



Responsible-Industry



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Executive Summary

This report is structured as follows. First, we offer an overview of what happened so far in case study work package. We then describe the specific selection setting for cases and discuss which materials were conducted. We continue with presenting the methodology section. Then we describe the progress of development of interview guidelines. We close with an overall conclusion, exhibit the table of case study action plans, and present 3 types of interview guidelines as the appendixes.

1. Introduction

The objective of the comparative pilot project within task T2.3 is to identify how the Responsible Research and Innovation (RRI) implementation plan works along the different activities of the value chain and to test its applicability and how it could possibly influence research and innovation within an industrial environment. In order to achieve this goal, the present pilot project mid-term report is describing the progress of comparative pilot projects between December 2014 to September 2015, following the Responsible-Industry action plan exhibited in D3.1, and identify potential challenges, drivers, and requirements for RRI in industry. This report (D2.5) generates the building blocks for the creation of the pilot project interaction plan and the final report. The pilot project final term report, D2.6, will be completed in Month 34 of the Responsible-Industry (RI) project.

The five in depth pilot projects started in Month 11 of the project and take place in two main stages including 'case study design' and 'data collection and data analysis'. All cases as scheduled are in specific research activities in the domain of information and communication technologies (ICT) for health, demographic change and wellbeing. This report provides an overview of the progress of the case study protocol and refers to D3.1, which was submitted in Month 11.

One of the first steps in the comparative pilot project was to undertake several rounds of screening procedures upon potential candidate cases to identify final cases including an enterprise in Denmark for pilot testing and afterwards four enterprises in Spain and Finland. Starting in January 2015, criteria for case selection were defined by the leader of work package 3 (the University of Southern Denmark, SDU) and other participants of the work package from the project consortium.

The purpose of comparative pilot projects is to assess the relevance, quality and usefulness of the 2nd draft of the implementation plan as a result of WP2, namely D2.4. Practicality, the interest and the will of the management of enterprises to engage with the RRI implementation plan are key criteria for the selection of cases.

According to the RRI literature, based on different rounds of peer reviews, and a discussion round during Responsible-Industry consortium meeting in Karlsruhe held in 19th-22nd of May 2015, it was decided to identify in a first step ICT companies that applied good practices and

which were actively involved in areas such as active ageing and the development of products and services for elderly people. Therefore, the initial set of selection criteria for cases, which was proposed in Case Study Protocol deliverable D3.1, has been strongly improved and the new set of operational criteria framed accordingly. SDU disseminated these new selection criteria to Technical Research Centre of Finland (VTT) and TECNALIA to assist in their quest to select cases in Finland and Spain. Likewise, SDU has selected a Danish company for becoming a pilot case.

Set of operational criteria:

Company level:

- Size of company (e.g. Small or Medium Enterprise, SME, or Multi National Corporation, MNC)
- Company business strategy (Business-to-Business, B2B, or Business-to-Consumer, B2C)
- Company ownership/legal form (stock-market, privately owned)
- Sustainability Report (availability of a sustainability report of similar document)
- Financial Screen (positive 3 year pre-tax earnings, negative 3-year average earnings)
- The ratio of men to women
- Company age
- Source of funding of company (public vs. private funding)
- Company RRI awareness level
- Interviewee time employed (1-5 years, 5 years or greater)
- ICT category (Assistive technologies, technologies for physical prevention, and technologies for rehabilitation)

Project level:

- R&I project type (hardware-oriented, software-oriented)
- R&I project age
- Source of funding of project (public vs. private funding)
- Project RRI awareness level

Product level:

- Product age
- Impact analysis of ICT products/services (Yes including ethical and social impact analysis, No)
- R&I product stage - Technology readiness levels (TRLs): seeking to assess the added value of the implementation plan, the same levels used in the Delphi study (WP2) are used to address the potential societal risks and ethical issues within cases were defined:
 - Early planning stage/Agenda setting
 - Basic technology research
 - Proof of concept
 - Prototype demonstration

- Product development, engineering and testing
- Go to market

Using an iterative procedure, the first step of the case selection process by VTT and TECNALIA comprised 11 enterprises from Finland and Spain, respectively. Then more responsibility-related data from each enterprise were collected and compared, so that a final selection of four complementary and representative cases in Finland or in Spain was obtained.

2. Summary of Potential Cases

The aim of the selection process was to find five companies located in the three countries Denmark, Finland, and Spain. While the selection of Finnish companies and negotiations with first candidates are still (by September 2015) ongoing, the Danish and Spanish cases have already been found; the selected projects perform as the units of analysis within selected relevant companies, in some way, related to the use of ICT for health and well-being.

In the remainder of this report, in order to guarantee anonymity and due to privacy issues, neither the names of interviewees nor of their companies can be revealed.

The first candidate was a Danish SME developing interactive ICT solutions for elderly people to help them living longer at home and supporting their independence in their everyday lives. One of the projects from this company was chosen in which an ICT platform had been developed in collaboration with primary end-users and care professionals.

Since February of 2015, SDU has been in touch with the Danish company's board to arrange mutually convenient time for applying our methodologies within this firm. The process of collecting data was finished in September 2015. This company was considered as a pilot case for verifying the model and according to the obtained outcomes from pilot case, we could develop lines of interview guidelines in two rounds.

The second company was a Spanish SME that had been leading and had participated in Active and Assisted Living (AAL) projects. The company had a B2B business strategy, was privately owned, with positive 3 years pre-tax earnings, and involved in assistive technologies. We contacted company's CEO at 2015-06-11 and got his commitment to participate in the case study.

With regard to the third enterprise of which was a Spanish MNC, we contacted a manager of the company on 2015-07-14 for participating in the case studies. The company was privately owned, had B2B as their business strategy, was active in terms of sustainability, and had positive 3 years pre-tax earnings.

The selection of two Finnish companies including an SME and an MNC is on-going process

now and will be finalized in October 2015. An overview of the enterprises is shown in Table 1:

Table1. Overview of the companies participating in the case studies

Countries of origin	Denmark, Spain, Finland
Size of businesses	3 small and medium sized companies (SMEs) and 2 multinational corporations (MNCs)
Types of businesses	1 company with B2C strategy, 2 companies with B2B strategy, the business strategy of 2 other companies to be determined (tbd)
Company ownership	3 privately owned companies, company ownership of 2 other companies tbd
Availability of sustainability reports	2 no answers, 1 yes answer, 2 tbd
Financial statement	3 companies with positive 3 years pre-tax earnings, 2 companies tbd
Availability of impact analysis of ICT products/services in company	3 no answer, 2 tbd
The ratio of men to women	tbd
ICT Categories (Assistive Technologies, Technologies for Physical Prevention, Technologies for Rehabilitation)	3 companies with Assistive Technologies
R&I Project Type	3 service-oriented projects, 2 tbd
R&I product stage (TRL)	1 product at Prototype system verified stage, 1 product at market introduction stage, 3 tbd
Company age	2 companies with 10+ years, 1 company 5-7 years, 2 tbd

3. Information Pack for Candidate Cases

The list of candidate cases including 11 companies located in 3 countries had been the basis for the final selection of 1 Danish, 2 Spanish, and 2 Finnish companies for the case studies. We provided an information package to all interested candidates to enable them to understand the purposes of our case studies. These documents included a case study action plan, a consent form, an Interview Participant Information Sheet, a survey Participant Information Sheet, and ethical approval. In addition to this material, we prepared also interview guidelines for the two rounds of interviews.

The above materials assisted in establishing the Information Pack for companies. This section presents the progressive steps of the case studies and explains the development phase of case studies so far.

3.1. Case Study Action Plan

In June 2015, SDU drafted a letter to be sent to the decision makers in the enterprises that had been selected as candidates for the five case studies. The letter had the following content:

“The purpose of the case study is to work with these candidate cases to co-create a plan that will help you to implement Responsible Research and Innovation (RRI) in a way that promotes and underlines the responsibilities that your company values. Our RRI experts can help your company understand the idea of RRI, apply the RRI framework, and identify current gaps in your company’s provision and give details on how to practically integrate RRI in R&D processes.

For the study, our researchers will visit the company on specific occasions over a time span of 12 weeks. During these visits they will conduct interviews with approximately five members of staff. Ideally we would like to interview each member two times. Responsible Industry project’ researchers will arrange a mutually convenient time for interview sessions from September/October 2015 on.

Interviews are held with three groups of audiences consist of 1- the CEO/high level strategy manager, 2- the CTO/high level tech manager, the marketing or sales or CSR manager, and 3- the R&D manager, and a member of R&D staff.

The interviews are held to co-create an RRI implementation plan for the company. During the data collection period of the study we will describe the way in which the company currently discharges its responsibilities. We will determine which components of RRI are already implemented and which ones may need attention. We will share and develop these findings with you. They serve as an initial assessment of your company’s RRI readiness.

Using this RRI assessment we will present companies with a customized decision-making model for the integration of RRI into company processes. We offer to work with the companies to find ways of putting this model into practice.

Moreover, to permit a triangulation of data and provide valid observations, we would like to review company records, in particular project records in some level. Hence, we ask you to provide project materials with regard to sustainability, responsibility, codes of conduct, ethical reports, CSR reports and etc. We assure companies that we will treat any such records as confidential and are prepared to sign relevant non-disclosure agreements.

To optimize the company's activities in the context of RRI, if possible, understanding end users' feedback to product(s)/service(s) will be helpful. We would therefore like to be present and observe company' interaction with end users If possible. In essence, we would like to invite users to fill in a survey concerning their experience with the project / product. We will work with respective companies in developing, distributing and analysing the survey.

All of these activities will allow RI project's consortium to provide the company a specific plan for implementing RRI and an initial assessment of its impact on their work. This will allow companies to further develop their position as a responsible R&D company and ensure that their research and development activities are well positioned in the future."

3.2. Document with Reasons to Participate in Case Studies for Industrial Partners

TECNALIA and SDU authored a document that provided a list of reasons for companies to participate in the proposed case studies of the Responsible-Industry project. This document was aimed to being used by TECNALIA and VTT when approaching industrial partners to motivate and to convince them to participate in the case studies.

This document was presented to the decision makers in enterprises that had been identified as potential participants in the case studies.

The main, business-related, reasons to apply RRI in research and innovation of enterprises and to use for that purpose the help of the Responsible-Industry consortium are the following:

- Enhancement of the firm's reputation;
- Generation of profit by differentiating its products;
- Increased long-term profit due to the use of sustainable processes;
- Improved attractiveness for more highly qualified staff.

Furthermore, enterprises interested in RRI could benefit from participating in our study because they are offered:

- Consultancy – for free! – about ethics and sustainability, as well as the acceptance of the process and the outcome of the R&D&I of the enterprise;
- Free training of staff who will learn how to apply concepts of RRI in their daily work related to R&D&I;
- Have the principles of RRI implemented earlier than competing firms thanks to the participation in the proposed pilot study.

Finally, there were more motivations to participate in this study that were more general than the topic of the study, such as:

- Free marketing by the appearance (if desired) of the name of the firm in the website of Responsible-Industry as participant in a European research study;
- Contact with potential clients and potential collaborators among the partners of the consortium, i.e. several universities that are leading in the field of RRI and two renowned European technology centres (TECNALIA, VTT), as well as other enterprises in workshops and the final conference.

3.3. Consent Form

SDU designed a consent form for case studies in June 2015. The Danish company that participated in the pilot case, filled-in the form consenting to be interviewed for the study. This form will be distributed among the four Spanish and Finnish enterprises participating in the case studies later in this project to get their permission to participate in the case studies.

3.4. Ethical Approval

This project, and in particular the case studies were approved by the Ethics Committee of the Faculty of Technology Human Research at De Montfort University (DMU) in Leicester, UK, the leader of the project. Since the case study activities are led by SDU, SDU followed the general ethical rules for research and got a specific ethical approval letter from the Danish authorities. This ethical review was conducted in June 2015 in Denmark and the authorities approved the empirical study.

4. Development of the Case Study Method

The data collection method was defined previously in the case study protocol D3.1. The appropriate employees from the selected companies in the ICT domain, which included SMEs and MNCs, shall be interviewed by means of semi-structured interviews. These interviews are fulfilled by SDU in the pilot test and VTT and TECNALIA in their four cases in addition to the collection of project documentation and archival records.

4.1. Development of Interview Guideline

During the general project consortium meeting in Karlsruhe in May 2015, it was decided to work on the potential uses of the RI implementation plan with a view to improving its usability. To assess the usability of the implantation plan, we agreed on studying on RRI good practices that these could then be used to ascertain whether the RRI implementation plan was fit for purpose and how it needs to be developed further. The following criteria for RRI good practices assist SDU to frame interview guidelines for the case studies. In addition, SDU integrate usage scenarios into the interview guideline that describe expected ways of using the RRI implementation plan. The results of the WP2 with regard to criteria for RRI best practices are presented here:

- Company vision considering RRI
- Alignment of R&I with societal challenges, users and social needs
- R&I products taking into account ethical and societal issues
- Company structures and processes integrating RRI aspects
- Stakeholder/users engagement in the R&I process
- Adoption of preventive measures (e.g. technical solutions)
- Ongoing assessment and management of impact
- Open access to information and data on R&I processes
- Information and communication with stakeholders
- Training and multi-disciplinarity of professionals
- Cooperation, networking with stakeholders
- Long term impact analysis

In light of these important findings from the Delphi and according to the stages of the RRI implementation plan, SDU designed the interview guidelines. In fact, based on the Delphi study's assumption, these stages were identified and are presented here in three overarching categories:

- Issues pertaining to RRI awareness
- Assessment of the company's responsibility status (RRI assessment)
- Implement RRI practice and integrate RRI principles in daily work

As such, SDU conducted 3 types of interview guidelines in 2 rounds interviews) by engaging 3 main groups of interviewees including CEO/high level strategy manager, CTO/high level tech manager, the marketing or sales or CSR manager, the R&D manager, and a member of R&D staff.

4.1.1. Category 1: RRI awareness

Interviewees: CEO/high level strategy manager

VTT and TECNALIA will approach the owner / CEO of a company with a view to gaining access and working with the company on integrating RRI into their processes. The purpose of this initial interaction is to "open doors" and get top level buy-in for further discussion of RRI in the company and possible steps for implementation. This initial approach to the top level of the company will most likely be successful if the company is already displaying signs of responsibility. The message was framed in a specific interview guideline for high level strategy manager(s)/CEO to get a better understanding of their current level of responsibility in R&D with a view to helping them identifying current weaknesses and providing input into how these can be overcome and how they will be more aware about RRI.

SDU applied this method within the Danish company from February to September 2015 in which the ultimate interview guideline was set. In fact, the initial meetings with the CEO were held in March 2015 to explain the aims and activities of the Responsible-Industry project, and to highlight the benefits that their company will gain by engaging with RRI. Following that activity, the first round of interviews was done. This interview guideline for CEOs had 25 questions and focused on RRI awareness. In fact, to manage RRI in industry this project aims to identify RRI implementation indicators to develop a schema of RRI that is suitable for industry. These operational indicators, which come from interviews, assist us on understanding how industry could integrate principles and methodologies of RRI into R&I processes.

4.1.2. Category 2: RRI assessment

Interviewees: CTO/high level tech manager/marketing or sales or CSR manager/Project manager

The second group of interviewees consists of high-level manager(s) in the company who

would be in charge of developing a strategy for implementing RRI in their enterprise. VTT and TECNALIA will do interviews with these people in the company to identify their perception about the process of RRI implementation. For this purpose, there will be a need to frame the interview guideline as if it was coming to an initial assessment of the current practices of the company. To achieve this, SDU used the RRI implementation plan completed in WP2. It provided the mid-level insights into strategies and activities required. According to that, SDU designed a specific interview guideline for these people. SDU got interviews from the CTO and project managers of the Danish company. They answered key questions, such as who would be the person(s) responsible for doing the practical RRI implementation, who would be involved in the RRI implementation plan, which projects or products will be covered etc.

One key component of this specific interview guideline for these people is the assessment. In fact, to manage RRI in industry it will need to be done with the help of all members of the company at different organizational levels and positions. This RRI assessment section consists of two main steps: assessment and implementation planning. At this stage, SDU, VTT, and TECNALIA are seeking to identify RRI assessment operational indicators to align the RRI implementation plan better to industrial activities.

4.1.3. Category 3: Implement RRI

Interviewees: R&D manager and R&D Dept. staff

At this stage, VTT and TECNALIA do interviews with R&D managers plus a junior R&D staff to recognize how they implement RRI ideas and principles. This use case looks at the actual practice of RRI in the R&D processes. This is where detailed information can be given on things like the practice and methodologies of stakeholder involvement, the type of project governance structures that allow for reflexivity, details of methodology such as privacy by design etc. At this stage the interaction will be with an expert who performs R&D activities and whose remit has been identified as being capable of benefiting from integration of RRI.

At this stage the purpose of doing interviews with people who are involved in R&D processes is to help them extend their knowledge over responsibility and RRI ideas and principles and critically reflect on their work. In the Danish company, within the pilot test, SDU conducted interviews with the interactive design manager of the company (R&D manager) and a design developer. SDU designed a distinctive interview guideline for this category in which RRI implementation issues were addressed.

5. Overall conclusion

After the general project consortium's meeting in Karlsruhe (Germany) in May 2015, where the RI consortium had discussed how the RRI framework in industry should be applied, SDU, VTT, and TECNALIA had several internal meetings in which they set out above use cases and categories. SDU modified 1st round of interview guideline in accordance with abovementioned categories and designed 2nd round of interview guideline. SDU applied 2 rounds of interviews (pre- & -post interviews) for 3 above categories in a Danish company to verify the methods for upcoming case studies in Finland and Spain.

The RRI implementation plan resulting from WP2 and applied in the pilot case with the Danish company is a good basis for a discussion about RRI-related issues with employees of the target enterprises. It is expected that the framework will be applicable in Finnish and Spanish cases in the forthcoming months. The process of co-creation of the RRI framework by involving four companies or industry representatives will carry on and data will be collected by VTT and TECNALIA. The RRI implementation plan and an RRI expert from VTT and TECNALIA can help the company to understand the idea of RRI and give detail on how to practically integrate RRI in R&D processes. SDU will analyze the available data at the end of 2015 (first round) and mid 2016 (second round).

Table 2 shows finished and upcoming activities related to the task 'comparative pilot projects'.

Table 2. Case Study Action Plan - Activities

Activity	Start Month	Duration in Months	Lead Partner	Progress
Case study research literature review	1	7	SDU	100%
Identification of interview questions for WP3	5	4	SDU/DMU	100%
Preparation of Interview questionnaire	9	2	SDU	100%
Interview questionnaire draft	9	2	SDU	100%
Preparation of letter of introduction for cases	8	3	TECNALIA	100%
Discussion over case selection criteria draft/Cyprus	8	1	SDU	100%
Finalize a set of operational criteria by peer-review	8	3	All Partners	100%

Screening procedure upon candidate cases by agreed criteria	9	4	All Partners	100%
Select 4 in-depth cases, 1 pilot case among 11 suggested cases	9	4	All Partners	100%
Case study protocol report (1st milestone)	12	1	SDU	100%
Distribute consent form among cases to participate at cases	12	2	VTT/TECNALIA	100%
Prepare primary interview questionnaire for pilot case	9	3	SDU	100%
Verify applied method by pilot case	12	3	SDU	100%
Integrate preliminary Delphi study outputs into case study design	11	4	SDU/DMU	100%
Develop relevant lines of interview questions by pilot case outcomes	14	2	All Partners	100%
Judge the quality of the research design by peer-review	12	3	All Partners	100%
Finalize list of cases	12	3	SDU	80%
Finalize case study design	12	3	SDU	100%
Data collection and data analysis	8	29	SDU	20%
Approved list of cases (2nd milestone)	14	1	SDU	100%
Identification of data collection tools	8	5	SDU	100%
Data collection method/tools verified by peer-review	8	8	SDU	100%
Identification of primary codes for data analysis (piori codes)	10	7	SDU	70%
Final version of interview guideline (3rd milestone)	16	1	SDU	100%
1st round of semi-structured interviews with project leaders	17	3	VTT/TECNALIA	10%
Transcription of 1st round interviews with project leaders	18	4	VTT/TECNALIA	20%

Analysis of 1st round interviews with project leaders	20	5	SDU	0%
1st round of project documentation and archival records	17	6	VTT/TECNALIA	0%
Analysis of 1st round of archival data	22	5	SDU	0%
1st round of circulating electronic questionnaire among employees	17	3	VTT/TECNALIA	0%
Analysis of 1st round of electronic questionnaire	20	5	SDU	0%
2nd round of semi-structured interviews with project leaders	26	3	VTT/TECNALIA	0%
Transcription of 2nd round interviews with project leaders	27	4	VTT/TECNALIA	0%
Analysis of 2nd round interviews with project leaders	29	5	SDU	0%
2nd round of project documentation and archival records	28	3	VTT/TECNALIA	0%
Analysis of 2nd round of archival data	30	4	SDU	0%
2nd round of circulating electronic questionnaire among employees	26	3	VTT/TECNALIA	0%
Analysis of 2nd round of electronic questionnaire	29	5	SDU	0%
Document all data in a specific report	31	4	SDU/DMU	0%
Case study data (4th milestone)	36	1	SDU	0%

Appendix I. Interview Guideline with CEO – RRI Awareness

Timing: each interview should last for 45-60 minutes

Suggested questions: 1st round (I) and 2nd round (II)

1.
 - I. Please tell me more about your company. What are the innovative actions of your company? What are the company goals?
 - II. Please tell me more about your recent activities in your company. Do you have any strategies that can increase the innovative actions in your company?

2.
 - I. Are there any incentives offered by company management to increase the commitment of your company in applying innovative actions?
 - II. Which factors/incentives drive you increased commitment to deploy innovative actions? (e.g. Scientific value vs. economical potentials)
 - I. Could you, regarding your project, name from where do these project goals come from?
 - II. Which role elderly people clinicians (caregivers), and institutions played in the creation of the project idea?

3.
 - I. Could you, regarding your project, name challenges you have faced in research and innovation part during the last 12 months? Did you pass any milestone in the project that you would like to mention?
 - II. What were the crucial turning points in the project during the last 12 months? What are current challenges in research and innovation part (e.g. scientific, technical and economic challenges)?

4.
 - I. Who decides on the management of your projects? Any contributions from your side?
 - II. Who is in charge for in the project for decision-making to determine the direction of project? Subsequent steps? Any contributions from team member of project?

5.
 - I. Are there any social and ethical instances linked to your project? Have you considered any strategies for being familiar with social responsibilities? Any discussion in the company?
 - II. What are the social responsibilities in general in your daily work? Are you aware of them in general?

Here the researcher will explain again about RRI pillars and regulatory gaps/grand challenges independent of the matter whether or not the CEO answers yes or no to the last question; thus, the CEO is asked about RRI components in which one of RRI component(s) is/are more suitable for his/her company. - This description is either for 1st round and 2nd round of interviews

6.
 - I. Are you aware of legislation of the RRI area in any of its components and adhere to existing laws? Could you name some legislations and laws in the certain area you are working on?
 - II. What are the legislation(s) of RRI area? Do you adhere to existing laws? If so, could you name some?
7.
 - I. Do you think you face RRI principles where some regulatory gaps are most likely to appear? Could you name some of those RRI principles? Are you aware of them?
 - II. Do you think do you face RRI principles where some regulatory gaps are most likely to appear? Are you aware of them/some of them? Could you name some of those RRI principles?
8.
 - I. Imagine at one step up when you are already aware of all range of RRI components, do you think to what extent is possible for CEOs to be aware of some RRI components where regulatory gaps are most likely to appear? Any possibility to be aware about all RRI components?
 - II. What do you think how we may raise awareness of RRI components to the top level - fully awareness of RRI components– for CEOs? By performing what?
9.
 - I. Have you ever tried to convince others (other stakeholders in your business sector such as suppliers, end-users, caregivers, etc.) to engage them with RRI principles?
 - II. Are you actively involved in promoting RRI awareness among other industry stakeholders? What are the strategies you have to convince other stakeholders in involving one, several or all RRI principles in their daily work?
10.
 - I. Are you responsible for addressing societal risks and ethical issues in the project? Who else does take care about these issues?
 - II. Who/which departments within your company/organization would be responsible for addressing societal risks and ethical issues –RRI components-? Do you utilize external partners/industry peers to take into account ethics and societal issues?
11.
 - I. Are you aware of initiatives carried out by your company/organization to ensure that research and innovation are done responsibly?

- II. What are the initiatives carried out by your company/organization to ensure that research and innovation are done responsibly? How do you inform your employees about the discussed RRI components?

12.
 - I. Are there any connection/interaction along supply chain/value chain with other stakeholders? Do you involve them at design process?
 - II. Could you name, if any, the stakeholders that connected along the supply chain/value chain? If not, why don't you interact with others along product development value chain?

13.
 - I. If connection exists, are the connections between your company and your suppliers established legally or on a moral basis? Do you involve them because it is required by legislation?
 - II. (If they have a social interaction with other stakeholders) what sort of social connection between your company and its supply chain is laid along the value chain? More legal or moral? Do you involve them because of existing legislations?

14.
 - I. Do you have effective connection with these stakeholders for applying some or full range of RRI components? If some, could you name which component(s) is much bold in interaction with other stakeholder(s)?
 - II. What are the RRI components that cause a connection between you and other stakeholders? Could you name those?

15.
 - I. Do you have any strategies in place that promote ideas about any RRI aspect along the value chain? If not, any idea how you could approach this issue?
 - II. In which ways do you think you/we may do active promotion of responsibility along the value chain?

16.
 - I. In your opinion are the issues raised by CSR valued in your company? In what ways? What about ethical codes? Informal and formal ways
 - III. What are the issues raised by RRI (discussed RRI components) valued in your company?

17.
 - I. Do you have any internal project system (informal or formal) by which address RRI principles (or that specific component, which CEO underlined before) in an analysis of your company's strengths, weaknesses, opportunities and threats (SWOT)? If not at all, what do you think how could you acknowledge the RRI principles in the company's SWOT analysis if you wish?

- II. In which ways do you address RRI components in the company' SWOT analysis?
- 18.
- I. Do you address RRI principles in a SWOT analysis because of your company's internal rules (any particular protocols in place)? Could you name them? E.g. code of conducts, etc.
 - II. Are there any formal rules in your company in addressing RRI components in SWOT analysis? If not, do you think that the established legislation do help in this process?
- 19.
- I. Do you reflect all RRI components or some of those into SWOT analysis? If some, which ones?
 - II. What are the main RRI components that you address in SWOT analysis? (formally or informally)
- 20.
- I. Do you have any strategies in promoting the reflection of RRI principles in SWOT analysis?
 - II. Do you have any strategies in promoting the reflection of RRI principles in SWOT analysis?
- 21.
- I. Are there any weaknesses of acting responsible in your company? Any strengthens?
 - II. What are the current weaknesses of acting responsible? Any strengthens?
- 22.
- I. Do you have any particular protocols in place to consider ethical aspects of research and innovation? Any professional ethical codes? (If none then any idea why not?)
 - II. What are the particular protocols in place to consider ethical aspects of research and innovation? What professional ethical codes do you consider?
- 23.
- I. Do you consider any specific tool for implementing the adoption of ethical and social aspects for your project? Could you name a few examples?
 - II. Which tools would you suggest to raise the awareness of RRI concept/societal risks and ethical issues in ICT for ageing?
- 24.
- I. Which materials/documents would you suggest to us to provide other industrial stakeholders to help understand societal and ethical aspects? If possible, please name your suggestions separately for before, during, and after of our discussion with them?
 - II. Which materials/documents would you suggest to us to provide other industrial stakeholders in knowing better RRI aspects? If possible, please name your

suggestions separately for before, during, and after of our discussion with them?

25.

- I. Do you have any further questions/issues you would like to add/address?
- II. Do you have any further questions/issues you would like to add/address?

Appendix II. Interview Guideline with CTO/Project Manager – RRI Assessment

Timing: each interview should take 45-60 minutes

Suggested questions: 1st round (I) and 2nd round (II)

1.

- I. Please tell me more about your project. What are the innovative actions of the project? What are the project goals?
- II. Please tell me more about your recent activities on the project. Do you have any strategies that can increase the innovative actions of the project?

2.

- I. Could you, regarding your project, name from where do these project goals come from?
- II. Which role do patients, clinicians (caregivers), and institutions play in the creation of the project idea?

3.

- I. Who decides on the evaluation/assessment of your project? Any contributions from your side?
- II. Who is in charge in the project for evaluation/assessment of the project? Any consecutive steps? What are the CTO contributions?

4.

- I. Can your innovation reduce the level of complexity in the cases / pathways it impacts?
- II. How can your innovation activities reduce the levels of complexity in the cases / pathways it impacts?

5.

- I. Are there any social and ethical instances linked to your project? Have you considered any strategies for being familiar with social responsibilities? Any discussion in the company?
- II. What are the social responsibilities in general in daily work? Are you aware of them in general?

Here the interviewer will explain one more time the RRI pillars/action lines and regulatory gaps/grand challenges regardless CTOs/high rank managers answers yes/no to the last question; then, the CTO is asked about RRI components in that which RRI component(s) is/are more suitable in him/her work? - This description is applied either for 1st round and 2nd round of interviews

(please list the RRI action lines to interviewees, describe regulatory gaps, and talk briefly about social responsibilities)

6.
 - I. In your opinion are the issues raised by RRI valued in your company? In what ways? What about ethical codes? (informal and formal ethical codes)
 - II. Which component(s) of RRI are valued in your company?

7.
 - I. Do you understand the processes the innovation will impact? Do you take the impact assessment into account in operational practices and procedures? (in general – or not at all)
 - II. What impacts do your innovation have on the society? What sort of impact assessment strategies/tools do you apply?

8.
 - I. Have you analyzed the level of impacts of your innovation?
 - II. Have you analyzed the level of impacts of your innovation with regard to RRI components?

9.
 - I. Does your impact assessment come from established legislation? Any regulatory leverage behind such assessment?
 - II. To what extent do the established legislations influence on your decision to apply impact assessment strategies?

10.
 - I. If you are impacting operational processes and procedures, in particular social processes, do you have effective plans to deal with RRI components? One component or more?
 - II. What are the main RRI component(s) that you address normally in your impact assessment?

11.
 - I. Do you actively involved to promote RRI-impact assessment among other industry stakeholder?
 - II. What strategies do you have to convince other stakeholders in assessing one or full of RRI principles in their daily work?

- 12.

- I. Are you aware of the risks derived (came) from your innovation? (in general – not at all?) Do you consider your innovation has the low-risk nature or high-risk nature?
 - II. In which ways do you address the risks related to your innovation?
 13.
 - I. Do you have appropriate risk management strategies for your innovation? Do you apply such strategies because of existing legislations? (Internal legislation or external one)
 - II. Do you have appropriate risk management strategies for your innovation? Do you apply such strategies because of existing legislations? (Internal legislation or external one)
 14.
 - I. If your innovation involves risks on social processes, then do you address RRI components in your risk management plan? If not all, which ones?
 - II. Which RRI component(s) do you address in the risk management plan?
- Note: Risk management plan is including: regulatory affairs and regulation compliance, communication to patients and clinicians, clinical endorsement, evidence building for safety, quality, clinical trials management, etc.
15.
 - I. Do you have any strategies in promoting the reflection of RRI principles in risk management plans among other employees, stakeholders, etc.?
 - II. In which ways do you think you/we should do active promotion of risk management strategies for RRI aspects among other employees, stakeholders, etc.?
 16.
 - I. Have you analyzed your innovation technically to see if there may be new platforms that you can use?
 - II. In which ways do you analyze your innovation technically to see if there may be new platforms that you can use?
 17.
 - I. Do you evaluate your innovation technically along the value chain to address regulatory gaps? Are you involved with existing legislation in having technology assessment?

- II. Do you evaluate your innovation technically along the value chain to address regulatory gaps? Are you involved with existing legislations in having technology assessment?
- 18.
- I. [If you are assessing technology, do you reflect all RRI components or some of those for your evaluation? If some, which ones?](#)
 - II. If you are assessing technology during development phase, what are the main RRI components that you address in your evaluation?
- 19.
- I. [Do you have any strategies in promoting technology assessment to other companies, employees, etc?](#)
 - II. Do you have any strategies in promoting technology assessment to other companies, employees, etc?
- 20.
- I. [Overall, do you apply any specific tool for assessing RRI aspects? If any, Could you name a few examples?](#)
 - II. Which tools would you suggest to assess RRI principles/action lines in ICT for ageing?
- 21.
- I. [Which materials/documents would you suggest to us to provide other industrial stakeholders to help understand societal and ethical aspects? If possible, please name your suggestions separately for before, during, and after of our discussion with them?](#)
 - II. Which materials/documents would you suggest to us to provide other industrial stakeholders in knowing better RRI aspects? If possible, please name your suggestions separately for before, during, and after of our discussion with them?
- 22.
- I. [Do you have any further questions/issues you would like to add/address?](#)
 - II. Do you have any further questions/issues you would like to add/address?

Appendix III. Interview Guideline with R&D Manager/R&D dept. Staff – Implement RRI

Timing: each interview should last for 45-60 minutes
Suggested questions: 1st round (I) and 2nd round (II)

1.
 - I. Please tell me more about your activities in the project. Which sort of innovative actions are you involving in the project?
 - II. Please tell me more about your recent activities in the project. Do you have any personal strategies that can increase the innovative actions in the project?

2.
 - I. Do you have a end-user centric design, Such as elderly people, patients, clinicians (caregivers), and institutions?
 - II. Do you have a patient-centric design? Or more clinicians-centric design?

Here the interviewer will explain one more time the RRI pillars/action lines and regulatory gaps/grand challenges regardless R&D member answers yes/no to the last question; then, the R&D employee is asked about RRI components in that which RRI component(s) is/are more suitable in him/her work? - This description is applied either for 1st round and 2nd round of interviews

(please list the RRI action lines to interviewees, describe regulatory gaps, and talk briefly about social responsibilities)

3.
 - I. In your opinion are the issues raised by RRI valued in your company? In what ways? What about ethical codes? (informal and formal ethical codes)
 - II. Which component(s) of RRI are valued in your company?

4.
 - I. In your project, do you collaborate with the company' suppliers or business partners for research and development phase/designing process?
 - II. In your project, what sort of collaborations is developed between you and your business partners for research and development phase/designing process?

5.
 - I. Are the existing company' legislations assured you to collaborate with suppliers/business partners?

- II. Do existing company' legislations tell you to collaborate with suppliers/business partners for better designing?
6.
 - I. If you are collaborating with them, do you tackle a particular issue area of RRI together with them in developing phase/designing process?
 - II. What are the main RRI component(s) that you literally tackle in collaboration with your business partners/suppliers?
7.
 - I. Do you actively involved to address, develop, and promote RRI agenda to your suppliers/business partners?
 - II. What strategies do you apply to convince suppliers/direct business partners to address, develop, and promote RRI agenda in designing process?
8.
 - I. Are your work' functions involved yourself in addressing RRI principles? If so, could you name which RRI component(s) do you normally address?
 - II. Are your work' functions involved yourself in addressing RRI principles? If so, could you name which RRI component(s) do you normally address?
9.
 - I. Further, do you actively involved in dealing with all issue areas of RRI?
 - II. Further, do you actively involved in shaping the RRI agenda?
10.
 - I. Do you address these principles only because of existing legislations?
 - II. Do you address these principles only because of existing legislations?
11.
 - I. Do you have any strategies in promoting RRI in the company and among stakeholders by engaging employees?
 - II. Do you have any strategies in promoting RRI in the company and among stakeholders by engaging employees?

Note: Risk management plan is including: regulatory affairs and regulation compliance, communication to patients and clinicians, clinical endorsement, evidence building for safety, quality, clinical trials management, etc.

12.
 - I. Overall, have you taken RRI principles into account in operational practices and procedures (OP&Ps) (designing functions here)? If so, which ones mostly?

- II. Overall, in which ways do you take RRI principles into account in operational practices and procedures (OP&Ps) (designing functions here)? If so, which ones mostly?
- 13.
- I. Do your OP&Ps (designing functions) address the full range of RRI?
 - II. Do your OP&Ps (designing functions) address the full range of RRI?
- 14.
- I. Are you only following existing company' legislations for reflecting RRI principles in OP&Ps (designing functions)? Beyond that?
 - II. Are you only following existing company' legislations for reflecting RRI principles in OP&Ps (designing functions)? Beyond that?
- 15.
- I. Did you / would you share the best practices with suppliers, business partners, employees, etc. that relate on implementing RRI?
 - II. Did you / would you share the best practices with suppliers, business partners, employees, etc. that relate on implementing RRI?
- 16.
- I. Overall, do you apply any specific tool for implementing RRI aspects? If any, Could you name a few examples?
 - II. Which tools would you suggest to implement RRI principles/action lines in ICT for ageing?
- 17.
- I. Which materials/documents would you suggest to us to provide other industrial stakeholders to help understand societal and ethical aspects? If possible, please name your suggestions separately for before, during, and after of our discussion with them?
 - II. Which materials/documents would you suggest to us to provide other industrial stakeholders in knowing better RRI aspects? If possible, please name your suggestions separately for before, during, and after of our discussion with them?
- 18.
- I. Do you have any further questions/issues you would like to add/address?
 - II. Do you have any further questions/issues you would like to add/address?

