

Interreg



Sudoe

ADDISPACE

European Regional Development Fund

METAL ADDITIVE MANUFACTURING TECHNOLOGICAL OFFER FOR THE

AEROSPACE

SECTOR IN SUDOE



INTRODUCTION

The purpose of this catalogue is to promote the offer of technological capacities with regards to Metal Additive Manufacturing (MAM) for the aerospace sector in the SUDOE area. This catalogue was created as part of the ADDISPACE project, jointly funded by the European Regional Development Fund (ERDF) in the framework of the Interreg SUDOE programme. The catalogue is also available on the website.

ADDISPACE was created with the aim of promoting additive manufacturing technologies as a change to the manufacturing model in the aerospace sector and as an opportunity for SMEs within the sector. It also aims to show the technological and economic viability, as well as the high levels of quality of the metal parts built using additive manufacturing technologies.

In addition, it is aimed at promoting the opportunities for specialisation provided by the additive manufacturing sector in the labour market, as well as new professional profiles, skills and the need for adapted training options so that SUDOE can take advantage of this opportunity.

The project, in which companies and institutions from Spain, France and Portugal are participating, began on 1 July 2016 and will run for 3 years. It has a budget of 1.77 million euros, 1.33 million euros of which will be funded by the European Regional Development Fund (ERDF).

Those participating in the project as partners are: the Institute of Advanced Industrial Technologies (ESTIA), IK4-LORTEK, the Advanced Center for Aerospace Technologies (FADA-CATEC), ADDIMAT, the Spanish Association of Additive Manufacturing Technologies and 3D (operated by AFM), the Polytechnic Institute of Leiria, AED Portugal, VLM Robotics, MICRONORMA and GNC Laser. And as associates: the DON BOSCO Professional Training Centre, the Helice Foundation, EADS CASA, the Basque Aeronautics and Space Cluster Association (HEGAN), Aerospace Valley, ADIRA Metal Forming Solutions, CENTIMFE and the Mould Technology Institute, A.C.E (IBEROMOLDES).

If you would like to receive the latest information and stay up-to-date regarding the future results of the project, please subscribe to our newsletter on the project website www.addispace.eu



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MAM OPERATOR OR COMPONENT MANUFACTURER



ADDIMEN

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Astondo Bidea, 612
48160 Derio (Bizkaia)
SPAIN

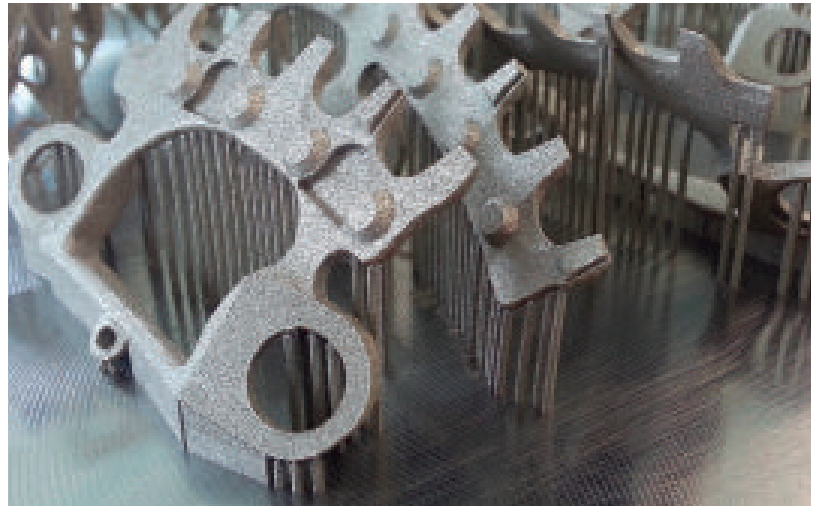
www.addimen.com
info@addimen.com

Basque Country



ACTIVITY DESCRIPTION

ADDIMEN is a company established in May of 2014 that focuses its activity in the design and manufacture of functional metal components for various sectors by means of additive manufacturing. ADDIMEN is committed to providing its customers with premium quality products, in time, at a competitive price, and in strict compliance to the specification.



MAM OPERATOR OR COMPONENT MANUFACTURER



**Servicios, Componentes
y Sistemas**

GRUPO NICOLÁS CORREA LÁSER S.A.

Polígono Industrial de Itziar, Nave A-3
20820 Deba (Gipuzkoa)
SPAIN

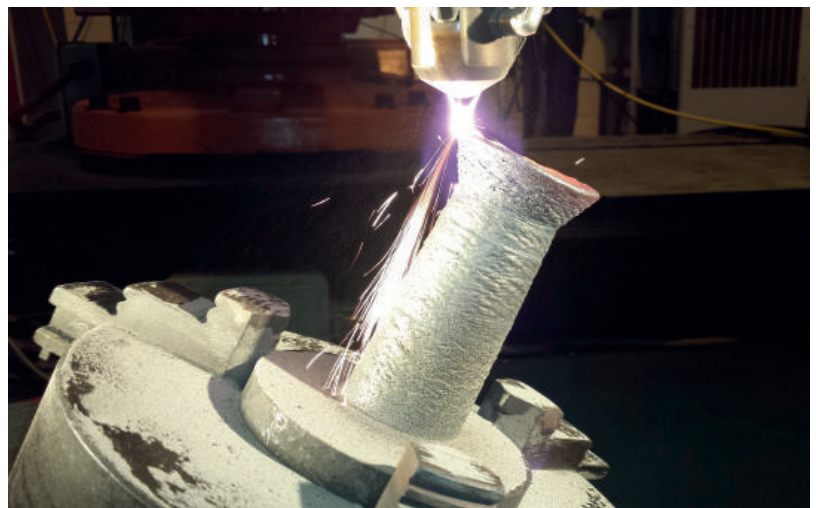
www.gnclaser.es
gnclaser@gnclaser.es

Basque Country



ACTIVITY DESCRIPTION

Established in 2007 and headquartered in Itziar, Gipuzkoa, GNC Láser offers hardening, welding and additive manufacturing services based on laser technology. Furthermore, it can provide integrated laser cells and laser-welded assemblies. It has an experienced team with the required know-how to provide solutions to complex geometries in a very wide range of materials.



MAM OPERATOR OR COMPONENT MANUFACTURER



I3D CONCEPT

ZA de l'Escudier
19270 Donzenac
FRANCE

www.i3dconcept.fr
contact@i3dconcept.fr

Limousin



ACTIVITY DESCRIPTION

i3D Concept specializes in Metallic Additive Manufacturing. We manage projects from A to Z and support companies of all sizes in getting started with the SLM process. We have a design office, a production center, a post-processing workshop and a control room.



MAM OPERATOR OR COMPONENT MANUFACTURER



LISI AEROSPACE ADDITIVE MANUFACTURING

2 Route Robert Algayon,
33640 Ayguemorte Les Graves
FRANCE

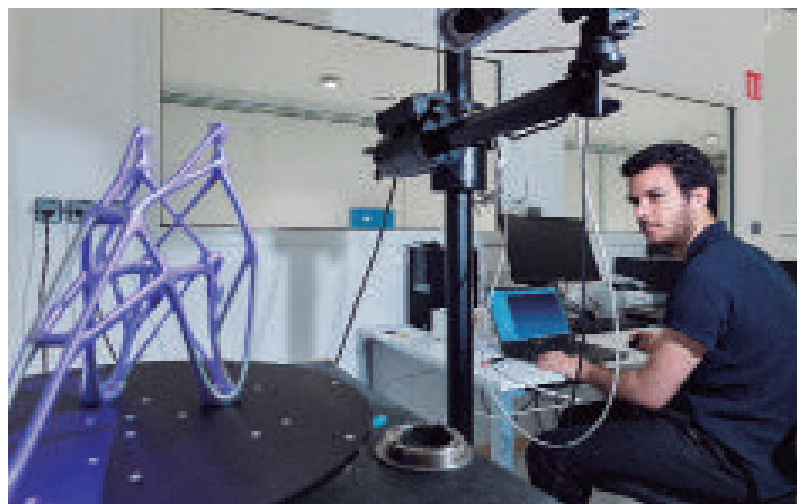
www.lisi-aerospace-am.com
contact@lisi-aerospace-am.com

Aquitaine



ACTIVITY DESCRIPTION

LAAM has a high innovation culture and industrial excellence dedicated to additive layer manufacturing in aeronautic, space and defence market. We are able to carry your project from initial design up to a finished part, with the requested quality level. Several additive technologies are available (LBM /EBM /SLS) for various raw material (aluminium, inconel, titanium& stainless steel). All major manufacturing steps are processed in house in order to deal with your serial production and prototype applications.





MICRONORMA, S.A.

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Centro Empresarial Sintra- Estoril VI
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PORTUGAL

www.micronorma.com
micronorma@micronorma.com

Lisbon Region



ACTIVITY DESCRIPTION

Micronorma integrates the Tecnisata Industrial Group with 3 other companies. It develops customer tailored turnkey solutions in mechanical engineering, automation and metalworking products, with a large range of materials from metals to polymers. Besides Milling, Turning Machining Centers and WEDM Centers, Micronorma also supplies surface grinding and cylindrical grinding.

Micronorma took part in IMPALA R&D project - "Intelligent Manufacture from Powder by Advanced Laser Assimilation", with the aim to develop

manufacturing processes based in laser additive manufacturing of metallic and ceramic powder.

Regarding MAM, Micronorma still only works with polymer, but thanks to IMPALA and ADDISPACE projects the manufacturing of metal parts is also envisaged.

Micronorma doesn't have direct experience in the aerospace sector, but we can capitalize the knowledge and experience that Tecnisata, a company member of the same Group has.



MIZAR ADDITIVE SPAIN

Parque Tecnológico de Álava
Albert Einstein 15
01510 Miñano (Álava)
SPAIN

www.mizaradditive.com
info@mizaradditive.com

Basque Country



ACTIVITY DESCRIPTION

Mizar Additive Manufacturing is a company leader in additive manufacturing. Because of its constant focus on R&D, its advanced equipment and qualified professionals, Mizar offers a service specialised on the design and production of all types of personalised components.

With offices in Álava (Spain) and Toulouse (France), Mizar's technology includes Electron Beam Melting (EBM), Direct Metal Laser Sintering (DMLS-LS), Fused Deposition Modeling and Material Jetting or Polyjet. Its additive technology applies specially to the

aerospace sector (assembly tools and verification, testing prototypes, final parts..) and the medical sector (custom-made implants, personalized anatomical models...), as well as the rest of the industrial sector.



MAM OPERATOR OR COMPONENT MANUFACTURER



PRISMADD

8, avenue Emile AILLAUD,
91350 Grigny
FRANCE

prismadd.com
contact@prismadd.com

Île-de-France



ACTIVITY DESCRIPTION

A global offer with all chain value integrated for additive manufacturing. Our knowledges and skills: research&development, design, optimization, qualification, training, engineering, manufacturing and post-processing of 3D printing metallic and plastic parts.

For aeronautic, spatial, defence, energy and medical market.



MAM OPERATOR OR COMPONENT MANUFACTURER



ROCHETTE INDUSTRIE

Rue Charles Nicolle,
34420 Villeneuve les Beziers
FRANCE

www.rochetteindustrie.com
sales@rochetteindustrie.com

Languedoc-Roussillon



ACTIVITY DESCRIPTION

Manufacturing (machining, welding, laser semi additive manufacturing, HVOF Cr, OAS, painting)





VEROT

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33438 Logrezana-Carreño (Asturias)
SPAIN

www.verot.com
aditiva@verot.com

Asturias



ACTIVITY DESCRIPTION

VEROT, S.A. offers metal transformation services and 3D printing by metal additive manufacturing. VEROT, S.A. uses leading manufacturers machinery in 2D, 3D laser cutting and laser tube, water jet cutting, plasma, folding, punching and welding (robotic, laser and manual). They are also a reference in metal transformation and the development / manufacturing of specific transport racks.

Intended for high technology sectors and complex parts they have their most current bet, the additive manufacture in metal 3D printing.

VEROT, S.A. provides part for high technology sectors such as renewable energy, biomedical, automobile, machinery manufacturing, nuclear, railway, aerospace, agricultural and defense-military sectors.





PUBLIC BODIES, PROGRAMMES AND INITIATIVES RELATED TO MAM & AEROSPACE

PUBLIC BODIES, PROGRAMMES AND INITIATIVES RELATED TO MAM & AEROSPACE



EIA – ATLÂNTICA (ENSINO, INVESTIGAÇÃO E ADMINISTRAÇÃO, S.A.)

Lisbon Region

Rua Fábrica da Pólvora de Barcarena
2730 Barcarena
PORTUGAL

www.uatlantica.pt
geral@uatlantica.pt



ACTIVITY DESCRIPTION

COMPANY:

Atlântica was created in 1996 as an institution of public interest, which sought to be a reference oriented to the creation, transmission and diffusion of knowledge, science and technology through the articulation of study, teaching, research and experimental development. Managed by EIA - Teaching, Research and Administration SA, was based on university professors, researchers, financial institutions, institutional groups, service and studies companies, and the Municipality of Oeiras, which until 2014 remained

the main shareholder. In 2014, the company Carbures acquired 87% of the capital stock of EIA, expressing its intention to contribute to a change in higher education in Portugal, by fostering the link between industry - higher education university - research, materialized through the creation of a technological pole of development in the field of materials engineering and aeronautical engineering sciences that its core business. Through this collaboration and new teaching model, Atlântica marks the difference in higher education in Portugal, private and public.

COMPETENCIES:

Creation, transmission and diffusion of knowledge, science and technology through the articulation of study, teaching, research and experimental development.



PUBLIC BODIES, PROGRAMMES AND INITIATIVES RELATED TO MAM & AEROSPACE



CIPF DON BOSCO LHII

Basque Country

Carretera San Marcos s/n
20100 Errenteria (Gipuzkoa)
SPAIN

www.fpdonbosco.com
donbosco@fpdonbosco.com



ACTIVITY DESCRIPTION

CIPF Don Bosco is an Integrated Vocational Training Centre that depends upon the Basque Government Department of Education. Intermediate and Advanced training cycles are taught, with five professional families from the industrial area. Training for both employed and unemployed is also offered.

The centre has an IKASLAB equipped with ten 3D printers where it gives 3D Printing courses, as well as tailored courses on specific demand.



PUBLIC BODIES, PROGRAMMES AND INITIATIVES RELATED TO MAM & AEROSPACE



INSTITUTO DE MÁQUINA-HERRAMIENTA - IMH

Azkue auzoa 1
20870 Elgoibar (Gipuzkoa)
SPAIN

www.imh.eus/es
imh@imh.eus

Basque Country



ACTIVITY DESCRIPTION

The IMH is a center for training and technological innovation at the service of companies and individuals, whose activity is focused on the needs of the machine tool builders and users to enface to changes in the industrial sector.

The IMH is both a singular training center and a center for innovation service in advanced manufacturing. It has a unit for additive manufacturing composed of the following assets: LMD robot cell with two work tables (1100x700x500); AM plasma robot cell; large format FDM printer

(1000x1000x600) for technical plastics, carbon fiber, fiberglass; 8 FDM desktop printers; scanner dimensional control structured light; DPA photogrammetry system. In addition, it annually organizes specific training in additive manufacturing in different formats: 5 hour workshops for general overview; 30 hour courses for decision-makers (managers, technical office managers, production managers) and machine operators.



PUBLIC BODIES, PROGRAMMES AND INITIATIVES RELATED TO MAM & AEROSPACE



TKNIKA

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SPAIN

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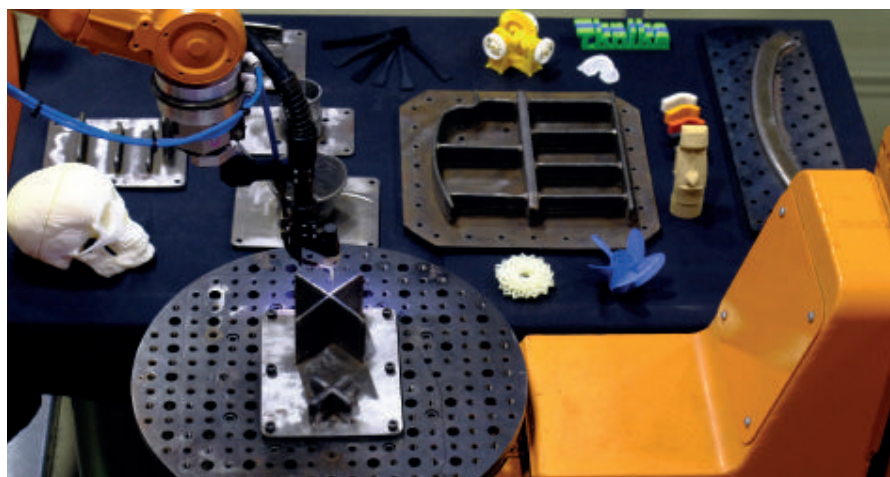
Basque Country



ACTIVITY DESCRIPTION

Tknika is the Basque centre of research and applied innovation in vocational education and training. Their mission is to make research and applied innovation the backbone of vocational education and training in Euskadi.

One of their areas of specialisation is additive manufacturing, where they collaborate with over 15 vocational education training centres. TKNIKA has FDM and SLA technologies for 3D printing, and SLM, LMD and WAAM for additive manufacturing.





AIMEN

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Galicia

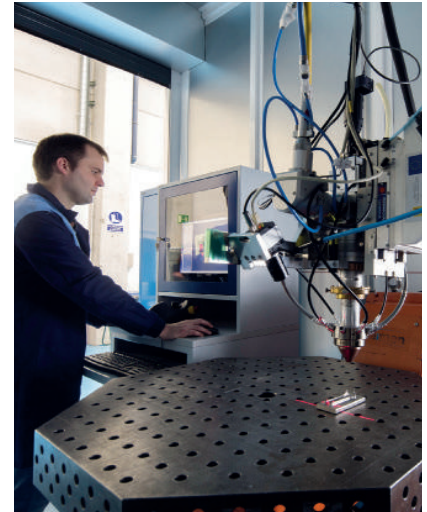


ACTIVITY DESCRIPTION

AIMEN is a private non-profit association incorporated in Vigo in 1967, on the initiative of a group of business people from Galicia. Currently, as a Centre for Innovation and Technology, we are highly specialised in advanced manufacturing technologies and materials, especially welding and bonding technologies, material processing laser technologies (cutting, surface treatment, cladding and additive manufacturing), robotics and automation.

AIMEN has additive manufacturing equipment, specifically with direct

metal filler technology, both in powder and wire, and it participates in different projects related to this technology.



ADVANCED CENTER FOR AEROSPACE TECHNOLOGIES (FADA-CATEC)

C/ Wilbur y Orville Wright 19
41309 La Rinconada, Sevilla
SPAIN

www.catec.aero
materiales@catec.aero

Andalusia



ACTIVITY DESCRIPTION

Advanced Center for Aerospace Technologies (FADA-CATEC) is a technology center that carries out its activity on related technologies for aerospace and factory of the future, like materials and processes, avionics and unmanned systems, automation and robotics, etc. In the framework of Materials & Processes, the division features a wide variety of technologies for the development and design of aerospace components for additive manufacturing, including topology optimization for metal and polymer base fabrication technologies (SLM, SLS, FDM, ...).

A second research line comprises non-destructive testing and failure analysis for aircraft components by ultrasonics phased array, infrared thermography and laser shearography. Additionally, high detail 3D characterization can be also performed by means of X-ray computed tomography.

Furthermore, the division have a great potential for mechanical testing of components and structures, involving static and fatigue tests up to 4,000 KN, impact testing, modal analysis, digital image correlation for recording strains and 3D displacements, as

well as altitude and HALT (Highly Accelerated Life Testing) environmental chambers.





**CDRSP CENTRE FOR
RAPID AND SUSTAINABLE
PRODUCT DEVELOPMENT**

CDRSP

Edifício IPL
Rua de Portugal
Zona Industrial 2430-028 – Marinha Grande
PORTUGAL

cdrsp.ipleiria.pt
fabio.simoes@ipleiria.pt

Portugal Center



ACTIVITY DESCRIPTION

The Centre for Rapid and Sustainable Product Development (CDRSP) is a research center hosted by the Polytechnic Institute of Leiria (IPLeiria).

CDRSP organization and management are carried out by the coordination board supported by its scientific council and international advisory board, as well as the general assembly. The coordination board includes the director and two vice-directors.

CDRSP aims to contribute to the advanced of science and technology leading to more suitable, effective and efficient products, materials and

processes, this way generating added value for the industry and promoting awareness in society of the role and importance of rapid and sustainable product development. To fulfill this mission, the center carries out scientific and technological research, providing consulting, training and research services in the strategic areas of rapid and sustainable product development.



CEA CESTA

15 avenue des sablières, CS 60001,
33116 Le Barp Cedex
FRANCE

www.cea.fr

Aquitaine



ACTIVITY DESCRIPTION

CEA Tech is a major player in innovation with the mission to produce, adapt and transfer innovative technologies to industrial companies to ensure their competitiveness. Initially turned towards nuclear energy, the CEA has diversified considerably.

CEA Tech has 4,500 employees dedicated to innovate in the service of the industry and develops Key Technologies Generic which have the interest to spread in all the industrial domains and within all types of companies, large groups, ETI, SMEs and start-ups.

CEA Tech has technology platforms covering all of its technologies including Additive Manufacturing (Materials and Processes).



CIDETEC SURFACE ENGINEERING

Basque Country

Parque Científico y Tecnológico de Gipuzkoa
Paseo Miramón 196,
20014 Donostia - San Sebastián
SPAIN

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gvara@cidetec.es



ACTIVITY DESCRIPTION

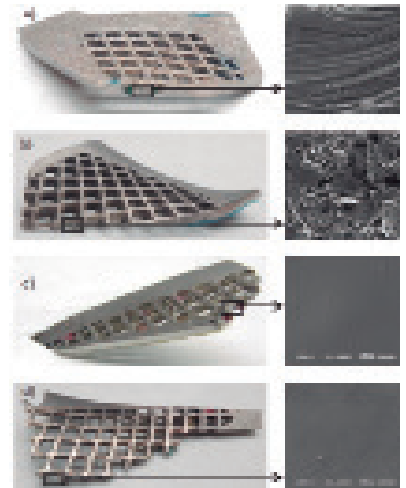
Post-processing of MAM components by chemical, electrochemical and/or mechanical processes.

CIDETEC has laboratory scale and semi-industrial scale facilities to provide MAM components with the required quality and or functionalities: Surface roughness reduction, high brightness, stress relieve, improvement of fatigue behaviour, improvement of corrosion behaviour, etc.

For this purpose CIDETEC works on the next subjects: The optimization of post processing parameters at laboratory scale to meet aesthetic and

functional properties, definition of up-scaling parameters for the chemical, electrochemical and/or mechanical treatments to process industrial components produced by MAM technologies, surface characterization (chemical, microstructural, morphological mechanical and corrosion) and validation of the components.

CIDETEC has developed the E-blasting process, a combination between an electrochemical and a mechanical process that produces flat surfaces with high gloss.



ÉCOLE DES MINES ALBI-CARMAUX

Midi-Pyrénées

Campus Jarlard,
81013 Albi CT Cédex 09
FRANCE

www.mines-albi.fr



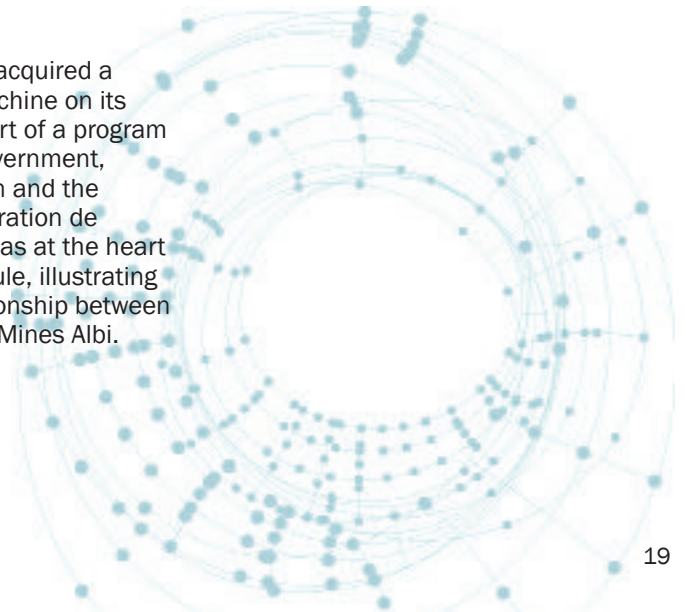
ACTIVITY DESCRIPTION

Since 2011, Albi Mines conducts research on ALM-Metallic on its site "Institut Clément Ader" through partnership projects in the framework of programs AEROSAT / EASYNOV and Institut Carnot M.I.N.E.S.

From January 25 to February 5, 2016, Mines Albi delivered the first training of engineers in the Midi-Pyrenees on Additive Layer Manufacturing (ALM) as part of its option Advanced Materials Engineering and Structures.

This training aims to meet the expectations of regional, national and international companies on ALM.

In July 2015, Mines Albi acquired a laser powder coating machine on its MIMAUSA platform as part of a program funded by the French government, the Midi-Pyrénées Region and the Communauté d'Agglomération de l'Albigeois. This means was at the heart of this new training module, illustrating the strength of the relationship between training and research at Mines Albi.



**EESC ESTIA –
COMPOSITADOUR - ADDIMADOUR**

Parc Technocité Avenue du 8 Mai 1945
64100 Bayonne
FRANCE

compositadour.estia.fr
g.dirassar@estia.fr

Aquitaine



ACTIVITY DESCRIPTION

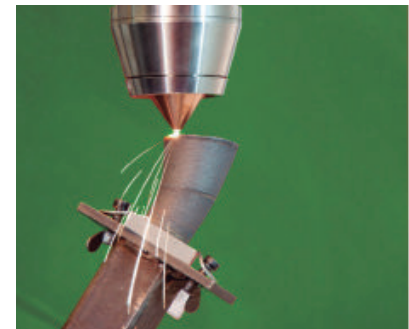
Located in Bayonne Technocité, ADDIMADOUR is a new research center dedicated to Additive Manufacturing of large size metallic parts. As Compositadour, focused on composite manufacturing processes since 2010, the platform is directed by the ESTIA engineering school. Addimadour aims to transfer large size Metallic Additive Manufacturing technologies to industrial users that are interested in this type of processes. By constantly putting through industrial needs with academic knowledges, Addimadour's activity is based on both large term research projects and short term

feasibility studies. Addimadour is also focused on training designers, operator technicians and future engineers in Additive Manufacturing technologies to meet industrial needs.

ADDIMADOUR platform relies on several equipments:

- BeAM Magic 2.0 machine for large size LMD / Powder parts (1200 x 800 x 800 mm) with inerting system for titanium parts.
- CMT (Fronius Transpulse Synergic 3200) on the Kuka KR100 HA robot.
- SLM (Concept Laser Cusing M2)
- Metallography Laboratory (Sample

Preparation, Microscopy, Image Processing)
- Etc.



CEIT-IK4

Manuel Lardizabal 15
20018 Donostia-San Sebastian
SPAIN

www.ceit.es
iituriza@ceit.es

Basque Country



ACTIVITY DESCRIPTION

Ceit-IK4 is a non-profit research centre. Our primary mission is to develop applied industrial research projects. Our 4 divisions (Materials and Manufacturing, Transport and Energy, Water and Health and Information and Communication Technologies) give us a multidisciplinary approach being able to carry out research projects with a global vision.

Specifically, in the field of AM ceit-IK4 has expertise in the following links of the value chain:

- Atomization of metallic powder for AM. With more than 25 years of

expertise in this field, Ceit-IK4 is able to optimize atomization processes (with water and gas), development of tailor made alloys and design of atomizers.

- Laser Metal Deposition (LMD). Our LMD cell allows us process optimization and prototypes manufacturing.
- Hot Isostatic Pressing (HIP). 30 years of experience in HIP of powders and castings are applied now in the improvement of AM components.

advantage of laser flexibility, we are using laser technologies for parts heat treatment and surface functionalisation and polishing.

- Design for AM. We develop part selection methods for AM, part design and redesign for AM including topology optimization and create design guidelines for different AM technologies.

- Laser post-processing. Taking



IK4-IDEKO

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20870 Elgoibar, Gipuzkoa
SPAIN

www.ideko.es

Basque Country



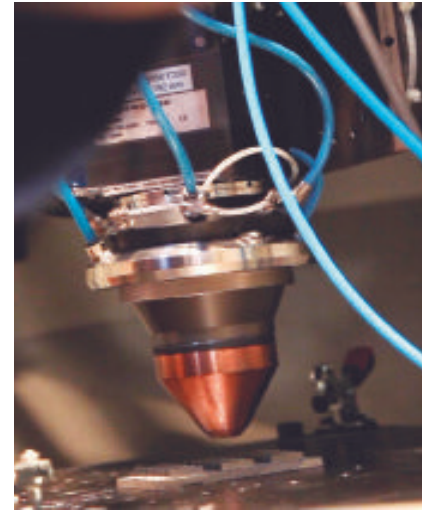
ACTIVITY DESCRIPTION

Ideko is a research centre that specialises in industrial production and manufacturing technologies, and integrated into the IK4 Research Alliance.

The activity of Ideko covers the identification and analysis of opportunities, the design and development of products, business lines and production processes and the resolution of problems through the provision of technological services such as technical consultancy and equipment based services.

Ideko is a private research centre with

expertise in LMD. The laboratory has a fiber laser, of 2 kW power, mainly for research in additive processes, particularly oriented to the creation, repair and coating of pieces of high added value, which Ideko understand is a growing industrial niche in strategic sectors as the aeronautical or energetic.



IK4-LORTEK

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Basque Country



ACTIVITY DESCRIPTION

IK4-LORTEK is a private non-profit research institute that was set up with a clear commitment of acquiring knowledge and expertise in materials, manufacturing processes and joining technologies for further transferring it to industry. LORTEK is located in a strategic place of the Basque Country surrounded by a robust industrial network. Our efforts are clearly industry oriented, developing integral solutions for manufacturing technologies with high performance materials.

IK4-LORTEK belongs to the IK4

Research Alliance that gathers 9 Research Centres, including 1,400 researchers, which has a strong participation in European projects.

LORTEK has broad expertise in different technologies of Metal Additive Manufacturing (SLM, LMD, WAAM), joining processes with arc and laser technologies, deep knowledge on metallurgy of Ni superalloys, steels, Ti and Al alloys, and wide understanding in characterisation, non-destructive tests, simulation and evaluation and control techniques. The main research done by IK4-LORTEK is applied to

aeronautic, aerospace, automation, medical, tools and moulds, energy and industry sectors among others.



IK4-TEKNIKER

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Basque Country

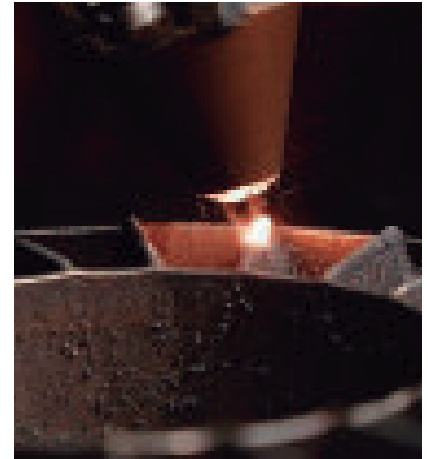


ACTIVITY DESCRIPTION

IK4-TEKNIKER is a non-profit making Foundation renowned as a centre of Manufacturing Technologies. The preferential sectors covered include Ancillary Automotive sector, Machine-Tool and accessories, Aeronautics and outer space applications, Mechanical capital goods and Moulds and dies.

The experience of the centre in additive manufacturing relies on the Laser Metal Deposition (LMD) process, based on both powder and wire. IK4-Tekniker has developed, for more than 12 years, research projects and scientific papers related to the repair,

reinforcement and manufacturing of structures and components for different industrial sectors. The study of the LMD process is complementary to the development of in situ control techniques and the development of specific LMD equipment (laser heads and machinery).



**CIRIMAT – INP -
ÉCOLE NATIONALE SUPÉRIEURE
DES INGÉNIEURS EN ARTS CHIMIQUES
ET TECHNOLOGIQUES**

4, allée Emile Monso - CS 44362
31030 Toulouse - Cedex 4

www.ensiacet.fr/fr/index.html

Midi-Pyrénées

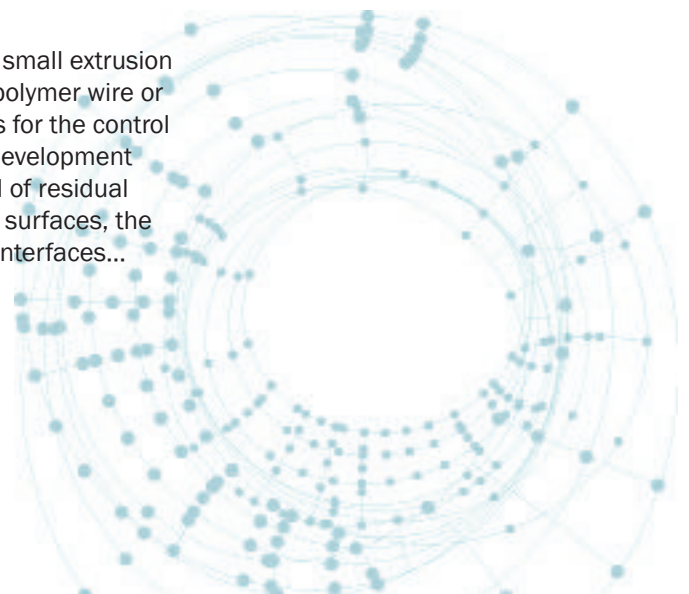


ACTIVITY DESCRIPTION

The development sectors of additive manufacturing for the production of functional parts currently concern health, transport, energy, luxury ... The CIRIMAT, engaged in these fields for many years, is exploring the potential of additive manufacturing to meet new challenges such as personalization of medical devices, lightening of structures, multimaterial assembly ...

Currently equipped with a Powder Bed Laser Sintering / Sintering Machine (SLM / S) from Phenix Systems-3D

Systems (Pro X200) and small extrusion printing machines for a polymer wire or CIRIMAT deploys its skills for the control of microstructures, the development of new alloys, the control of residual stresses, the finishing of surfaces, the control of multimaterial interfaces...



PRODINTEC

Avda. Jardín Botánico, 1345
33203 Gijón (Asturias)
SPAIN

prodintec.es
info@prodintec.com

Asturias



ACTIVITY DESCRIPTION

PRODINTEC is a technology center which has been working on the development of additive manufacturing technologies since 2004. The advanced manufacturing area focuses on AM designs, processes, equipment, production and post-processing.

PRODINTEC possesses in-house cutting-edge AM equipment for manufacturing and advanced software for product design along with high-skilled engineers with experience in different fields of science, from advanced production technologies to production plant management.

PRODINTEC, possesses also strong experience in networking with industrial companies at regional, national and international level. Moreover, the center is an active member of different European Technology Platforms related to manufacturing such as AM-Platform.



REDIT

Avenida Leonardo Da Vinci 48
46980 Paterna (Valencia)
SPAIN

www.redit.es
redit@redit.es

Valencia Region



ACTIVITY DESCRIPTION

The Network of Technology Institutes of Valencia Region (REDIT) is a private non-profit association created in 2001. It is composed of and represents the 11 Technology Centres in the region. In 2016 the centres integrated in REDIT have worked for 12.300 clients and 5.100 associated companies, developing almost 800 R&D& innovation projects for them. In total the centres have earned more than EUR 87 million. Furthermore the Network has an important technological infrastructure, with more than 100 laboratories and 20 technological observatories on market and trends.

Some of the Technological Centres of REDIT are experts in additive technologies: the Technological Institute of Metalmechanics, Wood, Furniture, and Related Products (AIDIMME); the Technological Institute of Children and Leisure's Products (AIJU); the Technological Institute of Plastics (AIMPLAS); the Textile Technological Institute (AITEX); the Technological Institute for Footwear and Related Industries (INESCOP) and the Energy Technological Institute.



TECNALIA

Mikeletegi Pasealekua, 2
20009 Donostia-San Sebastián
SPAIN

www.tecnalia.com
tecnalia@tecnalia.com

Basque Country



ACTIVITY DESCRIPTION

TECNALIA develops new additive manufacturing technology solutions to respond to the main industrial sectors, aeronautics, automotive, machine tools, among others, innovating in processes, materials and machines covering the COMPLETE CYCLE to obtain parts according to the specifications of each market.



Universidad del País Vasco **Euskal Herriko Unibertsitatea**

UPV-EHU

ETS Ingeniería de Bilbao
C/ Alda Urquijo s/n
48013 Bilbao
SPAIN

www.ehu.eus/manufacturing
aitzo.lamikiz@ehu.es

Basque Country



ACTIVITY DESCRIPTION

The University of the Basque Country (UPV/EHU), particularly the High Performance Manufacturing Group of the Dept. of Mechanical Engineering, has been investigating in additive manufacturing processes with metallic materials since 2004. During these years the Group has participated in R&D&I projects framed in all kinds of technological readiness levels, from basic research in additive manufacturing processes (TRL3) to development and set-up of hybrid machines (TRL7). The lines of research are focused on mechanical characterization of additive parts, on

numerical and thermal simulations, on process control, as well as on programming software for LMD machine paths, among others. Concerning the equipment, the Group has different working systems in two of the most common additive manufacturing technologies for metallic material such as 5 axis LMD and SLM process, as well as sensors and measuring equipment to verify manufactured parts.





CLUSTER/ ASSOCIATION

ADDIMAT

Additive & 3D Manufacturing
Technologies Association of Spain

operated by 

ACTIVITY DESCRIPTION

ADDIMAT, the Spanish Association of Additive Manufacturing Technologies and 3D, groups together all the players with interests in developing and promoting additive manufacturing and 3D.

ADDIMAT, is a member of AFM CLUSTER, the organisation that represents the interests of more than 480 companies of Advanced and Digital Manufacturing.

Its mission is to represent the Spanish additive manufacturing and 3D technology industry, constructing a coherent, comprehensible and differentiated image of the sector, and generating information about it.

ADDIMAT also provides a forum for member companies where they can share information about market conditions and about the development of additive manufacturing technologies, and deal, as a group, with topics of mutual interests. Besides, It fosters business cooperation, creating networking opportunities between the different market groups.

ADDIMAT can help to contact the right partner for Additive Manufacturing projects.

CLUSTER/ASSOCIATION

ADDIMAT

Parque Tecnológico y Científico de Gipuzkoa
Paseo Mikeletegi 59
20009 San Sebastián
SPAIN

www.addimat.es
addimat@addimat.es

Basque Country



ACTIVITY DESCRIPTION

AED Cluster Portugal mission is to provide a one-stop-shop and entry point in Portugal for national and international stakeholders of the three sectors, providing an effective hub and cluster networking environment for cooperation, growth and competitiveness of the Portuguese industrial, scientific and technological communities.

CLUSTER/ASSOCIATION

AED CLUSTER PORTUGAL

Praça das Indústrias, Edifício CIP,
Sala AED, 1º andar
1300-307 Lisboa
PORTUGAL

www.aedportugal.pt
jr@aedportugal.pt

Lisbon Region





CLUSTER/ASSOCIATION

AEROSPACE VALLEY

118 route de Narbonne, CS 94244,
31432 Toulouse
CEDEX 4
FRANCE

www.aerospace-valley.com

Midi-Pyrénées



ACTIVITY DESCRIPTION

Competitiveness Cluster for Aeronautics, Space and Embedded Systems which relies on 6 objectives :

Objective 1: Innovation, Collaborative Projects, Networking

Objective 2: Support to SMEs, support for the development of their skills, growth and the national and international competitiveness of SMEs

Objective 3: Partner of the public authorities for the development of territories, economy and employment

Objective 4: Facilitate the sectors of the cluster with other aeronautics and

space clusters, sector committees, professional groups, etc.

Objective 5: Dissemination of technologies from aeronautics, space and ES to other sectors, in particular via interclustering

Objective 6: Put our projects and initiatives in charge of sustainable development.



CLUSTER/ASSOCIATION

HEGAN BASQUE AEROSPACE CLUSTER

Polígono Parque Tecnológico, 303
48170 Zamudio, Vizcaya
SPAIN

www.hegan.com
hegan@hegan.com

Basque Country

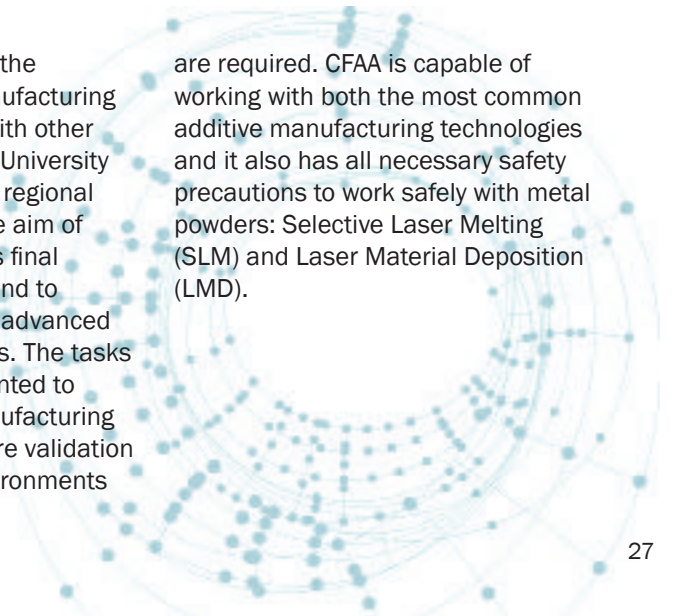


ACTIVITY DESCRIPTION

HEGAN -the Basque Aerospace Cluster- is a private, non-profit association that groups together the Basque Aeronautics and Space sector, created with the aim of fostering, promoting and stimulating the same. As a Cluster Association, its aim is to represent and promote this sector to ensure its competitiveness in short, medium and long-term through co-operation and innovation among companies and other agents, as a response to its strategic challenges in cooperation.

HEGAN is a collaborator of the Aeronautics Advanced Manufacturing Centre (CFAA in Spanish) with other aerospace companies, the University of the Basque Country and regional and local governments. The aim of the CFAA is to work towards final aeronautical applications and to generate new know-how in advanced manufacturing technologies. The tasks done at the center are oriented to work and develop the 'Manufacturing Readiness Levels' 6-7 where validation tests in representative environments

are required. CFAA is capable of working with both the most common additive manufacturing technologies and it also has all necessary safety precautions to work safely with metal powders: Selective Laser Melting (SLM) and Laser Material Deposition (LMD).



**HÉLICE ANDALUSIAN EROSPACE CLUSTER**

Andalusia

Calle Ing. Rafael Rubio Elola, 1
41300 La Rinconada, Sevilla
SPAIN

www.helicecluster.com
info@helicecluster.com

**ACTIVITY DESCRIPTION**

Since 2004 promoting the development of the Andalusian Aerospace Cluster supporting all the cluster's stakeholders, as well as to providing subcontractors with the technical resources to ensure a better integration with contractor companies.





2MAtech
Matériaux et mécanique avancés

2MATECH

19 avenue Blaise Pascal
Campus des Cézeaux
CS80154663178 Aubière
FRANCE

www.2matech.fr

CONSULTING

Auvergne



ACTIVITY DESCRIPTION

2MAtech has for many years been involved in the technologies showcased in the factory of the future, and more particularly:

- additive manufacturing;
- the digital factory, modelling process flows and the supply chain;
- robotics, the automation of productive processes and systems.

From a point mechanical of view, we work on:

- part design;
- topological optimization;
- mechanical strength.

From an organizational point of view:

- these new means of additive manufacturing must be integrated into a production line already in place or being developed, and notably the industrial workshops need to be redesigned.



elemca
TESTS ANALYSES EXPERTISE

ELEMCA, SAS

425, rue Jean Rostand
31670 Labège
FRANCE

elemca.com

CONSULTING

Midi-Pyrénées



ACTIVITY DESCRIPTION

ELEMCA is a private laboratory, based in the French space agency (CNES, Toulouse).

We provide test, analysis & expertise services to our customers (manufacturers, integrators or end-users of MAM parts).

We help them maturing their additive technologies (powder bed, direct deposition...) & reaching higher quality grade, all along the value chain:

- ELEMCA "R&D support" = we characterize materials properties (microstructure *picture1*, internal

defects, mechanical behaviour) to help MAM manufacturers defining best process parameters

- ELEMCA "Product quality-control" = we provide NDT conformity controls (computed X-ray tomography) to assess the compliance of critical parts towards tier-1 Aerospace requirements (geometry *picture2*, material health)
- ELEMCA "Failure analysis" = we inspect & deeply characterize faulty parts (manufacturing scums or field returns) to identify failure mechanisms and root cause.





3R

1, rue Joseph Marie Jacquard
ZI Nord, BP 80631
82006 - Montauban Cedex
FRANCE

www.3r-labo.com/fr

Midi-Pyrénées



ACTIVITY DESCRIPTION

Designer and manufacturer of testing machines to characterize materials and structures.



ADDILAN

Eguskitza, 1
48200 Durango (Bizkaia)
SPAIN

www.addilan.com
info@addilan.com

Basque Country

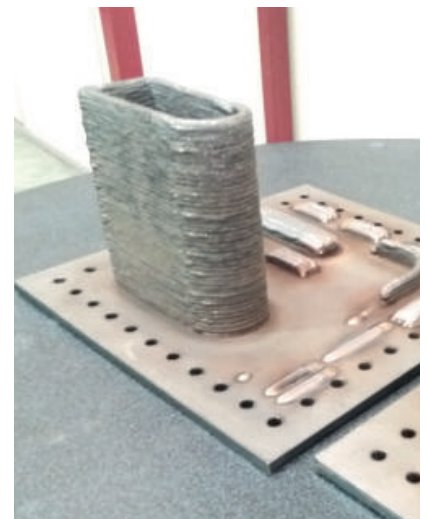


ACTIVITY DESCRIPTION

ADDILAN FABRICACIÓN ADITIVA is a new company, founded by two emblematic machine tool manufacturing companies. ADDILAN designs, produces and sells high deposition rates additive manufacturing machines, based on WAAM (Wire Arc Additive Manufacturing) technologies.

Focused towards high added value components market, medium-large size components from various industries such as aeronautics, aerospace, energy and naval.

ADDILAN works with a wide range of materials such as steels, superalloys, aluminium alloys and titanium alloys. ADDILAN machines include a close loop control and an inert chamber with a loading/unloading system which assures part and environmental quality during the manufacturing process.





ADIRA METAL-FORMING SOLUTIONS S.A.

Porto and North

Rua das Lages, 67
4410-272, Vila Nova de Gaia
PORTUGAL

www.adira.pt
rhm@adira.pt



ACTIVITY DESCRIPTION

ADIRA is a Portuguese manufacturer specialized in sheet metal processing with worldwide projection of its own technology: ADIRA's Press Brakes, Shears and Laser Cutting Systems were and are still today recognized as world-leading technological equipment.

ADIRA enters the additive manufacturing market with ambitious and disruptive products, more specifically in the Additive Manufacturing of large parts.

COMPETENCIES:

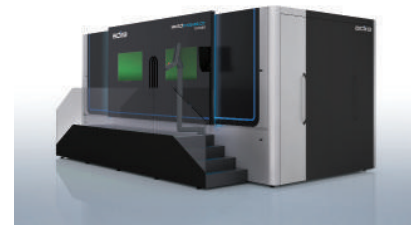
- Highly skilled and flexible workforce

brings new possibilities and the capacity for adapting existing solutions or creating new products, according to the customer's specifications.

- Given its core competencies, ADIRA is the first manufacturer in the world to position itself in the production of large-scale Metallic parts, through highly customized and disruptive concepts.

MARKETS:

Aeronautics, energy sector, automotive, mould industry, heavy duty & sheet metal industry, building & construction.



METALLIED POWDER SOLUTIONS

Basque Country

Polígono Bidaurre-Ureder Nave 10 - Ventas 45 B
20305 Irún (Gipuzkoa)
SPAIN

www.aubertduval.com

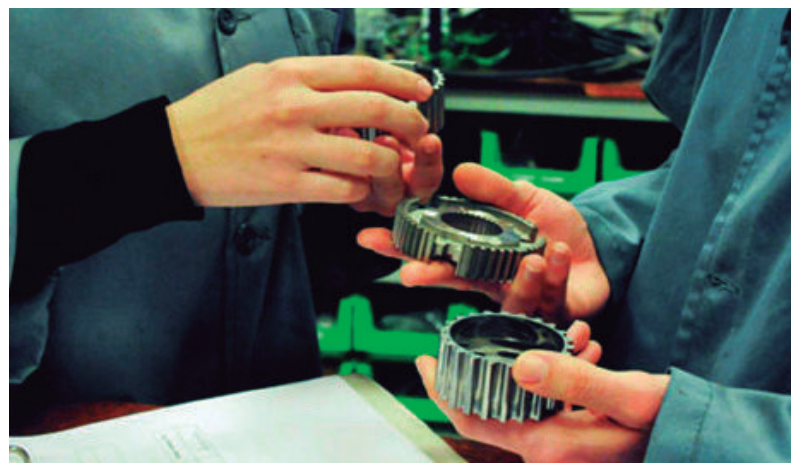


ACTIVITY DESCRIPTION

Metallied Powder Solutions belongs to the Eramet Group alloys division. The Eramet Group comprises the activities of Aubert & Duval and Erasteel.

Metallied manufactures metallic alloys in the form of powder for the Additive Manufacturing markets, mainly aeronautics and energy. The alloys manufactured are Ni, Co and Fe base, being able to supply homogeneous batches of up to 1 ton.

Metallied is EN 9100 and ISO 9001 certified and supplies its products to the main players in the mentioned markets.



IBARMIA

your machine-tool point

IBARMIA

.I. Etxesaga, s/n - Apdo. 35
20720 Azkoitia (Gipuzkoa)
SPAIN

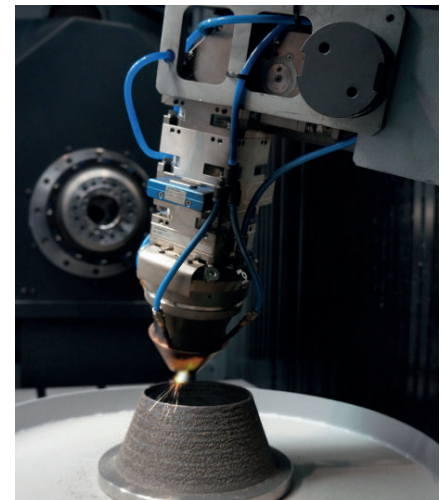
www.ibarmia.com
innovate@ibarmia.com

Basque Country



ACTIVITY DESCRIPTION

IBARMIA, a Spanish company with more than 60 years of experience in the machine tool business, has developed its new ZVH ADD+PROCESS hybrid machining centre model which combines additive manufacturing with metal cutting machining capabilities (milling, drilling, boring and/or turning operations). This model can manufacture a wide range of large size pieces.



PrintSky

PRINTSKY

7 Albert Durand
31700 Blagnac
FRANCE

Midi-Pyrénées



ACTIVITY DESCRIPTION

Joint venture between AddUp (ALM machines Manufacturer) and SOGECLAIR (Industrial Aerospace) dedicated to the development of future industrial production projects in the field of additive metal manufacturing (Laser powder and Electron Beam) for the Aerospace industries.

The PrintSky platform offer a modular solution that can: Aid the selection of parts eligible for additive manufacture (“creative event”), Construct a business case according to the material and the selected technology most suited to the customer’s need

(Laser powder or electron beam, and potentially other technologies ...), optimize and customize the design including Topological Optimization, support qualification and certification (DOA, POA for aeronautic), manufacture prototypes and pre-production sample for proof of concept (LBM & EBM) and deliver all the parameters and know-how necessary for the launch of the series production for the future operators.



EBW Machine Q20



TOYAL EUROPE S.A.S.U.

Route de Lescun
F-64490 Accous
FRANCE
toyotal-europe.com/us/home.php
sales@toyotal-europe.com
fabrice.morvan@toyotal-europe.com

Aquitaine



ACTIVITY DESCRIPTION

Toyotal group is a global producer of aluminium based products. The company was founded in 1931 and is today one of the major producers of aluminium powders, aluminium based alloy powders, aluminium effect pigments, aluminium foils and aluminium nitride. Toyotal serves various markets such as Automotive, Packaging, Cosmetics, Thermal Management, Electronics, Photovoltaics or Additive Manufacturing. Toyotal, as a global actor, employs 2500 people located across 11 sites in Japan, China, India, the USA and France.

For the AM activity, Toyotal provides high quality Al alloy powders such as the classical AlSi12, AlSi10Mg or AlSi7Mg0.6. Toyotal also produces and delivers Scalmalloy® powders. Taylor-made compositions can also be produced on demand (main alloying elements: Si, Mg, Mn, Sc, Cu, Zn, Zr, etc.)

Al alloy wires can also be available through collaborations with its sister company Nikkei Sangyo.



ZAYER

Portal de Bergara, 7
01013 Vitoria- Gasteiz (Araba)
SPAIN
www.zayer.com
zayer@zayer.es

Basque Country

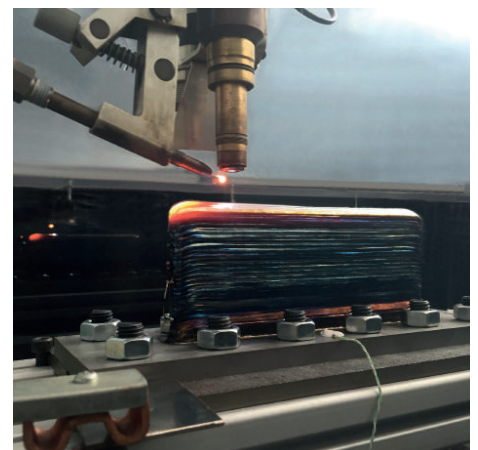


ACTIVITY DESCRIPTION

Zayer, with over 60 years experience in the manufacture of milling machines and machining centers, offers a wide variety of bed type, moving column, bridge type and gantry models. Machines specifically designed for the manufacture of dies, molds, the aeronautical, aerospace and wind power industry and general machining purposes.

Furthermore, Zayer keeps research lines about different hybrid machines configurations that combine additive and subtractive technology, meant for metallic hybridization, reinforcement

or recovery of valuable small pieces in multiple alloys. These solutions are based on the combination of direct additive fusing technologies with deburring in the same machine





AEROSPACE
COMPANY/
AEROSPACE
TIER 1 SUPPLIER



**AEROSPACE COMPANY/
AEROSPACE TIER 1 SUPPLIER**

ACITURRI

Asturias

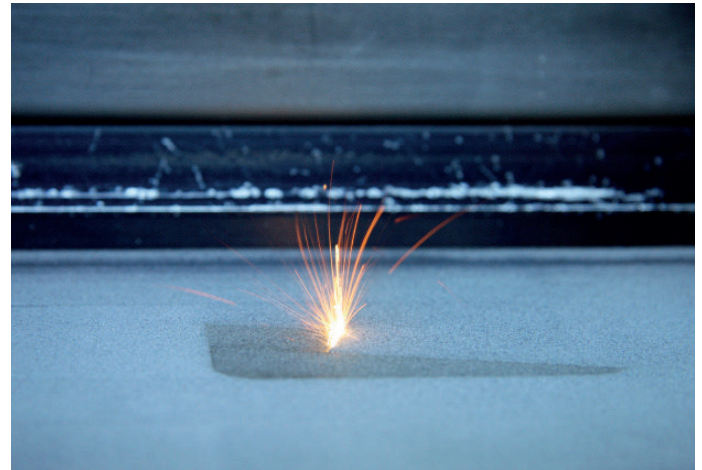
Parque Científico Tecnológico Gijón
Av. Jardín Botánico 1345
33203 Gijón (Asturias)
SPAIN

www.aciturri.com
aciturri@aciturri.com



ACTIVITY DESCRIPTION

Aciturri Additive Manufacturing is a subsidiary company of Aciturri, a Tier 1 Provider for aircraft structural assemblies and a Tier 2 for engine components, involved in major aerospace programs (A350XWB, B787, A400M, LEAPX...). AAM maintains an agreement with PRODINTEC as technological partner, and works to integrate the design and development of products through the use of additive manufacturing technologies into its activities.



**AEROSPACE COMPANY/
AEROSPACE TIER 1 SUPPLIER**

AD INDUSTRIE

Île -de-France

85, Rue de Maubeuge
75010 Paris
FRANCE

www.adgroupe.com



ACTIVITY DESCRIPTION

AD INDUSTRIE is an industrial group specialized in mechanical and hydraulic engineering. Study, assembly and testing of equipment. Industrialization and production of complex parts, metallic and composite materials, gears and transmissions, EDM, heat treatments, welding, bonding, plasma deposition, magnetic analysis, bleeding, radio, ultrasound).





AEROSOFT FRANCE

8, avenue Yves Brunaud - bât.F
31770 - Colomiers - OCCITANIE
FRANCE

www.aerosoft.it/index.action

Midi-Pyrénées



ACTIVITY DESCRIPTION

AEROSOFT France is an engineering and manufacturing company specializing in the aerospace sector. We work for major contractors, through work package and technical consulting. Our competences extend to all development phases in design and stress domains. AEROSOFT also offers complete technological solutions in new technologies such as Additive Manufacturing and thermoplastic parts production, covering solution research and optimization development within AEROSOFT to finished products at our manufacturing unit (CITEMA).



AIRBUS

1, rond-point Maurice Bellonte, 31
707 Blagnac Cedex
FRANCE

www.airbus.com/fr
questions@webmaster-airbus.com

Midi-Pyrénées



ACTIVITY DESCRIPTION

European aeronautic manufacturer





**AEROSPACE COMPANY/
AEROSPACE TIER 1 SUPPLIER**

AIRGRUP

c/Ingeniero Rafael Rubio Elola 2-4,
41300 Sevilla
SPAIN

airgrup.com
alejandro.gonzalez@airgrup.com

Andalusia



ACTIVITY DESCRIPTION

Tubing, Welding, Machining, Assembly,
Surface Treatments and Additive
Manufacturing (metal and plastics)



**AEROSPACE COMPANY/
AEROSPACE TIER 1 SUPPLIER**

ATR

1 Allée Pierre Nadot,
31712 Blagnac Cedex
FRANCE

www.atraircraft.com

Midi-Pyrénées



ACTIVITY DESCRIPTION

Manufacturing Advanced Turboprops





BBE

Rua da Indústria Metalúrgica, nº 916
Cumeiras
2430-528 Marinha Grande
PORTUGAL

www.bbe.pt
bbe@bbe.pt

Portugal Center



ACTIVITY DESCRIPTION

COMPANY:

BBE is a company dedicated to develop engineering solutions, based on recent tools and technologies, strongly dedicated to additive manufacturing, solid relations with the customers are generated, creating communication strategies that allow to monetize each project. The dedication, accuracy and quality are considered driving guidelines of its growth, strengthening the propensity to continuous improvement. The main areas of focus are the development, analysis and design, presenting as fundamental skills the realization of Computer Aided

Engineering (CAE) as fundamental skills, Design and Redesign of products, prototype manufacturing molds, metal and plastic sintering, thermography, among many other fundamental services to the industry in which operates. The clients diversity allowed BBE to enlarge its area of operation, namely on the development of grippers and automations, strengthening its activity. With a team of multidisciplinary professionals from different areas of Engineering, such as Mechanical, Biomechanic, Industrial, Electrical and Computing, reflecting its performance in a flexible approach to

the challenges posed by its customers.

COMPETENCIES:

Design and Redesign of products; prototype manufacturing molds; metal and Additive manufacturing; thermography.



CURTISS-WRIGHT

P.T.A Aeropolis
c/ Ingeniero Rafael Rubio Elola 6
41309 La Rinconada (Sevilla)
SPAIN

aeropolis.es/curtiss-wright-surface-technologies_ee27.html

mic.sevilla@cwst.com

Andalusia

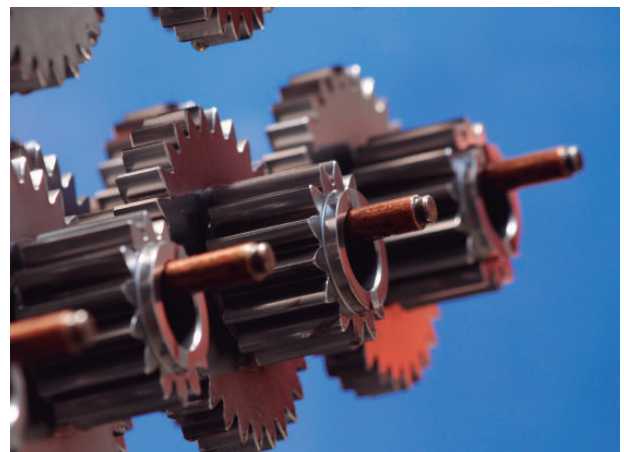


ACTIVITY DESCRIPTION

Component failure is often related to residual tensile stress induced during manufacture and certain operating conditions. The controlled shot peening process is a cost effective and practical method of replacing tensile stress with beneficial compressive stress which is proven to prevent failures due to:

- Internal porosity
- Galling
- Spalling
- Wear

- Metal fatigue
- Corrosion fatigue
- Stress corrosion cracking
- Intergranular corrosion
- Fretting
- Surface roughness





EGILE CORPORATION

Pol Ind Kurutz Gain 12-13
20850 Mendara (Gipuzkoa)
SPAIN

www.egile.es
egile@egile.es

Basque Country



ACTIVITY DESCRIPTION

EGILE is a technology-based entrepreneurial corporation which, with high precision mechanics as its core material competence, develops high value products, services and solutions for its customers. EGILE carries out its activity through different companies whose common denominator is being leaders in their areas, standing out for their strategic guidance, their management and being orientated towards optimising opportunities, in a continuous evolution towards the improvement and search for knowledge-based services and products.

EGILE incorporates additive manufacturing into its manufacturing processes aimed at developing solutions for the medical sector, which permit complementing the current product. On the other hand, and in the aeronautical sector, EGILE is developing production processes in new specific work cells adapted to additive manufacturing as a future strategic commitment.



FIGEAC AERO

Zone Industrielle de l'Aiguille
46100 Figeac
FRANCE

www.figeac-aero.com

Midi-Pyrénées



ACTIVITY DESCRIPTION

A first-tier partner of major aerospace manufacturers, Aeronautical sub-assemblies (machining and assembly), Structural parts, Engine parts, Precise parts.





**AEROSPACE COMPANY/
AEROSPACE TIER 1 SUPPLIER**

FMP - FLY MECÂNICA DE PRECISÃO, LDA

Portugal Center

Zona Industrial de Pinhel
Av. Gago Coutinho, n.º 58
6400-467 Pinhel, Guarda
PORTUGAL

www.flymp.pt
geral@flymp.pt



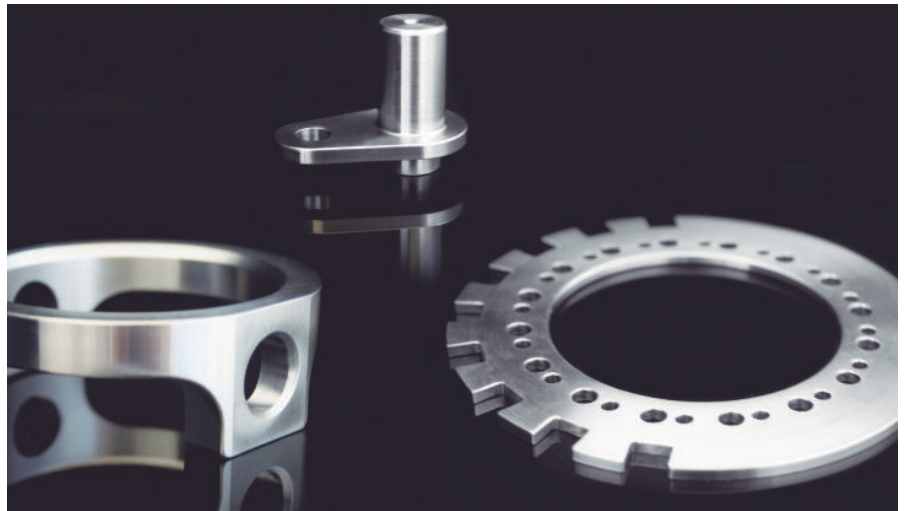
ACTIVITY DESCRIPTION

COMPANY:

Founded in October 2010, based in Pinhel, approximately 25 Kms from Guarda. Associated with Vidal Mécanique de Précision, SAS, a company with over 60 years of experience in the aerospace industry. Dedicated to the production of high-precision mechanical parts for aerospace industry.

COMPETENCIES:

Machining on high precision lathes-milling equipment of special alloys for the aerospace industry.



**AEROSPACE COMPANY/
AEROSPACE TIER 1 SUPPLIER**



FUSIA

Midi-Pyrénées

8 rue Claude Gonin
31400 Toulouse
FRANCE

www.fusia.fr



ACTIVITY DESCRIPTION

Manufacture of precision parts for aeronautics, space, defence.





INDAERO

Andalusia

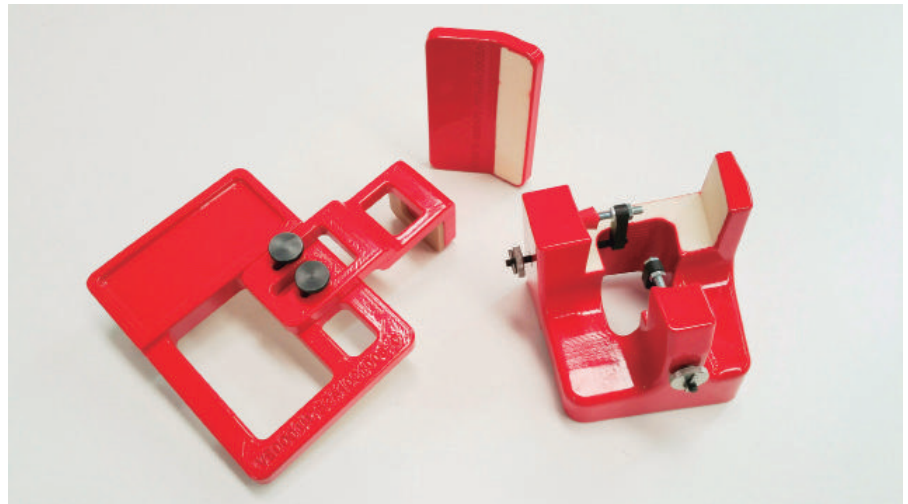
Pol. Ind. Espaldillas C/Diez Nº10
41500 Alcalá de Guadaíra, Sevilla
SPAIN

indaero.com/indaero3d
dario.gonzalez@indaero.com



ACTIVITY DESCRIPTION

INDAERO manufactures tooling, GSE and accessories for Aerospace. INDAERO was born in 2002, manufacturing plates and labels for AIRBUS. Since 2004 it machines aerospace parts. In 2006 it started to offer its engineering, design and manufacturing services for engine ground covers with plastic and textile materials. In 2007, INDAERO gets the aerospace EN9100 certificate. In 2015 the company began to produce additive manufacturing parts for tooling, prototypes and final parts for aerospace.



ITP AERO

Basque Country

Parque Tecnológico nº 300 Edif. B.60.0
48170 Zamudio (Bizkaia)
SPAIN

www.itp.es
itp@itp.es



ACTIVITY DESCRIPTION

ITP is a leading company in its market segment. It is currently ninth in the ranking of aeronautical components and engines in terms of international sales, and it is also among the first ten companies of the aeronautical industry. ITP has production centres in Spain, Great Britain, Malta, United States, India and Mexico, and a workforce of 3,500 employees.

Among its activities, ITP includes the design, research and development, manufacture and casting, assembly and testing of aeronautical engines.





**KRISTALTEK -
LASER E MECÂNICA DE PRECISÃO, LDA**

Porto and North

Rua dos Queijeiros, 255
Abade de Neiva
4750-001 Barcelos
PORTUGAL

kristaltek.com
kristaltek@kristaltek.com



ACTIVITY DESCRIPTION

COMPANY:

Kristaltek is increasingly offering diversified solutions for aeronautical, defense, medical and special machines industries. Our permanent investment in systems and processes, together with the training and development of our collaborators competences, assures solid bases for the future of our company and to the one that is our main objective: meet or surpass our customers expectations. Together with strict standards and professionalism our technical team has the necessary experience to carry out each one of the production phases,

from technical drawing and programming, prototyping and pre-series milling till serial production phase. Owning modern installations endowed with up-to-date technology and competences we are certain we can offer the best service. Kristaltek is an associate company of the representative associations of the Portuguese aeronautical cluster (AED anda PEMAS).

COMPETENCIES:

Kristaltek performs the complete manufacturing process from ordering and receipt of raw material,

programming, machining (aluminum, steel, titanium, polymers), quality control to packaging the product with its technical and quality documentations. The company is also able to manage the surface treatment and painting, with the collaboration of qualified and certified suppliers.



LATECOERE SERVICES – GROUPE ADF

Midi-Pyrénées

1, avenue Pierre-Georges Latécoère,
31570 Sainte Foy d'Aigrefeuille
FRANCE

www.latecoere-services.com
philippe.verdun@latecoere-services.com



ACTIVITY DESCRIPTION

ENGINEERING & EXPERTISE:

Engineering Services, Manufacturing Services, services and expertise in 3D metrology and non-destructive testing.

INTEGRATION & EQUIPMENT:

Integration of solutions to process industries, manufacturing industries and energy. Design and manufacturing fabrication of production equipment, assembly and tests

PRODUCTION SERVICES & MAINTENANCE:

Maintenance during operation or during shutdown, industrial cleaning and concession management in the treatment of waste





MECACHROME AERONÁUTICA

Alentejo

Parque Industrial de Aeronáutica
de Évora, Lote B1
7005-797 Évora
PORTUGAL

www.mecachrome.com
communication@mecachrome.com



ACTIVITY DESCRIPTION

Integrator of Innovating Solutions:
Based in France, Mecachrome is a Tier 1 integrator and a major player in aerospace, automotive, motor sports, defense and energy sectors, Mecachrome designs and makes high value-added parts, systems and structural assemblies. Thanks to its strong assets -expertise, efficiency, competitiveness, responsiveness -, Mecachrome has become a worldwide leader in the sector of precision mechanics. Its highly qualified employees, ultra-efficient equipment, and a global production area of more than 185 000 m² allow Mecachrome

to develop value-added solutions for its customers. Located in Europe, North America and North Africa on 14 production sites, Mecachrome reported revenues of 400 million euros in 2016 and employs more than 3 000

people in the world.

COMPETENCIES:
Machining & assembling of engine parts, hard metalwelding, sheet metal, surface treatment.



RICARDO & BARBOSA, LDA.

Porto and North

Travessa das Mimosas, 77
Zona Industrial Das Mimosas
4510-330 S. Pedro da Cova, Porto
PORTUGAL

www.ricardo-barbosa.com
customer.service@ricardo-barbosa.com



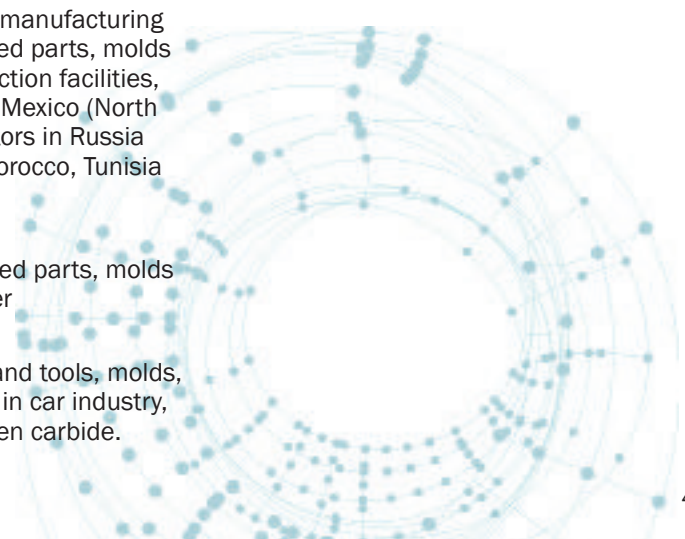
ACTIVITY DESCRIPTION

COMPANY:
Ricardo & Barbosa created in, April 1st, 1978, is one of the largest references in the manufacture of high precision tools for Automotive, Electronics and Stamping industries and is currently present, directly or indirectly in more than 30 countries around the world. Today Ricardo & Barbosa Group, with more than 35 years Industry experience, is one of the most prestigious national companies at the head quarters country. With internal engineering department and R&D - not applicable to AS9100 standard - is supporting its

customers worldwide, manufacturing high precision machined parts, molds and tools in two production facilities, Portugal (Europe) and Mexico (North America) with distributors in Russia Federation, Poland, Morocco, Tunisia and Central America.

PROFILE:
High precision machined parts, molds and tools manufacturer

COMPETENCIES:
General Tools, molds and tools, molds, tools for electric cable in car industry, spare parts in tungsten carbide.





SAFRAN HELICOPTER ENGINES

Midi-Pyrénées

Safran Helicopter Engines
64511 Bordes
FRANCE

www.safran-group.com/fr/societe/safran-helicopter-engines



ACTIVITY DESCRIPTION

Design, manufacturing, sales and support of helicopter turbines

SET - SIMULTANEOUS ENGINEERING TECHNOLOGY

Portugal Center

Rua Augusto Costa, Picassinos
2430-463, Marinha Grande
PORTUGAL

www.set.pt
setind@set.pt



ACTIVITY DESCRIPTION

The company is part of the largest development, engineering and production groups in the world with a task force of about 1100 employees and with its headquarters in Marinha Grande, Portugal.

PROFILE:

Marketing and providing complete and integrated services, ranging from product conception, development and engineering to the simulation of engineering solutions in virtual environments, prototyping, molds and peripheral tools, as well as pilot production or in large series.

COMPETENCIES:

Components manufacturing, Unmanned Aerial Systems (UAS), unmanned tactical and experimental aerial vehicles, SSI and sub-assemblies in metal and plastic, semi-finished products, components and materials inspection, development of equipment, products, jigs and hands-robot.





SOGECLAIR AEROSPACE

7, Albert Durand
31700 Blagnac
FRANCE

www.sogeclairaerospace.com
contactfr@sogeclairaerospace.com

Midi-Pyrénées



ACTIVITY DESCRIPTION

SOGECLAIR aerospace is an industrial company specialized in aeronautics and space. Referenced in Airbus Group, Bombardier, Dassault, Thalès Alenia Space, Latécoère, UTC aerospace Systems for engineering and manufacturing activities. An additive layer manufacturing department (ALM) was created in 2011 which offers the following engineering services: Assistance in the selection of ALM eligible parts, design by integrating ALM design constraints, topological optimization (ALTAIR or DASSAULT Systems) for weight saving.

For engineering it is perfect link between 3D printing and aerospace knowledge for engineering,



STELIA AEROSPACE

13, rue Marie-Louise Dissard- BP 73216
31027 Toulouse Cedex 3
FRANCE

www.stelia-aerospace.com/en/

Midi-Pyrénées



ACTIVITY DESCRIPTION

STELIA Aerospace offers global solutions for aeronautical manufacturers and airlines. STELIA Aerospace designs and produces aerostructures, pilot seats and business and first class passenger seats. With a turnover of 2.1 billion euros in 2016 and more than 6,600 employees worldwide, STELIA Aerospace supports the major aeronautical players, such as Airbus, ATR, Boeing, Bombardier, Embraer or Dassault, Singapore Airlines, Etihad Airways and Thai Airways...

Our company is present on 3 continents, in France in Méaulte, Mérignac, Rochefort, Saint-Nazaire, Salaunes, and Toulouse, and also in Canada, Morocco and Tunisia. STELIA Aerospace combines rigour, quality and performance, with one aim: the satisfaction of its Customers.





**AEROSPACE COMPANY/
AEROSPACE TIER 1 SUPPLIER**

THALES ALENIA SPACE

26 Avenue Jean François Champollion
31100 Toulouse
FRANCE

www.thalesgroup.com/fr/global

Midi-Pyrénées



ACTIVITY DESCRIPTION

Thales Alenia Space designs, integrates, tests, operates and delivers innovative space systems.

**AEROSPACE COMPANY/
AEROSPACE TIER 1 SUPPLIER**

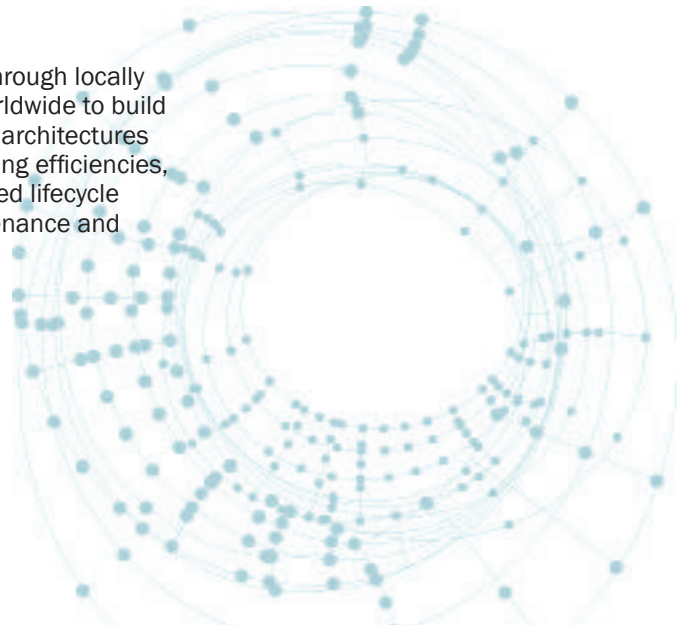


THALES AVIONICS

77-79, avenue Marcel Dassault
33700 Merignac
FRANCE

www.thalesgroup.com

Aquitaine



ACTIVITY DESCRIPTION

The involvement of Thales in all aspects of aerospace, air traffic management, satellite technology, defense and cybersecurity gives us the greatest possible insight into the critical stakes faced by aircraft manufacturers, airlines, and their pilots and crews.

Thales is uniquely positioned to bring together the latest technologies to design world-class smart avionics systems and equipment for all types of platforms, backed up by our global services and support operation. Over 9,000 highly skilled

employees operate through locally based operations worldwide to build open, flexible system architectures enabling manufacturing efficiencies, customization, reduced lifecycle costs, ease of maintenance and upgradability.



AEROSPACE INTEGRATOR

**AKKA TECHNOLOGIES**

7 boulevard Henri Ziegler
31700 Blagnac
FRANCE

www.akka-technologies.com
setind@set.pt

Midi-Pyrénées

**ACTIVITY DESCRIPTION**

AKKA offer consist to develop, to support and to facilitate the introduction of printed parts in the manufacturing lines and in the platforms (train, aircraft, spacecraft, engine, etc.) of his customers. AKKA has matured the skills of their teams in metallic and polymer additive manufacturing applied to different types of parts and tooling (prototype, series, spare, ...), in their whole lifecycle: Material & Process, design for Additive Manufacturing (DFAM), topological optimisation, reverse engineering from calculation to design, FEM, industrialisation study,

manufacturing simulation, supply chain management, special process qualification, cost analyses, quality control by 3D Scan, numerical chain definition and integration, innovating methods and tools like biomimicry.

AKKA use also proprietary tools developed internally like a technical/economic evaluation tool, a machines-material-process database or a bionic calculation tool.

**EMBRAER PORTUGAL SA**

Parque Industrial de Aeronáutica de Évora
7005-797 Évora
PORTUGAL

www.embraer.com
geral@pt.embraer.com

Alentejo

**ACTIVITY DESCRIPTION****COMPANY:**

Embraer Portugal SA is a Portuguese company that started its activities in September 2012 with the objective of being the center of excellence of Embraer SA in engineering and manufacturing of metallic and composite aero-structures. It is located in the city of Évora, south of Lisbon. It has a state-of-the-art manufacturing facility and is ready for the challenges of new aeronautical products.

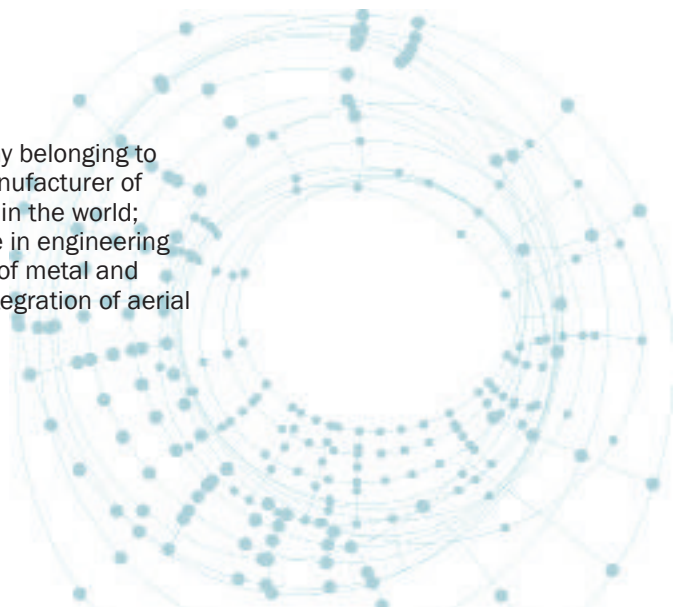
PROFILE:

Aircraft manufacturer, metallic and composite engineering, manufacturing

and integration.

COMPETENCIES:

Portuguese company belonging to the third largest manufacturer of commercial aircraft in the world; Center of excellence in engineering and manufacturing of metal and composite parts; Integration of aerial structures.





Interreg
Sudoe



ADDISPACE
European Regional Development Fund

