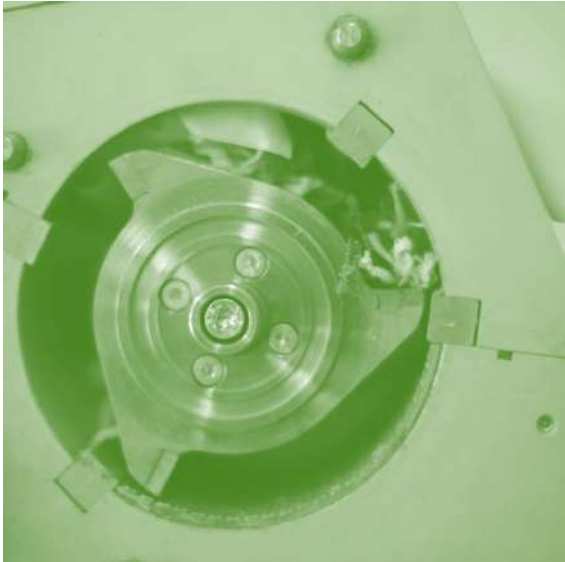


PORTFOLIO



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2021



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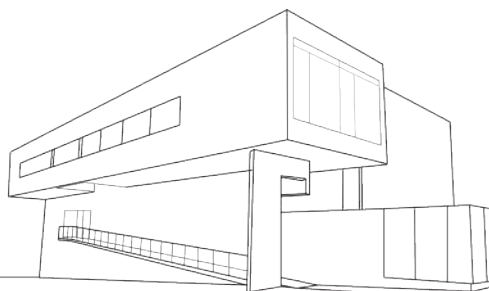
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GENERAL PRESENTATION

MISSION

CVR - Centre for Waste Valorisation is a non-profit institution that since 2002 offers research, scientific analysis and actual application services in the waste valorisation area.

Regardless of the industrial activity, CVR has the necessary know-how in order to support projects and initiatives related to the management of a wide variety of industrial waste streams. The Center's capabilities allow it to intervene in different aspects within a process, namely in laboratory analysis services and providing specialized consultancy services.

CVR has also an important role as an entity providing technical and scientific support to R&D projects, having the necessary know-how to develop solutions for waste treatment, always sustainable in an environmental and economic point of view.



ASSOCIATES

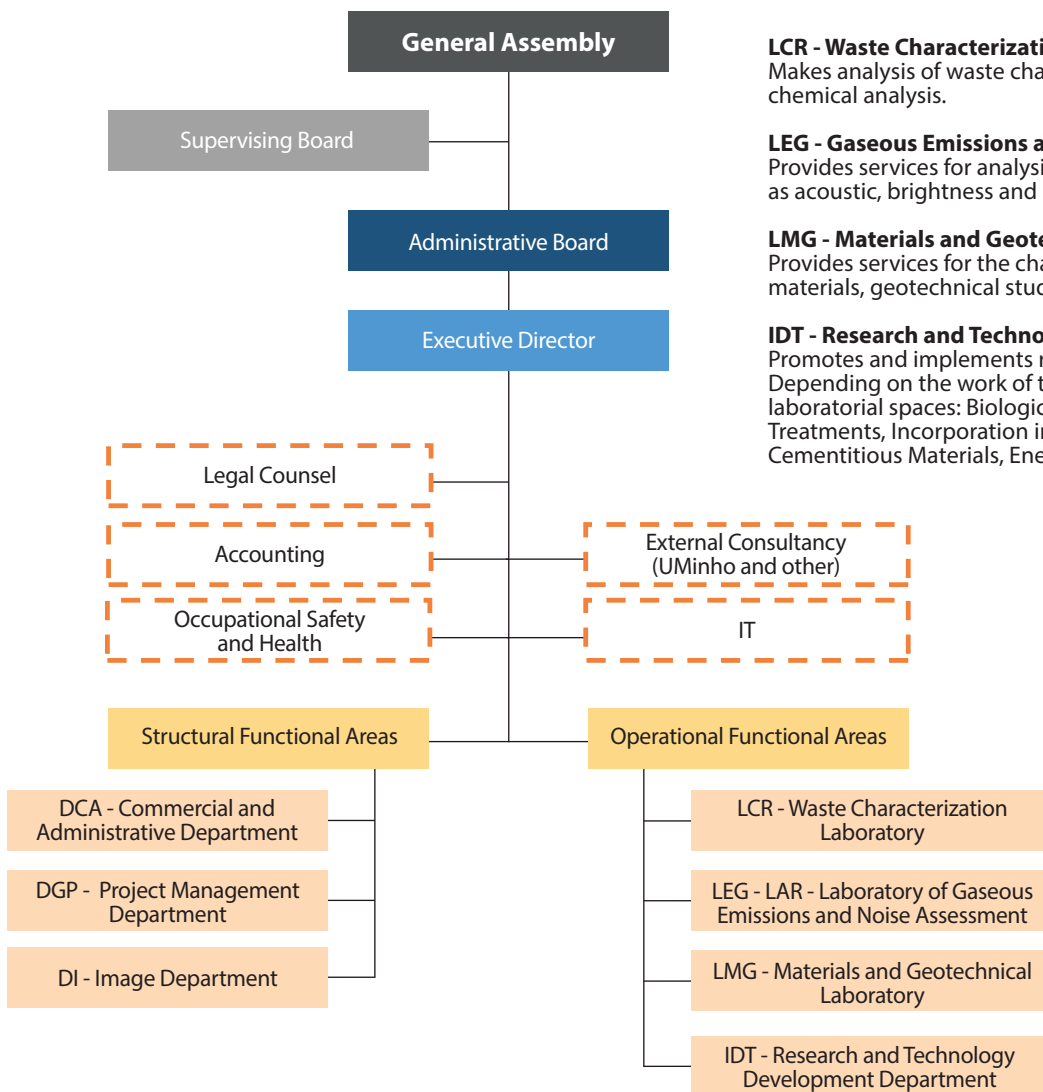
The founding members of CVR are Minho Industrial Association, Portuguese Foundry Association, Association University/Corporation for Development - TecMinho and University of Minho.

CVR actually has **85 associates** from several different fields of activity, namely foundries, waste managers, metalwork industries, ceramic industries, paper industry, agrofood industry and institutional organizations.

**ASSOCIATES**

- 3Drivers, Engenharia, Inovação e Ambiente, Lda
Águas do Douro e Paiva, S.A.
Alumínios Ibérica, Lda
Ambibérica - Gestão de Resíduos, Lda
Ambipombal - Recolha de Resíduos Industriais, S.A.
Associação Industrial do Minho
Associação Portuguesa de Fundição
Associação Univ. Emp. P/o Desenv. - TecMinho
Atep - Amkor Technology Portugal, S.A.
Avicasal - Sociedade Avícola, S.A.
BioSmart – Soluções Ambientais, S.A.
Braval - Valorização e Tratamento de Resíduos Sólidos, S.A.
C. F. Duarte & C.ª, Lda
Câmara Municipal de Guimarães
Carmona, S.A.
Casais - Engenharia e Construção, S.A.
CCG - Centro de Computação Gráfica
Cerâmica do Salvadorinho, S.A.
CIN - Corporação Industrial do Norte, S.A.
CJR - Cândido José Rodrigues, Lda
Companhia de Cartões do Cávado, S.A.
Construções Gabriel Couto, S.A.
Continental Pneus Portugal, S.A.
Criolab - Equipamentos Criogénico e de Laboratório, Lda
Cuprum - Comercio de Metais, Lda
Delta - Soc. Técnica Eletricidade, Lda
DS Smith Papper Viana, S.A.
DST - Domingos da Silva Teixeira, S.A.
Endutex - Revestimentos Têxteis, S.A.
Euro Separadora - Gestão de Resíduos, Lda
Fábricas Jerónimo Pereira Campos, Filhos, Lda
Fapricela - Indústria de Trefilaria, S.A.
FDO - S.G.P.S., S.A.
Ferespe - Fundição de Ferro e Aço, Lda
Ferrovia Serviços, S.A.
Fucoli - Somepal Fundição de Ferro, S.A.
Fundição de Mouquim, Lda
Fundilusa - Fundições Portuguesas, Lda
Funfrap - Fundição Portuguesa, S.A.
Fusag - Fundição e Serralharia de Águeda, S.A.
Granitos Urbanos, Lda
GRE - Exportação de Granito, S.A.
Greenadn, Lda
Greentrading - Comércio Internacional, Lda
GRIN - Gestão de Resíduos Urbanos e Industriais, S.A.
Guimaweb - Serviços de Internet, Lda
Herdmar – Cutelaria Manuel Marques Herdeiros, S.A.
Indústrias Pachancho, S.G.P.S., S.A.
Infraestruturas de Portugal, S.A.
Intrabol - Indústria Transformadora de Borracha, Lda
ISQ - Instituto de Soldadura e Qualidade
J P Sousa - Estamparia Têxtil, Lda
José Augusto Marques Unipessoal, Lda
M.J. Amaral - Equipamentos Industriais, Lda
Mabera Acabamentos Têxteis, S.A.
Maquiceram - Máquinas para Cerâmica, S.A.
Metalsa - Refinaria Portuguesa de Alumínio, S.A.
Metalvalor - Gestão e Valorização de todo o tipo de Resíduos, Lda
MJD - Metais Jaime Dias, S.A.
Mysoft - Business Software Solutions, Lda
Navarra - Extrusão de Alumínios, S.A.
Nogueira & Martins, Lda
Nogueira & Monteiro, Lda
Pizarro - Energias Renováveis, S.A.
Polo - Produtos Ópticos, S.A.
Quimitécnica Ambiente - Tratamento de Resíduos e Efluentes, S.A.
Recauchutagem Nortenha, S.A.
Representações Júlia Rocha, Lda
Resulima - Valorização e Tratamento de Resíduos Sólidos, S.A.
Ricarsil - Ribeiro, Carmo & Silva, Lda
Sardalla Espanhola, S.A.
Schmidt Light Metal – Fundição Injectada, Lda
Semural - Sociedade de Empreendimentos Urbanos, Lda
Sensu, Lda
Sorgal - Sociedade de Óleos e Rações, S.A.
Superinertes de Lopes & Filhos, Lda
Supermatéria - Biocombustíveis e Reciclagem, Lda
Tempo Magnético - Unipessoal, Lda
Tequimaq - Máquinas Ind. Química Corticeira, Lda
Tração - Cruz Giovanni & Lima, Lda
Universidade do Minho
ValaHortal, Lda
Vimasol - Energias Renováveis, Lda
W2V, S.A.
XZ Consultores, S.A.

ORGANIZATIONAL STRUCTURE



LCR - Waste Characterization Laboratory

Makes analysis of waste characterization, wastewater, soil and other chemical analysis.

LEG - Gaseous Emissions and Working Environment Laboratory

Provides services for analysis of industrial gaseous emissions, as well as acoustic, brightness and heart stress measurements.

LMG - Materials and Geotechnical Laboratory

Provides services for the characterization of civil construction materials, geotechnical studies and activities related to geotechnics.

IDT - Research and Technological Development Department

Promotes and implements research and development projects. Depending on the work of this Department are the following laboratorial spaces: Biological Treatments, Hydrometallurgical Treatments, Incorporation into Ceramics Materials, Incorporation into Cementitious Materials, Energetic Treatments, Life Cycle Assessment.





LCR - Waste Characterization Laboratory



The **LCR - Waste Characterization Laboratory** is an internationally accredited laboratory since 2010 according to standard NP EN ISO / IEC 17025 and has a highly qualified team, with quality technical and academic training and appropriate professional in order to provide value added services to their customers.

Services:

- Basic Chemical analysis and classification of waste for the landfill;
- Classification / declassification of waste (hazardous / non hazardous);
- Characterization of waste fuels (RDF's) and solid recovered fuels (SRF's);
- Characterization of construction and demolition waste (CDW's);
- Characterization of sludge for disposal on agricultural land;
- Characterization of contaminated soil;
- Analysis of groundwater and rainwater;
- Analysis of domestic and industrial effluents;
- Analysis of leachate from landfills.



NP EN ISO / IEC 17025



LEG - LAR - Laboratory of Gaseous Emissions and Noise Assessment

LEG-LAR - Laboratory for Gaseous Emissions and Noise Assessment is

an internationally accredited laboratory since 2013 according to the NP EN ISO / IEC 17025 standard and has a highly qualified team, with technical quality and adequate academic and professional training in order to provide value-added services for its customers.

In order to improve air quality, the LEG-LAR- Laboratory of Gaseous Emissions and Noise Assessment provides services such as the characterization of gaseous effluents in industrial fixed sources, from all types of industry (ceramics, metallurgy, textile, industry automobile and workshops, among others), in view of the legislation in force (DL 39/2018).

The service provided offers the guarantee of technical and human resources with quality, using the appropriate and properly calibrated equipment, as well as the Portuguese and European standards of reference.



Services:

- Environmental Noise Assessment;
- Assessment of the following parameters in the fixed sources:
 - Total suspended particles (PTS);
 - Total volatile organic compounds (VOCs), VOCs and CH₄;
 - Combustion gases: CO, NO_x, CO₂, O₂, SO₂, H₂S;
 - Fluorides and chlorides;
 - Heavy metals;
 - Flow characterization (T^a, Pressure, speed, flow);
 - Landfill biogas characterization.



NP EN ISO / IEC 17025



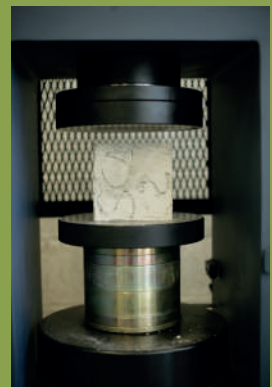
LMG - Materials and Geotechnical Laboratory

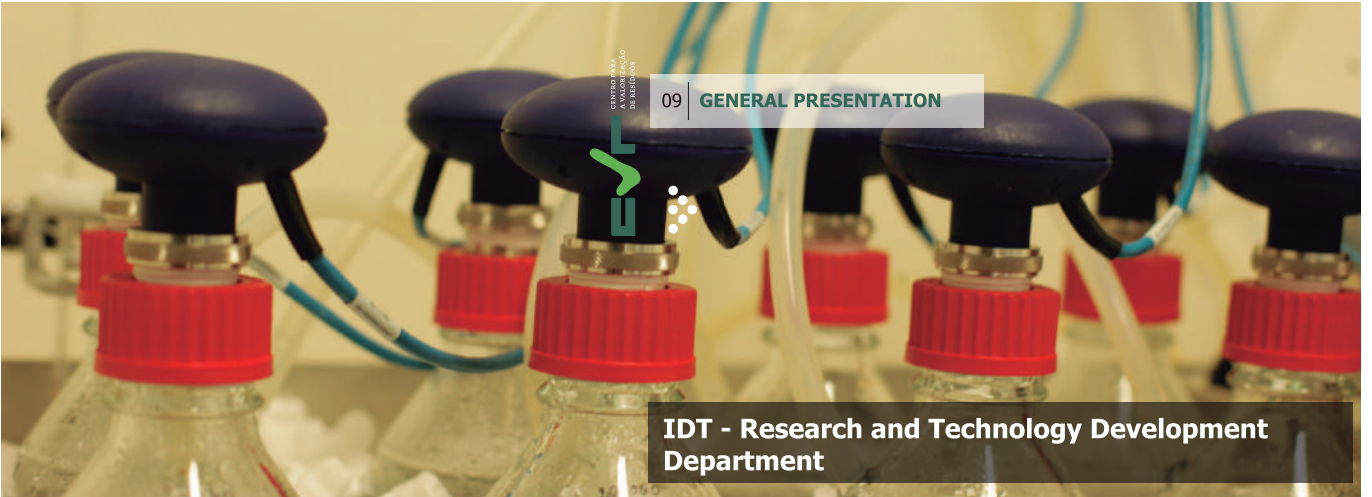


The **LMG - Materials and Geotechnical Laboratory** provides services for the characterization of civil construction materials, geotechnical studies and activities related to geotechnics. The Department has a specialized technical team with an extensive experience in the civil construction field.

Services:

- Characterization of cement;
- Characterization of mortars;
- Characterization of bitumen;
- Characterization of rocks;
- Characterization of aggregates in the laboratory and in situ;
- Characterization of soils in the laboratory and in situ;
- Characterization of CDW's in accordance with the specifications and LNEC E 473:2009 and 474:2009.





IDT - Research and Technology Development Department

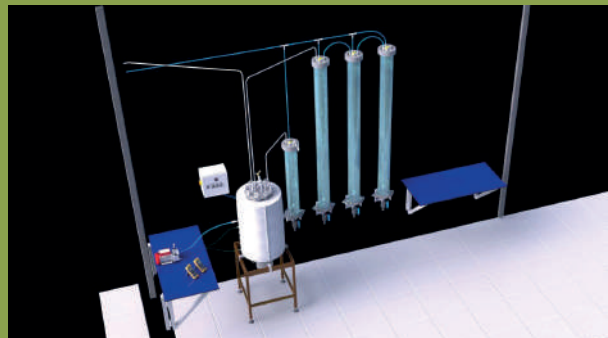
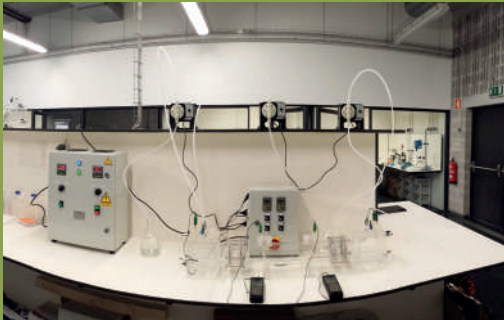


The IDT – Research and technology Development Department promotes and implements research and development projects. Depending on the work of this Department are the following laboratorial spaces:

Biological Treatments, hydrometallurgical treatment, incorporation into ceramics and cementitious materials in the Merger.

Areas:

- Biological Treatments;
- Hydrometallurgical Treatments;
- Incorporation into Ceramics Materials;
- Incorporation into Cementitious Materials;
- Energetic Treatment;
- Life Cycle Assessment.



NETWORKS IN WHICH PARTICIPATES

NETWORK NAME

PARTNERSHIP

**CECOTRAN - Business Center of Cross-Border Cooperation:
Environmental Observatory of Minho/Southern Galicia**

CVR, AIMinho, IDITE Minho, Confederación de Empresarios de Pontevedra (ES).

CEbio - Association for the Promotion of Bioenergy

CVR, UTAD, CCG, Raiz, INETI, INIAP, AMAVE, ANPOC, ANPROBE, ANPROMIS, Herculano, Vimasol, Flogística, Morisa, Arsopi, Gasminho, Petrocavado, Ilídio Mota, CUF, Efacec Ambiente, Solzaima.

centroHabitat - Platform for the Construction

UA, CTCV, ISEC, IPT, CITEVE, APFAC, UTAD, WRC, FCTUC, APCMC, Raiz, IST, AICCOPN, APICER, IHRU, CMM, FCT, CVR, AveiroDomus, ANIPB, UM, CEVALOR, ISEP, APEB, VIDROLOG-IC, Diera, Celticerâmica, Euroviga, FEUP, IPVC, SGS, Oz, Chamartín Imobiliária, Ecochoice, LANIK, Termolan, Recer, Mota-Engil, M. Madeiras, ADENE, Sustentare, CM Estarreja, CM Anadia, CM Oliveira de Azeméis, Protoconcept, RAR, Extrusal, EcoWin, UAlg, Biohabitat, Soares da Costa, Oliveira & Irmão, Ceifa, CM Águeda, J.P. Cruz.

RED-GENERA - Strengthening the euroregional sector of recovery and recycling: network for innovation on reducing and recovering industrial waste

CVR, IDITE Minho, AIMinho, Consello Galego de Cámaras, Cámara de Comercio de Pontevedra, Cámara de Comercio de Vigo, Cámara de Comercio de Tui, Cámara de Comercio de Ourense, Sogama, Fundación Galega para a Sociedade do Coñecemento.

EBTP - European Biofuels Technology Platform

CVR, LNEG and AdP, among several European partners.

Smart Waste Portugal - Waste Cluster

CVR, LIPOR, Logoplaste, SONAE, AEP, Veolia, SPV, AEPSA, FEUP, Portucel, AVE, among several portuguese partners.

Fibrenamics - International Platform

CVR, Uminho, Tecminho, Sciencentris, among several portuguese partners.

Ponto Verde Open Innovation

CVR, SPV, Uminho, U.Porto, FCT, among several portuguese partners.





EXPERTISE

TECHNICAL SERVICES

Laboratorial activity:

- . Chemical analyses of waste landfill deposition;
- . Eco-toxicology assessment;
- . Ground soil contamination analysis;
- . Effluents analysis;
- . Industrial flue gases emissions measurement;
- . Analysis of environmental/occupational noise and chemical contaminants at work places;
- . Ground soil and aggregates and in situ characterization;
- . Biofuels and refused derived fuels characterization.

Consultancy:

- . Waste and environment audits;
- . Environmental management system implementation;
- . Environment and industry licensing;
- . Selection of waste management methodologies;
- . Biomethanization processes optimization and biogas analysis;
- . Geotechnical prospecting and material characterization studies;
- . Biodegradation studies and biological technologies assessment for the valorisation of organic waste;
- . Assessment of landfill biogas production;
- . Life Cycle Assessment.

RESEARCH AND TECHNOLOGY DEVELOPMENT

CVR plays an important role as a technical and scientific knowledge provider for R&D projects, comprising the necessary know-how to develop economically and environmentally sustainable projects, in the field of waste treatment solutions.

In terms of research activity, CVR has been acting in the following areas:

- . Biodegradability processes of polymers and biopolymers;
- . Decontamination processes of contaminated soils and liquid effluents;
- . Advanced thermochemical processes (pyrolysis and gasification);
- . Life Cycle Assessment (LCA) and carbon footprint evaluation;
- . Evaluation and production of low cost adsorbents;
- . Industrial waste usage in the construction industry;
- . Recovery of metals and metallic salts from wastes;
- . Biological treatment processes;
- . Waste-to-energy processes;
- . Material recovery from animal by-products;
- . Biofuels production.

In the field of wastes incorporation in civil construction materials CVR has been very active in developing new red clay bricks and expanded clay products with industrial wastes content as well as incorporating wastes in clinker production. CVR has been working in metals recovery from industrial wastes by means of hidrometallurgicall route. For that it has been studying copper and nyckel recovery from galvanic sludges. It has been studying also extraction of zinc and lead from electric arc furnace dusts by acetic/sulphuric process to treat this hazardous dust.

The recovery of energy content from plastics, biomass and textiles has been studied. These studies include pirolitic decomposition and gasification operations to produce valuable synthetic gases. Also the application of plasma processes for specific wastes has been studied.

Valuable organic materials can be recovered from animal by-products. Poultry by-products valorization for making de-pollution adsorbents has been studied.

FOR EACH SPECIFIC SITUATION, SPECIFIC WASTE MANAGEMENT OPTIONS WILL BE ASSESSED FROM THE ENVIRONMENT, TECHNICAL AND ECONOMICAL POINT OF VIEW, IN ORDER TO RESPECT THE PRINCIPLE THAT WASTE MATERIALS ARE VALUABLE RESOURCES

The recycling of civil construction and demolition wastes has been studied for road and pavements application as well as in mortars incorporation.

The production of refuse derived fuels (RDF) from plastic and textiles mixtures is another area of interest and intervention for CVR.

CONCLUDED PROJECTS

TITLE	FUNDING	PARTNERSHIP	START	DURATION
CECOTRAN - Business Center of Cross-Border Cooperation: Environmental Observatory of Minho / Southern Galicia	INTERREG III-A	CVR, AIMinho, IDITE Minho, Confederación de Empresarios de Pontevedra (ES)	01-02-2003	24 months
Villafund - Valorisation of aluminum filings in foundries	IDEIA	CVR, FEUP, Kupper & Schmidt, TecMinho	01-06-2003	24 months
EDSF - Development Strategy for the Foundry Sector in the Environmental activity	PRIME	CVR, APF, FEUP, Cinfu, CTCV, INESC, QEnergia	01-06-2004	36 months
Application of wastes in the transport infrastructures and geotechnical works - recovery of Steel Slag	POCI	CVR, UMinho, LNEC	01-10-2004	36 months
PRERESI - Preventing Industrial Wastes	PRIME	CVR, INR, INETI, Associações Empresariais, Infraestruturas Tecnológicas	01-01-2005	24 months
CEBio - Association for the Promotion of Bioenergy	Desenvolvimento de Centros de Competência em TIC - POSC	CVR, UTAD, CCG, Raiz, INETI, INIAP, AMAVE, ANPOC, ANPROBE, ANPROMIS, Herculano, Vimasol, Flogística, Morisa, Arsopi, Gasminho, Petrocavado, Ilídio Mota, CUF, Efacec Ambiente, Solzaima	01-09-2006	22 months
Production of RDF from industrial waste and biomass	SIME I&DT	CVR, UMinho, Vimasol	01-01-2007	18 months
NEWBIODIESEL - Development of a new productive equipment of biodiesel based on the optimized process	IDEIA	CVR, TecMinho, CJR, Delta	01-01-2007	18 months
RES2ARGILA - Development of technologies for the incorporation of industrial wastes in the manufacture of lightweight clay aggregates, expanded for construction	IDEIA	CVR, TecMinho, Maxit	01-01-2007	18 months

CONCLUDED PROJECTS

TITLE	FUNDING	PARTNERSHIP	START	DURATION
Optimization of the Economic Balance and Environmental Management of Plastic Wastes, resulting from the treatment of WEEE	Plano I&DT Amb3E	CVR, Recielectric, IST, FCT-UNL, PIEP	01-10-2008	24 months
RED-GENERA - Strengthening the euroregional sector of recovery and recycling: network for innovation on reducing and recovering industrial waste	INTERREG IV-A	CVR, IDITE Minho, AIMinho, Câmaras de comércio espanholas	01-01-2009	24 months
3 National projects, under the theme Environmental Sciences and Technologies	QREN Vale I&DT	CVR, Tempo Magnético, Riocer, Globotrilha	2009	12 months
National project, under the theme Material Sciences and Technologies	QREN Vale I&DT	CVR, Geoinerte	2009	12 months
National project, under the theme Energy Systems and New Types of Energy	QREN Vale I&DT	CVR, Space	2009	12 months
3 National projects in the Environment area	QREN Vale Inovação	CVR, Globotrilha, Riocer, Viganor	2009	12 months
2 National projects, under the theme R&D and Transfer of Technology	QREN Vale Inovação	CVR, Ferespe, Alumínios Ibérica	2009/2010	12 months
National project, under the theme Engineering and Development of Products, Services and Processes	QREN Vale Inovação	CVR, W2V	2010	12 months
WASTES - Solutions, Treatments and Opportunities	ON.2 - Congressos Internacionais	CVR, UMinho	01-11-2010	12 months

CONCLUDED PROJECTS

TITLE	FUNDING	PARTNERSHIP	START	DURATION
VALMETAIS - Development of a process for recovering non-ferrous metals from galvanic sludge	QREN Co - Promoção	W2V, CVR	01-09-2009	30 months
Pellets produced with heating wood	FCT	FEUP, CVR	01-05-2010	24 months
PVC4GAS - Energy recovery from waste material with PVC	QREN Co - Promoção	W2V, CVR, Endutex	01-04-2010	24 months
OilCA - Improving competitiveness and reducing the carbon footprint of the olive oil through the optimization of waste management and implementation of an eco-label	INTERREG IV-B	CITOLIVA (ES), CVR, AOTAD (PT), CTM (ES), IAT (ES), INPT - LCAI (FR)	01-01-2011	24 months
BIOMASUD - Mechanisms for sustainability and enhancement of solid biomass market in the space of SUDOE	INTERREG IV-B	Avebiom (ES), CVR, CBE (PT), CIEMAT (ES), UCFF (FR), INRIA (FR)	01-01-2011	30 months
VALUE - Exchange and technology transfer on recovery of waste processed vegetable industry SUDOE	INTERREG IV-B	AIDIA (ES), CVR, AZTI (ES), FIAB (ES), CENER (ES), APESA (FR), CATAR CRITT (FR)	01-01-2011	24 months
ValeGG - Recovery of eggshell waste to produce low cost adsorbents	APA	Braval, CVR	01-01-2011	24 months
2 National projects	QREN Vale Inovação	CVR, Euroseparadora, Tecnogial	04-2011	12 months
6 National projects	QREN Vale I&DT	CVR, Euroseparadora, Semural, Gestrep, Grove, Tecnogial, Godilac	04-2011	12 months

CONCLUDED PROJECTS

TITLE	FUNDING	PARTNERSHIP	START	DURATION
OilProFuel - Implementation of a pilot project for recycling of used cooking oil	APA	RESINORTE, CVR	04-07-2011	24 months
ECONORTE - International Cooperation in the eco-innovation of the North	ON.2 - Cooperação Internacional	CVR	01-11-2011	12 months
CVR into EBTP - European Biofuels Technologies Platformvegetales del SUDOE	ON.2 - Redes e Organizações Internacionais	CVR	01-11-2011	12 months
8 National projects, under the theme R&D and Transfer of Technology	QREN Vale I&DT	CVR, Bracril, Fabrica Carvões Vida Alegre, Urban DNA, Eugénio Rietsch Monteiro, Novacortiça, TAFE, Portary, Lucio Machado e Serviços	11-2011	12 months
AGROGAS - The methanation as a means of diversification of energy resources in the agriculture, livestock and agro-industry	INTERREG IV-B	CVR (PT), LCA (FR), ESTIA (FR), AGENEX (ES), FGUS (ES), FUNDAGRO (ES)	15-09-2012	22 months
8 National projects, under the theme R&D and Transfer of Technology	QREN Vale I&DT	CVR, Tritacobre, Viganor, Ferespe, Metais Jaime Dias, R3 INOV, Urban DNA, R4 INOV, Os Netos do Simão	11-2012	12 months
5 National projects, under the theme R&D and Transfer of Technology, Science and technology of materials / Ambient	QREN Vale I&DT	CVR, Carlos e Luis Jerónimo, Figueirinha, Casal e Carreira, NG Fechos, Gumelo	2013	12 months
6 National projects, under the theme Science and technology of materials / Ambient	QREN Vale Inovação	CVR, Fital, Metalúrgica Recor, Lucalt, Facebaq, Standarmoldes, TDP	2013	12 months

CONCLUDED PROJECTS

TITLE	FUNDING	PARTNERSHIP	START	DURATION
PROVALUE – Promotion and capitalization of waste recovery solutions in the food industry for SUDOIE region	INTERREG IV-B	CVR (PT), AZTI (ES), FIAB (ES), DBA (ES), AGIR (FR), CATAR (FR), CENER (ES), CITOLIVA (ES), AIDIA (ES)	01-07-2013	18 months
ECOSUR - Eco-efficiency, innovation and sustainability of resources	ON.2 - Reforço de Infraestruturas	CVR	01-01-2014	18 months
OVOVALOR II - Development of an integrated process for the obtention of added value compounds through the valorization of egg processing industry waste	QREN Co - Promoção	CVR, CPC, DEROVO, CEB-UMINHO	01-01-2014	18 months
ECOPROLIVE - Ecofriendly processing system for the full exploitation of the olive health potential in products of added value	H2020	CVR (PT), CTA (ES), ISANATUR (ES), PROMETEO (IT), EVANGELOS (GR), INDETEC (ES), UNIZAR (ES), UNIBO (IT), UAM (ES)	01-09-2015	24 months
SUMO - Sustainable use of biomass from oleaginous processing	ERANET-LAC	CVR (PT), AZTI (ES), CEAP (IT), ILU (ROU), INIA (URU), INTI (ARG)	01-12-2015	24 months
Movbio - Mobilization of pruning biomass for energy recovery	POCTEP 2014-2020	CVR (PT), CIDAUT (ES), Ayuntamiento de Valladolid (ES), Agência de Energia do Ave (PT), ITACYL (ES)	01-10-2015	31 months
VALUE Portugal	COMPETE2020	CVR	01-07-2016	24 months
Fibrenamics Green	NORTE 2020	CVR	01-07-2016	24 months
EcoSustainable Rail	COMPETE2020	CVR, EXTRUPLAS, PIEP	01-07-2016	36 months
1 National project, under the theme Science and technology of materials	QREN Vale Inovação	CVR, Simseg	2015	12 months
16 National projects, under the theme R&D and Transfer of Technology, Science and technology of materials / Ambient	QREN Vale I&DT	CVR, Pintobar, Nicolau de Macedo, Critical Kinetics, Fundação Neiva, António Marques Rodrigues, A Rectificadora de Guimarães, Manuel de Oliveira e Martins, Norterra, Recivalongo, Tritacobre, Ecomovimento, Ecoibéria, Serralharia Mecânica Vila-Nova, All4Engenharia, Norte Empresa, MetalValor, Dragão Abrasivos	2015/2016	12 months

ONGOING PROJECTS

TITLE	FUNDING	PARTNERSHIP	START	DURATION
GEO-DESIGN - Artifacts for hotels and urban furniture incorporating waste	NORTE2020	CVR, W2V, Francisco M. Providência Designer, Lda, Uminho, UTAD	01-11-2016	41 months
Res2ValHum - Valorisation of organic waste: production of humic substances	POCTEP 2014-2020	CVR (PT), Uminho (PT), LIPOR (PT), BRAVAL (PT), SOGAMA (ES), CVAN (ES), USC (ES)	01-06-2017	28 months
UMinhoTech - Network Technology Interfaces	COMPETE2020	CVR, PIEP, Associação C.C.G. / ZGDV	29-08-2017	36 months
VALORMAR - Full valorization of marine resources: potential, technological innovation and new applications	COMPETE2020	Led by SONAE, it comprises 18 companies and 13 entities of the Portuguese R&D system, among them the CVR	01-10-2017	36 months
U2SCoffee - Caffeine Capsules	COMPETE2020	CVR, BICAFÉ, Universidade do Porto, ICETA, INEGI	20-03-2018	36 months
ThermFire4Woven - Development of advanced fibrous structures with fibrous surface treatments and coatings with high thermal efficiency and flame resistance for high added value applications	COMPETE2020	CVR, Olbo & Mehler Tex Portugal, Lda, Uminho, CVR, PIEP, CEIIA	30-04-2018	36 months
Project CVR - Base Funding	FITEC	CVR	13-06-2018	42 months
EGR – EcoGreenRoof - Development of eco-materials for green roofs	COMPETE2020	CVR, NEOTURF, W2V, ITECONS	01-10-2018	36 months
RENew - Construction waste for a circular economy: from an industry intensively consuming of natural resources to a competitive solution for the reintroduction of waste on a large scale	COMPETE2020	CVR, Domingos da Silva Teixeira S.A., Uminho, UTAD	24-11-2019	36 months
AmbWTE - Biomass & Waste to Energy System	COMPETE2020	CVR, AMBITERMO, Uminho, NOVA, BRAVAL, Instituto Politécnico de Portalegre	30-03-2020	36 months
CVR.TechRe4C - Reinforcing CVR in Ecotoxicity, Sustainability and 4.0 Industry Technologies	NORTE2020	CVR	01-07-2020	24 months



TITLE	FUNDING	PARTNERSHIP	START	DURATION
PDMSmasks4ALL: Development of transparent, reusable and recyclable PDMS masks produced with the latest technologies for protection from COVID-19	COMPETE2020	CVR, OTOJAL - Estamparia Têxtil, Lda., Instituto Politécnico de Bragança	01-03-2020	12 months
Plasma2Gas: New Energy Level - Gasification System	COMPETE2020	CVR, NEL – New Energy Level, Lda., AMBITREVO - Soluções Agrícolas e Ambientais, Lda., UMinho	01-12-2020	32 months



CVR main laboratorial equipments:

- _ 1 Pilot scale line production of ceramic samples of red clay (2003), IPIAC NERY brand;
- _ 1 Cylinder mill (2003) for processing red clay, IPIAC NERY brand, model 26/49;
- _ 1 Benchtop pH Meter (2003), HANNA INSTRUMENTS brand, model pH213;
- _ 1 Benchtop conductivity meter (2003), CRISON brand, model BASIC 30;
- _ 1 UV-Vis Spectrophotometer (2004), JASCO brand, computer controlled;
- _ 1 Chamber oven for laboratory (2004), Termolab brand, with a usable volume of 20L and 1200°C;
- _ 1 Chamber oven for laboratory (2004), Termolab brand, with a usable volume of 42L and 1800°C;
- _ 1 Drying oven (2004), MMM brand, model Venticell111, with a usable volume of 111L and 250°C;
- _ 1 Benchtop pH Meter (2005), HANNA INSTRUMENTS brand, model pH213;
- _ 1 Equipment for leaching, solvent extraction and electrolysis (2005), MEAB brand, with a capacity up to 200L per batch leaching;
- _ 2 Rotating machines (2005) for simultaneous leaching tests for waste compliance EN12457 and DIN38414-S4;
- _ 1 Platform scale (2005), Kern brand, model DS 150 K2, up to 151 kg range, 2g accuracy, certified by ISO 9000, calibration with external calibration weight;
- _ 1 Precision balance (2005), Kern Brand, model PLJ 6100-2, up to 6100g range, 0,01g accuracy, with automatic internal calibration;
- _ 1 Vacuum pump (2005), KNF NEUBERGER brand, model N035.1.2NA.18;
- _ 1 Water distiller (2006), JENCONS brand, model NOVA 4, for production distilled water for laboratory use;
- _ 1 Analytical scale (2006), ADAM brand, model AE PW 254, up to 250g range, 0,1mg accuracy, with automatic internal calibration;
- _ 1 Sieve shaker with analog regulation of amplitude (2006), with timer up to 60 minutes and continuous operation;
- _ 19 Round sieves (2006), according to EN 933-1;
- _ 2 Composters (2006), Thermo Composter brand, with a processing capacity up to 280L;
- _ 1 Mill jaw (2006), model BB 200, Retsch brand, capacity up to 300kg/h;
- _ 1 Mill of blades (2006), model SM 2000, Retsch brand, with 6 cutting discs with 18 blades;
- _ 1 Centrifuge (2006), ORTO brand, model Digicen 20, with speed up to 5000 rpm;
- _ 1 Hydrogravitic table (2006), Wilfley brand, dimensions: 2054mm (length) x 610mm (width), with variable rotation speed;
- _ 1 Compression press (2006), Ciencivil brand, model Cyber-Tronic, up to 3000kN, fully automatic, servo-controlled with bending module e connected to the press;
- _ 1 Drying oven (2006), MMM brand, model Venticell, with 4 chrome steel shelves, with a usable volume of 220L and 250°C;
- _ 1 MACRO CHN autoanalyzer (2007), LECO brand, model TruSpec;
- _ 1 Calorimeter (2007), model AC-500, LECO brand;
- _ 1 Gaseous Chromatograph (2007), Thermo Unicam brand, model TRACE2000, with 2 detectors (FID and ECD), computer controlled;
- _ 1 Flue gas analyzer (2007), TESTO brand, 350 XL Series, portable and with cable connection to computer;
- _ 1 MicroDeval machine wear tests (2007), Ensayo Systems SL brand, model A1700;
- _ 1 Los Angeles machine wear tests (2007), Sistemas de Ensayo S.L. brand, model A1200;
- _ 1 Equipment for Methanisation tests (2007), Blue Sens brand, capable to perform 8 tests imultaneously, controlled by computer;
- _ 1 Pelletizer (2007), Oliotechnology brand, model GR 150E, with processing capacity up to 200kg/h;

- _ 1 Oilseed press (2007), Oliotechnology brand, model EL68, capable of processing up to 50kg /h;
- _ 1 Benchtop photometer (2013), Macherey-Nagel brand, model Nanocolor 500D;
- _ 1 Benchtop sampler digester (2013), Macherey-Nagel brand, model Nanocolor Vario Compact;
- _ 1 Briquetting Press Machine (2014), RUF brand, model RUF400, capable of pressing all materials including metal with a force of 3700 kg/cm²;
- _ 1 Pelletizer (2014), HRV brand, model MP-50, with processing capacity up to 50kh/h;
- _ 1 Atomic absorption spectrometer (2014), Analytik Jena brand, model NovAA 350;
- _ 1 Bioreactor (2015), Sartorius brand, with pH and temperature control and 1L of usable volume;
- _ 1 High Pressure Reactor (2015), AMAR brand, with a usable volume of 2L and a maximum pressure of 300 Bar;
- _ 1 Polycombustible Boiler (2015), ATMOS brand, model DS25P, with reverse flame and 25KW capacity;
- _ 1 Life Cycle Assessment (LCA) Software (2015), GaBi brand, with ECOINVENT INTEGRATED and END OF LIFE databases extension, perpetual licensing;
- _ 1 Pitaform scale (2016), CAS brand, model PB, up to 150kg range;
- _ 1 Autoclave (2018), Icanclave brand, model STE-B12-DRS, with a usable volume of 12L;
- _ 1 Extraction system "SILVER SKIN" (2019), TERROFIL brand, 50L capacity, AISI 304 stainless steel;
- _ 1 Microwave Digestion System (2020), Anton Paar brand, model Multiwave GO, with Rotor 12HVT50, technology DMC, Smart Vent and Turbo Cooling;
- _ 1 Biological Safety Cabinet (2020), Horizontal Laminar Flow Bench, Thermo-Heraeus brand, model Heraguard eco 1.2, with 1220 mm internal width.

Laboratory of Gaseous Emissions and Noise Assessment equipments:

- _ 1 FID VOC's Portable Analyser (2014), Signal brand, model 3010 MiniFID;
- _ 1 Scale (2015), Kern brand, model PCB 2000-1, up to 2kg range, 0,1g accuracy and internal automatic calibration;
- _ 1 Gas Analyzer (2015), Horiba brand, model PG 350E (CO, NO, NOx, O₂, CO₂);
- _ 1 Isokinetic sampler (2017), Dadolab brand, model ST5 V4.5;
- _ 1 Flow sampler (2017), G4 Itron Gallus;
- _ Velocity and volume flowrate sampler (2017), Pitot type S;
- _ 1 Delta OHM HD2307.0 PT Thermometer (2014) with TP8751 globe thermometer probe for measurement of radiant heat;
- _ 1 Air Velocity Meter 9545 (2014) VELOCICALC ®: measures velocity, temperature, and relative humidity;
- _ RAE Systems LP-1200 Piston Hand Pump (2014) with RAE Systems Colorimetric Gas Detection Tubes.

CVR also has access to various equipments for characterization and analysis of University of Minho, such as:

- _ 1 X-Ray Fluorescence Spectrometer, Philips brand, model X'Unique II;
- _ 1 Thermogravimetric differential thermal analysis equipment, TA Instruments brand, model SDT 2960;
- _ 1 Scanning electron microscope, FEI brand, model Nova 200 (FEG / SEM);
- _ 1 X-ray diffraction equipment, BRUKER brand, model D8 Discover.

PARTNERSHIPS AND COLLABORATIONS

Because of its location, CVR has a privileged partnership with the University of Minho, who has several ongoing projects and collaborations, using the services of the following laboratories:

- _ Laboratory of Metallurgy, Thermal Treatment, Fluids and Energy and Department of Mechanical Engineering;
- _ Civil Engineering Laboratory - Cementitious Materials Unit, Department of Civil Engineering;
- _ Environmental Biotechnology Laboratory, Department of Biological Engineering.

UNIVERSITY OF MINHO COLLABORATIONS:

Mechanical Engineering Department

Prof. Fernando Castro
Prof. Cândida Vilarinho
Prof. Delfim Soares
Prof. José Carlos Teixeira
Prof. Joaquim Barbosa
Prof. Eduardo Ferreira

Civil Engineering Department

Prof. Jorge Pais
Prof. António Correia
Prof. Paulo Pereira
Prof. Tiago Miranda

Biological Engineering Department

Prof. Madalena Alves
Prof. José António Teixeira
Prof. Teresa Tavares
Prof. João Monteiro Peixoto
Prof. António Vicente

Production Engineering Department

Prof. Pedro Arezes
Eng. Patrício Cordeiro

Polymer Engineering Department

Prof. Conceição Paiva
Prof. Vera Machado
Prof. Carla Martins

OTHER COLLABORATIONS:

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Prof. Benilde Mendes
Prof. Ana Fernando

LNEG

PhD. Carlos Nogueira

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Prof. José Cavalheiro
Prof. Silva Ribeiro
Prof. Campos e Matos
Prof. Lurdes Lopes

Science Faculty of University of Porto

Prof. Paulo Almeida

University of Trás-os-Montes e Alto Douro

Prof. Nuno Cristelo
Prof. José Lousada

University of Aveiro

Prof. João Labrincha
Prof. Vitor Ferreira

Polythecnic Institute of Viana do Castelo

Prof. Manuela Vaz Velho

LNEC

PhD. António Roque

CVR PARTNERSHIPS WITH EXTERNAL ORGANIZATIONS

_ Associate of AEdoAVE - Energy Agency of Vale do Ave;

_ Associate of APESB - Portuguese Association for Sanitary and Environmental Engineering;

_ Associate of ASWP - Association Smart Waste Portugal;

_ Associate of CEBio - Association for the Promotion of Bioenergy;

_ Associate of centroHabitat - Platform for the Construction;

_ Associate of CCG - Computer Graphics Center;

_ Associate of EBTP - European Biofuels Technology Platform.

PLATFORMS

Smart Waste Portugal



www.smartwasteportugal.com

centroHabitat



www.centrohabitat.net

ETIP Bioenergy



www.etipbioenergy.eu

Shared Waste Solutions



www.sws.uc.pt

SIG HABITAT



www.sighabitat.pt

Portal da Inovação - ANI



www.portaldainovacao.pt

AMBIPOR II - Ambiente Portugal



www.ambienteportugal.pt

Pacto Português dos Plásticos



www.pactoplasticos.pt

Prevent Waste Alliance



www.prevent-waste.net

Ketpedia



www.ketpedia.com



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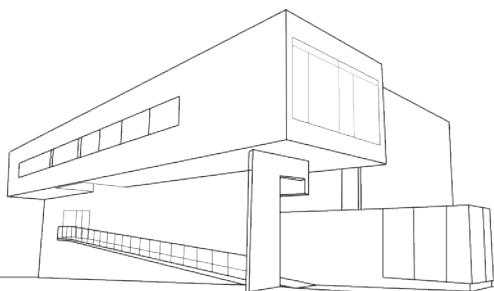
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