
 <p>Project Title: Virtual Collaborative Social Living Community for Elderly Co-Living</p> <p>Contract no. 60-61700-98-009</p>	Deliverable reference: D7.6b	Date: 26/09/2013
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	Classification: Confidentiality: Public Dissemination Level: PU	
<p>Abstract:</p> <p>This document presents general considerations about Intellectual Property Rights, as well as those elements relevant for the Co-Living partners regarding the outcomes of the project that ends now. Also, the ownership and rights to use the different results of the project are presented on the last section and determine the future exploitation of those results by the partners.</p> <p>Keywords: IPR, Exploitation, Outcomes</p> <p>© Copyright 2011 Co-Living Consortium This document has been produced within the scope of the Co-Living project and is confidential to the Project's participants.</p> <p>The utilization and release of this document is subject to the conditions of the contract within the AAL (Ambient Assisted Living) Program, contract no. 60-61700-98-009</p>		

Document History

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1 Introduction

1.1 Summary

The world is experiencing an important demographic transformation: the unprecedented ageing of the population of almost all developed and developing countries. A moderate projection of ageing in the EU for the period between 2004 and 2050 shows that the population aged 65+ will increase by 58 million or 77% and that, at the same time, the working-age population will drop by 48 million or 16%. In the EU, this might mean that the ratio of people of working age would be two for every older citizen, instead of four working people at the present time.

These demographic challenges are discussed as a serious problem for social support systems. They are seen fairly negatively, implying a cost explosion, which is one way to discuss this topic. The other way is to discuss the opportunities offered by ageing societies like, for instance, new markets for innovative applications and products/services for older people. It is widely accepted that older persons have a combination of social and healthcare needs to which ICT solutions could provide an innovative and integrated answer.

With these opportunities in mind, **the Co-Living project aimed at developing an *ICT-based Virtual Collaborative Social Living Community for Elderly***. The central aim of this project was to stimulate and prolong their independent and active living in an outward environment through an advancement in elderly people social interaction, contributing thus positively to their wellbeing.

1.2 Role of this deliverable

The basic IPR rules governing Participants in the Co-Living Project are defined in the Consortium Agreement. Signature of the Consortium Agreement was mandatory for all current Consortium Participants, and the signature by all the parties was done before the beginning of project activities.

This deliverable provides a summary of the most widely used terms and concepts within Intellectual Property. Also, it explores the ownership of the project outcomes and the future exploitation to be done by the Co-Living partners.

1.3 Relationships with other deliverables and work packages

The elaboration of this document had into consideration the deliverables already produced within the project, namely:

- **D7.3 – Exploitation Strategy and Plan**: it includes a description of the Co-Living exploitable results and of their value proposition. Besides, the initial vision of the partners towards the Co-Living results is presented in the Exploitation Strategy and Plan which is relevant for the preparation of this deliverable.
- **D7.4 – Business Strategy (first version)**: the initial version of this document presents the Co-Living outcomes that are likely to be exploited and an initial market analysis for

their future commercialization. Also, joint strategies and individual plans for future use of Co-Living outcomes are presented.

- D7.4 – Business Strategy (second version): this document consists on an update of the first version in which it is presented the Co-Living outcomes that are likely to be exploited and an initial market analysis for their future commercialization. In the second version, to present potential business models to be adopted for the uptake of the Co-Living system, the Canvas model was selected and filled in.
- D7.6 – IPR Directory (first version): presents the IPR rules accepted by all partners at the beginning of the project and that can influence the options for future exploitation and commercialization of the Co-Living results.

1.4 Structure of this document

Firstly, some general considerations on Intellectual Property Rights are presented, including important concepts that need to be clearly defined and distinguished. Then, the main aspects of IPR concerning the Co-Living project and its results are described, particularly the Background, the Foreground and Access Rights. Finally, an overview of the ownership and rights to use the various outcomes of the project is presented.

1.5 Contributors

Table 1 - Deliverable Contributors

Partner name	Contributor name
INOVA+	Eurico Neves, Pedro Castro, Miguel Sousa, Ana Solange Leal

2 General Considerations on IPR

At the beginning of the project, partners agreed and signed the Consortium Agreement (CA). This contract describes on its Part II, section 4, the rules related to IPR and Access Rights to be considered during the project implementation. Within this content of the CA, several definitions are included and that are crucial to be considered in this deliverable.

Background: means information and/or knowledge which is held by a Parties prior to their accession to the Consortium Agreement, as well as copyrights or other IPRs pertaining to such information and/or knowledge, the application that has been filed before their accession to this Consortium Agreement, and which is needed for carry out the Project or for Using the Foreground.

Controlled License Terms: means terms in any licence that require that the use, copying, modification and/or distribution of Software or another copyright work (“Work”) and/or of any copyright that is a modified version of or is a derivative work of such work (in each case, “Derivative Work”) be subject, in whole or in part, to one of more of the following:

- a) (where the Work or Derivative Work is Software) that the Source Code be made available as of right to any third party on request, whether royalty-free or not;
- b) that permission to create modified version or derivative works of the Work or Derivative Work be granted to any third party;
- c) that a royalty-free licence relating to the Work or Derivative Work be granted to any third party.

Foreground: means the results, including information, whether or not they can be protected which are generated by the Project. Such results include rights related to copyright; design rights; patent rights; plant variety rights; or similar forms of protection.

Intellectual Property Rights (IPR): means patent, patent applications and other statutory rights in interventions; copyrights (including without limitation copyrights in Software); registered design rights, applications for registered design rights, unregistered design rights and other statutory rights in designs and other similar or equivalent forms of statutory protection, wherever in the world arising or available; but excluding rights in Confidential Information or trade secrets.

Sideground: means information, other than Foreground developed or otherwise acquired by a Party after entering into the CA, as well as copyright or other IPRs pertaining to such information, and that is introduced into the Project by that Party for use in execution of the Project.

3 Co-Living Project

3.1 Background

Dissemination, use of knowledge and results generated in the project is governed by the terms of the Consortium Agreement. In order to make sure that these terms are followed, to avoid disputes and to facilitate business planning, an IPR Directory has been maintained throughout the lifetime of the project (D7.6 – first version). This document listed all items of knowledge relating to the work of the project (both pre-existing know-how and results developed in the project), and make explicit for each item:

- The owner(s).
- The nature of the knowledge, and its perceived potential for exploitation.
- The currently agreed status of the item concerning access rights, plans to use the knowledge in exploitation, or plans to disseminate it outside the Consortium.
- Measures required, or in place, to ensure protection of IPR for the item.

The directory forms a key tool to enable knowledge management. An initial version of the IPR directory was created at the start of the project. The basic principle on which partners agreed is that research and development results must be available to large audience to facilitate wide adoption of project results, while in the meantime having options in place for rewarding those that invested. The consortium agreement on dissemination and use of knowledge and results generated in the project currently distinguishes several types of deliverables and deals with them in the following way:

Table 2 - Initial agreement on IP and use rights¹

Main Co-LIVING deliverables	Contributors to knowledge	Partners
General research results	Public	
Architecture specifications	Public	
SoCo-net	IPR	Use rights
ICT-Based services	IPR	Use rights

The main goal of the Co-Living project is the development of an ICT-based Virtual Collaborative Social Living Community for Elderly (Co-Living) people, aiming to stimulate and prolong their independent and active living in an outward environment through advancement in elderly people social interaction. To do so, Co-Living is based on an innovative Social Community network (SoCo-net) that builds around the aged person a Virtual Social Care Team consisting of people of different ages (young and old) and roles (relatives, friends, neighbours, care professionals, etc.) that can assist, collaborate and actively communicate with the elderly to improve its daily life in an ad-hoc and informal way through the use of assistive mobile wireless technologies. A short presentation of SoCo-net is made next.

¹ Use rights does not necessarily mean that use will be free

3.1.1 *SoCo-net*

SoCo-net ensures that the elderly will have a unique personalized profile of disabilities and abilities, special needs and preferences promoting thus personalized care provision. It provides for pervasive communications, location-based mechanisms and multi-agents. It utilizes Web 2.0 technologies, notifying the elderly with any changes of content and logs allowing elderly and care givers to record and share information for better monitoring and assistant of the elderly people, but also recording of elderly behaviour changes as they age. Therefore, historical data regarding user behaviour will be used for the identification of changes in the elderly daily activities as he/she ages and trigger an evaluation of its physical status and related adaptation of the elderly provided services. Adaptive user profiling techniques and adaptive interfaces, considering user feedback and historical data, will be used to adapt the elderly preferences and capabilities regarding the provision of services. Based on the user profile and preferences, incentives and challenges will be developed to stimulate the elderly to retain interest in making use of the Co-Living services. For that, intelligent decision making techniques on current context and past activities will be used but also the provision of remote training, by developing intelligent explanation generation systems, through intuitive user interfaces, specialized in helping the elderly to make use of the Co-Living services.

A more comprehensive description of SoCo-net components is available on D7.4 Business Strategy (second version).

3.1.2 *ICT-Based Services*

SoCo-net will integrate three main areas of the elderly social interaction context:

- i) **Care & Wellness services** providing basic informal care empowering and encouraging the elderly people to undertake physical exercises and activities; create meeting groups for leisure activities and exchange their competence/knowledge/skills with the other members of the virtual social care team (Figure 1). This will guarantee that valuable elderly people experience do not cease to contribute to the wealth of the society by the simple fact that people retire and age
- ii) **Guidance services** providing instructions, explanation and information supporting the daily activities of the elderly and
- iii) **Mobility monitoring services** supporting early detection of limitations in mobility and physical fitness and elderly daily activity follow up based on predefined plans.

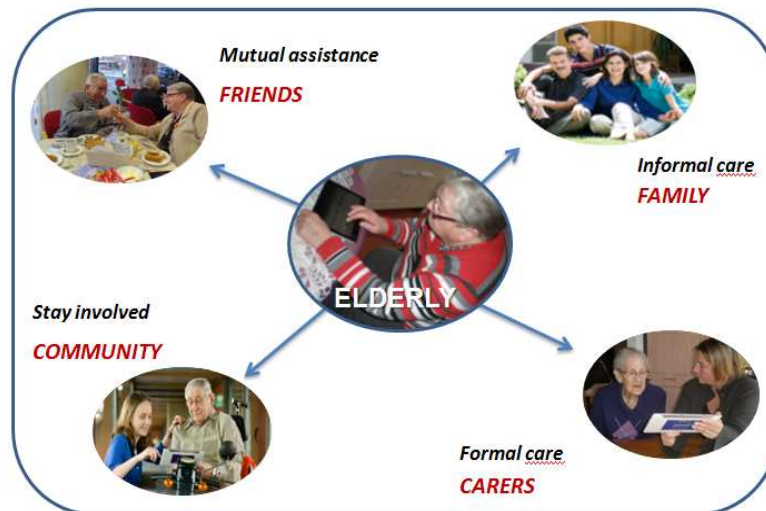


Figure 1 - Virtual Care Teams build around the elderly

A more comprehensive description of the ICT-Based Services is available on D7.4 Business Strategy (second version).

3.1.3 mPower Platform

The Co-Living solution utilizes and has scaled up the successfully developed IST FP6 mPower open source middleware platform² to be applicable to the elderly social community interaction field. The development of the ICT services makes use of the mPower middleware platform web-services, which provides for easy integration of wireless sensors and devices with elderly care workflows. The mPower platform's code³ is available under the MIT License terms, presented next⁴:

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The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

² More information about the project is available at <http://www.sintef.no/Projectweb/MPOWER/>

³ Available for download here: <http://sourceforge.net/projects/free-mpower/>

⁴ <http://opensource.org/licenses/mit-license.php>

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Thus, mPower is an open platform to simplify and speed up the process of developing services for elderly and people with cognitive disabilities. This platform provides reusable, flexible and interoperable service specifications and implementations [3].

The use of web-services implies that the services will be split into smaller components creating a forest of “webmethods”, allowing a dynamic selection based on user needs and preferences, supporting thus modularity, expandability and flexibility (Figure 2). The ICT based services will be integrated, through the mPower platform, with different wireless sensors and devices which are associated with identified parameters for tracking elderly activity and wellness

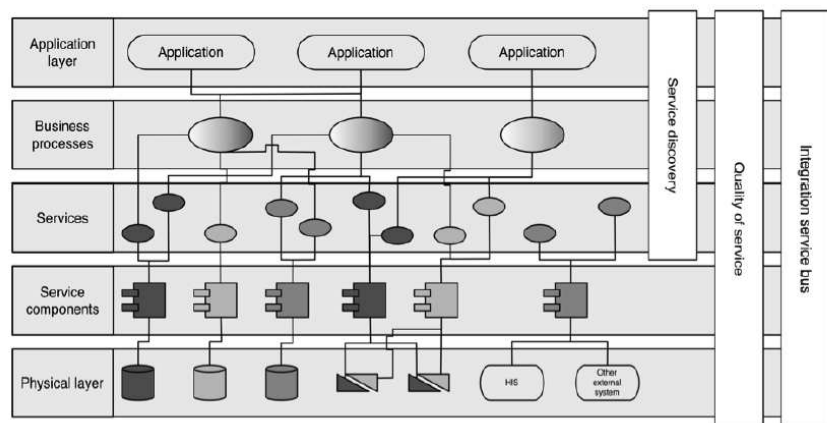


Figure 2 - The mPower layer model [3]

3.2 Foreground

All results generated from the activities carried out within the Co-Living project constitute the Foreground. The three main project’s outcomes resulting from the Co-Living project are the following:

- An innovative elderly centric web based network, the **Social Community Network** (SoCo-net) enabling effective management and collaboration of virtual social care teams around the elderly for continuous care provision;
- An integrated set of interoperable **ICT based services** making use of SoCo-net and addressing the elderly social interaction context categories of Care & Wellness, Mobility Monitoring, and Guidance;

- **Applied knowledge** on the targeted user group acquired during the pilot development phases, but also through the specification of use case scenarios.

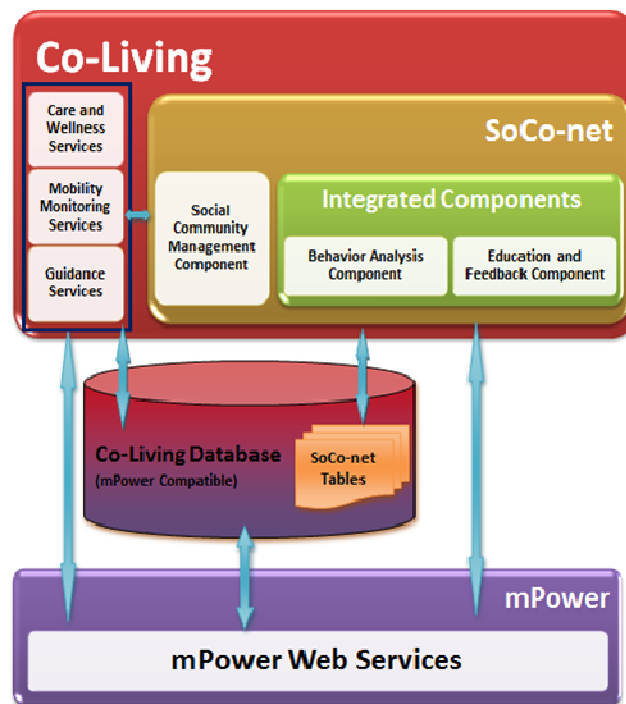


Figure 3 – Co-Living Solution

A more comprehensive description of each of these outcomes is available in D7.4 – Business Strategy (second version).

Ownership of Foreground: general principle (Section 4.1.1)

- Foreground shall be owned by the Party who carried out the work generating the Foreground, or on whose behalf such work was carried out.

Jointly generated Foreground (Section 4.1.2)

- Unless otherwise agreed in writing between the Contributors (as defined below), Section 4.12.2 below shall apply. However, the Contributors shall nevertheless be at liberty to agree in writing something different to Section 4.12.2., so long as such different agreement does not adversely affect the Access Rights or other rights of the Parties under this CA.
- Subject to any different agreement between the Contributors as referred to in Section 4.12.1 above, the following shall apply:
 - a) If the work generating particular Foreground is carried out by or on behalf of more than one Party (each such Party being a “Contributor” and such Parties together being the “Contributors”), and if the contributions to or features of such Foreground form an indivisible part

thereof, such that under applicable law it is not possible to separate them for the purpose of applying for, obtaining and/or maintaining and/or owning a patent or any other IPR protecting or available to protect such Foreground, the Contributors agree that, subject as expressly provided to the contrary in this Section 4.1.2.2, all patents and other registered IPSs issued thereon, and any other IPRs protection such Foreground, shall be jointly owned by the Contributors.

- b) Except as explicitly provided otherwise in this Section 4.1.2.2, each Contributor shall have the perpetual and irrevocable right, without territorial or other restriction, to Use the joint Foreground and resulting patents, patent applications and other IPRs protecting such Foreground, and to grant non-exclusive licences to third parties under the jointly owned Foreground and under any IPRs protecting such Foreground, without obtaining any consent from, paying compensation to, or otherwise accounting to any other Contributor.
- c) Within a reasonable period following creation of any jointly owned Foreground, the Contributors shall enter into good faith discussions in order to agree on an appropriate course of action for filing applications for patent protection or other protection, including the decision as to which Contributor is to be entrusted with the preparation, filing and prosecution of such applications and in which countries or territories such applications are to be filled. Except for any priority applications, the filling of any applications for patents or other IPRs on joint Foreground shall require mutual agreement between the Contributors (but excluding any Contributors who choose pursuant to paragraph (d) below not to contribute to the cost of such application). All external costs related to applications for patent protection or other protection resulting from such applications and the fees for maintaining such protection shall be shared equally between Contributors, subject to paragraph (d) below.
- d) If an when a Contributor decides not to contribute, or not to continue its contribution, as the case may be, to the costs of application for or maintenance of patent or other IPR protection for the jointly owned Foreground, for one or more countries or territories, it shall be entitled not to contribute, or to discontinue its contribution, provided that:
 - i. it shall promptly notify the other Contributor(s) in writing of its decision;
 - ii. it shall forthwith relinquish all its title to and interest in such jointly owned patents, patents applications or other registered IPRs protecting such Foreground for the countries and territories concerned to the other owner(s) who contribute or continue their contribution, as the case may be, to such costs in accordance with paragraph (c) above; and

- iii. shall lose its rights under paragraph (b) above with respect to such jointly owned patents, patents applications or other registered IPRs for the countries and territories concerned as of the moment of notification, but subject, however, to the retention of a non-transferable, non-exclusive, royalty-free and fully paid-up licence, without the right to grant sublicences, for the lifetime of such jointly owned patents, patents applications or other registered IPRs for the countries and territories concerned in favour of, and for the Use by, the relinquishing Contributor and its Affiliates.
- e) Each joint owner of patents, patents applications or other registered IPRs protecting such jointly owned Foreground shall have the right to bring an action of infringement of any jointly owned IPRs only with the consent of the other owner(s). Such consent may only be withheld by another joint owner who demonstrates that the proposed infringement action would be prejudicial to its commercial interests.

Assigning ownership of Foreground (section 4.1.3)

4.1.3.1 Each Party may assign ownership of its own Foreground (including without limitation its share in Foreground that it owns jointly with another Party or Parties, and all rights and obligations attaching to it) to any of its Affiliates, to any assignee of the assignor's relevant business or a substantial part thereof, or to another third party identified in Annex 6 to this CA, without prior notification to the other Parties.

However:

- (a) any such assignment shall be made subject to the Access Rights, the rights to obtain Access Rights and the right to disseminate Foreground that are granted to the other Parties and their Affiliates in this CA. Therefore, each assignor shall ensure that such assignment does not prejudice such rights of the other Parties or their Affiliates. This may be done, for example, (i) by effecting such assignment subject to a licence back to the assigning Party that is sufficient for the assigning Party to grant to the other Parties and their Affiliates such Access Rights, or (ii) by the assigning Party obtaining from the assignee of the Foreground legally binding undertakings (that can be enforced by the other Parties and their Affiliates) to grant such Access Rights; and
- (b) the assignor shall pass on its obligations regarding the assigned Foreground to the assignee, including the obligation to pass them on to any subsequent assignee; and
- (c) if the assignment is made other than to a third party identified in Annex 6 to this CA or an Affiliate, the assigning Party shall, either before or within a reasonable period following assignment of any rights in any Foreground, notify the other Parties of the as-

signment, including details of the Foreground assigned and the identity and contact details of the assignee.

- 4.1.3.2 Each Party hereby waives any right to object to any assignment that is made in compliance with this Section 4.1.3.

3.3 Access rights

This section presents the Access Rights established within the Co-Living Project. Below, their description is stated as in the Consortium Agreement that was signed by all partners in the beginning of the project (2010).

General principles (Section 4.2.1)

- All Access Rights needed for the execution of the Project and for Use are granted on a non-exclusive basis and are worldwide.
- Other than in exceptional circumstances, no transfer costs shall be charged for the granting of Access Rights.
- Acting in good faith, when a Party believes that for carrying out the Project or Use of Foreground of the Project:
 - a) it might require Access Rights to another Party's Background, or
 - b) another Party might need Access Rights to that Party's Background, it will promptly notify such other Party of the Background Needed, and in particular, to the extent possible, it shall do so before submission of the Proposal to the AALA. However, failure so to notify another Party shall not be a breach of this CA unless such failure is due to an action in bad faith.
- Any Party choosing to rely on any deemed grant of Access Rights pursuant to this CA does so at his own risk as nothing in this CA prohibits a Party or any other party seeking by whatever means it chooses to enforce its IPRs or contract or other rights if such Party or other party considers such right is not subject to such deemed grant.
- The obligation to grant and the right to receive Access Rights other than those deemed granted under this CA, unless terminated earlier or agreed otherwise by the Parties, expires 2 years after the end of the Project.

General Principles on Special provisions concerning Access Rights to Software (Section 4.2.7.1)

- All the provisions in this CA concerning Access Rights apply to Software that is Background, Sideground or Foreground as they apply to any other Background, Sideground or Foreground.

- Access Rights to Software do not include any right to require creation and delivery of Object of Code or Source Code ported to any particular hardware platform or any right to require creation and delivery of any API or Software documentation in any particular form of detail, but only as the item is available from the Party granting the Access Rights. For the avoidance of doubt, such Access Rights do not imply any obligation by the Granting Party to provide any support or maintenance for the Software, nor bear any responsibility for any claims for defects in the Software. Transfer costs shall only be charged in exceptional circumstances.
- Save as expressly otherwise provided in this Section 4.2.7, no Party shall be obliged to grant Access Rights to Source Code. All Access Rights to Software that is Foreground, whether for execution of the Project or for Use, shall be in form of Source Code Access. All Access Rights to Software that is Background, whether for execution of the Project or for Use of own Foreground, shall be in form of Limited Source Code Access, save that no Party shall be obliged to grant for Use any Access Rights to Source Code that is Background. All Access Rights to Software that is Sideground, whether for execution of the Project or for Use of own Foreground, shall be in form of Limited Source Code Access, save that no Party shall be obliged to grant for Use any Access Rights to Source Code that is Sideground.

4 Exploitation of Co-Living Project

As described in section 3 of this document, the Co-Living project activities made use of knowledge and other resources that are not patented or/and are based on open source software. This fact contributed for an easier management of potential IP related issues in the development of the Co-Living solution.

Now that the funding period for the Co-Living project implementation ended, it is necessary to establish if an IPR protection is required for the outcomes resulting from the partner's activities. In this sense, Table 3 presents the exploitable foreground and products resulting from the Co-Living Project, as well as the intention of partners to ensure IPR protection for these outcomes.

Table 3 – Project Outcomes and IPR Protection

WP	Exploitable foreground	Exploitable products	IPR Protection (expected)	Owner / Partners involved
1	Data on end users needs concerning socialization	Methodological Description and user's data	No	Orbis, Trondheim
	Knowledge on use case scenarios	Methodological description	No	Orbis, Trondheim
	Review of ethical, privacy and legal requirements	Literature review	No	Phillips
	Innovative social community model to be used as basis of the Co-Living Solution	Innovative social community model	No	Orbis, Trondheim
2	Co-Living system design	Co-Living system overall design	--No	Sintef
	ICT-based services design for Co-Living system			IPN/UCY
	Security and privacy infrastructure for Co-Living system			Phillips
3	SoCo-net design for Co-Living system	SoCo-net design	YES	UCY/Citard
4	Software design and infrastructure	SoCo-net prototype	YES	UCY IPN/CITARD
5	Software development	SoCo-net prototype	YES	IPN / CITARD, UCY,
6	Interface development and software integration	Co-Living system prototype	No	Sintef / Phillips, IPN, CITARD
	Data on system performance	Methodological Description and validation information	No	
7	Deployment plan and involvement of users	Methodological Description	No	Orbis, Sintef, Phillips, Trondheim
	Data on system evaluation	Methodological Description	No	Orbis, Sintef, Phillips, Trondheim

Partners willing to use the foreground generated under the Co-Living project, for instance for further internal research (as foreseen in D7.4 Business Strategy), must follow the principles es-

established in the Consortium Agreement signed at the beginning of the project. This is particularly important, regarding the Confidentiality period of Information⁵ which is of two years longer than the term of the Consortium Agreement.

⁵ Further specifications on this matter, please see section 4.3, point 4.3.2 of the Consortium Agreement.

References

- [1] IPR Helpdesk AAL Fact Sheet, “IP rules applicable to Ambient Assisted Living Joint Programme Projects”, December 2011
- [2] Co-Living Project, Consortium Agreement, June 2010
- [3] Mathisen, B., M.; Kofod-Petersen, A.; Olalde, I., (2012) *Co-Living Social Community for Elderly*. Submitted to “I2CS – 12th International Conference on Innovative Internet Community Systems”