

**INSTITUTIONAL INFORMATION FOR THE VISIT OF THE
COMMITTEE ON EDUCATION, SCIENCE AND
CULTURE**

May

2015

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1. ASSOCIAÇÃO FRAUNHOFER PORTUGAL RESEARCH

1.1. Foundation

Research of Practical Utility lies at the heart of all activities developed by Fraunhofer Portugal.

Founded in 2008 – as a result of the long-term Portuguese-German collaboration in Science and Technology – Associação Fraunhofer Portugal Research focuses on companies as customers and partners to promote innovative product development by delivering applied research results in an international context.

Adopting the well tested – and undisputedly successful – model operated in Germany by Fraunhofer-Gesellschaft, Fraunhofer Portugal supports economic development and social well-being by contributing to the population’s quality of life.

Currently, Associação Fraunhofer Portugal Research (Fraunhofer Portugal) owns and operates the Fraunhofer Portugal Research Center for Assistive Information and Communication Solutions (Fraunhofer AICOS) – a partnership between Fraunhofer-Gesellschaft and the University of Porto – focusing on Ambient Assisted Living (AAL) and Information and Communication Technologies for Development (ICT4D).

Acknowledged by the Portuguese Government as an ‘Entity of Public Interest’, Associação Fraunhofer Portugal Research was named after Joseph von Fraunhofer (1787-1826), the illustrious Munich researcher, inventor and entrepreneur.

1.1.1. Associação Fraunhofer Portugal Research

Founded within the framework of a long-term Portuguese-German collaboration in Science and Technology, Associação Fraunhofer Portugal Research (Fraunhofer Portugal) promotes applied research that drives and encourages economic development and serves the wider well-being of society. The Association’s services are sought out by customers and contractual partners in industry, the service sector and public administration.

Currently, Fraunhofer Portugal owns and operates the Fraunhofer Portugal Research Center for Assistive Information and Communication Solutions (Fraunhofer AICOS) – a partnership between Fraunhofer-Gesellschaft, Fraunhofer Portugal and the University of Porto – focusing on Ambient Assisted Living (AAL) and Information and Communication Technologies for Development (ICT4D).

Fraunhofer Portugal's development strategy accommodates the option to establish additional research units whenever a sustained demand for R&D services applied to a specific area of scientific knowledge is detected in the market.

Fraunhofer Portugal's Research Services, rendered through the research institutions it operates, provide three different types of collaboration to industrial customers, also provided within public funded project participations:

- R&D Contract;
- R&D Consulting;
- Living Labs.

Fraunhofer Portugal is committed to building a reputation of excellence within different service dimensions such as knowledge, credibility, professionalism, creativity, flexibility, response time and cost.

Vision: A Driving Force in Innovation

Fraunhofer Portugal proposes a radical change regarding technological innovation in collaboration with scientific institutions in Portugal, and aims at creating scientific knowledge capable of generating added value for its clients and partners, exploring technology innovations oriented towards economic growth, social well-being and the improvement of the quality of life of its end-users.

Mission: Research of Practical Utility

Fraunhofer Portugal promotes applied research of direct utility to private and public institutions and of broad benefit to society, by managing and coordinating the cooperation of its research centers with:

- Other Research Institutions – such as universities and other relevant Portuguese or non-Portuguese research institutions, as well as Fraunhofer Institutes and other research centers integrated in the Fraunhofer-Gesellschaft knowledge network;
- Industry Partners – clearly perceived and understood as our main customer group, we are developing partnerships and cooperation agreements with private and public enterprises, as well as participating in business associations;
- Supporting Partners – Government Institutions and other Institutional partners.

1.1.2. Fraunhofer AICOS

Fraunhofer Portugal Research Center for Assistive Information and Communication Solutions

Incorporated as a partnership between Fraunhofer-Gesellschaft and the University of Porto and focusing its activity on Ambient Assisted Living (AAL) and Information and Communication Technologies for Development (ICT4D), Fraunhofer AICOS is the first research institution operated by Fraunhofer Portugal.

Vision: Extending the Reach of the Information and Knowledge Society

Fraunhofer AICOS aims to enhance people's living standards by offering intuitive and useful technology solutions, capable of facilitating their access to the Information and Communication Technologies, and in this way assisting in the integration of an increasingly larger sector of the population in the Information and Knowledge Society.

Mission: Remarkable Technology, Easy to Use

Fraunhofer AICOS' mission is to generate Remarkable Technology, Easy to Use. This means offering specialised competences centered on the improvement of end-user experience and usability of applications, generating applied research solutions capable of contributing to the market success of our client's products and services.

1.2. Activity Areas of the Strategic Research Agenda

1.2.1. Business Fields

Fraunhofer AICOS constitutes a new approach to Information and Communication Technologies through Fraunhofer-Gesellschaft and contributes to the creation and development of competences in activities of great relevance for the future, addressing two main business fields: Ambient Assisted Living (AAL) and the emerging field of Information and Communication Technologies for Development (ICT4D).

- AAL includes methods, concepts, (electronic) systems, devices and services that are providing unobtrusive support for daily life, based on the context and the situation of the assisted person. The technologies applied for AAL are user-centric, i.e., oriented towards the needs and capabilities of the actual user. They are also integrated into the

immediate personal environment of the user. Consequently, the technology is adapted to the user rather than the other way around. In order to share relevant information between systems and services, technologies for AAL should ideally be based on modular and interoperable concepts.

Fraunhofer AICOS intends to mainly address the needs of the ageing population, to reduce innovation barriers of forthcoming promising markets, but also to lower future social security and healthcare costs. This goal can be achieved through the use of intelligent products and the provision of remote services, including care services that extend the period during which senior citizens can live in their home environment. The services envisioned and developed by Fraunhofer will increase the individual's autonomy and assist them in carrying out their daily activities.

- ICT4D is a general term which refers to the application of Information and Communication Technologies (ICTs) within the field of socioeconomic development or international development. ICT4D focuses on the direct application of information technology approaches to contribute to poverty reduction and to reduce the digital divide.

Fraunhofer AICOS currently intends to focus its ICT4D activities on the African continent, with special emphasis on Mozambique and Angola. The primary target user group will be ICT users in rural and developing areas, and the objective is to provide solutions for mobile device services and applications which meet the local users' demands, contributing to a more positive user experience which, in many cases, may be their first contact with ICT.

1.2.2. Business Sub-Fields

Among the significant diversity of topics related to AAL and ICT4D, Fraunhofer AICOS focuses on a reduced set of business sub-fields that our customers consider relevant and that are directly related with our core competences.

In the AAL business field, Fraunhofer AICOS currently covers the following sub-fields:

- Fall and Activity Monitoring;
- Chronic Diseases and Well-Being Management;
- Assistive Environments.

With regards to the emerging ICT4D business field, four sub-field has currently been defined:

- mAgriculture;
- mHealth;

- mGovernment, and
- ICT4VSE – ICT for Very Small Enterprises.

1.2.3. Core Competences

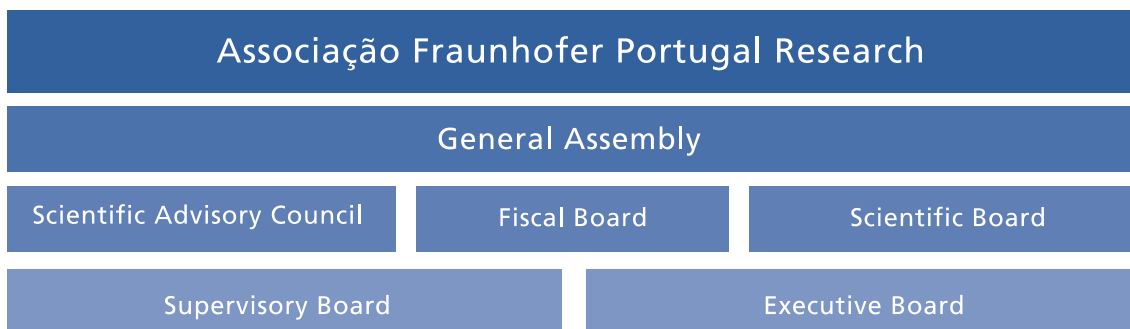
Additionally, Fraunhofer AICOS supports the creation of scientific knowledge capital in three key areas that define the Center’s core competences developed to date:

- Human-Computer Interaction (HCI): focusing on User & Social Experience, Mobile & Future Devices and Evaluation & Usability;
- Information Processing (IP): focusing on Content Retrieval, Context Awareness, and Multimodal Information Fusion;
- Autonomic Computing (AC): focusing on Remote Management, Control and Configuration.

1.3. Governance

The Associative Structure of Fraunhofer Portugal clearly distributes functions, duties and responsibilities among its board members. Fraunhofer Portugal management is a shared responsibility of both the Supervisory Board (with broad assessment powers) and the Executive Board (responsible for daily management and current management actions).

1.3.1. Governance Structure



1.3.2. General Assembly

Fraunhofer Portugal's General Assembly is composed by representatives of its founding members:

Dr. Lorenz Kaiser – President

(Representing Fraunhofer Gesellschaft zur Förderung der angewandten Forschung)

Dr. Markus Kemper – Vice-President

(Representing CCILA - German-Portuguese Chamber for Industry and Commerce)

1.3.3. Supervisory Board

Georg Rosenfeld – President

(Director Research at Fraunhofer-Gesellschaft)

João Paulo Oliveira – Deputy President

(Board of Directors at Bosch Termotecnologia, SA)

Paulo Simões – Member

(Board of Directors at Sonae SR, SGPS, SA)

1.3.4. Executive Board

Dirk Elias – President

(Functional Assignments: General Administration, R&D Planning, Business Development, Facilities.)

Pedro Almeida – Member

(Functional Assignments: Business Development, Planning & Control, Accountancy & Finances, Human Resources, Legal, Facilities.)

Berthold Butscher – Member

(Functional Assignments: R&D Planning Support.)

1.3.5. Fiscal Board

José Coutinho – President

Amândio Antunes – Member

Adelaide Neves – Member

(Representing KPMG & Associados - Sociedade de Revisores Oficiais de Contas, SA)

1.4. Employees

Fraunhofer Portugal's success and its Human Resources policy is based on the respect for human values, merit, pro-activity, observance of the law, and on knowing how to reach the goals we propose, in order to build a motivated team united towards innovation.

At the moment, 101 People work for Fraunhofer AICOS (total headcount):

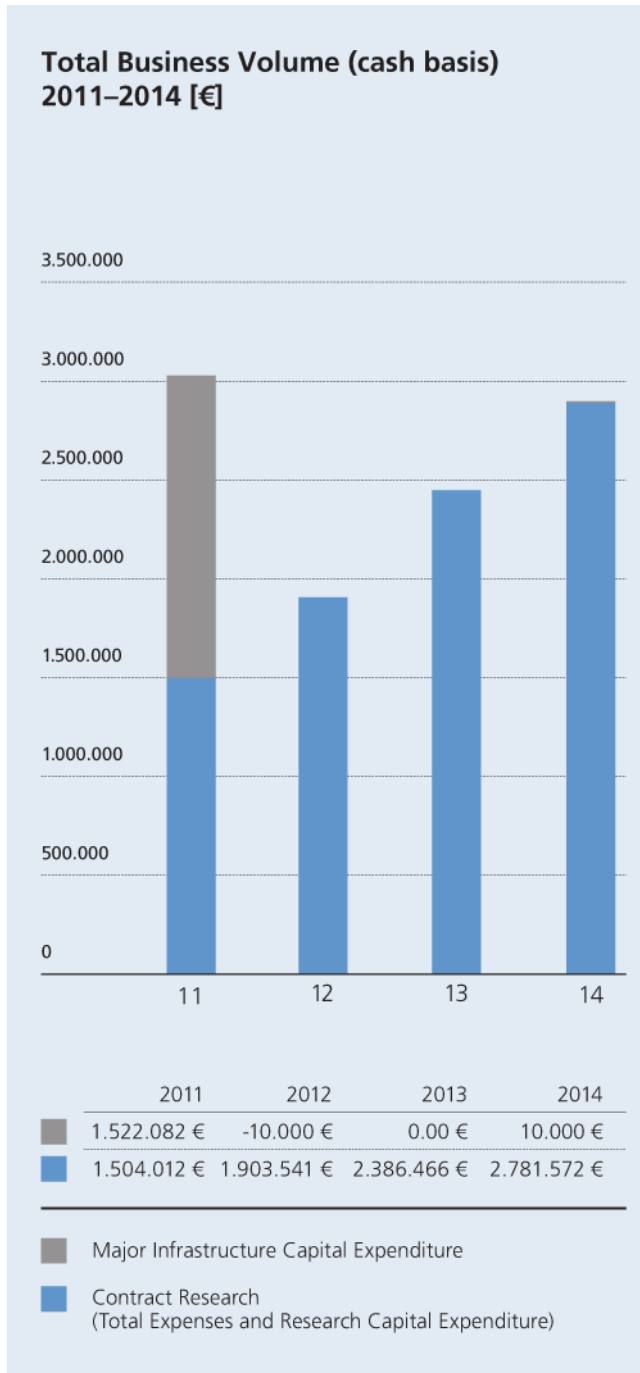
- 10 PhD;
- 51 MSc;
- 36 BSc;
- 4 Non-Graduated.

Distributed in the following categories:

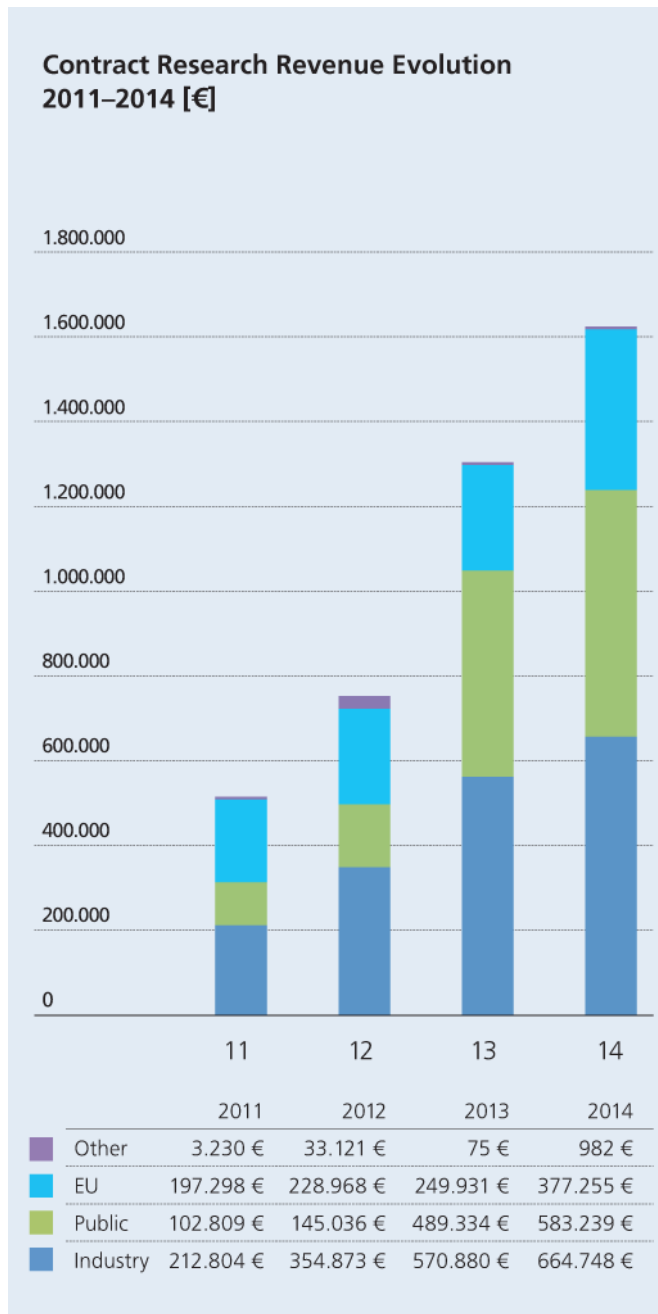
- 1 Director;
- 2 Group Leaders (1 New Business Development, 1 Research & Development);
- 47 Research & Development (45 Work Contract, 2 University Collaborations);
- 12 Support (4 Business Development, 1 IT, 3 Finance, 1 Human Resources, 2 Administrative, 1 Legal);
- 2 PhD Grant Holders;
- 9 MSc Grant Holders;
- 3 BSc Grant Students;
- 25 BSc Grant Students (part-time).

1.5. Key Performance Indicators (KPIs)

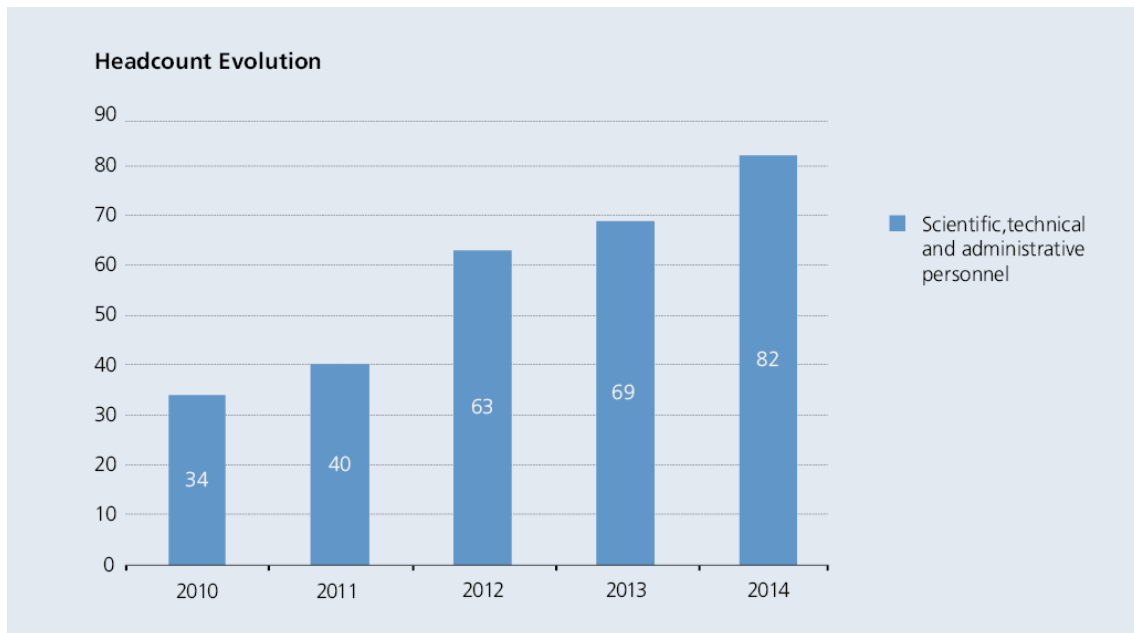
1.5.1. Total Business Volume 2011-2014



1.5.2. Contract Research Revenue Evolution 2011-2014



1.5.3. Headcount Evolution



1.5.4. Active R&D Projects During 2014

20 External Projects:

1. AAL4ALL – Primary care standard for AAL services;
2. ACP Street Libraries – Culture for All;
3. ChefMyself – Assistance solution for improving cooking skills and nutritional knowledge for independent elderly people;
4. Clockwork – Smart System for the Management and Control of Shift Workers' Circadian Rhythms;
5. EnAware – Domestic Energy Awareness;
6. E-NO FALLS – European Network for Fall Prevention, Intervention and Security;
7. Epidemiologic Surveillance Platform;
8. euPAmHealth – Eu Preciso de Ajuda - Sistema de Monitorização de Saúde e Localização de Emergência por GPS;
9. FCC – Fall Competence Center;
10. GameFoundry;
11. GRA ICT4D – Green and Low-Cost Wireless Communication Network for Africa;
12. ICT4DCC – ICT4D Competence Center;
13. mWaterSafety – Mobile Water Safety System;
14. NST – Health Sensor Gateway Demonstrator;

15. OUTSIDE – Outage Management System for Improved Distribution Networks
Efficiency;
16. REMPARK – Personal Health Device for the Remote and Autonomous Management of
Parkinson’s Disease;
17. S4S – Smart Phones 4 Seniors;
18. SAL – Service Assisted Living;
19. ShopView – A Solution to Validate the Shelf Layout;
20. SMARTSKINS – A novel framework for Supervised Mobile Assessment and Risk Triage
of Skin lesions via Non-invasive Screening.

18 Internal Projects:

1. ExerGames – Multi-sensor interactive games for physical activity, rehabilitation and fall
prevention (*Associated with the FCC*);
2. Fall Detect – Smartphone-based Fall Detection (*Associated with the FCC*);
3. Fall Risk Assessment – Smartphone-based Fall Risk Screening (*Associated with the
FCC*);
4. FUSAMI – Fraunhofer Usage Mining (*Associated with the ICT4DCC*);
5. Heart Failure Clinic Internal 2014;
6. Hydroponics – Assistive Environment for Hydroponic Farming (*Associated with the
ICT4DCC*);
7. IZIDoc – Digital channel for administrative processes (*Associated with the ICT4DCC*);
8. MalariaScope – Digital Analysis of Malaria Infected Blood Smears via Mobile Devices
(*Associated with the ICT4DCC*);
9. Mover – Smartphone-based Activity Monitoring (*Associated with the FCC*);
10. OurMoz online – Crowdsourcing platform to provide information based on the need
of citizens (*Associated with the ICT4DCC*);
11. PIL – Precise Indoor Location (*Associated with the FCC*);
12. PostboxWeb – A framework for occasionally connected and shared Android
smartphones (*Associated with the ICT4DCC*);
13. SAFETY – A Solution for Field Operatives and Operations Management (*Associated
with the FCC*);
14. Smart Companion;
15. SmartFeet – Exergames for Fall Prevention (*Associated with the FCC*);
16. SmartSurf – Surf Performance Monitoring (*Associated with the FCC*);
17. SousChef – Mobile recommender system for older adult nutrition;
18. UserNetwork2014 – Colaborar, Collaborate, Kollaborieren, Collaborare, Collaborer.

1.5.5. Scientific Activities during 2014

Scientific Activities	
Papers	28
Master's Theses	13
Patents filings	1

1.6. Funding

1.6.1. Funding Model

Fraunhofer-Gesellschaft and the Portuguese Foundation for Science and Technology (FCT) agreed on a tripartite funding model similar to the one used by Fraunhofer-Gesellschaft.

At Fraunhofer Portugal, our scientists and engineers work with a budget financed by external revenue (projects and licensing) and institutional funding provided by FCT and Fraunhofer-Gesellschaft.

The base line for this type of funding determines that it will be granted in progressively smaller amounts over the initial years, encouraging the implementation of an efficient business model mainly financed by external revenue.

External revenue should be guaranteed through research projects, development projects, contracts signed with third parties within Fraunhofer Portugal's fields of activity, intellectual property rights and licensing of the commercial optimization of products and services resulting from Fraunhofer Portugal's R&D results.

1.6.2. Summary of Key Figures

Summary of Key Figures		
	2014	2015 (Plan)
Total Budget	2.791.572	3.402.815
Staff Costs	1.946.861	2.129.466
Non Personnel Costs	659.306	758.739
Industry Revenues	664.748	885.000
Public Revenues & Others	961.475	959.347
Base Funding	1.165.348	1.558.468
FTE (Full Time Equivalent)	52,3	52,0

FLAGSHIP PROJECTS – AAL



2. FLAGSHIP PROJECTS – AAL

2.1. Smart Companion



2.1.1. Description

Smart Companion is an Android customization that was specially designed to address seniors' goals and needs. It aims to be a permanently available companion to support seniors in their daily activities, through a number of tools, from messaging to medication reminder applications. Smart Companion intends to create two ecosystems: a technological one where seniors can use multiple different gadgets like smartphones, tablets, TV's, bracelets, external sensors, weight scales, multimedia car systems, etc. And on the other side Smart Companion wants also to support a social ecosystem where all the three levels of users can interact between each other:

- Primary User (Seniors);
- Secondary User (Informal Caregivers: children, family, friends);
- Tertiary User (Formal Caregivers – doctors, nurses, physicians).

The Smart Companion makes it simple for inexperienced users to master general mobile phone features, such as making calls and sending voice and text messages. It also enables its users to receive medication reminders and to call the emergency line from the home screen in just one step. The main objective of Smart Companion is to develop a Swiss Army Knife type of solution that is supposed to become a powerful and versatile companion for all everyday situations that matter.

2.1.2. Partners

This is an internal project of Fraunhofer Portugal, without involvement of external partners.

2.1.3. Outcome

Development of prototype for Android phones with a set of specific services, such as making calls and sending voice and text messages. Possibility of extending the design to new applications developed for smartphone.

2.1.4. From Internal Project to Market Introduction: GoLivePhone®

Gociety®



Starting as an internal project, the results achieved by the Smart Companion attracted the interest of the Dutch Company Gociety®, which contracted Fraunhofer Portugal to develop the GoLivePhone®, a mobile app that is the rebranded Smart Companion version that Gociety is currently selling in the market.

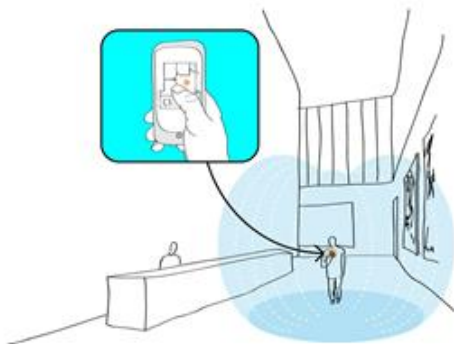


GoLivePhone® – So smart that the controls can remain extra simple

The GoLivePhone® is first and foremost an extremely user-friendly smartphone, developed for and by seniors. Equipped with a lot of smart extras that will make your life a lot more pleasant, easier and safer. You can customise the home screen to your own experience and preferences. The controls are so simple, that usually one push of the button will suffice. Or just dictate a message, that will automatically be converted to text by the GoLivePhone®.

In: www.gociety.eu/en/golivephone/ 2015

2.2. PIL – Precision Indoor Location



2.2.1. Description

Indoor location systems are an important enabling technology for applications such as indoor navigation, public safety and security management, ambient intelligence, as well as provide huge potential around advertisement and retail businesses.

Because of the lack of reliable GPS (Global Positioning System) signals inside buildings, the so-called pedestrian navigation systems (PNS) emerged as a solution for the indoor positioning unsolved problem. These systems rely on dead reckoning algorithms based on fused data provided by an Inertial Measurement Unit (IMU).

Since smartphones embrace always-on and sensor fusion was already a topic studied at Fraunhofer Portugal, under the scope of Fall Competence Center, using these devices as IMUs seemed to be the obvious solution to achieve a highly accurate indoor location system at very low cost.

Dead reckoning based on the fused data provided by IMU on the smartphones can then be used to evaluate one's current position by using a previously determined position. Location-based sensor fusion will become a standard feature in next generation smartphones.

Since dead reckoning is subject to cumulative errors, navigational aids are needed in order to give accurate information on position. This aided information can be gathered from any system that can provide reference points with increased resolution.

In order to evaluate the accuracy of this location-based sensor fusion, Fraunhofer Portugal approach relies on the Ultra Low Frequency Magnetic Communication (ULF-MC) system as a navigational aid. ULF-MC is a communication technology developed at Fraunhofer Portugal in 2012, that when combined with a last fix from a Global Navigation Satellite System (GNSS) system will lead to absolute coordinates.

2.2.2. Partners

This is an internal project of Fraunhofer Portugal, without involvement of external partners.

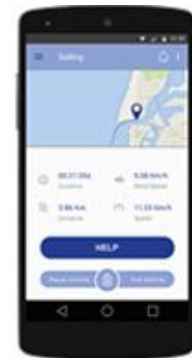
2.2.3. Outcome

This project will result in a service which maps navigational aids on a real-world indoor map model and project the path information, retrieved by the smartphone, over it.

2.2.4. Awards

The Precise Indoor Location project won the 3rd place in the Microsoft Indoor Location Competition, which was held in April 15 during the IPSN 2015 Conference in Seattle.

2.3. mWaterSafety – Mobile Water Safety System



2.3.1. Description

The mWaterSafety project will enable the development of a new technological solution aiming to increase safety in nautical activities dedicated to fishing communities and watersports athletes, such as sailing and windsurf practitioners.

2.3.2. Partners

PontoC (coordinator); Associação Náutica da Gafanha da Encarnação; Clube de Vela da Costa Nova; Direcção-Geral da Autoridade Marítima (DGAM); PT Comunicações (PT); Sporting Clube de Aveiro.

2.3.3. Outcome

The main outcome will be an information system that receives information from several sensors (smartphones and other external sensors) carried by the sailors and boaters during their nautical activities.

At the safety level, an alarm management framework will be developed, which will allow the detection of abnormal events that might generate an alert, such as a boat that is upside down or a boater who is moving away from his boat. This framework is intended both to nautical sports organization entities (sailing clubs, yacht clubs, windsurf associations) and fishing communities wishing to ensure the highest levels security for their members.

On sports performance, data from sensors will be collected to monitor several performance metrics such as: routes, travelled distances, average speed and the height of a jump. It will also be possible to share this information with coaches, friends, clubs and communities.

FLAGSHIP PROJECTS – ICT4D



3. FLAGSHIP PROJECTS – ICT4D

3.1. OurMoz online – Crowdsourcing platform to provide information based on the need of citizens



3.1.1. Description

OurMoz online aims to be a mobile platform that provides real-time geotagged information of what is happening within Mozambican cities, everything obtained through citizens' contribution. The purpose is to combine the social network concept with citizen reporting and eCommerce. Information is thus collected and shared, being available for everyone. Associated parameters such as the lifetime of information, number of similar reports, number of positive feedbacks, etc., will provide consistency and credibility to the platform.

Citizens of developing countries have little access to information and poor involvement in what is related to local businesses, community services or institutional entities. The increasing adoption of Smartphones in Mozambique opens thus an opportunity for mobile crowdsourcing platforms, which allow real-time gathering of contributions from a large local community. When used to enhance city services, it can be very useful, letting citizens play an active role in their community.

The objective is to create a mobile application to collect, report, share and search for information about all things that matter to citizens: from businesses' opening hours and promotions, to community problems, important events, advices and much more. Registered users (reporters/scouts) can provide geotagged facts and occurrences, while unregistered citizens can only add temporary information and see what happens in their neighborhood. Institutional consumers can visualize stats or anonymous reports (e.g. a broken tube in a road, a leak in the roof of a school, etc.), which might be extremely valuable to promptly react to eventual problems.

This initiative is fully citizen centered: information is relied from citizens to citizens. The innovation lies in the combination of different types of services, namely eCommerce, social network and citizen reporting, in one platform tailored to developing countries.

3.1.2. Partners

Fraunhofer AICOS (coordinator); CIUEM - Centro de Informática da Universidade Eduardo Mondlane.

3.1.3. Outcome

The first deployment of the mobile platform will be more focused on eCommerce and business directed information. It is anticipated that this platform will boost small commerce and enhance the engagement between citizens and other local stakeholders.

3.1.4. Awards

The OurMoz project won, in April 15, the #APPS4MAPUTO contest, promoted by UX and the World Bank in Mozambique, a competition which aimed to select a mobile App for use on the project Participatory Urban Service Monitoring for Maputo Municipality (MOPA).

3.2. ACP Street Libraries – Culture for All



3.2.1. Description

The main objective of the ACP Street Library project is to contribute to the development of culture in ACP (African, Caribbean and Pacific Group of States) countries mainly by promoting the creation of new Street Libraries and the modernization of existing ones. The partners involved in the project also plan to develop a set of activities related to the ACP Cultural sector promotion and

consolidation mainly by encouraging the preservation of local cultures that are currently only transmitted in oral format.

There are four specific objectives associated to the project implementation, namely:

- Increase the number of ACP Street Libraries;
- Increase the number of books available for oral reading in ACP Street Libraries;
- Improve existing databases of ACP countries local culture;
- Improve ACP countries discussion and cooperation platforms;

The key stakeholders of the project will be actual and future cultural entrepreneur's, who will benefit from project or to promote and disseminate their artistic work; NGOs (Non-Governmental Organization) and private and public institutions, who will benefit from the project by building the necessary capacity to create new Street Libraries and cultural projects; universities and research centres, who will benefit from the new project results by promoting technology transfer to the local students, local partners and international ACP members; and finally, the local population, children and young people of ACP countries, who will have access to more cultural resources and who will be able to preserve their local legends and histories for the future generations. All the actions developed in the project will comply with user centred design methodologies, being the end-users always directly involved in all the project activities.

3.2.2. Partners

Fraunhofer AICOS (coordinator); ASRAD - Appui Solidaire Pour Le Renforcement De L'aide Au Developpement; Microsoft Portugal MLDC; VPWA - Volunteer Partnerships for West Africa; YCWL - Youth Crime Watch of Liberia.

3.2.3. Outcome

This project aims at the creation of a set of actions, services and features supported on mobile technologies, that will allow actual and future cultural entrepreneurs, NGOs and private and public institutions, to leverage Street Libraries in ACP Countries, developing this cultural action at regional, national and international levels as well as maximize its impact on local populations, especially in children and young people.

3.3. Hydroponics – Assistive Environment for Hydroponic Farming



3.3.1. Description

The Assistive Environment for Hydroponic Farming project aims to analyse the requirements of hydroponic farms in South Africa and Mozambique and suitably develop a mobile solution for farmers in order to improve the level of management, control and production of hydroponic farms. This approach makes possible for farmers to get to know the conditions in the hydroponic farm without physically visiting the farm, thereby saving time and reducing labour intensity while collecting accurate data.

Hydroponic farming is a means of precision agriculture where plants are grown in mineral nutrient solution instead of soil. Since it offers a controlled environment, this type of farming became popular in South Africa, making agriculture more practicable in lands with poor soils or recurrent droughts and floods. The effective management of hydroponic farming requires constant monitoring of inside and outside parameters: monitoring temperature, humidity, turbidity of the nutrients' solution, watering, among others. Currently, the whole process of monitoring the conditions in the hydroponic environment is done by manual systems, which are time consuming, labour intense and prone to inaccuracies.

The primary goal of this project is to develop a low cost mechanism for mobile monitoring of hydroponic farms. This includes the development of WSNs (Wireless Sensor Node), as well as a mobile application to be easily and effectively used by farmers to reduce the time involvement required to monitor a hydroponic culture. The envisaged solution will allow real time monitoring of environmental factors (ambient temperature, ambient humidity, hydroponics bags' water level, pH, lighting, etc.), as well as provide graphical data, crop statistics and equipment fault warnings.

Local hydroponic farmers from South Africa are the main target of this project since they will see their system optimized, saving time and money in their cultures.

3.3.2. Partners

Fraunhofer AICOS (coordinator); NMMU - Nelson Mandela Metropolitan University.

3.3.3. Outcome

The result will be a prototype of a wireless sensor node based Android application to accurately monitor the essential variables for optimal plant growth in hydroponic environments. The system is expected to maximize crop yield with minimum resources. Globally, the initiative aims to boost farming markets in developing countries in sub-Saharan Africa.

REPRESENTATIVES FOR THE VISIT



4. REPRESENTATIVES FOR THE VISIT

In order to welcome and escort the Committee on Education, Science and Culture of the Assembly of the Portuguese Republic during the visit to Fraunhofer Portugal's Headquarters on the 18th May 2015, a board of representatives was assembled, that is able to fully present the organization and the work that is being develop.

For the purpose of this visit, Fraunhofer Portugal will be represented by:

4.1. Pedro Almeida – Executive Director

With a professional career that started with R&D activities through to the full innovation cycle with the creation of a spin-off of a prestigious University in Portugal, Pedro Almeida holds a MSc in Electronics and Telecommunications Engineering by the University of Aveiro, and holds a post-graduation in Advanced Management for Executives also from the same university. He is a member of the Executive Board of Associação Fraunhofer Portugal Research and he is the Group Leader of Shared Services of Fraunhofer AICOS, being responsible for the Administrative, Financial and New Business Development departments.

4.2. Liliana Ferreira – President of the Scientific Board

Liliana Ferreira is a Senior Scientist at Fraunhofer AICOS. She received a BSc in Mathematics Applied to Technology in 2002 from the Faculty of Sciences of the University of Porto, a Master in Electronics and Telecommunications Engineering in 2005 and the PhD in Informatics Engineering in 2011, from the University of Aveiro.

Liliana has worked as a researcher and guest researcher in several research groups as the Institute of Electronics and Telematics Engineering of Aveiro, IBM Research and Development, Ubiquitous Knowledge Lab of the Technical University of Darmstadt and in the Linguistic Department of the University of Tübingen. Her main research activities are in the area of Human Language Technologies, Information Extraction, Medical Knowledge Representation, Health Informatics and Ambient Assisted Living.

Liliana Ferreira is the President of the Scientific Board of Fraunhofer AICOS.

4.3. Rui Castro – R&D Group Leader

Rui Castro received a Licentiate degree in Electrical and Computers Engineering from the University of Porto in 1996 and a M.Sc. in Digital Communication Systems and Technology from Chalmers University of Technology, in Sweden, in 1999. In 1998-1999 he was a research engineer at Ericsson Radio Systems AB, in Sweden, where he developed his Master Thesis named 'Dynamic Resource Management for Wavelength Division Multiplexing Networks' and gained expertise in IP networking. Between 2000 and 2004, as a researcher at INESC Porto, he actively participated in several projects in the IST framework (ARROWS, Daidalos and Ambient Networks). Between 2005 and 2010 he was co-founder and Chief Operations Officer at Nonius Software, a Portuguese SME that develops Telecom and IPTV products. In 2010, he joined Fraunhofer Portugal as a researcher and became project manager of eCAALYX and Mobile CCTV projects. He is, since October 2011, R&D Group Leader, focused on the project management, team management, financial reporting and project acquisition. In 2013, Rui Castro became also a Certified Project Manager (PMP) by the Project Management Institute.

Rui Castro is the Group Leader of R&D being responsible for the R&D department of Fraunhofer AICOS.