Responsible-Industry

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1 Executive Summary

This document describes the exploitation plan of the European Coordination and Support Action *Responsible-Industry*.

Exploitation is the process of rendering disseminated information practical and useful by ensuring its uptake by relevant recipients and stakeholders. It uses findings and recommendations and puts the concept of *Responsible Research and Innovation* (RRI) into practice in industry, thus ensuring long-term viability of the project legacy. Moreover, exploitation aims at getting value or use from this project, where use is the direct or indirect utilisation of foreground in further research activities other than those covered by the project, or for developing, creating and marketing a product or process, or for creating and providing a service.

This CSA has been generating and will further generate important and useful knowledge on how industry can work productively together with societal actors and integrate principles and methodologies of RRI into research and innovation processes. The focus of research and its application is the role that research and innovation in *Information and Communication Technologies* (ICT) can play in addressing the grand challenge of health, demographic change and wellbeing.

By the end of the project, the foreground will be publicly accessible through 29 deliverables. Furthermore, the consortium members are exploiting their findings by publishing them in academic journals, book chapters, at least one book and by means of other publication channels.

During the lifetime of the project, a first exploitation step is implied in work package 2 where the RRI implementation plan will be put in practice in specifically chosen R&I projects of ICT companies. As a next step the implementation plan will be made available on a specific basis to chosen organisations in the countries of the project partners where potential users of RRI in industry will be approached and offered the opportunity to engage with the consortium in the implementation.

An important means of exploitation is community building and exploitation of foreground in industrial and academic networks (some of them associated with AIRI, Euclid Network, TECNALIA and VTT), as well as networks of policy makers and links to other heterogeneous networks (e.g. AFe-INNOVNet, AALIANCE2, ENGAGED).

The gained foreground will be provided and promoted in other projects on RRI, e.g. GREAT, NERRI, PIER, ProGReSS, Res-AgorA, RESPONSIBILITY, RRI-ICT Forum, RRI Tools, SATORI, and Synenergene. This list includes the four projects focussing on RRI started in 2013 as well as the sister project of Responsible-Industry. Further exploitation is expected to happen in future projects whose proposals are currently under evaluation, e.g. from the H2020-ISSI-2014-2015 call.

Responsible-Industry will explore how to exploit the foreground in collaboration with several organisations and other projects related to information and communication technologies (ICT) for health, demographic change and wellbeing, such as the AAL Association and the KIC *InnoLife*.

Even though the public deliverables of the project cannot be commercially exploited directly, consultancy can be offered on an opportunistic basis by the consortium members. The value proposition consists in transferring the knowledge on how to use and adapt the findings for two main segments of clients: firstly, the target users, i.e. companies in the sector of ICT for health, demographic change and wellbeing, and, secondly, for consultancy firms that plan to offer this service to the first segment in the future broadening their portfolio of services.

The individual exploitation plans of the nine project partners, Associazione Italiana Per La Ricerca Industriale (AIRI), De Montfort University (DMU), Euclid Network (EN), Fundación TECNALIA Research & Innovation (TECNALIA), Karlsruhe Institute of Technology (KIT), Teknologian Tutkimuskeskus VTT (VTT), University of Central Lancashire, Cyprus (UCLan CY), University of Southern Denmark (SDU), University of Twente (UT), comprise teaching of the gained knowledge at universities, further research in future national and European research projects, academic and non-academic publications, consultancy, and, finally, community building and networking, among others.

2 Introduction

The successful exploitation and the sustainability of the obtained results are critical aims of the European Coordination and Support Action (CSA) **Responsible-Industry**.

The key objective of this document is to enable advanced planning beyond the end of the project regarding the continued and sustainable use of the main outputs and achievements by each partner and by the consortium as a whole. This document describes the plan of who – consortium members and other stakeholders of RRI – will exploit the project outputs, when and how the valuable results of the project will be used.

This present exploitation plan is a counterpart of the Dissemination and Communication strategy of the consortium, see Deliverable 5.1 (http://www.responsible-industry.eu/dissemination/deliverables). The Responsible-Industry project distinguishes between communication, dissemination and exploitation. While communication is the two-way exchange of information – characterised by mutual respect and a willingness to take one another serious, e.g. through an extensive stakeholder dialogue and networking activities – and dissemination is defined here as the provision of relevant information to potential recipients (including the production of information material and the development of relevant communication channels), **exploitation** is the process of rendering disseminated information practical and useful by ensuring its uptake by relevant recipients and stakeholders. This means that exploitation refers to the process of making use of findings and recommendations and putting RRI into practice in industry, thus ensuring long-term viability of the project legacy. Moreover, exploitation aims at getting value or use from this project, where – following the terminology of the Grant agreement of FP7 – use is the direct or indirect utilisation of foreground in further research activities other than those covered by the project, or for developing, creating and marketing a product or process, or for creating and providing a service.

To maximise the impact of the project, the planned exploitation activities of the project consortium aim at ensuring the use and the dissemination of the knowledge generated in Responsible-Industry. Furthermore, it should demonstrate the added value of this project and promote further scientific development in the field of RRI.

This CSA has been generating and will further generate important and useful knowledge on how industry can work productively together with societal actors and integrate principles and methodologies of **Responsible Research and Innovation** (RRI) into research and innovation processes. The focus of research and its application is the role that research and innovation in Information and Communication Technologies (ICT) can play in addressing the grand challenge of health, demographic change and wellbeing.

The project consortium of nine partners from eight European countries is guiding interactive discussions between leading industry partners, established RRI experts, policy advisors and civil society organisations to drive the research and innovation process with the principles of RRI in mind.

The project has already finished and published the following:

- a synthesis of current discourses on RRI in the industrial context based on an extensive literature review,
- 30 in-depth interviews with industry thought leaders,
- five bottom-up case studies and two *Horizon Scanning* reports,
- an International Delphi Study of RRI in industry that involved in the first of its two rounds 165 people from the different stakeholder groups (which is more than the 130-150 stakeholders that were planned at the start of the project).

In addition, the consortium has been investigating through practical cases and an ongoing in-depth dialogue with stakeholders (industry, CSOs, policy makers and emerging global stakeholders, e.g. in an international Multi-Stakeholder workshop) in processes, challenges and opportunities leading to RRI along specific value chains of products and services.

Furthermore, the expected most important outcome of Responsible Industry, the detailed implementation plan, has been developed and its draft is currently (September 2015) tested in pilot projects in five small, medium and large enterprises of the above mentioned business sector in Denmark, Finland and Spain.

The viability of this implementation plan will be discussed in the next stage of the project in 15 industry-driven focus groups in Cyprus, Germany, Italy, The Netherlands and United Kingdom.

This document discusses in more detail some of the possible exploitation paths. In general, exploitation activities in European projects comprise a subset of the following list: Publications, Product development, Services, Consulting, Spin-off company, European economic interest group, Patents and Further Financing. Since the results of this CSA are public – with the exception of for legal reasons (confidentiality) unexploitable data set – and reports on the gained knowledge with high impact, but not products, only four options remain: Publications, Services, Consulting, and Further Financing.

3 Exploitable Foreground and Results

The main outcome of this *Coordination and Support Action* is – by definition of this type of projects – **knowledge**, sometimes referred to as *foreground*. This foreground is or will be publicly accessible in 29 of the 30 project deliverables, which are reports (with the exception of the project's website; the Case Study Data is not public, but restricted for privacy reasons). They have already been published or will be disseminated by the end or soon after the end of the Responsible-Research project. This is also the case for the most outstanding result of this project, the Exemplar Implementation Plan, shortly IP, of RRI in Industry to demonstrate how industry can work productively together with societal actors and integrate principles and methodologies of Responsible Research and Innovation (RRI) into research and innovation processes. Drafts of this document have already been discussed and improved with R&I stakeholders from industry, policy makers, among others. The final formats of the Implementation Plan in addition to a PDF document are still discussed.

Here is a list of exploitable results that correspond to these public deliverables:

- **Exemplar Implementation Plan on RRI in Industry**
- Systematic review of industry relevant RRI discourses
- Case study descriptions
- RRI tool and product matrix
- Horizon Scanning Reports
- Delphi Exercise questionnaire and Delphi Exercise report
- International (Delphi Exercise) workshop report
- Pilot project reports
- Country reports on testing and evaluation
- Case Study Protocol
- Models of RRI in Industry
- Stakeholder mapping and Dialogue Strategy
- Stakeholder Dialogue Reports
- RRI International Comparisons
- Dialogue Synthesis
- Dissemination and Communication Strategy
- Project Website

The project website, see the section on sustainability below, is a tool to engage all interested stakeholders, including the general public, in the project and to disseminate in addition to other channels, the project results of public nature. It will be maintained at least 5 years after the end of the project, so that the

deliverables can be found and accessed from there. Since the website is hosted free of cost as a Google site and by now it can be assumed that Google keeps this service of hosting websites available without major changes in their terms and conditions, no problems regarding the sustainability of the website are expected.

4 Exploitation during the Lifetime of the Project

The first exploitation step is implied in work package 2 where the RRI implementation plan will be put in practice in specifically chosen R&I projects of ICT companies.

As a next step the implementation plan will be made available on a specific basis to chosen organisations in the countries of the project partners where potential users of RRI in industry will be approached and offered the opportunity to engage with the consortium in the implementation.

The interaction and close contact with the industrial sector targeted in the Responsible-Industry project is a necessary condition to pave the way for a later exploitation and uptake of the approach, the findings and results in an industrial context. The mixture of activities include:

- initial interviews with approximately 30 industry thought leaders to delimit the concept of RRI in industry,
- large-scale Delphi study engaging more than 160 stakeholders,
- inclusion of industry representatives in all discussions of the project and their use for peer review on quality assurance purposes,
- integration of findings and recommendations into ongoing collaboration and partnerships with industry,
- implementation of the principles of RRI in industry in a set of comparative case projects,
- specific analysis and reflection of the case projects and other industry interaction with a view to extracting broader lessons and recommendations.

5 Exploitation through Networks

This step will include interaction with the industry stakeholder network. These organisations which have clearly indicated their interest in the project and their willingness to collaborate will be the natural testing ground for findings and recommendations. They (see below for a list) have already agreed to provide feedback on the project outcomes and will be invited to put these into practice. Several of the network members are associations or industry groups in their own right and they therefore constitute multipliers for RRI in industry.

Several of the consortium partners, e.g. AIRI, Euclid Network, TECNALIA and VTT, are members in further networks or are networks themselves, which will allow them to promote the findings in more depth and thereby contribute to take-up and exploitation. Some of them have ongoing initiatives to draw in industry-based partners that will allow them to provide industry with RRI principles.

The networks AFe-INNOVNet (thematic network contributing *Towards an Age-Friendly Europe*), ENGAGED (thematic network and community for active and healthy ageing) and AALIANCE2 (Coordinated Action entitled *European Next Generation Ambient Assisted Living Innovation Alliance*) have not only been informing their members about outcomes and events of this project, but also have been useful tools for recruiting scientists, technical experts and other stakeholders from the field of ICT for demographic change for their participation in the Delphi study and workshops on RRI.

6 Synergies with other Projects on RRI

A broad route to exploitation is the partnership with existing and forthcoming EU projects on RRI, e.g. GREAT, NERRI, PIER, ProGReSS, Res-AgorA, RESPONSIBILITY, RRI-ICT Forum, RRI Tools, SATORI, and Synenergene. This list includes the four projects focussing on RRI started in 2013 as well as the sister project of Responsible-Industry that focuses on the coordination of RRI in industry and the project aimed to develop tools and raise awareness. This list will be extended by future projects whose proposals are currently under evaluation, e.g. those from H2020-ISSI-2014-2015, and in this regard especially those that address the topics ISSI-3-2015: "Knowledge Sharing Platform" and ISSI-5-2015: "Supporting structural change in research organisations to promote Responsible Research and Innovation" (both topics closed on 16 September 2015). It is expected that the Knowledge Sharing Platforms developed in ISSI-3-2015 projects will be exploited by Responsible-Industry to publish the results and to maintain a discussion with all their users about these results in addition to the own dissemination and communication channels.

Responsible-Industry is in contact and collaborating with other projects that are working in the targeted application sector, i.e. ICT for demographic change.

The interaction with *European Innovation Partnership on Active and Healthy Ageing* (EIP AHA) works through the participation of project partners TECNALIA and VTT in the action groups C2 and A2, and, moreover, addressing also other action groups through the coordination with the project PROEIPAHA, a Support Action to the European Innovation Partnership on Active and Healthy Ageing. One joint activity is for winter 2015/2016, a webinar for EIP AHA members will be organised by PROEIPAHA and Responsible-Industry.

The ongoing activities in this regard are mutual invitation to workshops, conferences and other events organised by the consortia of these projects, exchange of deliverables, joint meetings with the European Commission, mutual inclusion in social networks such as Twitter, Facebook, and LinkedIn.

Members of the consortium (e.g. VTT and TECNALIA) are in contact with the AAL (Active and Assisted Living) community, including the AAL Association, firstly through their AAL projects and, secondly, participating in the annual event AAL Forum. It is foreseen to consolidate the contact and to keep the AAL Programme Organisation informed about the outcomes of this project.

One planned actions before the end of the Responsible-Industry project is to liaise with the members from the United Kingdom, Sweden, Holland, Belgium, Germany, France and Catalonia of the recently started Knowledge and Innovation Community (KIC) *InnoLife*, funded by the European Institute of Innovation and Technology (EIT), a European institution concerned with integrating three areas of knowledge – training, research and innovation.

Joint Technology Initiatives are long-term Public-Private Partnerships which are established on the basis of European Technology Platforms (ETPs), managed within dedicated structures. They support large-scale multinational research activities in areas of major interest to European industrial competitiveness as well as issues of high societal relevance. This makes them an interesting target to firstly disseminate project results and secondly open opportunities for exploitation. Many of these FP7 initiatives are about to end. However, it is expected that many of them will live on, possibly under different titles, and attempts will be made to contact them.

7 Standardisation

It is expected that the knowledge gained in this project, in particular the resulting methods to implement RRI in companies, will contribute to standardisation, which in the mid- or long-term could lead to an international standard, managed by one of the International Standards Organisations, or at least define a *de-facto* standard of RRI in business and industry which would be a strong way of enrolling industry and ensuring the use and exploitation. This issue was discussed in workshops of the project and requires further activities, which are not in the scope of this project.

8 Long Term Plan: Business Opportunity and Market

Given the type of the members of this Coordinated and Support Action, the Responsible-Industry project, i.e. universities, non-for-profit research organisations and networks, their missions and business models, and the public nature of the deliverables, a *commercial* exploitation of the project results has never been an explicit objective of the project and its consortium. However, this section describes an opportunistic business model whose implementation might be an opportunistic option for exploitation of foreground for several consortium members, even though it will not be a mandatory part of the exploitation plan of the project.

The business model is summarized in the Business Model Canvas after Osterwalder[1] below.

Key partners	Key activities	Value proposition	Customer relationship	Customer segments
Consortia of other RRI, SwafS, … projects	Training & consulting on how to use the RRI Framework	**Know-how on how to adapt and to implement RRI in the client's company**	Personal assistance	Consulting firms active in Social Innovation and related fields
Network of RRI experts	Publishing and marketing		Self-service (material)	
Associations of Industry stakeholders	**Key ressources**		**Distribut. channels**	Companies innovating in ICT for demographic change
European Commission	Experts as trainers		Workshops and Training sessions	
	Rooms, teaching material		Publications	
			Website	

Cost structure	Revenue streams
Variable cost	Usage fee (payments for consulting services)

Figure 1: Business Model Canvas for an opportunistic coaching service of members of the *Responsible-Industry* consortium.

The components of this Business Model Canvas are described in the remainder of this section.

Concerning the required infrastructure, **Key Activities** that are the most important activities in executing the value proposition are the training and

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[1] Alexander Osterwalder, Yves Pigneur, Alan Smith, and 470 practitioners from 45 countries: "Business Model Generation", self published, 2010.

consulting activities, and moreover to maintain the website and the information online as a promotion tool and contact point.

In this context, the most important among all **Key Resources** are the experts that have the knowledge that shall be transferred the clients within the training activities. Other key resources consist in the infrastructure (rooms, ICT tools) and the material required to train the clients in the implementation of RRI.

Key Partners can promote and support the business model directly, as this might do Industry associations, networks of RRI experts and consortia of other projects, or indirectly, e.g. through fostering the concept of RRI in their calls and other actions as in the case of the European Commission.

The **Value Proposition** that would be offered in this business opportunity is the know-how on how to adapt and how to implement RRI in a company, in particular those active in ICT for ageing, but more general in any enterprise that applies methods of research and innovation.

The **Customer Relationship** should be personal assistance with the client. Some material would be available through the website, which can be considered as a self-service concept.

The **Distribution channels** to deliver the value proposition are, mainly, workshops and training sessions, but also publications and the website.

The **Customer Segments** are twofold. Firstly, the most evident clients might be the main target audience of the Implementation Plan, namely those ICT enterprises active on the market with products and services related to the demographic change. However, enterprises from other sectors are assumed to benefit too through coaching and training on the implementation of RRI. Secondly, there is expected to be a niche market of large business consultancies aiming at broadening their portfolio of services by RRI, as well as smaller consulting firms specialised on social innovation and related fields. Both types of consultancies have a huge impact potential through their multiple clients, which leads to a multiplying effect. These might be either the big, international, players on the market, such as (in alphabetical order) Accenture, Bain & Company, Capgemini, Deloitte Consulting, KPMG, McKinsey & Company, Roland Berger, The Boston Consulting Group, etc. Furthermore, there are smaller, but specialized consultancy firms working in social innovation. One example is SINNPLE, a small consultancy based in Donostia-San Sebastián (Spain). TECNALIA contacted SINNPLE in June 2015 in order to find jointly ways of transferring the knowledge.

The **Cost Structure** is variable and depends of the number of booked training and coaching sessions.

The **Revenue Stream** is based on a usage fee for the offered consulting services.

The market size of RRI cannot easily be extrapolated from data about similar concepts, as for instance Corporate Social Responsibility (CSR). Data on these older concepts is easier to obtain and are being monitored for years, because these concepts exist much longer than the relatively new concept of RRI.

9 Options for Sustainability

This section describes options for sustainability, i.e. the ability of the outcomes to be upheld and confirmed also after the end of the project, and the way in which these can be implemented.

There are various options to ensure the sustainability of the results generated by the Responsible-Industry project. The deliverables, which contain the foreground of the project, will be available on the website of the project for an undetermined amount of time. The website is hosted by Google Sites and has no maintenance cost and requires no or only minimal amount of effort to be maintained. Furthermore, the knowledge gained in the project has been published and will be published till the end of the project and beyond that in a series of journal articles, book chapters and books, which is especially targeted at academia.

Industry has been in contact with the Implementation Plan and other project outcomes within the project through the participation in case studies, workshops, the Delphi study and focus groups. The coaching and training suggested in the Business Model Canvas above either by consortium members or consulting firms (as today e.g. Corporate Social Responsibility) is supposed to be offered in the future for many years. The Implementation Plan will evolve and be adapted to other sectors by these consultancies for practical purposes and by researchers from a more theoretic point of view.

Industry networks can play an important role in promoting RRI and the outcomes of this project among their members and offering them material and information on events and contacts regarding RRI.

Finally, a potentially very important tool for sustaining the legacy of the Responsible-Research project are the upcoming Knowledge Sharing Platforms on RRI and similar areas that are expected to be implemented by the winning consortia of the currently open call H2020-ISSI-2015-1 for Integrating Society in Science and Innovation (ISSI-3-2015: Knowledge Sharing Platform) in early 2016.

10 Individual Participant's Exploitation Plans

Regarding the exploitation of the project results, each member of the project consortium has specified their commitment depending on their strategic plans to take advantage of both the knowledge acquired throughout the project and the tangible results. In addition to the joint and general exploitation activities planned from the project consortium as a whole and described in the last chapters, each participant has specific and individual plans to use the foreground generated in the Responsible-Industry project in the future. These individual plans are reported in this chapter.

10.1 Associazione Italiana Per La Ricerca Industriale (AIRI)

AIRI (Italian Association for Industrial Research) is a non-for-profit association, established in 1974, representative of a national network of industries and public research institutions, with the mission to promote Research & Innovation to enhance the National industrial competitiveness.

Amongst its associates are major R&I industrial players (several multinational companies), SMEs, public and private research organizations, universities, regional technology clusters. Its division, AIRI/Nanotec IT, established in 2003, is a focal point for Key Enabling Technologies in Italy.

The researchers of AIRI members represent about one third of those operating in the country. Through its members and activities AIRI has an established network of R&I players at national and international level (including CEO, Directors and R&D managers of large corporations, SMEs and spin-offs), active on several different technological fields and industrial sectors, including Ambient Assisted Living and more in general the Information and Communication Technologies (ICT) with impact on Health and Well Being of an ageing society. AIRI is a member of EARTO.

Due to this broad representative base, AIRI is a key opinion leader for decision-makers sustaining industrial research, strategic for the technological development in Italy. AIRI will use outcomes of the project to promote toward policy makers (at national and regional level) development of science and technology policies taking into account RRI concepts and approaches.

AIRI is in an ideal position to promote in the short term the testing of the RRI Framework inside its network and, in the long term, the adoption of the Exemplar Implementation Plan on RRI. In fact, thanks to its role and mission, AIRI can reach and mobilize a strong and wide network of R&I organizations to discuss and eventually exploit the main results of the Responsible-Industry Project. AIRI will promote inclusion of RRI into R&I strategies at industrial level.

These objectives will be facilitated by ongoing activities like the organization of training events and workshops on a regular basis to support SMEs in deploying innovative technologies and the International Conference *NanotechItaly: Key*

Enabling Technologies for Responsible Innovation, a yearly conference involving key R&I players from all over Europe. AIRI will exploit and benefit from the knowledge gained in the development of the Responsible Industry project to prepare new research project proposals on RRI that may represent a follow up of its activity.

10.2 De Montfort University (DMU)

The Centre for Computing and Social Responsibility is the UK's biggest research centre focusing specifically on the social and ethical consequences of information and communication technology and questions of responsible research and innovation. It is an important node in the international network of research in this field. As coordinator of the Responsible-Industry project and former coordinator of related projects in the area of science with and for society (ETICA, www.etica-project.eu; CONSIDER, www.consider-project.eu) it is well positioned to make use of the findings and outputs of the project in several ways:

- Academic publications: The Responsible-Industry project is a coordination and support action, but its various activities have led to the development of a rich data set, for example through expert interviews, focus groups, case studies and workshops. The CCSR is keen to use these findings to develop high quality academic publications that will inform the academic discourse on RRI and ethical issues arising from ICT used for challenges of health ageing.

- Project development: As a successful EU project coordinator and WP leader the CCSR and its members are in high demand to contribute to and partner in upcoming calls and proposals. The core strength of the CCSR is closely aligned with the subject area of the Responsible-Industry project. The question of RRI can be implemented in industry is a crucial one that will have a strong influence on whether RRI will be successful and improve the European research environment and the CCSR will use RI outcomes to promote this agenda.

- Teaching and education: The CCSR is an integral part of the School of Computer Science and Informatics of De Montfort University. Its members teach compulsory or optional modules to the vast majority of the School's students. This teaching incorporates insights from the CCSR research and the outputs of the RI projects are well suited to teach students on both the methodology and substance of RRI.

- Community development: The CCSR has used its leading position in the UK to promote the principles of RRI across the British ICT research community. Via the UK research project on a Framework for Responsible Research and Innovation in ICT (FRRIICT) (www.responsible-innovation.org.uk) the CCSR has worked with colleagues from the University of Oxford to establish a community and shared resources that allow ICT scholars to better understand RRI and find ways of putting it into practice.

- Consultancy: Resulting from the FRRIICT project the CCSR expects to set up a resource centre in collaboration with the University of Oxford that will offer training and other consultancy services to publicly and privately funded researchers to help them fulfil their RRI requirements. This development is currently at its early stages. if successful it would be the ideal mechanism for taking up the findings and recommendations of the RI project and communicating them to UK ICT industry.

10.3 Euclid Network (EN)

Euclid Network (EN) is the European network of civil society leaders and social entrepreneurs. It is a growing, diverse community of change-makers that connects, develops and supports its members from across Europe for a more innovative, professional and sustainable European civil society. EN also has a wider network of around 5000 contacts that includes policy-makers, academics as well as business representatives. EN focuses on three main activities: building capacity for the sector, piloting innovation through partnerships, and advocating for social change. EN's main themes are social innovation, social entrepreneurship, research and civil society.

In the Responsible Industry project, Euclid Network is the only civil society partner providing a unique perspective for the project. EN seeks to be the bridge between citizens and their representation groups on the one hand and the researchers on the other.

The Responsible Industry project has started guiding **interactive discussions** between leading industry partners, established RRI experts, policy advisors and civil society organisations (CSOs) to drive the research and innovation process with the principles of RRI in mind. So far, Euclid has successfully co-organised the first **European workshop** that gathered various relevant stakeholders with the objective of presenting and assessing with them the project's findings. The first round of consultation was a success and the CSOs represented showed great interest in following the project's progress. EN will make the best of this momentum to ensure a large CSO representation in the second round of consultation to take place in June 2016.

EN is currently leading on the production of an animated video targeting – mainly but not exclusively – e-Health companies to encourage them to incorporate RRI principles in their R&I processes. This video will also be one of the main dissemination tools of the project.

EN will make the best use of its policy and engagement experience as well as its networks to promote and disseminate the results of the Responsible Industry project. The main dissemination tools and results will feature on EN's website and will be presented at any relevant event coordinated by EN. The animated video along with the recommendations that will be produced by the project (through the **Implementation plan**, the **RRI international comparisons** and the **stakeholder dialogue analysis**) will be disseminated to EN's wide network.

For CSOs working in the sector of health and ageing, in particular, the project's main outputs will be useful tools:

- to provide further guidance to those that already get involved in research activities through consultation processes and others;
- to understand which are the different canals to get involved in industrial research and innovation activities for those that would like to ensure representation of their end-users' concerns and interests.

10.4 Fundación TECNALIA Research & Innovation (TECNALIA)

Spain's biggest private applied research centre, TECNALIA, is working in many areas of science and practically all industrially and socially relevant fields of technology. Therefore, the exploitation of the results from the Responsible-Industry project by TECNALIA by means of implementing RRI internally and promoting the concept externally, through their research networks and thousands of innovative clients and other R&I stakeholders, including the general public, has a huge potential to impact not only in Spain, but in whole Europe.

Thanks to the knowledge and tangible results gained in the Responsible-Industry project, among other inputs, TECNALIA can assume their social responsibility to be one of the pioneers in implementing the important concept of RRI in their internal research and innovation processes, as well as those R&I activities in collaboration with their clients, providers, and partners. Being an active partner in the Responsible-Industry project, TECNALIA's Health Division will – as a first exploitation step that shall start in the runtime of the project and end not later than one year after the end of the project – test the viability of the implementation plan while implementing RRI as well in their strategies as in their daily activities of R&I. Their R&I is focussed on health and quality of life of older people, mainly by means of ICT in their research fields of Assistive Technologies, Rehabilitation and eHealth, which is perfectly in line with the scope of this project.

TECNALIA is already participating in the preparation of future research project proposals of projects on RRI that may start shortly before the end of Responsible-Industry or soon after, so that a smooth transition between projects is foreseen. The knowledge gained in this project is useful for the proposals and future projects.

Furthermore, a group of researchers at TECNALIA from the Innovation Strategies Division is working on the theoretic concepts in the context of RRI and their practical implementation methodologies. They will exploit and benefit from the knowledge gained in Responsible-Industry to develop it further in future regional, national and European research projects and publish their results in journals and conferences to the scientific audience. All groups, i.e. the practitioners from the Health Division and the researchers from Innovation Strategies, in collaboration with corporate experts in similar fields such as

Corporate Social Responsibility, will measure the results and impacts of these changes in the Health Division to report them to their decision makers, so that the lessons learnt and good practices from this Division can be generalized for future strategic planning of the corporation and adopted to be implemented in the applied research of the other six Divisions (Sustainable Construction, Energy and Environment, Innovation Strategies, ICT-European Software Institute, Industry and Transport, and finally Technological Services) in a mid-term of 3-5 years.

Moreover, TECNALIA has already established contact with a consultancy firm specialised on social innovation that is much interested in broadening their portfolio including RRI. TECNALIA will inform the consultants of this enterprise about the results from Responsible-Industry and analyse together further routes for exploitation.

In parallel and in the long-term, by exploiting the knowledge and experience of Responsible-Industry and developing the practical issues of RRI further in a collaborative way, TECNALIA will continue informing and moreover training their research partners and clients (as already done in the framework of the project with two of them, an SME and a large enterprise) in their joint research and innovation activities about the concept and the practical implementation of RRI. Examples of project outcomes of special interest for TECNALIA's network of industrial partners and clients are 1) the review of industry relevant RRI discourses, 2) RRI tool and product matrix, 3) the methodology of the Delphi study and the outcomes of it, 4) the Stakeholder Dialogue Reports and 5), most of all, the Exemplar Implementation Plan on RRI in Industry.

All project results used in the foreseen exploitation activities of TECNALIA described here are already published or will be public by the end of the project, so that it is guaranteed that there will not exist any issues regarding confidentiality or any conflict of interests concerning the exploitation of foreground with other project partners.

10.5 Karlsruhe Institute of Technology (KIT)

The Institute for Technology Assessment and System Analysis (ITAS) work focuses on environmental, economic, social, political and institutional issues. It is the largest Technology Assessment (TA) institute in Europe, supporting politics, science, business and the general public in future decision making. Important external clients and sponsors in the political area are the European Commission, Federal and State Ministries, and public authorities. In the parliamentary area, ITAS has been operating the Office of Technology Assessment at the German Parliament since 1990. ITAS is also leading a network of European parliamentary TA institutions advising the European Parliament via its Scientific Technology Options Assessment Panel. ITAS is an international leader in the field of RRI research, participating in a range of relevant projects.

ITAS will make the best use of its policy experience and networks to promote the results of the Responsible Industry project and also further adapt it to the needs

of the policy making community. Already, as a leader of the Stakeholder Dialogue workpackage, ITAS has gathered an influential group of government advisors to discuss the project's RRI Implementation Plan and refine it in terms of policy needs. This effort will continue with the second Stakeholder Dialogue process in the project but also after the end of the project within the same discussion group.

Project deliverables such as the Implementation Plan, the RRI International Comparisons, the RRI tool and product matrix as well as the country reports on testing and evaluation, are of particular interest to ITAS's networks. They fill in gaps in the knowledge and application of RRI in industrial innovation and ensure an interested audience in the policy world. The Parliamentary Offices of TA, that form the closest policy network of ITAS, will be the first dissemination outlet with direct input in policy making in their respective national Parliaments. At the same time, local businesses (that have also taken part in the Stakeholder Dialogue) will be interested in the recommendations of our project for the implementation of RRI as it has been tried in and evaluated in the project case studies. These both dissemination and application routes will be taken by ITAS in regards to the Responsible Industry project.

10.6 Teknologian Tutkimuskeskus VTT (VTT)

Technical Research Centre of Finland (VTT ltd) is a globally networked multi-technological contract research organization, the largest of its kind in the Northern Europe and the third largest in Europe. VTT has staff of about 2600 experts (2015) with the technological focus areas in applied materials, bio and chemistry processes, energy, ICT, industrial systems management, microtechnologies and electronics, and technology in the community. VTT has a turnover of 316 M€ (31 December 2013). VTT has over 70 years' experience supporting clients' growth with top-level research and science-based results.

VTT develops new smart technologies, profitable solutions and innovation services. VTT cooperates with their customers to produce technology for business and build success and well-being for the benefit of society. VTT ensures efficient utilisation of science and technology with the aid of broad international cooperation and networking. VTT is part of Finland's innovation system and operates under the mandate of the Ministry of Employment and the Economy. VTT reports corporate responsibility according to GRI G3 guidelines. VTT is a significant actor and a recognized partner in global research and innovation communities, having strategic cooperation agreements with top-rated international universities and research institutes. VTT's customers can have access to new knowledge with VTT through these networks. Furthermore, VTT can help public sector understand what the innovation needs of various industrial sectors are, in Finland and more widely across EU. VTT also participates in the Global Research Alliance, aiming at promoting sustainable development in developing countries.

VTT plans to exploit the Responsible-Industry project results both internally in its own work and on specific research areas for diversified customers and

collaborators. VTT's role as a multidisciplinary research institute will be also strengthened through this project. VTT's Human-Driven Design and System Dynamics team has a long history in the field of general stakeholder involvement to the development of products and service systems, and on the other hand specific focus on ageing and technology research team. In the Responsible-Industry project that knowledge will be still strengthen especially in the broader field of RRI. The gained knowledge will benefit future national and international research work and customer consultations in both private and public sector. VTT will transfer the results into the various communities (e.g. International Society for Gerontechnology, EIP AHA) through its national and European networks on both operational and technological level. As a member of EARTO's Eurotech Security Research Group, VTT assists Finnish authorities in European standardisation work. VTT will form new understanding and contacts to develop Responsible Research and Innovation approach to Active and Healthy Ageing context for its existing customers and will be able to extend its customer portfolio with new offers. The goal is to develop new solutions and processes to support Finnish and European business as well as enhance quality of service both to the citizens and service providers.

10.7 University of Central Lancashire, Cyprus (UCLan CY)

The University of Central Lancashire—Cyprus (UCLan Cyprus) is one of the newest universities in Europe, offering higher education degrees in sciences, business, and law. UCLan Cyprus is closely affiliated with UCLan, which was founded in 1828 and has been recognised as a world class institution through its inclusion in the QS World Rankings and its global partnership network, which extends to 125 countries.

The results of RRI are of high importance to the university, and they are being exploited at both the Cyprus and the UK campuses in teaching and research related activities. Examples of exploitation include the following:

A book was co-authored by Kostas Iatridis and Doris Schroeder titled "Responsible Research and Innovation in Industry - The Case for Corporate Responsibility Tools" published by Springer in 2015. The book is the only one in its area, and discusses how corporate responsibility tools could contribute to realizing responsible research and innovation. The book builds on work undertaken in the Responsible Industry project by its authors.

UCLan staff work in collaboration with RRI partners on analysing data collected in the context of the project—such as the transcribed interviews of stakeholders. The results of the analysis will be published in relevant conference proceedings and/or journals.

A B.Sc. project topic was offered to computing undergraduate students to specialize in their final year. The topic is a study of the ethical implications of collecting what seems to be unjustified context information—such as location— from smartphone users. The project utilizes guidelines and advice from RRI to develop its research plan.

Specialized modules at UCLan Cyprus have been enhanced with content—such as case studies and results—from the project. For instance, CO1801 Practitioner Skills studies various aspects of the computing professionals practice, including ethical considerations relating to technology and its application in different contexts.

UCLan Cyprus is also working on follow-up projects that aim to succeed RRI and continue to build and extend the results of the project. For example, it participates in a submitted project bid that aims to open the R&I process to all stakeholders and societal actors. The knowledge generated in RRI is significant for the success of this and other similar proposals and future projects.

10.8 University of Southern Denmark (SDU)

The University of Southern Denmark (SDU), founded in 1966, has five faculties with more than 27,000 students, almost 20% of whom are from abroad, and more than 4,000 employees distributed across its main campus in Odense and regional campuses in Slagelse, Kolding, Esbjerg and Sønderborg. SDU is rated one of the top fifty young universities in the world and offers around 115 different study programmes in the fields of the humanities, social sciences, natural sciences, health sciences and engineering, graduates of the University of Southern Denmark are now members of virtually every profession in the international community.

The Mads Clausen Institute (MCI) offers state-of-the-art knowledge and access to direct collaborations with students, PhDs, lecturers, and researchers. The Mads Clausen Institute's overall focus is to develop 21st century mechatronics, which spans the whole range from nano- and microtechnology over power electronics and nonlinear components to innovation, design and business issues. Its research and development as well as many educational activities are carried out in close relationship with companies and their cluster organisations in Southern Denmark and Northern Germany.

Since Responsible-Industry project has been starting in MCI at SDU, the project has provided significant social and ethical inputs for staff and students; it is vital that all of staff and students alike now know about Responsible Research and Innovation (RRI). In fact, from 2014 MCI embarked on the development of an overall strategy capable of embracing the university as a whole. The result is the present Strategy Statement with regard to RRI, which aims to map out a course and an action plan for the university between now and 2020.

SDU leads work package 4 (WP4: Analysis, Reflection and Recommendations) and contributes to other relevant WPs. SDU will thereby be responsible for the construction of the academic support, review and reflection of the practical implementation activities. WP4 is furthermore responsible for generalising the findings beyond the immediate findings and technologies in the implementation project. This provides the basis for the recommendations for various stakeholders and thus is key to the legacy of the project.

In Responsible-Industry, MCI has been active in the Exemplar Implementation Plan on RRI in Industry, a systematic review of industry relevant RRI discourses, case study descriptions, pilot project reports, country reports on testing and evaluation, the definition of the case study protocol, models of RRI in Industry and in international comparisons of RRI.

MCI as an interdisciplinary institution, which fosters cutting-edge research at the borderlines of different areas. As the research and teaching focus of MCI has Technology and Innovation Management, this provides an excellent basis to discuss Responsible Research in Innovation. From the winter semester of 2015 MCI offers a course for master level students in which the social context of technology and science is taught. Moreover, as part of MCI seminar sessions, two lectures have been held at institute; the first lecture was titled RRI- theories and practices and the second one titled RRI, Technology Assessment and Industry.

With regard to the exploitation of knowledge on RRI gained in this project through publications, two papers have been published so far and presented in the ETHICOMP conference in 2015:

- Yaghmaei, E. (2015). Addressing Responsible Research and Innovation to Industry – Introduction of a Conceptual Framework. SIGCAS Computers and Society, ACM Digital Library. 294-300.
- Yaghmaei, E.; Brem, A. (2015). Case Study Research to Reflect Societal and Ethical Issues. SIGCAS Computers and Society, ACM Digital Library. 306-312.

10.9 University of Twente (UT)

The University of Twente is a modern, entrepreneurial university, leading in the area of new technologies and a catalyst for change, innovation and progress in society. The university has a particular emphasis on new and emerging technologies including: ICT, biotechnology and nanotechnology. Through its motto "High Tech Human Touch", the university explicitly commits itself to responsible research and innovation. The department of philosophy is central to this endeavour, and consists exclusively of staff working on the societal, cultural and anthropological impact of technology – both through research and through service teaching in all bachelor programs. The university also hosts the largest innovation campus in the Netherlands as well as a comprehensive support system for start-ups, yielding more than 800 spin-off companies to emerge from the University of Twente in the past two decades.

On this background, the findings coming out of Responsible-Industry will be very relevant for educating engineers in responsible innovation, in particular given our explicit focus on how to reconcile RRI pillars with private industries. By teaching a minimum of 10 ECTS in engineering ethics and related courses in all our 20 bachelor programs, the findings in this project will be directly applied in education. With several ERC research projects focusing on RRI issues in our department, the topic has also become one of our main research areas, and there are already several areas in which the projects produce synergy effects. To name

but one example, the SATORI project (*Stakeholders Acting Together On the ethical impact assessment of Research and Innovation*, led by Prof. Dr. Philip Brey) investigates tools for technology assessment, which is of direct relevance to our main emphasis on finding efficient and pragmatic ways to implement RRI in private industry – and vice versa. The findings will also form the basis for new research projects in the same vein. Moreover, the various forms of empirical research carried out (key interviews, focus groups, stakeholder meetings etc.) have already forged collaborations between the department and regional actors in the areas of ICT for healthy ageing, especially from university spin-off companies.

10.10   Overview over the Individual Plans

A global overview over the individual exploitation plans, which are strongly related to the type of the partner institution, is proviced in Table 1.

Table 1: Global overview over the individual exploitation strategies of *Responsible-Industry*.

Partner	Teaching	Further Research	Publications	Consultancy	Community/ Networking
AIRI	�	▦	▦		▦
DMU		▦	▦	▦	▦
EN	▦	▦	▦		▦
TECNALIA		▦	▦	▦	▦
KIT		▦	▦	▦	▦
VTT		▦	▦	▦	▦
UCLan CY		▦	▦	▦	▦
SDU	▦	▦	▦		▦
UT	▦	▦	▦		▦

11 Exploitation Plan: Tasks, Partners, Timing

Table 2: Detailed Exploitation Plan of *Responsible-Industry*: description of the work, partners in charge and planned timescale: S=short term during the lifetime of the project; M=mid term, i.e. 1-2 years after the end of the project; L: long term, i.e. later than two years after the end of the project; IP=Implementation Plan; WP=work package; *=March 2016; **=winter 2015/2016.

Description	Partners	Timing
Academic publications exploiting the foreground	All	S-M
Case studies of the IP in selected enterprices (WP3)	SDU, TECNALIA, VTT	S
Collaboration with other RRI & SwafS projects	All	S
Community development in UK	DMU	S-M
Consultancy and training of consultancies, companies and publicly and privately funded researchers and innovators on how to apply and to adopt the IP (opportunistic approach)	All	S-L
Contact new consortia of H2020-ISSI-2014-2015	TECNALIA	S*
Discussion and distribution of findings in industry networks	AIRI, EN, TECNALIA, VTT	S
Informative video production	EN (lead), All	S
Liaise with KIC *InnoLife*	All	S
Promote and adopt inclusion of IP and other project results through AIRI's network (mainly in Italy) in R&I in an industrial level	AIRI	S-L
Promote IP and other results among policy making community and advisors	ITAS	S
Teaching and education of students	DMU, UCLan CY, SDU, UT	S-L
Test IP in real industrial cases and industrial networks (WP2)	KIT, TECNALIA, UT, AIRI, VTT	S
Webinar for EIP AHA members	TECNALIA (lead), All	S**
Explore standardisation possibilities of RRI in future projects	All	M-L
Further research on national and EU level	All	M-L
Contribute to industry publications and trade journals	All	M
Development of a shared repository to capture the variety of work undertaken on RRI to which RI work could be contributed	All	L