AAL Project

NITICS

Networked InfrasTructure for Innovative home Care Solutions

WP6: Business model design, dissemination, exploitation and commercialization

D6.2: Stakeholder management – Release 2 (M12)

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Executive Summary

This document elaborates involvement of stakeholders in the NITICS project. This document is structured in the following sections:

Section 1: *Introduction* enumerates the objectives of this deliverable and gives an overview of the general NITICS Stakeholder management aspects addressed in this context.

Section 2: *Project overview* gives an overview of the NITICS concept, its context and motivation that drives the work.

Section 3: *Activities* presents activities undertaken within NITICS to involve stakeholders in the NITICS design and evaluation process.

Section 3.1: *Stakeholder management approach and methods* covers *a*pproach methodology design with workflow and timeline and an international stakeholder list.

Section 3.2: *Stakeholder identification and recruitment* review results on stakeholders' identification and stakeholders' recruitment.

Section 3.3: *Stakeholders consultations and engagement with stakeholders* gives results on initial consultations and related activities and feedback through the Consultation paper

Section 3.4: *Visioning events with stakeholders* presents visioning events organised by the project partners to harvest ideas by stakeholders in direct contacts at the visioning events.

Section 3.5: *Stakeholder feedback analysis evaluates* responses from the stakeholders and presents results of the feedback analysis.

Section 4: *Conclusions* gives general conclusions on stakeholder management.

Table of contents

 Call AAL-2012-5

List of figures

List of tables

Abbreviations

AAL   Ambient Assisted Living

CMU   Central Management Unit

DoW   Description of Work

EC   European Commission

EU   European Union

GA   General Assembly

JP   Joint Programme

NITICS   Networked InfrasTructure for Innovative home Care Solutions

PC   Project Coordinator

WPx   Work Package x (x=1-6)

1 Introduction

This document reports on the results of the work done in the NITICS project (Networked Infrastructure for Innovative home Care Solutions) with different key stakeholders that are involved in the area of new technologies for elderly people. Their continuous involvement is fundamental to the success of the project. The activities run within *WP6 - Task 6.2 Stakeholder management* in which stakeholders' requirements will be investigated.

Key stakeholders to be involved in exploiting the NITICS platform will be recruited among technology providers, installation companies, technical installation companies, service providers, as well as organizations of care providers and of senior citizens.

Intermediate results of the project will be discussed with a relevant stakeholder panel of actors. At least three sessions are planned to be organized internationally, while on a national level two sessions per year are planned.

The Task 6.2 and consequently also this deliverable D6.2 depend on the results of other work packages (WPs).

2 Project overview

As detailed in [DoW], the Networked Infrastructure for Innovative home Care Solutions (NITICS) project addresses precisely the aspects that are related to the Ambient Assisted Living Joint Programme (AAL JP) Call 5 by designing and building an integrated, expandable and holistic platform that enables advanced ICT services including monitoring and navigational support to elderly persons in their home during their daily activities. NITICS platform also offers solutions for several services for people with disabilities (mobility handicap and cognitive disabilities). The NITICS project aims at providing ICT services that would enable them to extend the period of their independent living at home. The NITICS project partners believe that overcoming the well recognized barriers in new technology deployment and acceptance is possible by developing and implementing services as well as by re-organising the ways in which care is provided to senior citizens. The idea behind is to accustom elderly people to new technologies in an organized environment in which specialized caregivers can aid them in getting familiar with the NITICS services. A successful implementation of this strategy may prove benefits of using NITICS in supporting everyday activities of elderly people and will encourage the elderly outside organized care system to use the services. Moreover, caregivers will also become familiar with the NITICS services and will be able to advice the direct users. In the design process NITICS will relate itself to the projects that have already addressed needs of elderly people by providing service platforms like AAL project A2E2, AGNES, ALADIN, AMCO, AMCOSOP, AWARE, BREATHE, Care@Home, CCE, Co-Living, EDLAH, ELF@Home, EMOTIONAL, ENTRANCE, HERA, HOMEdotOLD, HOPE, MEDiATE, PeerAssist, REMOTE, SilverGame, TOPIC, WeCare, 3^{rD}-LIFE, [AAL_Catalogue_2013]. NITICS group will sought inspirations also from the results of FP5-FP7 projects e.g. Confident [Confident], Doc@Home [Doc@Home], EPI-MEDICS [EPI-MEDICS], HEARTS [HEARTS], HomeSweetHome [HomeSweetHome], IDEAS [IDEAS], IiE - ImPaCT in Europe [IiE - ImPaCT in Europe], RENEWING HeALTH [RENEWING HeALTH], Silc [Silc], SOPRANO [SOPRANO], Telecare [Telecare], TELEMEDICARE [TELEMEDICARE], HATICE [HATICE], which clearly address support for elderly people.

The aim of the NITICS project is also to develop an integrated platform that enables the implementation and deployment of mobility services for disabled people more quickly and more cost effectively, including many services that can keep their cognitive capability (at both physical capabilities affected by cognitive impairments and mental level) intact.

As highlighted in NITICS Description of Work [DoW], the NITICS dissemination strategy (including the stakeholder management) is envisaged at several complementary levels:

- **European level:** We will identify a list of already existing national and international events and will check with the organisers for the possibility of carrying out piggy back activities (e.g. holding a workshop, distributing NITICS brochures, etc.). Dissemination on the European level will ensure spreading of information at multinational level, way beyond the countries represented by the project partners.

- **National & regional level:** The goal is to attain national-wide awareness among the main stakeholders, including senior associations, governmental, and regional entities and individual targets among senior citizens. The governments and the regional entities are important targets to

disseminate NITICS results due to: a) their influence in decision making forums, policies and programs; b) national visibility; c) possibility to act as intermediaries between the senior professionals and the recipients of their services. The main goal of dissemination for this group is to create awareness about the important role they can play in the extension of senior's independent living and maintaining their functional capacity over the life course. The senior professionals and their associations represent one of the NITICS target stakeholders together with non-profit organizations and medical institutions acting in this field. Consequently, NITICS will establish contacts with these organizations and will create a platform or network which will be used to attract a large number of representatives to NITICS national/regional workshops and local activities.

- **Project level:** Dissemination of information at project level ensures quality information exchange on the implementation progress, barriers and drivers, experiences, results and outcomes, gathered and identified in the preparation and implementation phases in the partner cities. It provides information to the Project Coordinating Group and WP Leaders and, with a closed information loop, feedback information about the on-going dissemination process. Therefore, regular dissemination meetings will be held.

NITICS will involve stakeholders that are core in its eco-system. Although the main focus is on users and development of added value services for them, this cannot be done without involving relevant players from the eco systems, contributors, complementary as well as competitors that play crucial role throughout all project phases.

3 Activities

This section presents activities undertaken within NITICS to involve stakeholders in the NITICS design and evaluation process.

3.1 Stakeholder management approach and methods

In the section a stakeholder management *a*pproach methodology is presented together with its workflow, timeline and international stakeholder list. So called *Consultation paper* will be designed to get written opinion and feedback from stakeholders through interviews and visioning events.

A **project environment analysis,** also referred to as "**stakeholder analysis",** is a technique that is used to identify and assess the importance and impact of the project's stakeholders.

Procedure:
- Identification of project environment (collection of stakeholders)
- Grouping according to social and technical/business aspects
- Evaluation of the project environment and detailed analysis of separate influencing variables
- Development of strategies and measures.

3.2 Stakeholder identification and recruitment

The section reviews results on stakeholders identification and stakeholders recruitment. Benefits of using a stakeholder-based approach are:
- The opinion of the stakeholders is used to shape the NITICS project at an early stage. The continuous involvement of the stakeholder will improve the quality of the project.
- The support from the involved stakeholders consists in more resources and competencies
- By early and frequently communication with stakeholders NITICS partners will ensure that they understand the steps made in the fulfilment of the project processes and their status - we expect their active support when invited.
- Based on the stakeholders' experiences and interests we may anticipate how other actors would accept and use the project services. We may improve the project plans by actions that result in an win-win support to the project.
- The project environment analysis is a step for risk management related activities.

3.2.1 Stakeholders recruitment

Stakeholders' recruitment is done in the project initiation using one of the next methods:

- Questionnaire technique: Identification of user requirements, problems, tasks, motivation of potential users. Which functions are needed frequently, which functions must be capable of being called up rapidly, how the application environment looks like, detection of non-functional requirement etc.
- Focus groups: identification of user requirements, problems, tasks, motivation of potential actors
- Brainstorming: identification of usability requirements
- Usability tests: evaluation of previous products or competitor products

Information will be collected by:

- Questionnaires, interviews, contextual inquiries and by observation of users in the field study
- User participation in the analysis of the use context with focus groups and/or by brainstorming
- Evaluation of existing system (usability inspection, usability test)
- Verbal feedback from the target platform actors.

Within WP2, CITST has requited 61 primary users (elderly living independently at home) and 16 secondary users within the multinational survey aiming at specifying the NITICS platform and services. In addition to the primary and secondary users engaged in the WP2.1 survey, CITST has also recruited 8 stakeholders as part of the focus group to give feedback on the NITICS developments within WP2.2. The recruited stakeholders belonged to the following type of institutions: 1) mobile phone companies; 2) telecommunication network infrastructure; 3) software development and testing companies; and 4) medical and insurance companies. Most of the interviewed IT stakeholders were part of middle layer management or qualified medical personnel. In all cases the recruitment was done through the personal network of CITST.

3.3 Stakeholders consultations and engagement with stakeholders

The section gives results on initial consultations and related activities and feedback gathered with a Consultation paper.

3.3.1 Initial consultations and related activities

The target population of NITICS are elderly people living in their home environment. The project aims at providing ICT services that would enable them to extend the period of their independent living at home. The NITICS project partners believe that overcoming the well-recognized barriers in new technology acceptance is possible by developing and implementing services as well as by re-organising the ways in which care is provided to senior citizens. The idea behind is to accustom elderly people to new technologies in an organized environment in which specialized caregivers can aid them in getting familiar with the NITICS services. A successful implementation of this strategy will proof the benefits of using NITICS in supporting everyday activities of elderly people and will encourage the elderly outside organized care system to use the services. Moreover, caregivers will also become familiar with the NITICS services and will be able to advice the direct users.

CITST has engaged in Romania both elderly people living independently at home and care giving organizations. Additionally, in order to aid with the financial aspects of ICT services for the elderly, one of the option is to engage health insurance companies to accept NITICS services as part of their coverage policy and to partially or fully reimburse costs for the services provision. We have therefore established initial contacts with such organizations.

CITST has engaged a significant number of elderly people in the NITISC related activities, who will be directly involved as users of the services considered by the project and who will be able to subsequently benefit from the project outcomes. Elderly people, the main NITICS end-users, do not represent a homogeneous population group as regards to health situation, personal needs, aspirations and living circumstances. Consequently, it was expected that the relevance of, and demand for NITICS-based services and support will vary substantially across the overall elderly population, and that particular subgroups might be more relevant for particular markets and/or types of service/products. An initial survey with 61 elderly in various Romanian communities has achieved a prioritisation of the end-users needs which will form the basis

of NITICS platform development. The extended presentation of the survey results is part of the D2.1 deliverable.

Additionally, CITST has initiated consultations with providers of elderly care: public and private suppliers of social and health care services to elderly people. A number of 20 individual caregivers have been interviewed in relation with the needs of elderly people that can be addressed by NITICS. Also, CITST has established contacts with care organizations like Sf. Nectarie in Cluj Napoca which comprises an interdisciplinary team of doctors, medical assistants, social workers, etc. Another organisation contacted by CITST is the Milly Senior Village in Bacau.

The corporate stakeholders engaged in the focus groups giving feedback on the NITICS services and implementation were interviewed in groups no larger than 2-3 people to avoid chaotic and difficult-to-follow discussion. In some partner countries the conversation was recorded. In Romania, the involved stakeholders have refused audio recording of the conversation to preserve their anonymity. Consequently, in Romania the CITST representative conducting the research has taken written notes of the discussions. Following a brief introduction of the NITICS project and the purpose of the discussion the participants were asked the following questions:

- What do you think about the idea/product?

- What kind of additional functionalities/ services should be included in the NITICS platform?

- What do you think would be most important to elder people?

- Do you have any elder relatives who require care? Do you think the assistant would help her/him to get around on daily basis? (why?/ why not?). Would you consider paying for such services for your relative? (ie. mother/ father/ grandparents);

- How much per month would you be willing to spend?

These questions were used to initiate discussions during which the participants were encouraged to express preferences, negotiate, disagree and agree. This kind of discussion proved to be a great opportunity to collect various opinions on the NITICS platform and subsequently on a Mock-up presentation of one of the NITICS services. The main idea of presenting a Mock-up interface was to elicit opinions on the interface of a given functionality. The Mock-up was presented to the participants on a computer screen or tabled and they were allowed to navigate it, to try various icons, to ask questions and give feedback. The product idea was generally considered as very interesting although several of the participants, in particular those working in the IT sector, pointed out that similar solutions will soon reach the market as they are already announced by large players in the field. For example, Texas Instruments and iHealth are already commercializing their own line of wireless devices and corresponding management interfaces. In particular, iHealth has announced its entering on the Romanian market with a full line of Bluetooth health-monitoring devices for monitoring blood pressure, glucose level, segmental weight, oxygen levels, etc offered at very competitive prices. Regarding the evaluation of the idea and product, it was pointed out that it also has potential in monitoring children while at home alone. The home automation, reminders, indoor localization game and eventually even the fall detector can be very useful in this case. Additionally, such a system can be particularly useful for children having some chronic health conditions, like for example diabetes.

3.4 Visioning events plan with stakeholders

This chapter presents visioning events organised by the project partners to harvest ideas by stakeholders in direct contacts at the visioning events.

Stakeholders are not a homogenous group. Therefore they were divided into three groups within the NITICS project. Each of them requires different attention and specific communication methods. Consequently events with stakeholders should deliver not only individual users and their families opinion, but also those from healthcare institutions, companies etc. Moreover, blockers and opponents should also take a part at the stakeholders events. This approach guarantees that the analysis will involve many different opinions. In NITICS we distinguish the following type of stakeholders:

Stakeholders I:

Representatives of the stakeholder group I are frail people, mainly senior persons that have certain demands for social support and technology solutions. They share their needs with their caregivers, social and healthcare workers and other members of their social network.

Stakeholders II:

In the stakeholder group II there are experts and opinions makers (doctors, officials, businessmen/businesswomen) in the area of Ambient Assistant Living, such as healthcare organizations (hospitals, care providers), user associations, NGOs, universities and others.

Stakeholders III:

Members of the stakeholder group III are national governments, local governments, business sector etc. The business sector represent companies and/or resellers.

Table 1: The targeted stakeholders

STAKEHOLDERS		
Stakeholder Group I	**Stakeholder Group II**	**Stakeholder Group III**
Elderly people Caregivers	User associations Universities Social and healthcare organizations Nursing homes	Companies Resellers

Communication to different market segments must be done in a cohesive way and has to transmit the message of well-being and the desired benefits. On the other hand, this plan should also come in a segmented way in order to achieve identity and empathy of each market segment to be addressed.

Events which could be organised during the stakeholders meetings are presented in Table 2 where also pros (+) and contras (-) are indicated.

Table 2: Planned events with the targeted stakeholders

Event	Pro "+"	Against "-"
Workshops	Face to face contact; Immediate response; Motivate the audience to focus on a one thing/goal; Audio/video presentations	Small groups are more effective than big ones; Organising costs (room, lunch etc) Need to collect people in one place
Online workshops	Skype/Lync conferences; Documents distribution (SkyDrive); Questionnaires; Repeatable; Low costs	Only invited stakeholders
Conferences/professional shows such as Ted.com	Well-educated audience; Wide audience, New contacts	Costs (travel, accommodation, folders), A lot of work
Science festivals, exhibitions, competitions	Wide audience, Stay memorable, New contacts	Costs & Time (travel, accommodation, posters)

Carrying out the analysis after the events with stakeholder will outline (draw) real interests, doubts or companies potential. The analysis which will be an effect of the events should provide some hints such as an overall picture related to end-users expectations, identify potential conflicts of interests, and identify relationships between stakeholders. Moreover the analyses should be divided into few groups e.g. age, living country, stakeholder group.

To begin with, people who arrange the meeting should gather as much information as possible. It would be valuable for further communication or cooperation e.g. stakeholder name, communication approach, interests, status (advocate, neutral, critic etc), desired support, actions desired etc. Moreover there are some issues which help to understand the stakeholder needs: financial/emotional interest (negative or positive), information which they expect, influences by his opinion, current opinion. The knowledge about each person separately allows the organizer to focus on different issues during the presentation or workshops and fulfil power/interest grid (Figure 1).
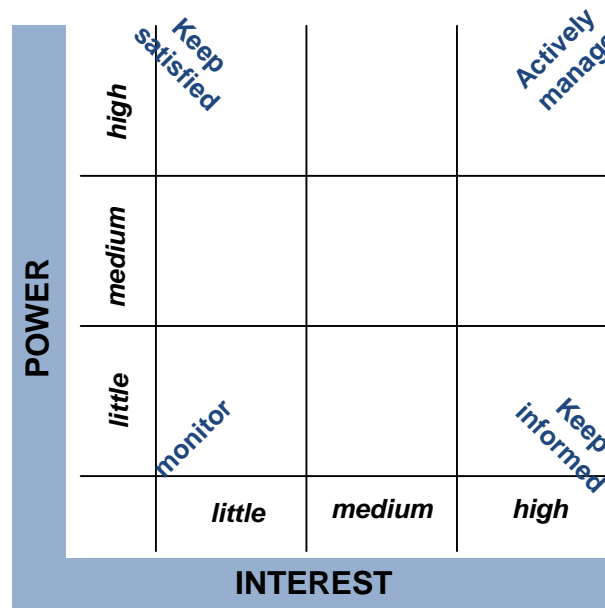
Figure 1: Assessment of potential impact of the NITICS system

The stakeholder map connects the level of impact of the change to them and the significance of these stakeholders. The results have a high impact on the success of the change project. Nonetheless the position on each person/group could change that's why the Stakeholder matrix should be regularly checked.

This knowledge about Stakeholders allows to set up their allegations (advocate, follower, opponent etc) and design the strategy of stakeholders management. The table contains information about impact, importance, allegiance and concerns let to think the necessary action (e.g. try to convince uneducated and worried end-users that the system is easy to learn and does not require long term education).

The report

After carried on surveys in WP2 the consortium gets knowledge about the elderly people and caregivers' situation and theirs points of view (see

Table 3). Some data should be used to compare the needs, expectations and possibilities which allow receiving feedback about concerns and dependability of using/installing NITICS system.

Table 3: Expected outcomes of the survey on user needs and expectations

Stakeholder group (Users)	What we have to know	What do we want to know
I (Elderly people)	Living costs, incomes	Readiness to pay
I (Elderly people)	ICT skills	How complicated the devices could be
I (Elderly people)	Health status	How often and what kind of help is required
I (Elderly people)	Relationship with family	Reaction time, medical experience/knowledge
I (Elderly people)	Socializing	With whom, for what
I (Caregivers)	Report from primary-users surveys	Opinion about the results
I (Caregivers)	Number of patients	The most common patients' problems
I (Caregivers)	Interested in NITICS	What is the most interesting, what is not necessary
II (all)		NITICS's weak and strong sides
II (all)		Possibilities to improve and develop in the future
II (all), III (all)	State-of-the-art of technology	Solutions on the horizon
II (all), III (all)	Current situation (reports, EUROSTAT)	Prediction for the next few years
III (all)		Competition
III (all)		Willingness to pay for NITICS based services
III (all)		Expectations from owners (patents, licences)
III (all)		Resellers outcomes related to NITICS, readiness to invest
III (all)		Markets
III (all)		Fashion

3.5 Stakeholder feedback analysis

The section reviews responses from stakeholders, results of the feedback through the Consultation paper and visioning events analysis.

Quality criteria can be drawn from a whole range of standpoints: from the user's perspective, from a maintenance perspective, etc. It should be defined different degrees of quality fulfilment and/or metrics which allow the relevant criterion to be assessed. The quality consists then of the degree to which it fulfils one or all of the criteria defined for the result.

3.5.1 Purpose

The purpose of the review is a continuous improvement of performance of the system based on specific feedback from stakeholders. The consistent evaluation of errors detected in the reviews makes it possible to take additional measures to avoid errors. The greatest benefit can be achieved when review and test activities complement each other.

Motivation and objectives for reviews always include:

- early detection and removal of errors;

- early detection and removal of problems and deviations.

3.5.2 Inputs

Principal inputs for analyzing the stakeholder feedback are:

- Questionnaire
- Verbal feedback from the customer

Feedback can be obtained about the principal subject areas, as for example:

- Overall Satisfaction
- Project Management
- Quality of Service & Delivery
- Skills & Competences
- Collaboration / Communication
- Value for Money
- Comments

The following communication channels can be used to obtain feedback from stakeholders:

- (Written) comments in the course of a customer satisfaction survey
- Face-to-face (or written) feedback to the NITICS project members
- Face-to-face (or written) feedback via the quality management actors or tools (e.g. in form of a Q-problem report)

Based on the stakeholders' feedback the corresponding measures will be identified and initiated.

3.5.3 Review process

3.5.3.1 Review methods

Reviews can be conducted either at review meetings or by working through comments obtained in writing. In the first case we speak of session reviews or session technique reviews. In the second case, of comment reviews or comment technique reviews. In both cases the review object is passed on to the review participants for examination few days before the review date (session date or deadline for submitting comments).

Irrespective of the method selected, each review must be documented by a review report:

- To ensure that the author has eliminated potential errors.
- To ensure that all participants and persons informed have a document setting out experiences which can then be used for planning and executing further reviews.
- To ensure that the errors and the causes of errors can be analyzed.
- In order to be able to assess the responses.

A review report should consist of the cover sheet complete with error statistics, error list and, if appropriate, an analysis report.

3.5.3.1.1 Comment technique review

In a comment review, the reviewers first go through the review object individually, recording their comments in writing. Subsequently, all review participants receive all the comments and the opinions given on them for their information.

Key features of a comment technique review:

- Comment technique reviews are particularly suited for document reviews, and to some extent also for GUI and web reviews. Comment technique reviews are not well suited for code reviews and reviews of electronics development and production documentation; in such cases, general session technique reviews and intensive inspections would be preferable.

- Feedback is generally provided in writing (preferably directly in the review tool or in the form of a comments list with uniform layout). This makes it a lot easier to document the reviews.

- The number of review participants is not restricted (it is possible to involve a lot more reviewers)

- The reviewers prepare their comments independently and uninfluenced by other reviewers

- The author of the review object evaluates the review comments without immediate contact to the reviewers.

- The organizer monitors the review process with respect to the response rate, and documents the agreed review results together with the author.

The documented review result is then distributed to all review participants.

3.5.3.1.2 Session technique review

In a session review, all the comments are worked through and assessed in one session, which is attended by all the review participants (including the author of the review object). In this case, too, all the reviewers first go through the review object prior to the session, each of them recording the errors or defects found.

Key features of a session technique review:

- Session reviews are suited without any restrictions for document, GUI, and webs reviews. A general session review is also suitable for reviewing code or documents relating to electronics development or manufacturing, but in such cases it should also be considered to resort to intensive inspections.

- To be able to talk of a review, the examination must be performed by at least two reviewers. Different persons/roles should be involved. A review session conducted by only the author and a single reviewer does not make sense because the rate of errors detected is significantly lower and too many issues will be discussed at length, as experience has shown (defensive attitude of the author).

- The recommended maximum number of participants is five to seven persons (author, facilitator, several reviewers)

- A review session should not take longer than half a day. In the case of large review objects, the review should be split up into several sessions.

- Session reviews require all participants to be well-prepared, above all the reviewers.

- Session reviews also need adequate facilitation, which should be neither too restrictive (strict refusal of proposed solutions) nor too generous (lengthy discussions).

At the end of a session review, all the comments made by reviewers have been discussed, and all the necessary improvements have been agreed on. A report documents the review results.

3.5.3.1.3 Intensive inspection

The intensive inspection method is a particularly efficient form of a session review. At least three, but not more than six inspectors discuss the review object in full during one or several sessions, which may last for a maximum of two hours each. Each participant plays a precisely defined role (facilitator, author, reader, and inspector/reviewer).

Key features of an intensive inspection:

- Intensive inspections are suitable for all kinds of review objects. They are especially important for code reviews and reviews of electronics development and production documentation because with these reviews, other techniques won't work or will yield significantly inferior results (lower error detection rate, considerably more effort).

- Specifying particular roles for the inspectors (=reviewers) (e.g., author, facilitator, reader, additional roles).

- The review object (=inspection object) is verified against the specification documents.

- Conducting an inspection in the form of a session technique review.

- Limited number of inspectors (optimum size of the inspection team is four persons, min. three; max. six).

- Specific training in this method is organized for the facilitator.

3.5.3.2 Review phases

The review process - from planning to release - includes the phases with the respective focus points as presented in Table 4.

Table 4: Review phases

Phase	Actions
Initiation	Review planning Preparation of review documents Invitation of participants
Preparation	Examination of the review object Preparation of review comments
Execution	Determining the review result Conducting the review session(s) (for session technique reviews) Evaluation of review comments by the author (for comment technique reviews)
Follow-up	Revision of the review object Examination and release of the review object Creation of review metrics

3.5.3.3 Review objects

Review objects (objects examined in a review given in Table 5) are parts of development results of a most varied nature. They include documents and plans as well as code sections, modules, user interface screen forms, web solutions or hardware results (e.g. layout, circuit diagram).

Table 5: Review objects

Review Object	Purpose
Documents/Plans	The main focus points of document reviews depend to a large extent on the type of documents being reviewed.
Code	Code reviews are intended to check the source code for possible weak points against the requirement documents already before software testing starts.
Model	Formal design models, as they are created in object-oriented software development, are checked for compliance with requirements documents and common design rules.
GUI	When reviewing a graphical user interface, it is not only the functionality, but in particular also its design and user-friendliness that need to be examined.
Web	As in the course of a GUI review, you not only need to evaluate functionality, design and user friendliness, but you must also pay special attention to the performance and complexity of the web structure when reviewing a web application.

3.5.3.4 Analysis of the stakeholders' satisfaction survey

With the stakeholder survey information will be gathered on how the services are perceived by stakeholders and where potentials are for improvements.

When an average response to a particular question is ranked lower than "7" on the scale from 1 to 10, than potential reasons for low scoring have to be immediately analyzed by the project manager and the bad scoring has to be commented in written. Moreover it is recommended to analyze truly bad results even on a single question and do a respective analysis.

3.5.4 Outputs

Principal inputs for analyzing the stakeholder feedback are:

- Filled out questionnaires
- Associated statistics
- Action lists

3.5.5 Siemens standard SN 77 350

According to Siemens standard SN 77 350 [Siem], the following quality characteristics apply for the NITICS software:

- Reliability
- Degree to which it fulfils its defined function
- User friendliness
- Time response
- Consumption behaviour
- Maintenance-friendliness
- Portability

Within these features there are additional sub-features such as learnability and usability (sub-features of user-friendliness). If these features are assigned values (e.g. point values, time values, etc.), the results are objective quality criteria.

3.6 Stakeholder feedback analyses for NITICS components

The consortium partners represent different kind of stakeholders. Using their stakeholder's experience, all the NITICS partners were implied in the feedback analysis as described in section 3.5. They have inspected and tested the modules functionalities. The review methods used have produced comments, emails and documents covering the model, the code, the GUI and quality issues.

In the development / implementation process of NITICS project SIE followed the agile stdSEM methodology (a general model for developing systems). stdSEM is tailored to enterprises which are governed as projects. Projects are one-off enterprises which are geared to achieving a specific result (project goal) and for which an execution plan, a defined time span and a defined budget are available. stdSEM is not only suitable for pure software development projects, but also for general projects relating to program and system development. stdSEM is mainly used for software projects, however.

This methodology covers the following types of projects:

1. Software development projects;

2. Software maintenance projects;

3. Non-software projects such as:

   a. Services (elaboration of training measures, elaboration of networking concepts, etc.)

   b. Consulting (planned execution of consultancy services)

 Call AAL-2012-5

c. Development of organizational solutions ("orgware")

d. "Everything that can be planned"

In the NITICS platform development and implementation have been taken into account the creation of well defined interfaces. These interfaces respond to NITICS platform requirements.

In the reported period the following modules were partially defined and implemented: core, services, skin, reports, web module, messages, log4j, file system, model module and database model, common, functional modules, and search module.

Principal NITICS functionalities available (implemented) with the graphical user interfaces are:

- Login/Logout
- Search
- Alerts view
- Devices management
- Locations management
- Manufacturers management
- Reports (devices type percentage, devices location)
- Users management
- Load files with devices
- Full text search (with reindex - update of the entities' indexes automatically)
- Manual measurements (add data manually)
- Dashboard view reordering of the contained panels
- Push data gateway.

Logout and Search can be accessed by user all the time after authentication.

SIE plan to use some of the implemented NITICS components and modules within other industrial projects and research projects.

For all components produces by Siemens we implement an automated unit test and automated integration tests. They must be passed before any prototype or product release.

Following the agile SEM methodology and PLM (Product Lifecycle Management), discussions have been organised during the NITICS platform development. The goal of these discussions was to obtain feedback from the stakeholders.

During these meetings procedures for the following processes were established and followed:

- Organization, preparation, management and follow-up of reviews
- Integration of review comments and statements
- Procedure of review sessions
- Management of current reviews
- Release processes.

All the procedures conform to the adequate Siemens procedures and NITICS project procedures defined in the D1.1: Internal Communication Infrastructures and D1.2: Quality Assurance Plan.

In the comment review, review participants individually work through the review object and enter their comments in what we call the "comment list".

On 24th April 2014 SIE organised a virtual meeting (Skype) of all NITICS partners aiming at getting feedback on the first version of the NITICS platform interface. A working version of the platform was available prior the meeting to the NITICS partners. The test platform was provided by the project coordinator and the access was granted for partners as test users and contributors. Some partners provided their observations before the virtual meeting.

At the meeting SIE presented the state of NITICS platform and the partners expressed their comments and suggestions for the platform improvements. During the meeting ambiguities, errors and deficiencies found in contents and the form were pointed out and commented.

The following observations/comments were given:

- Highlight the selected tab (so the users know in which tab they are at one moment)
- Change in red the tab title when is open or to make it bold
- The dashboard is confusing and need further organizing
- Add different views for each user role, to limit panels' visibility
- Delete data from database and changed to the real (meaningful)
- Add the category or identity of devices
- The platform should make the difference between users after their roles
- *Alerts/caretaker* management titles should be bigger and colored
- Hide the password at the register page
- Use a term "*carer*" instead of "*caregiver*"
- Take into account that for blood pressure there are two values measured from device, and to take into account the type of data send by device (can be double, integer but also boolean (true/false))
- Correct the part when a device manufacturer is added. This is not directly visible in the *devices tab*. Now a user has to manually refresh (logout and after login) the programme to see it
- Export into "pdf" format is not working for manufacturer list
- Use a word "manufacturer" instead of "producer"
- Insert more representative pictures and less text, to make it easier for elderly to understand how platform is working
- Wait with translation into other languages until the graphical interface is simplified.

SIE will take into account all the stakeholders' suggestions, and will resolve the bugs/errors for better performance of the platform. Partners will send their observation in written by email to SIE and SIE will respond if the observations are pertinent. Stakeholders are expected to send their justified review comments also in the future.

SIE will update the web application on server and will promptly inform the partners on improvements. The partners are asked to verify and validate changes. Each new release will be versioned. A change request list and the implemented changes will be related to each version.

The NITICS partners acting as stakeholders appreciated that the implemented modules satisfied the architectural requirements of the D3.2 deliverable (*System architecture and test profiles*) and covered the uses cases described in D2.1 (*End-user requirements report*).

4 Conclusions

This document is a second iteration of the D6.2 "Regular reports on stakeholder concerns" that is expected to be updated on a regular basis at M6, M12, M18, M24 and M27 of the NITICS project. Its objective is to investigate the stakeholder concerns in order to ensure that NITICS will find its road into the business models of the set of stakeholders that are interested in the NITICS results and into its related market exploitation.

Compared to the "Release 1" of Deliverables D6.1, the following aspects were investigated:

- "Inclusion of results obtained from the corporate stakeholders engaged in the focus groups giving feedback on the NITICS services and implementation", where from the performed interviews it was concluded that the product idea was generally considered as very interesting although several of the participants, in particular those working in the IT sector, highlighted that similar solutions will soon reach the market as they are already announced by large players in the field. Regarding the evaluation of the idea and product, it was pointed out that it also has potential in monitoring children while at home alone. The home automation, reminders, indoor localization game and eventually even the fall detector can be very useful in this case. Additionally, such a system can be particularly useful for children having some chronic health conditions, like for example diabetes.

- "Inclusion of the stakeholder feedback analyses for NITICS components", where all the NITICS partners were involved in the planned feedback analysis. They have inspected and tested the NITICS platform modules functionalities. The review methods used have produced comments, emails and documents covering the model, the code, the GUI and related quality issues. The NITICS partners acting as stakeholders appreciated that the implemented modules satisfied the architectural requirements of the D3.2 deliverable "System architecture and test profiles" and covered the uses cases described in D2.1 "End-user requirements report".

The results obtained in this deliverable will be updated regularly and will be described in the next D6.2 releases at M18, M24 and M27.

5 References

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[Doc@Home]	An integrated telehealth solution for the remote management of patients with a range of Long Term Conditions FP5- IST (2001-2003)
[DoW]	"Networked Infrastructure for Innovative home Care Solutions (NITICS)" Description of Work (DoW), AAL-2012-5-255.
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[TELEMEDICARE]	Telematic Support for Patient Focused Distant Care - FP5- IST (2000-2002)

Document history

Table 6: Document history

Title	Doc.-ID	Version	Date
Initiation of Table of Content (ToC).	NITICS_WP6_D6_2_P_RE_1v0.doc	1.0	22.10.2013
Inclusion of first contributions of the consortium partners.	NITICS_WP1_D6_2_P_RE_1v1.doc	1.1	12.11.2013
Inclusion of second contributions of the consortium partners.	NITICS_WP1_D6_2_P_RE_1v2.doc	1.2	18.11.2013
Finalization of the deliverable content in its "Release 1" version.	NITICS_WP1_D6_2_P_RE_1v3.doc	1.3	28.11.2013
Feedback from stakeholders included (SIE) for "Release 2" version.	NITICS_WP1_D6_2_P_RE_1v4.doc	1.4	20.02.2014
Inclusion of first contributions of the consortium partners for "Release 2" version.	NITICS_WP1_D6_2_P_RE_1v5.doc	1.5	02.03.2014
Inclusion of second contributions of the consortium partners for "Release 2" version.	NITICS_WP1_D6_2_P_RE_1v6.doc	1.6	28.03.2014
Final revision (editor) of "Release 2" version.	NITICS_WP1_D6_2_P_RE_1v7.doc	1.7	15.04.2014
Finalization of the deliverable content in its "Release 2" version.	NITICS_WP1_D6_2_P_RE_1v8.doc	1.8	30.04.2014

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