

**D.2.3.3. Capacity Building  
Seminar Report  
Halmstad, 18. May 2016**





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## D.2.3.2. Capacity Building Seminar Report

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## 1. Capacity Building Seminar

In the framework of the IMAILE project, Capacity Building Seminars (CBS) are organised in association with each major milestone of the Pre-Commercial Procurement (PCP) process. Thus, according to the initial plans, a seminar has been planned to focus on the topic of the preparation of the tender, one connected to Phase 1) Solution Design, one to Phase 2) Prototype-development and one to Phase 3) First test products.

- The first CBS took place in Budapest on 17. 06. 2014. It covered the topics of needs assessment and market consultation.
- The second seminar was organised in Magdeburg on 18. 03. 2015 and aimed to support the preparation of the IMAILE PCP tender documents and the launch of the call.
- The third CBS – covered by this report - took place shortly after the end of the 1<sup>st</sup> PCP phase on 18. May 2016. The aim of the CBS was to ensure the IMAILE Consortium's preparation for the potential challenges emerging during the 2<sup>nd</sup> and 3<sup>rd</sup> PCP phases, when the prototypes will be tested.
- The fourth CBS is scheduled for January 2017. The seminar intends to support the IMAILE Consortium in preparing for the 3<sup>rd</sup> and 4<sup>th</sup> phases of the PCP in advance. Besides field testing, the Consortium will focus on Public Procurement of Innovative Solutions (PPI), therefore tenders will be invited for the last seminar in order to have a common understanding about the final tender.

### 1.1 Brief description

The third CBS took place during the project meeting in Halmstad at Hotel Tylösand and thus was connected to the decision making process about awarding suppliers to phase 2, steering committee meetings and project consortium meetings.

Basic information	
Venue:	Hotel Tylösand 302 73 Halmstad, Tylöhusvägen, Sweden
Date:	18. May 2015

Figure 1: Venue and date of CBS

### 1.2 Agenda

The third CBS has been held on 18. May 2016, after the project Consortium meeting. The invited guest speaker gave an interactive presentation from 15:30 to 17:00.

### 1.3 Objectives

The 3<sup>rd</sup> CBS intended to support the IMAILE Consortium to prepare for the development and the testing of the prototypes, as well as the corresponding administrative requirements.

Mr. Jonathan Hazell - innovation procurement expert - has been invited to the third CBS to provide support for the preparation for the testing of prototypes. Mr. Hazell presented the approach used in [project SILVER](#) and explained his experiences regarding the testing of the pre-commercial solutions.

Accordingly, the third capacity building seminar focused on the topics of

1. testing of prototypes and the first batches,
2. administrative compliances related to testing, and
3. the SILVER PCP's 4<sup>th</sup> phase.

#### 1.4 Brief summary of the presentation

Mr. Jonathan Hazell attended as a speaker at the first CBS in Budapest, where he did present project SILVER and its applied methodology that has been used to carry out SILVER's PCP. In his second presentation, Mr. Hazell was focusing mainly on

- testing of prototypes in laboratory environments, the second PCP phase and the field testing of the first batches with real end users in real environment, and
- the importance of communication between the procurers and the tenderers in order to steer the development processes towards the expected outcomes of the PCP call.

Before Mr. Hazell started his presentation about the accrued experiences in project SILVER, he showed two slides from the first CBS held in Budapest in 2014. At that time, he recommended to the IMAILE Consortium to focus on the teamwork by setting up smaller groups of internal and external experts. He also emphasized the importance of time management, because a PCP project's task requires always more time as it was expected.

Mr. Hazell's first recommendations have been useful and helped the IMAILE Consortium with the management of PCP challenges.

**In the framework of his presentation, Mr. Jonathan Hazell has**

- briefly presented the project SILVER,
- highlighted the phases of SILVER PCP,
- given insight into the used methodologies and lessons learnt during the testing of prototypes,
- introduced the pre-commercial product developed in the framework of PCP, and
- given an overview of the 4<sup>th</sup> phase of SILVER PCP.

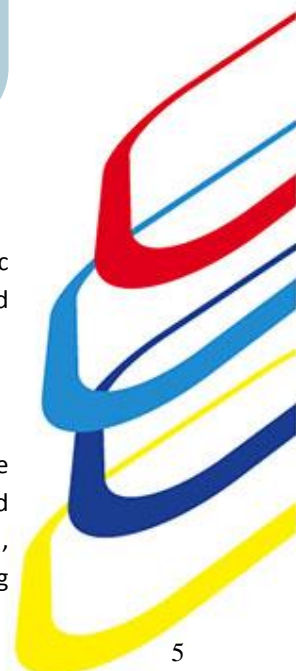
**Mr. Jonathan Hazell:**

- Working as SBRI account manager at INNOVATE UK.
- INNOVATE UK is UK's national innovation agency.
- SBRI is UK's national programme in which government bodies are procuring innovation from SMEs by using essentially PCPs.

The lessons learnt during the third CBS are to be presented in the report respectively. The specific lessons learnt are presented under the relevant topics to which they belong. General hints and recommendations are set out in Section 2: Lessons learnt.

#### Project SILVER in a nutshell

The project stands for "Supporting independent living for the elderly through robotics". As the medical science develops, the people get older. And the longer the people live, the level of required care and assistance is increasing. This trend will put a heavy demand on the healthcare system, unless new innovative solutions emerge to support the independent living of the elderly. By using



new technologies, the elderly can continue to live at home despite of their physical or cognitive limitations.

Project SILVER's objectives are to establish and execute an agreed PCP process across Europe and to use the developed PCP process to launch a tender that is addressed to new robotics based solutions to support the independent living of the elderly.

SILVER started in January 2012 and will be finished in the middle of 2016. Initially, the project was supposed to run for 44 months, but it has been extended to 56 months.

#### **Time and resource management**

SILVER Consortium has very limited resources at the end of the project. The Partners carried out unforeseen activities during the PCP phases, therefore, the project has had two extensions. These adjustments caused an extension of the implementation period of one additional year. To ensure the continuous realization and the success of the project, some budget modifications have been issued. Moreover, some Partners carried out a few tasks voluntarily by using their own resources.

#### **Phases of SILVER PCP**

All three phases of project SILVER's PCP have already been implemented, thus Mr. Hazell was able to give us a comprehensive presentation about project SILVER's achievements and experiences.

After the successful market consultation, the call for proposals was published. Altogether 32 applications have been received, and seven tenders were selected to enter into the first PCP phase. These seven awarded applicants had a six-month period to develop their feasibility studies, which were the part of their proposal to apply for second PCP phase.

#### **The second PCP phase**

In the second phase of the process, three applicants were selected to develop their most promising solutions into well-designed prototypes. The aim of the development was to verify to what extent the prototypes' main features meet the previously defined functional and performance requirements.

Therefore, tenders were expected to deliver:

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

According to the Framework Agreement (FA), the first test of the prototypes has been planned to be carried out in phase two. However, the terms of testing had not been defined in the tender documentation and an additional testing annex was developed. The requirements of testing procedures were defined later in collaboration with the suppliers.

By applying for the second phase, the suppliers accepted the extension of the FA with a document defining the details of the testing.





At the first testing opportunity, three days of lab demonstrations were carried out to conduct preliminary safety and usability tests. The aim of the activity was to experiment with the features of the prototypes in a laboratory environment, before real tests would be conducted with real people in PCP phase 3.

#### Using lab demonstrations

It is recommended to use lab demonstrations to conduct preliminary safety and usability tests, before testing the prototypes with real people. This method is not only useful for the Procurers to get insights into the development of the solutions, but also gives very valuable feedback to the suppliers by highlighting the potential strengths and weaknesses of the prototypes, and to maintain their focus on the PCP's performance indicators.

According to project SILVER's Deliverable 3.3 "Final specific call documents Phase 2" (Annex 2), SILVER Consortium developed a methodology to carry out the testing of prototypes in laboratory environments. The procedure incorporates the following:

- **Preliminary meetings**

Meetings were organised one month before the start of the testing. Detailed specifications of the prototypes were required, in order to have a clear summary of the characteristics of used technologies, their feasibility and the potential risks. The companies were informed about the expected degree of user involvement and the features of test set-ups.

- **Preparation for testing**

The work plan describes the planning and preparation of the test process, including the schedules, recruitment of users and experts, production of written documents, building the test environment, developing common scientific approaches for the evaluation of key focus points, especially the impact on health at an early product development state.

#### Key focus points of testing

In the SILVER project, the prototype testing procedure was designed to measure the effectiveness of the new products' features: the increased quality, usability, time saving for caregivers, and health conditions of the users. These four elements have been communicated from the very beginning of the competition.

- **Test day 1**

Before the testing started, questionnaires were used to establish a basis for the key focus points. Then the workshops have been held to test the solutions according to the challenges and key focus points. At last, semi-structured interviews were organised to investigate the user experience, co-create and uncover potential for improvement.

#### Pre-test scenarios

Gran Before the official tests were conducted, the suppliers received pre-test scenarios to prepare properly for the upcoming demonstration and to carry out prior testing in their own laboratories.





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- **Test day 2**

On the second day of prototype testing, in depth investigations were conducted to evaluate the features of the solution in terms of user experience, co-creation and improvements. The solutions' functions were video recorded. The users were introduced to the solutions and, as far as possible, left alone with the device and asked to carry out specific tasks with the device while being filmed.

- **Expert evaluation**

The third day of lab testing was addressed to the evaluation of the impact on the target group's health conditions. Experts evaluated the solutions' performance through demonstrations and then discussed the possibility of improvement and co-creation with the representatives of the suppliers.

- **Outputs**

The test facility's experts developed a written report on the results of lab demonstrations within one month after the last testing. The reports were sent to the suppliers and the SILVER Consortium, respectively.

### **About the third phase of SILVER PCP**

The plans for the field testing and the business plan were required for further phases of the PCP. The testing of first batches in real live circumstances were carried out in the third PCP phase, the cost/benefit evaluation and business plan are related to the forth phase of the PCP: the public procurement of innovative solutions (PPI). The lower the price of the final prototype, the more public procurers will be interested in the PPI.

#### **Consultation about commercialisation plans**

The tenders will develop their commercialisation plans as a subordinated task, therefore it is advised to offer them the opportunity to present their exploitation and commercialisation plans during the testing procedures. This information is rather sensitive, thus it is recommended to consult with the suppliers about these topics confidentially.

At the end of SILVER PCP's second phase, two of the three contractors successfully completed the requirements and were invited to submit bids to the third phase. As a result of evaluation, only one applicant's bid passed the minimum threshold and it was awarded a contract. Thus, only one supplier under the name of Robocare entered into the phase three to carry out the field testing and the small scale product/service development of its prototype called Lean Elderly Assistant (LEA)

#### **Transition between the phases**

The European Commission recommends to have at least two tenderers in the third phase of the PCP, although SILVER PCP had only one. SILVER Consortium made its decision according to single Framework Agreement, namely: an applicant cannot be awarded if it fails to reach the minimum threshold. To maintain the transparency of the call, this term cannot be changed.



### Developing mitigation plan

To prepare for unforeseen situations, like the lack of eligible tenderers in the PCP phases, it is recommended to future PCP projects to develop a mitigation statement as part of the Framework Agreement.

LEA was expected to deliver field test specifications, technical documents with specifications of the prototype, an updated cost/benefit evaluation and to conduct field testing in all five procuring countries during the one year period of phase 3.

Before the field testing started another challenge emerged. The testing of prototypes with human subjects is a sensitive topic, therefore, the procedure required the extensive consideration of ethical aspects. It took several months to project SILVER to fulfil the requirements of the relevant ethical issues.

### Field testing

The procurers provided the facilities and the subjects for the testing. Representatives of all procurers participated at the testing to see how the pre-commercial solution was performing with real people in the key focus points of the testing.

The field tests were conducted according to the testing plan. Mr. Hazell presented a template of the testing plan, which was used in the framework of SILVER PCP.

Concerning the testing facility, LEA's performance was demonstrated in the [Health Innovation Centre of Southern Denmark](#). The facility is offering the opportunity to test product in nearly real life environment. Mock ups of PPIs are usually tested in the facility, therefore it might be useful for other PCP project in the future.

### Lean Elderly Assistant

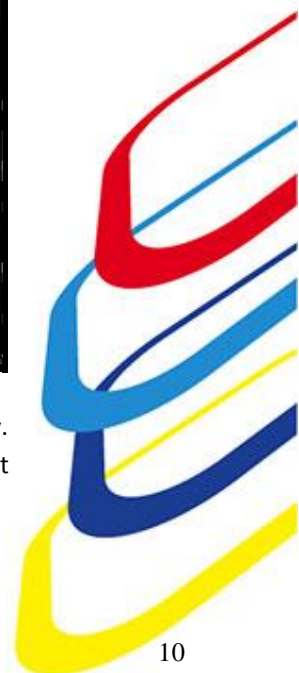
LEA is a robotic solution that has been designed to assist the elderly in Activities of Daily Living (ADLs) and Instrumental Activities of Daily Living (ADLs).

As the first mobile assistant, LEA will support the elderly to walk, sit down and stand up. It will be ready to offer other functionalities for



Figure 2: A picture of LEA.

example the transferring of users or goods. The built in cognitive software capabilities are designed to support the memory of the elderly. For example the solution has an ability to remember and recognise objects and faces and actions. It is also capable to teach dance moves to the users.



#### **Phase 4: Commercial distribution of product/service**

The last PCP phase is dealing with the commercialisation of the PCP prototype and, therefore falls out of the scope of project SILVER. However, the procurers may get involved into the commercial procurement of the innovative solution. In legal terms, there is no guaranteed business for the contractors.

As the IPRs and the prototypes are the property of the tenderers, the companies are allowed to commercialise their innovation whenever it is suitable for them. (The market introduction must be initiated in a certain period of time, otherwise the procurers may take legal actions and use their call back provision.)

##### **Competition in PPI**

If there is only one tenderer awarded with a contract in phase three, then it is recommended to suggest the other tenderers to license out their solutions. On the one hand, their developed solution may have a chance to reach the market, and, on the other hand, some competition may be available by the time of the Public Procurement of Innovative solutions.

Robocare has set off to introduce LEA to the market in a short period of time. The success of LEA has gone beyond project SILVER, as the robotics solution became an international success story, in which a team of academics formed a spin-off venture and applied for the innovation procurement call. Throughout the SILVER PCP, they have developed an innovative concept into a cutting-edge pre-commercial product that has been awarded international prizes and attracted various investments. By now, the funding of project SILVER has become only a minor part of LEA's total research and development budget.

## **2. Lessons learnt**

This section consists of lessons learnt in general about the realization of the PCP process and the testing of pre-commercial-products.

##### **Testing prototypes**

Developing marketable solutions is the common interest of the procurers and the suppliers, thus the solutions must be tested in laboratory environments as well as in real life circumstances. This procedure is not only useful to the suppliers, but also to the procurers and the evaluators. On the one hand, the tenderers are to receive useful feedbacks about their performance and get the chance to carry out some adjustments. On the other hand, the Consortium has a view on the realized concepts and plans.

##### **Using tangible testing scenarios**

It is recommended to set up tangible testing scenarios that consist of various actions that help to measure the performance of the solutions in the fields of increased time saving or health conditions of the end users. The solutions must fulfil pre-defined requirements in terms of hardware and software requirements, as well as safety regulations etc.





### **Using testing reports**

Tenderers were expected to deliver end of phase reports and test reports about the conducted tests in phase 2 and phase 3. These reports have been considered very useful by the juries/evaluators and the procurers during the assessment of the applications.

### **Direct communication**

Tenderers must repeatedly be reminded about the expected functional requirements of the PCP. This is the responsibility of the procurers and the experts of the consortia, especially the contract managers. SILVER used various meetings (e.g. quarterly, ad hoc, and Q&A), as well as online conferences to follow up closely the development procedures, to monitor the use of resources, and to collect information about the future plans for exploitation and market introduction

### **Developing communication tool**

SILVER Consortium developed a Questions and Answers document for transparent communication with the tenderers during the PCP phases. If a supplier raised a question, every supplier has been informed about the answer. It had been proved a useful tool during the SILVER PCP's testing phases as each party did had the same opportunity to be informed about the questions and answers of the ongoing discussions.

### **Prepare for complaints**

It is advisable to be prepared for complaints coming from the tenderers, especially between the second and the third phases of the PCP. As the tenderers are investing more and more time and resources into their solutions, and carrying out all the requested work, they might tend to take the rejection badly and to make complaints.





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### 3. Appendixes

#### Appendix 1)

Please find below the following link to get access to the external appendix:

[Mr. Jonathan Hazell's presentation in Halmstad](#)

#### Appendix 2)

Please find below the following link to get access to the external appendix:

[Project SILVERS's Deliverable 3.3 - Final specific call documents Phase 2 \(Page 6\)](#)

