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REACH
2020

RESPONSIVE ENGAGEMENT OF THE ELDERLY
PROMOTING ACTIVITY AND CUSTOMIZED HEALTHCARE

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Deliverable D42-a: **Detailed dissemination plan - presentation of a detailed dissemination plan that coordinates and schedules dissemination activities planned by individual partners (associated with task T 9.8).**

Abstract: REACH's communication and dissemination strategy aims at the consistent communication of REACH's unique selling propositions and the project's outcomes towards the general public, end-users, key stakeholders, public authorities, technology developers and the scientific community. Key features of the strategy are the tailoring of means, messages and languages to specific stakeholders, the stimulation of stakeholders towards change and action, the combinational of emotional and rational elements, the explicit addressing of fears related to ethics and security/privacy, and the stressing of REACH's systematic development procedure as a quality-ensuring feature. In this deliverable report, the strategy is outlined in detail and translated into specific dissemination/communication elements, a Gantt chart schedule, and detailed plans. Based on progress in interlinked tasks and work packages (e.g. system architecture, stakeholder analysis, IP and business strategy, etc.), the communication/dissemination strategy and plan will be realigned and updated on a periodic basis throughout the project. The consortium members will utilize this deliverable report when performing dissemination/communication activities and use the specified guidelines, ready-made elements and plans provided.

Date	Activity	Status
21.05.2016	Deliverable strategy and structure draft	Completed
05.06.2016	Deliverable strategy and structure ready	Completed
25.06.2016	Input of participants/partners ready	Completed
30.06.2016	Input integrated and formalized	Completed
18.07.2016	Draft of report ready	Completed
28.07.2016	Review completed	Completed
30.07.2016	Submission to EU	Completed

Table of Contents

Key expressions

Advisory Board (AB): experienced and well-connected experts identified in the DoA that consult the consortium and serve as high level stakeholders.

Audience: specific persons/stakeholders that are the target of communication/ dissemination activities.

Communication channel: channel used to convey the message and reach the audience (e.g. type of media).

Communication/dissemination elements: concrete measures used to communicate about REACH and its outcomes.

Communication: specific behavior and techniques used to create awareness, understanding and motivation for adoption of a project / product / service, mainly targeting the general and non-scientific public. Communication measures are also used to address stakeholders and foster economic exploitation of project outcomes.

Consortium Agreement (CA): contract between the Consortium members.

Description of the Action (DoA): the actual version of the project description/proposal that is part of the Grant Agreement.

Appendix A: Dissemination and Communication Gantt Chart: translation of concrete communication/ dissemination means into time and resource schedules.

Dissemination phases (DP): in REACH between 4 dissemination phases is distinguished and communication/dissemination means and languages are adjusted accordingly.

Dissemination: specific behavior and techniques used to transmit knowledge to a specific knowledge field, and to advance technological development, without direct feedback from the audience, mainly targeting qualified scientific or research audience.

Elderly citizen: REACH target users, including healthy people, people in need of care and patients.

Emotional appeal: focuses on the customer's feelings and/or psychological needs and emphasizes the ability of the product to bring emotional satisfaction.

End-user: elderly citizen that is supposed to benefit from reach services and products.

Ethics Panel (EP): deals with protocols related to ethics, data management, and testing.

European Commission (EC): agency funding the project and providing the relevant guidelines and regulations.

Exploitation and Dissemination Panel (EDMP): supervises development and updating of the communication and dissemination strategy in the context of an evolution of the business/exploitation strategy throughout the project.

Grant Agreement (GA): contract between the EC and the Consortium.

Health Suit Digital Platform (HSDP): Philips ICT-solution to combine and provide health care services.

Healthy Life Years (HLYs): amount of time spent in a good health condition.

Information and Communications Technologies (ICTs): is an umbrella term which includes any telecommunication device or application, as well as services, products or applications associated with them.

Intellectual Property (IP): outcomes developed within the project result in IP that can be used for exploitation. The development of an IP strategy is part of a specific work task and closely linked to the communication and dissemination strategy.

Language: specific language used to get in contact with the audience/stakeholder.

Long-Term Care (LTC): care received over longer period of time in particular in institutions such as nursing homes and hospitals.

Marketing: activity aiming at aligning communication/dissemination activities and planned/ongoing developments and works carried out in the project.

Means: concrete communication element.

Message: core content conveyed by a communication/dissemination activity to create awareness, understanding, and/or change.

Partner abbreviations:

- Research partners: Technical University of Munich (TUM), Danish Technical University (DTU), TU Eindhoven (Tu/e), École Polytechnique Fédérale of Lausanne (EPFL), University of Kopenhagen, Fraunhofer IAIS (Fraunhofer).

- **Industry Partners:** Biozoon, Philips, Sturrm, Smart Cardia (SC), Alreh Medical (AM), Arjo Huntleigh (Arjo), DIN.

- **Application partners:** Lyngby Taerbeken Kommune (Lyngby); Schön Klinik, Bad Aibling (SK); Geneva Hospital (HUG); Zuidzorg (ZZ).

Personalised Interior Intelligent Units (PI²Us): furniture-like elements, which integrate the whole specter of REACH functionalities (ambient sensing, motivation and intervention modules, etc.) in a seamless way, ensuring that the technology operates effectively and imperceptibly in the background.

Product Service System (PSS): REACH aims at integrating technical solutions with services to PSSs. Individual PSSs may be provided by stakeholders within and outside the consortium.

Projectplace: project-internal communication platform.

Rational appeal: targets the customer's functional needs and highlights the utility of the advertised product into solving the needs.

Stakeholder: individuals / organizations that can affect or be affected by a project.

Unique selling proposition: core features that distinguish REACH from other projects and make it appealing as valuable solution.

Use case: The four solution operators, which are in the context of T1.1 and this report called use cases since they reflect concrete application scenarios.

Work package (WP): a work packages is a set of work tasks unified under one core theme.

Work task: a work task is a specific task carried out by several partners.

List of tables

List of figures

1 Background and summary of tasks and activities related toT9.8/D42(a-d)

In the REACH project a sensing-monitoring-intervention system will be developed that can be placed in an unobtrusive manner in various care settings and living environments of elderly citizens. The system will be able to (1) use a set of sensors to detect selected vital signs, behavioral/care patterns, and health states, (2) predict – as early as possible - future health states, risks or events (loss of function, frailty, stroke, etc.) and (3) provide and coordinate proactively a set of customized services and products. Early intervention by REACH should allow that the time spent in a desirable health state (baseline health), and Healthy Life Years (HLYs) are increased and that the time spent in Long-Term Care (LTC) facilities is reduced. In that context, it will be shown that REACH can improve and speed up, on the one hand, the physical and cognitive rehabilitation of elderly citizens in deteriorated health states or suffering from a sudden incident, for example, by speeding up their transfer from acute care to rehabilitation to home care as well as their health state improvement within one of these institutions. On the other hand, it will be demonstrated that REACH can be utilized in home/ home care contexts to keep people as long as possible in a desired base-line health state, mitigate the risk of deterioration, and finally slow down or prevent deterioration.

In order to achieve the set out goals and impacts, REACH is composed of 9 WPs. WP1 will in the first 14 project months (Milestone 2) detail the REACH concept and system design before in WPs 2-5, the individual subsystems are developed and subsequent system integration and testing/demonstration are conducted (WP6). WPs 7, 8 and 9 are concerned with cross sectional topics such as usability, ethics, safety, security, business models and project management. WP9 (Project Management), to which T9.8 (Dissemination) belongs, will address and formulate an efficient coordination model of all the Consortium members, the management of the technology and innovation, IP rights and exploitation of the project results, the internal risk management, as well as the dissemination activities.

T9.8 develops and continuously throughout the project adjusts/realigns a REACH specific communication and dissemination strategy (and plan). Aim of this strategy is to foster the implementation of the various impacts (on health care filed, society, technology, individuals, etc.) and the exploitation plan (economic exploitation, scientific exploitation, etc.). Therefore, REACH's dissemination and communication strategy in this task/deliverable is carefully derived from REACH's planned impacts (**Section 2.1** and **Description of the Action (DoA)**), exploitation plan (**Section 2.2**), target groups and stakeholders (**Section 2.3**), addressed ethics and security topics (**Section 2.5**), novel business approaches to be developed (**Section 2.6**), and REACH's IP strategy (**Section 2.7**). Since all these aspects will be detailed and realigned throughout the project (e.g. novel business approaches and ethics/security approaches considerably impact the communication/dissemination approach and will be detailed on a continuous basis in WPs 7 and 8). Moreover, REACH's communication and dissemination strategy will undergo a continuous updating and realignment. This continuous updating and realignment will be outlined and specified in the updates of this report, as follows:

1. **D42-a (M6) Detailed communication/dissemination plan (Version 1):**
   - Overall strategy
   - Overall plan for the whole project

- Very detailed outline for reporting period 1

2. D42-b (M22) Updated communication/dissemination plan (Version 2):
- Realignment of overall strategy/plan with identified system architecture, business strategy, IP strategy, etc.
- Very detailed outline for reporting period 2

3. D42-c (M39) Updated communication/dissemination plan (Version 3):
- Realignment of overall strategy/plan with detailed system architecture, business strategy, IP strategy, etc.
- Very detailed outline for reporting period 3

4. D42-d (M48) Communication/dissemination plan summary (Version 4):
- Summary of dissemination activities
- Updated strategy for exploitation
- Suggestions for communication/dissemination beyond the projects duration

The following Chapters present the premises, requirements and strategy for an effective dissemination/communication of REACH (**Chapter 2**), which are further translated into specific dissemination/communication elements (**Chapter 3**), detailed and integrated on a 4-year timeline (**Chapter 4**). **Chapter 5** presents a detailed dissemination/communication plan for the first reporting period. **Chapter 6** introduces the template for reporting of dissemination/communication activities performed. **Chapter 7** presents the Exploitation and Dissemination Panel, chaired by Prof. Y. Lu (TU/e). The last part **Chapter 8** provides an overview of the whole report.

2 Dissemination and Communication Strategy

REACH's communication and dissemination strategy aims at the consistent communication of REACH's unique selling propositions and the project's outcomes towards the general public, end-users, key stakeholders, public authorities, technology developers and the scientific community.

<u>Key features of the strategy:</u>

1. A key feature of the strategy is that it carefully distinguishes key stakeholders (which are systematically derived, described, and updated throughout the project from items such as the projects impacts/outcomes and REACH's business and exploitation strategy) and tailors means, messages and languages to them.

2. REACH's communication and dissemination strategy distinguishes in three phases. During the first phase, a general awareness regarding REACH's aims and objectives will be promoted. During phase two and three, once the tangible outcomes of REACH have been created and a general awareness established, a detailed understanding of the results and their benefits will be promoted to potential audiences (key stakeholders). During the last phase, once the awareness and the understanding achieved, a mass motivation to change, action and subsequent REACH's adoption and integration (by key stakeholders) will be stimulated.

3. REACH's communication and dissemination strategy combines emotional (images, videos, graphics, colours, flyers, etc.) and rational communication features (reports about developed technologies and outcomes, user tests, etc.) to address both the audience's/stakeholder's feelings and/or psychological/emotional needs and its functional needs (the utility of the REACH solutions in addressing these functional needs).

4. A recognizable REACH brand identity will be created to clearly communicate the specified message, as well as to ensure that the project is communicated in a consistent and recognizable manner throughout all media and dissemination elements.

5. REACH will specify and detail conceptual and technological aspects related to ethics and data security/privacy in order to address the general public's and specific stakeholder's fears.

6. As REACH will follow a systematic development method based on the so-called "V-Model", which entails a continuous refinement of a project's progress and results based on their constant verification and validation, improves the project's transparency and the project control, as well as guarantees the quality and economic exploitability. The given model will serve as a strong quantifiable guarantee of REACH's quality and exploitability throughout all REACH dissemination/communication activities.

7. REACH's communication and dissemination strategy emphasizes a compatibility of all planned communication/dissemination measures with WP8 ("Innovative services-

oriented business strategies for future market integration") that deals with understanding of the relevant markets, market trends and competitors, creating innovative Product Service System (PSS) concepts, stimulating the collaboration between different stakeholders and setting up network organizations, and ultimately, creating innovative business models. As part of this WP, business and exploitation stagey will be further taken throughout the project's duration, and REACH's communication and dissemination strategy needs is flexible and open for realignment in later project phases.

8. REACH's communication and dissemination strategy is fully in tune with Grant Agreement (GA), Consortium Agreement (CA), the EC's communication and dissemination guidelines, and the ECs reporting templates.

Figure 2-1 shows the seven key areas that influence and determine REACH's communication and dissemination strategy.

Figure 2-1: REACH's Communication and Dissemination strategy is influenced and determined by seven related key areas.

In this chapter, the strategy for dissemination and communication of REACH's key outcomes is outlined in detail, along with introduction and scheduling of a coherent set of activities and measures (to be implemented during the completion of the project) that are derived from this strategy. The first section of this chapter (**Section 2.1**) reviews REACH's objectives, products/services and expected impacts, as well as their relation to envisioned communication and dissemination measures. The second section (**Section 2.2)** presents the plan for exploitation of the REACH's results, and relates it to the envisioned market channels and expected target regions and groups. The third section (**Section 2.3**)

introduces the REACH's relevant stakeholders (derived from **Sections 2.1, 2.3**, and ongoing stakeholder mapping and analysis activities in WP1), as well as their influence upon the project.

Based on the objectives/impacts, exploitation plans, and identified stakeholder groups analysed in previous sections, the fourth section (**Section 2.4**) then details the dissemination and communication strategy (general activities, their audience, message, means and language) in relation to the project goals and phases, stakeholder groups, project sub-systems, geographical contexts, and marketing and exploitation aims. The following sections introduce the relation between REACH's dissemination/communication strategy and (1) REACH's ethics and security for acceptability approach (**Section 2.5**), (2) REACH's business strategy (**Section 2.6**), and (3) REACH's intellectual property (IP) strategy (**Section 2.7**), and how the three concepts will further influence the dissemination/ communication strategy and its realignment during the project's duration. The last section (**Section 2.8**) highlights the adherence of the REACH dissemination/communication strategy to the dissemination/communication guidelines and regulations provided by the GA, the CA, and the Horizon 2020 guidelines.

2.1 Relation between REACH's objectives/impacts and the diss./ comm. strategy

REACH aims at effectively and unobtrusively promoting and prolonging the duration of a healthy life of elderly for as long as possible, while sparing expenses incurred by both the elderly themselves, their family members, as well as social-welfare systems and corresponding health care infrastructure and services. This goal will be obtained through (1) early detection of risks associated with natural ageing and corresponding preventive and interventive measures; (2) implementing state-of-the-art *Information and Communications Technologies* (ICTs) across all technical subsystems, in both the (2a) informational domain: the development of sophisticated *Big Data* analysis and processing capabilities for an enhanced intelligence in risk detection and in the recommendation of equally robust countermeasures; and in the (2b) physical domain: the development of modular *stationary* and *ambulant* platform-based, modular sensor systems, stimulating and engaging *Playware*, Smart Furniture, and *Personalised Interior Intelligent Units* (*PI²Us*). Aside from enabling early detection, such informational and physical ICT subsystems also enable REACH to minimize age-related cognitive impairment, frailty, depression, and the frequency and severity of falls. REACH will demonstrate the added value and positive impact on the European Union, on scientific/technological innovation, on current and prospective elderly, on health care system, as well as on societal/political and economic levels, fostered by the exploitation and dissemination strategy presented in this report (**Table 2-1**).

Table 2-1: General relations between communication/dissemination measures to be developed and REACH's planned impact as per the DoA

General communication / dissemination measures	Impact	Impact category
• Foster collaboration of stakeholders, providers, 3rd parties to provide PSSs and expand REACH functionality via Philip's HSDP • Pilot deployments and deployment in naturalistic use case environment to showcase functionality • Website Stage 1	• Reduction of disability-adjusted life years (DALYs) • Reduced hospitalization rates and times • Security and reduction of risk of independent living • Reduction in health insurance premiums • Reduction in amount of medications necessary to assist wellbeing • Less psychological burden for the relatives.	Benefits for the aging population
• Exploitation/dissemination to municipalities and insurances	• Significant reduction of the amount of LTC admissions	Benefits for Care Systems

• Exploitation/dissemination to specified 8 market channels in order to distribute cost over primary and secondary health care market and diverse payers/investors	• Significant reduction of the amount of doctor's care • Save the EU health care systems 7 billion € per year • Increase productivity of health care organizations and professionals • provide new service and business opportunities	
• Exploitation/dissemination to scientific community in the field of prevention and healthcare (knowledge platform)	• Data-driven, personalized therapies • Patient empowerment • Increase of human capital in society	Benefits for Society
• Exploitation/dissemination to scientific community in the field of ambient sensing, data analytics, recommender systems • Standardization activities • Website Stage 2 / HSDP • Share knowledge and provides consultancy to technological companies who are specialized in designing user interface • Training courses for Data Scientists for Smart Healthcare; • Establish contact to start-up financiers	• Unprecedented capability of sensing large amount of data as basis for prediction of risk and intervention recommendation • Proactive and personalized intervention planning and coordination, 24/7, day and night, continuous adaptation to user • Motivation of users to use activation functionality over longer periods of time, usability, personalization through multi- stakeholder collaboration • Transform built environment rapidly into a service platform for risk detection and intervention • Increased acceptability and usability of ICT-based prevention technology	Impacts on risk detection and intervention

2.2 REACH's preliminary Exploitation Plan

Based on the individual partners' roles, contributions, and exploitation capabilities, an initial version of the exploitation plan has been drafted and its main concepts and business models are described shortly below. This initial business and exploitation strategy will be further developed in the project as part of WP8, and accordingly the dissemination strategy and measures presented in this reports will be updated later on.

The project results will be initially exploited through the solution operator partners such as municipalities (Lyngby), care organizations (ZZ), care homes and rehabilitation facilities (SK), and clinics as well as technological business to consumer/business companies (SC, AM, Biozoon, Arjo), which will increase their competitiveness through offering their clients with more differentiating products and services.

Later on when the REACH outcomes become more mature and the products and services connected to Philip's Health Suit Digital Platform (HSDP) grow in amount, more complex and larger markets as the home health market and silver economy and AAL market can be targeted under the lead of the key integrator Philips. In order to develop the REACH system and its related sub-systems to the market, the consortium has drafted options for exploitation of the results and an accompanying business model. This will be further developed or even altered throughout and after the project. However, this first version has been drafted to substantiate the commercial feasibility of the intent to exploit the REACH system and its related sub-systems and bring the intended value to the individual research partners.

2.2.1 Route-to-market for the REACH's solutions

At the end of the project, a REACH prototype system (REACH smart furniture including sensing, analytics, and intervention functionality and a HSDP compatibility demonstration with a Technology Readiness Level of 5-6 is expected. The time to market is expected to be about 1 to 1½ years. During this post-project phase the Consortium foresees additional technical maturation activities that will be performed on the basis of feedback from testing and validation from extensive field test in the 4

pilot deployments (ZZ, Lyngby, SK, HUG; years 2 and 3) and the naturalistic use case environment (Lyngby;   year 4). After this period, a more mature prototype of the smart furniture elements (PIUs) with physical sensing and intervention   components embedded and fully integrated with Philip's HSDP over which stakeholders and other 3rd party developers   collaboratively provide additional product and services for data-driven prevention is expected to be launched.

The gradual growth of the social interaction through lead users and partners within the consortium network is expected to attract   the interest of a larger number of possible partners and wider groups of end-users. Initially frequent users will be inactive seniors (that are assessed by care professionals of being at risk of suffering a loss of function that might ultimately lead to LTC) and the basic system platform (smart furniture + HSDP) will be provided by   municipalities and/or insurers as financiers which will through REACH reduce LTC admissions and thus save tremendous   amounts of cost. However, gradually, as adoption accelerates, the platform will be recognized by elderly generally willing to   become more active and also by care homes, rehabilitation facilities and clinics which might provide their stationary as well as   released patients with REACH functionality. This ultimately will enable the establishment of more frequent interactions among senior citizens, other citizens and public/private entities, and between private and public sectors and last but not least collaborating   companies that provide services through the HSDP. Accordingly the step by step approach for initial take up, roll-out and   scale up will be based on the l*ean start-up* approach (Ries, 2011) that will be detailed by WP8 regarding "innovative service oriented business   strategies" and be supported regarding implementation and dissemination, IP strategy, and stakeholder and innovation management activities under WP 9).

2.2.2   REACH's target regions

The conclusion of REACH product maturation will enable full market access in (1) Europe and later on in (2) North America and   Canada (in which Philips has already a strong foothold in particular in the medical home care market) and (3) China. China due to its one child policy, its rapidly increasing amount of elderly (ageing society challenges are considered to become more   challenging than that in Europe) and its rapid economic development can be seen as one of the largest market for products for   elderly. The REACH consortium is well prepared to extend its exploitation and communication/dissemination stagey to Asia with 2 key consortium members with Chinese background (Prof. P. Pu/EPFL, Prof. Y. Lu/Tu/e),   several   consortium members engaged in active collaboration with Chinese companies and universities (e.g., TUM, Prof.   Bock being a director in the Asian Habitat Society), and with an Advisory Board member from China that will consult specifically   regarding the access to the Chinese market. These are thus the markets (target regions) from which the Consortium expects to derive its sales in particular through the global network of its partners:

1. Europe,
2. North America,
3. Canada,
4. Asia

2.2.3 REACH's market channels

As REACH will trade and provide a large variety of functions, products and services the range of potential, target customers will be diverse:

1. Insurances and municipalities (that profit from reduced LTC admissions and cost)
2. Care/home care providers, private or public (that through REACH can improve quality, processes and productivity)
3. 3rd party PSSs developers (that can create value on the basis of the HSDP)
4. End-users directly (elderly citizens and their relatives, out-of-own-pocket payments for additional services /secondary health market).

As the target customers are diverse, market introduction will be based on a 3-stage approach addressing various market channels to reach the specified target customers:

1. Stage 1 (first year) – Phase 1 market channels (furnishing and renovation, big data wearables, eHealth, fitness) benefit from the REACH's existing strong end-user solution operators and technology SMEs network. Due to the constant end-user involvement during product requirement definition, testing and validation, wide product awareness on these markets is expected by the time of conclusion of the project. Additionally involvement of the existing distributor's network during the development process and accurate dissemination strategy will ensure customer knowledge prior to release and smooth product deployment in the specified target regions.

2. Phase 2 market channels (e.g., prevention relevant rehabilitation equipment, rehabilitation services, etc.) will be approached during Stage 2 (from the first half of the second year after market introduction), helped by the privileged sales and distribution network of ArjoHuntleigh which has a strong network regarding this market channels.

3. Subsequently, it will be natural for the Consortium to provide the ultimate target market channels of (1) home health market and (2) silver economy and AAL market in Stage 3 (from the second half of year 2 after market introduction). Regarding this markets in particular, Philips currently provides ICT solutions (for e.g., in healthcare, consumer lifestyle, and lighting) to more than a hundred countries, and to service this amount of different markets the company has an extensive distributor network in place, in countries where the internal sales force are not able to cover. These channels will also be used to generate additional customer leads and additional customer contacts world-wide, as well as possibly to handle front-line engineering efforts (pre- and post-sales support). Production is expected to start incrementally, with the Consortium being capable of supplying systems themselves for *at least the first 5 years post-project according to the projected market shares*.
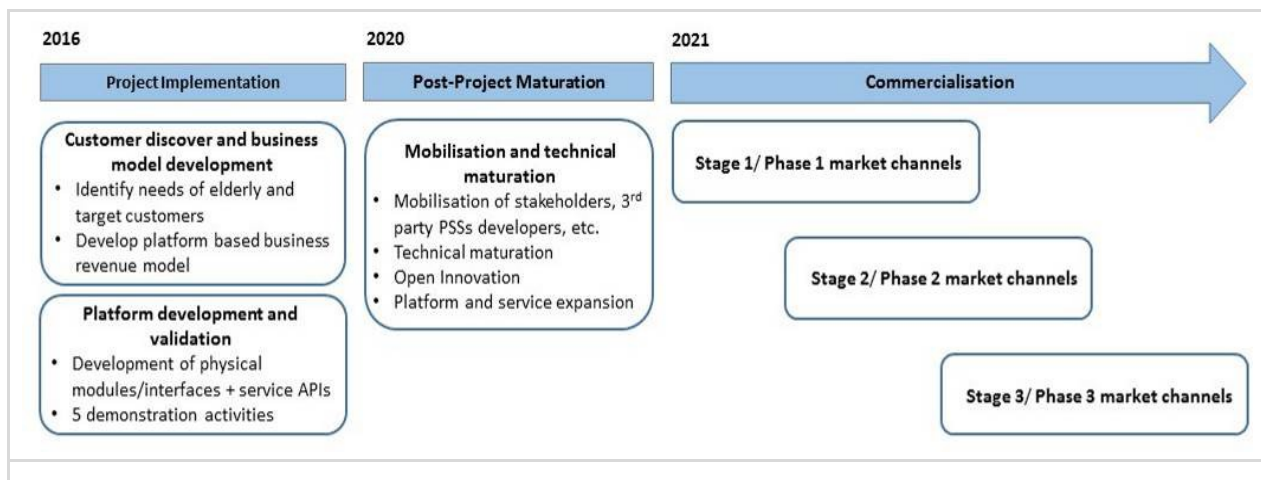
Figure 2-2: REACH's Project Implementation to Commercialization projected timeline

2.3 Target Groups and Stakeholders: REACH's Audience (WP1 and T9.7)

The REACH outcomes target several customer groups – insurance companies and municipalities, care organizations and hospitals, 3rd party PSS developers, as well as the end-users. The target end-users are 65+ frail elderly, with functional and/or cognitive impairment defined by adequate scales (see also **T1.1/D1**), who currently reside at their homes, in home care facilities (e.g. ZZ, Lyngby), in care institutions or in hospital/ rehabilitation centers (e.g. HUG, SK), as well as their relatives and friends. Other parties pertinent to REACH are the scientific community and industry and companies (directly involved in REACH and/or those who can benefit from generated knowledge) (see **Figure 2-3**).

The identification of requirements and attitudes of relevant stakeholders will be a major outcome of WP1 ("Analysis of use-case/stakeholder contexts and development of use-case adapted REACH concepts"), and will continue throughout the whole project. Thus, the analysis of stakeholders will be updated continuously, as well as its impact upon the changes in the dissemination/communication strategy will be assessed on a regular basis. WP1 will be completed by the beginning of 2017, and will yield a detailed definition of stakeholders, their requirements and their feelings, etc. At the given time, the impact of stakeholders analysis upon the dissemination/communication strategy will be re-assessed and updated accordingly. T9.7 ("Stakeholder Management"), will continue, beyond the completion of WP1 and throughout the entire project, the stakeholder analysis, as well as the management of their feedback. The dissemination/communication strategy will be therefore updated accordingly, on a regular basis.

2.3.1 Preliminary target user groups and stakeholders identified in T1.1
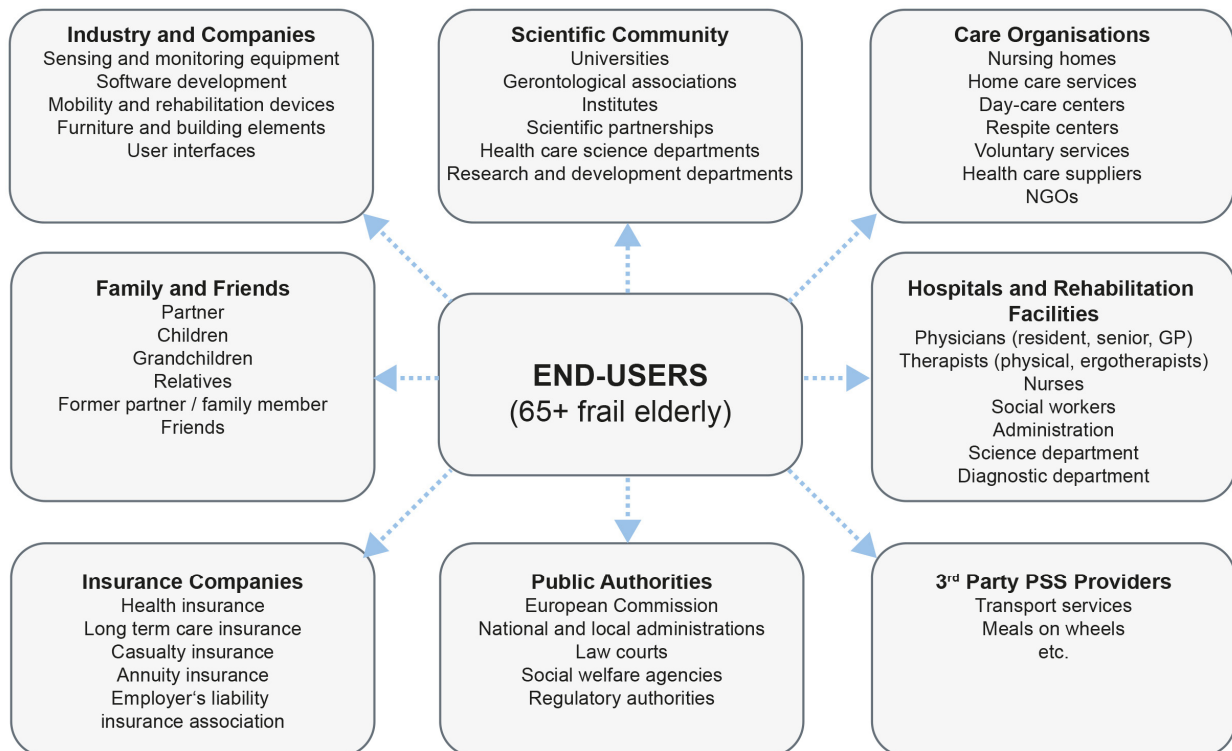
Figure 2-3: REACH preliminary target groups and stakeholders

2.3.2 Preliminary stakeholder influence matrix

In order to prioritize the stakeholders in their order of importance, a power vs. interest matrix was used (see **Figure 2-4**). Identifying where the stakeholders stay on matrix offers the possibility of engaging with them accordingly. The highest efforts should be directed towards the key players, while still meeting the needs of most influential entities and showing consideration towards the interested parties.

The requirements, needs and feelings of the relevant stakeholders will be continuously assessed throughout the project, as a part of WP1 and T9.7, as mentioned above. The dissemination/communication strategy will be therefore updated accordingly, on a regular basis. According to the data regarding the relevant stakeholders, audience specific messages, means and languages will be identified and used.
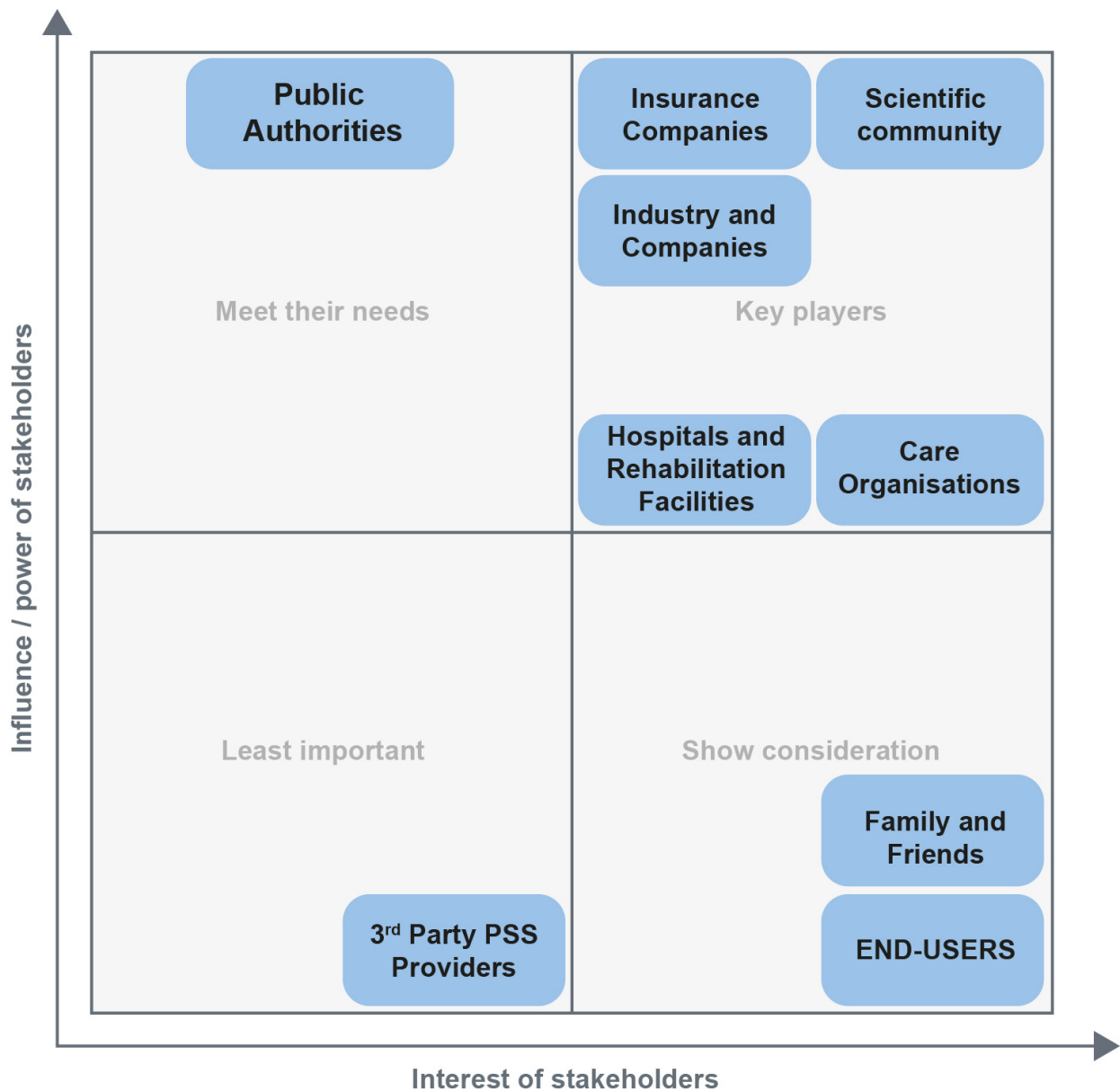
Figure 2-4: Preliminary stakeholder influence matrix

2.3.3   REACH's audience

REACH will ensure a high visibility of its objectives, progress and results through various communication activities (see **Section 2.4**) targeting several audience segments: scientific community (universities, R&D departments etc.), policy makers and potential investors (public authorities, insurance companies), relevant industrial sectors and companies, health care sector (care organisations, hospitals etc.), target users and their family and friends, general public. A distinct strategy will be designed for each specific audience, using targeted messages, means and language.

2.4   Dissemination and Communication: Strategy, Messages, Means, and Languages

The dissemination and communication strategy ensures that the audience specified in **Section 2.3.3** can be reached accordingly and convinced. The communication messages, means and languages were defined according to project phases (**Table 2-2**), stakeholder

groups (**Table 2-3**), sub-systems (**Table 2-4**) and geographical contexts (**Table 2-5**), in order to ensure a high visibility of the project and help maximize the impact of results, during the whole duration of the project, by involving all the stakeholders and addressing them accordingly.

2.4.1 Communication messages, means, and languages in different project phases

The dissemination and communication activities will be performed as a continuous process with a timeline right from the beginning of the project. During every project phase (see **Table 2-2**), a phase specific audience will be addressed, with a targeted message, through appropriate means and languages. In accordance with **Section 2.4.5**, during the first phase, a general <u>awareness</u> regarding REACH's aims and objectives will be promoted. During phase two and three, once the tangible outcomes of REACH have been created and a general awareness established, a detailed <u>understanding</u> of the results and their benefits will be promoted to potential audiences. During the last phase, once the awareness and the understanding are achieved, a mass <u>motivation to change, action and subsequent REACH's adoption and integration</u> will be stimulated.

Table 2-2: Communication messages, means, and languages in different project phases

Phase	Audience / stakeholders	Message	Means	Language
Phase 1: concept phase (year 1) "Create Awareness"	• End-users (elderly) • General public • Scientific community • Industry and companies • Public authorities	Inform the audience about the existing ICT technologies and possibilities, and the further intentions and developments.	• Personal conversations • Early testing • Conferences, symposia and workshops • Website updates • Project flyers, newsletters • Multi-stakeholders workshops.	With <u>end-users, their family and friends and care facilities and hospitals</u>: simple conversations / texts in local official language(s) and dialects.
Phase 2: technological development (year 2) "Create Understanding"	• Scientific community • Industry and companies	Communication and demonstration of technological advancements and their innovation and market potential.	• Conferences, symposia and workshops • Website updates • Training activities • Mainstream media/press (public media, twitter, newspapers etc.) • Project flyers, newsletters	With <u>scientific community</u>: scientific / technical language, mainly in English, or local official language(s).
Phase 3: testing and optimisation (year 3) "Create Understanding"	• End-users (elderly) • Family and friends • Hospital and rehabilitation facilities • Care organisations • Insurance companies	Demonstration of technological advancements and their outcomes, involving end-users and their caregivers, in various realistic settings: structured (e.g. labs) and naturalistic (ZZ, Lyngby, SK, HUG).	• Personal conversations • Conferences, symposia and workshops • Pilot deployments in realistic use cases • Mainstream media/press (public media, twitter, newspapers etc.) • Scientific media (scientific papers with open access, articles in professional magazines and books) • Website updates • Short movies • Trade fairs • Project flyers, newsletters and webinars.	With <u>public authorities, insurance companies and service providers</u>: formal language, English or local official language(s). <u>With industry and companies</u>: scientific / technical language, English or local official language(s).-
Phase 4: demonstration and business models (year 4) "Motivate for change/action"	• Public authorities • Insurance companies • Care organisations • Service providers • Industry and companies • General public	Present the advantages and market possibilities of REACH to potential investors, care institutions, service providers, private entities and overall general public.	• Personal sales conversations • Scientific media (scientific papers with open access, articles in professional magazines and books) • Trade fairs • Website updates • Workshops • Standardization activities	

| | | | • Establish connections with start-ups
• Mainstream media / press (public media, twitter, newspapers etc.)
• Short movies
• Patents and registered trademarks
• Project flyers, newsletters and webinars. | |

2.4.2 Communication messages, means, and languages for different stakeholder groups

The consortium will raise awareness and create understanding of the project and its results, as well as motivate to change and action, by providing targeted information to audiences belonging to a wide range of stakeholders (see **Table 2-3**), in an audience specific manner and engaging in one- and two-way exchange. Through various means and languages, every effort will be made to publish information about the goals of the project, ongoing activities, progress, results and the potential benefits and opportunities enabled by the outcomes of REACH. In accordance with **Section 2.4.5**, stakeholders will be classified regarding their pertinence to the project. The less relevant stakeholders will fall under the "raise awareness" communication means and messages, while the key players will be referred to the "create understanding" and "motivate to change and action" communication strategy. Partners will take appropriate measures to engage with the general public and the media about the project and to highlight the financial support offered by the European Union.

Table 2-3: Communication messages, means, and languages for different stakeholder groups

Stakeholder category	Audience/ stakeholders	Message	Means	Language
Researchers	• Universities • Gerontological associations • Institutes • Scientific partnerships • Health care science departments • Research and development departments	Promote and share the REACH scientific research results with the scientific community.	• Scientific media (scientific papers with open access, articles in professional magazines and books) • Conferences, symposia and workshops • Pilot deployments in realistic use cases • Website updates • Project flyers, newsletters.	Scientific / technical language, mainly in English, or local official language(s).
Technology providers	• Sensing and monitoring equipment • Software development • Mobility and rehabilitation devices • Furniture and building elements • User interfaces • PSS	Share knowledge, provide consultancy and create innovation opportunities.	• Personal conversations • Pilot deployments in realistic use cases • Multi-stakeholders workshops • Website updates • Trade fairs • Short movies • Project flyers, newsletters and webinars • Standardization activities • Patents and registered trademarks.	Scientific / technical language, English or local official language(s).
PSS providers	• Transport services • Meals on wheels • Etc.	Share knowledge, stimulate, attract and offer collaboration opportunities to further stakeholders and 3rd parties for developing tailored PSSs.	• Personal conversations • Multi-stakeholders workshops • Trade fairs • Standardization activities • Establish connections with start-ups • Mainstream media / press (public media, twitter, newspapers etc.) • Project flyers, newsletters.	Formal language, English or local official language(s).
Solution operators Home Care Care Homes Rehab	• Nursing homes • Home care services • Day-care centres • Respite centres • Voluntary services	Demonstrate the advantages, expected improvements and reduced expenditures associated with upgrading and refurbishing of	• Personal conversations • Pilot deployments in realistic use cases • Multi-stakeholders workshops • Website updates • Short movies	Simple conversations / texts in local official

Clinics	• Health care suppliers • NGOs • Administration • Diagnostic departments	homes, care homes, rehabilitation facilities and clinics.	• Standardization activities • Mainstream media / press (public media, twitter, newspapers etc.) • Project flyers, newsletters.	language(s) and dialects.
Care professionals	• Physicians • Therapists • Nurses • Social workers	Communicate the REACH progress, results and corresponding advantages to care professionals, raise awareness, increase the literacy regarding ICT based solutions, involve them into co-creation activities, as well as train them into using and interacting with REACH advanced technologies.	• Personal conversations • Pilot deployments in realistic use cases • Multi-stakeholders workshops • Website updates • Short movies • Mainstream media / press (public media, twitter, newspapers etc.) • Project flyers, newsletters.	Simple conversations / texts in local official language(s) and dialects.
Relatives and friends	• Partner • Children • Grandchildren • Relatives • Former partner / family members • Friends	Communicate the REACH progress and results, raise awareness, increase the literacy regarding ICT based solutions of the general public, as well as to involve them into co-creation activities.	• Personal conversations • Pilot deployments in realistic use cases • Website updates • Short movies • Mainstream media / press (public media, twitter, newspapers etc.) • Project flyers, newsletters.	Simple conversations / texts in local official language(s) and dialects.
End-users (elderly)	• 65+ frail elderly	Test and optimize the REACH progress and results involving the end-users, as well as raise awareness and increase the literacy regarding ICT based solutions and their benefits.	• Personal conversations • Pilot deployments in realistic use cases • Multi-stakeholders workshops • Short movies • Project flyers, newsletters and webinars.	Simple conversations / texts in local official language(s) and dialects.
Insurances	• Health insurance • Long term care insurance • Casualty insurance • Annuity insurance • Employer's liability insurance association	Demonstrate the advantages, expected improvements and reduced expenditures associated with deployment of REACH advanced technologies and their implications on insurance models. Establish contact to start-up financiers.	• Pilot deployments in realistic use cases • Website updates • Project flyers, newsletters and webinars • Short movies • Mainstream media / press (public media, twitter, newspapers etc.).	Formal language, English or local official language(s).
Public bodies/ governments	• European Commission • National and local administrations • Law courts • Social welfare agencies • Regulatory authorities	Demonstrate the advantages, expected improvements and reduced expenditures associated with deployment of REACH advanced technologies and their implications on health care related policies and regulations.	• Pilot deployments in realistic use cases • Trade fairs • Website updates • Project flyers, newsletters and webinars • Short movies • Mainstream media / press (public media, twitter, newspapers etc.) • Standardization activities.	Formal language, English or local official language(s).

2.4.3   *Communication messages, means, and languages related to different sub-systems*

Every sub-system of REACH will be individually communicated and showcased to pertinent audience, through diverse dissemination activities, in order to establish an overall awareness and stimulate one- and two-way knowledge exchange, as specifically presented by the table (**Table 2-4**) below.

Table 2-4: Summarization of REACH product categories and related exploitation and communication strategies

No.	Key product/service of REACH	Exploitation channel /Strategy	Dissemination strategy
1	**Plug-&-play (easy to deploy) sensor systems for activity detection:** • Stationary systems (ambient integrated) • Ambulant systems (wearable) • Backward-compatible & cross-platform Application Program Interfaces (APIs) for items 1 & 2 • Methods/consulting for: ○ ambient integration ○ security privacy ○ playfulness/usability	• The wearable device for vital signs monitoring and emotion detection can be commercialized and marketed through the wearables market • The methods for emotion detection can be licensed to other players, such as smart watch manufacturers as well. • Starting from a small trial in different use-cases and gradually introduce to the market. • Ambient sensors modules can be marketed to building, smart home and furnishing industry	Personalization possibilities can be implemented in marketing and sales and offered to customers directly e.g.: • in personal sales conversation • website configurators where product can be ordered. Presentation of sensors on trade fairs, in professional magazines, and on conferences (to developers).
2	**Software for health status prediction and recommendation management supporting:** • Time series analysis • Health data analysis **Infrastructure for big data in intelligent environments/ cloud system** • HSDP	• Training of data scientists for Smart Healthcare (also for costumer acquisitions) • Adaptation and licensing of developments from REACH for providers of health care solutions (e.g. MEDISANA or Philips) • Founding of a start-up/start-ups active in Big Data/Data analytics market	During and directly after the project: • Training courses for Data Scientists for Smart Healthcare; • Writing articles on machine learning and privacy preserving data mining • Establish contact to start-up financiers (e.g., the project partner Cbusinez invests in health-technology start-ups)
3	**Activity Mobilization Products and Services:** • Life and furniture integrated mobilization and training devices • Mobility and rehabilitation devices • Personalized services related to nutrition, life-style, etc. • HSDP, PSSs, Services	• Philips may use the developed knowledge, strategies and application modules in future HealthTech applications, as part of clinical and off-the-shelf products and/or services. • Project partners can team up with further stakeholders and 3rd party developers to provide tailored PSSs (eHealth/Home Health market) • Market individual components to rehabilitation devices market	Foster collaboration of stakeholders3rd party developers through scenario-based design games on: • Multi stakeholdercollaboration workshops • trade fairs • and by standardization activities
4	**Intelligent building units and infill:** • Prefabricated rooms • Knock-down kits, interior/furniture • Planning method/ consulting: design for manufacturability • Backward-compatible systems (seamless integration with existing intelligent building technologies)	• As consulting/planning service for construction/refurbishing of homes, care homes, rehabilitation facilities, clinics • Sales of furniture and equipment upgraded with sensor and intervention functionality to homes, care homes, rehabilitation facilities, clinics • Upgrade of existing furniture of hospitals, rehabilitation facilities and care homes.	• Include professionals from building/renovation industry; home care/care home/hospital management in multi-stakeholder workshops; • show insurances and municipalities the advantages, • communicate REACH to furniture/equipment/interior industry
5	**Motivating/playful user interfaces** • For users • For care professionals • Methods/consulting	Share knowledge and provides consultancy to technological companies who are specialized in designing user interface for, e.g., e-health systems, for both end-users and care organizations	Organise workshops with interested partners and publish small booklets about the approaches online through our website; publish scientific papers on developed methods and tools

2.4.4 *Communication messages, means, and languages in different locations/contexts*

The consortium partners will engage with context-specific stakeholders, according to their geographical location, culture, language, as well as their network and target audience (see **Table 2-5**). For instance, the Advisory Board (AB) will be involved in international dissemination activities, given their expertise and networks in their specific areas.

Table 2-5: Communication messages, means, and languages in different locations/contexts (local, national, EU-level, international)

Location/ Context	Audience	Message	Means	Language
Local	• End-users • Family and friends • Care organisations (public, private, NGOs) • Hospitals and Rehabilitation facilities • Local authorities • Local / regional press	• Increase the local literacy regarding ICT based solutions and their benefits. • Engender gradual user acceptance of ICT based solutions from the pre-seed stage of the project until its end. • Obtain local context/culture specific information regarding needs and preferences of the target users.	• Personal conversations • Website updates • Pilot deployments in realistic use cases • Workshops • Mainstream media / press (public media, twitter, newspapers etc.) • Short movies • Project flyers, newsletters and webinars.	Simple conversations / texts in local official language(s)
National	• Scientific community • 3rd party PSS providers • Insurance companies • National authorities • Industry and companies • Teaching at colleges / universities	• Promote to and share the REACH scientific research results with the national scientific community. • Share knowledge, provide consultancy, create innovation opportunities and offer collaborations to national industry representatives, companies and PSS providers. • Demonstrate the advantages, expected improvements and reduced expenditures associated with deployment of REACH advanced technologies and their implications on national health care related policies and regulations and insurance models. • Introduce methodologies and examples from REACH in BA and MS courses, include REACH cases in current courses.	• Scientific media (scientific papers with open access, articles in professional magazines and books) • National conferences, symposia and workshops • Website updates • National trade fairs • Standardization activities • National mainstream media / press (public media, twitter, newspapers etc.) • Short movies in official language(s) • Project flyers, newsletters and webinars. • Case material for BA and MS coursese	Formal and/or scientific / technical language, in local official language(s).
EU-level	• Industry and companies • 3rd party PSS providers • European authorities • Scientific community	• Promote, share and obtain cross-cultural insights regarding the REACH scientific research results. • Share knowledge, provide consultancy, create innovation opportunities and offer collaborations to European industry representatives, companies and PSS providers. • Demonstrate the advantages, expected improvements and reduced expenditures associated with deployment of REACH advanced technologies and their implications on European health care related policies and regulations and insurance models.	• Scientific media (scientific papers with open access, articles in professional magazines and books) • EU conferences, symposia and workshops • Website updates • EU trade fairs • Standardization activities	Formal and/or scientific / technical language, in English.
International	• Industry and companies • 3rd party PSS providers • Scientific community	• Promote, share and obtain cross-cultural insights regarding the REACH scientific research results. • Share knowledge, provide consultancy, create innovation opportunities and offer collaborations to international industry representatives, companies and PSS providers. • Share results (methodologies, techniques, observations/data statistics).	• Scientific media (scientific papers with open access, articles in professional magazines and books) • International conferences, symposia and workshops • Website updates • International trade fairs • Standardization activities, international level	Formal and/or scientific / technical language, in English.

2.4.5 From "awareness" to "action"

According to (Harmsworth & Turpin, 2000), the dissemination of a project should be performed via three approaches, considering the phase of the project (see **Section 2.4.1**) (the time dimension), as well as the stakeholders' pertinence to the project (see **Section 2.3.2**) (the stakeholder dimension), as following:

1. Dissemination/communication for awareness: During the first phase of a project, the dissemination/communication activities are predominately oriented towards raising the awareness regarding the project's aims and objectives, targeting the general public and audiences that are less pertinent to the project and therefore do not require a detailed knowledge of the work. Such an awareness of the project will contribute to "word of mouth" type communication and therefore create a general knowledge and identity of the project within a certain community. In the context of REACH it will be obtained through multi-stakeholders workshops, early testing of existing systems, engagement in some of EC activities, communication with European and international technological and scientific figures (e.g. ISG), participation in relevant scientific conferences, formulation of the corporate identity and communication kit, as well as through webpage, E-newsletter, public media and open-to-public deliverable reports.

2. Dissemination/communication for understanding: During the following phases of a project, once some tangible results have been released, the dissemination/ communication activities are oriented towards a detailed understanding of the work, specifically targeting audiences that can benefit from or/and influence the project. Therefore, it is primordial that these audiences have a deeper understanding of the project. In the context of REACH it will be achieved through active engagement with local networks of the partners, training programs, demonstrations of mock-ups and prototypes, active involvement in EC activities (e.g. adjustment of impact monitoring to the MAFEIP), active engagement with European and international industry and research organizations, participation in scientific conferences and industry oriented trade fairs, as well as through webpage, E-newsletter, public and scientific media, and open-to-public deliverable reports.

3. Dissemination/communication for action and change: During the last phase of a project, the adoption and integration of the resulting products/services should be induced and motivated through specific communication tools and messages. The target audience should be the one that understands the results, as well as has the influence and necessary skills and means to adopt the projects' tangible results into their work/organizations. In the context of REACH it will be achieved through active engagement of the stakeholders with their local networks and campaigns, training activities (e.g. EuroTech teaching program), standardization activities, final demonstrations of the prototypes, active engagement in EC activities, active engagement with European and international industry and research organizations, participation in scientific conferences and industry oriented trade fairs, webpage and its envisioned link to Philips service platform, E-newsletter, public and scientific media, public deliverable reports and the final conference largely covered by general media and press.

2.4.6 REACH's unique selling proposition

When compared to other projects funded by Horizon 2020, under the topic of "Advancing active and healthy ageing with ICT: Early risk detection and intervention" (see **Section 3.4,** and **Appendix C: REACH and other projects. Detailed overview**), following unique selling propositions can be identified:

1. REACH covers a wider range of target users, with various conditions leading to frailty, rather than limiting its target group to patients with particular syndromes and diseases (e.g. Parkinson, dementia etc.).

2. Furthermore, unlike other related projects, which depend solely on single type of sensing system, such as smartphone, smartwatch, fitness band, or ambient embedded sensors, REACH integrates a series of both wearable and ambient embedded sensors, easily deployable in existing elderly environments, which not only provide the ICT platform with a more comprehensive and accurate database of the end-users, but also improve user acceptance.

3. Since REACH is a system that promotes customized healthcare and accordingly, utilizes user's personal health data, privacy plays an essential role in such sensor-based big data collection regarding human activities of daily living. Therefore, REACH endeavours to advance the field of ethics and security of private information through novel user-acceptance strategies and users' rights to privacy and security of information, as well as through development of necessary data privacy and security schemata to protect sensed data, ascertain computational anonymity, and ensure privileged intervention access.

4. In terms of intervention strategy, REACH introduces user/condition-specific physical intervention, motivation and equipment for mobilisation, based on a multifunctional customized service system approach, in contrast to pure ICT and simple feedback/ recommendations (e.g. (Fitbit App, 2016)).

5. Last but not least, REACH explicitly promotes the paradigm shift from developing solutions/technologies for assistance and care towards developing solutions for proactive prevention and rehabilitation.

The given unique features distinguish REACH among the other comparable projects, and highlight its value proposition to investors, solution operators and end-users. Therefore, the given features will integrated into and stressed throughout all the dissemination and communication elements outlined in **Chapter 3**.

2.4.7 The combination and use of "emotional" and "rational" features in REACH

When marketing a product/service, the attention of a customer can be attracted by either a rational or an emotional advertising appeal. The rational appeal targets the customer's functional needs and highlights the utility of the advertised product into solving the needs. The emotional appeal focuses on the customer's feelings and/or psychological needs and emphasizes the ability of the product to bring emotional satisfaction (Advertising Management, 2015). According to (Orwig, 2014), in most marketing activities, a combination between the two appeals yields the best results. In the context of REACH, the dissemination/ communication activities retain an audience specific appeal. When addressing the end-

users audience, such as the elderly, their care-givers, family and friends, as well as the general public, the communication activities should retain an emotional appeal, whereas the REACH results will first of all bring an emotional satisfaction to the end-users. The feelings of the end-users will be triggered and a general positive predisposition towards REACH objectives will be created through visual materials on flyers, presentations, website, dissemination kit etc. (see **Section 3.9**), as well as through personal conversations and early testing. That will lead to creating a general positive awareness and predisposition, which, according to (Brecht, 2010), will boost the effectiveness of any further advertising campaign. When addressing the key players, such as investors, service operators, technology providers, scientific community etc., the communication activities should retain a rational appeal, aiming at creating understanding and motivation to exploit and expand the REACH knowledge and results, through highlighting the REACH's utility in solving various needs (financial, practical, functional etc.), REACH's uniqueness and innovation (see **Section 2.4.6**) and its importance to the prospect. The understanding and motivation will be stimulated through (1) listing of the REACH's results and their benefits in published papers, deliverable reports, conferences and trade fairs, and through (2) REACH's results demonstrations in mock-up and prototypes presentations, multi-stakeholders workshops, trade fairs, training activities etc.

2.4.8   Consistency of communication throughout all media and communication elements

In order for a project/company to create a recognizable brand identity, to clearly communicate a desired message, as well as to ensure that the project is communicated in a consistent and recognizable manner throughout all media and dissemination elements, a corporate identity style guide has to be formulated. The corporate identity style guide includes: the logo, the colours and their significance, the fonts, the layouts and grids, the imagery, the templates (for flyers, presentations, etc.), as well as instructions how to correctly utilize the kit (Neville, 2010). The REACH communication kit (see **Section 3.9**) was built upon the same unified values, messages, colour palette, fonts and style. TUM, in cooperation with the EDMP will throughout the project foster the consistency of the REACH communication elements, based on the REACH corporate identity style guide.

2.5   Communication and the Relevance of Ethics & Security for Acceptability (WP 7)

REACH is a system that promotes customized healthcare and accordingly, utilizes users' personal health data. Evidently, privacy plays an essential role in such sensor-based big data collection regarding human activities of daily living. Two examples of such datasets are "Reality Mining" published by MIT Media Lab (Eagle & Pentland, 2006), and "Mobile Dataset Challenge" by Nokia Research Center (Laurila, et al., 2012)**.** They involve the following steps for privacy and security provision:

(1) an explicit consent was taken from each participant,
(2) the data was recorded and stored using best industry practices,
(3) the dataset did not include photo files or message contents,
(4) all sensitive data was anonymized using state-of-the-art techniques,
(5) user names and device IDs (Identifiers) were replaced with anonymous IDs.

REACH endeavours to advance the given field through a dedicated work package (WP) (WP7 – "Personalization & user acceptance, motivational strategies, ethical issues, safety, security/data privacy"), which deals with user-acceptance strategies and users' rights to privacy and security of information. Scientific experts such as Prof. H. Andersen (DTU;

concerned with the conceptual side/strategy) and Dr. S. Rüping (Fraunhofer; concerned with the technological side; secure data processing) will work towards identification and detailing of user acceptance and motivation strategies, as well as development of necessary data privacy and security schemata to protect sensed data, ascertain computational anonymity, and ensure privileged intervention access. Moreover, an Ethics Panel (EP) has been established, chaired by Prof. H. Andersen, and joined by all consortium partners dealing with clinical and/or confidential end-user data. The Ethics Panel will apply and establish a guideline on the principles of privacy and will thus ensure that the rights of users are given utmost precedence and that all national and international regulations, recommendations, and guidelines are respected and adhered to. This includes in particular the Data Protection Reform of the European Council of the European draft regulation, adopted by the European Parliament on 14 April 2016 (**European Council, 2016**). The reformed regulation strengthens the rights of citizens in regard of control over their personal data, and they lay down specifically:

- the need for the individual's clear consent to the processing of personal data
- easier access by the subject to his or her personal data
- the rights to rectification, to erasure and "to be forgotten"
- the right to object, including to the use of personal data for the purposes of "profiling"
- the right to data portability from one service provider to another

It also lays down the obligation for controllers (those who are responsible for the processing of data) to provide transparent and easily accessible information to data subjects on the processing of their data (**European Council, 2016**).

2.6   Dissemination/Communication and Business Strategy (WP 8)

WP8 ("Innovative services-oriented business strategies for future market integration") will deal with understanding of the relevant markets, market trends and competitors, creating innovative PSS concepts, stimulating the collaboration between different stakeholders and setting up network organizations, and ultimately, creating innovative business models. Following T8.1 ("Market analysis and strategy development"), a business strategy draft will be developed and outlined between. The dissemination/communication activities will be continuously updated according to the business strategy and the envisioned market penetration. Furthermore, REACH will follow a systematic development method, based on the so-called "V-Model", which entails a continuous refinement of a project's progress and results based on their constant verification and validation. In other words, REACH's progress will follow the "V" sequence of steps: definition of requirements > system design > system verification (in lab tests) > system validation (real world filed tests). The given systematic development process improves the project's transparency, the project control, as well as guarantees the quality and economic exploitability, since the results are checked and validated at every step of the development, throughout the whole duration of the project. The given model will serve as a strong quantifiable guarantee of REACH's quality and exploitability throughout all REACH dissemination/communication activities.

2.7   Dissemination/Communication and IP Strategy (T9.6)

T9.6, as a part of WP9 ("Project management and dissemination"), will deal with the management of IP rights for an efficient and sustainable exploitation of REACH project results. A fair balance will be established between utilizing the specialized knowledge of

each partner for the benefit of the project and the protection of such knowledge, which will ensure that the collaboration advancing the project is promoted whilst preserving the future research interests of each partner. Following T9.6, an IP strategy draft will be developed and outlined (by 31st of June, 2017). The IP strategy will substantially influence the prospective dissemination/communication activities, which will be further updated to conform to it. The IP strategy will set the level of "openness" to third parties of each individual REACH sub-system and several categories will be established accordingly. For instance, platform-based systems generally require a higher level of outsourcing in order to scale up. Given the IP rights of each individual system, the dissemination/communication strategy will be adjusted accordingly. The "open-to-third-parties" sub-systems will be disseminated via providing high levels of technical details and therefore ensure a deeper understanding of the product/service, and subsequently generate a wider adoption and motivation for action. The "closed to third parties" sub-systems will be disseminated in a different way, where the communication activities will mostly focus upon the general advantages and benefits of products/services, contributing to the raising of general awareness. A sustainable balance between the two approaches will be established, in order to maximize the attractiveness and exploitability of REACH results.

2.8 Diss./ Comm. guidelines and regulations as per GA, CA, and H2020 guidelines

2.8.1 REACH GA

In accordance with REACH GA, Art. 38 Promoting the action – visibility of EU funding, a task dedicated specifically to Dissemination and Communication activities was included in WP 9 (WP9: "Project management and dissemination", T9.8: "Dissemination (Communication of Project Results)"). Moreover, an Exploitation and Dissemination panel (EDMP) was established, which will manage the external communication opportunities of the project, including the dissemination strategy for REACH and the coordination of effective marketing and advertising campaigns (see **Chapter 7**). The dissemination/communication strategy of REACH was developed and will be continuously updated, through observation of the validation and integration phases of the project. The dissemination/communication strategy aims at maximal exposure of the project, the results, the benefits and the exploitability, to local, European and international scientific community, industry representatives, potential investors, end-users and general public. The Consortium members will fully exploit their contacts and networks, as well as provide context/culture specific perspective and ensure the direct access to various settings: local markets, investors, care organisations and academia, in EU, as well as overseas (Asia, North America etc.). The dissemination/communication materials will be translated to several languages (EN, DE, DK, NL etc.) in order to address various contexts and target groups. The EU logo, as well as the acknowledgement that REACH has received funding from European Union's Horizon 2020 research and innovation programme, under grant agreement No. 690425, will be emphasized on all of the communication materials, such as media, presentations, scientific publications, products etc.

2.8.2 REACH CA

In accordance with REACH CA, governed by the procedure of Art. 29.1 of the GA, a Consortium partner that intends to disseminate their results must give prior notice to the other parties, which have the right to object to the planned dissemination/communication activity (i.e. in case this would impact on an on-going or planned IP protection activity that would be necessary to foster the exploitation of REACH outcomes). In case no objection is received within a time period that can be specified by the party that requests the right to

publish, the intended dissemination/communication activity can take place. Given the procedure, a communication scheme was implemented, which enables the agreement of all parties on such matter within a few days. Furthermore, a communication kit was developed, and will be continuously updated, with text modules, images and reports about the project and its outcomes, which are already approved by all partners and which thus can be used without having to ask the permission from the rest of the Consortium (see **Section 3.9**).

2.8.3   Horizon 2020

Following the Horizon 2020 "Communicating EU research and innovation guidance for project participants" guidelines, the REACH dissemination/communication strategy aims at maximal exposure of the project's objectives (what is REACH?), the results (how the European collaboration has achieved more than would otherwise be possible?), the benefits (how to outcomes are relevant to the well-being of society?) and the exploitability (how to make a better use of the results?). During each of the four envisioned phases of dissemination (see **Section 4.2**), a different dissemination goal will be addressed, targeting a phase-relevant group of audience, through pertinent means and messages (see **Sections 2.4.5, 2.4**). Phase 1 ("Create Awareness"), will focus upon communication of the REACH's objectives. Phases 2 and 3 ("Create Understanding") will communicate the REACH results and benefits. Phase 4 ("Motivation for action / change"), will demonstrate the REACH exploitability. The initial dissemination/communication strategy will be continuously updated, through observation of the validation and integration phases of the project.

2.8.4   Dissemination/communication and periodic reporting

Given the call for periodic reporting of dissemination/communication activities and exploitation of results, an .xlsx file was created for the unified internal collection of planned/completed dissemination/communication activities (see **Sections 6, Appendix B: REACH's Template for reporting of diss./ comm.** activities). The file contains marked fields, where the required information regarding dissemination / communication activities is defined, and colourless fields, which the partners have to fill in with the relevant data. Each Consortium partner will have to inform the other parties regarding planned dissemination/communication activities, by filling in the colorless fields with the relevant information. The provision of a unified collection of data enables the consortium to make a clear, detailed statement of number and typology of individual dissemination/communication activities for the *Periodic Reports*.

3   Dissemination and Communication Elements

Given the dissemination and communication strategy presented in the previous chapter (**Chapter 2**), a complete set of dissemination and communication elements, activities and events was compiled, targeting the maximal exposure of the project's objectives, the results, the benefits and the exploitability, to local, European and international scientific community, industry representatives, potential investors and end-users. The Consortium members will fully exploit their contacts and networks, as well as provide context/culture specific perspective and ensure the direct access to various settings: local markets, investors, care organisations and academia, via workshops (see **Section 3.1.1**), campaigns (see **Section 3.1.2**), training activities (see **Section 3.1.3**), testing and demonstrations (see **Section 3.2**), public and scientific media, conferences and trade fairs (see **Sections 3.10, 3.11, 3.12**). Moreover, the Consortium members will grant REACH memberships within relevant European partnerships, initiatives, organisations and research centres (see **Sections 3.5, 3.6**), which will expose the REACH progress, results and benefits to a wide range of pertinent professionals, investors and end-users. The Consortium partners with non-European background, as well as the Advisory Board members will ensure the project's exposure beyond Europe (see **Section 3.7**), in Asia and North America, where the ageing of society phenomenon is yet to come, for fully exploiting the REACH application potential. **Section 3.4** will identify the similarities and differences between REACH and other 7 projects funded by Horizon 2020, under the topic of Advancing active and healthy ageing with ICT: Early risk detection and intervention. The project webpage and the E-newsletter, the main public interface of REACH, is introduced in **Section 3.8**. A full communication kit (see **Section 3.9**), including the logo and the relevant templates, is designed in order to create a joint working basis for the internal and external communication and documentation. An overview of the deliverable reports is listed in **Section 3.13**, as well as the information regarding the final REACH conference in **Section 3.14**.

3.1   Stakeholder Involvement

3.1.1   *Through early testing and workshops (beginning phase)*

During year 1, a series of early pilot testings will be conducted in unstructured environments of ZZ, Lyngby, SK and HUG, involving up to 50 end-users, in order to get a general overview over the possibilities and user acceptance of sensor technologies (for more details see **Sections 3.2.1, 3.2.2**).

A series of multi stakeholder workshops will be organised under the lead of TU/e, Philips and Sturrm (EDMP), at the use case partners' sites (SK, ZZ, Lyngby and HUG), involving local patients and their caregivers, care professionals, industry partners, as well as potential investors (e.g. insurance companies), in order to introduce REACH to local communities and implicitly increase the local literacy regarding ICT based solutions and their benefits, as well as adjust the project's progress to various stakeholders' needs and preferences. PSSs developers will be specifically addressed to attract them into collaboratively providing prevention products and services for REACH through Philip's HSDP. In these workshops, novel approaches to foster collaboration of stakeholders through scenario-based design games to engage stakeholders will be used.

3.1.2 Through local networks and campaigns

The use case Consortium partners, located in four different geographical contexts, involved in care and home care (Lyngby, ZZ), hospital admission prevention (HUG) and rehabilitation activities (SK), will employ the local end-users (elderly, their caregivers and relatives), as well as other relevant local internal and external stakeholders and partners, given their expertise in culture, attitudes and language of local end-users, care market and application scenarios. Each use case partner will conduct context/culture-specific dissemination activities, as listed below:

1. <u>ZuidZorg (ZZ):</u>
   - Close cooperation with local industry and scientific partners (Philips, Tu/e)
   - Tests and demonstrations of the REACH technologies in naturalistic use case environments (in ZZ meet and greet centres)
   - Multi stakeholder workshop at ZZ, under the lead of TU/e

2. <u>Lyngby:</u>
   - Close cooperation with local industry and scientific partners (DTU, Copenhagen University)
   - Tests and demonstrations of the REACH technologies in naturalistic use case environments (in Lyngby private homes and/or care centers)
   - Multi stakeholder workshop at Lyngby, under the lead of TU/e and DTU

3. <u>Geneva Hospital (HUG):</u>
   - Close cooperation with HUG's Innovation Center, which will expose the REACH progress and results to relevant consulting bodies, as well as to local relevant industry and scientific partners (EPFL, SmartCardia) and third parties (eHealth and Telemedicine service providers).
   - Involvement of patients (their caregivers and relatives) from geriatric hospital of Geneva (Hôpital des Trois-Chênes) and those receiving home care from Institution Genevoise de Maintien a Domicile (public home care organization).
   - Early communication of REACH progress and results to relevant stakeholders from the lemanic health valley, such as neuroscientists, geriatric professionals, physical and occupational therapists, nurses, home care professionals, engineers and global health departments, in order to identify potential synergies and raise awareness about the project.
   - Presentation of the project during institutional meetings.

4. <u>Schön Klinik (SK):</u>
   - Multi-stakeholder workshop at SK, under the lead of TU/e. For instance, the workshop at SK on 21 – 22.06.2016 employed more than 10 local stakeholders coming from outside the REACH network (e.g. SK staff, Allianz insurance company, Alpenpark Kiefersfelden nursing home etc.). The communication with the given external stakeholders will be maintained throughout the whole project duration.

3.1.3 Training activities (in advanced project phases)

The training and involvement of scientific community (researchers and students) is crucial for raising awareness about the REACH project among academia, as well as for extending the research and innovation potential beyond the project network and duration. For that

reason, the REACH university partners, which are members of EuroTech Universities strategic partnership, shall integrate individual teaching modules connected to REACH objectives in their curricula and training, as well as communicate, through the means of EuroTech platform, the REACH objectives and results to worldwide scientific community, as presented below:

1. Technische Universität München (TUM):
    *   Prof. T. Bock (Chair of building realization and robotics) will establish, under the lead of TUM, along with participants from TU/e (Prof. Lu), EPFL (Prof. Pu), DTU (Prof. Andersen) and external companies, a joint EuroTech Universities/REACH Master program, to be launched in 2018 or 2019.

2. Technische Universiteit Eindhoven (TU/e):
    *   Prof. Y. Lu (Department of industrial design) will offer a master elective course regarding REACH during the winter semester 2016 and coordinate students' design projects relevant to REACH's agenda in the coming years
    *   2 times a year professional caregivers will be invited to conduct practical sessions for students
    *   Prof. Y. Lu conducted a summer school course on July 4-9, 2016, regarding innovative concepts of supporting local elderly into independent living, at International Design Institute in Zhejiang University in China, together with Philips Design Shanghai.
    *   Prof. Y. Lu, along with Mr. G. Proctor from Philips Design Eindhoven, conducted an international design workshop at the Department of Design at Taiwan Tech, in Taipei, on July 24-28, 2016. A selection of the results of the given workshop, as well as the earlier results, will be exhibited at the WDC Taipei Expo, in Oct 2016.

3. École Polytechnique Fédérale de Lausanne (EPFL):
    *   EPFL intends to provide open access to REACH generated research data to the research community where it is active in.

4. Technical University of Denmark (DTU):
    *   Prof. H. Andersen, who will lead a project (2016-19) on developing and applying healthcare cases into innovation and design courses (regional project that includes Copenhagen Univ., Copenhagen Business School, Copenhagen Municipality, Capital Region), will ensure the preparation and use of REACH based cases (issues and challenges; methods and techniques etc.) in 8-10 courses in collaboration with course leaders.

3.1.4   Advisory Board: high-level Stakeholders

The Advisory Board (AB) for REACH will consist of a mix of academic and industry experts with expertise relevant to the project. Members include Professor Ursula Staudinger (Columbia University), who participated in the famous Berlin Ageing Study, Professor Shijan Luo (Zhejiang University), Dr. Ilenia Gheno (AGE Platform Europe), and others. REACH aims to conduct its research over longer periods of time, in various cultural/legal settings and beyond the project duration. The AB will provide an external perspective and therefore improve the dissemination potential of the project, beyond the possibilities of the Consortium partners and project duration, through direct access to various cultural/legal settings: local markets, investors, care organisations and academia. For instance, the AB member from

China will consult specifically regarding the access to the Chinese market, which has a vast potential regarding ICT based supportive systems for an ever growing elderly population. AB members from USA and Canada, Japan and EU will as well ensure the access to their local networks and markets.

3.2 Communication/Dissemination through Testing and Demonstrations

Throughout the project, a series of user studies by combining both qualitative (interviews, diary, etc.) and quantitative (via sensing and monitoring WP and questionnaires for example) methods to collect end-user insights with regard to their daily activities around home and motivation towards physical activities will be conducted. Motivational profiles will be generated based on the collected user insights. Interventional proposals will be created based on research through design approach (Zimmerman, Stolterman, & Forlizzi, 2010) together with the multi-stakeholder network. 5 short movies (4x pilot test deployments; 1x naturalistic use case environment) will be produced in order to reach end-users, operators, and in particular the potential financiers as insurances and municipalities, even beyond the Consortium.

3.2.1 Pre-testing I of mock-ups in laboratory environments

The first pre-testing of mock-ups will be conducted in structured environments such as test flats and living labs, in several available locations provided by the scientific partners (TU/e, TUM, DTU and EPFL). The main focus will be placed upon the technological aspects and usability of existing technologies, as well as further possibilities for advancement. There will be 10 to 20 test persons involved per test partner. High-level stakeholders, such as the Advisory Board, will be invited. The results will be communicated to the general public via mainstream media in texts and photos. The evaluation results will be disseminated to the scientific community and other interested parties via conferences, symposia and published papers in journals.

3.2.2 Pre-testing II of mock-ups in real world environments and larger stakeholder context

The second pre-testing of mock-ups will be conducted in unstructured, real-world environments of the use-case partners (ZZ, SK, Lyngby, HUG). The main focus will be placed upon the service system approach. There will be 10 to 20 test persons involved per use-case environment. Various relevant stakeholders, such as industry and scientific partners, prospective investors, care professionals etc. will be invited. The results will be communicated to the general public via mainstream media, through short videos, texts and photos. The evaluation results will be disseminated to the scientific community and other interested parties via conferences, symposia and published papers in journals.

3.2.3 Final-testing and evaluation of demonstrators

The final testing and evaluation of the demonstrators (prototypes) will be conducted in an unstructured, real-world environment at Lyngby. The focus will be placed upon the service system approach. There will be more than 20 test persons involved. The final testing will be partly open to the general public. The final results will be communicated to the general public via mainstream media, through short videos, texts and photos. The final evaluation results will be disseminated to the scientific community and other interested parties via conferences, symposia and published papers in journals.

3.3 Standardization Activities

Through the project partner DIN the REACH consortium aims to transfer the relevant project results into standardization activities. The results of these processes will be publicly available to support dissemination of the achieved project results. The transformation of research findings into product ideas transferred to the market afterwards is also assisted by such standardization activities, as they support the dissemination and implementation of innovative knowledge. With the aim to spread the awareness concerning standardization activities of the project, information about standards and standardization will be provided, e.g. via presentations at conferences and workshops, contribution to journals and scientific publications.

3.4 REACH and other projects

3.4.1 Overview

The following section will identify the similarities and differences between REACH and other 7 projects funded by Horizon 2020, under the topic of "Advancing active and healthy ageing with ICT: Early risk detection and intervention". In the following comparison report, the target group (underlined text), **the type of sensor application and integration** (bold text), the ICT platform (regular text), *the intervention strategy* (italic text), as well as the expected impact of each project will be highlighted. Moreover, the amount of funding from different sources, as well as the employed partners, will be mentioned. For more information, refer to Appendix C: REACH and other projects. Detailed overview:

1. REACH (*Responsive Engagement of the Elderly promoting Activity and Customized Healthcare*) aims to prevent frail, 65+ individuals from loss of function and a decline in their ability to independently perform Activities of Daily Living (ADLs), which usually leads to entering LTC. Applied in a home/home-care settings without modifying the built environment, REACH is an open solution that offers its own innovative systems, while remaining compatible with existing and prospective sensing systems and technologies. The prevention and intervention systems promote and support an active life for elderly, built on basis of personal medical history, daily habits and general real-time gathered data from **a series of interconnected wearable and in furniture embedded sensors**, in order to detect and mitigate the loss of function and to arrest associated consequential morbidities, via a series of physical and virtual activity intervention modules. *REACH generates interventions such as (1) delivery of customized products and service, (2) stimulation and support of physical activity and training, (3) patients' motivation, and (4) healthy food and nutrition programme.* The 17 partners consist of 6 research institution/universities and 11 industrial companies from 6 EU countries. The total cost is EUR 4 607 950, of which EUR 4 000 000 is EU contribution.
   http://cordis.europa.eu/project/rcn/200425_en.html
   Coordinator contact's person: Prof. Dr.-Ing./Univ.Tokio Thomas Bock, Technical University of Munich

2. PreventIT (*Early risk detection and prevention in ageing people by self-administered ICT-supported assessment and a behavioral change intervention delivered by use of smartwatches and smartwatches*) aims to develop and demonstrate an ICT-based mHealth System (iPAS), which enables early detection of age-related functional decline, and subsequently engenders behavioral changes in younger older adults at

risk of age-related functional decline, in order to adopt a healthier and more active lifestyle. The ICT platform consists of a smartphone/smartwatch based frontend technology, in which sensors are integrated, and protected cloud-based solution as backend technology. *Interventions will be delivered on a smartphone/smartwatch, with exercise integrated in daily life and a behaviour change programme*. The 9 partners consist of 5 universities and 4 industrial companies from 6 EU countries. The total cost is EUR 4 607 950 of which EUR 4 000 000 is from EU contribution.
http://cordis.europa.eu/project/rcn/199141_en.html
Coordinator: Prof. Jorunn L. Helbostad, Norwegian University of Science and Technology

3. City4Age (*Elderly-friendly City services for active and healthy ageing*) focuses on developing Ambient Assisted Cities or Age-friendly Cities that provide a range of tools and services, which will detect and mitigate age-related risks, and define a model to provide extensibility to offered services and tools. The target group is the elderly population suffering from mild cognitive impairments, frailty, depression and falls, and the application environment will be both in public spaces and at home. With the help of **cost-effective sensor systems deployed in living environments of elderly in 6 cities worldwide**, the ICT platform will sense and expose personal data as linked open data, design the algorithms and the API to extract relevant behaviour changes and correlated risks, and deliver interventions to support an active and healthy ageing. *The interventions will include user-specific exercises and correct behaviour recommendations, user-specific caregivers' input, stimulation of social interaction, GPS-based tracking and guiding home, sending alerts and messages to caregivers regarding patient's condition, as well as educating elderly about benefits of ICT and smart technologies.* The 16 partners consist of 6 universities and 10 industrial companies from 6 EU countries. The total cost is EUR 4 472 750 from EU contribution.
http://cordis.europa.eu/project/rcn/199899_es.html
http://www.city4ageproject.eu/
Coordinator: Prof. Paolo Paolini, Polytechnic University of Milan

4. FrailSafe (*Sensing and predictive treatment of frailty and associated co-morbidities using advanced personalized patient models and advanced interventions*) aims to delay frailty by developing a set of measures and tools, along with recommendations, to reduce its onset. The target group is older people suffering from frailty. By **real life sensing (physical, cognitive, psychological, social) through ambient and wearable sensors**, the ICT solution will deliver rehabilitation, and ultimately lead to prediction, prevention and self-management of frailty symptoms. *The intervention platform of FrailSafe offers physiological reserve and external challenges (guidelines, real-time feedback, AR games)*. The 9 partners including 1 university are from 6 EU countries. The total cost is EUR 3 820 896,25 from EU contribution.
http://cordis.europa.eu/project/rcn/199249_es.html
http://frailsafe-project.eu/
Coordinator: Prof. Vasileios Megalooikonomou, University of Patras

5. i-PROGNOSIS (*Intelligent Parkinson eaRly detectiOn Guiding NOvel Supportive InterventionS*) aims to build early detection tests for Parkinson's disease, design interventions to sustain the quality of patients' life over the course of Parkinson's disease, and empower people to reduce hospitalisation. The target group, or i-

PROGNOSIS community, includes <u>older individuals with high risk of developing or suffering from Parkinson disease</u>. From **smartphones and fitness bands to smart connected everyday objects** (Internet of Things) **and games** (e.g. Microsoft Kinect 2), the ICT platform unobtrusively senses large scale behavioural data, acquired from their members' natural use of mobile devices. *The intervention platform, includes (1) a personalised game suite (ExerGames, DietaryGames, EmoGames, Handwriting/VoiceGames) for physical/emotional support, (2) targeted nocturnal intervention to increase relaxation/sleep quality, and (3) assistive interventions for voice enhancement and gait rhythm guidance.* The 11 partners consist of 5 universities and 4 industrial companies from 6 EU countries. The total cost is EUR 3 921 302,5 from EU contribution.
http://cordis.europa.eu/project/rcn/199589_en.html
http://www.i-prognosis.eu/
Coordinator: Prof. Dr. Leontios Hadjileontiadis, Aristotle University of Thessaloniki

6. <u>my-AHA</u> (*My Active and Healthy Aging*), aims to reduce frailty risk by improving physical activity and cognitive function, psychological state, social resources, nutrition, sleep and overall well-being. The target group is <u>older adults with interrelated frailties including cognitive decline, physical frailty, depression and anxiety, social isolation and poor sleep quality</u>. The ICT platform will early detect risks defined in frailty domains, through **unobtrusive behavioural sensing via non-stigmatising embedded sensors and data readily available in daily living environment** of older adults. *The interventions will follow an integrated approach to motivate users to participate in exercise, cognitively stimulating games and social networking to achieve long-term behavioural change, sustained by continued end-user engagement with my-AHA.* The 16 partners consist of 7 universities and 9 industrial companies from 10 EU countries. The total cost is EUR 5 168 451,25, of which EUR 4 247 233,75 is from EU contribution.
http://cordis.europa.eu/project/rcn/200143_en.html
http://www.activeageing.unito.it/
Coordinator: Prof. Alessandro Vercelli, University of Turin

7. <u>ACANTO</u> (*A CyberphysicAl social NeTwOrk using robot friends*) aims to develop a series of technical solution to spur older adults into a sustainable and regular level of physical exercise, under the guidance and supervision of their caregivers. The target group is <u>people who report age-related activity limitations</u>. The ICT platform consists of (1) **FriWalk**, a robotic friend which takes the form of a standard walking assistant, but is in fact an intelligent robot that is able to localise itself, to **sense the surrounding environment**, to plan a course of action, and to guide the user along safe routes, (2) robotic technologies and haptic devices, and (3) FriTab, which integrates the visual and audio interfaces. *The FriWalk is a personal trainer that can support the user in the execution of a training programme, monitor the motion of the user in search of muscular or gait deficiencies, and report them into user profile, which can be further inspected by doctors.* The 10 partners consist of 3 universities and 7 industrial companies from 6 EU countries. The total cost is EUR 4 295 755 from EU contribution.
http://cordis.europa.eu/project/rcn/194087_en.html
http://www.ict-acanto.eu/
Coordinator: Prof. Luigi Palopoli, University of Trento

8. <u>ICT4LIFE</u> (*ICT Services for Life Improvement for the Elderly*) aims to increase the quality of life and the autonomy of <u>older adults with dementia, early Alzheimer or Parkinson</u>, <u>as well as of their caregivers</u>, by providing proactive and patient centred care from either formal or informal care givers' remote stations. The applied environment will be homes, nursing homes, day care centres and hospitals. *The ICT platform consists of user-friendly ICT tools, which will help the patients to access their personal healthcare data, monitor their health status, and remind them to take actions to sustain their condition*, through **advanced multisensory-based analytics integrated in biomedical devices**. *ICT4Life will send alerts and messages regarding any change in patient's health status or behaviour to caregivers, in order to support pro-active interventions, and offer them specific training, decision-making support and contact with the health professionals. ICT4Life will support the health professionals in tracking health conditions of their patients and in accessing integrated information through stationary devices.* The 9 partners consist of 3 universities and 6 industrial companies from 6 EU countries. The total cost is EUR 4 607 950, of which EUR 4 000 000 is EU contribution.
http://cordis.europa.eu/project/rcn/199905_en.html
http://www.ict4life.eu/
Coordinator: Artica Telemedicine

3.4.2 REACH vs. other projects

Given the similarities and differences of each project, listed above, as well as in **Appendix C: REACH and other projects. Detailed overview**, the uniqueness of REACH will be addressed.

Compared to other aforementioned projects, REACH covers a wider range of target users, with various conditions leading to frailty, rather than limiting its target group to patients with particular syndromes and diseases (see **Table 3-1**). This trait will lead to a broader market for the future REACH products. In order to reach the most potential users (elderly and their caregivers), as well as potential customers and investors (authorities, insurance companies, elderly themselves), digital media approaches for opportunities in multi-languages should be addressed, such as search marketing, online public relations, online partnerships, interactive ads, e-newsletter marketing, and social media marketing. Meanwhile, attention should also be paid to traditional communication, in simple terms, especially with end-users and their caregivers (nurses, families and friends). In addition, subscription model should also be considered in order to reduce one-time cost and to maintain long-term customer loyalty.

Table 3-1: Target groups - REACH vs. other projects

REACH	PreventIT	City4Age	FrailSafe	i-PROGNOSIS	my-AHA	ACANTO	ICT4LIFE
Frail, 65+ elderly	Younger older adults, at risk of age-related functional decline, leading to falls, cognitive impairment, frailty and low quality of life	Elderly population suffering from mild cognitive impairments, frailty, depression and falls	Older people, suffering from frailty	High-risk group, or patients with Parkinson disease	Older adults with interrelated frailties (cognitive decline, physical frailty, depression and anxiety, social isolation and poor sleep quality)	People in advanced countries, who report age-related activity limitations	Older people with dementia, early Alzheimer or Parkinson, their caregivers and health workers

In terms of sensing technology, unlike other aforementioned projects, which depend solely on single type of sensing system, such as smartphone, smartwatch, fitness band, or ambient embedded sensors (see **Table 3-2**), REACH integrates a series of both wearable and ambient embedded sensors, easily deployable in existing elderly environments, which not only provide the ICT platform with a more comprehensive and accurate database of the end-users, but also improve user acceptance.

Table 3-2: Sensing technology – REACH vs. other projects

REACH	PreventIT	City4Age	FrailSafe	i-PROGNOSIS	my-AHA	ACANTO	ICT4LIFE
A series of interconnected wearable and in furniture embedded sensors	Smartphone / watch	Cost-effective sensor systems deployed in living environments of elderly	Real life sensing through ambient and wearable sensors	Smartphones and fitness bands to smart connected everyday objects (IoT) and games	Unobtrusive behavioural sensing via non-stigmatising embedded sensors in daily living settings	Sensors integrate in FriWalk, a robotic friend	Advanced multisensory based analytics integrated in biomedical devices

In terms of intervention strategy, REACH introduces user/condition-specific physical intervention, motivation and equipment for mobilisation, based on a multifunctional customized service system approach, in order to actively improve user's rehabilitation in all aspects, through various products and/or services (see **Table 3-3**). Moreover, REACH places a special focus upon the interoperability of REACH products and services with other existing and prospective technologies, through its open platform solution, which will create business opportunities to third parties targeting elderly people. The given technological advancements should be displayed at trade fairs to potential industry partners and third parties, as well as through organizing of multi-stakeholder workshops.

Table 3-3: Intervention strategy – REACH vs. other projects

REACH	PreventIT	City4Age	FrailSafe	i-PROGNOSIS	my-AHA	ACANTO	ICT4LIFE
Novel and user specific interventions such as: delivery of customized services and products, stimulation and support of physical activity and training, patients' motivation, etc.	Intervention will be delivered on a smartphone / watch, with exercise integrated in daily life and a behaviour change programme	The intervention will include user-specific exercises and correct behaviour recommendations, user-specific carers input, stimulation of social interaction, GPS-based tracking and guiding home, sending alerts and messages to carers regarding patient's condition, educating elderly about benefits of ICT and smart technology	Physiological reserve and external challenges (guidelines, real-time feedback, AR serious games)	Personalised Game Suite, nocturnal intervention for physical / emotional support, targeted nocturnal intervention to increase relaxation / sleep quality, and assistive interventions for voice enhancement and gait rhythm guidance	Exercise participation motivation, cognitively stimulating games and social networking, in order to achieve long-term behavioural change	Support the user in the execution of a training programme, monitor the motion of the user in search of muscular or gait deficiencies, and report them into user profile, which can be further inspected by doctors	Help the patients to access their personal healthcare data, monitor their health status, and remind them to take actions to sustain their condition; send alerts and messages regarding any change in patient's health status or behaviour to carers and health workers

Furthermore, the fact that REACH has the highest number of partners (see **Figure 3-1**) and receives the highest funding (see **Figure 3-2**), compared to other mentioned projects, should also be utilised in order to broaden the market. Particularly the presence of partners and stakeholders in different geographical locations and contexts (Europe, North America, China etc.) should be used as an important asset for spreading the REACH outcomes over various cultural/legal settings: local markets, investors, care organisations and academia.
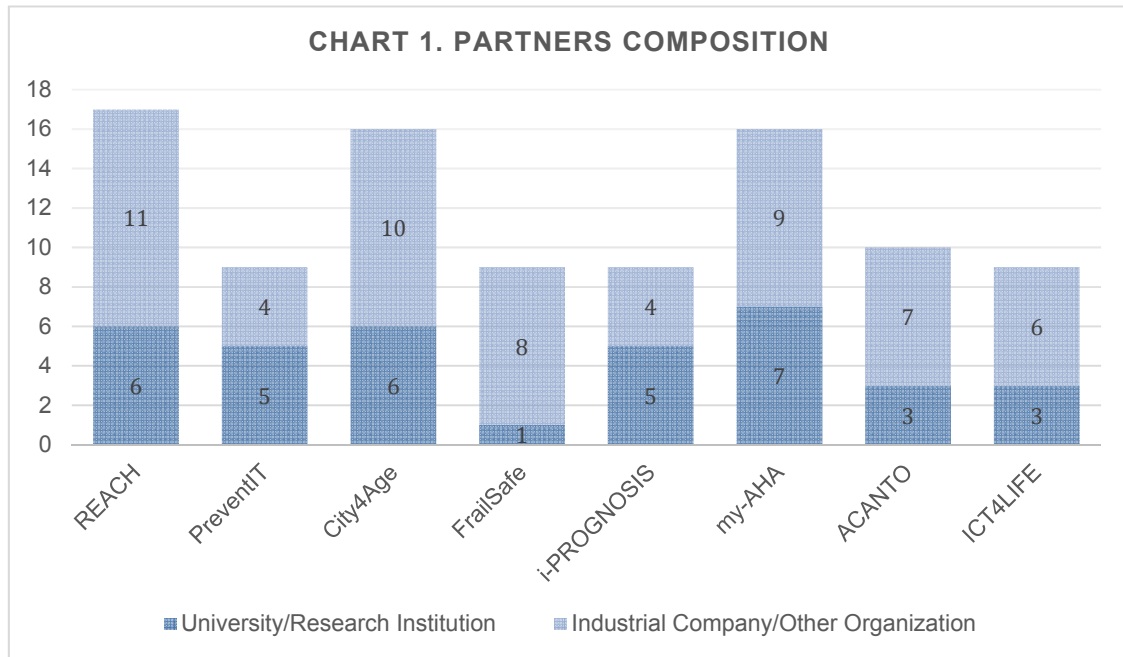
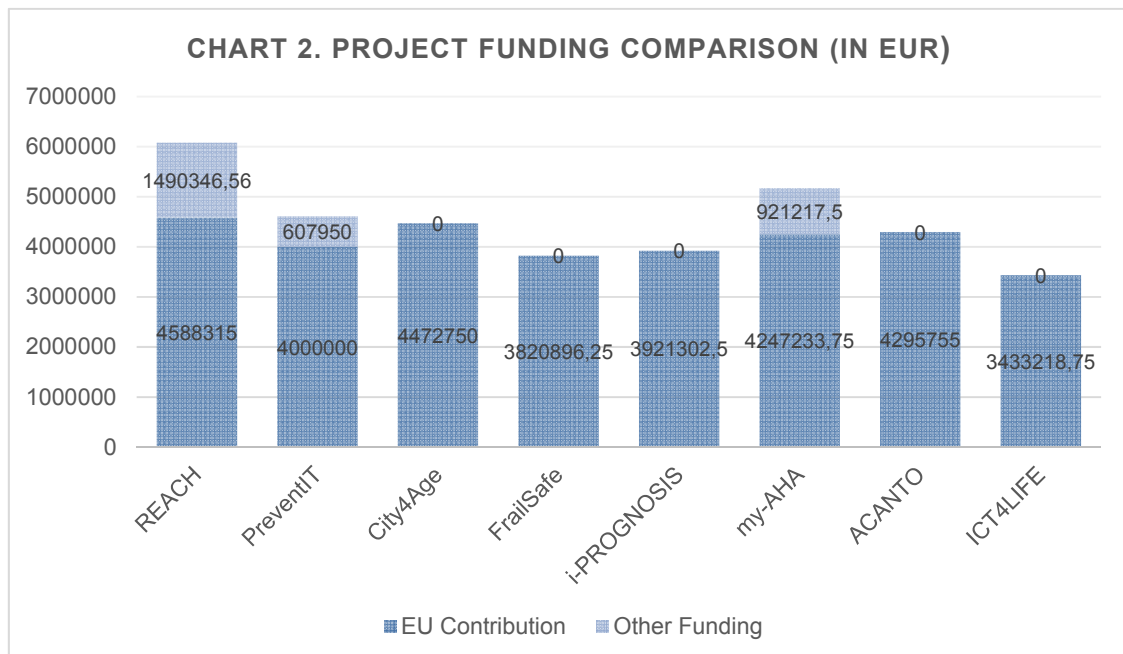**Figure 3-1: Partners composition – REACH vs. other projects**

Figure 3-2: Project funding – REACH vs. other projects

3.4.3   Communication and synergies

There are features of intervention in related projects that can be synergised for REACH in order to improve its solution to a more comprehensive, attractive, and unique level, such as GPS integration, entertainment intervention, robotic walking system, and interaction with responsible care givers (see **Figure 3-3**). For that reason, a meeting among the REACH Consortium representatives (TUM and DTU) and delegates of other aforementioned projects will be held on October 4, 2016, in Brussels, Belgium.
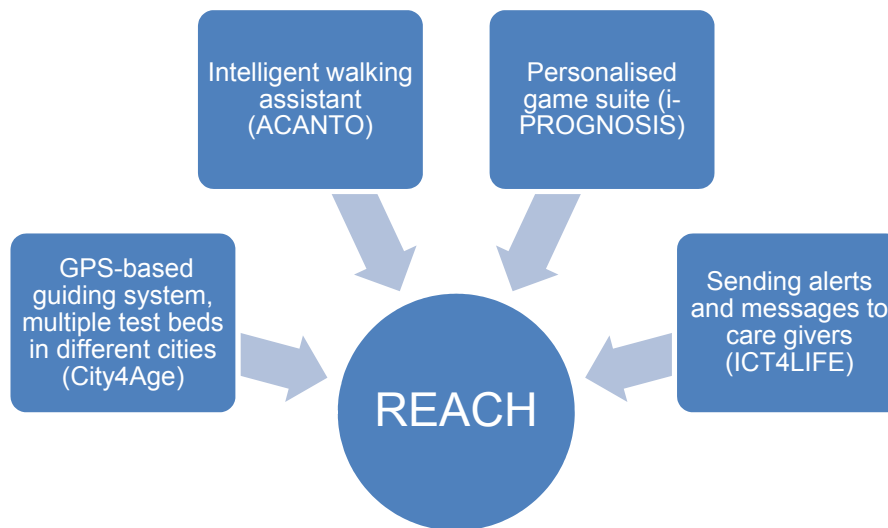

Figure 3-3: Synergized features for REACH

3.5   Engagement in EC activities

The affiliation of the REACH Consortium members to relevant European initiatives and partnerships should be fully exploited, in order to expose REACH to a wide range of pertinent professionals, investors and end-users, as well as contribute to on-going related projects and therefore render EU an absolute world leader regarding healthcare and rehabilitation technologies.

3.5.1   Engagement in workshops, work group meetings, etc. in the context of the EIP AHA

The main objective of EIP on AHA is to increase the average healthy life span of European citizens by two additional HLYs until 2020, accompanied by the *Triple Win* comprising the following targets: (1) to enable the EU citizens to lead healthy, active and independent lives while ageing, (2) to improve the sustainability and efficiency of social and health care systems, (3) and to boost and improve the competitiveness of the markets for innovative products and services, thus creating new opportunities for businesses. Given the correspondence between the REACH and EIP AHA objectives, as well as due to high dissemination and exploitability potential the Partnership network and activities retain, a close collaboration between REACH Consortium and the Partnership will be maintained, as listed below.

1. In June 2016, the REACH Consortium, under the lead of TUM, submitted a Commitment as a response to EIP on AHA invitation for commitments, under the Action Group A3 Functional decline and frailty, which was validated, and published on the EIP on AHA web-portal - https://ec.europa.eu/eip/ageing/commitments-tracker/a3/responsive-engagement-elderly-promoting-activity-and-customized-

healthcare_en (see **Figure 3-4**). The given Commitment will contribute to the overall EIP on AHA Action Plan with relevant knowledge and experience regarding ICT-based systems and insertions that will turn the home, home-care, and clinical environments into modular sensing, prevention, and intervention systems, which encourage the elderly to remain healthy and therefore prevent frailty and functional decline via exercising, an active life style and prevention of functional loss oriented measures. TUM participated at their first meeting of the Action Group A3 on June 29, 2016, in Luxembourg, where the Renovated Action plan, the six Action Areas and the activities related to them, the new commitments and their priorities and timeframe, was discussed. The face-to-face meetings of the Action Group are scheduled twice per year. The next meeting will take place in October / November 2016, the venue is yet to be defined.

**Figure 3-4: The Commitment submitted by the REACH Consortium
as a response to EIP on AHA invitation for commitments,
under the Action Group A3 Functional decline and frailty**

2. The REACH Consortium commissions itself to regularly contribute to the EIP on AHA "Marketplace for Innovative ideas", which is an interactive web-site established to assist the stakeholders interested or involved into the Partnership to find and/or

publish/exhibit relevant information regarding on-going projects, potential partners, discussions and events related to active and healthy ageing.

3. The REACH Consortium aims at creating a consolidated research and development cluster by 2018, which will be able to apply as a reference site of EIP on AHA. The reference sites are "ecosystems which comprise different players, including regional and/or local authorities, cities, integrated hospitals and care organizations, industry organizations, SMEs and/or start-ups, research and innovation organizations, that jointly implement a comprehensive, innovation-based approach to active and healthy ageing, and can give evidence and concrete illustrations of the impact of such approaches on the ground". The reference sites should exhibit innovative models of care, which can serve as basis to the adjacent regions and attract prospective partners and initiatives to either built on the same model or further collaborate into improving.

4. TUM, on the behalf of REACH Consortium, applied for being part of the EIP on AHA synergy "Framework of Responsible Research and Innovation", which aims to unify various action groups and stakeholders into working together and responding to RRI (Responsible Research and Innovation) related issues such as governance, public engagement, gender equality, science education, open science / open access, ethics, sustainability and social justice / inclusion, as well as to create a roadmap which will favour the dialogue with relevant stakeholders in the process of research and innovation for active and healthy ageing. The REACH Consortium aims to contribute to / formulate and exhibit methodological aspects related to testing, end-user involvement, ethics and data security, which are a key factor in the way of user acceptability of technological solutions.

3.5.2   Adjustment of impact monitoring to the MAFEIP

MAFEIP is a *Monitoring and Assessment Framework* generated by the Joint Research Center of the European Commission (EC) to assess the evolution and impact of the *European Innovation Partnership on Active and Healthy Ageing (EIP on AHA).* The main topic of MAFEIP is to facilitate and harmonise the monitoring of the overall outcome of the Action Groups within the EIP on AHA to allow a qualitative comparison with the EIP on AHA objectives **(Boehler and Abadie, 2015)**, as well as to ensure a better dissemination and exploitability of a project or initiative by other prospective interested parties.

Sets of potential outcome indicators were already specified for quality of life and sustainability of health systems. MAFEIP is not a rigid tool and will be adapted and further developed to the users' needs and expectations **(*European Commission, 2015*).**

For each use case, the common elderly citizens / patient (end-user) assessment regimes must be identified and used to outline the abilities/disabilities of the end-users in each setting. For this analysis each use case partner due to practical reasons used its own assessment regimes (such as, for example, Barthel Index and Functional Independence Measure). For later project phases, the assessment regimes of the four use case partners shall be harmonised to a certain extent towards the Monitoring and Assessment Framework for the European Innovation Partnership on Active and Healthy Ageing (MAFEIP).

The analysis framework is for now not considered a fixed, rigid framework but rather gives a set of guidelines that can be interpreted and adjusted by each use case partner (as

mentioned above for later project phases harmonization toward the MAFEIP shall be achieved).

3.5.3 Communication through EU-level-platforms

1. The REACH results and outcomes, as well as the generated knowledge will be regularly published and disseminated to European scientific community, industry representatives, as well as the general public, via the <u>ICT for Ageing Well Newsletter</u>, supported by EC.

2. The general public, including end-users and their caregivers, will be acknowledged, as well as educated regarding REACH ICT based solutions and their benefits via mainstream media such as <u>Euronews</u>.

3. The academia partners of REACH Consortium are members of EuroTech Universities strategic partnership, which aims at addressing the major challenges of contemporary society in a collaborative manner. REACH will communicate its objectives and results to the worldwide scientific community via the <u>EuroTech platform and network</u>. The REACH project will be featured in the 10th edition of the <u>EuroTech Magazine – The Technologist</u> (<u>www.technologist.eu</u>), in November 2016.

3.6 Communication with Industry and Research Associations

The Consortium members will grant REACH memberships within relevant European and local partnerships, initiatives, organisations and research centres, as well use their networks to communicate the REACH progress, results and benefits to a wide range of pertinent professionals, investors and end-users, as listed below.

1. <u>DaneAge</u> (Ældre-Sagen) is a Danish non-profit organization that deals with the protection of elderly citizens' interests and needs. In 2013 it encompassed 650 000 members. REACH aims at communicating its results and benefits to local stakeholders affiliated to DaneAge, as well as increase the literacy of the local elderly population regarding ICT solutions, via personal conversations, meetings, flyers and other context specific activities, as recommended by DaneAge itself.

2. <u>AGE Platform Europe (AGE)</u> is a European network of more than 150 non-profit organizations represented by and dealing with elderly, which represents, promotes the interests and raises awareness of the issues of the European seniors aged 50+. AGE represents a platform for the exchange of experiences and positive practices regarding solutions for seniors' needs and issues among relevant European organizations. AGE will serve as a platform of communicating the REACH results and benefits to end-users, as well as to local and European authorities and potential investors, via context specific personal conversations, meetings, flyers and other activities.

3. <u>Philips</u> will be primarily focusing on internal dissemination activities, within the company, on a global scale. Currently, three business units are considered as landing spots for knowledge generated by REACH, as following: (1) Philips Hospital to Home – This business focuses on home healthcare and monitoring thereof. The business has an extensive ICT monitoring infrastructure to monitor discharged patients in order to help them recover and to prevent them from being readmitted to

the hospital; (2) Philips LifeLine – This product/service systems supports seniors with falling risk. Products entail fall detection and fall prediction algorithms, and the service involves the response and get-in-touch with seniors signaled in trouble; (3) Emerging Business – Elderly / CareSensus – Drawing on components from the aforementioned two business areas, Philips has developed CareSensus, which forms a product service ecosystem for monitoring elderly's conditions and health status in the home environment.

4. Given that Prof. T. Bock (TUM) is a member of the board of directors of International Society for Gerontechnology (ISG), the REACH Consortium will be granted an ISG institutional membership, which will expose the REACH partners and results to a wide range of international stakeholders, scientific media, as well as end-users. A REACH workshop session will take place during the ISG 2016 International Conference in Nice, France, on September 28-30, 2016 (**see Figure 3-5**) (http://www.isg2016.org/programme/symposia/30).

Figure 3-5: The schedule of the workshop during the ISG conference

5. International Council for Building (CIB) is the world's largest association of experts coming from circa 500 member organizations with a research, academic, industry or government background, who conjointly are working towards innovation in building and construction industry. Prof. T. Bock (TUM) is the leader of CIB W119 work group on customized industrial construction. The REACH Consortium will be granted membership within the W119 work group, which will be enlarged in terms of scope of operation to cover topics such as health care and rehabilitation facilities. The CIB membership will grant REACH a wide exposure to worldwide industry representatives, investors and authorities, as well as to the scientific community.

6. HUG Innovation Center will expose the REACH progress and results to relevant consulting bodies, as well as to local relevant industry and scientific partners (EPFL, SmartCardia) and third parties (eHealth and Telemedicine service providers). Moreover, the REACH project will be presented to a panel of innovation experts from academia and industry during the Innovation Day organised by the Innovation Center annually, where the project will benefit from expert consulting, as well as be exposed to local mainstream media.

3.7 Communication for Exploitation beyond Europe

The Consortium partners with non-European background will ensure the project's exposure beyond Europe, where the ageing of society phenomenon is foreseen as of great potential for REACH technologies integration, through direct access to various cultural/legal settings: local markets, investors, care organisations and academia. For instance, the Consortium members from China will conduct various dissemination and communication activities in order to raise awareness, as well as to communicate the REACH progress and results to local relevant stakeholders.

3.7.1 World Design Capital Taipei (Taiwan)

As a part of the Taipei International Design Open Call, TU/e, along with TUM and Philips Design Eindhoven, received funding for the development of a smart table supplied with sensors and mechatronics, which will be further displayed in Taipei. The smart table is the result of a collaboration prior to REACH, but rendering analogous results, between TUM, TU/e and Philips, and which will be further integrated with the REACH data gathering system. In that context, Prof. Y. Lu (TU/e), Prof. T. Bock (TUM) and Mr. G. Proctor (Philips Design Eindhoven) were invited to give talks and lectures in the 2016 Technology International Annual Innovation Forum, in October 2016.

3.7.2 Communication with Chinese research networks

The ageing of society phenomenon is expected to acquire exponential proportions in China, which is therefore foreseen as of great potential for REACH technologies integration. Thus, it is imperative to conduct various dissemination and communication activities in order to raise awareness, as well as to communicate the REACH progress and results to local relevant stakeholders. Prof. Y. Lu (TU/e) conducted a summer school course on July 4-9, 2016, regarding innovative concepts of supporting local Chinese elderly into independent living, at International Design Institute in Zhejiang University in China, together with Philips Design Shanghai.

3.7.3 Communication with Japanese research networks

Given that Japan is currently facing similar issues regarding the ageing of society, a scientific collaboration between EU and Japan is imperative, for a joint expertise. Therefore, the REACH results, which will further extend the EU capabilities regarding sensor based technology, assistive environments and AAL (Ambient Assisted Living) could be further coupled with Japanese world-class competency in robotics and automated systems. A proposal of a joined project between a European and a Japanese Consortium was recently submitted to EC by TUM, along with other European REACH Consortium members, on one side, and to the Japanese financing body, on the other side. The prospective project aims to build on the basis of results obtained through REACH, integrated with the Japanese robotic systems. Given the relation between TUM (Prof. T. Bock), DTU (Prof. H. Andersen, Prof. H. Hautop Lund) and Japan, a collaboration was established with world-class Japanese research centers, such as Keio University (Prof. A. Mita), Tokyo Denki University (Prof. A. Watanabe), Tsukuba University (Prof. H. Kawashima), as well as with industry representatives such as Daiwa House Industry Co. Ltd. The given collaboration will add value potential to REACH outcomes, beyond the duration of the project, as well as contribute to further joint advancements in the field of healthcare and rehabilitation technologies. Prof. H. B. Andersen will conduct a lecture and seminar for the Japanese Ergonomics Society, on October 25, 2016, at the Tokyo Institute of Technology, regarding the ergonomics and ethics

of paternalism, associated with the use of sensor based monitoring systems to support the elderly into independent living

3.8   Website and E-Newsletter

Following the dissemination / communication strategy presented in **Section 2.4.5**, the style, messages and contents of the main communication tools, the website and the E-newsletter will be adjusted accordingly. During the first phase of the project (year 1), the dissemination/communication interface will be oriented towards creating awareness regarding REACH's aims and objectives. During the second and third phase (year 2, 3), the focus will be shifted towards creating a deeper understanding of the REACH results and benefits, via publishing of specialized content such as news, events, deliverable reports, videos etc. During the final phase (year 4), the dissemination/communication interface will motivate to change and action, and to adoption/integration of the REACH results.

Furthermore, the content of the website, along with the content of the E-newsletter, the flyer and other communication materials, will transmit a fusion of emotional appeals (visual materials) and rational appeals (texts, key facts, specifications, explanations, etc.), in relation to the dissemination phases (see **Section 2.4.5**). The visual materials will target several groups, during the project duration. During year 1, visual materials will address end-users and the general public ("create awareness) (**Figure 3-6**), during year 2 and 3 – the technology providers and the solution operators, care homes, home care, rehabilitation facilities etc.) ("create understanding), year 4 – the public authorities and decision makers ("create motivation for change / action").
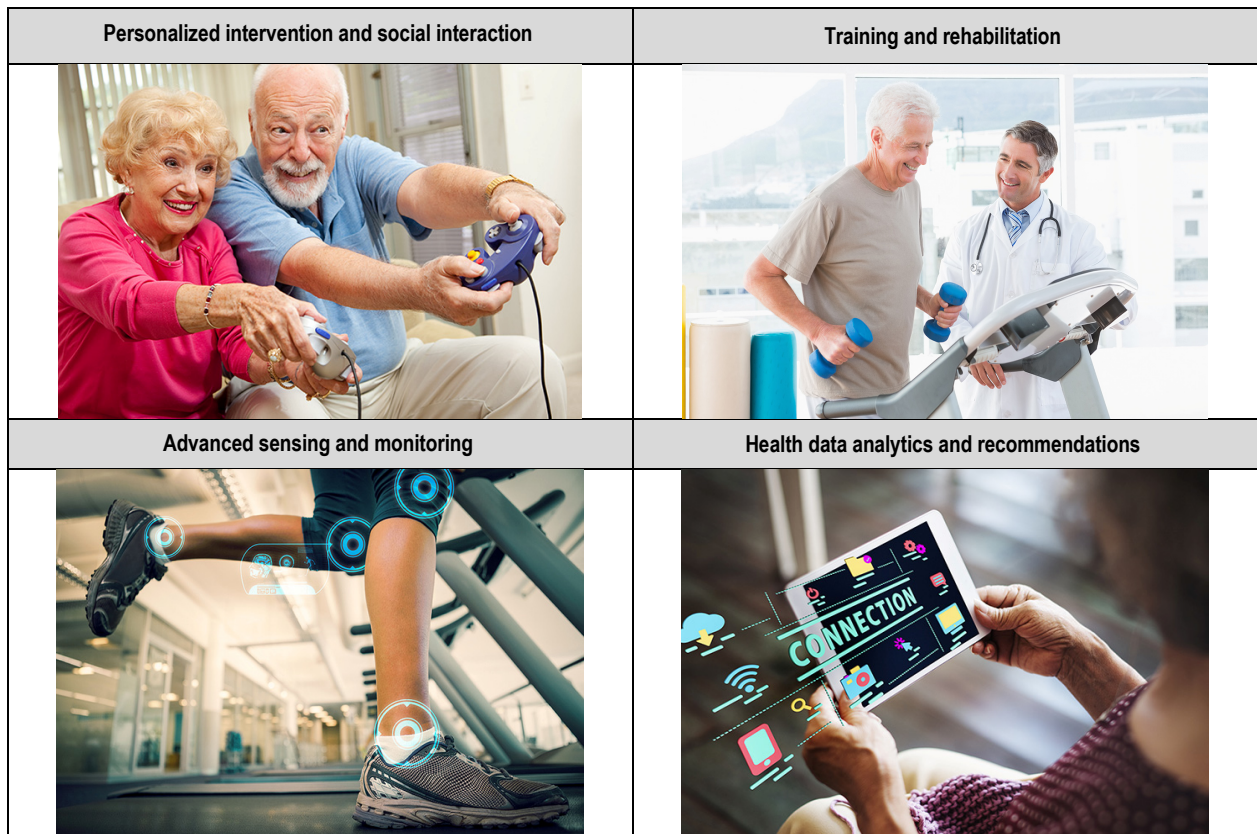

Figure 3-6: Visual appearance designed to address users and general public in an emotional manner (images used under license from Shutterstock.com)

3.8.1   The REACH website

The project webpage - http://reach2020.eu/ (**Figure 3-7**), established in July 2016, will be the main public interface of REACH. The project website, managed jointly by TU/e (leader of the EDMP) and TUM (project coordinator),   provides public information regarding the project goals and status (to be updated every 3 months or whenever there is any news) to any stakeholder interested in the project (Stage 1).
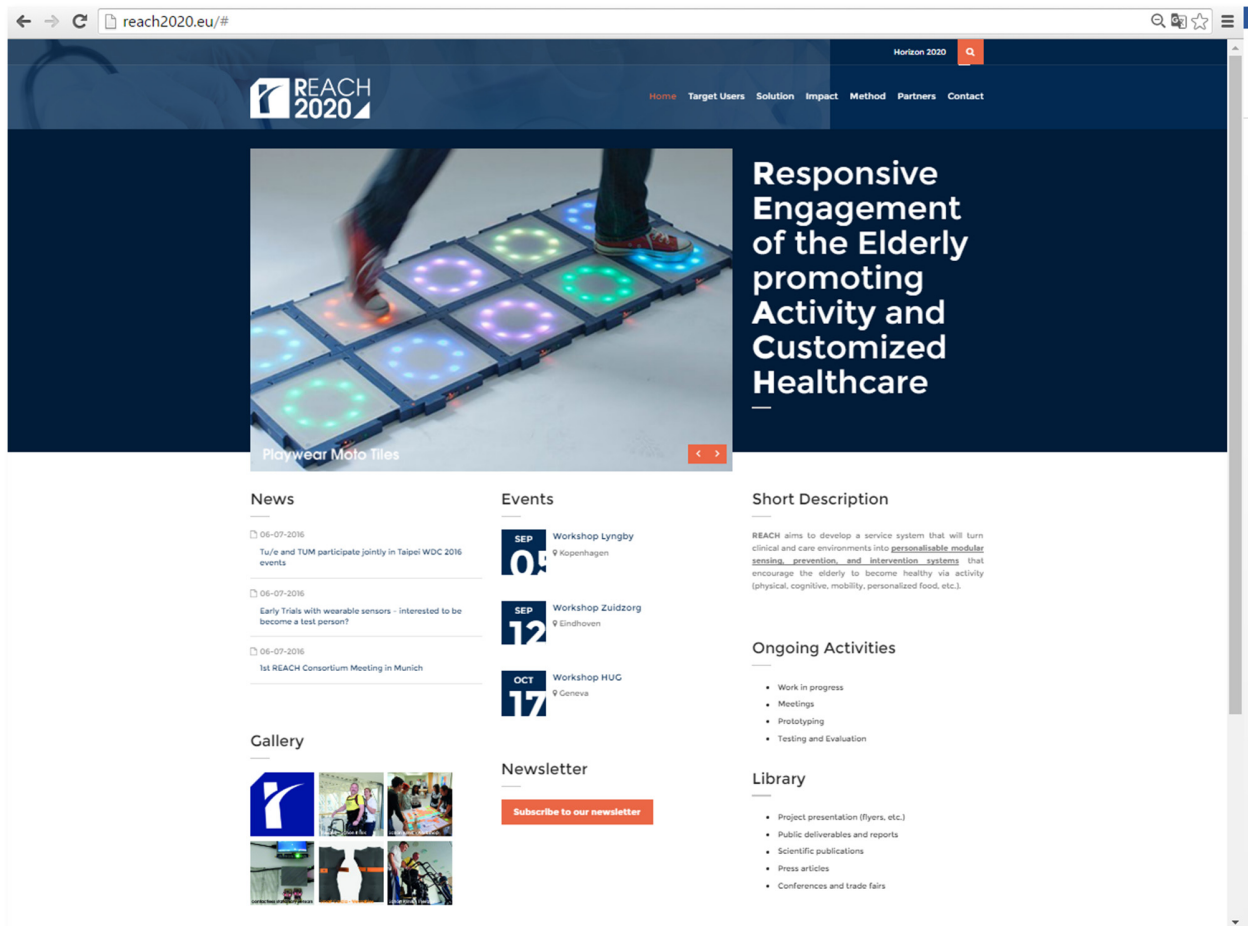

Figure 3-7: The REACH official website (http://reach2020.eu/), established in July 2016

In later stages of the project (Stage 2, year 4) conceptual links towards Philips systems will be explored, in order to stimulate multi stakeholder cooperation for PSSs provision. In that context, if relevant, the REACH website will establish links and synergies with the two platforms of Philips: (1) Philips Health Suit Digital Platform HSDP (http://www.usa.philips.com/healthcare/innovation/about-health-suite) and (2) Philips CareSensus (http://www.usa.philips.com/healthcare/resources/landing/caresensus).

In year 2 of the project, the key contents of the website will be translated into multiple languages (DE, CH, NL, DK, PL), in order to increase the understanding and the visibility of REACH to a wider range of local stakeholders and decision makers.

3.8.2   The E-Newsletter

An E-newsletter is a common E-tool to distribute relevant information to a wide range of stakeholders. An important attribute of the E-newsletter is that the receivers can associate it with the project. For this reason, it is essential that the newsletter has a recognition value,

which can be obtained through a predefined template, regarding font, colours, the logo etc. The REACH E-newsletter will be distributed every six months to a constantly growing list of contacts. At the moment (July 2016), there are more than 200 subscribers to the E-newsletter. The E-newsletter will contain relevant dissemination contents such as REACH related news, events, test outcomes, notice of deliverable reports, information regarding the REACH progress etc. In year 2 of the project, the key contents of the E-newsletter will be translated into multiple languages (DE, CH, NL, DK, PL), in order to increase the understanding and the visibility of REACH to a wider range of local stakeholders and decision makers.

3.9 REACH Communication Kit

The standards defined by the templates and document forms (e.g. colour, layout, font etc.) ensure a uniform design ("corporate identity") of common documents such as newsletter, presentations, flyers, etc., as well as an effective internal and external communication and exchange of information. The following sections will introduce the relevant communication tools.

3.9.1 The REACH logo

The REACH logo illustrates an individual in movement, prompting the idea of an active lifestyle, the main value behind REACH. 2020 refers to Horizon 2020, as well as to the future and expected changes.

3.9.2   Text modules for press releases

3.9.3   Flyer

3.9.4   Fact sheet

3.9.5   REACH overview presentation

3.9.6   Consortium Outline

3.9.7   Templates

- Reports

- Posters

- Power point presentations (Ppt.)

- Name cards

3.9.8   Stickers

The stickers will be produced in various sizes to be attached to sensors, equipment, mock-ups, prototypes, etc. and will emphasize the REACH and EU logo, as well as specify that the given project has received funding from European Union's Horizon 2020 research and innovation programme, under grant agreement No 690425.

3.10 Conferences and Trade Fairs

3.10.1 Participation in scientific conferences/ events to proof scientific excellence

REACH research will be disseminated at international conferences, symposia and workshops. Given the highly transdisciplinary nature of the research, a broad range of conferences and publications will be targeted. Special sessions and workshops related to the project goals will be organised in relevant conferences, encouraging the discussion and knowledge exchange with other researchers active in the field. The following table (**Table 3-4**) presents examples of relevant conferences, which are planned to be attended throughout the project duration, their frequency, as well as the responsible partners:

Table 3-4: Relevant conferences to be attended throughout the project duration

Name	Website	Next Time	Next Location	Frequency	Lead partner
KDD: The ACM Conference on Knowledge Discovery and Data Mining	http://www.kdd.org/	Aug 13 - 17, 2016	San Francisco, CA, USA	Annual, every August	EPFL, workshop on ubiquitous data mining
EMBC: Annual International Conference of the IEEE Engineering in Medicine and Biology Society	http://embc.embs.org/2016/	Aug 16 - 20, 2016	Orlando, FL, USA	Annual, every August	SmartCardia
CinC: Computing in Cardiology International Conference	http://www.cinc.org/	Sept 11 - 14, 2016	Vancouver, Canada	Annual, every September	SmartCardia
IE: International Conference on Intelligent Environments	http://www.intenv.org/	Sept 12 - 16, 2016	London, UK	Annual	TUM
UbiComp: CM International Joint Conference on Pervasive and Ubiquitous Computing	http://ubicomp.org/ubicomp2016/	Sept 12 - 16, 2016	Heidelberg, Germany	Annual, every September	HUG
RecSys: The ACM Conference Series on Recommender Systems	https://recsys.acm.org/	Sept 15 - 19, 2016	Boston, MA, USA	Annual, every September	EPFL, HUG
AAL: The Active and Assistive Living Forum	http://www.aalforum.eu/	Sept 26 - 28, 2016	St. Gallen, Switzerland	Annual, every September	TUM
ISG: International Society for Gerontechnology World Conference	http://www.isg2016.org/	Sept 28 - 30, 2016	Nice, France	Annual	TUM, Tu/e, EPFL, DTU, workshop on Socio-technical aspects in promoting activity and customized healthcare
IROS: International Conference on Intelligent Robots and Systems	http://www.iros2016.org/	Oct 9 - 14, 2016	Daejeon, Korea	Annual, every September, October or November	TUM, workshop session organised by Prof. Bock and Dr. Georgoulas
ICAIMA: International Conference on Artificial Intelligence in Medical Applications	https://www.waset.org/conference/2016/10/london/ICAIMA	Oct 17 - 18, 2016	London, UK	Annual, every September / October	International workshop on knowledge representation for health care
AMI: European Conference on Ambient Intelligence	http://www.ami-conferences.org/	Nov, 2016		Annual, every November	TUM
MNMC: EMBS Micro and Nanotechnology in Medicine Conference	http://mnm.embs.org/2016/	Dec 12 - 16, 2016	Waikoloa, Hawaii	Annual, every December	SmartCardia
AAAI: AAAI conference on Artificial Intelligence	http://www.aaai.org/Conferences/AAAI/aaai.php	Feb 4 - 9, 2017	San Francisco, CA, USA	Annual, every February	EPFL
HFSE: International Symposium on Human Factors and	http://www.hfes.org/web/HFESMeetings/me	March 5 – 8, 2017	New Orleans, LA, USA	Annual, every March	DTU

Ergonomics in Health Care	etings.html				
ACM IUI: Conference on Intelligent User Interfaces	http://iui.acm.org/2017/	March 13 - 16, 2017	Limassol, Cyprus	Annual, every March	EPFL
AAL Kongress		April, 2017	Frankfurt, Germany	Annual, every April	TUM
ACM Symposium on Applied Computing: Track on Recommender Systems	https://recsystrack.wordpress.com/	April 3 - 7, 2017	Marrakech, Morocco	Annual, every April	EPFL
SDM: SIAM International Conference on Data Mining	http://www.siam.org/meetings/sdm17/	April 27 - 29, 2017	Houston, Texas, USA	Annual, every April / May	Fraunhofer
EAI International Conference on Pervasive Computing Technologies for Healthcare	http://pervasivehealth.org/2017/show/home	May, 2017		Annual, every May	TUM
CHI: The ACM CHI Conference on Human Factors in Computing Systems	https://chi2017.acm.org/	May 6 - 11, 2017	Denver, CO, USA	Annual, every May	EPFL, HUG
ICRA: International Conference on Robotics and Automation (workshop session organised by TUM)	http://icra2017.org/	May 29 - June 3, 2017	Singapore	Annual, every May	TUM, workshop session organised by Prof. Bock and Dr. Georgoulas
ISAmI: International Conference on Ambient Intelligence		June, 2017		Annual, every June	TUM
CBMS: International Symposium on Computer-Based Medical Systems	http://cbms2017.org/	June 22 - 24, 2017	Thessaloniki, Greece	Annual, every June	SmartCardia
HCI: International Conference on Human-Computer Interaction	http://2017.hci.international/	July 9 - 14, 2017	Vancouver, Canada	Annual, every June, July or August	EPFL
ISARC: International Symposium on Automation and Robotics in Construction and Mining	http://www.isarc2016.org/	Summer, 2017	Taipei, Taiwan	Annual, every June, July or August	TUM

3.10.2 Participation in market/industry oriented trade fairs

The project partners will exhibit prototypes of the REACH system at international trade fairs and events, as well as communicate the test results of test deployments. The following table (**Table 3-5**) presents examples of relevant trade fairs, as well as their frequency and the time and location of the next event:

Table 3-5: Relevant trade fairs / events to be attended throughout the project duration

Name	Website	Next Time	Next Location	Frequency
Lausanne in motion: Moving the city (sport festival)	http://www.fisu.net/en/Lausanne-in-Motion-3959.html	Sept 24, 2016	Lausanne, Switzerland	Biannual
REHACARE: International trade fair for rehabilitation, prevention, inclusion and care	http://www.rehacare.com/	Sept 28 - Oct 1, 2016	Düsseldorf, Germany	Annual
MEDICA: World's largest event for the medical sector	http://www.medica-tradefair.com/	Nov 14 - 17, 2016	Düsseldorf, Germany	Annual
IMM Cologne: International Interior Show	http://www.imm-cologne.de/imm/index.php	Jan 16 - 22, 2017	Cologne, Germany	Annual
ISPO: International sports, fitness and wellness business trade fair	http://munich.ispo.com/de/	Feb 5 - 8, 2017	Munich, Germany	Annual
REHAB: International Trade Fair for Rehabilitation Therapy and Prevention	http://www.rehab-karlsruhe.com/de/home/homepage.jsp	May 11 - 13, 2017	Karlsruhe, Germany	Biennial

Participations in trade fairs are planned for years 3 and 4 of the project, and will be detailed in further updated versions of this dissemination plan.

3.11 Scientific Media: Journals and Books

The Consortium partners will ensure the open access to all peer-reviewed publications. Data regarding the development and testing of the system, in the 4 pilot deployments, as well as the final testing and evaluation in naturalistic use case settings, will be published in high-ranking scientific journals such as:

1. Journal of Risk Research (Taylor & Francis)
2. The Journal of Primary Prevention (Springer)
3. Journal of Prevention and Intervention in the Community (Taylor & Francis)
4. Journal of Prevention Science (SPR)
5. Recommender Systems Handbook (e.g., Springer)
6. Journal of Gerontechnology (ISG)
7. Journal of Ambient Intelligence and Smart Environments (IOS Press)
8. Journal of Ambient Intelligence and Humanised Computing (Springer)
9. International Journal for Quality in Health Care (Oxford University Press)
10. Automation in Construction Journal for 2017/2018
11. Chapter about REACH project in Construction Robotics Handbook Series; Volume 4: Ambient Integrated Robotics; Cambridge University Press – tentative publication date: end of 2018
12. IEEE Transactions on Biomedical Engineering (IEEE Xplore Digital Library)

3.12 Public Media and Press Campaigns

The TUM Press department will address the national and international general public via several channels, employing their network and connections, in several steps:

1. E-news article on the EuroTech Universities website (http://eurotech-universities.eu/eurotech-project-reach-receives-european-funding/), regarding the project's aims and envisioned outcomes (**Figure 3-8**). The EuroTech Universities website receives circa 8500 views p. a. and 3000 users p. a.
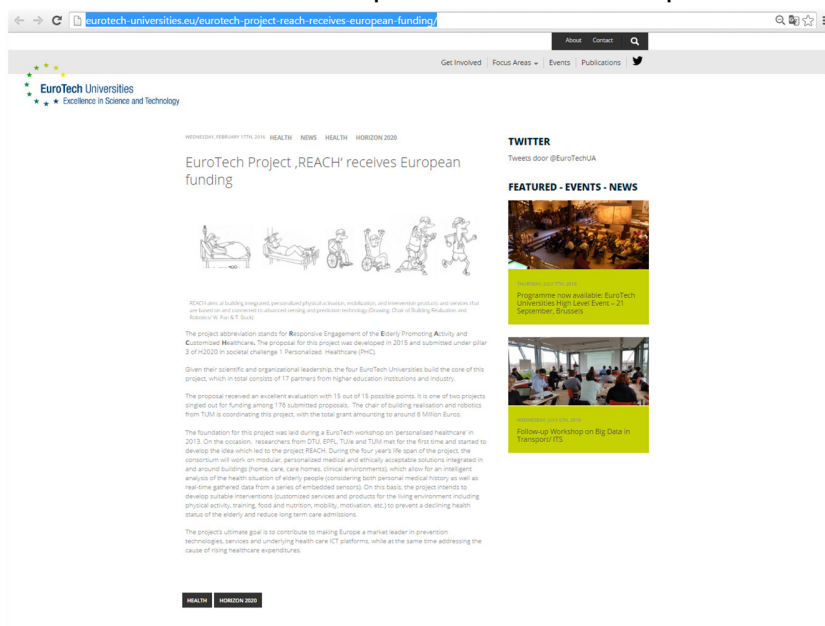
Figure 3-8: E-news article on the EuroTech Universities website (published in March 2016)

2. REACH will be featured in a <u>4 page article in TUM's magazine "TUM Campus"</u>, scheduled for August 2016, in German.

3. REACH will be featured in a <u>6 page article in the 10th edition of the online/ hardcopy EuroTech Magazine – The Technologist</u> (<u>www.technologist.eu</u>), scheduled for November 2016), which will contain interviews with involved companies and end-users (**Figure 3-9**), in English. The Technologist hard copy magazine is distributed to 12 500 subscribers per issue (primarily in CH, DE, DK, NL, BE - Brussels), and the website receives circa 15 000 visits per month, and has more than 2000 followers on Twitter and Facebook.
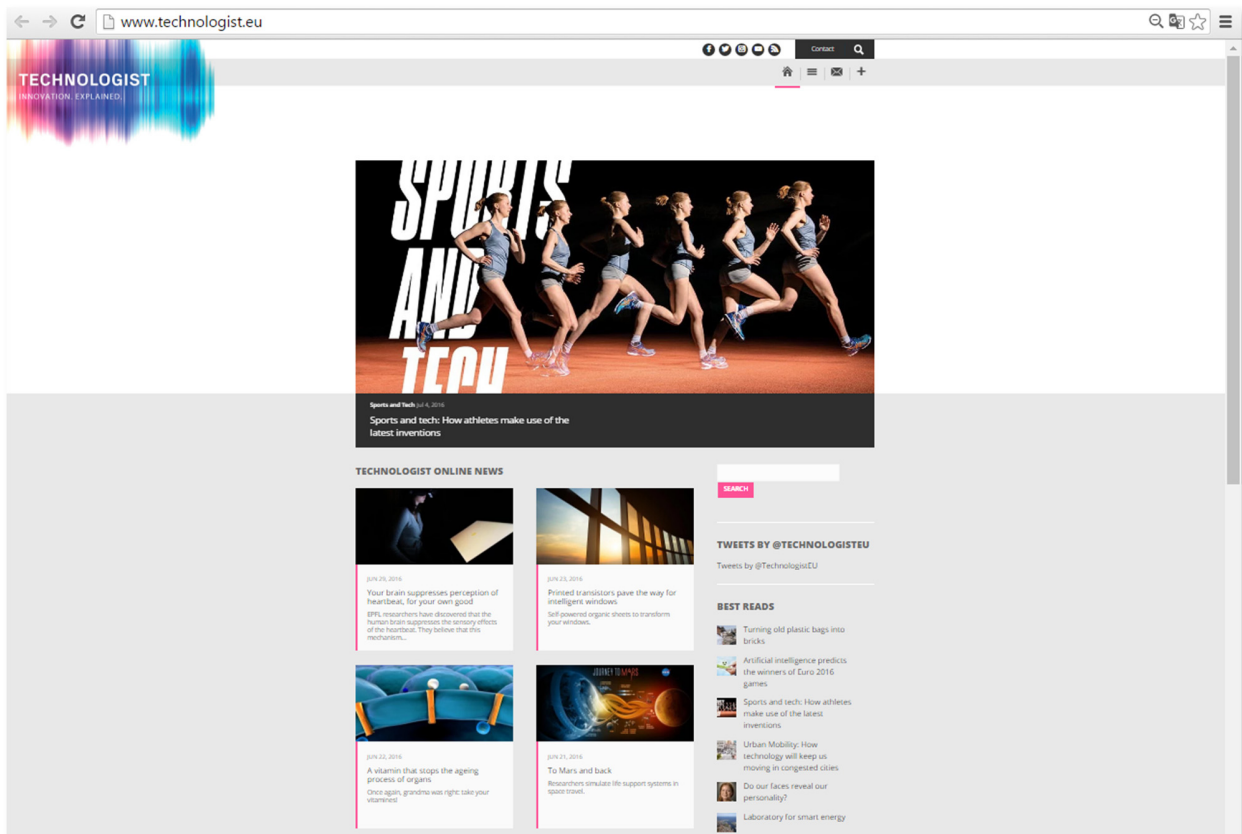
Figure 3-9: The webpage of the EuroTech Magazine – The Technologist, scheduled for November 2016 (http://www.technologist.eu/)

4. <u>A large press release</u> featuring REACH will be issued in Spring 2017, directed at local and international public media and newspapers.

3.13 Deliverable Reports

Circa 50% of the Deliverable Reports regarding the REACH progress will be open to the general public (see **Table 3-6**, under the acronym PU), available to be downloaded on the official website, as well as announced via newsletter and other audience relevant channels. The public Deliverable Reports will directly expose the project progress and results to the scientific community on one side, as well as raise awareness among the industry representatives, public bodies and the general public on the other side. The demonstration

activities will be publicly announced via the newsletter, the website and other audience relevant channels and will be partly open to the general public.

Table 3-6: List of major deliverables

No.	Deliverable name	WP	Lead	Type	D L	Date
D1.1	Use case scenarios	WP 1	NKBA	R	PU	M3
D1.2	Stakeholder networks	WP 1	DTU	R	PU	M11
D1.3	PSS concepts	WP 1	TU/e	R	PU	M11
D1.4	PSS architecture	WP 1	TU/e	R	CO	M14
D2.1	Matrix analysis for sensing systems	WP 2	TUM	R + other	CO	M21
D2.2	Stationary and ambulant sensing schematics	WP 2	TUM	other	CO	M26
D2.3	Encryption strategy to protect communication and data exchange	WP 2	FIAIS	R + other	CO	M31
D2.4	Data convergence and processing system	WP 2	TUM	other	CO	M36
D3.1	Validated and significant set of patient data	WP 3	FIAIS	R + other	CO	M24
D3.2	Meaningful and predictive model specific to patient data	WP 3	EPFL	R + other	CO	M28
D3.3	Inter- and intra- personal persuasion profiles	WP 3	EPFL	R	CO	M31
D3.4	Strategic regiment based on probabilistic profile developed	WP 3	EPFL	other	CO	M36
D3.5	Qualitative evaluation of strategies developed by the system	WP 3	EPFL	R	CO	M40
D4.1	Motivational strategies	WP 4	Philips	R + other	PU	M18
D4.2	PSS concepts based on motivational strategies	WP 4	AM	R + other	PU	M21
D4.3	Schematics for assistive PI²Us (e.g, bed) and product development concepts	WP 4	TUM	DEM	CO	M26
D4.4	Stationary assistive PI²Us (e.g, bed) and multifunctional mobilization/rehabilitation system	WP 4	TUM	DEM	CO	M36
D4.5	Report on personalized food intervention system	WP 4	BZN	R	PU	M31
D4.6	Stationary and ambulant systems that enforce intervention regimen	WP 4	DTU	DEM	CO	M31
D4.7	Software for stationary and ambulant sensor modules	WP 4	DTU	other	CO	M26
D5.1	List of requirements and functions report	WP 5	DTU	R	PU	M20
D5.2	Detailed plans and descriptions for a selected set of PI²Us / CAD plans	WP 5	TUM	R + other	CO	M31
D5.3	Approach for achievement of system compatibility with existing standards report	WP 5	TUM	R	CO	M31
D5.4	Partly functional / functional mock-ups and prototypes of PI²Us	WP 5	TUM	other	PU	M36
D6.1	Applicable standards and best practice guidelines for all REACH related activities	WP 6	TUM	R	PU	M14
D6.2	Final mock-up version of REACH system	WP 6	TUM	DEM	PU	M26
D6.3	Formalized results of Pretesting I and II activities	WP 6	DTU	R	PU	M33
D6.4	Formalized results of Final Testing and optimization activities	WP 6	DTU	R	PU	M48
D7.1	System personalization strategy	WP 7	TU/e	R + other	PU	M20
D7.2	User acceptance and motivation strategies, including caregivers	WP 7	DTU	R + other	PU	M31
D7.3	User interfaces	WP 7	DTU	R + other	CO	M40
D7.4	Detailed set of privacy guidelines and schemata	WP 7	FIAIS	R	PU	M48
D8.1	Market and customer analysis and new strategy document	WP 8	Arjo	R	CO	M12
D8.2	Innovative product service systems concepts	WP 8	TU/e	R + other	PU	M21
D8.3	Collaboration network organization	WP 8	TU/e	R + other	PU	M26
D8.4	Business model proposals for the REACH system and sub-systems	WP 8	TU/e	R	PU	M45
D8.5	Identified risks in business model proposals for REACH system and sub-systems	WP 8	DTU	R	CO	M48
D9.1	Report on planned standardization strategy	WP 9	DIN	R	PU	M12
D9.2	Results of risk analysis	WP 9	TUM	R	CO	M24
D9.3	Code of Conduct	WP 9	TU/e	R	PU	M12
D9.4	Stakeholder management plan	WP 9	TUM	R	PU	M12
D9.5	Detailed dissemination plan	WP 9	TUM	R	PU	M6

3.14 The Final Conference

The final REACH Consortium Meeting will take place in Munich, Germany, in 2020, and 50 REACH Consortium members and 50 external stakeholders, including end-users, investors, public bodies, associations etc., will attend it. A broad general media and press coverage will be ensured.

4 Overall Dissemination/Communication Plan

This chapter illustrates in **Section 4.1** a detailed summary of the aforementioned dissemination and communication activities, which was further integrated within a Gantt Chart schedule (**Section 4.2**).

4.1   Summarization of planned dissemination & communication activities

In this section a complete summary of the envisioned dissemination and communication activities, including their objectives, type of audience, success indicators, scheduling and audience interested in REACH, is presented in the table below (**Table 4-1**). The given summary was integrated within a Gantt Chart project schedule, illustrated in **Appendix A: Dissemination and Communication Gantt Chart**.

Table 4-1: Summarization of planned dissemination & communication activities

No.	Activity	Aim	Type of Audience	Success Indicator	Scheduling	Audience interested in REACH
1	**Stakeholder Involvement**					
1a	Active user involvement/ early testing	Awareness and feedback	Users and stakeholders	Involved users and stakeholders	During year 1	50
1b	Stakeholder workshops	Understanding and feedback	Users and stakeholders	Involved users and stakeholders	4 x during year one	4 x 20
1c	Local networks and campaigns	Understanding and feedback (will be adapted over time in accordance with 2.4)	Audience as per 2.4	Number of addressed entities	Continuously from year 2 onwards	4 x 30
1d	Training activities	Understanding and create ability to act.	Engineers and professionals	Number of addressed persons	Continuously from year 2 onwards	4 x 20
1e	Advisory board: high-level stakeholders	Communication of REACH's excellence	Industry and academia	Involved users and stakeholders	Continuously from year 2 onwards	6 x 5
2	**Testing and Demonstration**					
2a	Pre-testing I of mock-ups in laboratory environments	Understanding of REACH sub-systems	High-level Stakeholders, Academia	Number of attendees of events	Year 3	4 x 30/
2b	Pre-testing II of mock-ups in real world environments and larger stakeholder context	Understanding of REACH system approach	Users and care professionals	Number of attendees of events/ number of persons reached by short movies	Year 3	4 x 30/ 100
2c	Final-testing and evaluation of demonstrators (prototypes) in real world environments	Understanding of REACH system approach	Users care professionals, authorities and decision makers	Number of attendees of events/ number of persons reached by short movies	Year 4	1 x 50/ 200

3	**Standardization Activities**	Create understanding and convince to act	High-level stakeholders	Number of high-level stakeholders addressed	throughout	20
4	**Communication with other EU PHC projects**	Create synergies and cooperation relevant to enhance outcomes and exploitability	Project partners of other EU projects	Number of active contacts created	throughout	10
5	**Engagement in EC activities**					
5a	Contributions to EIP AHA work groups	Enhance scientific know-how in the filed	High-level stakeholders	Number of active contacts created	throughout	20
5b	Adjustment of impact monitoring to the MAFEIP	Enhance scientific know-how in the filed	High-level stakeholders	Number of active contacts created	From year 3 onwards	20
5c	Communication through EU-level-platforms	Create awareness on EU-level: authority, decision, makers, EC, etc.	High-level stakeholders	Estimated number of persons interested in REACH	throughout	500
6	**Communication with Industry and Research Organizations**					
6a	DaneAge	Create contacts relevant for research (technical collaboration) and exploitation	As per 2.4	Number of potential stakeholders reached	From year 3 onwards	20
6b	AGE Platform Europe	Create contacts relevant for research (technical collaboration) and exploitation	As per 2.4	Number of potential stakeholders reached	From year 3 onwards	20
6c	Philips Global	Create contacts relevant for exploitation	As per 2.4	Number of potential stakeholders reached	From year 4 onwards	20
6d	International Society for Gerontechnology (ISG)	Create contacts relevant for research (technical collaboration) and exploitation	As per 2.4	Number of potential stakeholders reached	From year 1 onwards	20
6e	International Council for Building (CIB)	Create contacts relevant for exploitation	As per 2.4	Number of potential stakeholders reached	From year 2 onwards	20
6f	HUG Innovation Center	Create contacts relevant for exploitation	As per 2.4	Number of potential stakeholders reached	From year 2 onwards	20
7	**Communication for Exploitation beyond Europe**					
7a	World Design Capital Taipei (Taiwan) participation	Create awareness about REACH	Academics and Industry	Number of attendees interested in REACH	Oct. 2016	500
7b	Communication with Chinese research networks	Create awareness about REACH	Academics and Industry	Number of successful communications	Continuously from year 2 onwards	3 x 10

7c	Communication with Japanese research networks	Technological cooperation	Academics and Industry	Number of successful communications	Continuously from year 3 onwards	2 x 10
8	**Website and E-newsletter**					
8a	Stage 1: Website pre-version for selected stakeholders	Test website feedback with selected stakeholders	Academics and Industry	Number of visitors	3 months after the project starts	50
8b	Stage 2: Website public version	Communicating project progress to outside world (will be adapted over time in accordance with 2.4)	Audience as per 2.4	Number of visitors	5 months after the project starts	3.000
8c	Stage 3: Website with conceptual links to service platforms	Simulate and attract multi-stakeholder cooperation for PSSs provision	Potential providers of PSSs through HSDP, target customers	Number of visitors	Year 4	1.000
8d	Regular E-newsletter	Inform about events, activities, and outcomes (will be adapted over time to dissemination phases)	Audience as per 2.4	Number of persons to which newsletter is sent	Each six month	8 x 500
9	**REACH communication kit**					
9a	Flyer	Create awareness /interest (will be adapted over time in accordance with 2.4)	Audience as per 2.4	Number distributed	Each year new version adapted to dissemination phases and items outlined in 2.4	4 x 500
9b	Fact Sheet	Create awareness /interest (will be adapted over time in accordance with 2.4)	Audience as per 2.4	Number distributed	Each year new version adapted to dissemination phases and items outlined in 2.4	4 x 500
9c	REACH standard overview presentation	Create understanding (will be adapted over time in accordance with 2.4)	Audience as per 2.4	Audience of events	Continuous adaptation	1000
9d	Stickers for equipment and prototypes	Create awareness	Audience as per 2.4	Number of sticker	From end of year onwards	-
10	**Conferences and trade fairs**					
10a	Participation in science oriented conferences	Get in touch with potential market channels: gain knowledge and create awareness	Audience as per 2.4	Number of attendees interested in REACH	4 per year	800 (16x50)
10b	Participation in industry oriented trade fairs	Create understanding and business contacts relevant for exploitation	Audience as per 2.4	Number of attendees interested in REACH	From year 3 onwards	2 x 500

11	Scientific media: Journals and Books	Create understanding and communicate excellence	Audience as per 2.4	Numbers of downloads	Up to 3 per year	9 x 10000 (+ X with some open access)
12	Public Media	Create awareness (aim/messages to be adapted over time in accordance with 2.4)	Audience as per 2.4	Estimated number of addressed persons interested in REACH topics	5- 10 public media contacts per year	10.000
13	Deliverable reports	Create understanding and communicate excellence	Research and industry	Number of downloads from project website	Continuously; 22 public deliverables	22 x 50
14	Final conference (incl. preparation time)	Address stakeholders relevant for exploitations	Audience as per 2.4	Number of participants	End of year 4	100

4.2 Dissemination & Communication Gantt Chart

Given the dissemination and communication strategy and elements illustrated in the previous chapters, a detailed dissemination and communication project schedule was created, covering the 4 years of development of REACH (see **Appendix A: Dissemination and Communication Gantt Chart**). The dissemination and communication project was broken down into 4 major Dissemination Phases (DP), each corresponding to 1 year of development of REACH. During DP 1 ("Create Awareness"), a general awareness regarding REACH and its objectives will be raised, through multi-stakeholders workshops, early testings of existing systems, engagement in some of EC activities (e.g. contributions to EIP AHA work groups, communication through EU-level-platforms), communication with European and international industry and scientific figures (e.g. ISG), participation in relevant scientific conferences, formulation of the corporate identity and communication kit, as well as via webpage, E-newsletter, public media and open to public deliverable reports. During DP 2 and DP 3 ("Create Understanding"), once some tangible results have been released, the dissemination/communication activities will be oriented towards a detailed understanding of the work, specifically targeting audiences that can benefit from or/and influence the project. That will be achieved through active engagement with local networks of the partners, training programs, demonstrations of mock-ups and prototypes, active involvement in EC activities (e.g. adjustment of impact monitoring to the MAFEIP), active engagement with European and international industry and research organizations (DaneAge, AGE Platform Europe, ISG, CIB, HUG Innovation Center, Japanese research networks etc.), participation in scientific conferences and industry oriented trade fairs, as well as through webpage, E-newsletter, public and scientific media, and open to public deliverable reports. During DP 4 ("Motivation for change/action") the adoption and integration of the resulting products/services will be induced and motivated, targeting audiences that understand the results, as well as have the influence and necessary skills and means to adopt the projects' tangible results into their work/organizations. That will be achieved through active engagement of the stakeholders with their local networks and campaigns, training activities (e.g. EuroTech teaching program), standardization activities, final demonstrations of the prototypes, active engagement in EC activities, active engagement with European and international industry and research organizations (e.g. Philips Global), participation in scientific conferences and industry oriented trade fairs, webpage and its envisioned link to Philips service platform, E-newsletter, public and scientific media, public deliverable reports and the final conference, largely covered by

general media and press. Each DP has corresponding concrete dissemination and communication activities, which are assigned to project partners with expertise and coverage in relevant fields and contexts.

5 Detailed Dissemination/Communication Plan for Reporting Period 1

During Reporting Period 1, general awareness regarding REACH and its objectives will be raised, targeting the general public, and audiences that are less pertinent to the project and therefore do not require a detailed knowledge of the work. Such awareness of the project will contribute to "word of mouth" type communication and therefore create a general knowledge and identity of the project within a certain community. That will be achieved through multi-stakeholders workshops, early testings of existing systems, engagement in some of EC activities (e.g. contributions to EIP AHA work groups, communication through EU-level-platforms), communication with European and international technological and scientific figures (e.g. ISG), participation in relevant scientific conferences, formulation of the corporate identity and communication kit, as well as via webpage, E-newsletter, public media and open to public deliverable reports, as detailed in **Table 5-1**.

Table 5-1: Detailed outline of planned dissemination & communication activities for reporting period 1 (M1 to M19)

No.	Activity	Participants	Objective	Audience	Message	Comments/References	Date / Location
1	Active user involvement / early testing	HUG, Lyngby, SC, TUM, Tu/e	Awareness and feedback	Users and stakeholders	Inform the audience about the existing ICT technologies and possibilities, and the further intentions and developments	Up to 50 users involved	ZZ, Lyngby, SK, HUG: during year 1
2	Stakeholder workshops	TU/e, Philips, Sturrm	Understanding and feedback	Users and stakeholders	Introduce REACH to local communities	4 workshops (ZZ, Lyngby, SK, HUG) x 20 stakeholders	ZZ: during year 1 Lyngby: during year 1 SK: 21-22.06.2016 HUG: during year 1
3	REACH related master elective courses (Tu/e, TUM)	TUM, TU/e	Understanding and create ability to act	Students and PhD candidates	Raise awareness among academia and future scientists	4 (1 per year) x 20 students involved	TUM, TU/e: every Winter Semester
4	High-level stakeholders dissemination activities	TUM	Consultancy and raising awareness in their local contexts	Users and stakeholders	Raise awareness about REACH's objectives and benefits for the society	6 high-level stakeholders x 5 contacts	USA, China, Denmark, Japan, EU: continuously, from year 2
5	Communication with other EU PHC projects	TUM, DTU	Create synergies and cooperation relevant to enhance outcomes and exploitability	Project partners of other EU projects	Exchange of knowledge and knowhow	7 other projects	EU: throughout the whole duration of REACH
6	REACH Consortium to become part of Action Group 3 (EIP on AHA)	TUM, DTU, Tu/e, EPFL	Enhance scientific know-how in the filed	Academics and Industry	Exchange of knowledge and knowhow	20 new contacts	EU: from 2016 onwards
7	REACH Consortium to become part of synergy	TUM, DTU, Tu/e, EPFL	Enhance scientific know-how in the filed	Academics and Industry	Exchange of knowledge and knowhow	20 new contacts	EU: from 2016 onwards

	"Framework of Responsible Research and Innovation" (EIP on AHA)					
7	REACH to be featured in The Technologist EuroTech magazine	TUM	Create awareness on EU-level: authority, decision, makers, EC, etc.	General public	Raise awareness about REACH's objectives and benefits for the society	12 500 subscribers per issue, 15 000 website visits per month, more than 2000 followers on Twitter and Facebook	EU/Rest of the world: November 2016
8	REACH Consortium members to participate at an workshop during the ISG symposium	TUM, TU/e, DTU, EPFL	Create contacts relevant for research (technical collaboration) and exploitation	Academics and Industry	Raise awareness about REACH's objectives benefits and knowledge	500 (audience)	Sept. 28-30, 2016, Nice, France
	REACH Consortium to initiate its process of acquiring an ISG membership	TUM	Create contacts relevant for research (technical collaboration) and exploitation	Academics and Industry	Raise awareness about REACH's objectives benefits and knowledge	20 new contacts	From 2017 onwards
9	World Design Capital Taipei (Taiwan) participation	TU/e, Philips	Create awareness about REACH, outside EU	Academics and Industry	Exhibit REACH's tangible results	500 visitors	October 2016
10	Communication with Chinese research networks	TU/e, EPFL	Create awareness about REACH, outside EU	Academics and Industry	Raise awareness about REACH's objectives benefits and knowledge	2 partners with Chinese background x 5 contacts	TU/e, China: July 2016 Continuously from year 2 onwards
11	Website public version	TU/e, TUM	Communicating project progress to outside world (will be adapted over time in accordance with 2.4)	General public	Raise awareness about REACH's objectives benefits and progress	3 000 envisioned visitors p. a.	From July 2016 onwards
12	Regular E-newsletter	TUM, TU/e	Inform about events, activities, and outcomes (will be adapted over time to dissemination phases)	General public	Raise awareness about REACH's objectives benefits and progress	8 total issues x 500 contacts	Every 6 months
13	Corporate identity style guide and communication kit formulation	TUM, TU/e	Create awareness /interest (will be adapted over time in accordance with 2.4)	General public	Create awareness /interest	4 project years x 500 contacts	July 2016, will be further upgraded over time)
14	Participation in science oriented conferences	Research partners	Get in touch with potential market channels: gain knowledge and create awareness	Academics and Industry	Exchange of knowledge and knowhow	6 (4 per year) x 500 (audience)	Worldwide: 4 per year
15	Public Media (on local levels, in local	All	Create awareness (aim/messages to	General public	Inform about REACH's objectives and	1 publication * 4 (countries of the use case	EU: 5-10 public media contacts per year

	languages)		be adapted over time in accordance with 2.4)		benefits for the society	partners) * 2000 (audience)	
16	Deliverable reports	All	Create understanding and communicate excellence	Research and industry	Inform about REACH progress, results and gained knowledge	12 (issues) x 50 (audience)	EU: Continuously, 22 public deliverables

6 REACH's Template for Reporting of Dissemination / Communication Activities

An .xlsx file was created for the unified internal communication of planned/completed dissemination/communication activities. The file called "REACH_Template_Partners-diseminations_03.03.2016.xlsx" was uploaded on Projectplace (Documents/Dissemination Acitivities), an online project management cloud tool, and it is available to all the Consortium partners. The file contains marked fields, where the required information is defined, and colourless fields, which the partners have to fill in with the relevant data. The marked fields are divided into (1) a general title of the required information and (2) an explanation with examples, as shown in **Appendix B: REACH's Template for reporting of diss./ comm. activities**.

The .xlsx file was created by TUM, which is also responsible for collecting the information regarding the dissemination/communication activities. Therefore, each partner will have to update the .xlsx file whenever necessary, by filling in the colorless fields with the relevant information.

The provision of a unified template for collecting data regarding the dissemination/ communication activities enables the retrieval of the same data from every partner and thus, creates a unified picture of all the activities. Moreover, the unified picture of data enables the Consortium to make a clear, detailed statement of number and typology of individual dissemination/communication activities for the Periodic Reports to EC (see **Section 2.8.4**).

7 REACH's Exploitation and Dissemination Panel

The complexity and wide reaching interdisciplinary nature of REACH make proper management structure and procedures absolutely necessary (see **Figure 7-1**). In addition to the Project Coordination Team (PCT), the management of the project carried out by four bodies, namely the General Assembly (GA), representing all the partners in the project, the Steering Committee (SC), the Management & Scientific Committee (MSC), and the Standardisation, Integration, and Testing Committee (SITC). The organisational structure will also include panels such as the Gender Panel (GP), Ethical Panel (EP), Exploitation and Dissemination Panel (EDMP), and an Advisory Board (AB) to ensure a robust project Consortium.

The EDMP will manage the external dissemination/communication opportunities of REACH. This includes the dissemination/communication strategy, as well as the coordinating of effective marketing and advertising campaigns. Prof. Y. Lu (TU/e) will act as the panel chairperson and will lead the dissemination/communication strategy of REACH. Dr. T. Visser will also sit on the panel, providing REACH with an extraordinary avenue for worldwide exposure within the framework of Philips' HSDP. Other members of the panel include Mr. H. Behrens (DIN) and Dr. S. Rüping (Fraunhofer).

The chairperson, Prof. Y. Lu (TU/e), will initiate the meetings of the EDMP, when required.
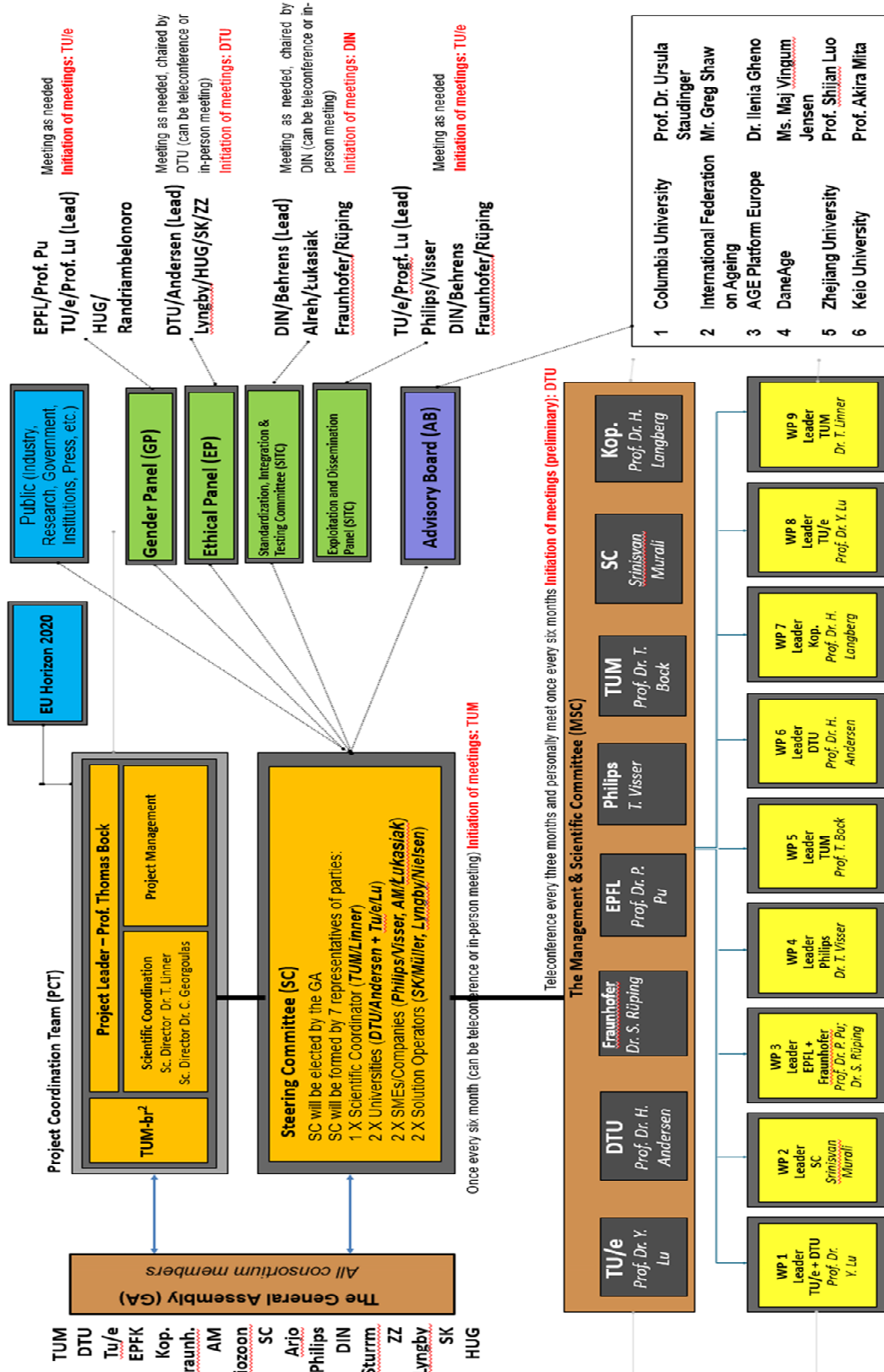
Figure 7-1: REACH's Management Structure and procedures

8 Conclusion

To foster the implementation of REACH's objectives and impacts, and support efficient exploitation of REACH's results, the REACH detailed dissemination plan introduces premises, requirements and strategy for an effective dissemination/communication of REACH, which are further translated into specific dissemination/communication elements, detailed and integrated on a 4-year timeline, in 4 distinct phases. During the first phase, the dissemination/communication activities are predominately oriented towards raising the awareness regarding the project's aims and objectives, targeting the general public and audiences that are less pertinent to the project and therefore do not require a detailed knowledge of the work. During the phases two and three, once some tangible results have been released, the dissemination/communication activities will be oriented towards a detailed understanding of the work, specifically targeting audiences that can benefit from or/and influence the project. During the last phase, adoption and integration of the resulting REACH products/services will be induced and motivated through specific communication tools and messages, to target audiences that understand the results, as well as to have the influence and necessary skills and means to adopt the projects' tangible results into their work/ organizations.

The consortium members will utilise this report when performing any dissemination/ communication activities for REACH and in particular in following contexts:

(1) Detailing of a specific communication activity according to the overall dissemination/ communication strategy, and guidelines defined for REACH,
(2) Identifying relations between the dissemination/communication strategy and other task and activities (stakeholder identification, innovative business strategy, exploitation strategy, etc.),
(3) Communicating REACH's unique selling propositions and distinguishing REACH from other solutions,
(4) Specify and fine-tune the communication channels, audiences, messages, means and languages regarding and commination/dissemination activity,
(5) Usage of the ready-made communication channels (website, newsletter, organizations, associations, etc.),
(6) Usage of the ready-made communication elements (see communication kit, images for emotional communication, etc.),
(7) Usage of the corporate identity style guide and consistency of communication throughout all media,
(8) Identification of relevant measures, events, conferences, and trade fairs on which REACH can be presented and their timing,
(9) Detailed plans, scheduling, and individual responsibilities for various dissemination / communication elements/activities,
(10) Templates for reporting the dissemination/communication activities.

Based on the interlinked tasks identified in **Chapter 2,** and areas that will be taken further during the project's duration (e.g. detailed REACH system architecture, stakeholder analysis, IP rights and business strategy, ethics and security of information model), the communication/dissemination strategy and plan will be realigned and updated on a periodic basis (Version 1: M6, version 2: M22, version 3: M39, version 4: M48).

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9 Appendix

9.1 Appendix A: Dissemination and Communication Gantt Chart

Table 9-1: The Gantt Chart

Months header: February, March, April, May, June, July, August, September, October, November, December, January (repeating)

Week/period numbers: 1 2 3 4 5 6 7 8 9 10 11 12 | 13 14 15 16 17 18 19 20 21 22 23 24 | 25 26 27 28 29 30 31 32 33 34 35 36 | 37 38 39 40 41 42 43 44 45 46 47 48 49

	Responsible
Milestones	
M1 Project launch workshop	TUM
M2 Detailed holistic conceptual solution	TU/e
M3 First system mock ups tested in laboratory grade environments	SC
M4 Testing and evaluation of mock-ups in relevant environment completed	DTU
M5 Launch of final system integration phase	TUM
M6 System integration completed	DTU
M7 Demonstration of prototypes in real world environments completed	Lyngby
M8 Evaluation and system optimization completed, business models and	TU/e
Reviews	
R1 Technical Review (not linked to a payment, review in Brussels)	
R2 Periodic Review (linked to a payment, remote review)	
R3 Technical Review (not linked to a payment, on-site review in Lyngby)	
R4 Final Review (linked to a payment, review in Brussels)	
Reporting Periods	
	Reporting Period 1 / Reporting Period 2 / Reporting Period 3
Dissemination Phases	
	Dissemination Phase 1: Create Awareness / Dissemination Phase 2: Create Understanding / Dissemination Phase 3: Create Understanding / Dissemination Phase 4: Motivate for change/action
3.1 Stakeholder Involvement	**All**
3.1.1 Active user involvement/ early testing	HUG, Lyngby, SC, TUM, Tu/e
3.1.2 Stakeholder workshops	Tu/e, Philips, Sturrm
3.1.2 Local networks and campaigns	ZZ, Lyngby, HUG, SK, AM, Biozoon
3.1.3 Training activities	TUM, Tu/e, DTU, EPFL, Philips
EuroTech teaching program	TUM, Tu/e, DTU, EPFL
REACH related master elective courses (Tu/e, TUM)	TUM, Tu/e
Summer schools	Tu/e, Philips
EPFL: open reserach data	EPFL
3.1.4 Advisory board: high-level stakeholders	TUM
3.2 Testing and Demonstration	**All**
3.2.1 Pre-testing I of mock-ups in laboratory environments	Tu/e, TUM, DTU, EPFL
3.2.2 Pre-testing II of mock-ups in real world environments and larger stake	HUG, SK, ZZ, and Lyngby
3.2.1 Final-testing and evaluation of demonstrators (prototypes) in real worl	Lyngby
3.3 Standardisation Activities	**DIN + All**
3.4 Communication with other EU PHC projects	**TUM, DTU**
3.5 Engagement in EC activities	**TUM, DTU, Tu/e, EPFL, SK, HUG, ZZ, Lyngby**
3.5.1 Contributions to EIP AHA work groups	TUM, DTU, Tu/e, EPFL
3.5.2 Adjustment of impact monitoring to the MAFEIP	DTU, SK, HUG, ZZ, Lyngby
3.5.3 Communication through EU-level-platforms	TUM
3.6 Communication with Industry and Research Organisations	**DTU, Philips, TUM**
DaneAge	DTU
AGE Platform Europe	DTU
Philips Global	Philips
International Society for Gerontechnology (ISG)	TUM
International Council for Building (CIB)	
HUG Innovation Center	
3.7 Communication for Exploitation beyond Europe	**Tu/e, TUM, EPFL, Philips**
World Design Capital Taipei (Taiwan) participation	Tu/e, Philips
Communication with Chinese research networks	Tu/e, EPFL
Communication with Japanese research networks	TUM, Arjo
3.8 Website and E-newsletter	**TUM, Tu/e, Philips**
Stage 1: Website preversion for selected stakeholders	Tu/e, TUM
Stage 2: Website public version	Tu/e, TUM
Stage 3: Website with conceptual links to service platforms	Tu/e, TUM, Philips, Arjo
Regular E-newsletter	TUM, Tu/e
3.9 REACH communication kit	**TUM, Tu/e**
Corporate identity style guide	Tu/e
Text modules + images for public media press releases	TUM
Flyer	TUM, Tu/e
Fact Sheet	TUM, Tu/e
REACH standard overvie presentation	TUM
Templates (for presentations, posters, reporrts, etc,.)	Tu/e, TUM
Stickers for equipment and prototypes	TUM, Tu/e
Explicit multilinguality	All
3.10 Conferences and trade fairs	**All**
Participation in science oriented conferences	Research partners
Participation in industry oriented trade fairs	Industry partners
3.11 Scientific media: Journals and Books	**TUM, Tu/e, DTU, EPFL, Kop., Fraunh.**
3.12 Public Media	**All**
3.13 Deliverable reports	**All**
3.14 Final conference (incl preparation time)	**All**

9.2   Appendix B: REACH's Template for reporting of diss./ comm. activities

		Partner responsible		Activity	Channel	Scientific Publication										Name of Activity	Objective of dissemination	Place		Date	Type of Contribution	Title	Type of audience	Audience	Commercial contacts	Feedback	Social Media	Link to the website of the event	Other information, remarks	Text of the announcement	Relevant image(s) or photo(s)	Status
	Acronym	Name of Contact Person	Email	Type	(e.g. press, event, conference, trade fairs, exhibition, workshops, webinars or master classes, scientific publications, press releases, student course, visits to case studies, e-newsletter, e-brochure, final conference brochur, poster, webpage, videos, films, interview, brokerage event, pitch event, activity organised jointly with other H2020 projects, etc.)	Type of scientific Publication (Article in journal, Publication in conference proceedings/workshop, books/monographs, chapters in book, thesis/dissertation)	Authors (insert Authors names)	Number (insert number of the journal)	ISSN or eSSN (insert ISSN or eSSN number)	DOI (insert DOI reference)	Publisher	Relevant Pages (insert first page - insert last page of the publication)	Peerreview [Yes/no]	Public & private participation [Yes/no]	Is/Will open access provided to this publication [Yes - Green OA (insert length of embargo if any], [Yes - Gold OA (insert the amount of processing changes in EU if any], [no]	(e.g. Name of Conference, Journal, Workshop, Trade Fair, etc.)	(e.g. presentation of project results, raising awareness, dissemination of scientific knowledge derived from REACH, dissemination of case studies, presentation of commercial results to gain interest in potential clients, networking with other EU projects, networking with local/regional entities, topics of the activity, other - please indicate)	City	Country	DD.MM.YYYY	(e.g. Organisation Team, Speaker, Poster Presentator, Autor of an article, Exhibitor, Participant to conference/workshop/event/,etc.)	(e.g. of Presentation, Article, Poster, scientific publication, etc.)	(SMEs (producers, contracting companies/investors, ICT developers); trade associations, clusters of producers ; Science & Research Communities: individual scientists, research centres, investors, media, Policy makers, General Society, Civil Society, Industry, Scientific Community, Customers, other)	No. of people (for planned - expected; for finalised - no of people that participated)	(for planned : please provide whether there will be possibility to establish commercial contacts during this event: YES or NO; for finalised - please write number of commercial contacts established)	(e.g. Feedback from Audience, additional information, which can be relevant for the project)	(e.g. facebook, twitter, etc.)	(if available)	(e.g. support needed from Partner, Dissemination Team)	(if you would like to publish this information on the REACH website, can be included in the "Text of the announcement")	(if any, you can provide image/photos, which can be included in the "Text of the announcement")	(planned / submitted / accepted / published / finalised)
1	TUM	Katharina Langosch	katharina.langosch@tr2.ar.tum.de	Conference Paper	Conference	not at the moment	Seongki Lee, Katharina Langosch, Thomas Bock	not at the moment	not at the moment	not at the moment	not at the moment	not at the moment	not at the moment	not at the moment	not at the moment	International Conference on Advanced Building Skins	presentation of project results	Bern	Switzerland	10-11.10.2016	Oral presentation, speaker	Modular façade kit system for Net Zero Energy settlements	Architects, engineers, scientists, manufacturers and the building industry to reduce energy consumption of a building,, other building professionals and key players in the field	expected 600	No	not at the moment	not at the moment	www.abs.green.	No	not at the moment	not at the moment	submitted

9.3 Appendix C: REACH and other projects. Detailed overview

Table 9-2: PreventIT

Project name	PreventIT
Project coordinator	Prof. Jorunn L. Helbostad (NTNU)
Project full name	Early risk detection and prevention in ageing people by self-administered ICT-supported assessment and a behavioural change intervention delivered by use of smartphones and smartwatches
Objectives	PreventIT will develop and test an ICT based mHealth System (iPAS) for the consumer market that (1) enables early identification of risk of age-related functional decline, and (2) engenders behavioural change in younger older adults in order to adopt a healthy, active lifestyle
Target group	Younger older adults, at risk of age-related functional decline, leading to falls, cognitive impairment, frailty and low quality of life
Sensor application	Smartphone and smartwatch
ICT platform	Smartphone/watch as frontend technology and protected cloud-based solution as backend technology
Applied environment	Daily living environment
Intervention	Intervention will be delivered on a smartphone / watch, with exercise integrated in daily life and a behaviour change programme
Impact	The chances for iPAS to become a first choice in mHealth system for the ageing generation are rather high, due to the strong interdisciplinary team with previous impact in the field of ageing and ICT, and commercial partners who are strong on technology development and exploitation
Partners (academia or industry)	NORWEGIAN UNIVERSITY OF SCIENCE AND TECHNOLOGY, UNIVERSITY OF BOLOGNA, VRIJE UNIVERSITEIT AMSTERDAM, ROBERT-BOSCH-KRANKENHAUS, THE UNIVERSITY OF MANCHESTER, AZIENDA SANITARIA DI FIRENZE, EPFL, DOXEE SPA, HEALTH LEADS BV
Total cost	EUR 4 607 950

Table 9-3: City4Age

Project name	City4Age
Project coordinator	Prof. Paolo Paolini (POLITECNICO DI MILANO)
Project full name	Elderly-friendly City services for active and healthy ageing
Objectives	(1) Enable Ambient Assisted Cities or Age-friendly Cities, (2) provide a range of associated tools and services which will mitigate the detected risks, (3) define a model which will provide sustainability and extensibility to the offered services and tools

Target group	Test Bed Madrid: People over 80 years old that use the public transport and have a Public Transport Card and a smartphone. Test Bed Athens: Elderly people that are frequent members of the Athens City Friendship Clubs and participating in the activities organised by the Clubs. Test Bed Singapore: Senior citizens already going to their nearby community centre. Test Bed Montpellier: senior citizen, most of them being over 80 years-old, living alone with decreased physical abilities and may be suffering from mild dementia. Test Bed Lecce: People over 75 years old that live alone and risk alienation problems. Test Bed Birmingham: Elderly citizens over 65 years, capable of walking without aid, who use public transport
Sensor application	Cost effectiveness of deployed sensor systems in deployed test beds
ICT platform	State of art for ICT technology (1) for "sensing" personal data and exposing them as linked open data, (2) for designing the algorithms and the API's to extract relevant behaviour changes and correlated risks, and (3) for designing interventions to counter the risks
Applied environment	Daily living environment, both at home and public spaces
Intervention	The intervention will include user-specific exercises and correct behaviour recommendations, user-specific carers input, stimulation of social interaction, GPS-based tracking and guiding home, sending alerts and messages to carers regarding patient's condition, educating elderly about benefits of ICT and smart technology
Impact	(1) Evidence for the benefits of risk detection and intervention, (2) clear improvements of outcomes for individuals, care systems and wider society, and (3) global leadership
Partners (academia or industry)	POLITECNICO DI MILANO, UNIVERSIDAD DE LA IGLESIA DE DEUSTO, GEOMOBILE GMBH, MUNICIPALITY OF LECCE, UNIVERSIDAD POLITÉCNICA DE MADRID (UPM), CONSORCIO REGIONAL DE TRANSPORTES DE MADRID, DAEM S.A. (CITY OF ATHENS IT COMPANY), UNIVERSITÀ DI PAVIA, ATHENS TECHNOLOGY CENTRE S. A., CNRS - IPAL, BELIT TECHNOLOGIES, UNIVERSITÀ DEL SALENTO, MULTIMED ENGINEERS SRLS, CBC - UNIVERSITY COLLEGE LONDON, BIRMINGHAM CITY COUNCIL, FUTURE CITIES LAB
Total cost	EUR 4 472 750

Table 9-4: FrailSafe

Project name	FrailSafe
Project coordinator	Prof. Vasileios Megalooikonomou (University of Patras)
Project full name	Sensing and predictive treatment of frailty and associated co-morbidities using advanced personalized patient models and advanced interventions
Objectives	The aim is ambitious: delaying frailty by developing a set of measures and tools, together with recommendations to reduce its onset. FrailSafe Objectives are divided into Medical (MOs) and Technological Objectives (TOs). Medical Objectives are related to the identification of quantitative and qualitative measures of frailty and the associated co-morbidities. TOs concern the development of an ICT solution that will deliver rehabilitation, and ultimately lead to prediction, prevention and self-management of frailty symptoms
Target group	Older people suffering from frailty
Sensor application	Real life sensing (physical, cognitive, psychological, social) through ambient and wearable sensors

ICT platform	An ICT solution that will deliver rehabilitation, and ultimately lead to prediction, prevention and self-management of frailty symptoms
Applied environment	Daily living environment
Intervention	Physiological reserve and external challenges (guidelines, real-time feedback, AR serious games)
Impact	(1) To better understand frailty and its relation to co-morbidities, (2) to identify quantitative and qualitative measures of frailty through advanced data mining approaches on multiparametric data and use them to predict short and long-term outcome and risk of frailty, (3) to develop real life sensing (physical, cognitive, psychological, social) and intervention (guidelines, real-time feedback, AR serious games) platform offering physiological reserve and external challenges, (3) to provide a digital patient model of frailty sensitive to several dynamic parameters, including physiological, behavioural and contextual; this model being the key for developing and testing pharmaceutical and non-pharmaceutical interventions, (4) to create "prevent-frailty" evidence-based recommendations for the elderly, (5) to strengthen the motor, cognitive, and other "anti-frailty" activities through the delivery of personalised treatment programmes, monitoring alerts, guidance and education, and (6) to achieve all with a safe, unobtrusive and acceptable system for the ageing population while reducing the cost of health care systems
Partners (academia or industry)	UNIVERSITY OF PATRAS, BRAINSTORM MULTIMEDIA, SMARTEX, AGE PLATFORM EUROPE, CENTER FOR RESEARCH AND TECHNOLOGY HELLAS/INFORMATION TECHNOLOGIES INSTITUTE, MATERIA GROUP, GRUPPO SIGLA., HYPERTECH, UNIVERSITY HOSPITAL OF NANCY AND INSERM U1116 NANCY
Total cost	EUR 3 820 896,25

Table 9-5: i-PROGNOSIS

Project name	i-PROGNOSIS
Project coordinator	Prof. Dr. Leontios Hadjileontiadis (Aristotle University of Thessaloniki)
Project full name	Intelligent Parkinson eaRly detectiOn Guiding NOvel Supportive InterventionS
Objectives	(1) Build early detection tests for Parkinson's disease based on users' interaction with everyday technology, (2) design interventions to sustain the quality of patients' life over the course of Parkinson's disease, and (3) empower people to affect policies & reduce hospitalisation
Target group	i-PROGNOSIS community with 5000 older individuals within the duration of the project: high-risk group or patients with Parkinson disease
Sensor application	Smartphones and fitness bands to smart connected everyday objects (Internet of Things) and serious games
ICT platform	Unobtrusively sense large scale behavioural data from its members, acquired from their natural use of mobile devices (smartphone/smartwatch)
Applied environment	Daily living environment
Intervention	Personalised Game Suite, nocturnal intervention for physical / emotional support, targeted nocturnal intervention to increase relaxation / sleep quality, and assistive interventions for voice enhancement and gait rhythm guidance
Impact	i-PROGNOSIS will constructively contribute to active and healthy ageing. By combining technology with medical expertise, i-PROGNOSIS can advance the way Parkinson's disease is foreseen and treated

Partners (academia or industry)	ARISTOTLE UNIVERSITY OF THESSALONIKI, CENTER FOR RESEARCH AND TECHNOLOGY HELLAS, MICROSOFT INNOVATION CENTER GREECE, COSMOTE MOBILE TELECOMMUNICATIONS S.A., AGE PLATFORM EUROPE, TECHNISCHE UNIVERSITAT DRESDEN, FRAUNHOFER, UNIVERSIDADE DE LISBOA, PLUX – WIRELESS BIOSIGNALS S.A., KAROLINSKA INSTITUTET, KING'S COLLEGE LONDON
Total cost	EUR 3 921 302,5

Table 9-6: my-AHA

Project name	my-AHA
Project coordinator	Prof. Alessandro Vercelli (University of Turin)
Project full name	My Active and Healthy Aging
Objectives	The main aim of my-AHA is to reduce frailty risk by improving physical activity and cognitive function, psychological state, social resources, nutrition, sleep and overall well-being. It will empower older citizens to better manage their own health, resulting in healthcare cost savings
Target group	Older adults with interrelated frailties (cognitive decline, physical frailty, depression and anxiety, social isolation and poor sleep quality), who are a major burden to older adults and social and health care systems
Sensor application	Unobtrusive behavioural sensing via non-stigmatising embedded sensors in daily living settings
ICT platform	An ICT-based platform will detect defined risks in the frailty domains early and accurately via non-stigmatising embedded sensors and data readily available in the daily living environment of older adults
Applied environment	Daily living environment
Intervention	When risk is detected, my-AHA will provide targeted ICT-based interventions with a scientific evidence base of efficacy, including vetted offerings from established providers of medical and AHA support. These interventions will follow an integrated approach to motivate users to participate in exercise, cognitively stimulating games and social networking to achieve long-term behavioural change, sustained by continued end-user engagement with my-AHA
Impact	The proposed platform provides numerous incentives to engage diverse stakeholders, constituting a sustainable ecosystem with empowered end-users and reliable standardised interfaces for solutions providers, which will be ready for larger scale deployment at project end. The ultimate aim is to deliver significant innovation in the area of AHA by cooperation with European health care organizations, SMEs, NGOs
Partners (academia or industry)	UNIVERSITY OF TURIN, ASSOCIACAO FRAUNHOFER PORTUGAL RESEARCH, DEUTSCHE SPORTHOCHSCHULE KOLN, GESTIO SOCIOSANITARIA AL MEDITERRANI SL, INSTITUT FUR EXPERIMENTELLE PSYCHOPHYSIOLOGIE GMBH, INSTITUTO DE BIOMECANICA DE VALENCIA, L'ISTITUTO SUPERIORE MARIO BOELLA, JOHANNITER OSTERREICH AUSBILDUNG UND FORSCHUNG GEMEINNUTZIGE GMBH, KAASA SOLUTION GMBH, LOUGHBOROUGH UNIVERSITY, UNIVERSITAET SIEGEN, IP HEALTH SOLUTIONS BV, JIN CO.,LTD., SEOUL NATIONAL UNIVERSITY, NATIONAL UNIVERSITY CORPORATION TOHOKU UNIVERSITY, UNIVERSITY OF THE SUNSHINE COAST
Total cost	EUR 5 168 451,25

Table 9-7: ACANTO

Project name	ACANTO

Project coordinator	Prof. Luigi Palopoli (University of Trento)
Project full name	A CyberphysicAl social NeTwOrk using robot friends
Objectives	The ACANTO project aims to develop a portfolio of technical solution that can serve this purpose. More specifically, the goal is to spur older adults into a sustainable and regular level of physical exercise under the guidance and the supervision of their carers
Target group	People in advanced countries who report activity limitations, which grows significantly with age
Sensor application	Sensing and actuation devices which are integrated into FriWalk, a robotic friend
ICT platform	To develop robotic technologies and haptic devices, which are integrated in the FriWalk; in addition, to develop the visual and audio interfaces that are integrated in the FriTab
Applied environment	Daily living environment
Intervention	The key elements of ACANTO are a robotic friend (the FriWalk) that supports the user in the execution of daily activities that require physical exercise and an intelligent system that recommends activities that a senior user perceives as compelling and rewarding. The FriWalk takes the form of a standard walking assistant, but it is in fact an intelligent robot that is able to localise itself, to sense the surrounding environment, to plan a course of action that suits the user needs and to guide the user along safe routes. The FriWalk is also a personal trainer that can support the user in the execution of a training programme, monitor the motion of the user in search of muscular or gait problems and report them into the user profile (that can be inspected by doctors and physicians)
Impact	The ACANTO project is expected to produce important societal and economic impacts: (1) produce factual and measurable evidence for the benefits of service robotics in the context of active ageing, (2) contribute to the reduction of admissions and day spent in care institutions, and (3) improve the quality of life of older persons and of their carers
Partners (academia or industry)	UNIVERSITA DEGLI STUDI DI TRENTO, ENVITEL TECNOLOGIA Y CONTROL S.A., FOUNDATION FOR RESEARCH AND TECHNOLOGY HELLAS, UNIVERSITY OF NORTHUMBRIA AT NEWCASTLE, UNIVERSITA' DEGLI STUDI DI SIENA, INSTITUT NATIONAL DE RECHERCHE ENINFORMATIQUE ET AUTOMATIQUE, SERVICIO MADRILENO DE SALUD, SIEMENS AKTIENGESELLSCHAFT OESTERREICH, TELECOM ITALIA S.P.AITALY, ATOS SPAIN SA
Total cost	EUR 4 295 755

Table 9-8: ICT4LIFE

Project name	ICT4LIFE
Project coordinator	Artica Telemedicina
Project full name	ICT services for Life Improvement For the Elderly

Objectives	ICT4Life aims at increasing the quality of life and the autonomy of older adults in their own homes, nursing homes, day care centres and hospitals by providing proactive and patient centred care from either formal or informal care givers' remote stations; ICT4Life Platform will deliver a series of innovative services which will connect elderly people with cognitive impairments and other dementias, Alzheimer's and Parkinson's diseases, clinicians and formal and informal caregivers; ICT4Life radical innovations for integrated care will be implemented by means of an efficient and cost-effective ICT-based Health Service Platform which exploits latest technological advances.
Target group	Older people with dementia, early Alzheimer or Parkinson, their caregivers and health workers
Sensor application	Advanced multisensory based analytics integrated in biomedical devices
ICT platform	Provide new services for integrated care employing user-friendly ICT tools, ultimately increasing patients with Parkinson's, Alzheimer's and other dementias and their caregivers' quality of life and autonomy at home.
Applied environment	Homes, nursing homes, day care centres and hospitals
Intervention	For patients: helping the patients to exert their right to access their personal healthcare data and to record their own checks; monitoring the health status of the patients to better understand the evolution of their health status; reminding the patients to take actions in order to promote the maintenance of their general conditions. For caregivers, ICT4Life will send these end-users alerts and messages about any change in patient's health status or behaviour, thus supporting the follow-up and pro-active interventions. Moreover, ICT4Life will offer them personalised training, decision making support and contact with health professionals. For health professionals: ICT4Life will support the healthcare professionals in tracking the health conditions of their patients and in accessing to integrated information through stationary devices. ICT4Life will also enhance the communication between the healthcare professionals, the caregivers and the patients
Impact	ICT4Life will conduct breakthrough research and radical innovation and will implement the ICT4Life Platform. ICT4Life Platform will deliver services, aimed at increasing the quality of life and the autonomy of elders in their own homes, nursing homes, day care centres and hospitals; ICT4Life Platform will support health professionals and formal and informal caregivers in the provision of integrated care to people affected by cognitive impairments at an early stage; ICT4Life Platform will provide proactive and patient-centred care using robust and secure communication channels and dedicated digital interfaces; ICT4Life Platform will be tested in real operating environments, through extensive pilots.
Partners (academia or industry)	Artica Telemedicina S.L., Eseniors, European Hospital and Healthcare Federation, Centre for Research & Technology Hellas, Maastrich University, Netis system, Madrid Parkinson Association, The University of Pécs Medical School, Polytechnic University of Madrid
Total cost	EUR 3 433 218,75

Table 9-9: REACH

Project name	REACH
Project coordinator	Prof. Thomas Bock (Technical University of Munich)
Project full name	Responsive Engagement of the Elderly promoting Activity and Customized Healthcare
Objectives	REACH represents a solution that seeks to prevent elderly citizens from loss of function and a decline of being able to perform Activities of Daily Living (ADLs) independently leading ultimately to entering LTC

Target group	The target group of older citizens in European societies who may be able to engage in and gain from the REACH monitoring and activation platform is between 15% and 25% of the ≥65 population
Sensor application	A series of interconnected wearable and in furniture embedded sensors
ICT platform	REACH is an open solution that proposes its own innovative systems while remaining compatible with existing sensing systems and technologies. This is demonstrated by REACH's cross-compatibility and integration of Philips' HealthSuite Digital Platform (HSDP)
Applied environment	Home / home-care environment without modifying the infrastructure
Intervention	Novel and user specific interventions such as: delivery of customized services and products, stimulation and support of physical activity and training, patients' motivation, etc.
Impact	REACH entails multiple benefits forthe elderly and for care systems it contributes to a significant reduction of cost though reducing the amount of doctor's care and LTC admissions. REACH will allow European industry including SMEs to capitalise on the European high-tech knowhow and make Europe a market leader in prevention technologies, services and underlying health care ICT platforms
Partners (academia or industry)	TECHNISCHE UNIVERSITAET MUENCHEN, DANMARKS TEKNISKE UNIVERSITET, TECHNISCHE UNIVERSITEIT EINDHOVEN, ECOLE POLYTECHNIQUE FEDERALE DE LAUSANNE, KOBENHAVNS UNIVERSITET, FRAUNHOFER GESELLSCHAFT ZUR FOERDERUNG DER ANGEWANDTEN FORSCHUNG E.V., ALREH MEDICAL SP ZOO, BIOZOON GMBH, SMARTCARDIA SARL, ARJOHUNTLEIGH AB, PHILIPS INTERNATIONAL B.V., DIN DEUTSCHES INSTITUT FUER NORMUNG E.V., STURRM BV, STICHTING ZUIDZORG, LYNGBY-TAARBÆK KOMMUNE, SCHON KLINIK BAD AIBLING GMBH & COKG, LES HOPITAUX UNIVERSITAIRES DE GENEVE, PHILIPS ELECTRONICS NEDERLAND B.V.
Total cost	EUR 6 078 661,56