1. **Number of proposals received and participating companies:**

<table>
<thead>
<tr>
<th>SUBPROJECT</th>
<th>NUMBER OF PROPOSALS</th>
<th>LIST OF PARTICIPANTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>H2050-6-Smart Room</td>
<td>25</td>
<td>ALBERTO MELÓN LODEIRO&lt;br&gt;AIRVENTO, S.L.&lt;br&gt;ARQUIMEA INGENIERIA S.L.U.&lt;br&gt;AIMEN-ASOCIACIÓN DE INVESTIGACIÓN METALÚRGICA DEL NOROESTE&lt;br&gt;AMBAR TECOMUNICACIONES S.L.&lt;br&gt;CANDEDO &amp; ABYPERSONALIZE&lt;br&gt;CITIC: Centro de Investigación en Tecnoloxías&lt;br&gt;CyE Control y Estudios S.L.&lt;br&gt;EPTISA TECNOLOGÍAS DE LA INFORMACIÓN, S.A.&lt;br&gt;GESMEDICA- Gestion de proyectos y tecnología Medica S.L.&lt;br&gt;GRADIENT: Fundacion Centro Tecnolóxico de Telecomunicacións de Galicia&lt;br&gt;ISERN, SAU&lt;br&gt;MYSPHAERA&lt;br&gt;PHILIPS IBÉRICA, S.A.&lt;br&gt;QUANTION TECNOLOGÍAS DE TELECOMUNICACIÓN, S.L.&lt;br&gt;ROCIO LÓPEZ CONDE&lt;br&gt;SIVSA-Soluciones Informáticas, S.A.&lt;br&gt;UTE BALIDEA+COSMAN+WIRELESS GALICIA&lt;br&gt;UTE TELEVES S.A.- EVERIS- COREMAIN</td>
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</table>

Updated Date of the last proposals: 22/04/2013

2. **Scope of the project / functional analysis:**

In the current system certain needs are detect, which can be:

- Improvement in patients and professionals safety.
- Correct Identification of patients and professionals
- Automatic logging of vitals and integration into electronic medical records.
• Automated control of clinical devices.
• Improve communication with the rooms using new technological elements and ensuring communication traceability.
• Improve comfort and privacy in a proper environment (noise, T°, light...)

The subproject will enable on the one hand the intelligent room to carry out automated vital signs monitoring, which will mean improvements in staff time and improvements in the safety and traceability of records.
On the other hand it will also allow the use of two-way communication systems with the patient, thereby optimizing the response times and improving safety and comfort.
Finally the correct patient identification would involve reduction of medication errors, tests, techniques, procedures ...

The strategic objectives that of the project are:
• Ensure the safety of the patient.
• Improve hospital processes times.
• Improve the quality of patient clinical information.
• Ensure traceability from the source and record vital signs
• Improve health information systems and patient communication with the outside world.
• Improve patient comfort.
• Permit leisure and entertainment systems.
• Ensure environmental sustainability.
• Integration with the various subprojects

The operational objectives of the project include:
• CollectBio-signals given
• Ensure unambiguous identification of professionals.
• Ensure unambiguous identification of patients.
• Integrate biosignals in electronic clinical records automatically.
• Ensure accessibility to electronic medical records
• Improve communication systems with and for the patient.
• Ensure traceability of communication.
• Integrate infrastructure and entertainment software.
• Generate environments with proper temperatures, free from noise and odours.
3. **Identification of innovative elements to be developed:**

In designing the solution the following should be considered:

- Definition and homogenization of clinical variables regardless of where they occur.
- Define the behaviour and levels of integration of the equipment and/or systems suppliers of clinical variables.
- Design and development of new system of communication with the patient.
- Define system of continuous monitoring and alerts
- Define information systems for the patient
- Systems Integration to improve patient comfort and leisure

The proposed solution includes the following elements:

- Information services for the patient, both related to its pathology as to hospital stay.
- System for taking vital signs in the integrated nursing care information system.
- Alarm System for changes in the patient's condition, such as temperature, blood pressure sensors, fall detection, etc.
- Robotised beds, mattresses and ergonomic therapeutic pillows
- Environmental control devices for the intelligent control of temperature, noise, environmental smells and music.
- Intelligent Systems of voice activation
- Installation of acoustic and curtain divisions
- Smart windows installation.
- Ergonomic modular versatile furniture, the adaptation of the room to the various healthcare needs.
- Call System integrated nursing fitted with two-way communication systems.
- Smart warning and alarm console.
- System for the automatic identification of the patient, patient relationship-bed.
- Smart Environmentally friendly Toilet, washbasin and shower.
- Environmentally friendly and intelligent Waste paper or garbage containers.
- Multimedia entertainment systems for the patient.
- Virtual visits Portal
The following diagrams present the technological components of the proposed solution:
4. Attached documentation:
Executive Summary
Sub-INTELLIGENT ROOM

Santiago Compostela, 22 February, 2013
GS1-SH2050-6 - Smart Room

- General Description
- Detected Need
- Scope of the Project
- Strategic Objectives
- Tasks To Develop Design Of the solution
Overview

- Humanized and functional
- Efficient and safe
- Prioritize the rationalization of resources
- To promote service innovation and health infrastructure
- To ensure the safety of patients and professionals.

Hospital The Future

Smart Room

- Unequivocal identification and location of patients and professionals
- Real-time monitoring of constants and basic clinical data
- Accessibility to electronic medical records
- Technology to bring leisure preferences (video, tele-communications)
- Sustainable: Optimize resources (water, lighting and air conditioning)
- Ergonomic furniture and Thermo former.
Overview

**It takes constant automatization**

- Improvement of the time of dedication of the staff
- Improvements in the safety and traceability in their registration.

**Use of systems of two-way communication with the patient**

- Optimizes the response times
- Improves security
- Improves comfort

**The Correct identification of the Patients**

- Reduces chance of errors: Medication, Tests, techniques, procedures ...
Identified needs

• Improve the safety of patients and professionals.
• Unequivocal identification of patients and professionals
• Constants Automatically Registered and the integration into the electronic medical record.
• Automated control of clinical devices.
• Improve communication with the rooms using new technological elements and ensuring traceability in the communication.
• Improve comfort and privacy in a proper environment (noise, T°, light…)

![Image of doctor and patient]
Scope of the Project
Strategic Flow and Application Evaluation Methodology

• Definition of Strategic Objectives
• Definition of operational objectives
• Fixing of tasks related to the objectives
• Search for indicators within methodology Q/S/P and linked to the objectives
• Table Control of the project with estimation of the results.
• Feasibility study of the project.
• Scoreboard Q/S/P to complete tenders.
• Analysis of results in pilot phase
• Implementation of a continuous improvement
• Development of a plan of Implementation
Strategic Objectives

- Ensure the safety of the patient.
- Improve the times in Hospital processes.
- Improve the quality of the clinical patient information.
- Ensure traceability in the socket and registration of constant vital signs.
- Improve health information systems and patient communication with the outside.
- Improve the patient comfort.
- Facilitate leisure and entertainment systems.
- Ensure the sustainability of the environment.
- Integration with the various Subprojects.
Operational Objectives

- Gather provided Bio-signals
- Ensure unambiguous identification of professionals.
- Ensure unambiguous identification of patients.
- Integrate Bio-signals in the electronic clinical history automatically.
- Ensure accessibility to the electronic medical record
- Improve communication systems with and for the patient.
- Ensure the traceability in communication.
- Integrate infrastructure and entertainment software
- Generate an environment with a proper temperature, free from noise and odours
Tasks to develop and design of the solution

• Definition and homogenization of the set of clinical variables regardless of where they occur.

• Define the behaviour and levels of integration of the equipment and/or systems suppliers of clinical variables.

• Design and development of a new communication system with the patient.

• Define systems of continuous monitoring and arising alerts

• Define patient information systems

• Systems Integration to improve the comfort / leisure of the patient
Proposed Solution

- Information services for the patient, both related to its pathology as to their hospital stay.
- System for taking vital signs in the integral system of information for nursing care.
- Alarm System for changes in the patient's condition, such as temperature control, pressure sensors, fall detection, etc.
- Robotised beds, ergonomic and therapeutic mattresses and pillows
- Environmental control devices for the intelligent control of temperature, noise, environmental smell and acoustics.
- Intelligent systems for voice activation
- Installation of partitions dividing acoustic and slides
- Smart windows installation.
Proposed Solution

- Ergonomic modular and versatile furniture, the adaptation of the room to the various healthcare needs.
- Call System integrated with nursing and fitted with a two-way communication system.
- Smart warning and alarm console.
- System for the automatic identification of the patient, patient bed-relationship.
- Toilet, washbasin and shower with an intelligent and sustainable environment.
- Ecological and intelligent trash or rubbish container.
- Multimedia entertainment systems for the patient.
- Portal for virtual visits
Settlement proposal tec Components. Rais
Proposed Solution. Other fields of use
Proposed Solution. Logical Components

EHR - EMR

DOF

DOC

Patient Care Device

Centro de control de pacientes

Gestión de eventos de alertas y avisos

Realizada filtrado de datos en función de parámetros específicos

Envía la información obtenida de los distintos dispositivos o sistema de monitorización en formato estándar

Integra la información en la HCE, creación de informes...

Sistema de alertas multinivel
Executive Summary
Subproject SMART ROOM

Santiago Compostela, 22 February In 2013