

ANNUAL REPORT

REPORT 2008



Tecnologías
para la Salud
y el Bienestar



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Introduction



Dear friends, we are both pleased and extremely proud to present the Annual Report for ITACA-TSB activities for the year 2008.

Following successive stages of continued growth, we have maintained our privileged position as a market leader and taken on strategic partner roles, both at national and European level through an active presence in I+D projects.

We have hit 4 major milestones in 2008:

- The creation of the spin-off company Technologies for Health and Wellbeing PLC, with the aim of heading the transference process for the products and services developed in ITACA-TSB. This company, with offices of 1000m squared in the Technological Park in Paterna, already employs more than 20 people, some of whom previously worked in ITACA-TSB. The creation of the company and the resulting management of the changes and coordination procedures involved, have posed tremendous challenges that have been met with success.
- The successful organisation of pHealth 2008. In May 2008 more than a year's work culminated with the celebration of the 5th edition of the 'International Workshop on Wearable Micro and Nanosystems for Personalised Health – pHealth 2008'. Counting on the participation of 200 experts from more than 20 countries, the pHealth 2008 workshop became a veritable reference point for research centres, companies, service providers and those responsible for European scientific policy.

- The consolidation of our group as a leader and research reference point both at national and European level, especially in the Marco Program convention, where our noticeable presence in projects such as METABO y HEARTCYCLE in the Health sphere and VAALID or OASIS in the e-inclusion and ambient intelligence sphere, will allow our researchers to become the launching pad for knowledge in these sectors on a global scale.
- The creation of a true Living Lab, a 50m squared house, a key element allowing the demonstration of our activities based around the paradigm of Ambient Intelligence.

Finally, it is necessary to emphasise the human element, which has been fundamental for the creation, maintainance and growth of the group in its first 10 years. We have consolidated a stable nucleus of skilled people, committed to our vision of the future, who we believe to be our best asset and who guarantee continuing excellence in the work of ITACA-TSB, ensuring we continue to be a reference point for the application of TIC in all areas of human health and wellbeing.



Sergio Guillén



Vicente Traver

Who we are ?



Health and Wellbeing

Health and Wellbeing Technology (ITACA-TSB) is a part of ITACA (Institute of Advanced Information and Communication Technologies) of Valencia Polytechnic University, dedicated to the investigation and development of new applications for TIC (Information and Communication Technology) in the human health sphere, quality of life and social services.

The activities developed by the group aspire to firstly promote and then carry out scientific research work, concerning technological development and transference in the communication and information technologies field, resulting in an improvement of the health service offered to the citizen be it on behalf of public bodies or private entities, as well as improvements in people's quality of life through the provision of new services or improvements in existing services.

ITACA-TSB also actively encourages the promotion of health initiatives, especially where physical activity and healthy dietary habits are concerned, creating scenarios where telemonitoring of vital signs, knowledge management, strategic motivational applications and environmental intelligence etc become integrated.

ITACA-TSB participates in Research and Development (R+D) programs at both national and regional level, as well as in initiatives on an international level, thereby occupying an important position in the participation in European projects ranking in Marco Program VII.

Technology



Given that the essential purpose of the group is innovation, a continuing effort is made to promote the transference of our activities to the market, which has given rise to an important number of agreements and contracts with institutions, companies and the relevant public bodies.

ITACA-TSB in numbers

ITACA-TSB currently has 49 staff including consolidated professionals, young researchers and students in training; among the researchers many have masters or PhDs, and the scientific production is of more than 30 papers produced per year including articles, chapters in books and magazines and papers. The organisation forms an active part of 9 scientific societies and technological platforms, and 2 of its members form part of various editorials and scientific committees.

The organisation currently participates in a total of 12 national and European projects and has 6 ongoing agreements for projects with companies. It has established societies and links with 12 leading entities in the world health and technology sphere and has a business volume of 2,217,946.42 euros, of which 780,000 have been invested in supporting infrastructure for its R+D projects.

During 2008 more than 100 hits were made in media, distributed between written and digital press, radio and television. The web page has been seen by 15,511 users and 20,449 pages have been visited.



¿How we are organised?

ITACA-TSB organises its activities through the Strategic R+D+i Programs in e-Health and e-Inclusion. Through these programs, the relevant development projects are defined and coordinated, using the resources available in the areas of Advanced Software Knowledge, Wireless Communications, Environmental Intelligence and Product Design.

e-Health

e-Health represents the group's main field of research. By applying new information and communication technologies for the health sector, the group investigates the possibilities that the new technology can offer to improve quality of life and the range of services offered by public bodies and private entities to the citizen in general, and more specifically to patients and professionals within the health sector.

The work involved in e-Health includes the development of web applications which, using broadband technology and videoconferencing, fundamentally provide monitoring of patients, electronic medical history, electronic prescription, scheduling, etc. Wireless and mobile phone communication applications are also developed; providing patient tracking and follow-up and personal health and medical equipment services.

The aforementioned applications and services are specifically designed with the management of healthcare in mind, offering solutions for patients with chronic illness, the development of clinical tracts, case management and care offered outside the hospital.



e-Inclusion

The work in this area concerns the development of products and services which, through TIC applications, allow people with special needs (the handicapped, the elderly) to access information as easily as other people can, and facilitate their right to enjoy a full and independent life.

These products and services are also aimed towards those people and organisations who are responsible for the care and help of these sections of the population (members of the family, care workers, public and private entities).

The lines of investigation are focused on the use of technology designed to develop Ambient Intelligence ideas, using strategies set within the Design for All parameters and boosting studies on Access to Information.

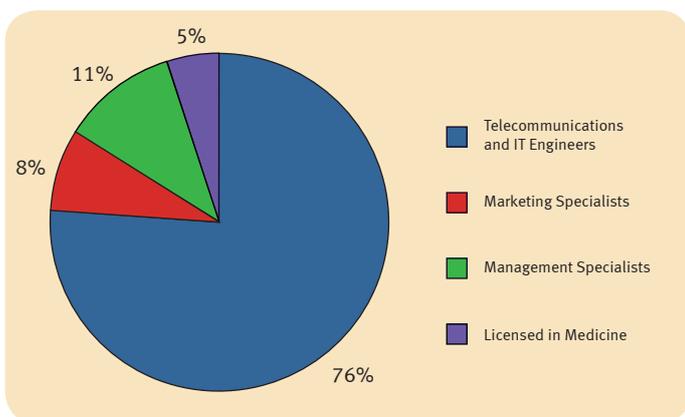


Human Resources



The current number of employees in ITACA-TSB has been maintained at an average of 40 people completely dedicated to the projects being developed, more than 18% of which are women.

The staff is multidisciplinary, as shown in the figure below.



Most of the staff dedicated to R+D+i tasks are Telecommunications and IT Engineers, although the centre also has Management and Marketing specialists at its disposal.

The staff at the TSB is a combination of experienced professionals in the field of research and innovative technology, and recently graduated engineers who are incorporated into the working world by doing work experience with the TSB while finishing their final degree projects. During 2008, 5 such students became part of our staff, carrying out their End of Degree Projects within the sphere of the TSB, thereby facilitating contact of final year degree students with the world of R+D.

The management of human resources in the centre adheres to the following principles: the continuing training of staff, progressive promotion of staff regarding technical and operational responsibilities, and the flexibility of working conditions taking family life into account. The foundation of these principles is a shared commitment to the common project of TSB to maintain its position as a market leader in technological transference in the Health and Wellbeing area.



Training

Given the innovative aim of the TSB, the need for continuous updates to its knowledge base and technological capacity, especially where related to its lines of investigation, is fundamental. For this reason, constant and continuous training of staff is encouraged, in recognition of the fact that in order to maintain the level of innovative research attained, the staff must be at the vanguard of new technology and



Annual Assembly (AGM) - Enguera 2008

All members of the TSB meet annually offsite to analyse the general situation of the centre both where work and the strategic position of the company within society are concerned. These days are organised with the aim of encouraging the improvement of staff relations in a rural environment outside the ITACA buildings.

The 2008 AGM was held in December in Enguera, a village situated in the South West of Valencia Province, in the foothills of the mountain range of the same name. The excellent location of the village facilitated open air and cultural activities, including a visit to the wine cellars in the area.



Strategy and Objectives



Three plans of converging action have been defined within the TSB in order to constantly adapt to technological advances and respond to the demands of our society.

These plans of action are: the continual improvement of our own technological skills; the identification and study of the problems and challenges our clients face, and the development of strategic alliances in order to facilitate transference of products to the market.

The continuing improvement of our technological skills is crucial to our organisation. Staff training and the strengthening of a nucleus of interdisciplinary, stable and cohesive skills which allow us to face both current and future challenges is the cornerstone of our strategy.



In reality our approach is extremely pragmatic given that a large percentage (65%) of our resources in R+D projects are dedicated to the creation of knowledge in all areas of our interest.

Integrated as we are in the rich environment of scientific and technical knowledge production that is Valencia Polytechnic, we have access to an extraordinary range of educational opportunities and scientific infrastructures; in return we offer the students of said university excellent professional and personal development opportunities within the TSB.

Our second priority is to identify the needs of our clients, through studies and research, even before they are conscious of that very need. Due to the wide range of information now available (living, as we do, in the information society), there has been a paradigm shift in which we have seen a progressive change in behaviour: clients look for services and solutions to complex problems before turning to technology and its components.





This is one of the principals of organisation in our group, structured around 2 strategic R+D programs applied to e-Health and e-Inclusion that incorporate the four areas of Technological Knowledge within the group: Advanced Software, Wireless Communications, Ambient Intelligence and Product Design.

The strategic programs are responsible for getting close to the prospective client and user, and consequently for knowing, learning about and anticipating the market reality and its needs for innovation whilst innovative technological solutions are provided by the Knowledge Areas.

On the other hand, we have also adapted our transference strategy to this paradigm shift, thus targeting long-term links with companies, R+D institutes and organisations in general involved in the global health and wellbeing business, as opposed to the usual client-service provider relationship of the past.

In this respect, we are excited about the new strategic agreements signed with the Spanish Paediatrician Association, the Argentinian Medical Association, the Spanish Society for Family and Community Medicine, (SEMFYC) or Intramed, which has reinforced our presence in Spain and Latin America, directly contributing to the success of Salupedia, the first Spanish online encyclopedia dedicated to health and written by professionals, accessible to all.

These 3 driving forces of our strategy, the consolidation of the spin-off, and the current developments of Salud 2.0 and Environmental Intelligence will greatly influence the next few years in the TSB. In this period of economic crisis, it is necessary to take advantage of opportunities, put our trust in innovation and face up to this delicate period by accepting the relevant and necessary changes but without compromising the quality of the realisation of the projects and agreements in progress.

To this end, we count on the involvement and enthusiasm of all those who form part of the group and the support of those with whom we have already established agreements for collaboration.





-inclusion

ASK-IT

DEDALO

RECORD

CIAMI

PERSONA

VAALID

AMIVITAL

OASIS



Competitive R+D projects



ASK-IT

“Ambient Intelligence System of Agents for Knowledge-based and Integrated Services for Mobility Impaired users” (ASK-IT), is part of the European Commission’s 6th Marco Programme for Research and Development, included in the e-Inclusion Strategic Objective of the IST Thematic Priority.

The aim of the project is to create a platform based on Ambient Intelligence to provide integrated services for people with reduced mobility.

According to recent studies, it is estimated that of the total European population of 344 million, approximately 80 million people have a mobility problem and another 50 million have difficulties going about their daily activities.

With this in mind, the ASK-IT programme is developing a service platform aimed at these people, covering situations in which difficulties can occur, especially outside the home; on journeys or when commuting to work.

These services are personalised, easily configurable, easily understood and related to contexts and situations. ASK-IT primarily deals with personalised transport and leisure services whilst incorporating home-automation control of surroundings, automatic commercial and payment services, navigation and location, health and emergency management, and control of assisted technologies.

All these services are offered under ‘seamless connectivity’, i.e. regardless of the medium, type of user or location.

To create this platform, the most advanced technologies are selected according to each of the contexts developed within the project. Services are personalised by using intelligent agents, ontologies, advanced communications, and elements specifically developed for each area or utility.

ITACA-TSB’s role in this project is as a technology provider for the health-in-movement service, contributing its experience in monitoring, e-health and telemedicine solutions. It also participates in the development of the Ambient Intelligence platform, thanks to its experience in intelligent agents, knowledge management, and Body and Personal Area Networks.

<http://www.ask-it.org>





PERceptive Spaces prOmoting iNdependent Aging

PERSONA

“PERceptive Spaces prOmoting iNdependent Aging” (PERSONA) is an Integrated Project of the VI EU R&D Framework Programme, included in the Strategic Objective Ambient Assisted Living for the Ageing Society of the IST Thematic Priority.

The aim of this project is to advance in the area of Ambient Intelligence through use of a combination of AAL (Ambient Assisted Living) technologies and concepts.

AAL Services are sustainable and feasible solutions promoting independence and integration of the elderly in social activities, aiming to prolong the time they can live alone in their own homes, thus giving them a marked degree of independence and self-reliance, whilst improving their safety, looking after their health and promoting their social integration.

PERSONA is an open and accessible technological platform which builds and analyses a wide range of AAL Services designed for real users, with the aims of evaluating their social impact and establishing the fundamental business strategies necessary for the development of the proposed technologies and services.

AAL Services are divided into four categories of the needs of the elderly: social integration, support in carrying out daily activities, safety in the home against internal and external threats, and mobility support outside the home.

The project is being carried out by a consortium composed of a total of 21 research groups from Spain, Greece, Germany, Italy, Norway and Denmark. Participating firms include Vodafone Italy, IGD-Fraunhofer Institut, MOTOROLA, the Polytechnic University of Madrid, Centro Superior de Investigaciones Científicas (CSIC), CNR-ISTI Pisa, Fundación Vodafone, ANCO S.A., Region Syddenmark and ITACA-TSB.

The Technologies for Health and Wellbeing Group (TSB) of the ITACA Institute is the Project Technical Coordinator and is responsible for meeting objectives.

ITACA-TSB is also involved in all stages of the final services development process: definition of social and user models, definition of the final services to be developed, development of reference architecture for AAL services, development of communications infrastructure and sensors in the homes of the elderly, development of algorithms based on artificial intelligence techniques for the safety and independence of the elderly, and definition of the business model for the commercial exploitation of these services.

<http://www.aal-persona.org>





AmiVITAL

The general aim of the AmiVITAL project is the development of a new generation of TIC technologies and tools for the modelling, design, operation and implementation of Ambient Intelligence (AmI) devices and systems, providing services and personal support for independent living, wellbeing and health.

This involves the construction of a technological space which facilitates the development of the European concept of AAL (Ambient Assisted Living) through the design and application of business models for an emerging sector with good future prospects aimed at covering primary social necessities.

The aim is to install a series of systems which will be used to develop applications to support independent living and mobility in the elderly; monitoring and control of those with chronic illnesses; provision of social and work integration services by accessible means; help for patient's relations and informal support for independent living; provision of services to encourage healthy lifestyles – including those that facilitate the practice of sports; management tools for this whole range of services for professionals; and the integration of independent service providers.

In accordance with CENIT objectives, the AmiVITAL project aims to develop technologically advanced R+D+i capacity at the highest international level for the development of an industrial textile to be used in social AmI applications. This responds to growing social demand and is expected to contribute to the economic objectives of promoting industrial competitiveness, jobs and general economic welfare.

The AMiVITAL project consortium is composed of four large enterprises based in Spain: SIEMENS S.A., Telefónica R&D, Telvent and Ericsson España, with assistance from smaller business groups such as Elasa and Airzone. Research groups associated with these firms include: ITACA Institute in Valencia, CARDIF, the Polytechnic University of Madrid, University of Zaragoza, University of Granada, and the Carlos III Health Institute in Madrid.

<http://amivital.ugr.es>

DEDALO

DEDALO

The main aim of this project is to provide e-Health and Telecare Support services, designed for dependants, which improve their quality of life through the provision of an Ambient Intelligence platform within the home.

This is a shared project in which ITACA-TSB is responsible for developing the subproject 'ambient intelligence platform, supporting an independent lifestyle for the elderly and the handicapped'. It consists of the development of a system, based on ambient intelligence support for an independent lifestyle, involving services such as personal monitoring (position sensors, accelerometers, presence control) as well as monitoring of the home (fire and gas leak detection).

The aim is to detect and avoid potentially risky situations through the use of a passive (not activated by the user) or active (activated by the user) alarm system, advising third parties of a problem when necessary.

The project began in 2006 and is due to last 3 years.



Competitive R+D projects R+D projects



CIAMI

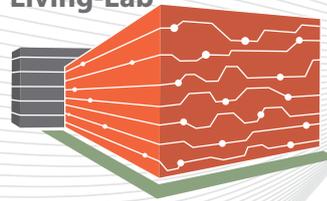
To whoever is inhabiting the space, The CIAMI Living Lab looks like a conventional living area. However, it has been completely modified to contain a degree of intelligence and make it capable of capturing the use of the surrounding gadgets and elements and their interaction with the inhabitants of the space.

This laboratory contains all the relevant technological resources in order to create a large number of applications and services of varying nature to cover the needs of the target user.

It has been designed to implement the following lines of investigation and development:

- Development of technological solutions for specific needs related to health care, social care and services in the home for the general public.
- Technological evaluation of applications (either of our own, or those of other companies or research centres) using real users in order to allow the validation of the installation and implementation.

CIAMI Living-Lab



- The study and analysis of user needs - especially focusing on old people and those who have a disability - according to the following criteria: social integration and support for daily activities.
- Intensive evaluation for extensive periods of time of those applications which have been developed with the aim of preparing them for commercial launch.

The construction and technical personnel of this infrastructure has been financed during 2007 and 2008 by the Advancement Program of the Ministry of Industry, Tourism and Commerce.

<http://www.ciami.es>





VAALID

VAALID project aims at creating new tools and methods that facilitate and streamline the process of creation, design, construction and deployment of technological solutions in the context of Ambient Assisted Living (AAL) assuring that they are accessible and usable for senior citizens.

This goal will be achieved through a creation of a 3D-Immersive Simulation Platform for computer aided design and validation of User-Interaction subsystems that improve and optimise the accessibility features of Ambient Assisted Living services for the social inclusion and independent living.

The results of the project will support the design of an AAL solution in all the stages of a user centred design methodology, putting in practice the guidelines for the verification and validation of the accessibility and usability facets. The simulation environment is composed by software and hardware components, and allows the Information and Communication Technology (ICT) designer to test and define future scenarios of AAL in a virtual environment, getting involved the final users with the design process.

The new VAALID tools will help the European industrial players, ICT companies specialized in Human Factors and User Interaction design, Research and Academia in streamlining their respective business with regard to products and services for the Independent Living and Inclusion, creating new market opportunities.

<http://www.vaalid-project.org>



Competitive R+D projects R+D pr



OASIS

OASIS is a Large Scale Integrated Project with the aim to develop an open and innovative reference architecture, based upon ontologies and semantic services, that will allow plug and play and cost-effective interconnection of existing and newly developed services in all domains required for the independent and autonomous living of older people and their Quality of Life enhancement.

The OASIS system is aimed to achieve:

- Interoperability between different web services from the same or different application domains .
- Sharing of contextual information between different objects and services .
- Seamless connectivity between hardware, from hardware to service and from service to service.

Through this new architecture over 12 different types of services are connected with the OASIS Platform for the benefit of older people.

They cover user needs and wants in terms of Independent Living Applications, Socialization, Autonomous Mobility, Smart Workplaces. OASIS aims to support their physical and psychological independence, stimulate their social engagement and foster their emotional well being.

<http://www.oasis-project.eu>

RECORD

RECORD

The RECORD project is a PROFIT programme (National Program of Service Technologies for the Information Society) financed by the Spanish Ministry of Industry, Commerce and Tourism, through the National Plan for Scientific Research, Development and Technological Innovation (R&D&i).

The aim of this project is to design, implement and validate a broadband communications platform that will allow intelligent management of interactive contents for therapeutic use within the area of severe cerebral illnesses.

Specifically, the intention is to research new types of therapy using multimedia technologies, which will be accessible and manageable online, safely and effectively.

Project aims:

- The new technologies facilitate the development of new types of therapies with support from the latest techniques in communication and interaction, thereby making the medical attention received more effective and efficient.
- The communication channels enable the patient to receive therapy at home.
- New technologies allow the patient to receive continuous attention outside the hospital environment, giving them greater independence.
- To improve patients' quality of life through new TIC therapies but also to continually better the procedure by treating patients in their own home and keeping their families fully up-to-date with the latest information.

- Finally, the project envisages that this platform will promote preventative therapy by means of interactivity. This is a vital aspect in preventing the evolution of this type of pathology.

Para el desarrollo del proyecto, se ha creado un consorcio de organizaciones con la participación del Servicio de Daño Cerebral de HOSPITALES NISA y el Hospital Psiquiátrico de Zamudio, Nextel S.A., la Asociación Innovalia, ONO e ITACA-TSB.

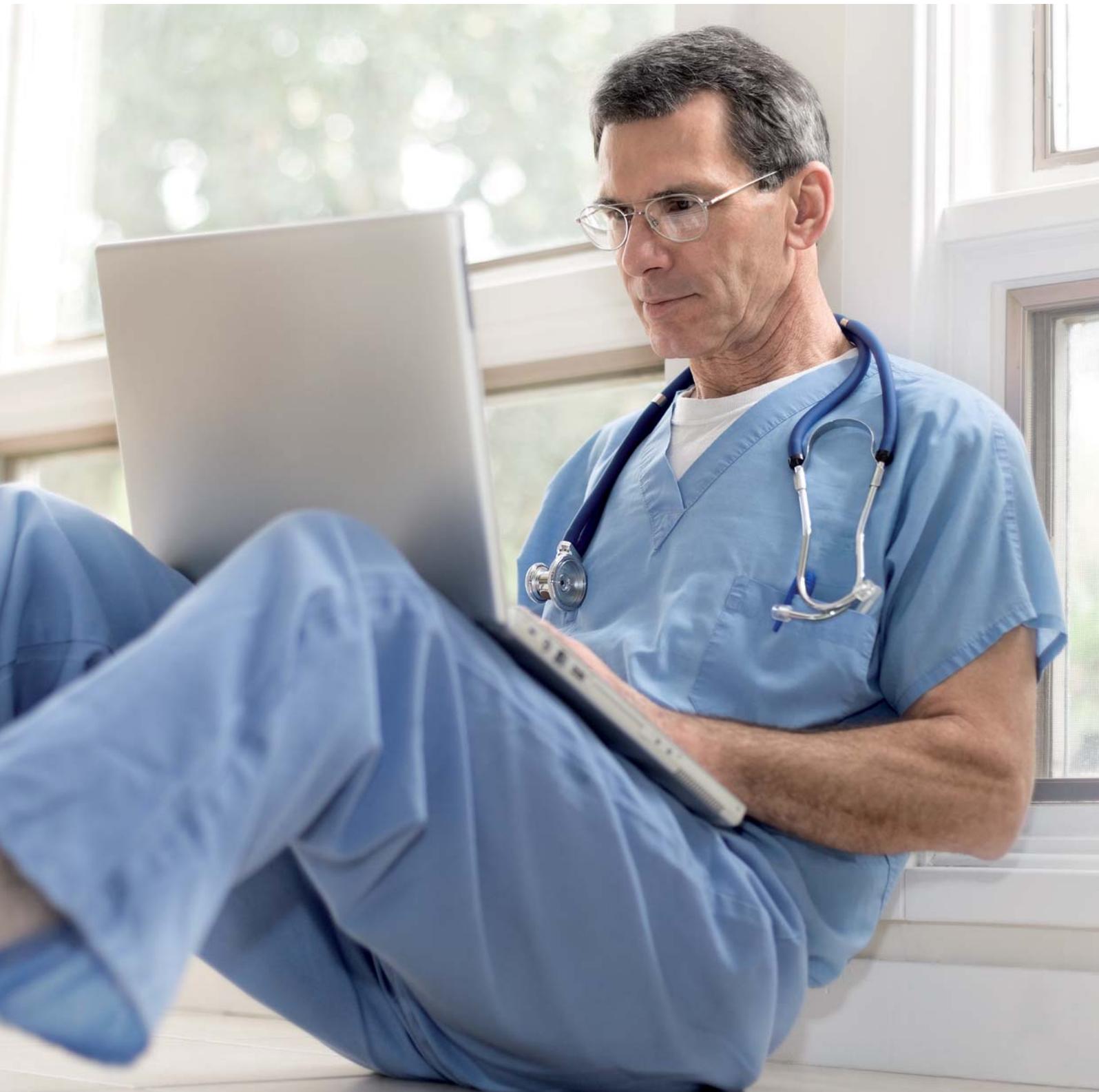
ITACA-TSB, como centro de I+D de reconocido prestigio, colaborará en la creación de nuevos entornos de conocimiento y apoyo a los servicios de salud, con el objetivo de ayudar al individuo a mejorar sus hábitos sanitarios, basándose en la convergencia de la distribución de contenidos. A través de estos dos usuarios finales y con la cooperación de sus miembros se proporcionará el contenido médico necesario para garantizar el éxito no sólo técnico sino funcional del sistema.





GIPA
METABO
HEARTCYCLE
NUADU
ONCNOSIS

SALUPEDIA
CMA MÓVIL
SENSATION
FITCONTROL



Competitive R+D projects R+D p



GIPA

GIPA

“The Integral Management of Assistance Procedures for Chronic Conditions” (GIPA) is a PROFIT project co-financed by the Ministry of Industry, Tourism and Commerce.

Its main objective is the design, development and assessment of a system that, by making use of TIC, will provide integral and integrated management of care systems in the home, within the framework of the Spanish health system, involving professionals from primary, specialised and hospital health care.

With this in mind the aims are:

- To support and facilitate the adoption of a new model of attention and care for chronic conditions, reinforcing the role of primary health care, and taking the patient and his environment as active factors into account.
- To quantify the expected improvement in care procedures by the development of a pre-market prototype and testing it within a realistic controlled environment.

The project is being carried out by ITACA-TSB and Department 7 of the Valencia Community Health Service, involving the Home Care Unit of the University Hospital La Fe in Valencia and also specialist and primary care centres associated with this hospital.

Department 7 will be responsible for assessment of the project, while TSB is responsible for developing a compatible platform to be integrated with the existing information systems. The platform will be composed of PCs, Tablet PCs, PDAs and telemonitoring equipment, to be used by medical personnel both in hospitals and homes and also by the patients themselves.

GIPA provides the solution to the problem of chronic illnesses, focusing on the patient and using the support of TIC to achieve integration of the whole range of health services and change working procedures under the supervision of medical staff.

The main components of the GIPA system are: the module for development of clinical practices and care plans, the activities and resource management module, the user support module, and an IP Response Medical Centre. The latter module consists of a call centre which automatically and randomly records monitored data and incidents from all patients.

Since all the information is collected at a single point, actions are simpler and management is more efficient, especially when, for example, an emergency has to be dealt with according to data received from outside the acceptable range.





FITCONTROL

FITCONTROL

This project is cofinanced by the Ministry of Industry, Tourism and Commerce as part of the Industrial Development Program under the title 'Personalised System of Control of Physical Effort during the Practice of Sport' (FITCONTROL). Technologies for Health and Wellbeing PLC and ITACA-TSB both participate in this project. The aim of the project is to build a personalised system for each user which advises him on how to control physical strain whilst exercising.

Within the project, new parameters for the control of physical effort are being studied, as well as methods on how to motivate the user, and we are also designing an interconnection model for sporting equipment. To this end we have been developing new sensors for the practice of physical exercise, and integrating the results with the personal training technology and gadgetry already available on the market.

This will give rise to new ways of controlling health through physical activity, encouraging cooperation between users through the use of social networks. The use of these social networks should result in improved adherence to physical exercise and training plans on the part of the user.



Competitive R+D projects R+D p



METABO

The aim of the METABO project is the improvement of clinical management of diabetes, using the latest available technology to define new methods of patient follow up within the health service, and to help those with diabetes to improve their own management of the illness.

This will be achieved through the development of a technological platform which connects the different factors implicated in collecting the relevant information and the process of data and diagnosis support, thereby permitting the patient and the medical team to manage the illness more efficiently, giving access to a higher level of information in comparison with current medical practice.

The types of parametres that will be the object of said follow-up, besides the traditional clinical and biomedical parametres, will include the concentration of subcutaneous glucose, dietary habits, energy used through physical activity, effects of the treatment, and the subsequent changes to daily life.

<http://www.metabo-eu.org>





HEARTCYCLE

The objective of the HeartCycle project is to extend the concept of the management system for chronic disease developed in the MyHeart project, and apply it to specific groups of patients with the emphasis on improving the adherence of the patient to the medication and change in lifestyle.

HeartCycle will provide a solution to the management of chronic illness within a closed loop capable of managing both patients with heart failure and those with chronic heart disease, including possible comorbidity such as hypertension, diabetes and arrhythmia.

All this will be achieved through monitoring and multiparametric analysis of vital signs, through the use of unobtrusive sensors attached to clothing and in patient bedding, as well as through domestic devices such as blood pressure monitoring and scales.

The system is made up of two interconnecting loops:

- An internal loop, the patient's loop, which interacts directly with him to provide daily treatment. Amongst other things it will show the progress in health, including the adherence to and efficacy of the treatment. If the patient is motivated, the degree of compliance on his part (ie strict adherence to the treatment) will go up and his health will improve. This loop is connected to the information systems in the relevant hospital to guarantee top personalised care.

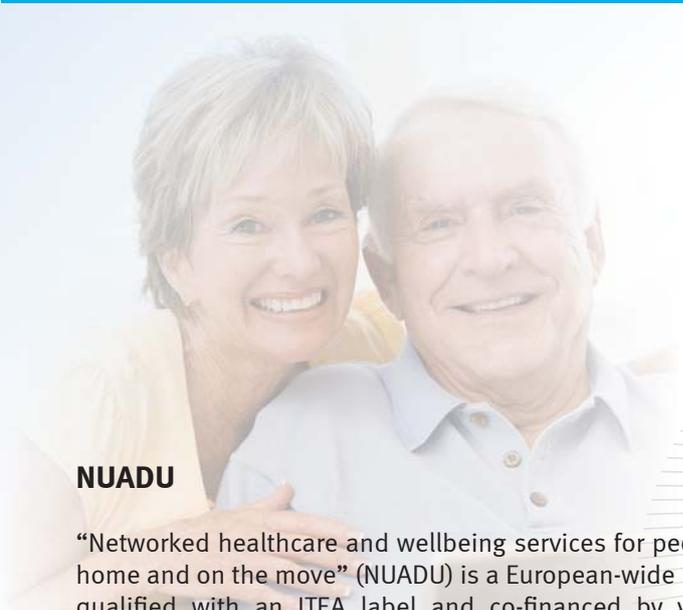
- An external loop, that of the professional, which involves the medical staff and which controls the cycle of patient care. n bucle externo, el del profesional, que involucra a los profesionales médicos y que controla todo el ciclo de cuidados del paciente.

The HeartCycle consortium is coordinated by Philips (market leader in electronics and care systems) and includes experts in textiles, TIC, and decision and user-interaction support systems.

<http://www.heartcycle.eu>



Competitive R+D projects R+D p



NUADU

NUADU

“Networked healthcare and wellbeing services for people at home and on the move” (NUADU) is a European-wide project qualified with an ITEA label and co-financed by various national programmes. Funding for the Spanish partners involved proceeds from the PROFIT programme.

NUADU’s objective is to tackle the technological challenges required to develop health-care and wellbeing services that offer (1) better quality of life for consumers and (2) more efficient and cost-effective solutions for service providers.

The consortium has members from five European countries and will initiate five pilot schemes with different objectives with the common purpose of sharing the best practices and exploiting opportunities for synergy between the members.

NUADU focuses on developing the applications chosen to improve health and wellbeing, following a design strategy based on user needs.

The selected applications are:

- Monitoring of the lifestyle of the elderly and disabled to facilitate their independence. This application will be evaluated by the French and Italian pilot projects.
- Weight control, monitoring physical activity and nutritional habits, to be evaluated by the Spanish pilot project.

- Control of cardiac insufficiency and monitoring of cardiovascular parameters in chronic patients, to be evaluated by the Spanish project.
- Application of health in the workplace, consisting of management of stress and unhealthy work practices, to be evaluated by the Finnish pilot project.

The project consortium, led by Philips Holland, includes organisations from Belgium, Spain, Finland, France, Italy and Holland. The Spanish representative in the consortium is Telvent Interactiva Company from the Abengoa Group.

Also participating are companies such as Philips, Nokia, Alcatel, Atos and Origin Italia. A contribution is also made by the Spanish universities, ITACA (Polytechnic University of Valencia) and the Polytechnic University of Madrid and by research institutes from other countries: CEA List (France), INT (France) and VTT (Finland).

<http://www.nuadu.org>



The logo for the ONCNOSIS project, featuring the word "ONCNOSIS" in a blue, sans-serif font. Above the letter 'O' is a stylized icon of a human head in profile, composed of a blue circle and a white circle with a black dot in the center, representing an eye or a sensor.

ONCNOSIS

ONCNOSIS

The objectives of the ONCNOSIS project are to obtain biomarkers with diagnostic potential for four oncological illnesses: lung cancer, colorectal cancer, melanoma and ovarian cancer.

The project aims to use these biomarkers to develop diagnostic and treatment tools for these serious illnesses. The project includes development of new tools for the early detection of cancer, prognosis and evolution of the disease, and molecular assistance in decision making with regard to treatments.

ONCNOSIS considers that ideal monitoring should be specific, sensitive, non-invasive and be able to continually collect relevant data.

As part of the project an implantable biosensor will be developed (ONCNOSENSE) for live monitoring for detection of cancer biomarkers.

For this work we will use groups of molecular biologists to carry out tests compatible with live detection and nanobiotechnological groups to develop the biosensor with built-in detection systems.

The TSB group, in collaboration with the Siemens Company, is working on a system of continuous monitored data recording and its transmission to a medical centre for interpretation.

<http://www.oncnosis.com>



Competitive R+D projects R+D p

http://www.

Salupedia

SALUPEDIA

Salupedia is the fruit of the extraordinary effort of health professionals, and the public in general, to achieve secure access to health information on the internet.

We have created a user community in which professionals (doctors, nurses, psychologists etc) recommend content, already on the net, to patients and the general public, making this an enriching and hitherto unheard of experience for all those involved.

As a result, the user has access to trustworthy information on health matters, recommended by professionals. The professional, in the same way, has access to a secure platform where he can interact with his patients and supply them with information.

Salupedia is, therefore, a proper medical encyclopedia which collects, classifies and organises the best health information contained on the net, backed up by a community of professionals and citizens whose varying roles and activities validate and enrich the said information.

Salupedia has been made possible thanks to a grant from the Ministry of Industry in Spain, through official competition as part of the Advancement Plan for digital content 2007-2008.

<http://www.salupedia.org>





CMA MÓVIL

CMA MÓVIL

The CMA, or Outpatients Surgery, has been possible thanks to the application of varying surgical, anaesthetic, nursing and organisational techniques, which allow certain types of post-op patients – who would normally have been required to stay in hospital – to be let out of hospital after the operation. The biggest impediment to the incorporation of new CMA procedures lies in the difficulties inherent in post-operative follow-up in the home.

Since the year 2000, the CMA unit at the Dr Peset Hospital in Valencia has been using an IT system which allows the management of all information relevant to operations and the follow-up of patients operated on in that unit.

Post-operative checks are usually carried out through telephone surveys using prewritten questions, whose responses are quantified through a scoring system.

The subjectivity of the patient's responses generally results in the emergency services having to make unnecessary visits to the home. In order to incorporate objective data into post-operative control, the TSB group has developed and implanted a system based on the use of mobile phones sending photographs to the hospital, integrated with the previous information system, that together with the portable pulsioximetre allows the health personnel to rely on objective information regarding patient evolution. A preliminary study shows that the system results in the avoidance of unnecessary visits by the emergency services, thereby reducing the costs of the CMA.

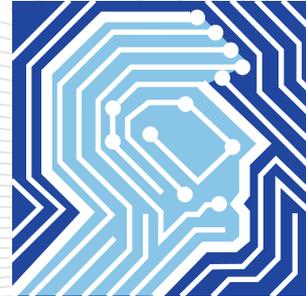
ITACA currently collaborates with Dr Peset Hospital within the framework of the FIS project, with the aim of broadening the study and evaluation of the m-Health system, which permits outpatients to send images, in order to have significant statistical data at the hospital's disposal, which in turn back up the conclusions reached. As a result, it will be possible to promote the general use of this system in the rest of CMA units forming part of the national health service.

The evaluation process has been divided into three parts, focussing on: clinical evaluation, patient satisfaction and cost. In order to carry out the said evaluation the system is working with a test group which uses the m-Health system; these results will be compared to those of a group of patients not using this system.



Projects

Competitive R+D projects



SENSATION

“Advanced Sensor Development for Attention, Stress, Vigilance & Sleep/Wakefulness Monitoring” (SENSATION) is an integrated project of the VI EU R+D Framework Programme included in the Strategic Objective Micro & Nano Sensors of the IST Thematic Priority.

Its aim is to study the unconscious state and its relations with the conscious state, with stress, and with other emotions, in order to develop technology promoting safety, health, comfort and quality of life, as well as protecting the environment by reducing the number of accidents associated with sleep loss and fatigue.

The project consists essentially of research into micro and nano sensor technology for use in monitoring, detecting and predicting human physiological reactions associated with wakefulness, fatigue and stress, for different people at different times and places.

Varying states of the human brain will be monitored by 17 microsensors and two nanosensors (cerebral activity sensors, bracelets, eye-movement sensors, motility integrated into BAN, LAN and WAN wireless networks).

The SENSATION R+D vision is structured around four areas:

1. **Physiology:** investigation and definition of states of sleep and wakefulness and links between the two, and the setting of objectives for biological measurements.

2. **Biosensors:** development of new ubiquitous biosensors including support and connectivity technologies.
3. **Computation:** developing and implementing signal processing and intelligent computational algorithms concerned with sleep, stress, attention and fatigue.
4. **Medical and industrial applications:** application of biosensors and computation to medical applications and critical industrial procedures.

This project is being carried out by a consortium of 40 international members including the Helene Transport Institute, Fraunhofer and VTT, Siemens VDO Automotive, DaimlerChrysler AG and Atmel. Universities taking part are the Polytechnic Universities of Madrid, Barcelona and Surrey, as well as ITACA-TSB.

TSB participates, fundamentally, in the development of a communications platform to connect the sensors developed with the applications in which they will be used.

This platform has three levels: Body Area Network (BAN) for wireless reception of all data acquired by the sensors for subsequent wireless transmission to the other levels, composed of the Local Area Network (LAN) and Wide Area Network (WAN).

<http://www.sensation-eu.org>

Agreements with companies



Educasalud

Educasalud.org is an Internet website for the educational community (parents, students, teachers and other professionals), whose purpose is to inform and instruct on the subject of Health Education in schools.

It is also an interactive platform for all those involved in education, where they can share experiences and information (projects, news, events) and participate as active users in creating the website.

Educasalud forms part of Educared and was developed by ITACA-TSB with the sponsorship of the Telefónica Foundation. It is now recognised as an international leader in the subject of Health in the School and affords a new and innovative multidisciplinary vision.

The site covers a wide range of health topics, and includes subjects such as the environment, road safety, accident prevention, humanitarian medicine, health for teachers, teaching health in schools, medical frontiers, skincare, sexuality, healthy habits, nutrition, children's health, etc.

It also offers interactive elements such as forums on certain topics and services like programmes of events, a dictionary of medical terms, information on grants and scholarships, a notice board, etc.

The strict ethical and behavioural code of medical websites is followed to the full and Educasalud has obtained well-known quality seals such as the European HON and the pWMC for Spanish web pages.

<http://www.educasalud.org>



epSOS – Ministerio de Sanidad y Consumo



ITACA-TSB was selected by the Ministry of Health and the Consumer (MSC) to take charge of the Technical Office for the European Commission's epSOS project (Smart Open Services for European Patients), in which 11 other member states are participating.

The aim of this initiative is to firstly define and then to put in place, between 2010 and 2011, a pilot scheme of clinical information exchange (Digital Medical History and Electronic Prescription) for European citizens needing health care in a European country of the EU other than their own.

With the invaluable help of doctors and experts (from the Ministry of Health and the Consumer and from Andalucía, Cataluña and Castilla La Mancha) ITACA-TSB will coordinate Spanish responsibilities on the project and will head the group charged with defining the necessary data to be included in the summarised version of a client's medical history.

<http://www.epsos.eu>

Agreements with companies

Orconera – Hospital Universitario Marqués de Valdecilla



The University Hospital Marqués de Valdecilla in Santander is the only hospital in Spain which hosts a Home Hospitalisation Unit, offering a round the clock service, available 24 hours a day, 7 days a week. This unit is reputed to be among the most prestigious in the country.

The Unit has developed and installed ORCONERA, a global management system of the HHD which has permitted the entire unit to be computerised and therefore provide access to the patient's medical history from any point outside the hospital and enabling a much more efficient management of available resources.

The installation of Orconera was completed successfully, being used by the 55 people who make up the UHD staff to attend 200 people a day. The Hospital is currently being provided with an update to the system.

Innovasalud



ITACA-TSB is participating in a joint venture with InnovaSalud, a health consultancy services company based in Cantabria, developing various activities across Spain: a consultancy service for the Health Service in Castilla y Leon for their medical encoding and nomenclature, consultancy for the Ministry of Health and the Consumer, training activities etc.



TSB Tecnologías

An agreement has been signed with TSB Technologies for the development of a series of Java modules for a telemedicine platform named NOMHAD. These modules cover functions such as telemonitoring, medical incidents, care plans, agendas, videoconference and mobile systems.

Lyra – Agencia Valenciana de Salud



ITACA-TSB won the competition for the computerisation of all Home Help Units for the Valencian Health Agency.

This has given rise to the creation of Lyra, a telemedicine platform which, on PCs and Tablet PCs, allows the user to efficiently manage the administration and medical care of the Home Help Units, providing quick access to structured medical information from any place, thus avoiding duplication problems, loss of data or transcription errors, and facilitating communication and integration with other information systems.

More than 60 medical professionals from the Valencian Health Agency have participated in its design.

In 2008 LYRA was integrated with Orion-Clinic, a hospital information system of the Valencian Health Agency, giving rise to a synergic process beneficial to both systems and their users. It is currently being installed in the University Hospital Dr Peset.

Skills

By 'skills' we are referring to the range of knowledge and techniques employed in the development of a particular project or the supply of a particular service.

Our skills can be divided into 5 different knowledge areas as well as 1 area of general consultancy.

Wireless communications



- Development of mobile device applications.
- WWAN environment development (Push and Tracing applications).
- WWAN environment development (applications for the immediate surroundings of the operator).
- Indoor tracing systems based on Zigbee.

Information Systems Platforms

- Software development.
- Design of architectural software for various environments.
- Experience in the latest software trends.
- Use of a broad spectrum of database.
- Handling of application servers.
- Other skills.



Knowledge Management



- User modelling.
- Development of intelligent agent applications.
- Workflow Modeling.
- Knowledge representation.

eHealth applications

- Standardisation in the health sector.
- Clinical tract.
- Accessibility.
- Development of user friendly applications.
- Workflow engines.
- Telehelp platforms for the elderly.
- TIC applications for nutrition .
- TIC applications for sport.
- Monitoring devices.
- System integration.



Information, health and communication



- Health portals: design, generation of tools and management of content in web platforms which are capable of covering the personalised needs of information and interaction for patients and professionals.
- Health content: reliable and up-to-date health information adapted to the target population, in formats that can be integrated into any software or platform.

- Interaction tools: interaction solutions targeting the needs of patients, professionals and organisations.
- Quality and ethics of health sites on the internet.
- Projects supporting ethics and diffusion of websites relating to health.
- Information systems: production of tools adapted to the needs of the client where the handling and exploitation of health information systems and indicators are concerned.
- Documentation management: development of tools and platforms for the management of documents, whatever their characteristics may be (databases, virtual libraries, archives etc).
- Consultancy on health issues: analysis of situations and trends, use of indicators, creation of information systems, social networks etc.

Inteligencia Ambiental



- OSGi.
- Intelligent agent infrastructures.
- UPnP
- Service-orientated architecture.
- Distributed services.
- Middleware for the provision of hardware abstraction layers (sensors, actuators, user devices).
- Context awareness systems.

The department of environmental intelligence in the TSB is responsible for covering the range of technologies which aren't classed as part of the other technological areas of the group but whose uses are directly related to the user or citizens.

The department currently has active projects in the following technological areas:

- Integration studies for home-automation solutions: EIB/ Konnex, LonWorks, X.10, and other systems.
- Development of open platform applications for digital and terrestrial television based on an MHP standard.
- Development of information bridges in residential homes to facilitate advanced digital services.

Consultancy



- Due to the expertise, experience and knowledge gained during the projects we have developed for our clients, we can create solutions adapted to any needs. Our consultancy services aim to analyse, orientate, improve and facilitate solutions, applications and technological tools appropriate for the success of any business.
- Our consultancy team offers a great capacity for technical consultancy specialising in technological environments such as: Information System Platforms, Wireless Communication and Knowledge Management in the areas of e-Health, e-Inclusion, Quality of Life and Health Information among others.

Areas of Expertise

- Design of planning and strategy for the transition and assimilation of new information technology.
- Technical, operational and economic studies for projects based on and businesses dealing in information technology, health and wellbeing.
- Planning, design and implementation of projects based on health and wellbeing technologies at corporate level.



Transference



TSB Tecnologías para la Salud y el Bienestar S.A.

The Company

TSB Technologies for Health and Wellbeing Ltd was founded in February 2008 as a spin-off company of the ITACA Institute at Valencia Polytechnic University. With 10 years of research experience in the social health sector as its behest, and thanks to its infrastructure and links with other departments, TSB Technologies has the capacity to efficiently evaluate and take advantage of business potential, using the results of I+D of most relevance in the sector, putting new solutions and products into the markets which best attend the needs of our clients.

TSB technologies also has an important network of professional and personal relationships with Spanish, European and multinational companies, with public administration bodies, with non-governmental organisations, and with I+D+i finance agencies. These relationships have been developed within the framework of research projects and completed work contracts. This gives TSB Technologies a broad vision of the current technological scene, of our abilities and of the market we are working within.

The company's official legal name is Technological Solutions for Health and Wellbeing PLC, and our offices are situated in the Technological Park in Paterna, Valencia. There is approximately 1000m squared of offices, laboratories, store rooms and show rooms, and we trust that the installations will be adequate for company needs over the next few years.

Company history and reasons for its creation

Innovation, if we understand it as a process, includes various stages, starting with the necessary research involved, working through the development and integration of technologies and the design of products and services according to the needs of the user, and ending with launching a product or service on to the market. Overcoming each of these stages successfully demands a wide range of knowledge, skills, working methods, control and management.

In our experience as a research institute, we have discovered that classical models of knowledge transference – in which a research structure has isolated contact with companies regarding specific projects and contracts – takes only limited advantage of the knowledge and results generated by the researchers.

TSB Technologies and the ITACA research institute jointly form a unique organisational structure, sharing common aims and solid operational links which allow us to work in an effective manner through all research phases, taking better advantage of the market opportunities developed by the company, the opportunities for receipt of public and private finance, and the business opportunities generated by excellent R+D+i results.



TECNOLOGÍAS PARA LA
SALUD Y EL BIENESTAR

Products and Solutions

Our company develops products and services based on information and communication technologies, which improve health care and quality of life.



Among our clients we count hospitals and clinics, both in the private and public health sectors; companies providing services for the health service, medical insurance companies, companies providing services related to sport, leisure and free time, and also users such as medical professionals, patients with chronic illnesses, patients in a rehabilitation process, as well as healthy citizens integrated in preventative medicine programs.



Fundamentally, TSB Technologies' products and services add value and efficiency to relations and communication between people; between patients and medical professionals, within a social environment, using personalised information and improving management of leisure activities related to health and wellbeing.



Transference

TSB Technologies also develops its own technology, giving the added value of offering something different to the existing solutions and products available in the market:

- **mobile:** The mobile products cover the need to monitor illnesses and follow up on treatment, especially where chronic illness is concerned, in patients who have been released from hospital. This range of products makes all the necessary information available to the patient and the medical professional at any time, in any place, thereby improving personal wellbeing and quality of life.
- **SPHERA Technology:** Through an intelligent tracing system, and applying Ambient Intelligence (AMI) concepts, Sphera technology makes the monitoring of people within a defined space possible. This technology enables us to cover the needs of Intelligent Telehelp, facilitate the control of groups of people, and gives the user access to enclosures and leisure sites.
- **TRIBOOnet:** Covers the tools providing advanced functionality for the configuration of social websites based on the collaborative concept 2.0, focussing on the differing aspects of human health.

The company is in its initial stages. It has launched its first products on to the market: NOMHADhospital v1.0, DERMAmóvil and the online health and wellbeing encyclopedia Salupedia, whilst also developing and testing new products and solutions focused on the health sector and the market for health and wellbeing products.



- NOMHADhospital is a solution designed for use in Home Hospitalisation Units. It facilitates daily work and gives the unit more efficient management, providing quick access – from anywhere – to structured clinical information, thus avoiding duplication, loss of data, transcription errors, and facilitating communication and integration of the system with other hospital IT systems.



- DERMAmóvil allows follow-up on patients with skin problems, monitoring the evolution of the problem and detecting and therefore preventing any complication that may arise. It is based on the use of a portable multimedia kit, which allows one to establish a line of communication between the patient and doctor.



Salupedia

- Salupedia (www.salupedia.org) is the first application designed using the tools based in Triboonet, creating a site containing reliable information, directed to patients, based on the valuation given by the latter to the proposed health recommendations given by health professionals.

Among the products and solutions currently in their final stages of development, it is worth detailing the following:



- The Vital Signs Monitor is a modular multiparametric mobile device, which allows one to monitor the vital signs of the patient, and allows the transmission of information to any software or any storage, transmission or visual system.



- RITMUSmobile allows for the follow-up of patients with chronic heart disease, tracking their progress and treatment through the use of a mobile multimedia kit and opening up a channel of communication between the patient and the health professional.



- SPHERAmobile is a powerful tool for the tracing, identification of and security of a group of individuals, it works continuously and independently, thereby permitting a guide or monitor to be in total control of the location of each and every member of a particular group at all times.



- SPHERAcare is an advanced Telehelp product for the elderly and handicapped. This system not only includes a panic button as in the majority of current systems, but also has the added value of including new Ambient Intelligence (AMI) technology.



- SPHERAhospital is a solution providing a hospital with the following capacities: identification, tracking, information, clinical and physical security, and monitoring for the support of the management of procedures and resources (both passive and active) within a large area.



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Partners and Strategic Links

ITACA-TSB has established strategic links with the relevant professional associations, institutions and companies. As well as permitting product development, these agreements have enabled us to set up information channels and develop joint ventures, beneficial to all sides.

The Spanish Paediatrician Association



This association comprises of more than 9,000 professional members (paediatricians and paediatric surgeons). Its aim is to improve patient diagnosis and therapy and encourage high ethical standards and quality healthcare among its members.

A strategic link was established in 2007 between the AEP and ITACA-TSB for collaboration on various projects.

The activities to be developed under this agreement include not only R&D but also the transfer, compilation and establishment of stable information flows in areas related to the application of new technology for the improvement of health and wellbeing in children and adolescents.

<http://www.aeped.es>

The Spanish Society for Family and Community Medicine



The Spanish Society for Family and Community Medicine (semFYC) is a non-profit making scientific society of doctors dedicated to primary healthcare. Their objective is to boost the development of Family and Community Medicine in Spain, as well as developing Primary Healthcare.

The activity of the group is based on cooperative work and prides itself on scientific excellence and leadership qualities.

<http://www.semfy.com>

The Argentinian Medical Association



The AMA is the most important professional medical association in Argentina when number of members, history, associated scientific societies and scientific and educational activities are taken into account.

In 2007 a collaboration agreement was signed to set up a strategic link between AMA and ITACA-TSB, whose aim is to establish a continuous flow of information and strengthen collaboration thereby facilitating future joint ventures and projects.

<http://www.ama-med.org.ar>

Telefónica Foundation



Since 2002 the Telefónica Foundation and ITACA-TSB have collaborated in creating and maintaining Internet spaces for the improvement of health care in the educational community and also for research into the Internet phenomenon and education relating to health.

Camposalud.com was established to focus on the university community and has become one of the ten leading Spanish-language health portals, with half a million hits.

In 2007 Educasalud.org was created, within the framework of Educared, to focus on the pre-university educational community. Educasalud deals with the subject of health education in schools and offers information, teaching aids and interactive spaces for parents and teachers.

<http://www.fundacion.telefonica.com>

Ovsi Foundation

ITACA has been working with the Valencian Office for the Information Society (OVSI) since 2003 in areas related to health and wellbeing.

Within the framework of the Alcoy – Digital City project, under the direction of the OVSI Foundation and financed by Alcoy Council, the Regional Government of Valencia and the Spanish Ministry for Public Works, the LYRA system was developed and installed to allow integral management of the Home Hospitalisation Unit of the Hospital Virgen de los Lirios in Alcoy.

Since it began, this project has received the support of the Health Department of the Valencian Regional Government, which is now financing the introduction of the Lyra system in the Home Hospitalisation Units of its other hospitals.

<http://www.ovsi.com>

Vodafone Foundation



Collaboration with the Vodafone foundation dates back to 2001 with joint participation in the European project CONFIDENT. The success of that collaboration has made the promotion of other joint European ventures possible (MyHeart, Persona, Heart Cycle,...), as well as training and diffusion activities, such as the Annual Vodafone Conference, where we have been regular invited speakers.

<http://fundacion.vodafone.es>

Hospital Universitario La Fe



Cooperation and transference activities with this hospital began in 2000 and our collaboration with the Home Hospitalisation Unit has been especially fruitful. This unit has participated in various R&D initiatives, both Spanish (GIPA), European (Ideas in e-Health and CAREPATHS) and in technology transference (integral Home Hospitalisation Unit management systems).

These activities laid the foundations for the signing of a Cooperation Framework Agreement between ITACA and the Hospital La Fe in 2004, with the following aims:

- To detect and solve, through the use of TIC, social and health problems in the area of home hospitalisation.
- To promote and integrate basic management of care procedures for chronic patients, involving medical personnel from primary, specialised and hospital care units.
- To design, define and implement care paths, facilitating the design and execution of care plans, applied to patients with a particular pathology and a predictable clinical outcome. This system applies Evidence Based Medicine and a patient-based personalised health philosophy with the aim of putting these products and services on the market.

<http://www.fundacionlafe.org>

Hospitales NISA



NISA is the largest private hospital group in the Valencian region and has been cooperating with TSB since 1998.

In recent years, various telehelp services developed by TSB (tele-gynaecology for high-risk pregnancies, tele-dermatology, etc) have been available in NISA hospitals.

The NISA Hospital Valencia al Mar currently has a Teledermatology service for the control and observation of patients with medium and long term illnesses. This service is based on the use of mobile telephones and facilitates a continuous interactive relationship between patients and doctors throughout the therapeutic process.

<http://www.hospitales.nisa.es>

Gobierno de Neuquén - Argentina



In 2006 an agreement was signed with the government of Neuquén (Argentina) for the testing, installation, investigation, use and joint management of innovative services and advanced Telemedicine systems developed by the TSB Group.

The idea behind the agreement was to facilitate the work of health professionals and improve the quality of life of the population of Neuquén province through the application of these technologies.

They are currently using our ARGO system, which connects various primary care centres to the main hospital.

<http://www.neuquen.gov.ar>

Siemens



ITACA has been collaborating with SIEMENS since 2003, when both organisations began work on the development of a domotic system, Telemedicine and Creative Leisure, which was aimed at groups with special needs. Since then, their common interests have led to participation in European projects such as ASK-IT and OASIS. The former has been in operation for three years and the latter is expected to begin in January 2008. Both projects share the common aim of focusing on special needs groups.

The ASK-IT project aims to facilitate the access of persons with reduced mobility to a wide range of services when they are travelling. These include: medical assistance, guidance, information concerning accessible transport, hotels and restaurants and many other services.

The OASIS project will provide care and attention to the elderly in their daily activities. Siemens and ITACA are the technical directors for the development of solutions in nutrition, healthy living, leisure and communication. They also collaborate in the development of home assistance platforms such as Profit GTS (Global Telehelp System) and PAH, which is an assistance gateway for the home. These projects represent a common strategy to develop a new generation of home assistance systems.

The latest, and perhaps the most ambitious, joint project is AMVITAL in the CENIT programme of the Ministry for Industry. Siemens' participation in the project is considerable, with a budget of over €20m. Together with Telefónica R+D, Telvent Interactiva, Ericsson and various other firms they aim to develop an integral solution for the field of home care. The program foresees that part of the R&D activity will be subcontracted to leading research centres in the field. ITACA has been chosen by Siemens for this work.

<http://www.siemens.es/index.jsp>



Telefónica Móviles



In September 2005 a Memorandum of Understanding was signed between ITACA and Telefónica Móviles España S.A.U. (TME) with the aim of working together and exploiting the technological know-how of both companies to create and promote new products for the mobile telephone market, with special emphasis on the health sector.

The collaboration between TSB and the Vertical Applications Department of TME focuses on the search for new mobile services and/or improvement to existing services for both patients and professionals in the e-health field. The main research areas are: home care, SMS reminders (medicines, appointments, etc.), health promotion campaigns, post-operative follow-up, remote monitoring systems, handling of emergencies, tracking and mobile telehelp.

The first project to come out of this collaboration has been an application developed by TSB for the control of dermatology patients in their homes through the transmission of photos and questionnaires by mobile phone.

Currently, work is in progress on new R&D initiatives using latest generation mobiles to provide social services.

<http://www.telefonica.es/moviles>



Hospital Universitario Dr. Peset

Hospital Universitario Dr. Peset

We have been cooperating with this hospital since 2002 in TIC applications to solve various problems. The clearest example of technology transfer, with the aim of covering the hospital's needs, is Mobile CMA, an m-health application that improves post-operative follow-up of Outpatient Surgery Units using information exchange (questionnaires and images) between patients and hospital staff.

Using GPRS/UMTS networks and the latest mobile terminals the system provides a high quality and efficient service which allows patients to be continuously monitored whilst at home.



Scientific Activity 2008



Articles in conferences

G. Ibáñez, C. Fernández, J.P. Lázaro, S. Guillén

Título: Sistema inteligente de apoyo a la emergencia para personas con movilidad reducida

Congreso: 1er. Congreso Internacional de Mecatrónica y 2do. Congreso Nacional UUPP
Tuxtla Gutiérrez, Chiapas, México, Abril 2008

C. Fernández, J.P. Lázaro, G. Ibáñez, D. Domínguez

Título: Workflow Minin para el modelado individualizado del comportamiento humano en el contexto de la Inteligencia Ambiental

Congreso: 1er. Congreso Internacional de Mecatrónica y 2do. Congreso Nacional UUPP
Tuxtla Gutiérrez, Chiapas, México, Abril 2008

JB. Mocholí, D. Dominguez, C. Fernández, L. Ianone

Título: Herramienta de apoyo a la decisión para la generación de menús personalizados

Congreso: 1er. Congreso Internacional de Mecatrónica y 2do. Congreso Nacional UUPP
Tuxtla Gutiérrez, Chiapas, México, Abril 2008

C. Fernández, JM. Benedí

Título: Timed Parallel Automaton Learning in Workflow Mining problems

Congreso: 1er. Congreso Internacional de Mecatrónica y 2do. Congreso Nacional UUPP
Tuxtla Gutiérrez, Chiapas, México, Abril 2008

C. Fernández, C. Sanchez, V. Traver, JM. Benedí

Título: TPAEngine: Un motor de Workflows basado en TPAs

Congreso: 1er. Congreso Internacional de Mecatrónica y 2do. Congreso Nacional UUPP
Tuxtla Gutiérrez, Chiapas, México, Abril 2008

J. Berrio, C. Carrión, A. Ciudad, D. Dominguez, S. Pomés, V. Traver

Título: Orconera: A Use Case of an Integration of a Home Hospitalization Unit Management Platform with Legacy Systems

Congreso: COLLECTeR'08– Collaborative Electronic Communications and Ecommerce Technology and Research
Madrid, España, Junio 2008

L. Fernández, I. Basagoiti, E. Johnsen, R. Karlsen

Título: Study of the ePatient as a provider of health content in the Internet

Congreso: Medicine 2.0
Toronto, Canada, Septiembre 2008

CA. Marin, JL. Bayo, V Traver

Título: Propuesta de un servicio de orientación para selección de dispositivos de telemonitorización domiciliaria

Congreso: CASEIB 2008 - Sociedad Española de Ingeniería Biomédica
Valladolid, España, Octubre 2008

A. Fides, M. Freddi, F. Furfari, M. Tazari

Título: The PERSONA Framework for Supporting Context-Awareness in Open Distributed Systems

Conferencia: Aml 2008 (European Conference on Ambient Intelligence)
Nürnberg, Alemania, Noviembre 2008

Articles in Magazines

E. Montón, JF. Hernandez, JM. Blasco, T. Hervé, J. Micallef, I. Grech, A. Brincat, V. Traver

Título: A Body Area Network for Patient Wireless Monitoring

Revista: IET COMMUN. 2008, 2 (2), PP. 215-222
Año: 2008

HF. Rashvand, V. Traver, E. Montón, D. Iliescu

Título: Ubiquitous Wireless Telemedicine

Revista: IET COMMUN. 2008, 2 (2), PP. 237-254
Año: 2008

V. Traver

Título: Special Section on Telemedicine & e-Health Communication Systems

Revista: IET COMMUN. 2008, 2 (2), PP. 179-180
Como editor
Año: 2008



G. Ibañez, C. Fernández, JP. Lazaro, S. Guillen

Título: Sistema inteligente de apoyo a la emergencia con personas de movilidad reducida

Revista: Ciencia y Tecnología en la Frontera ISSN: 1665-9775
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 Páginas: 175-180 Volumen especial 2008
 Año: 2008

JB. Mocholí, D. Dominguez, C. Fernández, L. Ianone

Título: Herramienta de apoyo a la decisión para la generación de menús personalizados

Revista: Ciencia y Tecnología en la Frontera ISSN: 1665-9775
 Editorial: Consejo de Ciencia y Tecnología del Estado de Chiapas (COCYTECH). Índice Latindex (25)
 Páginas: 126-131 Volumen especial 2008
 Año: 2008

C. Fernández, JM. Benedí

Título: Timed Parallel Automaton Learning in Workflow Mining problems

Revista: Ciencia y Tecnología en la Frontera ISSN: 1665-9775
 Editorial: Consejo de Ciencia y Tecnología del Estado de Chiapas (COCYTECH). Índice Latindex (25)
 Páginas: 181-188 Volumen especial 2008
 Año: 2008

C. Fernández, C. Sanchez, V. Traver, JM. Benedí

Título: TPAEngine: Un motor de Workflows basado en TPAs

Revista: Ciencia y Tecnología en la Frontera ISSN: 1665-9775
 Editorial: Consejo de Ciencia y Tecnología del Estado de Chiapas (COCYTECH). Índice Latindex (25)
 Páginas: 189-194 Volumen especial 2008
 Año: 2008

C. Fernández, JP. Lazaro, G. Ibañez, D. Dominguez

Título: Workflow Mining para el modelado individualizado del comportamiento humano en el contexto de la inteligencia ambiental

Revista: Ciencia y Tecnología en la Frontera ISSN: 1665-9775
 Editorial: Consejo de Ciencia y Tecnología del Estado de Chiapas (COCYTECH). Índice Latindex (25)
 Páginas: 211-216 Volumen especial 2008
 Año: 2008

V. Traver; JP. Lázaro; S. Guillén

Título: Ambient Assisted Living (AAL): Servicios avanzados de teleasistencia en entornos de inteligencia ambiental

Revista: I+S. Informática y Salud. Monográfico: TICs aplicadas a la Salud y el bienestar.
 Editorial: Sociedad española de Informática y Salud nº 71
 ISSN: 1579-8070
 Páginas: 9-24
 Año: 2008

A. Martínez; JP. Lázaro; S. Guillén

Título: Desarrollo de un centro de investigación experimental en aplicaciones y servicios de Inteligencia Ambiental (CIAMI)

Revista: I+S. Informática y Salud. Monográfico: TICs aplicadas a la Salud y el bienestar.
 Editorial: Sociedad española de Informática y Salud nº 71
 ISSN: 1579-8070
 Páginas: 25-32
 Año: 2008

J. Viñoles, E. Montón, J. Soliveres, M. J. Nodal, F. Pérez y C. Solaz

Título: Evaluación de la telemedicina aplicada a la cirugía ambulatoria

Revista: ASECMA. Cirugía Mayor Ambulatoria. ISSN: 1137-0882. Volumen 13 nº: 1
 Editorial: ARAN Ediciones
 Año: 2008

Chapters

A. Fides, M. Freddi, F. Furfari, M. Tazari

Título: The PERSONA Framework for Supporting Context-Awareness in Open Distributed Systems

Publicación:

Serie de libros: Lecture Notes in Computer Science Volumen: 5355/2008

Editor: Springer Berlin / Heidelberg

ISSN: 0302-9743 (Print) 1611-3349 (Online)

Libro: Ambient Intelligence

DOI: 10.1007/978-3-540-89617-3

Copyright: 2008

Páginas: 91-108

Enlace a publicación digital: http://dx.doi.org/10.1007/978-3-540-89617-3_7

Año: 2008

D. Domínguez; C. Fernández; T. Meneu; JB: Mocholí; R. Serafín
Título: Medical Guidelines for the Patient: Introducing the Life Assistance Protocols

Publicación:

Libro: Studies in Health Technology and Informatics. Volume 139: Computer-based Medical Guidelines and Protocols: A Primer and Current Trends

Editorial: IOS Press

ISSN: 0926-9630

Páginas: 193-203

Año: 2008

Papers

Dr. Vicente Traver

Título: AMI: Oportunidades para la innovación y multidisciplinaridad

Charla invitada en II Encuentro Multidisciplinar de Bioingeniería e Informática Médica

Alicante, España, Abril 2008

Dr. Sergio Guillén

Título: Ambient Assistive Living

CONGRESO: ICOST 2008

Iowa, EEUU, Junio-Julio 2008

Dr. Vicente Traver

Título: Las TIC como valor añadido para la fidelización del cliente de seguros de salud

Charla invitada en ICEA –Investigación Cooperativa entre Entidades Aseguradoras

Madrid, España, Julio 2008

Ignacio Basagoiti

Título: Technology and Informatic in Communication's in patients follow up and quality of life

29º Congreso Mundial de Medicina Interna

Buenos Aires, Argentina, Septiembre 2008

Ignacio Basagoiti

Título: Dispositivos portables ¿Mejorarán la comunicación, el seguimiento de los pacientes y la recolección de información?

Symposium Asociación Médica Argentina: TIC en Salud, aplicaciones a la práctica diaria

Buenos Aires, Argentina, Septiembre 2008

Ignacio Basagoiti

Título: Compartir conocimientos. ¿Solo una tendencia o una nueva forma de actualización médica?

Symposium Asociación Médica Argentina: TIC en Salud, aplicaciones a la práctica diaria

Buenos Aires, Argentina, Septiembre 2008

Dr. Vicente Traver

Título: Intelligent, manageable and adaptive pHealth platform. Are We There?

Charla invitada en pHealth USA Conference

Norfolk, Virginia, Usa, Septiembre 2008

Dr. Vicente Traver

Título: Aplicaciones de las TIC a la hospitalización domiciliaria

Charla invitada en Encuentro Transdisciplinar sobre Tecnologías de la Información, las Comunicaciones y el

Control para la Asistencia Social y Sanitaria

Alicante, España, Octubre 2008

Participation in Scientific Societies and work groups

Desde el TSB se es consciente de la importancia de la participación en sociedades científicas y grupos de trabajo. Así, ahora mismo se participa en:

- Unión Internacional de Telecomunicaciones-Grupo de Estudio 16.
- eHealth Standardisation Coordination Group (eHSCG).
- Sociedad Española de Informática para la Salud (SEIS).
- HL7 España.
- Plataforma tecnológica europea eMobility.
- Plataforma tecnológica nacional eMov.
- Plataforma tecnológica nacional eVIA.
- Plataforma tecnológica nacional Prometeo.
- Proyecto Webs Médicas de Calidad (pWMC): Soporte y participación en este proyecto dedicado a la evaluación de calidad y criterios éticos de páginas web con contenidos de salud humana en el ámbito iberoamericano.

Consultancy Activities

- Participation in the OPTI prospective study on embedded systems.
- Participation in the events of PHS 2000.



Membership of Committees and Editorials

- Dr Sergio Guillén – Chairman and member of the Scientific Committee for the International Workshop on Wearable Micro and Nanosystems for Personalised Health (pHealth 2008).
- Dr. Vicente Traver – Chairman and member of the Scientific Committee for the International Workshop on Wearable Micro and Nanosystems for Personalised Health (pHealth 2008).
- Dr. Vicente Traver – Member of the Scientific Committee for the Collector Conference 2008.
- Dr. Vicente Traver – Member of the Scientific Committee for the CASEIB Conference 2008.
- Dr. Vicente Traver – Member of the Editorial Board for IET Communications.

Participation in Fairs and Conferences using Display Stands

- Presentation of a display stand in the IX National Conference for Home Hospitalisation San Sebastián, Spain, June 2008.

Conference Organisation

- International Workshop on Wearable Micro and Nanosystems for Personalised Health (pHealth 2008) Valencia, España, Mayo 2008.





International Workshop on Wearable Micro and Nanosystems for Personalised Health (pHealth 2008) Valencia-España

Workshop pHealth 2008



In May 2008, at the very heart of the Polytechnic University, the 5th Edition of the 'International Workshop on Wearable Micro and Nanosystems for Personalised Health – pHealth 2008' took place in Valencia; the biggest scientific event organised entirely by the ITACA-TSB group.



With the participation of 200 experts from more than 20 different countries, the pHealth 2008 Workshop became a veritable reference point for research centres, companies, service providers and those responsible for European scientific policy.

The success of the workshop was not only due to the quantity and quality of the talks given, but also to the fact that pHealth drew the attention of the international scientific community and of the general public to the possibilities and future prospects for personalised health care entirely focussed and centred on the individual.



This has been demonstrated by the range of media – television, radio, written and digital press – reporting on the themes covered during the conference, in spite of the high scientific level of the material discussed.

The importance of pHealth is also demonstrated in the quantity and relevance of companies and institutions which supported the event, and whose activities, products and developments were diffused amongst the attendees and have attained coverage in the media.





Scientific Program

The pHealth Workshop 2008 program included the following eminent scientists:

- Boris Groth - Fraunhofer-IUK
- Danilo De Rossi - University of Pisa
- Eric McAdams - University of Ulster
- Georges Kotrotsios - CSEM
- Harald Reiter - Philips Technologie GmbH Forschungslaboratorien
- Ilias Iakovidis - European Commission
- Javier Colás - Medtronic
- Jean Luprano - CSEM
- Jörg Habetha - Philips Research
- Loukianos Gatzoulis - European Commission
- Andreas Lymberis - European Commission
- Maria Teresa Arredondo- Polytechnic University of Madrid
- Nicos Maglaveras - Aristotle Universidad de Tesalónica
- Per Hasvold - Telemedicine Norwegian Center
- Paolo Bonato - Harvard Medical School
- Ted Selker - Context-Aware Computing Group of MIT

Recognition and Accreditation

The pHealth Workshop 2008 was recognised as an Event of Scientific Health Interest by the Spanish Government Ministry of Health and the Consumer.

pHealth 2008 obtained the seal of approval of web quality from the HON foundation, endorsed by the EU. This seal of approval is the most important and most recognised that can be received for websites covering health content, and involves a scrupulous process following strict medical parameters and quality control on content.

pHealth also obtained the seal of approval from the Quality Medical Website project. This seal of quality is the most recognised for medical websites in Spanish.

Internet Impact

Around 9000 visits to the official website: <http://www.phealth2008.com> were made, from more than 108 countries.

The situation 2 weeks after the close of the workshop was as follows:

- More than 16,800 entries for pHealth 2008 in Google
- 47,200 entries for pHealth 2008 in Yahoo!
- 12,000 entries in MSN
- 12,100 entries in Live

Press Impact

Notes, press releases and reviews for the media were written up both before the workshop and on a daily basis during the event; these notes were released to the most important news and media agencies, for both written and digital channels as well as radio and television, in local, national and international media, as well as media specialising in health and technology. The press impact is detailed in the corresponding appendix.

Budget and Economic Activity



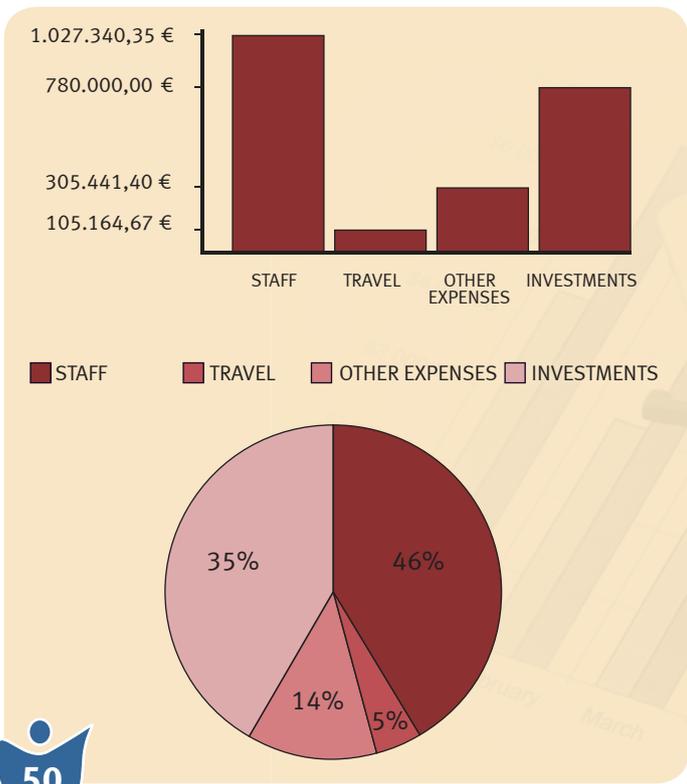
In 2008, ITACA-TSB took a bold step in instigating a new support infrastructure for its R+D projects in the Aml area.

The costs detailed in the 'investment' category correspond to the design, construction, furnishing and maintenance agreements of the Ambient Intelligence Lab or 'Living Lab' which has been operative since 2009, and where the PERSONA, VAALID, OASIS and AMIVITAL projects will be carried out.

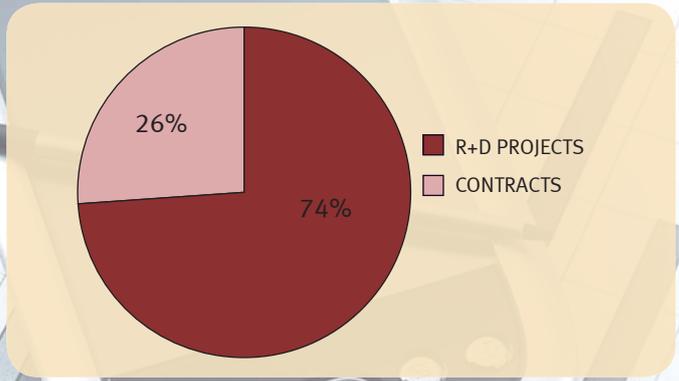
The budget for the ITACA-TSB group in 2008 was 2,217,946.42 euros, representing an approximate 20% increase on previous annual budgets. This budget was superior to that of other centres and institutes for R+D in our area.

The budget was split as follows:

CATEGORY	TOTAL
STAFF	1.027.340,35 €
TRAVEL	105.164,67 €
OTHER EXPENSES	305.441,40 €
INVESTMENTS	780.000,00 €
	2.217.946,42 €



The main activity of the group is the development of pre-market R+D projects, whether regional, national or international, although an important part of its activity is providing and developing tailor-made services for public and private companies.



nic Activity



Press diffusion and impact

During 2008, ITACA-TSB gave special attention to the task of releasing information regarding its activities to the media. To this end, the group has participated in shows and events, has written press releases and taken an active participation in diffusing information both in the written and digital press as well as through radio and television, through local, national and international media and also that specialising in health, inclusion and technology.

The efforts made resulted in the following:

- 65 articles in magazines and digital newspapers
- 15 articles in the written press
- 7 television reports
- 1 radio interview

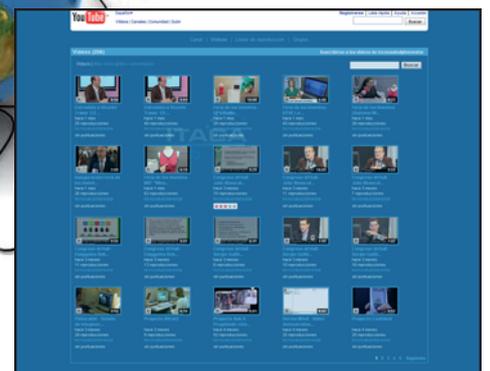
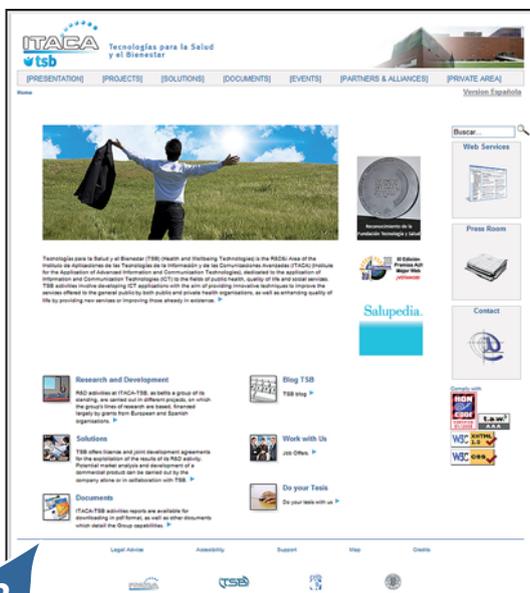
Of all the events which enjoyed media attention, 2 were most relevant: the pHealth Workshop 2008, organised by ITACA-TSB, and the Invention Fair as part of Science Week, organised by Valencia Polytechnic University.

During 2008, the ITACA-TSB web page <http://www.tsb.upv.es> has recorded the following:

- Users: 15,511
- Pages visited: 20,449
- 50% of direct traffic
- 30% of traffic through search engines
- 18,900 entries for ITACA-TSB in Google
- 143,000 entries for TACA-TSB in Yahoo

2008 also saw the creation of a YouTube channel: <http://www.youtube.com/tecnosaludybienestar> in which reports, interviews, conferences and seminars participated in by ITACA-TSB are posted.

The channel has received 4,120 visitors since its creation.



impact

The ITACA-TSB group has had impact in the following mass media:



Un suplemento de EL MUNDO
SALUD
TELEMEDICINA
Un servicio de elmundo.es
5 de Enero de 2008, número 738

La telefonía móvil desbanca a internet como sistema de comunicación con el paciente

Un suplemento de EL MUNDO
SALUD
TELEMEDICINA
Un servicio de elmundo.es
5 de Enero de 2008, número 738

Un suplemento de EL MUNDO
SALUD
TELEMEDICINA
Un servicio de elmundo.es
5 de Enero de 2008, número 738

Un suplemento de EL MUNDO
SALUD
TELEMEDICINA
Un servicio de elmundo.es
5 de Enero de 2008, número 738

lasprovincias.es
"DIETA A LA CARTA" CON LA CANTIDAD DE CALORÍAS Y VITAMINAS
Desarrollan un "asistente virtual inteligente" vía Internet que informa sobre la mejor dieta y para el control de los alimentos y avisa de que no se debe comer de más

Vida y Ocio
2 de Febrero de 2009

ACTA SANITARIA
TEVA España

Corporativo
Quiénes Somos
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Boletín periódico

Información
Noticias
Dimes y Diretes
Punto de Vista
Documentos
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Farmacéutica
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Nombres Propios
Agenda
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¿Quieres recibir nuestro boletín en tu email?
Suscritar

Notas de Prensa
Canal » Notas de Prensa

MÉDICOS Y PACIENTES CONSTRUYEN ENCICLOPEDIA MÉDICA VIRTUAL EN SALUPEDIA

Madrid 8/1 colabora de la a nacido enciclopedia del re

Un grupo de investigadores del Instituto I taca de la Universidad Politécnica de Valencia ha desarrollado una camiseta inteligente que gracias a la tecnología previene enfermedades cardiovasculares. Su objetivo es crear un plan de entrenamiento personalizado que logre el mayor rendimiento físico, sin riesgos para su corazón.

www.informativos.telecinco.com

TELECINCO.ES
La camiseta inteligente que protege el corazón
Previene enfermedades
INFORMATIVOSTELECINCO.COM/AGENCIAS
11 de marzo de 2008

Un grupo de investigadores del Instituto I taca de la Universidad Politécnica de Valencia ha desarrollado una camiseta inteligente que gracias a la tecnología previene enfermedades cardiovasculares. Su objetivo es crear un plan de entrenamiento personalizado que logre el mayor rendimiento físico, sin riesgos para su corazón.

www.informativos.telecinco.com

Robot futbolista y camisetas inteligentes en la feria de inventos
También hay tejas solares y transistores para esterilizar moscas, I taca

Investigadores del Área de Tecnología de la UPV desarrollan un asistente que permite seguir una dieta a través de un móvil. La UPV desarrolla un sistema de prevención de incendios forestales

El robot, al mundial de fútbol

Un grupo de investigadores del Instituto I taca de la Universidad Politécnica de Valencia ha desarrollado una camiseta inteligente que gracias a la tecnología previene enfermedades cardiovasculares. Su objetivo es crear un plan de entrenamiento personalizado que logre el mayor rendimiento físico, sin riesgos para su corazón.

www.informativos.telecinco.com

GENERALITAT VALENCIANA

SICSsalud

AVUI+.cat

ABC.es

lanacion.com

SIGLO XXI

funcis

Andalucía liberal periódico online

JANO

EcoDiario.es

elEconomista.es

Diariocrítico de la Comunitat Valenciana

Ultima Hora digital

AZprensa.com Diario digital de información sanitaria

La Flecha Tu diario de ciencia y tecnología

laopiniondemalaga.es

opinión

ibercampus.es El digital de la enseñanza superior

levante-emv.com

laopinioncoruña.es

ésEix.com

diariode mallorca.es

Noticiero Textil.net

farodevigo.es

diariodeibiza.es

inforuvid

laopiniondezamora.es EL CORREO DE ZAMORA

laopiniondemurcia.es

elmundo.es

DIARIO MEDICO.COM

adn.es

informacion.es El periódico de la provincia de Alicante

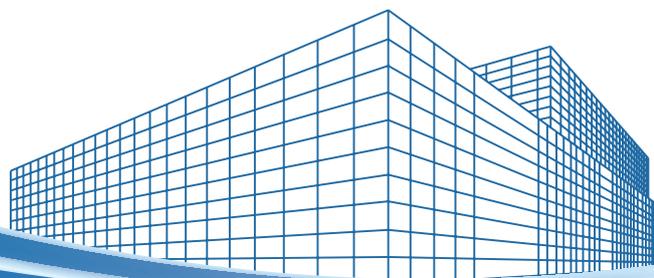
EL PAÍS.COM

Location





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ITACA-TSB

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