Catalogue of Portuguese eco-innovation competencies

companies
associations
clusters
ECOPOL – ACCELERATING ECO-INNOVATION POLICIES

The ECOPOL project aspires to accelerate the implementation of eco-innovation policies across Europe. The project sets out to foster transnational cooperation, development and implementation of better policies and instruments regarding green public procurement, waste management and internationalisation of eco-innovative SMEs. Under those thematic areas, ECOPOL will:

• Identify and analyse promising eco-innovation practices and instruments, and promote them to the policy makers;
• Launch new pilot implementation actions in the partnering countries;
• Develop recommendations for the implementation of better eco-innovation policies and instruments.

ECOPOL is also one of the milestones of the European Commision’s new Eco-Innovation Action Plan, supporting the cooperation between the EC and the Member States.

ECOPOL is funded by the EC, DG Environment from CIP Programme, and belongs to the PRO INNO Europe initiative.

ECOPOL consortium is composed by six European countries/regions:

Austria
LandesEnergieVerein Steiermark;
Finland
Lahti Science and Business Park Ltd, coordinator;
Germany
Project Management Jülich;
Greece
Managing Authority of the Regional Operational Programme of Attica;
Portugal
Portuguese Innovation Agency and Portuguese Environment Agency;
Sweden
SP Technical Research Institute of Sweden AB.

In straight connection with ECOPOL activities, the Portuguese partners recognise the need to initiate a first survey of SME’s eco-innovation activities. This survey will contribute to the identification of the Portuguese Eco-innovation Community (WP7-Communication) and Portuguese Competencies in Eco-innovation (WP6 - Internationalisation of Eco-innovative SMEs).
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With hundreds of Portuguese companies having direct presences throughout the world, they are extremely well positioned to become business partners of other European companies, enabling their entry strategies in those countries.

The pure ingenuity that once led the innovation processes is now strongly supported in science and in highly qualified talent. Being one of the countries of the EU with the highest percentage of PhD students, and having a sophisticated network of research facilities, Portugal has never been better prepared to generate knowledge and to convert it into new products and services that respond to today’s global challenges.

Created in 1143, Portugal has 9 centuries of History where ingenuity and innovation have played a key role in sustaining stability and independence in a location whose major endowments were the beauty of the landscapes and the qualities of its people.

Located at the outskirts of what then was the economic center of the world and with scarce natural resources on which to base its growth, the country soon found itself in need of a strategy to overcome that situation. The solutions, in the shape of a triangular sail and a new vessel, the caravel, are probably the first eco-innovations to have had a global impact.

The resulting centuries of experience in doing business on a global scale resulted in a strong cultural, economical and political heritage that enables Portuguese to excell in intercultural relations. One major outcome of this process is the fact that the Portuguese Language is spoken by 250 million people, in 5 Continents.
With eco-innovation at the forefront of public policies, Portugal already doubles the target required for 2020, with more than 45% of the country’s electricity consumption already generated from renewable sources.

But it is in the private sector that eco-innovation is helping change the economic landscape of the country, generating solutions that serve the global market. Cork, traditionally limited to the protection of wine – with an effectiveness yet to be matched by other products – has found its way into other technical insulation and comfort solutions, including for aeronautical and space applications. Also from space, world class skills in engineering and software development are enabling earth-observation projects to provide farmers with information that helps them to effectively manage irrigation patterns, saving water. The same skills are being applied in intelligent grid management solutions, resulting in added energy efficiency.

Since innovation is an ever incomplete task and the challenges ahead will only add to the existing need of eco-innovative thinking, you can rely in Portugal and in Portuguese companies to be available to take part in the development of new solutions. Considering their expertise in markets that may sometimes have challenges of their own, you can also rely on the availability of Portuguese companies to be partners in the international deployment of such solutions.

The ocean that used to represent the unsurpassable barrier of the unknown is now the vital link that sustains global economic growth. The country that used to be in the periphery of the old world is now Europe’s Atlantic gateway to the new globalized economy.

Welcome to Portugal!
The Portuguese ECOPOL Team
ECOPOL IN PORTUGAL

The Partners

To answer the ECOPOL structure and processes, the Portuguese partners established a team of external experts from entities with relevant competencies to give support on particular thematic policy issues. An Agreement in Eco-Innovation was signed between APA and AdI in order to better transfer the results of ECOPOL for the Portuguese eco-innovation policy.

AdI
The Portuguese Innovation Agency bridges the national innovation policies with the ECOPOL project goals.

APA
The Portuguese Environment Agency bridges the national environmental policies with the ECOPOL project goals.

AICEP
The Portuguese Investment and Trade Promotion Agency cooperates with the ECOPOL project providing expertise in internationalization.

DGAE
The Directorate - General for Economic Activities cooperates with the ECOPOL project providing expertise in competitiveness policies.

esPAp
The Entity of Shared Services of Public Administration cooperates with the ECOPOL project providing expertise in GPP policy.

LNEG
The National Laboratory for Energy and Geology cooperates with the ECOPOL project providing expertise in innovation on GPP practices.

“Eco-Innovation is any form of innovation resulting in or aiming at significant and demonstrable progress towards the goal of sustainable development, through reducing impacts on the environment, enhancing resilience to environmental pressures, or achieving a more efficient and responsible use of natural resources.”

COM (2011) 899: The Eco-innovation Action Plan (Eco-AP)"

Key Milestones

The project the will result in the ECOPOL roadmap, a document with recommendations about the most promising best practices to promote eco-innovation.

For this purpose, two milestones were already achieved:

• List of best practices of eco-innovation policy (updated permanently);

• Proposal of pilot actions of policies and instruments.

“eco-innovation occurs in the whole economy: any company adopting a good, service, production process management or business method with environmental benefit is an eco-innovator”

Kemp, R & Pearson, P, Final report MEI project, 2007
Preliminary survey of SME’s eco-innovation activities

The border of the eco-innovators’ universe is not easy to define, as well reflected by the results of the MEI project. To help the identification of policies to support the internationalization of Eco-innovative SME’s, it was necessary to launch a preliminary survey in order to better evaluate the potential population of eco-innovators.

Additionally, the questionnaire was made available in the partners’ websites to enable the participation of other companies. This exercise resulted in the initial identification and qualification of nearly 200 eco-industry companies with eco-innovation activity.

The idea to find a coherent clustering alignment within this population drove the deep involvement of AICEP and DGAE. To start this process, a task force between APA, AdI, AICEP and DGAE was set-up for this purpose.

As a first approach it was decided to work within the group of activities listed by OECD on the sphere of eco-industry\(^1\). A correspondence of these activities was found with NACE Code, making possible to list a number of 1500 companies pre-qualified with innovation activities based on the information sources managed by task force members. A qualified group of companies was afterwards listed as eco-innovation performers/developers, through the delivery of a questionnaire.

In order to look to eco-innovation activities in other economic sectors, it was agreed to invite companies to describe their eco-innovative products and services.

In this process, the Competitiveness and Technology Poles and Clusters of the Collective Efficiency Strategy Framework (COMPETE Programme) and the Portuguese Water Partnership were involved.

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\(^1\) OCDE, Environment goods and services Industry: Manual for data collection and analysis, 1999.
PORTUGUESE CATALOGUE OF ECO-INNOVATION COMPETENCIES

About this document

With the preparation of the Portuguese eco-innovation competencies e-catalogue, the national ECOPOL team envisaged two goals:

• To enable attendants of the EcoAp Forum to have an overlook of the major players of eco-innovation in Portugal, which may trigger subsequent sourcing or R&D partnership contacts;

• To showcase eco-innovation, illustrating how it may originate from multiple sectors and how it brings added value to businesses, with a view to attract other players to these activities.

The document features contributions from associations/clusters who actively pursue eco-innovation as a key target within their activities and who have a proven track record of initiatives or projects that illustrate their engagement with eco-innovation.

It also includes the profiles of companies, highlighting their competencies, illustrating their track record and how they envisage partnerships in eco-innovative activities as a major area for future business development.
SUCCESS STORIES – INTERNATIONAL RECOGNITION

A number of Portuguese companies have seen their Eco-Innovation competences recognized internationally, illustrating the fact that Eco-innovation in Portugal is pillaring different businesses across multiple sectors.

Some of the international recognitions already received include:

**Corticeira Amorim**
Cork-based absorbents;
“Eco-innovation Business cases”
OECD (forthcoming report),
Eco-Innovation Observatory,
High Performance, Economical and Sustainable
Biocomposite Building Materials (BioBuild)
EU-FP7 Call Energy efficient buildings;

**Revigrés**
Eco-featured tiles;
“Eco-innovation Business cases”
OECD (forthcoming report),
InEDIC - Innovation and Eco-design
in the ceramic industry, Leonardo da Vinci
EU program;

**AMbisys**
Inverted Anaerobic Sludge Blanket
Reactor for the Treatment of Wastewater
(BIOFATRECOVERY); EU CIP-Eco-innovation;

**ISA – Intelligent Sensing Anywhere**
Electrochemical Water treatment system
in the dairy industry with hydroGEN Recovery
and electricity production (REWAGEN),
EU-FP7 Call Eco-innovation, Intelligent
Management System to integrate and control
energy generation, consumption and exchange
for European Sport and Recreation Buildings
(SPORTE2 ), EU-FP7 Call Energy efficient buildings;

**Energy Efficiency for EU Historic Districts**
Sustainability (EFFESUS),
EU-FP7 Call Energy efficient buildings;

**Efacec**
Advanced Control Systems,
Eco-Innovation Observatory and the
Eco-Innovation Observatory
(Mobi.e project);

**Way dip**
Transformation of kinetic energy into electricity,
by the European Environmental Press award;

**Brisa**
ECOVIA, “Eco-innovation Business cases”
OECD (forthcoming report);

**Almadesign**
Interior aircraft cabin design,
“Eco-innovation Business cases”
OECD (forthcoming report);

**EDP Distribuição**
InovGrid “Eco-innovation Business cases”
OECD (forthcoming report) and the
Eco-Innovation Observatory
(Mobi.e project);

**Recipneu**
Tyre recycling,
EU CIP-Eco-innovation.
ECO-INNOVATION
THE PERSPECTIVE OF CLUSTERS AND ASSOCIATIONS
PORTUGUESE WATER PARTNERSHIP

Portugal has a diverse and mature set of private and public institutions dedicated to water. Some already enjoy recognition and prestige among global markets. Others have the potential to achieve that in the future. This is the matrix of the Portuguese Water Partnership (PWP), a network of organizations that aim to develop synergies and maximize potential for the development of the water sector in the world, promoting the construction and consolidation of alliances and partnerships between national institutions and all nations engaged in sustainable water use and enhancement of water resources.

The Portuguese Water Partnership’s mission is to promote an effective link between professionals, institutions and companies in order to project the knowledge and skills of the Portuguese water sector in the world, and to catalyze opportunities in international markets and in the area of cooperation within the framework of the development of sustainable projects in line with the Millennium Development Goals.

The PWP intends to bring together the efforts of the four essential components of the water sector: companies, ranging from design to management, including equipment suppliers and construction contractors; universities and research centers, where the knowledge that is at the basis of the value chain is generated and transmitted; professional associations, that have been contributing to consolidate and give identity to the sector and public administration institutions that are part of the “Portuguese model” or play a key role in its internationalization.

The main objectives of this Association are to:

• Promote the sharing of knowledge and experience among Portuguese companies interested in internationalization;

• Identify and support new opportunities for the development of projects and initiatives in global markets;

• Promote dialogue between partners and international institutions and establish multipurpose partnerships;

• Advance the establishment of a forum for reflection on future challenges;

• Promote innovation in the water sector, facilitating cooperation between companies and research centers.
In this last respect, PWP facilitates and promotes events, partnerships and joint initiatives between different partners on an international scale, thus positioning itself as a forum for innovation and sustainability related to projects, technologies and competences.

The Portuguese Water Partnership is highly involved in the European Innovation Partnership on Water, launched by the European Commission and endorsed by the EU Member States last June 11th, 2012. The EIP on Water was launched to facilitate the development of innovative solutions to deal with grand societal challenges, such as water challenges, and at the same time create market opportunities for these solutions. It gathers European, national and local institutions, businesses, academia and all relevant stakeholders to work in partnership and to develop multidisciplinary innovations, from a problem oriented perspective. In effect, PWP’s President, Prof. Francisco Nunes Correia, is a member of the High Level Steering Group, and Prof. Rafaela Matos, also a PWP Board Member, integrates the Task Force mandated to develop the Strategic Implementation Plan for EIP-Water.

Moreover, PWP, in partnership with leading universities, research centers and private companies, has been actively involved in the preparation of innovation and demonstration sites and initiatives under the 7th Framework Program on RD&I. Also, this Association has been supportive of other agencies in the organization of events focused on innovation such as the 13th European Forum on Eco-Innovation and the implementation of the EU-China Platform for Water launched at the last World Water Forum in Marseille, France. For instance, the Eco-innovation Forum will build on the Roadmap to a Resource-Efficient Europe and its key actions on water. It provides an opportunity to address water issues and solutions in the water-using industry, in a global market context with the core objective of presenting projects, technologies and competencies. Recommendations formulated during the forum will provide input to the Strategic Implementation Plan of the European Innovation Partnership (EIP) on Water, which will outline the priority areas of action.

In essence, the Portuguese Water Partnership aims to be a focal point for international stakeholders (governments, businesses, research centers, NGO’s, etc.) interested in establishing mutually beneficial relationships with members of the Portuguese Water Cluster.
Portugal has greatly increased the share of renewable energy penetration in the past decade, being now one of the countries in the world that has had the fastest growth rate in green electricity. It amounts today to over 50% of the total electricity production, mainly based on large hydro, wind and solar energy, and also Combined Heat and Power. This experience, together with the promotion of energy efficiency strategies in buildings, has given the Portuguese companies the know-how to become world players in some elements of the global value chains in renewable energies and energy efficiency, and has been a driver for new research and innovation. Because the renewable energy and the energy efficiency sub-sectors are so multidisciplinary, it is difficult to quantify the associated economic indicators, such as number of jobs or total exports, but this is a sector that is perceived as important for the economic activity in the country, as it has a large number of companies involved, and there is a growing activity in innovation uptake. It is one of the areas where large companies already operate internationally, and where an increasing number of SMEs are going international as well. Today, there are Portuguese companies operating anywhere in the world in the hydro and wind power production, equipments for power supply systems, resource mapping, engineering services for environment and energy, maintenance and materials inspection, electric power transmission and distribution, EPCs and commissioning, just to name a few.

Renewable energies and energy efficiency are in growing demand at a global scale, for environmental and economic reasons, and Portugal is positioned to be one of the major suppliers in a few highly specialised and added-value areas. EnergyIN is a facilitator in this process.

The activity of the Cluster focuses on 5 priority sub-sectors (offshore energies, solar energy, energy efficiency, smart grids and energies for sustainable mobility), where the promotion of innovative approaches was considered more timely. Cross-cutting these, 5 action programmes were defined: Innovation Partnerships, Financing and Entrepreneurship, Technological Radar, Renewables from Portugal and International Projects funded by Development Programmes.

The Innovation Partnerships programme focuses on bringing together researchers and industry, in order to increase the investment on innovation and create the differentiating factor in the Portuguese companies. The activities include the promotion of networking events, circulating a newsletter with a dedicated area for new research projects and teams, regular meeting with the scientific and consultative councils, and the preparation and launching on innovation projects.

The association with other clusters has been very enriching in the outset of new ideas. On one side, there are today 18 other clusters in Portugal, each of them in a specific economic sector and some of them with clear potential synergies with the energy sector. ICT, the offshore economy, mobility, food industry and sustainable buildings are only some examples where joint efforts for innovation make sense.

EnergyIN is part of a European consortium of clusters focusing on eco-innovation industries, as a MoU partner, where networking opportunities
Electric vehicles chargers – two systems were developed and an initial network has been developed to charge electric vehicles, a contribution to the vision of a low-carbon society. Both fast chargers and slow chargers are today available and being promoted worldwide.

EnergyIN is engaged in the discussions now happening in the context of the Europe 2020 strategy for growth and employment. EnergyIN believes renewable energies and energy efficiency can be a driver for economic growth in Portugal, so Energy will be promoted as a Smart Specialisation area for Portugal. Moreover, EnergyIN is engaged with the process of discussing areas of excellence, where Portuguese companies and universities can excel and be a reference worldwide. In an ever more competitive world, being good is not enough – we need to be amongst the best in some areas of innovation and economic activity in the energy field.

- Windfloat, a floating offshore wind device, equipped with a 2MW turbine, with a prototype currently in the sea off the coast of Aguçadoura in the North of Portugal. The pre-commercial phase will come next.

- SolarSel - It is an innovative project to incorporate PV in glass, using simpler and cheaper production methods to produce a transparent solar cell (Graetzel cell). It has already produced several patents and it has now gone from the lab scale to a scaling-up phase.

- G2PM – a project that developed a universal system to instantly access information on the power production, at all times, at any pv solar system of any manufacturer.

- Inovgrid – considered a reference project at EU level, it is a sophisticated system applicable to electricity distribution grids, currently installed in Évora, a city in Alentejo, where it allows for the utility to manage the grid at a distance.
PRODUTECH

PRODUTECH, the Portuguese Production Technologies Cluster aims at developing, validating and demonstrating new technologies as well as a coherent and integrated set of advanced and innovative products and services to manufacturing industry.

Consequently, PRODUTECH has the goal to develop innovative and intelligent solutions, capable of carrying out sophisticated operations, while assuring high performance and flexible manufacturing, with lower downtimes and reduced energy consumption. As energetic and environmental efficiency of manufacturing processes has an increasing importance to companies' sustainability, the Cluster is actively promoting the development of methods, tools and systems that allow, for example, managing and controlling energy parameters, promoting the usage of renewable energies, or reducing the usage of water in manufacturing processes.

PRODUTECH is a dynamic network of production technologies suppliers (industrial equipment, system integrators, software houses, developers of industry-oriented applications, and engineering and consultancy companies) able to objectively tackle sustainability challenges. Within the Cluster, these suppliers work closely with leading companies from the main industrial sectors and entities from the National Science and Technology System (NSTS), namely research organizations and technology centres, thus being able to cover all stages of the innovation cycle.

The Cluster currently has a total of 84 associates, from which 44 are technology producers, 16 user companies, 16 NSTS organizations, and 8 other entities. In 2011, the technology producers had a total of around 3200 employees, a revenue of 460M€, exporting 240M€, and invested 26M€ in R&D. The overall production technologies sector in Portugal represents roughly 12,000 companies, with a turnover of 9,000M€ and exports of 3,700M€.

Manufacturing is commonly regarded by its significant consumption of energy (28% of the total), raw materials and other resources in general. Consequently, emissions and waste represent a significant footprint. However, it is recognized that important efforts have been made in recent years in order to accomplish sustainable solutions, focusing on integrated strategies comprising eco-innovation to tackle energy and environmental challenges.

These strategies aim at, on one hand, improving the industry's efficiency, thus reducing the amount of resources (including energy) spent by manufacturing and, on the other, developing cleaner and “greener” technologies, thus generating less emissions and waste in general. Production technologies producers play a key role here, not only by creating new and innovative solutions to manufacturing processes, but also supporting the manufacturing industry in producing products with reduced environmental impact and covering their whole lifecycle.
According to this strategy, and in addition to activities of technology roadmapping, education and training, vigilance and intelligence, PRODUTECH is leading two main projects with a total of 40 partners, and participating in other projects where topics of eco-innovation are being addressed.

Regarding the two main projects, “PSI: New Products and Services for the Manufacturing Industry” comprises the activity “Energetic and Environmental Efficiency of Production Systems” focusing on developing eco-efficiency evaluation tools and systems for the integrated management of renewable energy sources. Its two R&D+I main topics are (1) the development of tools for the characterisation and improvement of production systems’ eco-efficiency; and (2) the integration of renewable energy sources into production systems. Additionally, it will build a demonstrator in order to validate and demonstrate the results.

The other main project – “PTI: New Processes and Innovative Technologies for the Production Technologies Industry” is targeted to the technology producers themselves, and eco-design and eco-efficiency are the main goals of the activity “Advanced Tools for the Development of New Products and Services”. Here, the most relevant R&D+I topic is the integration of eco-design and eco-efficiency methodologies in the design, engineering and development of production equipment and systems.

In the future, as today, PRODUTECH will carry on promoting developments aligned with the industrial and technological trends in this critical area of eco-innovation. The Cluster will do so by continuing to actively participate in European initiatives related with production technologies, such as the MANUFUTURE European Technology Platform, the PPP “Factories of the Future”, and others. In their agenda for 2020, the eco-innovation dimension is clearly present in themes such as: reduction of consumptions, emissions, and waste; enabling the manufacturing of eco-products (closed-loop) and eco-technologies; increasing the usage of renewable energy; co-evolution of products-processes-production systems or ‘industrial symbiosis’ with minimum need of new resources.
The Habitat cluster in Portugal is a very important one and the Platform has been engaged in promoting it by integrating its chain value, This concept lead to the involvement of entities from extractive sector to materials and product production, construction and rehabilitation to other activities related to the supply of equipments and services to the Habitat (domotics, energy and environment, etc.) This cluster is one of the important ones in Portugal since, for many years, only the construction-related materials and products sector has a positive commercial balance (exports/Imports) in the order of 1000 million Euros. If the engineering projects and services exported abroad and related to construction is added an important value is achieved. It is believed that integrating solutions and differentiating the offer trough sustainability the cluster agents can gain an increased competitiveness in the national and international markets.

The Sustainable Construction Platform (www.centrohabitat.net), as the managing entity of the Sustainable Habitat Cluster in Portugal since 2009, has set up and participated in collective projects and activities that centered in the concept of Eco-Innovation as a driving force for the competitiveness of the cluster.

First of all, the strategic priorities for the framework of the projects that were presented to national funding (QREN) clearly represents a direction towards eco-innovation promotion in the industrial fabrics of the cluster. The most important priorities were focused on the development of materials and products for a sustainable construction, the development of sustainable construction and conservation technologies and systems as well as the development of solutions that contribute to minimize the energetic and environmental impact of the built environment. Under the Cluster collective strategy, 54 projects from different companies and consortiums were funded during the 2009-2012 period, with a total investment around 60 million Euros.
The Platform has also promoted or has been engaged in projects with a clear collective nature. These projects involved working groups aggregating companies, R&D centers and other cluster agents with a perspective of innovation and competitiveness improvement. Subjects as different as the roles of nanomaterials in construction, lean production, sustainable cities or cooperation in internationalization were used to promote discussion and organize innovation processes. Other distinctive projects were also established, namely, the development of the national system for Environmental Product Declaration registration in the Habitat cluster (www.daphabitat.pt). This project also allowed to link the Platform to an international network and can be a powerful tool for promotion of eco-innovation within companies from different productive sectors of the Habitat cluster. Another project that started recently inside the cluster is the attribution of a Sustainability Seal to recognize the efforts in this path of the cluster entities. Many of the criteria present in this attribution clearly envisage to promote eco-innovation.

The future work plan guidelines of the Platform are set to help the cluster entities to internationalize, to create distinctive products and solutions, to reindustrialize but betting on high added value products and, by doing so, to contribute to the national economy and, particularly, to the creation of jobs in the several related sectors.
INDEX

ENTITIES
ADVID - Associação para o Desenvolvimento da Viticultura Duriense
agrocluster - Ribatejo Portugal
centroHabitat - Plataforma para a Construção Sustentável
EnergyIN - Competitiveness and Technology Cluster for Energy
PRODUTECH - Production Technologies Cluster
PWP - Portuguese Water Partnership

COMPANIES
Almadesign, Conceito e Desenvolvimento de Design, Lda.
AMBISYS, SA
BIOALVO, Serviços, Investigação e Desenvolvimento em Biotecnologia, S.A.
Brisa Innovation
cem + nem -, casas em movimento, Lda.
Cezero, Lda.
Ciengis – Sistemas de Controlo Avançado, S.A.
CORTICEIRA AMORIM, SGPS, S.A.
EcoChoice, SA
ECODEPUR – Tecnologias de Protecção Ambiental, Lda.
Ecoinside®–Soluções em Ecoeficiência e Sustentabilidade, Lda.
ECOPERFIL – Sustainable Urban Systems
Ecotoro – Energia e Valorização de Resíduos, Lda.
EDP Distribuição – Energia, SA
Efacec Capital, S.G.P.S., S.A.
EnerMeter-Sistemas de Medição, Lda.
EPAL – Empresa Portuguesa das Águas Livres, S.A.
GYPTEC IBÉRICA – Gessos Técnicos, S.A.
HIDROMOD, Modelação em Engenharia, Lda.
HIDROSOBH
ISA – Intelligent Sensing Anywhere
Kymaner – Tecnologias Energeticas, Lda.
LMIT, Innovation & Technology, Lda.
MdeMaquina – sistemas industriais, Lda.
Neoturf Espaços Verdes, Lda.
OriginAL Solutions – Joaquim de Jesus
Revigrês – Indústria de Revestimentos de Grés, Lda.
Secil, companhia Geral de Cal e Cimento, SA
Sínergeo - Soluções Aplicadas em Geologia, Hidrogeologia e Ambiente, Lda.
Spheraa – Produção de Energia, Lda.
SunOK, Lda.
TECMIC – Tecnologias de Microeletrónica, SA
TÉKETO – Modular Lda
Umbelino Monteiro SA
UP-WAY Systems
VentilAQUA, Lda.
W2V, SA
Waydip - Energia e Ambiente, Lda.

ENABLERS
Cebal - Centro de Biotecnologia Agrícola e Agro-Alimentar do Baixo Alentejo e Litoral
CEIFA ambiente, Lda.
CTCV - Technological Center for Ceramics and Glass
Ecoprogresso – Consultores em Ambiente e Desenvolvimento, S.A.
EH Lab, Lda (Executive Help – Cons.Tec.& Laborat Industr, Lda.
IPA – Inovação e Projectos em Ambiente, Lda.
SGS Portugal, SA
The Douro Region Wine Cluster, created two years ago, has the mission to "foster and consolidate the wine production sector in the Douro Region, through a technologically sustainable strategy applied to all players", with a vision that aims for a "sector that is environmentally, economically and socially sustainable, supported by a culture of network cooperation to reduce threats and maximise opportunities".

In the pursuit of its mission, the DDR Wine Cluster presents as its strategic objectives:

1. Promotion of and increased investment in R&D and Business Innovation through mobilising projects with added value for wine production;
2. Optimisation, capturing and dissemination of knowledge in the Region as a way of improving viticultural practices, increasing the value of local human capital;
3. Development of methodologies that help increase the operational efficiency of local wine production;
4. Setting up of scientific knowledge-sharing platforms and support for the initiatives adopted by economic agents aimed at innovation of processes and products.

Eco-innovation track record and action plan

The anchor-projects of the Cluster of Wines from the Douro Region include the sustainability of the wine-growing industry, thanks to their direct intervention in:
- The Impact of Climate Changes on Wine-growing in the Douro Region. Water Relations Management.
- Functional Biodiversity in Wine-growing
- Preservation of Biodiversity of Vine Varieties
- Streamlining the Implementation of Steep Slope Vineyards

As a result, we put the emphasis on preservation of vine variety which will enable adaptation of wine-growing to environmental conditions, reducing erosion, landscape enhancement, quality improvement and responsible use of water, CO2 retention, soil fertility maintenance and enhancement, reduction in use of phytosanitary products and higher hygienic and nutritional quality of the wine.

In short, we will gain added value in the Wine of the Douro Region and Landscape Enhancement, through sustainability of the wine-growing sector in the region classified as a World Heritage in the category of Evolving and Living Landscapes.
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The Agrocluster Ribatejo is an association of companies and entities in the agro-industrial sector whose main objective is the development of the agro-industrial sector and the increase of the companies competitiveness. It is currently made up of 76 members, among them companies, entities of the SCTN (National Scientific and Technological System), Higher Education Institutes, Business Associations and Public Entities.

Main Objectives:
• The introduction of new Technologies in the productive process for food conservation;
• The establishment of the relationship between territory, raw materials and finished products, valuing the difference of its specificity;
• The valorization and integration of the residues and sector by-products;
• To increase the qualification of the sector’s companies;
• Promotion of the entrepreneurship, providing the renewal and qualification of the sector’s business foundation.

Main Sectors: Fruit and vegetables, Animal and vegetable fats, beverages, meat, Animal feed and packaging.

Agrocluster Ribatejo has in its associate Members schools, universities and technological centers and together with companies they work to develop new products and processes.

As an ongoing project to LIFE+ Environment Policy and Governance Programme, we are waiting for the result of our application of waste4soil project that the main goal of the project is to demonstrate from an economic and technical perspective the feasibility of employing waste from various origins to produce high-quality soil amendments and fertilizers, tailored for various uses, and manufactured soil; With a controlled mixture of certain types of waste will maximize the benefits and eliminate the drawbacks that would result from the application of a particular waste separately. The waste mixtures will be carried out on a pilot facility which will be designed with a view to optimizing costs by prioritizing technologies that are low resource consuming and allow the utilization of the various types of waste with minimal processing;

Regarding waste inputs the majority will come from a group of industries that integrate Agrocluster Ribatejo, nonetheless, other types of waste originated by companies that operate in different economic sectors will be considered within the project.

This is a joint project with Instituto Superior de Agronomia and Instituto de Soldadura e Qualidade.
The Sustainable Construction Platform is a nonprofit association gathering companies, R&D centres, municipalities and other agents of the Habitat Cluster in Portugal. Since 2009 is the managing authority of the Sustainable Habitat Cluster, recognized as a Collective Efficiency Strategy (CES). It is a very broad cluster since it involves areas from the extraction sector to construction materials, as well as construction and rehabilitation activities and also others involving suppliers for the built environment (Habitat). This cluster has adopted the subject of Sustainability as a driving force for innovation and its strategic development, aiming to contribute for a more "Sustainable Habitat", and the desired impact on economic, social and environmental aspects. This Cluster intend to create synergies for the development of new construction products, technologies and systems, a new practice in designing urban areas, leading to ecoinnovation through the built environment sustainability.

Executive Summary
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Eco-innovation track record and action plan
The Platform Work Plan involved three Anchor Projects structuring the Cluster program and also the framework of projects. The anchor projects established three centers of competence in the field of sustainable construction materials, sustainable construction technologies and on built environment sustainability, trying with their actions to influence upstream and downstream the cluster value chain. Areas such as the development of sustainable construction materials and technologies, solutions that promote energy and environmental performance, as well as projects concerned with the use of natural resources are framed within the Cluster collective strategy.

In order to promote the involvement of companies, R&D centres and other agents, work groups have been set to discuss joint projects and cooperation on Internationalization. Synergies among the participants are a good example on what companies and others gain with the networking. As an example of promotion of basic tools for ecoinnovation within the cluster, the Platform has developed the national system for Environmental Product Declaration (DAPhabitat), but also a recognition seal for the best practices of companies and others towards sustainability. The Sustainability Seal (figure below) attribution is based on environmental, social and economical criteria.
EnergyIN – Competitiveness and Technology Cluster for Energy
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Mariana Oliveira
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Executive Summary
EnergyIN is a young private non-profit association founded by some of the largest Portuguese companies in the energy sector. Its mission is to cooperate with the companies linked to the energy sector established in Portugal, including equipment manufacturers and service providers, aiming to foster partnerships and improve their competitiveness in the global market (with emphasis on Renewable Energies and Energy Efficiency) stimulating appropriate activities on technology and innovation. EnergyIN also encourages innovative entrepreneurship and aims to create, in Portugal, an energy cluster of industry, innovation and technology, competitive internationally.

5 Action Lines have been defined to lead the Cluster’s priorities - Offshore Energy, Solar Energy, Energy Efficiency, Smart Grids, Energies for Sustainable Mobility.

Current Associates are: EDP, EFACEC, GALP, MARTIFER, MIT-Portugal (founding members), GENERG, MEGAJOULE, LÓGICA, ÉM., REN, ISQ, CGD, CASAIS, GIGABEIRA, TECNALIA, INEGI, JANZ and REPOWER.

EnergyIN is a MoU partner of the European consortium EcoClup, the first pan-European partnership of cluster organisations focusing on the eco-innovative industries.

Eco-innovation track record and action plan
EnergyIN has been involved in the development of, among others, three anchor projects related with renewable energies and technological development:

> SolarSel – This project is coordinated by EFACEC, a major energy equipment manufacturer in Portugal. The project focuses on optimising the production of dye-sensitised solar cells, that use cheap and abundant non-toxic materials, that allow for the installation of PV cells in transparent surfaces, such as glass, being a promising technology for the integration of solar energy in buildings in the future and paving the way for Portugal to be a major industrial supplier of this technology. The project has already produced some patents and is ongoing.

> Green Islands – Currently with a proposal for financial support being evaluated by Proconvergência, and coordinated by EDA – Eletricidade dos Açores, it brings together some major portuguese companies and universities and envisages the setting up and testing of a model for an energy-sustainable island (Corvo, Açores).

> Institute for Offshore Energies – The project envisaged the creation of critical mass in the activities related with the harnessing of offshore energy, linking industry, research institutions and service providers for portuguese and international pilot and industrial projects. The project is currently undergoing an internal assessment.
ENTITY PROFILE
PORTUGUESE ECO-INNOVATION COMPETENCES CATALOGUE

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Web: : www.produtech.org

José Carlos Caldeira
Executive Administrator
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Executive Summary

Brief description of the entity’s mission and objectives, highlighting how the sustainable growth and competitiveness goals drives eco-innovation development.

PRODUTECH – Portuguese Production Technologies Cluster is a network of Production Technologies suppliers – producers of machine tools and industrial equipment, system integrators, software houses, developers of industry-oriented applications, and engineering and consultancy companies – capable of addressing the sustainability and competitiveness challenges by delivering innovative, integrated and flexible solutions responding to the manufacturing industry’s needs.

The Cluster’s mission is to promote the sustainable development of the Production Technologies Industry, and its client sectors, through the articulated cooperation between stakeholders, notably Industry’s key players, R&D organizations and other entities, and by the implementation of strategic integrated projects, addressing innovation, modernization and internationalisation, that embody a multi-annual action plan, in which sustainability concerns, eco-innovation, and energy and environmental efficiency themes have a leading relevance.

Eco-innovation track record and action plan

Key milestones in the entity’s activity related with eco-innovation. How does it engage member companies in R&D projects that envisage specific eco-innovation results? Does it promote cooperation with R&D centers? Does it specifically promote the internationalization efforts of member companies in eco-innovative products or services? What is the growth strategy? How is the development of new products/services being supported? What would a foreign company/entity have to gain in engaging in direct contact with you/your associated companies? If you are a recognised Pole or Cluster, indicate the activities and anchor projects which addresses eco-innovations to support efficiency use of resources, ambitious environmental goals as well as business opportunities.

PRODUTECH’s action plan embodies 3 main priority vectors and within these eco-innovation concerns play a key role with pervasive implementation, notably:

a) Innovation: within Cluster’s R&D umbrella projects PRODUTECH PSI and PRODUTECH PTI sustainability is widely addressed, both at theme-oriented areas —e.g. eco-design work under PTI’s “Advanced tools for the development of new products, systems and services” or PSI’s eco-efficiency evaluation systems or the integrated management of renewable energy sources, under “Energy and Environmental Efficient Production Systems” activity — and also at the level of horizontal topics, e.g. PTI’s New Business Models;

b) Internationalization: addressing to both R&D, via the integration in projects, networks and European Technology Platforms (MANUFUTURE), and to business promotion, e.g. the presentation of an innovative energy-efficient industrial bender, at MIDEST2011 Fair, in Paris, nominated to the partnership-alliance award;

c) Cooperation: acting as a pivot node, for the exploration and exploitation of R&D or business opportunities, linking R&D centers, Production Technologies companies, its suppliers and client sectors.
EXECUTIVE SUMMARY

The Portuguese Water Partnership’s mission is to promote an effective link between professionals, institutions and companies in order to project the knowledge and skills of the Portuguese water sector in the world, and to catalyse opportunities in international markets and in the area of cooperation within the framework for the development of sustainable projects in line with the Millennium Development Goals.

The main objectives of this Association are to:
• Promote the sharing of knowledge and experience among Portuguese companies interested in internationalization;
• Identify and support new opportunities for the development of projects and initiatives in global markets;
• Promote dialogue between partners and international institutions and establish multipurpose partnerships;
• Advance the establishment of a forum for reflection on future challenges;
• Promote innovation in the water sector, facilitating cooperation between companies and research centres.

In this last respect, PWP facilitates and promotes events, partnerships and joint initiatives between different partners on an international scale, thus positioning itself as a forum for innovation and sustainability related to projects, technologies and competences.

ECO-INNOVATION TRACK RECORD AND ACTION PLAN

The Portuguese Water Partnership is highly involved in the European Innovation Partnership on Water, launched by the European Commission and endorsed by the EU Member States last June 11th, 2012. In effect, PWP’s President, Prof. Francisco Nunes Correia, is a member of the High Level Steering Group, and Prof. Rafaela Matos, also a PWP Board Member, integrates the Task Force mandated to develop the Strategic Implementation Plan for EIP-Water.

Moreover, PWP, in partnership with leading universities, research centres and private companies, has been actively involved in the preparation of innovation and demonstration sites and initiatives under the 7th Framework Programme on RD&I.

Also, this Association has been supportive of other agencies in the organisation of events focused on innovation such as the 13th European Forum on Eco-Innovation and the implementation of the EU-China Platform for Water launched at the last World Water Forum in Marseille, France.

In essence, the Portuguese Water Partnership aims to be a focal point for international stakeholders (governments, businesses, research centres, NGO’s, etc.) interested in establishing mutually beneficial relationships with members of the Portuguese Water Cluster.
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Design Manager

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Products/Services/Competences
Almadesign is a Portuguese industrial design company whose core competencies - industrial design and design management - are focused on structuring methodologies for product development and industrial innovation. Almadesign’s focus is innovation through design, based on the development of human-centric technology based solutions mainly for Transports, Industrial equipment, Electronic appliances, Furniture and Interiors.

Based on 15 years of experience and expertise in design, engineering and architecture, Almadesign works together with its customers and partners throughout the whole product development process, identifying and structuring requirements, conceptualising and developing solutions for production and marketing. Almadesign integrates and articulates the visions and requirements of different stakeholders to develop concepts and turn them into feasible and commercially viable products. Almadesign is actively engaged in several cooperation networks from their inception, such as PEMAS - Small and Medium sized Enterprises for Aeronautics, PRIA - Portuguese Railway Industry Association or COTEC - Enterprise Association for Innovation.

Almadesign is the first Portuguese design company to have its Research, Development and Innovation system certified (NP 4457:2007).

Track record
Almadesign has 15 years of experience in industrial design developing more than 500 projects for 150 different clients.

Projects with specific eco-innovation results include: EL2500 electric bus for CaetanoBus; press-brake Greenbender for Adira (Cotec award 2012); Autonomous vehicle Cybercar for Mobipeople (Greengood Design Award 2010).

Almadesign has also been engaged in R&D projects focusing on the development of sustainable solutions for transport industries: Project LIFE – lighter and sustainable interior aircraft concept (Crystal Cabin Award 2012); Project iSEAT – railway seating system using composite and natural materials; Project iBUS – lighter integrated solutions for coaches.

R&D projects in cooperation with companies and research institutes are being developed in the aeronautical, nautical and railway markets, mainly for Latin America markets.
Ambisys provides wastewater and organic waste treatment solutions with a reduced environmental footprint. As such, Ambisys tries to incorporate renewable energy production and/or use and specializes in anaerobic treatment systems that result in production of biogas, a renewable energy source.

Ambisys has developed two new products:

1. **The IASB Reactor** (patent granted) for direct anaerobic treatment of industrial wastewater containing fat. The first industrial reference is being installed at a fish processing plant and will be started up in November 2012. Focus market is the food processing industry, due to the omnipresence of fat in their wastewater and their energy intensiveness.
2. **The SLS Reactor** (patent pending) for co-digestion of organic waste and/or energy crops containing fat. The SLS Reactor was successfully tested at pilot scale and is currently being scaled up. Market introduction is due 2013. Focus markets are the agricultural sector and food processing industry.

Advantages compared to conventional anaerobic treatment are:

- No need for fat separation prior to anaerobic treatment;
- No fatty waste stream production;
- Biogas production maximisation due to fat conversion into biogas;
- No mechanical parts inside the reactor reducing maintenance cost;
- Modular design;
- Lower hydraulic retention times resulting in smaller footprint and lower investment (SLS)

**Track record**

Key milestones are IASB Reactor market introduction (2012) and European replication (2013) through Eco-innovation program; SLS reactor scale-up (2012) and market introduction (2013). Both technologies have been developed in collaboration with the University of Minho, of which we are a spin-off. Collaboration continues for the development of the SLS as a technological platform for new products. Clients include Poveira, Central de Cervejas, Unicer, Rhodia and Paques. We have partnerships with Dutch Rainmaker (windmills for potable water production from air or contaminated water), Ambiental Argentina and Ecovisão. We are actively looking for partners to put our technologies on the world market and help us to optimise them. Our current focus markets are the dairy industry, meat and fish processing industries.
BIOALVO, Serviços, Investigação e Desenvolvimento em Biotecnologia S.A.

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Helena Vieira
CEO
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Products/Services/Competences

BIOALVO, the Biotech for Natural Products, is a Portuguese biotech company, founded in 2005, dedicated to providing fully-integrated biotech solutions to maximize natural products market applications. It has developed a new paradigm/model in bioactive molecule discovery: the association of the yeast genetic power (microorganism) with the most innovative compounds source – the oceans. BIOALVO has developed several applications to the discovery of new bioactive ingredients from its technological platform, GPS D2 (Global Platform Screening for Drug Discovery) – an innovative and patented platform. It has already developed several applications of this technological platform for the Pharmaceutical, Cosmetic, detergents and food industries among others. Additionally, BIOALVO holds several exclusive Portuguese natural and sustainable extracts collections. One of those is PharmaBUG. This is the only commercial collection in the world that contains natural extracts of microorganisms isolated from samples collected at 3,000 m deep in the most extreme oceanic conditions. We are also developing other collections like LUSOEXTRACT and BIOLUSOMAR. These collections are expected to reach near 90,000 extracts, at the end of 2013, including a variety of exquisite sources, ranging from deep sea vents in the Azores, or secret diving spots of Portugal Ministry of Defense, to some mainland ecosystems. Joining the power of innovation of the oceans with the powerful technological platform GPS D2, BIOALVO is strengthening the discovery of new and more efficient bioactive candidates for its portfolio and its partners.

Track record

FP7 Projects: Neurasync – Academic-industrial training network on alpha-synuclein-related brain diseases; Pep2Brain – Selected peptides as drug candidates directed to pain and neurodegeneraion; BlueGenics – From gene to bioactive product: Exploiting marine genomics for an innovative and sustainable European blue biotechnology industry; MaCuMBA – Marine microorganisms: cultivation methods for improving their biotechnological applications. QREN Projects: D3B – Drug discovery and development at BIOALVO; Internacionalização; LUSOEXTRACT – Discovery of new natural compounds with therapeutic properties isolated from unique Portuguese ecosystems. Exports to Europe and USA. Collaboration with major national and international RTD players. Involvement in four major European networks of excellence. Growth strategy: reinforce USA presence and increase portfolio of clients.
Brisa Innovation is directed to research, design, development, production, installation, support and maintenance of the equipment, system and intelligent services required for the operation of motorways. On par with its duties and responsibilities specifically associated to the operation of the road business, Brisa Innovation seeks to ensure a strategic and efficient vision of the value chain as a whole, in order to take advantage of in-house skills in know-how, innovation and technology exist.

Brisa Inovação e Tecnologia was set up in December 2009, following the merger of BAER - Brisa Access Electrónica Rodoviária and DIT - Direcção de Inovação e Tecnologia. As result of this merger, the entire staff and assets of DIT and BAER were transferred to the newly formed Brisa Inovação, which maintained the legal and tax status of BAER. The merger gathered the skills and attributions existing at DIT and BAER, which are complemented by the business management skills of Brisa’s corporate centre.

Track record
LIFE ECOVIA Project: Ecological Road aimed at the exploitation of waste materials, which are currently being use to produce energy or for landfill deposition, in order to make new products for several applications on the road sector. Within the project scope, three new products incorporating waste materials were developed and tested for road applications, but new products will be probably essayed in the future. These products could incorporate large quantities of recycled materials, reducing the waste materials burned or for landfill deposition.

During the project, the waste materials consumption was roughly around 6 tons. There are also economic and operational advantages on the use of these products, like a potential 10% cost savings for the production of fencing post for 50 km of highway.

Project Website: http://www.ecovia.brisa.pt
Video: http://www.youtube.com/watch?v=XA1CI5tX6AY
**Products/Services/Competences**

The “Casas em Movimento” by Manuel Vieira lopes is a project of sustainable and alive architecture that will revolutionize the paradigm of habitation on a global scale, presenting a new concept of sustainable and innovative houses that interact with the environment and light variations along the day, reacting to the different positions of the sun, as a living element.

Combining two different rotation movements - the rotational movement of the house itself, approximately 180° during the day, west to east, and the rotational movement of the PV coated cover, that covers, protects and feeds the house - conditions are created for optimizing the use of natural light and increasing the production of solar energy, which leads to high levels of energy efficiency. Indeed, with these two movements combined the house is able to produce 2.5 times more energy than the energy it consumes.

The cover’s rotational movement adapts also to the different seasons, creating shadows in summer and allowing the incidence of solar radiation in winter, which ensures an heat gain that varies from 60% to 80% and a lighting gain of about 30%.

The movement was also a way of exploring new concepts of living, creating different indoor and outdoor spaces throughout the day.

The house is coated with cork and its structure is made out of wood, two materials with a large thermal and acoustic insulation capacity and highly sustainable.

Another concept of our house is the evolutionary system that results from a modular construction that means that the owner can add or remove modules to the house so that it becomes bigger or smaller, according to the needs.

**Track record**

The supporting team of this project includes entities from architecture to different engineering’s, communication and marketing, that belong to the scientific and technological system, as FAUP, FEUP, LNEG, INEGI and INESC.

This is a project with intellectual and industrial property.

For the first time, in 2012 the project represented Portugal and the University of Porto in the biggest international competition for sustainable housing - Solar Decathlon Europe, Madrid - and was considered one of the top 20 sustainable architectural projects in the world.

Once “Casas em Movimento” is a "spin-off" of the University of Porto after the competition the prototype will be deployed close to UPTEC in Porto and will become headquarters for the company and a living laboratory.
**Cezero, lda**

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**Products/Services/Competences**

Cezero is a Consultancy & Engineering company aiming to promote sustainability by providing integrated solutions for rational use of energy and environmental efficiency for the entire building life cycle, operating in the field of Construction, since 2009, in Portuguese and International market. The company, based in the Historic Centre of Oporto, is divided into five areas: Energy, Sustainable Building Certification, Environmental Management, Carbon Management, and E.P.B.C. Through its multidisciplinary team in the areas of Environmental, Mechanical, Electrical and Structural, provides Engineering and Consulting services in various stages of construction, based on resource efficiency and ecological principles to balance Social, Economic and Environmental aspects.

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**Track record**

The current European legal framework, regarding the energy efficiency of buildings, is proving to be decisive for the change of methods for design and construction. The mandatory Energy Performance Building Certification emerges as the legal basis of a process that will transform building industry in a sustainable and environmentally responsible industry. However with regard to the specific practice of architecture and engineering, one of the weaknesses identified in an attempt to catch up with criteria for sustainability in construction, relates to the lack of a systematic approach to communication and coordination on the issue of sustainability between the Promoter, Architect, Designer, Installer and end-user. This failure in communication and coordination, promotes a misuse of bioclimatic architecture, air conditioning & lighting systems and energy/ environmental management, due to the difficulty of integrating different specialties according to Guidelines for the rational use of energy and environmental efficiency. Cezero pretends to minimize this gap by providing services that ensure technical and economic feasibility of projects with a sustainable background, through the training and experience of its multidisciplinary team in sustainability, presenting a set of added value and differentiation factors to their customers.
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Business Development Manager
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Products/Services/Competences
Ciengis is a process systems engineering innovative company, leading supplier of non-linear model predictive control technologies, industrial process optimization and monitoring systems. Ciengis is committed to help industries reach higher levels of performance, efficiency and competitiveness. In addition to improving plant performance and profitability, Ciengis solutions have a real impact on resource efficiency, energy consumption and pollution reduction, allowing to minimize utility, and raw-material losses and wastes and to reduce power consumption while maintaining production levels. Plantstreamer® Portal is a real-time plant historian and process performance monitoring system that allows identify economic benefits in the production processes. Plantegrity® is a non-linear model predictive control system for the economic optimization of chemical, petrochemical and power plants. Typical results of its implementation are the reduction of power consumption, minimization of wastes and losses in resources or the reduction of the environmental impact.

Track record
Working close with chemical, petrochemical and energy industries, Ciengis has been working in the field of optimization and advanced control of industrial processes. Some recent projects include: a critical tag monitoring and control loop analysis of an ammonia plant in Saudi Arabia, a desulphurization unit troubleshooting and performance audit of a refinery in Portugal, or an emissions control optimization feasibility study for a cement plant, a performance monitoring and optimization project at a major biodiesel plant. Ciengis has been officially recognized as capable of performing applied R&D activities and has led two national R&D projects: APCFAME: biodiesel production optimization and NAMPI: new plant performance monitoring tools.
CORTICEIRA AMORIM, SGPS, S.A. is the world’s leading cork manufacturer and one of the most international of all Portuguese companies, with operations in dozens of countries and all continents. Our company is the leader in the cork industry and manufactures and sells 30 per cent of the world’s production of cork. CORTICEIRA AMORIM has made a decisive contribution to the spread of cork throughout the world during its 140 years of existence.

In view of cork’s wide range of applications, CORTICEIRA AMORIM is structured into five Business Units (BU): Raw Materials; Cork Stoppers; Composite Cork; Floor & Wall Coverings and Insulation Cork.

Aware of the value of cork as a material boasting unique characteristics, the efforts of CORTICEIRA AMORIM have continuously been driven to position its materials and products as the global benchmark for Sustainable Construction solutions.

Track record

CORTICEIRA AMORIM is the world’s leading manufacturer of cork – a raw material that is extracted cyclically from the cork oak trees without damaging them. Our Company promotes the economic and social sustainability of areas at risk of desertification, offers high value added products which maintain the unique and intrinsic characteristics of cork in an integrated transformation process that practically does not produce waste. In addition to benefiting from this gift from Nature (cork), our Company has regulated its activity by adopting and strengthening sustainable development practices.

Resource optimization: The optimization of the quantity of cork used in the entire production process is one of the sustainability strategies implemented by our Company. The cork waste produced during the cork stopper production process is incorporated into other high-value applications and, as a result, cork is put to use 100%.

Recycling: CORTICEIRA AMORIM recycled a total of 1195 tons of cork between 2008 and 2010.

Global warming: Approximately 60% of our Company’s energy needs are met through the use of biomass (cork dust). Thus – in addition to the implementation of various energy efficiency measures - CORTICEIRA AMORIM achieved over 16% reduction in global CO2 emissions over the four-year period from 2006 to 2010.

FSC Forest Certification: CORTICEIRA AMORIM has been strengthening its commitment with the Forest Stewardship Council (FSC) by implementing FSC certification at its business units and now has 14 units holding FSC chain of custody certification.

Products/Services/Competences

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Products/Services/Competences
✓ ECOCHOICE is a Sustainable construction Consultancy company
✓ As a consultancy company we create the best sustainable building and urban development strategies and solutions
✓ Our mission is to develop the necessary tools in order to support the rational use of energy and environmental efficiency in construction
✓ We analyze the best sustainable construction solutions from a technical and economical point of view, in all sustainability areas, since planning and bioclimatic architecture, energy and emissions, water and waste water, materials and waste, indoor air quality, as also the social aspects related to the built environment (comfort, health and wellbeing, occupants satisfaction and environmental awareness)
✓ Each analysis is developed and adapted to each project, promoting a performance of excellence, the environment protection and life / construction / urban development quality
✓ We create an innovative concept and a different approach to our clients
✓ We pretend to manage all areas in construction projects, to promote a truly sustainable construction market
✓ We develop environmental certification processes, sustainable building certification processes, energy performance of building certification (according to the EPBD Directive), among other type of recognition applicable in specific cases.
✓ We aim to add value in construction projects, through our services, promoting sustainable development in construction
✓ Our goal is to offer innovation and differentiation in to construction sector.

Track record
Projects approved in the ECOCHOICE participates:
SBTool PT – STP - Adaptation of the international sustainable building assessment tool - SBTool - to Portuguese context, for tourism, services and urban planning sectors. 2009-2012 Program funder: QREN
Wallinblock - Analysis and development of a prefabricated product solution for walls with the aim of maximizing their global sustainability performance (raw materials, production processes, characteristics of performance, functionality and durability/recyclability) based upon the OPENCELL patent. 2010-2013 Program funder: QREN
Active Floor - Development of a new generation of cork flooring with functions of energy harvesting generated by the piezoelectric sensors embedded. It can also be associated with motion detection in burglar systems, location and identification of people, identifying the most common routes and other associated features. 2011-2014 Program funder: QREN
**COMPANY PROFILE**

**PORTUGUESE ECO-INNOVATION COMPETENCES CATALOGUE**

**ECODEPUR – Tecnologias de Protecção Ambiental, Lda.**

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**Bernardo J. Soares Taneco**

General Manager  
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(+ 351) 249 571 500

**Products/Services/Competences**

Ecodepur® mission is to offer innovative technical solutions with a Great quality, which allows fulfilling the customer constant needs, contributing to minimize human activities impacts, with the goal of sustainable development, environment, and of the organization and their workers. Ecodepur® has a Design, innovation and development department, with the skills to create new solutions, prepared to face and solve their specified problems. Among others the following equipments/systems where considered as eco-innovations, by the SIFIDE program: Micro waste water treatment system OXYBIO CE 12566 – 3; Micro waste water recycling system DWW Recycler CE 12566 – 3; Double Filtration Light Liquid Separator DEPUROIL CE 858 – 1; Aerator/Mixing Vortex system HIDRODEPUR ATV M 209 E; Grey water recycler system BIOX; Car wash, water recycler system ECODETOX.

Searching constant quality improvement and customer confidence, Ecodepur has a quality management system certified by TÜV Rheinland Portugal, Lda., according with Standard NP EN ISO 9001:2008 requisites, with the scope “Design, Manufacture, Trading, Operation and the after sales technical support of wastewater treatment systems”.

**Track record**

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Ecodepur I&D Department Begins, with the company innovation propose and dedicated to development ECODEPUR technologies. IBERDEPUR is established, a ECODEPUR subsidiary company focus to the Spanish Market. |
| 2008 | ECODEPUR quality management system certified according with Standard NP EN ISO 9001 |
| 2009 | The company was distinguished with the PME Lider award by IAPMEI (distinguished until the present day)  
PNIA (National Environmental Innovation Award) Contest finalist, with the DWW Recycler |
| 2010 | ECODEPUR SARL is established, headquarters in Casablanca (Morocco) |
| 2011 | Factory II inauguration, in Seiça, Ourém industrial Park. |

Key milestones in the company’s activity. Participation in R&D projects with specific eco-innovation results. Examples of cooperation with R&D centers. Examples of clients. Growth Strategy: new products/services being developed, partnerships, new markets, etc.
The main activity of Ecoinside® is to provide personalized services to companies of all fields of activity from the trade and services, up to the extractive, producing or manufacturing industry. Therefore, through the most innovative technologies and products in the area of Corporate’s eco-efficiency and Environmental Sustainability, company provides solutions concerning significant reductions in fixed costs as well as in the environmental and biodiversity impacts caused.

In addition to pioneering spirit and an unique form of concept endowment to the market, it stands out, in company’s operations in eco-efficiency that let it become a reference in the subject with proven results already awarded: the reduction and rationalization of the energy consumption; water consumption optimization; gas emissions reduction and also the management and recovery of produced wastes and residues, always focused in maximizing savings.

Ecoplanner is a currently developing R&D project in co-promotion along with two more R&D partners funded by QREN. The main goal is to create an eco-efficiency management platform tool to manage all the inputs, processes and outputs, providing companies with the necessary information about impacts and environmental management, consumption and resources costs, processes and equipment performance/maintenance, applicable legislation and regulatory authority’s requirements.

**Track record**

It’s an Ecoinside® policy to get involved in a dynamic way with the market through the creation of platforms based on a network of strategic partnership with other reference companies and R&D institutions at different levels and offering complementary skills, to develop new products and services that are identified as missing in the market during the projects we develop on our clients.

The Ecoplanner development, a management platform in eco-efficiency created in partnership with INESC Porto and FEUP, is now in demonstration phase with the platform implemented on Sorgal – an agro-food Industry. The development of this product is a key component for the internationalization strategy of the company for next year.

Our company is also made by its clients and they’re the main and best guarantee of our existence. Some of our main clients are BPI, Câmara Municipal de Estarreja, Fital, Lingote, Savinor.
**ECOPERFIL – Sustainable Urban Systems**

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**Website:** [www.ecoperfil.com](http://www.ecoperfil.com)

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**Products/Services/Competences**

ECOPERFIL’s mission is to step out and set an example in construction practice in Portugal, designing and consulting with efficiency and sustainability in mind. Namely, ECOPERFIL intends to: build a reliable technical support base for evaluating eco-measures; up-grade the quality of buildings, in general; enforce the implementation on eco-measures in buildings; promote sustainability principles amongst all construction industry professionals - investors, other designers, contractors and final users.

This company partners technical excellence with environmental concerns, specializing in building active or passive systems. This ability to quantify building environmental (energy, water, material resources) performance and to detail all systems related with that performance is not common among engineering/architecture firms, in Portugal.

Related with eco-innovative services, ECOPERFIL main competences are: (1) Energy performance of buildings (evaluation and definition of construction details to enhance the passive performance of buildings; conceive and detail efficient HVAC systems; detail functional renewable energy capturing systems, mainly solar thermal and solar photovoltaic; calculation and design of natural lighting options and artificial lighting optimization; modeling, calibration and dynamic thermal analysis of buildings; etc.); (2) Water consumption performance in buildings (analysis of water consumption and design of efficient water supply, recycling of grey water and capturing of rainwater); (3) Global sustainability analysis for buildings (ecological analysis of building sites; bioclimatic architecture; etc.); (4) Materials, reuse and recycling (environmental impact calculation for construction materials; management of construction and demolition waste, etc.);

- (5) Systems design (engineering projects: HVAC, electrical installations, water supply and waste water management, security systems, etc.);
- Based upon building audits, computer thermodynamic modeling and detailed energy consumption pattern analysis, ECOPERFIL offers scenarios of different consumption reducing measures, which lead to different return on investment periods. Once the scenario to be implemented has been chosen, Ecoperfil guarantees the actual design and detailing of all systems which will achieve the return on investment predicted.

As a result, ECOPERFIL has conceived, detailed and sized for buildings: large photovoltaic and thermal solar panels array; space heating and domestic hot water supplied by pellet biomass boilers or improved efficiency geothermal heat pumps; mechanical ventilation with buried pipes (passive heating and cooling), heat recovery and free-cooling compact systems; optimized high efficiency artificial lighting systems sensible to natural light input; optimized insulation schemes, shading and rainwater harvesting systems.

Its founders also have some R&D background, which means that the company will react positively to challenges from clients, which may require non-standard approaches and/or some specific research and development. As an example, internal expertise exists as to low carbon concrete formulations (fly ash, recycled aggregates) and specific passive solar systems, such as convective panels.

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**Track record**

Milestones: start delivering large service buildings project and energy certification (2009); first developed deep/complex retrofit projects (2010).

Participation in R&D projects: Only a jointventure participation in a OREN candidacy, for a project named “W.I.N.” (Waste In the Net), which did not, however, get financing (project involving the companies GATEWIT, CEIFA and the Lisbon Technical Institute).

Examples of cooperation with R&D centers: the Polytechnic Institute of Setúbal has been a partner since 2009 (with an official protocol signed), although mainly as a service provider (building energy certification); signed protocol with the Algarve University.

Examples of clients: European Commission (Portugal), European Parliament (Portugal), European Parliament (Luxembourg), Parque Escolar, dBLab (Absorser Group), Inditex, Oeiras Municipality.

Groth strategy: close contact with a small but knowledge intensive building design company; capacity to simulate and study in detail whatever improvement measures may seem fit in any building; a trustworthy partner for an ESCO (Energy Service Company) venture or any other sustainable construction issue; to invest in high-profile deep and/or complex retrofit projects, aiming at high environmental standards.
Adapt Portuguese biomasses, and equipment to supply thermal energy (hot water), produced by biomass, to medium scale buildings for central heating and sanitary hot waters.

Ecotoro is responsible for the investment in the equipment, service, quality control and logistic of biomass. The customer only pays the heating consumed (kWh). All the financial and operating risk is supported by Ecotoro. The customer saves 50% Euros when compared to heating diesel oil prices, or 30% Euros when compared to propane gas.

Deep know-how on Portuguese biomasses is commercial. Customers: houses for elderly people, swimming pools, hotels, public buildings.

There are not any more companies in Portugal and Europe with consolidated know-how and SWOT analysis on: Portuguese biomasses

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**Track record**

Model started being developed in 2002 with two different strategies: possibility of producing heat through gasification of industrial wastes + studying the economic potential of Portuguese biomasses.

First demonstration unit on burning biomasses started on 2006. The two gasification demonstration units built from 2004 to 2007 were stopped on 2007 as a result of a negative economic output obtained.

Growth strategy based 100% on commercial solutions with positive added value.

On 2006 started the first commercial biomass energy contract working with wood pellets. This contract was upgraded in 2011 to woodchips because only 5% of Portuguese biomasses can be transformed in wood pellets. Ecotoro solution is technical flexible to work with 100% of the Portuguese biomasses. The choice from one biomass to another is based on the overall economic return.
Inovgrid, the smart grid project, and Évora Inovcity, the city where the smart grid project has started are two real examples of the importance and crucial impact that customers have in the development of Smart Grid projects. Having the customer at the center of its strategy, EDPD designed an approach for the implementation of the inovgrid project in the Inovcity Évora, having in mind that, on the one hand clear value creation for customer must be achieved, and, on the other hand, that customers must perceive this value.

In order to touch different customer segments, different innovative services are being tested in a large set of customers ranging from large companies to small individuals. Aspects like energy efficiency, CO2 reduction, energy consumption reduction, smart consumption patterns are taken into account in providing these innovative services, which target not only economic aspects but also include social and behavioral aspects.

Some activities of communication and dissemination of the project were crucial to obtain the involvement of different stakeholders. EDPD believes that inovgrid project is of utter importance to align the EDP Group strategy with the European 2020 Energy objectives.

The inovgrid project was launched (2007) and Évora InovCity completed (2011) with 30,000 customers – cooperation with R&D and industrial partners: INESC Porto, EFACEC, Janz Contar, Logica. After the success of this first phase, EDP is currently expanding to new locations across Portugal adding 100 thousand more customers to the smart grid, and also significantly contributing to the EDP Brazil smart grid project in the city of Aparecida, as well as, in Spain through its subsidiary HC Energia.

Customer innovative products are under test, leveraging on inovgrid platform but developed by independent companies like uMeter from Tekever, Mordomus, RE:DY developed by EDP and which allows to monitor consumptions and promotes a more active behaviour of clients towards an efficient energy consumption.

The company participates in several European projects with major R&D components included in FP7 or IEE programs.
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Products/Services/Competences
The Efacec business areas are closely related to energy systems so most of its R&D activities involves eco-innovation.

The Energy business area includes the design, production and servicing of transformers and switchgear. The R&D activities involve the development of high efficiency transformers and the use of eco-materials in switchgear design.

The Engineering, Environment and Services business area comprehends turnkey projects (power generation plants, power transmission grids and industrial), automation projects (power distribution grids, transmission, power generation plants), maintenance (energy, industry, transportation, healthcare, facilities and environment infrastructures), environment projects (air, water and waste treatment) and renewable energy projects (wind, photovoltaic, wave, hydro and biomass). R&D priorities are the development of chemical methods for water and waste treatment, smart grid components and photovoltaic solutions.

The Transportation and Logistics business area includes the design and implementation of railway systems, power infrastructures, public information systems, communication systems and a full range of logistics systems. R&D priorities are the development of fast chargers for electric vehicles and energy recovering systems for trains.

Track record
The development of high efficiency transformers, light-rail integrated systems, energy automation solutions and electric vehicle fast chargers are probably the most important R&D milestones. Some recent power transformers projects involve the Vigo University. The light-rail integrated systems are developed internally. Some solutions for smart grids are associated with a national project, which involves several companies. The recent introduction of fast chargers for electric vehicles (namely in the USA and European markets) has been made under an agreement with technical and industry-related associations. The development of an electric bus (the Caetano bus) has the cooperation of Porto University. Efacec is also a partner for the introduction of DSC cells (involving the Porto and Minho Universities).
ENERMETER is a technological based company working in the development of innovative solutions on metering and artificial vision sectors. It offers a highly trained professional with large experience team, aiming to answer to any challenge. Is market leader due to high customization level of the solutions offered, due to toughness, due to an ongoing research, as well as the developing of partnerships, aiming the full customer satisfaction.

**Metering Division:** The developed solutions begin in the simple basic meter system to the most complex integrated of metering, control, communication and management of consumption data. The systems developed by ENERMETER allow the performance increase of the distribution networks and the real time reading, in order to optimize the use of the natural and human resources. Also, offers a wide range of services regarding meter managing, consumption managing, and metering quality control services.

**Artificial Vision Division:** Automatic inspection systems put together hardware and software on the state-of-the-art artificial vision technology. There is a wide range of applications that go from dimensional and positional analysis both in 2D and 3D to color and texture identification, pattern recognition and defects detection. These systems, designed specifically for each customer, can be implemented in any production line, saving time and space on the customer side, while improving product quality and quality of life of workers. The artificial vision solutions comply to medical imaging and to all industry sectors at any stage of production cycle aiming a high level of quality standards.

ENERMETER develops tailor made solutions to each case but standard solutions to a wide range of sectors such as agriculture, metallurgy, textile, electric, electronic, plastic, drinks, packaging, and forwarding, in the near future, solutions for food, wine, cork, glass, footwear, and paper are already available.

**Track record**

**Key Milestones:** 2001-First water remote Reading system for the water distribution network; 2002-First automatic artificial vision inspection system for polymers sector; 2003-Model approval of ENERMETER’s water meter; 2004-First automatic artificial vision inspection system for the agricultural production, 2005-First automatic artificial vision inspection system of PET preforms for food industry; First gas remote reading system, using GSM, for industrial customers; 2006-First monitoring systems of pressure and flow, via GSM, for water networks; 2007-First export of an automatic artificial vision inspection system of components for the German automobile industry; 2010-First in-pipe water quality monitoring system, First water automatic metering system, using fixed data concentrators and radio, First export for Asian continent of an automatic artificial vision system for worldwide automotive companies.

**R&D Projects:** 2008 a 2010 - “MEMIMETRIA” - QREN Project with the R&D Center INESC-Porto - Development of a system for measuring thickness of materials in multilayer; 2011-2014 – “MICABCAD” – QREN Project with the R&D Center CCG - Development of a mobile system for acquisition, processing and analysis of images of high spatial resolution for the viticulture sector; 2012-2014- QREN Project - Development of a mobile system for acquisition, processing and analysis of images of high spatial resolution for the viticulture sector;

**Reference customers:** Electricity: EDP, EDP Renováveis; Water: Agere, Águas do Porto, Epal, Aquapor, Águas de Portugal, Fagar, Município de Albufeira, Tavira Verde, etc.; Gas: EDP Gas, Galp Energia, EDP Naturgas Energia; Artificial Vision: Bosch, Delphi, Unicer, Huf, Sakthi, Visteon, Logoplaste, SLM.
Products/Services/Competences

**Background** EPAL – Empresa Portuguesa das Águas Livres, SA, founded in 1868, is the oldest and largest water supply company in Portugal. EPAL provides drinking water to 2.6 million people in 35 municipalities, including Lisbon. Water is abstracted from a range of different sources, prior to being treated and supplied in bulk to municipalities. In Lisbon, EPAL is also responsible for the distribution to around 350,000 customers’ homes and businesses.

**Products & Services**

- Water for human consumption – “core”.
- Aquamatrix – Information Subsystem for Customer Management;
- Wone - Non-Revenue Water Reduction in Distribution Networks;

**WONE – Water Optimizatio for Network Efficiency** - Related to eco-innovative products and services EPAL developed WONE. The WONE methodology is based on DMA Implementation Projects which are produced for each zone, with analysis of proposed boundaries, meter installations, existing network performance, client data, GIS plans and DMA design validation using EPANET modelling analysis. Network monitoring includes pressure and flow registered at 15 minute intervals at each monitoring point with data available daily via the telemetry system. Rigorous management and DMA documentation procedures have been developed to ensure system continuity & integrity. WONE includes an innovative and practical software support tool, which automates the process of bringing together all relevant network monitoring data within a flexible, practical user-friendly interface. The WONE software application calculates a range of indicators to allow ranking of DMA performance, such as daily total & nighttime consumption and tendency analysis.

**Track record**

Since 2006, EPAL, implemented a project to reduce non-revenue water (NRW) within the company’s distribution network.

The basis of the WONE project has been the progressive implementation of more than 150 District Metered Areas (DMA), along with associated flow and pressure monitoring equipment and telemetry systems. A program of investments has been made, involving the construction of monitoring points, meter and telemetry installation, whilst this project has been undertaken in parallel with a renewals and rehabilitation program. Through this process of network segmentation, increased monitoring and analysis, a far greater understanding of performance and systems dynamics has been obtained, which combined with Active Leakage Control interventions has seen NRW reduced by more than half from 23.5% in 2005 to 10% in 2011, within the Economic Level of Leakage (ELL).
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** Products/Services/Competences **
Gyptec Ibérica, a Portuguese company part of the Preceram Group, has been engaged in the production of plasterboards, using clean and environmentally sustainable methods, since 2009. With a production capacity of 15 million m²/year, Gyptec makes use of the Preceram Group’s broad knowledge of the building industry and finest technology, adapting it to the reality and needs of the international market. It offers a complete range of solutions that ensure high acoustic and thermal performance, impact, moisture and fire resistance, also providing all the necessary accessories for dry construction.

The Gyptec Ibérica drywall systems are the ideal solution for new buildings, as well as for reconstruction and refurbishment projects. They are made of a non-combustible, fire and impact resistant material, free of unsafe emissions and substances. The Gyptec Ibérica gypsum boards allow all types of finishes, ensuring a perfect finish without cracks or deformations. The company pursues sustainability at all levels, economic, environmental and productive. With the use of materials such as recycled paper and FGD gypsum, a by-product from thermal power plants in Portugal, Gyptec Ibérica avoids the mining of gypsum and the cutting of trees, contributing to the preservation of natural resources end environment.

In the production process, natural gas is used, as well as renewable energy sources, such as solar energy. At the same time it can maximize the energy consumed, producing electricity in a cogeneration system. The Gyptec Ibérica plasterboards are certified and internationally recognized for its quality. Gyptec Ibérica offers a wide range of plasterboards of different types, thicknesses and sizes, including high performance products: Gytec Heat Board, Gyptec EPS/XPS Thermal Performance Boards and Thermal and Acoustic GYPCKORK Board.

** Track record **
Nov. 2011 - Investigation and technological development project: “Multilayered constructive solutions for walls using sustainable by-products resources with high acoustic and thermal performance”, ITeCons, Coimbra
May 2012 - Presented the new GYPCKORK board in the Innovation Sector in the Lisbon International Fair, Tektonica 2012.
Sept. 2012 - Participated in the “Congress of Innovation on Sustainable Construction” CINCOS’12 in Aveiro.
HIDROMOD, Modelação em Engenharia, Lda

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**Products/Services/Competences**

HIDROMOD is a Portuguese technical consulting company funded in 1992 which develops and applies technical software and **smart IT tools** for environment and engineering purposes. Its main areas of competence, supported by the participation in about 400 engineering and R&D projects, are related not only with development and application of mathematical models in areas such hydrodynamics, wave propagation, water quality, sediment transport, catchments integrated modelling, etc., but also with the development of open source **smart tools** capable to integrate in real time data and modelling results.

Among the products and services that are offered by HIDROMOD, AQUASAFE is a relevant example. AQUASAFE can be applied to markets all over the world adding value to the investments are being done in new technologies, making possible to deal with large volumes of data and operational models and transform it into useful information for Operation and Management. This is true for water distribution and wastewater utilities but also for energy utilities, navigation, oil & gas safety and response, etc.

**Track record**

Along its 20 years of existence HIDROMOD always maintained a continuous participation in R&D projects. As a result of this commitment with innovation HIDROMOD was able to maintain an offer of state of the art products and services. Beyond its active participation on the development of MOHID modelling system, which is today a world reference in this area, and the participation in innovative engineering projects from which the Douro inlet breakwaters (Secil prize) is a relevant example, HIDROMOD took advantage of the know-how obtained in the R&D projects to build a high quality services reputation in the modelling related market and to develop innovative products that are today the support of the operational services that the company is successfully offering worldwide. Examples of the success and the recognition of the HIDROMOD products and services are the projects currently running in Malasya, Singapore and Indonesia, Brazil, Spain and Portugal.
Since 2008 we have helped farmers to optimize their water usage, increase crop yields and consistency, reduce costs and protect the environment by being committed to develop the best irrigation technologies, integrating the most advanced equipment and research and partnering with companies aiming for a sustainable development. to make the world a better place.

Hidrosoph developed Irristrat (tm) a decision support and irrigation scheduling tool that assists irrigation managers deciding the best timing and application rate for precise Real Time irrigation scheduling. Based on an innovative approach combining Evapotranspiration (ET) and real-time information collected under and above ground, the system delivers precise irrigation advice allowing for maximum control.

Monitoring nutrients and water, significant environmental savings and benefits are therefore a reality. The solution aims the ease of use of scientific knowledge and irrigation technology, making it available to a wider community and to smaller farmers.

Hidrosoph partners with several stakeholders on the value chain, including farmers associations, universities and other service companies in Portugal, Spain, The Nederlands, Italy and Austria among others.

The business model of Hidrosoph allows the company to provide Agronomical and Irrigation advice anywhere in the world, done by highly skilled consultants on several crops and turf irrigation.

The benefits obtained with HIDROSOPH’s approach can be measured in terms of production gains, the quality of fruits, water reduction up to 45%, nutrients control and reduction up to 25%.

HIDROSOPH is proud to have among it’s customers some of the top producers and environmental concerned companies. In Olives ELAIA/SOVENA the biggest portuguese producer is currently using our products and services to manage it’s more than 11.000 HA of olive trees. TORRIBA, one of the biggest farmers associations in the Ribatejo region, is counting on us to manage 2.500 Ha of Tomato Irrigation.

Our customers range from producer associations, big corporate agricultural companies, public and commercial landscaping and golf.

We deliver our products and services using a unique combination of remote monitoring equipment and centralized consulting, allowing us to reach customers in distant places such Armenia, San Joaquim Valley in California, South Africa among others.
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Products/Services/Competences
ISA is a telemetry and Machine-to-machine communications expert that leverages the power of IT towards a more sustainable world. IT has the potential of dematerializing many economic procedures that had a huge ecological impact. To take just one example, ISA’s tank telemetry solutions save gas companies over one million kilometers a year in heavy truck distribution routes. Telemetry also plays a large part in improving energy efficiency in homes, buildings, and industries. And the cheapest energy is the one you end up saving. ISA’s energy metering solutions save its clients millions of euros in wasteful energy costs.

Track record
Over 25 thousand fuel tanks are measured worldwide with ISA’s technology. Over 100 thousand users are served by ISA monitored tanks. Over one million kilometers of truck routes are avoided each year because of ISA’s telemetry. Over 600 buildings have their energy consumption being monitored by ISA equipment.
Kymaner – Tecnologias Energeticas, Lda.

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Products/Services/Competences

Kymaner Ltd, is a solution provider company specialised in the OWC technology created in 2005. The service areas of Kymaner range from Project Mgt to Systems Design, Supply Chain Development and O&M.

The Oscillating Water Column (OWC) concept is probably the simplest and mostly reliable type of wave energy converter. Kymaner has developed what is to date the most advanced OWC converter and turbine (KymanOS® and KymanAIR®) for the exploration of wave energy. Both concepts are patented and are currently in different stages of evolution.

KymanOS® - the Kymaner OffShore spar buoy wave energy converter responds effectively to the most relevant critical factors of wave energy: Survivability, Cost Effectiveness and Efficiency.

Survivability - the spar buoy is a leader of survival at sea, some over 100 years old without maintenance;
Cost Effectiveness - Simplicity and few moving parts with low maintenance requirements – that is OWC.
Efficiency - KymanOS® has the capability to synchronise the dynamic characteristics to the sea climate, optimising its efficiency.

Playing a key role in the high performance of the system is the KymanAIR® turbine.

The KymanAIR®-Biradial turbine, an innovative self-rectifying impulse turbine, is the most efficient air turbine (80%) for wave energy known to date.
Extremely compact axially
Very low aerodynamic noise
Fit for a wide range of installations > 1 MW unit power
Wide operational bandwidth

Track record

Pico Wave Power Plant – rehabilitation of the turbine stator and elimination of severe turbine vibrations that were preventing the plant to operate and deliver energy to the grid. Work between 2006 and 2010 for the Wave Energy Centre.

CORES Project – Kymaner built and installed a Movable Guide Vanes Impulse air turbine (img#1) that was tested at sea in Galway-Ireland for over 2000 hours without a single fault. Work between 2008 and 2011 for this FP7 initiative.

KymanOS (img#2) – based on a patent licensed to Kymaner and following 3 years of concept development, the spar buoy WEC has undergone successful lab tests at 1:16th scale in October 2012, confirming all performance expectations.

KymanAIR (img#3) – based on a patent licensed to Kymaner, it is currently under detail design to build, install and test under real sea conditions in 2013-2014 for KIC-Innoenergy.
### LMIT, Innovation & Technology, Lda

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### Products/Services/Competences

The WiseMetering is a software and hardware platform for energy management, especially developed for networks of spaces, which increases energy efficiency by adapting the energy use to the real needs of each facility. The WiseMetering automates the facility operation and technical installations and supervises the intake resulting in a centralized manner, ensuring continuous improvement of energy performance, according to objectives. The WiseMetering defines a pragmatic and intuitive approach to energy management, combining data acquisition technology for energy monitoring and automation models that provide the functional capacity, continuously, optimize energy performance. The WiseMetering is based on a web platform, deployed in the cloud, easy to use and with special concerns on usability.

Main Advantages are: 10% to 20% reduction of energy consumption and costs; perpetuation of the obtained energy savings; Improved operation and maintenance (o & m); Remote supervising and implementation of corporate operating policies and comfort in a network of facilities; allocate energy costs automatically;

WiseMetering is in early Commercial Stage;

### Track record

WiseMetering is available since 2009.

Main Clients: GALP, Optimus, Porto Estádio, SIBS, H3, GALP, PT, Tagus Park, El Corte Inglés, Merck, etc.

Looking for commercial partnerships for massive deployment in Spain, Brasil and Poland (target countries);

Looking for local installation companies for delivering in the same countries;
**Products/Services/Competences**

We are an IT team which develops collaborative work platforms, designed from the viewpoint of the end-user, making a real data aggregation and always on-line with the operational team.

Our main product is NAVIA™, an IT tool specialized in the Operational Management of Water and Wastewater utilities. The optimization achieved in the Operational Management by the use of NAVIA™, gives to the water utilities a lot of gains, like:

- Services Quality Improvement
- Risk Control
- Cost Control
- Reducing ecological footprint

All this with a friendly and well received IT solution by both the operational and management teams. In this way, concerning the use of IT tools by the companies, NAVIA™ represents a totally new approach. Therefore we are talking about a whole new market.

**Track record**

NAVIA™ has 12 years of development, growing step by step... a big investment, done by a SME and complementary partners.

After all this effort NAVIA™ is now a strong product, with a lot of good commercial perspectives, used by the Portuguese Utilities and with a strong growing in other countries like Brazil, Chile and Europe. R+D is still the basis of our growing and evolution. Presently we are involved in R+D projects funded by Portuguese and European funds.
Executive Summary

Neoturf started its activity in 1999. Since then dedicated to the provision of specialized services in the following Landscape areas: Project: landscape project, consultant, project manager; Gardening services: construction and maintenance; Irrigation systems: project, installation and maintenance; Green Roofs: project, installation and maintenance.

The company is organized in two departments: Technical Department and Production Department. By the value of our work, since 1999, Neoturf is one of the most recognized companies in Portugal, in Landscaping activity’s. Neo Turf activity is not limited to the Portuguese territory. Is already developing some projects in EU countries and Africa.

Eco-innovation track record

Summary of the advantages of green roofs: Increased energy efficiency and reduces energy costs, saving up to 25% of the costs of maintaining the temperature of buildings; Reduce 90% of the thermal action of sunlight: Reduces maintenance costs of buildings as it prolongs the life of the waterproofing membrane; Increase in photosynthetic activity that involves: increased production of oxygen, increased recycling of carbon dioxide and thus reduce the greenhouse effect; Reducing the heat island effect; Increased protection against noise; Increased biodiversity and ecological niches; Significant increase in green area in an urban setting and decrease the negative impact of the mass of the structures built in urban areas; Promotes environmental quality of cities: absorption / filtration of gaseous pollutants and particulate matter from the atmosphere (toxic dust); Important role in the integrity and sustainability of urban drainage systems, retaining 90% of summer precipitation and 75% of winter precipitation. The systems / materials used by Neoturf in the green roofs installation, are made from recycled material.
We investigate and develop eco-innovative solutions to protecting biodiversity. We combine in our strategy the environmental concerns with the technological capabilities developed in our laboratory for electrical engineering. Our scientific work is developed in two parts, firstly seek, we identify and we develop sustainable solutions to environmental problems that affect endangered species or habitats, on the other hand we accept challenges and proposals for research and development of sustainable solutions in the environmental and biodiversity protection in outsourcing arrangements.

Based on the development of research projects, including the project PISCIS, which was endorsed by the Fundo Europeu do Desenvolvimento Regional, Quadro de Referência Estratégico Nacional (QREN) and Agência de Inovação (Adi), we can present to the market an eco-product: BEHAVIORAL BARRIER FOR FRESHWATER FISH, that avoids mortality of fish in the blades of the turbines at the dams, as is indicated to increase the efficiency of transposition in fish (fish passage).

The implementation and external certification by the APCER of a Management System Research Development and Innovation under the NP 4457:2007, was a momentous in the positive differentiation of this small company. Establishing protocols and consortia with universities and other entities of the Scientific and Technological System, to develop eco-innovative products, notably with the University of Trás-os-Montes e Alto Douro (UTAD), allows us to introduce projects that develop high scientific and innovative capacity.

PISCIS: prototype - evening test
**RECIPNEU – Empresa Nacional de Reciclagem de pneus, Lda.**

ZILS Norte – P.O. Box 26  
7521-901 Sines  
Portugal  
Tel.: +351 269878170  
Fax: +351 269878172  
Web: www.recipneu.com

<table>
<thead>
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<th>Vasco Pampulim</th>
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| Chem. Eng., R&D Director  
vasco.pampulim@gmail.com  
+351 269878211 |

**Products/Services/Competences**

RECIPNEU offers to the market the technologically innovative cryogenic rubber powders and granulates, obtained in its tyre recycling operation, being a major European company introduced successfully in Europe since the year 2001 in its Sines plant. With a capacity to recycle 25,000 tons/year of end-of-life tyres waste, RECIPNEU contributes decisively to reduce such pollution in Portugal, at the same time promoting in its export destinations, a significant resource efficiency through the use of recycled rubber products in many different and specific industrial applications. RECIPNEU dedicates consistent efforts and investments in applied R&D activities and demonstration projects, to achieve the early commercial status in some products.

**Track record**

**RECIPNEU start-up date:** 2001  
**Certification:** Quality, Environment, and Occupational Health and Safety, and compliance with the recent REACH Legislation on Chemicals  
**CEN Standardization:** CEN TC 366 and CEN TC 217 WG10  
**ECO-INNOVATION Projects:** ECO-RUBBER and ECOTURF (Sept. 2009 - Dec. 2011)  
**Registered Trade Marks:** Cryoflex® cryogenic rubber infill; Flexygran®; Grainbow®  
**Registered International Patent:** PCT/PT2008/000037  
**On-going cooperation with R&D Centers:** Portugal: IST, Lisbon, and COE - UE; Évora; Spain: IBV and AIMPLAS, Valencia  
**Growth strategy:** Differentiation of RECIPNEU’s cryogenic rubber powders and granulates. Continuation of R&D activities and projects in partnership with competent and adequate entities, to develop innovative and competitive value-added products and provide their market introduction and positioning.

“Bollard” – a rubber end-product developed in the ECO-RUBBER Project, example of an innovative and technically specified urban equipment product, manufactured using the rubber sinterization technology, incorporating 95% (by weight) of a specified fine-sized recycled rubber powder developed by RECIPNEU, being a solution technically and economically competitive.
**Revigrés – Indústria de Revestimentos de Grés, Lda.**
Apartado 1  
3754-001 BARRÔ AGD  
Portugal  
Tel.: +351 234 660 100  
Fax: +351 234 666 555  
www.revigres.com

<table>
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<th>Paula Roque (Dra)</th>
<th>Management Board</th>
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<td><a href="mailto:paularoque@revigres.pt">paularoque@revigres.pt</a></td>
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**Products/Services/Competences**

Revigrés is recognized by the developments resulting from R&D, from its own laboratories and from partnerships with STS and other companies.

The company produces a several range of eco-products, with technical, aesthetic and functional advantages: **CAIS** (incorporates 25% of recycled materials with high resistance to use and to stains), **ECOTECH** (using 90% recycled materials, developed under the European InEDIC – Innovation and Ecodesign Project), **LIGHT** (half the thickness and half the weight of conventional material. Was honoured with the “Alfa de Oro” award, in Spain), **SELF-CLEANING** (breaks down gaseous pollutants), **HEALTH CARE TILES** (has an Antimicrobial capacity certificate), **SOLAR** (equipped with photovoltaic cells to convert sunlight into electricity and to promote one greater architectural integration) and **SENSE** (functional ceramic surfaces for domotics). Developing these new solutions to construct the future means considering: Environmental protection, Energy efficiency, Preservation of health and well-being and Greater architectural integration. The first five solutions are successful in the market and the others are applied R&D.

**Track record**

Revigrés is a benchmark in the world of ceramics, producing full-body porcelain wall and floor tiles and glazed wall tiles.

The R&D project Solar Tiles was developed by a Consortium (industry, research and government), of which Revigrés was the promoter and was supported by the NSRF, contributing to develop technical know-how and knowledge transfer. The results of project were submitted to international patent.

The development of products is also of an inclusive nature.

Revigrés participates on studies about best practices on several areas.

Revigrés has a close cooperative relationship with professionals in the domestic and international market and participates in works of great impact (personalized and exclusive projects). Growth strategy: new products, partnerships and new markets.
**Secil, companhia Geral de Cal e Cimento, SA**

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<th>Address</th>
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<tr>
<td>Av. Das Forças Armadas, 125, 6º</td>
<td>+351 217 927 100</td>
<td><a href="http://www.secil.pt">www.secil.pt</a></td>
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<tr>
<td>1600-079 Lisboa</td>
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**Nuno Maia Silva**

- Director of Institutional Communications
- Tel.: +351 217 927 100
- nuno.maia@secil.pt

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**Executive Summary**

Secil, Companhia Geral de Cal e Cimento was established in 1930 in order to acquire and operate a cement factory in Outão, Setúbal. Currently, Secil operates three cement factories in Portugal – Secil-Outão, Maceira-Liz and Cibra-Pataias – and is also present in Lebanon, Tunisia, Angola, Brazil and Cape Verde. The prime location of the Secil-Outão factory makes it one of the main producers of cement in the country, producing various types of grey cement.

The Maceira-Liz factory was opened in 1923, and was the first in Portugal to produce Portland cement and to introduce on the market the "Liz" cement brand. White cement is an exclusive of the Cibra-Pataias factory, which is the only one producing it in Portugal.

 Besides producing cement, Secil includes a series of companies operating in complementary business areas. Cement is vital to the safety, comfort and heritage of our people.

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**Eco-innovation track record**

The promotion of use of composite cements, that is, the introduction of Type II cements as a substitute for Type I cements, has as a direct consequence the reduction of the product's ecological footprint. The introduction of composite cements has effectively reduced the consumption of energy and carbon emissions, contributing to the sustainability of construction.

Secil ecoCORK – a project that arose from the idea of embodying the concept of sustainable construction, allowing us to ensure future generations’ sustainable development, and promoting environmental, social, cultural and economic balance. Thus, Secil set out to create an innovative mortar that would revolutionise current patterns of sustainable performance for these construction materials. The project consists of the use of a hydraulic binder with proven durability such as Secil Portland cement and in natural and renewable cork aggregates, to substitute siliceous or limestone aggregates (natural in origin and non-renewable).
The capability to obtain soil moisture values over large areas is fundamental in the agriculture sector. The rational management of irrigation and knowledge of the amount of available water within the soil during the process of growth and maturation of the plant is essential for it to grow properly. To calculate the degree of moisture in the soil are commonly used methods based on reading electrical resistivity sensors buried at different points and depths, gravimetric methods, etc.

Constraints
Despite the high accuracy of these methods, these are rather time consuming and, because of its single data collecting procedure, are usually limited to small areas, determined by sampling. However, to monitor the vast areas occupied by vineyards or other cultures, techniques and methods are needed to map these areas quickly, accurately matched to the type of data needed and totally non-destructive, allowing the repeatability of these tests without loss of accuracy. Thus, this project was started to study various methodologies in order to quickly trace vineyard areas using Ground Penetrating Radar, or GPR.

Advantages
The study of GPR to map soil moisture has a high potential due to the possibility of quickly mapping these areas and is currently the subject of intense investigation.

The need to develop a fast and economical system, non-invasive and capable of getting continuous data of moisture content in a given soil, lays the foundation for defining the goals of this Project.

The application of GPR should reduce the costs of determining soil moisture, and will be applied to major agricultural areas and large volumes of soil. In addition to these benefits it also a noninvasive technique, unlike the currently used, and with high resolution enabling the implementation of strategies for promoting a suitable irrigation.

Products/Services/Competences

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Track record
Policy Research, Development and Innovation
Aware of the difficulties posed by an increasingly competitive market, we are investing in innovation, knowledge and bet on bet on quality as a means to grow and develop our business areas.

The orientates our efforts to the activities of Research, Development and Innovation of new fields of intervention research and exploration of geological resources and the applicability of geophysical methods to the study of soils and substrates.

Commit ourselves to the requirements of NP 4457 and the continuous improvement of the effectiveness of the management of IE.

Only then can we meet and exceed the needs and expectations of our customers;

Only then will we achieve our objectives, creating value for the organization and the society that surrounds us.

Sinergeo has been developing the agrocontrol Project (www.agrocontrol.org) and the Prospeg Project (www.prospeg.org) both of them in consortium with Minho University.
Spheraa – Produção de Energia, Lda.
Av. Álvares Cabral, Nº61, 7º
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Tel.: 213932420
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João Alves Pereira
Managing Partner
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965265610

**Products/Services/Competences**

Spheraa is a Portuguese company that focuses in clean energy production from water supply systems (WSS) enhancing their environmental and financial sustainability without compromising their current and normal operation.

Since 2008, Spheraa has been developing a small hydropower plant that can be placed within the WSS’s circuits and use the existing water flow and pressure to generate electrical energy. This solution – already in commercial stage – allows the water system to produce energy as a by-product of their main operation while maintaining not only the volume of water but also its quality. The resulting energy may be used in the water process itself or injected directly in the grid.

Through its innovative business model Spheraa not only develops all the stages of each power plant namely the engineering projects, licensing, construction supervision and operation but is also committed to invest financially in each project.

Regarding the success of its pilot project TERESA, Spheraa wishes to replicate this technology and is, therefore, currently looking for additional projects and opportunities in this domain.

Spheraa’s shareholders include Luságua, from the Aquapor Group, ISQ – Instituto de Soldadura e Qualidade and ISQ Capital.

**Track record**

In 2010 Spheraa successfully developed the TERESA project (TERESA, in Portuguese, stands for renewable energy turbine in water system). This was the first hydropower power plant in a dinking water system in the Iberian Peninsula and was developed in partnership with AMCV, AdV and Luságua.

This power plant has a rated power of 85kW and has been working non-stop since that date. It is expected to produce over 500.000 kWh in an average year and avoid the emission of 200 ton. of CO2 per year.

Since then Spheraa has been developing other similar projects as well as a new modular hydro power plant that can be used in drinking/wastewater systems as well as in small agricultural water systems with relevant economical advantages.
**Company Profile**

**Portuguese Eco-Innovation Competences Catalogue**

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**SunOK Lda.**
Rua 4 de Infantaria, 27 4D
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PORTUGAL

Tel.: +351 210 960 643
Fax: -
Web: www.sunok.eu

**Nuno Oliveira Martins**
General Manager
nom@sunok.eu
+351 210 960 643

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### Products/Services/Competences

SunOK is a small Portuguese company, founded in 2008, that specializes in product design, manufacturing and marketing of innovative products using solar energy. Our first product is the Sun Cook solar oven. It’s a family sized sturdy product that presents allows its users to benefit from several advantages:

- Cooking all sorts of dishes (except frying) in a tastier and juicier way;
- Not having to keep watching the cooking as it never burns the food;
- Cooking without any consumption of natural resources or emission of harmful gases;
- Using a free energy source;
- Minimizing the safety risks associated to cooking such as bruises or causing fires.

### Track Record

The Sun Cook is the result of the works of Prof. Collares Pereira at the INETI state laboratory in Lisbon and has been developed by Iberomoldes, a leading company in the moulds for plastics industry. The first company created in 2002 to commercialize it was called Sun Co and was later shutdown due to insufficient sales.

SunOK resumed the project in 2008 and has been consistently growing since then achieving in 2012 the following marks:

- more than 1000 cookers sold annually;
- annual income exceeding 150.00 Euros;
- sales network covering 15 countries and spreading over the 5 continents.

The company is currently designing a new solar oven that will be as efficient as the Sun Cook but will use mostly natural materials and will enhance the users’ experience by being more practical and attractive.
TECMIC – Tecnologias de Microelectronica, SA
Zona Industrial das Corredouras, Lt. 15 r/c Dto,
Arruda dos Vinhos
P-2630-369
Portugal

Contact Person
Mr. Adrian Pearce
adrian.pearce@tecmic.pt
+351 21 4228808

Products/Services/Competences
Tecmic was founded in 1988 and during the first five years of its existence its activities were in the field of ASIC and FPGA development, aimed principally at Portuguese industry. Since then, Tecmic’s products have increased substantially and presently encompass a range of completely vertically integrated products. Tecmic currently provides solutions for Logistics Management, Land and Sea Fleet Management, Telemetry Systems for remote equipment monitoring, and solutions for Waste Recycling. Tecmic’s main product, the XTran Fleet Management System, features several modules aimed at various market sectors such as passenger transport, goods haulage, waste collection, assistance services, and control of emergency forces and taxis among others. Tecmic’s Eco-driver solution supports the implementation of new procedures within public transport companies, endorsing best driving practices, reducing fuel and maintenance costs while enhancing the quality and safety of public transport users. Eco-driver supervises driving behaviour in order to simultaneously manage and improve three trends directly influenced by driving style - Fuel economy and energy efficiency, transport comfort and passenger safety. Tecmic’s ECOGEST solution is the most advanced and complete solution for the Waste Collection sector. It allows monitoring of waste collection bins which in turn allows the Waste Collection Operator to decide and plan exactly when and where to send the Operational team to empty the recycle bins with the greatest need.

Track record
Key milestones in the company’s activity. Participation in R&D projects with specific eco-innovation results. Examples of cooperation with R&D centers. Examples of clients. Growth Strategy: new products/services being developed, partnerships, new markets, etc.

TECMIC has a long history of participation in national and EU-funded R&D projects across several Frameworks. The project most closely associated with ecological innovation was:
• OILPRODIESEL - EU LIFE Environment project (LIFE05 ENV/P/000369) (2005 – 2009) – An Integrated Waste Management System for the Reuse of Used Frying Oils
The LIFE-OILPRODIESEL project aimed to analyse and demonstrate how the collection and reuse of used frying oils could be carried out. These objectives included the development of an integrated and innovative collection system for used frying oils, ensuring their safe disposal and avoiding landfill or groundwater pollution. Furthermore, OILPRODIESEL aimed to promote the use of Biodiesel as an alternative fuel to diesel, through the development of a processing unit for the transfection of used frying oils into Biodiesel.
Executive Summary
TÉKETO Modular, Lda. is a company integrated in METALUSA GROUP focused in the construction business and was founded in 2006. The company took advantage of the knowledge from the group in mechanical engineering industry area to develop a new housing construction concept: MODIKO.

The modular concept applied in MODIKO® system is based on a set of components (profiles, walls, ...) innovative and technologically advanced. The system is based in a steel frame structure composed by cold formed galvanized steel profiles (PERFLEX®) developed and patented by Metalusa, SA. These elements have the particularity of allowing the creation of tridimensional connection nodes.

This concept has significant advantages concerning to cost, assembly speed and project reproducibility, mainly because of (unique) system features such as industrialization and prefabrication, flexibility and adaptability, portability.

Eco-innovation track record
For the TÉKETO, the sustainability of MODIKO® construction through all life cycle phases was established as a keystone in its RD&I strategy and represents an opportunity for differentiation by innovation. The TÉKETO perspectives the innovation and competitiveness with the NZEB goal.

The materials used in MODIKO® are natural, recyclable, reusable and low ecological footprint.

The foundations have smaller dimensions and the land movements are minimized. The construction is "clean", it is ensured the presence of sites with less waste, more cleaning, more silence and there is reduction of the required storage space.

The MODIKO® system presents high functional performance providing excellent levels of comfort to users both in terms of thermal performance and acoustic behaviour. The construction also presents technical features that allow obtaining high levels of indoor air quality.
Executive Summary

Umbelino Monteiro SA was established in 1959 by Joaquim da Silva Monteiro and later in 1975, was inherited by his son, Joaquim Umbelino da Silva Monteiro. The company took a new direction focusing on technological advances and promoting a new dynamics in the production of ceramic tile. In 2002 a new laboratory to support research and development of production and quality control was built. As a result, our roof-tile has been a certified product since 2003. In 2004 we presented a new brand of roof-tiles called ADVANCE, this tile is a unique and innovative solution where technological, aesthetic and functional characteristics prevail.

In 2004 and 2005 our investment in foreign markets was successfully strengthened and we extended distribution to the Iberian Peninsula, Africa and the Middle East. In May 2007 Umbelino Monteiro became part of a multinational company - ETEX GROUP, a leading Belgian industrial group. In 2011, we made history as one of the first Portuguese companies in our business to obtain the Environmental Management System and Quality Management certification, according to ISO 14001 and ISO 9001, respectively.

Eco-Innovation track record

SOLESIA – Photovoltaic Roof Tiles

Aesthetical integration of conventional photovoltaic power generation systems can often be a problem for those who wish to install such systems. Sacrificing the building’s aesthetics used to be a common option. Considering this scenario, we at Umbelino Monteiro SA decided to invest in sustainable construction by developing solar photovoltaic tiles - SOLESIA. With over 50 years of experience, and being specialized in the production of ceramic tiles it was more than a natural step. SOLESIA responds effectively to functional requirements and energy production levels, without compromising aesthetics and the architectural look of the buildings.

SOLESIA has proven to an excellent solution for producing photovoltaic energy, by respecting the architecture of the building and ensuring the functionality of the roof.

Our Fibrocement boards are manufactured from natural and synthetic fibres and other additives, completely free of asbestos particles and, therefore are completely harmless.

UM Canudo Tile was inspired by the tradicional Arabic/Portuguese tile that have been part of the construction history, in Portugal.
UP-WAY Systems
Rua Dr. Oliveira Salazar, nº.88
4780-453 Santo Tirso
Portugal
Tel.: +351 252 809 121
Fax: +351 252 859 298
Web: www.upwaysystems.com | www.effisus.com

Executive Summary
Up-Way Systems portuguese company forms successful partnerships with leading companies, both domestically and abroad, promoting efficient and sustainable integrated building systems – Effisus - in tune with the construction industry’s most demanding requirements - sealing, eliminating pathologies associated to damp, providing thermal and acoustic comfort and achieving energy efficiency.
Both domestically and abroad our technical consulting service tailors the Effisus integrated systems to each specific building project, provides on-site skills training and follow-up, and assists with maintenance after completion.
Technical consultancy and successful partnerships have borne fruit in landmark projects: Dublin’s International Airport, Zaragoza’s Congress Palace, Unhais da Serra Spa Hotel, Tróia Casino Hotel, Lagoas Business Park, Braga Nanotechnology Centre, or the extension to the Guimaraes Shopping Centre.

Eco-innovation track record
Effisus (Up-Way Systems’ brand) addresses innovative, complete, efficient and sustainable integrated systems encompassing all a building’s dimensions: Roofing, Facades, Foundations, Interiors, and Consulting. Effisus offers excellent solutions for insulation, thermal and acoustic comforts which are energy-efficient and guarantee full sealing, ensuring air quality inside a building. Effisus systems are highly durable, low maintenance and feature safe components for building’s occupants. It has recyclable materials that can also be reprocessed and/or reutilised, with no chemicals that contribute towards the greenhouse effect. It has low energy consumption in manufacturing, installation, and maintenance. Effisus building systems includes prefab accessories, replacing adhesives and sealants by mechanical fastening. Effisus promotes latest-generation complete and integrated systems for roofing and facades, including several options: low maintenance living roofs and modular vertical gardens, among others. Façades building systems include airtightness solutions with sealing joints and modular vertical garden solutions.
**VentilAQUA, Lda**

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Portugal

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Fax: + 351 239 438 619  
Web: www.ventilaqua.com

**Francisco Oliveira**  
Sales Manager  
francisco.oliveira@ventilaqua.com  
+351 239 437 336

**Products/Services/Competences**

VentilAQUA is an engineering company founded in September 1997 and based in Coimbra (PORTUGAL), with the main goal of developing engineering solutions and equipment for industrial waste water treatment, within all industrial fields, with more than 450 depuration plants running in several countries. As a pioneer in compact Waste Water Chemical plants technology for industrial applications, VentilAQUA developed a line of Compact physical-chemical treatment solutions, the VAMEC, VAMEF and VAMED series, which have proven to be an effective solution in many industrial application around the world. As a result, industrial waste waters coming from different sources, can be easily treated or pre-treated in a simple and compact system, in order to be able to comply with sewage discharge regulations or environment discharge limits. This units are characterized mainly by their compact and pre-assembled structure, simple operation, low foot print, low investment and low running cost, and eco-friendly attitude by also allowing in many cases the recovery of the treated waters. This technologies break up completely with the old and traditional way of doing WWT plants, creating a new approach to this topic and easing in several ways the life of the industrial operators.

**Track record**

Being born bonded to the development of new depuration systems for industrial application, VentilAQUA couldn’t ever grow and continue without basing its strengths in a R&D continuous effort. This effort is lived and well displayed by VentilAQUA’s own lab, for customer and after service support, that also develops new projects and fundamental investigation and research for new solutions, besides building a number of pilot plants, partnerships with R&D institutions such as universities and technical institutes. Continuous training and daily contact with new technologies, scientific information and renowned researchers grant to VentilAQUA direct contact with all updated knowledge. Therefore, there’s no doubt R&D is a main concern of VentilAQUA’s staff. As a result, VentilAQUA developed a series of new equipments, some of them very specific for local and traditional industries in Portugal, as cork and wood furniture, and managed to create its own industrial capabilities to manufacture special depuration units, either pilot or industrial scales. Has a consequence of that continuous effort, today we can proudly present to the market technical solutions developed and manufactured by VentilAQUA and we are proud to be systematically invited to take part on national and international R&D projects. The development of industrialized solutions like electrocoagulation chemical units, chemical reduction of oxidation agents (cork industry), cycle aeration (Jet Loop Aeration), membrane bioreactors (MBR), moving bed biofilm reactors (MBBR) and chemical/ physical depuration compact plants, are the irrefutable proof of that capacity.

![VAMEC - Continuous Flow Package Unit](image1)  
![VAMED - Batch Flow Package Unit](image2)  
![VAMEF-Flotation Package Unit](image3)
W2V, SA
Campus de Azurém da Universidade do Minho
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Web: http://w2v.pt/uk/index.html

Contact Person
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### Products/Services/Competences
W2V, SA is an R&D based company, dedicated to waste management operations and technologies. From its activities some technologies have been developed:

- **Metal recovery from industrial wastes**: technologies to recover metal values from industrial wastes, like sludges, dusts and slags. The technologies are based on hydrometallurgical routes, to provide the extraction of metal or metal compounds, like nickel, copper and zinc.
- **Pyrolysis of mixed plastic wastes**: technologies to treated non-recyclable mixed plastic wastes, to generate synthetic gases and chars, for energy production.
- **Production of additives for ceramic and bituminous materials**: from industrial wastes. The company owns formulations to the making of additives to increase properties of red-clay ceramics and bituminous mixtures.

All these technologies are being developed at a demonstration level.

W2V, SA offers waste management services to industrial companies, employing sustainable solutions.

### Track record
The company participated in 2 national based research projects, to develop technologies to the recovery of metals from galvanic sludges, and to treat PVC containing wastes.

In waste management operations, the company accounts with more than 20 industrial clients, providing economic and environmental friendly solutions based on developed technologies.

W2V, SA collaborates closely with CVR, a Portuguese research centre dedicated to waste management. Strategy includes the creation of a demonstration centre, where actual waste management operations will be done, and employing developed technologies.

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| Projecto Valmetalais | Protótipo projeto PVC4GAS | Projecto PVC4GAS |
Waydip has developed Waynergy products, that consists on pavement applications that generates electric energy with people and vehicles movement through its surface, being innovative in terms of technology, design and applications. These products resulted from internal R&D, resulting on all the prototype validation, performed during the last year on laboratories and some preliminary real environment tests. Pilot plants are being developed in order to fully validate the products in terms of efficiency and durability on real environment, and the products will be available to the global markets on: January 2013 (Waynergy People) and June 2013 (Waynergy Vehicles).

The main milestones already achieved was the prototype validation on the development of Waynergy products. The next milestones to achieve are the implementation of a pilot plant, the certification of the product, and the begin of the industrialization and production. Waydip always have cooperated with University of Beira Interior. The main customers are companies with specific electric needs and with a high people and/or vehicles affluence on their spaces.
ENABLERS
CEBAL is a private, non-profit R&D unit, located in Beja, South of Portugal. The Center became a strategic infrastructure for the development of high quality research, technology transfer and innovation in the fields of Biotechnology. CEBAL is dedicated to scientific research and technology transfer, with the mission of developing appropriate scientific and technological knowledge to support innovative and processing of agricultural products and livestock. The valorization of endogenous resources is one of the main lines of work, developing chemical and biological processes that enable an integrated approach to agricultural, associated with waste recovery and raw materials biomass valorization, associated with new products, and new environmental friendly solutions for economic biomass valorization. The Center is organized in 4 R&D units: Agronomics Genomics; Bioactive Compounds; Process Engineering and Agro-Food Valorization.

**Eco-innovations:**
- Innovative processes for waste-water treatment and further valorization of waste-waters derived residues, regarding the assessment of membrane technology for water treatment and recovery in a mobile pilot scale membrane unit;
- Characterization and biological activity of fruits, as well as development of new technologies to improve shelf-life of minimally processes fruits;
- Development of molecular screening assays for application in agro-livestock

**Track record**

**Services:**
- Biological characterization of natural extracts (determination of anti-tumoral properties)

**R&D projects with specific eco-innovation results:**
- REFINOLEA - Integrated valorization of waste and by-products from oil extraction industry
- BIOECOS – Integrated biomass valorization: Cynara cardunculus and Cistus ladanifer as case studies
- WaterVal&Tre – Membrane technology for sustainable water treatment, recovery and valorization
- UnValBio – Valorization unit for raw materials and wastes of biological origin

**Cooperation with R&D centers:**
- Universidade de Aveiro, Universidade de Évora, Universidade Técnica de Lisboa, Universidade Nova de Lisboa, Universidade do Porto, Universidade do Minho, Instituto Politécnico de Beja
- Laboratório Nacional de Energia e Geologia (LNEG)
- Instituto de Patologia e Imunologia Molecular da Universidade do Porto (IPATIMUP)
- Instituto Superior de Agronomia (ISA)
- Instituto de Tecnologia Química e Biológica (ITQB)
Products/Services/Competences

CEIFA ambiente Lda was founded in 2000 with a multidisciplinary team that provides consulting, research, training and project management in the following areas: Sustainable Construction, Systems and Process Efficiency, Environmental Audits and Certification, Environmental Management Systems, Health and Safety at work, Integrated Resources and Waste Management. In the area of Construction we offer our services on: Environmental Monitoring; Technical Environmental Notes; Waste Management; Health and Safety Plans; Waste Prevention and Management Plans and Site Waste Management Plans; Environmental Product Declaration; Cost Benefit Analysis, Selective Demolition Plans; Environmental Licensing; Environmental Management Systems and Sustainable Irrigation. We are representative in Portugal of software and technologies that promote resource efficiency: software Umberto, e!Sankey and Umberto for Carbon Footprint; HYDRIP ® - Sustainable Irrigation.

Track record

Consultancy for (eco) efficiency is CEIFA’s service with greater impact in terms of promoting sustainability. We promote the efficiency of companies in all sectors, through better management of resources (materials, technology, energy, water) and reduce the (hidden) waste in their production systems, logistics and waste management. We assist the implementation of Environmental Management Systems according to ISO 14000. We highlight consultancy for selective demolition of buildings or structures at the end of life as well as the management of the resulting materials. Selective demolition implemented using a Plan (SDP) and separation of materials promote recycling and reuse, with significant positive impacts downstream: in addition to reducing the costs of waste management (reduction of volumes, and increased amounts of mixtures of potential for recycling), this keeps materials in the productive cycle for longer, avoiding disposal of materials and extraction of new raw materials. This was the case in the selective demolition carried out in the renewal and enhancement of Ria Formosa. To provide a more complete service to its customers, CEIFA follows the process of creation of the Portuguese system of registration of EPD to the habitat - the DAPHABITAT.
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Products/Services/Competences
CTCV is a private, non-profit organization, founded in 1987 by a common agreement between Industrial Federations and Governmental Agencies of the Ministry of Economy of Portugal. It was created to support the Ceramic and Glass industries on a nationwide basis. Its main goals may be summarized as: to provide technical and technological support to the ceramics, cement and glass industries; to promote the development and quality of industrial products and processes; to promote highly specialized training to industry personnel; to divulge scientific, technical and technological information; to carry through and promote research, development and demonstration work, considering the scientific and technological progress of the ceramic, cement and glass materials processes and products. CTCV has close links with several Universities and Research Centers, both in Portugal and abroad.

Track record
CCMCS - Knowledge Centre for Materials for Sustainable Construction - Development of a Knowledge Centre in Materials for Sustainable Construction that supports the development of products, materials, processes and production technologies. Demonstration space for pilot production, characterization, testing, validation and use of products and technologies developed under complementary projects Sustainable Habitat Cluster
Title: GreenWave - Microwave sintering of porcelains
Construction of a prototype microwave-assisted oven for porcelain sintering aiming to demonstrate that the process of conventional heating in a microwave oven could lead to a reduction in energy consumption by 20% and 20% take less time compared to the conventional process (heating by combustion of natural gas).
Title: SolarTiles - Development of Photovoltaic Solar Systems on Ceramic Roof and Wall Tiles
This project aims to develop functional prototypes of integrated photovoltaic ceramic products, at laboratory scale, with enhanced efficiency, for building coverings (roof tiles and wall tiles) incorporating photovoltaic thin films through deposition. Prototypes to be developed are intended to have raised performance and aesthetic quality.
Ecoprogresso – Consultores em Ambiente e Desenvolvimento, S.A.
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Products/Services/Competences

A Ecoprogresso é uma empresa de consultoria especializada em Alterações Climáticas e Mercado de carbono. Actualmente apresenta um conjunto diversificado de serviços de maior valor acrescentado e uma enorme experiência, oferecendo a solução quando as Alterações Climáticas são o desafio.

A Ecoprogresso diferencia os seus serviços prestados em quatro categorias diferentes, o desenvolvimento e apoio à implementação de Políticas no âmbito das Alterações Climáticas, a Gestão Estratégica para as Alterações Climáticas, a apoio às empresas industriais abrangidas pelo Comércio Europeu de Licenças de Emissão, e o desenvolvimento de projectos ao abrigo dos Mecanismos do Protocolo de Quioto (Mecanismo de Desenvolvimento Limplo e Implementação Conjunta). A Ecoprogresso detém uma marca de compensação de emissões, o Carbonfree®.

Track record

A vasta experiência da Ecoprogresso consolidou-se ao longo dos vários anos de apoio ao Governo Português nas negociações e reporte no âmbito do Protocolo de Quioto e da Convenção Quadro das Nações Unidas para as Alterações Climáticas. No sector privado a experiência da Ecoprogresso refelece-se ao nível de variadíssimos sectores, quer ao nível da prestação de serviços, bancos comerciais e de investimento, centros comerciais, transportes, hotelaria, retalho, como ao nível da indústria, produção de electricidade, pasta e papel, cal e cimento, vidro, químicas, têxteis, cerâmicas e agro-alimentares. Ao nível do sector público destaca-se a experiência da Ecoprogresso ao nível de Câmaras Municipais, Ministérios de Ambiente, Bancos de Desenvolvimento e Comissão Europeia.

Em 2007, a Ecoprogresso iniciou o seu plano de internacionalização com a entrada no Brasil, seguindo-se em 2008 a abertura de um escritório na China. Em 2010 estabeleceu uma parceria na Índia e no início de 2011 arrancou a sua actividade em Angola. Mais recentemente em 2012, a empresa iniciou a sua actividade comercial em Moçambique.
**Products/Services/Competences**

EH Lab is an Accredited Laboratory of Calibrations, that by measuring a wide range of variables, temperature, pressure, flow, mass, and much more, which aimed by the simple concept that if there is a deviation in measure and control, will be a cost, and of course a less effectively use of energy, develop some of its activities in order to pursue and cut this wastes.

In some industrial processes and other areas that use energy and equipments that control processes, or even in distributions for instance of water, usually this overate consumers with costs that nowadays are easily erased, and mean that even energy production with correspondent pollution could be reduced.

Who better than a Laboratory could guarantee and appreciate a measure, speak about it and also seek for uncertainty in order to understand the rigor and precision needed to be achieved, towards engineering and world evolution and better future?!

So, our maxima, and also our compromise are:

“You cannot Manage, if is not Measured!
Tune your profits! Measuring and Calibrating correctly!!
With us!!!”

**Track record**

In January of 2000 it was created our company Executive Help, which at beginning operate in technical consultancy, and also in calibration tests of pressure, temperature, flow and mass. Base of the concept of EH Lab, that since 2011 focused its activities as Laboratory of Calibrations (recognised worldwide by the ILAC), with also a Measuring area specialized in the rational use of energy, in which develop new and more adequate tests, in order to emphasizes the cost and importance of energy efficiency towards each process.

Either Industrial or Distribution and Consumers market are positively affected, since potential reductions of costs by our historical approach easily reach 34%, which gives a payback time of 3 years, and make possible and expectable replacement of most energy consumers that generate such costs and waste, to better and efficient ones. Also in water distribution the recent tests of hydraulic power toward electrical power, make possible to evaluate the ratio and efficiency of each machine, level, section and pump in order to eco-distribution in a near future.

In the beginning of this year we began to prepare with universities, partnerships to cover this areas, due to real interest and potential that this possess. Also some multinationals already tried to define with us, a model to working partnership.
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Products/Services/Competences
The IPA – Inovação e Projectos em Ambiente, Lda., is a Portuguese enterprise in the field of environmental consulting and engineering company. IPA is based in Estoril, formed in 1990 focused on studies of environmental impacts, environmental management and environmental projects. Since 2000 the company has been consolidating its operations in the field of sustainability, particularly through the company’s connection to the LiderA System - Portuguese Sustainability Assessment System.

Since the begin have done hundreds studies and projects mainly for Portuguese market and few at international level (near ten). The works are characterized by performing complex tasks, which focus on innovative demand environment and contribute to customer value base in sustainable approach. IPA have support testing and application LiderA system, an assessment sustainable system to built environment. The work done has contributed to improving the environmental performance of dozens of buildings with good cost solutions (2007 to present).

Track record
Studies of Environmental Impact Assessment (EIA) and strategic studies centered on a proactive approach to create value for the environment. Covers the projects or plans to examine what is critical point, immediately proposing environmental solutions and redesign projects if needed. Example: Environmental Impact Study Falésia D’Rey (Obidos); Environmental Impact Study of the Speedway Track of Algarve, Strategic Environmental Assessment of Oeiras Municipality Plan Review.
- Sustainability-Integrated approach. Example: Plan for Sustainability of Alta de Lisboa (SGAL), advice on building sustainability, assessment of environmental opportunities and sustainable development in the city of Paulinia in Brazil (including the largest petrochemical complex in South America);
- Evaluation of life cycle assessment and life cycle costs. Example: Evaluation of products in areas such as insulation paints and varnishes, lighting, among others.
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Products/Services/Competences

IteCons (Institute for Research and Technological Development in Construction Sciences) was established on January 11th, 2006. ITeCons was created in order to allow for the expansion of the activities performed at the Constructions Laboratory of the Department of Civil Engineering at the University of Coimbra, in a more appropriate space, technically equipped to the highest level. ITeCons provides a wide range of services in various areas of the construction sector, namely it offers a range of experimental tests accredited by the IPAC; services in technical expertise and consulting; training for professionals within the construction sector and students, and also developing of research projects. ITeCons is one of the entities involved in the Sustainable Habitat Cluster which is set up to promote synergies between Companies and Entities of the Scientific and Technological System for the enhancement of the knowledge in sustainability of the built environment of the businesses in the Construction sector.

Track record

Sustainable Habitat Cluster – Anchor Project: Creation of Pole of Knowledge in Sustainable Building Technologies
The Pole of Knowledge in Sustainable Building Technologies main objective is to contribute to the sustainability of buildings and built environment, on the economic, environmental and cultural side from a technological point of view. This Pole is particularly geared toward the needs of the construction industry and the society as a whole regarding the use and development of sustainable building technologies and is therefore an essential element in the Sustainable Habitat Cluster strategy.

BioCork - Development of Concrete Blocks with Cork
The aim of this project is to develop a masonry block with innovative features, including an optimized geometry that allows the incorporation of natural and recyclable materials, thus presenting a low–weight solution with good acoustic and thermal performance, high insulation properties and high thermal resistance as well as good physical and mechanical behaviour.

Wallinblock - Solutions for sustainable construction
The aim of this project is to develop a vertical partitioning solution, pre-fabricated, technically and commercially feasible with innovative features such as: reduction of the weight of facades with sustainable materials; development of partitioning wall elements with good acoustic performance; development of partitioning wall elements with good thermal performance; reducing wall construction time; reducing the ecological footprint and providing a solution that contributes to the reduction of construction waste and demolition.
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**Brief Company profile**

SGS is the world’s leading inspection, verification, testing and certification company. We are recognized as the global benchmark for quality and integrity. With more than 70,000 employees, we operate a network of more than 1,350 offices and laboratories around the world. In Portugal since 1922, SGS does inspection, verification, testing and technical audits in various industry sectors. The field teams are supported by a well-organized back-office, prepared with appropriate technological infrastructures and well equipped modern laboratories in Areas such as Agri-Food, Environmental, Cosmetics, Non-Destructive Testing and Metrology. SGS was the first Certification Body to receive accreditation in 1998. Since then SGS has always pushed the market according to the major international trends, including certification in Quality, Environmental, Occupational H&S, Food Safety, Energy, Social Accountability, Services and products, among others.

**Eco-innovation Track record**

SGS has developed the Buildings Quality and Sustainability Certification Systems: DomusNatura and DomusQual. The DomusNatura is a of project sustainability certification system, combining the Quality factor with environmental factor and efficient management of resources, all with the goal of increasing comfort and reducing running costs. Buildings that comply with environmental, social and economical good practices recommended in the Evaluation System are issued a Certificate. For a Construction Project to access DomusNatura certification, is must be qualified by the DomusQual System. This relates to not only the technical quality of the construction, but also the compliance with all legal requirements, applicable regulations and standards(licensing, characteristics of the materials and construction-CE) It also establishes an explicit capital gains to investors and future users/buyers because it ensures that the quality level matches the proclaimed.