
- Specification of the final solution and related technical documentation
- Updated cost/benefit evaluation

No more than three solutions are tested in the regions by the procurers to ensure that a comparison can be made of performance both across sites and across solutions. The IPR and prototypes will remain the property of the companies.

PHASE 4

COMMERCIALISATION DIFFUSION OF PRODUCT/SERVICE

This phase deals with the commercialisation of the product or service and therefore falls out of scope of the SILVER project. At Phase 4 it remains for the public body to decide whether to do a commercial procurement, and for companies to commercialise their innovations.



SILVER – CALL FOR TENDER

On the 1st of March 2013 an international Pre-Commercial Procurement call was opened to acquire the research and development services for new robotics based solutions that support independent living for the elderly. The total budget of the three-phase competition is 2,150,000 EUR (EU contribution 1,000,000 EUR).

PHASE 1

SOLUTION DESIGN

Duration 6 months, up to 8 companies, budget up to 350,000 EUR

PHASE 2

PROTOTYPE DEVELOPMENT

Duration 12 months, up to 4 companies, budget up to 720,000 EUR

PHASE 3

PRE-COMMERCIAL SMALL SCALE PRODUCT/SERVICE DEVELOPMENT

Duration 12 months, up to 3 companies, budget up to 1,080,000 EUR

The SILVER call for tender was available for offers until 12th of June 2013 and was open to all EU members and associated state countries. In total 32 tenders were received by the closing of the call.

During the summer of 2013 all tenders were assessed by external assessors, who were experts in either robotics, elderly care or business economics. The tenders that offered the best solution at an appropriate risk and cost level were favoured. In total seven proposals were awarded with contracts in Phase 1.

In May 2014, all seven Phase 1 contractors were invited to submit a bid for Phase 2. Three tenderers were awarded with contracts and developed prototypes that were tested in a living lab in Denmark in April 2015. In July 2015, two of the Phase 2 contractors were invited to submit a bid for Phase 3. One tenderer was awarded a contract and will continue work by improving the prototype and testing it in real life conditions in the spring of 2016 in all partnering countries.

SEVEN STEPS TO SUCCESS:

WP1: PROJECT MANAGEMENT

This work package consists of administration and management of the project. The objectives are to coordinate all work conducted in the project, to oversee the tasks and work packages, to ensure sound financial management of the project and production of deliverables, and to report to the EC via the contracted reports.

WP2: CREATION OF GENERIC PCP PROCESS

There are three primary areas of work in this work package: firstly, to understand Pre-Commercial Procurement and share this amongst the participants in order to develop a foundation of understanding; secondly, synthesise an agreed process that fits within the legal and political framework of the EU and participating countries; finally, to generate required documents and templates suitable for further use of cross-national Pre-Commercial Procurement calls.

WP3: CREATION OF SPECIFIC CALL FOR INDEPENDENT LIVING

The main activities of this work package are to gather an understanding of the key requirements and current state of the art, and also to consult with other key stakeholders. The understanding will be synthesised into a functional specification for the call including assessment criteria. These are then captured in specific instances of the artefacts from work package two to enable the PCP call to be launched under work package four.

WP4: ADMINISTRATION OF THE COMPETITION AND MONITORING PILOTS

The main activity of this work package is to organise the competition and manage the contracts with the companies selected to run the R&D pilots. Each country is responsible for managing the contracts with companies on the national level under overall coordination of the work package leader. This work package also includes monitoring of all stages of the development of solutions.

WP5: REVIEWS AND RECOMMENDATIONS

The objective of this work package is to capture learning from work package four and make recommendations both to the partners and to other parties interested in implementing such a scheme in the future. Within the SILVER project this learning is used to modify, as necessary, any actions for the on-going PCP call and the generic process. Recommendations will be generated for upgrading of human resources skills within local, regional and national purchasers in the field of elderly care.

WP6: DISSEMINATION AND EXPLOITATION OF PROJECT RESULTS

The objective of this work package is to create, evaluate and disseminate the knowledge generated in this project, and to enable the means and channels for communication, among the project partners as well as with the stakeholders. In particular this work package aims at changing the mind-set of public procurers and other European decision makers and influence SMEs to see the full potential of Pre-Commercial Procurement.

WP7: PILOTS RUNNING

The primary objective of this work package is to develop new technologies to address the topic of helping the elderly to live independently. Therefore this work package covers all the activities of the companies who apply and win a contract as part of the SILVER PCP call. This work is expected to be research and development of robotic technologies including feasibility studies, prototype development and production runs.



PARTNERS

- Region of Southern Denmark – Denmark
- Aalto University – Finland
- Forum Virium Helsinki – Finland
- Brainport Development NL – the Netherlands
- Netherlands Enterprise Agency – the Netherlands
- VINNOVA – Sweden
- Innovate UK – United Kingdom

PUBLIC PROCURERS:

- Odense Municipality – Denmark
- City of Oulu – Finland
- City of Vantaa – Finland
- City of Eindhoven – the Netherlands
- City of Västerås – Sweden
- City of Stockport – United Kingdom



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