

Informe Anual 2013
2013 Urteko Txostena

2013 Annual Report

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2013
Annual
Report

INFORME ANUAL 2013
2013 URTEROKOTXOSTENA

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CHAPTER ONE

PRESENTATION

01

CHAPTER

PRESENTATION

The results of the 2013 financial period have confirmed the positive expectations of the associate companies of the Aeronautics and Space Cluster Association HEGAN, with record figures in turnover, exports and employment. This favourable development can be seen within the context of the continued growth of air traffic and the large order books of aircraft manufacturers, as well as the diversification of products and markets, the participation of our companies in new aeronautics programmes and the adequate response of the entire value chain.

The good work and enthusiasm of HEGAN's associate companies in 2013 allowed them to secure an increase in turnover of nearly 9%, to 1,720 million euros, while exports passed the 1000 million barrier for the first time. For the Association, it is especially satisfactory to be able to speak once again about the creation of jobs, at a time of great concern about high unemployment rates. In 2013, employment increased by 3% at all our companies' work centres, reaching a figure of 12,418 direct jobs at the end of the financial period - almost 50,000 if we add the number of jobs created indirectly. Another major consideration is R&D, which reached 166 million euros. 2013 saw a number of important successes in the global aeronautics industry, such as the delivery of the first Airbus A400M and the launching of the Airbus A350XWB and the CSeries 100 of Bombardier, in which HEGAN's associate companies have played an active part.

With regard to our partners, we would like to highlight the contracts won by Aernnova for the Embraer E2 regional aircraft and the 505 Jet Ranger of Bell Helicopters and the contract signed by ITP for the Low Pressure Turbine of the Trent XWB-97 and the Trent TEN, as well as the extension of their agreement with Pratt & Whitney for the PurePower® Geared Turbofan™ family. The Aciturri and Alestis groups continued their work as first tier suppliers of Airbus and Embraer, among others; SENER continued to play a leading role in the space sector and CTA and the Tecnalia and IK4 corporations maintained the same level of activity reached in previous years.

The non Tier1 industrial fabric, made up mainly by SMEs, continued to consolidate their position on the market, as shown by the significant growth in the percentage of exports over sales. These increased from 24% in 2012 to 33% in 2013 and their turnover in foreign sales reached 54.5 million euros. In this way, more and more foreign clients, such as Goodrich, Liebherr Aerospace, Messier-

Bugatti-Dowty, Snecma and Turbomeca, have placed their trust in this highly specialised group of companies, which will allow them to increase and diversify their activities.

To sum up, we can say that the aeronautics industry of the Basque Country has been able to take advantage of the demand in the sector and has been successful in its efforts to consolidate its position. Moreover, the exceptional results of the manufacturers of commercial aircraft in 2013, the number of orders for new aircraft and deliveries, and the 5% increase forecast for world air traffic, represent a good platform for the growth of HEGAN's associate companies in the future.

As an association, we make every effort to meet the demands of the sector. In our strategic plan for the period up to 2016, we detected - among other key challenges in our attempts to provide our associates with added value - the need to strengthen the value chain. Several work groups have developed a presence in this area and for some this has led to promising projects for the future, such as the creation of an advanced manufacturing centre. Others are generating changes of attitude which, in time, will allow for new client-supplier relationships: long-term agreements, strategic alliances, temporary associations, new players, etc. In this way we will attain higher levels of competitiveness, with everyone's commitment and the conviction that in this way we will make our best contribution possible to the future development of society.



Ignacio Mataix Entero
President



José Juez Langara
Managing Director

0.1 PRESENTACIÓN

Los resultados del ejercicio 2013 han confirmado las expectativas positivas de las empresas asociadas en el Cluster de Aeronáutica y Espacio HEGAN, con nuevas cifras récord en facturación, exportación y empleo. Esta buena evolución se enmarca en el contexto de crecimiento continuado del tráfico aéreo y en las potentes carteras de pedidos de los fabricantes de aviones, así como en la diversificación de productos y mercados, con la entrada de nuestras empresas en nuevos programas aeronáuticos y la adecuada respuesta desarrollada por toda la cadena de valor.

El trabajo bien hecho y la ilusión con la que se han empleado los socios de HEGAN han permitido lograr en 2013 un aumento de la facturación cercano al 9%, hasta alcanzar los 1.720 millones de euros, mientras que las exportaciones han superado por primera vez la barrera de 1.000 millones. Para la asociación resulta especialmente satisfactorio poder hablar nuevamente de creación de puestos de trabajo, en un momento en que preocupan las elevadas tasas de paro. En 2013 se incrementó un 3% el empleo en todos los centros de las empresas, alcanzando los 12.418 puestos de trabajo directos creados hasta finales del ejercicio, cerca de 50.000 si sumamos los generados de forma indirecta. La inversión en I+D, otro punto a destacar, alcanzó 166 millones de euros. El año 2013 ha estado marcado por importantes éxitos alcanzados por la industria aeronáutica global, como la entrega del primer A400M de Airbus y los lanzamientos del Airbus A350XWB y el CSeries 100 de Bombardier, en los que participan activamente los miembros de HEGAN.

Entre nuestros socios destaca la adjudicación de trabajos del avión regional E2 de Embraer y del 505 Jet Ranger de Bell Helicópteros a Aernnova; y la firma de ITP de contratos de las TBP del Trent XWB-97 y el Trent TEN, así como la ampliación de su acuerdo con Pratt & Whitney para la familia PurePower® Geared Turbofan™. Los grupos Aciturri y Alestis continúan su trabajo como suministradores de primer nivel de Airbus y Embraer, entre otros; SENER sigue su actividad tractora en el campo espacial y CTA y las corporaciones Tecnalia e IK4 mantienen su ritmo de actividad de años anteriores.

El tejido industrial no Tier1 -compuesto mayoritariamente por PYMES- sigue consolidándose en el mercado, como muestra el significativo crecimiento del porcentaje de las exportaciones sobre ventas -que ha pasado del 24% en 2012 al 33% en 2013-, y la cifra de ventas en el extranjero que alcanza los 54,5 millones de euros. Así, cada vez son más los clientes extranjeros, como Goodrich, Liebherr Aerospace, Messier-Bugatti-Dowty, Snecma, Turbomeca, que confían en este tejido altamente especializado, lo que les permitirá ampliar y diversificar su actividad.

En conclusión, podríamos decir que la industria aeronáutica de Euskadi está sabiendo aprovechar la demanda del sector y consolidar su posición. Además, el resultado excepcional de 2013 de los fabricantes de aviones comerciales, en el número de pedidos de nuevos aviones y de entregas, y el incremento del 5% previsto por el tráfico aéreo mundial, representan una buena plataforma para el crecimiento de las empresas de HEGAN en el futuro.

Desde la asociación tratamos de poner nuestro empeño en dar servicio al sector. Dentro de la reflexión estratégica hasta el año 2016 detectamos -entre los retos clave para aportar valor al socio- el refuerzo de la cadena de valor, un área en el que ya se han desarrollado varios grupos de trabajo, algunos de los cuales están dando lugar a proyectos de futuro como la creación de un centro de fabricación avanzada. Otros están generando cambios de actitudes que permitirán con el tiempo nuevas relaciones cliente-proveedor: acuerdos a largo plazo, alianzas estratégicas, uniones temporales, nuevos players, etc. Lograremos así una mayor competitividad, con el compromiso de todos y la convicción de aportar lo mejor de nosotros mismos al desarrollo futuro de la sociedad.

0.1 AURKEZPENEA

Euskadiko Aeronautika eta Espazioko HEGAN Kluster Elkartean biltzen diren enpresen igurikimen positiboak berretsi egin dituzte 2013ko emaitzek: fakturazio, esportazio eta enpleguaren esparruko zifrek markak hautsi dituzte. Aireko garraioaren etengabeko hazkundearen testuinguruan eta hegazkinen fabrikatzaileen eskari-zorro handiaren barnean kokatzen da, hain zuzen, bilakaera on hori, baina baita produktuen eta merkatuen dibertsifikazioaren testuinguruan ere, gure enpresak aeronautikako programa berrietan sartu baitira eta, horrez gain, balio-kate osoak egoki erantzun baitu.

Ondo egindako lanari eta HEGANeko bazkideek lanari heltzeko orduan erakutsi duten ilusioari esker, 2013an fakturazioa nabarmen hazi da, % 9 inguru, eta 1.720 milioi eurora iritsi da; esportazioek, berriz, ordura arteko 1.000 milioi euroko muga gainditu dute lehen aldiz. Elkartearantzat benetan pozgarria da berriro ere lanpostuak sortzeaz hitz egitea, langabezia-tasa altuek horrenbeste kezka eragiten duten une hauetan. 2013. urtean, % 3 hazi zen enplegua enpresen zentro guztietan, eta ekitaldiaren amaiera arte zuzenean sortutako enpleguetan 12.418 lanpostutara iritsi gara; horri zeharka sortutakoak erantsiz gero, 50.000 inguru dira. I+G arloko inbertsioa 166 milioi eurora iritsi da, eta nabarmentzekoa da hori ere. 2013. urtean, azpimarratzeko modukoak izan dira aeronautikako industria globalak lortu dituen arrakasta handiak; besteak beste, Airbus etxearen A400M hegazkinaren lehen ereduua entregatu da, eta Airbus A350XWB eta Bombardier etxearen CSeries 100 hegazkinak merkaturatu dira, eta HEGANeko kideek modu aktiboan parte hartzen dute berrietan.

Gure bazkideen artean, hauek nabarmendu dira: Embraer-en E2 eskualde-hegazkinerako eta Bell Helicópteros etxearen 505 Jet Ranger eredurako lanak Aernnova etxeari esleitu zaizkio; eta ITPk Trent XWB-97 eta Trent TEN ereduaren Behe Presioko Turbinen kontratuak sinatu ditu; horrez gain, Pratt & Whitney etxearekin egina zuen akordioa luzatu du, PurePower® Geared Turbofan™ familiarako. Aciturri eta Alestis taldeek, besteak beste, Airbus eta Embraer-en lehen mailako hornitzaile izaten jarraitzen dute; espazioaren esparruan eragile-lanak betetzen jarraitzen du SENER etxeak, eta CTAk eta Tecnalia eta IK4 korporazioek aurreko urteetako jarduera-erri-tmoari eutsi diote.

Bestalde, Tier1 ez den industria-egiturak -batez ere ETEak biltzen dira egitura horretan- merkatuan indartsu agertzen jarraitu du, eta horixe adierazten dute, hain zuzen, salmenten gaineko esportazioen ehunekoak izan duen hazkunde esanguratsuak -% 24koa zen 2012an, eta % 33koa izan da 2013an- eta atzerriko salmenten zifrak, 54,5 milioi eurotara iritsi baitira. Beraz, gero eta gehiago dira atzerriko bezeroak, hala nola Goodrich, Liebherr Aerospace, Messier-Bugatti-Dowty, Snecma, Turbomeca... Espezializazio handiko egitura horretan jarri dute beren konfiantza, eta beren jarduera hedatzeko eta askotarikotzeko aukera eman die horrek.

Ondorio gisa, esan dezakegu Euskadin aeronautika-industriak asmatu egin duela sektorearen eskariari erantzuten eta bere jarrera sendotzen. Gainera, hegazkin berrien eskariaren kopuruari eta entregatu diren ereduak begira hegazkin komertzialen fabrikatzaileek 2103an lortu dituzten emaitza bikainak eta munduan aireko zirkulazioan aurreikusitako den % 5eko hazkunde plataformaren ezin hobeak dira gerora begira ere, HEGANeko enpresek hazten jarrai dezaten.

Elkartean, sektoreari zerbitzua emateko ahalegina egiten dugu. 2016. urte arteko gogoeta estrategikoaren barnean, balio-katea indartu dela jabetu gara -bazkideari balioa emateko gakoak izan daitezkeen eronken artean-; eta esparru horretan jada garatu dira zenbait lan-talde, eta horietako batzuk hasi dira jada etorkizuneko proiektuak ematen, fabrikazio aurreraturako zentro baten sorrera, besteak beste. Beste batzuek zenbait jarrera-aldaketa ekarri dituzte, eta bezeroen eta hornitzaileen artean harreman berriak ekarri ditu horrek denborarekin: epe luzeko akordioak, itun estrategikoak, denboraldi baterako enpresa-elkarteak, player berriak, etab. Lehiakortasun handiagora lortuko dugu horrela, guztion konpromisoari esker eta gizartearen etorkizuneko garapenari geuk dugun onena eskainiz.

CHAPTER TWO

THE CLUSTER ASSOCIATION

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ACKNOWLEDGEMENTS

2.1 ORGANIZACIÓN

hegan es una asociación privada sin ánimo de lucro que agrupa al sector aeronáutico y espacial vasco, creada con el fin de potenciarlo, promoverlo y estimularlo.

Su misión, como Asociación Cluster, es el de representar y dinamizar el sector, para facilitar su competitividad a corto, medio y largo plazo mediante la cooperación y la innovación entre empresas y otros agentes, dando respuestas en colaboración a los retos estratégicos del mismo.

Asamblea General

Es el máximo órgano de la Asociación. Está integrada por todos los socios y es, por tanto, el foro de expresión de la voluntad de estos.

Junta Directiva

Es el Órgano Colegiado de Administración y Dirección. Sus miembros 2013, designados por la Asamblea General, fueron:

Ignacio Mataix -Presidente-, GRUPO ITP
Pedro Fuente -Vice Presidente-, AERNNOVA
Jorge Unda -Secretario-, SENER
Leire Bilbao, BASQUE GOVERNMENT
Armando Jiménez, ALFA PRECISION CASTING
Ángel Alonso, NOVALTI
Iñaki Tellechea, SPRI
José Juez Langara, HEGAN

Comité Ejecutivo

Este comité, delegado de la Junta Directiva, actúa como órgano ejecutivo en las actuaciones de la Asociación Cluster, se reúne bimestralmente y sus miembros 2012

Plácido Márquez -Presidente-, GRUPO ITP
Jon Larrinaga, AERNNOVA
Armando Jiménez, ALFA PRECISION CASTING
Iñigo Ezquerria, ALTRAN
Juan Miguel López Uribe, BASQUE GOVERNMENT
Ángel Alonso, NOVALTI
Javier Viñals, SENER
Susana Larrea, SPRI
Borja Emparan, WEC
José Juez Langara, Director de HEGAN
Martín Fernández Loizaga, Director adjunto de HEGAN

Grupos de trabajo

Desde el 2005, los comités permanentes de HEGAN sufrieron una reestructuración pasando a ser grupos de trabajo temporales y flexibles dedicados específicamente a actividades puntuales y reportando al Comité Ejecutivo. Estos grupos de trabajo se crean y desaparecen a voluntad de los asociados y según sus necesidades específicas del momento.

Equipo de HEGAN

El equipo permanente de la Asociación es el siguiente:

Mentxu Díaz, Responsable de Administración
Martín Fernández Loizaga, Director Adjunto
Jose Juez Langara, Director
Ana Rodríguez, Responsable de Operaciones
Ana Villate, Responsable de Proyectos en Cooperación

2.1 ANTOLAMENDUA

Aeronautika eta espazioaren sektoreko euskal enpresak biltzen dituen irabazi asmorik gabeko elkarte pribatua da HEGAN, sektore hori indartzeko, sustatzeko eta bultzatzeko sortutakoa.

Sektorea ordezkatzea eta dinamizatzea da Kluster Elkartearen misioa, horrela, enpresen eta beste eragile batzuen arteko lankidetzaren eta berrikuntzaren bidez, sektorearen lehiakortasuna sendotzeko, sektoreko dema estrategikoei lankidetzan oinarritutako erantzuna eskainiz.

Biltzar Nagusia

Hauxe da elkarteko organo gorena. Bazkide guztiek osatzen dute, eta, beraz, bazkideen asmoak eta gogoak adierazteko foroa da.

Zuzendaritza-Batzordea

Administrazio- eta zuzendaritza-taldeko organoa da. Honako hauek dira bertako kideak, Batzar Nagusiak 2013rako izendatutakoak:

Ignacio Mataix -lehendakaria-, ITP TALDEA
Pedro Fuente -lehendakariordea-, AERNNOVA
Jorge Unda -idazkaria-, SENER
Leire Bilbao, BASQUE GOVERNMENT
Armando Jiménez, ALFA PRECISION CASTING
Ángel Alonso, NOVALTI
Iñaki Tellechea, SPRI
José Juez Langara, HEGAN

Batzorde Betearazlea

Zuzendaritza Batzordearen ordezkaririk den talde hau organo betearazlea da klusterraren jardueretan. Hauek dira batzordeko kideak:

Plácido Márquez -lehendakaria-, ITP TALDEA
Jon Larrinaga, AERNNOVA
Armando Jiménez, ALFA PRECISION CASTING
Iñigo Ezquerria, ALTRAN
Juan Miguel López Uribe, BASQUE GOVERNMENT
Ángel Alonso, NOVALTI
Javier Viñals, SENER
Susana Larrea, SPRI
Borja Emparan, WEC
José Juez Langara, HEGANeko zuzendaria
Martín Fernández Loizaga, HEGANeko zuzendari laguntzailea

Lantaldeak

2005. urtetik aurrera, HEGANeko batzorde iraunkorrak berregituratu ziren, eta horien ordez behin-behineko lantalde malguak, ekintza zehaztutara zuzendutakoak, sortu ziren. Lantalde horiek bazkideen beharren arabera sortzen eta desagertzen dira, une bakoitzean beroriek dituzten ikuspegi eta iritziak aintzat hartuta.

HEGANeko Taldea

Honako hauek osatzen dute elkarteko talde iraunkorra:

Mentxu Díaz, administrazioa
Martín Fernández Loizaga, zuzendari laguntzailea
Jose Juez Langara, zuzendaria
Ana Rodríguez, kudeatzaile orokorra
Ana Villate, kooperazio-proiektuen kudeatzailea



General Assembly 2013

hegan is a private non-profit association that groups together the Basque Aeronautics and Space sector, created with the objective of fostering, promoting and stimulating it.

As a cluster association, its aim is to represent and promote this sector to ensure its sustainable competitiveness through co-operation and innovation among companies and other agents, as a response to its strategic challenges.

General assembly

This is the main body of the association. It is made up of all members and is therefore the body that represents their needs.

Board of directors

This is the collegial body of administration and management. Appointed by the General Assembly. Its members in 2013 were as follows:

Ignacio Mataix –President-, GRUPO ITP
 Pedro Fuente –Vice President-, AERNNOVA
 Jorge Unda –Secretary-, SENER
 Leire Bilbao, BASQUE GOVERNMENT
 Armando Jiménez, ALFA PRECISION CASTING
 Ángel Alonso, NOVALTI
 Iñaki Tellechea, SPRI
 José Juez Langara, HEGAN

Executive Committee

This committee, delegated by the Board of Directors, acts as executive body in the activities pursued by the Cluster. Its members are:

Plácido Márquez –President-, GRUPO ITP
 Jon Larrinaga, AERNNOVA
 Armando Jiménez, ALFA PRECISION CASTING
 Iñigo Ezquerro, ALTRAN
 Juan Miguel López Uria, BASQUE GOVERNMENT
 Ángel Alonso, NOVALTI
 Javier Viñals, SENER
 Susana Larrea, SPRI
 Borja Emparan, WEC
 José Juez Langara, Director of HEGAN
 Martín Fernández Loizaga, Deputy Director of HEGAN

Working groups

Since 2005, the permanent committees of HEGAN were restructured in temporary and flexible working groups engaged in a number of specific tasks. These working groups are created and dissolved according to the needs of the members and in accordance with their specific views at each moment on time.

HEGAN's team

Employees of the Cluster Association permanent team are as follows:

Mentxu Díaz, Administration
 Martín Fernández Loizaga, Deputy Director
 Jose Juez Langara, Director
 Ana Rodríguez, Operations Manager
 Ana Villate, Cooperation Projects Manager

2.2 HEGAN 2013

Como comentamos el año pasado en estas mismas líneas, en la primavera de 2012 comenzamos otro proceso de reflexión estratégica. El proceso nos marcó líneas de trabajo hasta el año 2016.

Fue un proceso rápido, y efectivo, no en vano en otoño de 2012 ya teníamos detectados los retos del sector, aquellos en los cuales la existencia de HEGAN podía aportar valor:

- Reforzar la cadena de valor
- Mejorar el posicionamiento ante ciertos clientes
- Representar al Sector
- Aportar contexto para la toma de decisiones estratégicas
- Generar, retener y atraer talento
- Formación específica

Y con una idea que estaba presente para trabajar en todos ellos: la cultura de cooperación.

Así comenzó 2013, poniendo foco en los dos primeros retos, aquellos que vemos ligados directamente a la competitividad de los asociados. Jornadas de oportunidades en la cadena de valor de motores con más de 100 personas como asistentes, puesta en marcha de procesos piloto para mejorar el posicionamiento con un cliente objetivo identificado y promoción y soporte para la creación de un centro de fabricación avanzada, son algunos de las actividades clave realizadas.

Los otros cuatro retos, de carácter más horizontal y que deben nutrir a aquellos dos primeros aportando competitividad de una forma indirecta, los activamos con tareas y actividades habituales de la asociación: acciones de formación y talento; de difusión, comunicación y promoción; y de inteligencia competitiva.

Además, en el pasado ejercicio ha habido tres acciones a las que hemos dedicado muchos recursos y energía: Aerotrends, Le Bourget y CARE.

Aerotrends se consolidó como el certamen aeroespacial más importante de España reuniendo conferencias y B2B en un mismo lugar ya en 2006. En 2013, tras la firma de un acuerdo, HEGAN ha apoyado al BEC –Bilbao Exhibition Centre- para la organización de dicho evento dentro de la Cumbre Industrial 2013 el pasado mes de septiembre. 126 empresas y organizaciones compartieron un espacio dedicado a reuniones de negocios y más de 200 personas asistieron a las conferencias.

‘Le Bourget’, el Paris Air Show, es la feria dedicada a la aviación, a la aeronáutica y al espacio más importante y antigua del mundo. Su primera edición se celebró en 1909 y la de 2013 fue la número 50! La asociación cluster HEGAN participa en esta feria desde su constitución -en diciembre del 97-, de manera ininterrumpida,

2.2 HEGAN 2013

Iazko urtean adierazi genuenaren ildotik, 2012ko udaberrian gogoeta-prozesu estrategiko berri bat lantzen hasi ginen. 2016. urtera arteko lan-ildoak zehaztu zitugun prozesu horrek, hain zuzen.

Prozesu bizkor eta eraginkorra izan zen, eta 2012ko udazkenerako jada hautemanda genituen sektorearen erronkak, HEGANek egin zezakeen balio-ekarpena adierazten zuten erronkak, alegia:

- Balio-katea sendotzea
- Zenbait bezeroren aurrean betetzen zuen tokia hobetzea
- Sektorea ordezkatzeko
- Erabaki estrategikoak hartzeko testuingurua eskaintzea
- Talentua sortzea, atxikitzea eta erakartzea
- Prestakuntza espezifikoa

Eta bazen ideia nagusi bat ere, horietan guztietan landu beharko zena: lankidetzaren kultura.

Horrelaxe hasi zen 2013. urtea, arreta lehenengo bi erronketan jarri, hots, zuzenean bazkideen lehiakortasunarekin lotuta daudenetan. Gauzatutako jarduerak funtsezkoen artean, hauek daude, besteak beste: motorren balio-kateetan aukerak lantzeko saioak, 100 lagun baino gehiago bildu zituztenak; xede gisa bezero bat identifikatuta, bezero horrekiko posizionamendua hobetzeko prozesu pilotu bat abian jartzea; edota fabrikazio-zentro aurreratu bat sortzeko euskarria eta sustapen-lana.

Gainerako lau erronkak, izaera horizontalagoa dutenak eta zeharka lehiakortasuna emanez lehen biak elikatu behar dituztenak, elkartean ohiko zeregin eta jardueren bidez abiarazi genituen: prestakuntzarekin eta talentuarekin lotutako ekintzak; hedapen, komunikazio eta sustapenerako ekintzak; eta adimen lehiakorrerako ekintzak.

Horrez gain, hiru ekintzari baliabide ugari eta indar handia eskaini dizkiegu aurreko ekitaldian. Hauek dira: Aerotrends, Le Bourget eta CARE.

Aire eta espazioaren esparruan Espainian egiten den ekitaldi garrantzitsuenetarikoa gisa sendotu egin zen Aerotrends topaketa, eta biltzarra eta B2B topaketak bildu zituen jada 2006an toki berean. 2013an, akordio bat sinatu ondoren, HEGANek BEC –Bilbao Exhibition Centre- babestu nahi izan zuen, jada iazko irailean 2013ko Industriako Goi Bileraren barnean ekitaldi hori antolatzeko. Negozio-bilerei zuzendutako gune bat partekatu zuten 126 enpresa eta erakundek, eta 200 lagun baino gehiago izan ziren biltzarretan.

“Le Bourget” edo Paris Air Show azoka abiazio, aeronautika eta espazioari zuzendutako munduko azoka garrantzitsuenetakoa eta zaharrenetakoa da. Lehen edizioa 1909an izan zuen, eta azkena, berriaz, 2013an, 50.a, hain zuzen! HEGAN Kluster Elkarteak eratu zenetik –1997ko abenduan– hartu du parte, etenik gabe, azoka horretan,

As we pointed out last year in this section, in the spring of 2012, we started out on another process of strategic reflection. The process established our lines of work for the period up to 2016.

It was a rapid and effective process. By the autumn of 2012, we had already detected the main challenges of the sector in which HEGAN could contribute value:

- Strengthen the value chain
- Improve our position with respect to certain clients
- Represent the sector
- Contribute context for strategic decision-taking
- Generate, keep and attract talent
- Specific training



Challenges working groups

And with an idea that was applied in all these areas: the culture of cooperation.

In early 2013, we began by focusing on the first two challenges, which, in our opinion, are linked directly to the competitiveness of our associate companies. Some of our key actions included the organisation of seminars on the opportunities in the engine value chain, attended by more than 100 people. We put into motion pilot processes to

improve our position in relation to target clients and provided promotion and support for the creation of an advanced manufacturing centre.

We activated the other four challenges, which are of a more horizontal nature and must be used to support the first two by contributing competitiveness in an indirect manner, with the usual tasks and activities of the association: training and search for talent, diffusion, communications and promotions, and competitive intelligence.

Moreover, during the last financial period there were three actions to which we dedicated a large number of resources and a great deal of energy: Aerotrends, Le Bourget and CARE.

Aerotrends secured its status as the most important aerospace event in Spain in 2006, by combining talks and B2B at the same venue. In 2013, following the signing of an agreement, HEGAN began to support the BEC –Bilbao Exhibition Centre- for the organisation of this event within the 2013 Industrial Summit last September. The show brought together 126 companies and organisations for business meetings and talks attended by more than 200 people.

2.2 HEGAN 2013

‘Le Bourget’, el Paris Air Show, es la feria dedicada a la aviación, a la aeronáutica y al espacio más importante y antigua del mundo.

desde la primera edición en la que tuvo opción de participar: 1999; es decir son ya ocho participaciones. HEGAN despliega muchos recursos para formalizar un espacio de encuentro y trabajo común para el sector, donde poder encontrar oportunidades, nuevos contactos y colaboraciones.

Y por último, deseamos reseñar nuestra involucración en la iniciativa EACP -donde más de 40 clusters regionales aeroespaciales europeos trabajamos en red para desarrollar sector- que posibilitó el lanzamiento y nuestra incorporación al proyecto CARE (FP7). Este proyecto pretende ayudar a mejorar la posición de nuestras empresas para asegurar que el sector sea líder en tecnologías “verdes” en transporte aéreo, y ya está aportando valor a los socios: estamos adquiriendo visibilidad a nivel europeo y eso repercute en la buena imagen de los miembros; nos aprovechamos de los “best practices” y del “mentoring” que se está generando; hay informes y DAFOs realizados al que ya estamos sacando partido; y es una oportunidad para los socios y para nosotros poder participar en eventos con otras regiones aeronáuticas. Una de las iniciativas que más interés está suscitando en las empresas europeas dentro del proyecto CARE son los TIGER (Topic Interest Groups for the Emergence of Research), creados con el objetivo principal de conseguir lanzar propuestas en cooperación que puedan presentarse al programa ‘Horizon 2020’ o a cualquier otra convocatoria de ayudas de ámbito europeo.

2.2 HEGAN 2013

parte hartzeko aukera izan zuen lehen unetik, 1999tik, alegia. Hau da, zortzi aldiz hartu du parte jada. Sektorerako topaketa- eta lan-eremu bat prestatzeko, baliabide ugari erabiltzen ditu HEGANek azoka horretan, aukerak, harreman berriak eta lankidetzak bilatu nahian.

“Le Bourget” edo Paris Air Show azoka abiatu, aeronautika eta espazioari zuzendutako munduko azokarik garrantzitsuenetakoa eta zaharrenetakoa da.

Azkenik, EACP ekimenean esku hartu dugula ere azpimarratu nahi dugu; ekimen horren barnean, sarean lan egiten dugu Europako aire eta espazioaren esparruko eskualde-izaerako 40 klusterrak, sektorea garatu ahal izateko. Esku-hartze horri esker, CARE (FP7) proiektua merkaturatu zen, eta proiektu horretan sartu ginen gu ere. Gure enpresen posizioa hobetzen lagundu nahi du proiektu horrek, sektorea aire-garraioko teknologia “berdeetan” lider izango dela ziurtatzeko; eta jada ari zaie bazkideei balioa ekartzen: European, gero eta ikusgarriago izan gaitetzen bidea egiten ari gara, eta horrek eragina du bazkideen irudi onean; sortzen ari diren “best practices” eta “mentoring” prozesuei etekina ateratzen ari gara; txostenak eta AMIA azterketak egin dira, eta ari gara horiei probetxua ateratzen ere; eta bai guretzat eta bai bazkideentzat, aukera ederra da ekitaldietan beste eskualde aeronautiko batzuekin parte hartu ahal izatea. CARE proiektuaren barnean europar enpresetan interes handiena pizten ari den ekimen bat TIGER taldeak dira (Topic Interest Groups for the Emergence of Research); lankidetzan, “Horizon 2020” programara edo Europako esparruko diru-laguntzen beste deialdi batzuetara aurkez daitezkeen zenbait proposamen abiaraztea dute xede lantalde horiek.

'Le Bourget', the Paris Air Show, is the most important and oldest air show in the world.

'Le Bourget', the Paris Air Show, is the most important and oldest air show in the world. The first show was held in 1909 and the 2013 show was number 50! The HEGAN cluster association, set up in December 1997, has taken part in this fair every year since 1999. In other words, HEGAN deploys a great deal of resources to set up a common space for meetings and work for the sector in which our members can find opportunities, new contacts and collaborations.



Le Bourget 2013

Lastly, we should like to highlight our involvement in the EACP initiative, which led to the launching of the CARE project (FP7), in which more than 40 regional aerospace clusters collaborate in a network to develop the sector. The aim of this Project is to help to improve the position of our companies to ensure that the sector occupies a leading position in the field of green technologies in air transport and is already contributing value to our members. We are gaining visibility at a European level and this has contributed to the good image of our companies. We are taking advantage of the "best practices" and "mentoring" that are being generated. There are reports and completed DAFOs that we are already making great use of and it represents an opportunity for us to take part in events with other aeronautics regions. One

of the initiatives that is creating the greatest amount of interest among European companies in the CARE Project are the TIGERS (Topic Interest Groups for the Emergence of Research), created with the main aim of launching proposals in cooperation that can be submitted to the 'Horizon 2020' programme or any other European aid scheme.

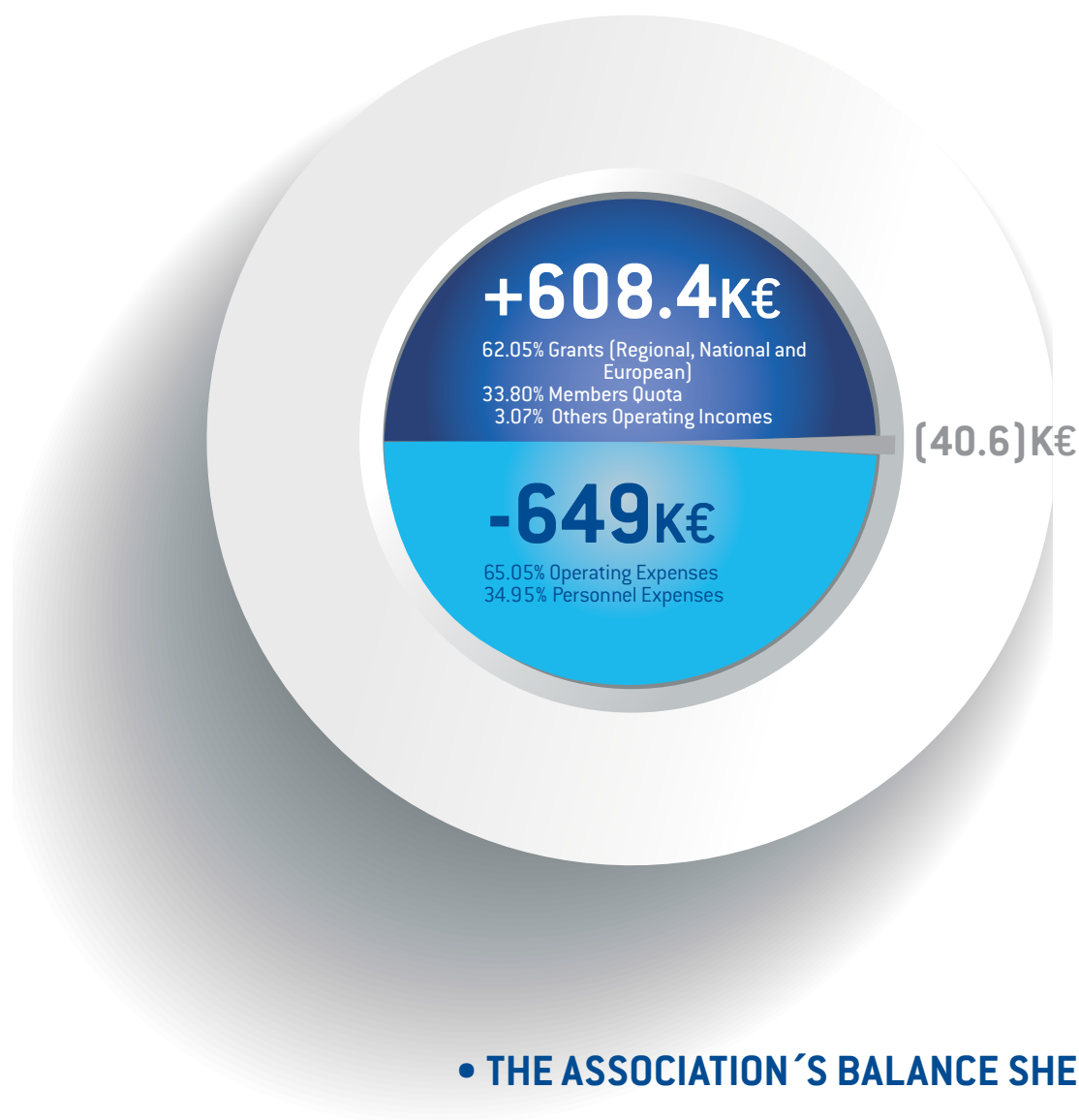


EACP Annual Partner Meeting, Bilbao 2013

HEGAN GENERAL ASSEMBLY 2013



- THE ASSOCIATION'S 2013



- THE ASSOCIATION'S BALANCE SHEET

TOTAL: 403.7K€

Net assets: 37%

CHAPTER THREE

THE CLUSTER MEMBERS

01

CHAPTER

PRESENTATION

+

02

CHAPTER

THE CLUSTER
ASSOCIATION

+

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03

CHAPTER

THE CLUSTER
MEMBERS

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04

CHAPTER

ACKNOWLEDGE-
MENTS

CHAPTER THREE

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Projects****3.3.7 Manufacturing, Processes, Materials
and other R&D Projects****3.4. PROGRAMMES AND CLIENTS****3.5. FACTS AND FIGURES**

3.1 MEMBERS

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3.1 MEMBERS

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Technical Coordinator:

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3.2. VALUE CHAIN

ALTRAN

MATERIAL SUPPLIER

TIER 3-4 MATERIAL PROCESSING & COMPONENTS

AERnova

ARATZ

BOST Machine Tools Company

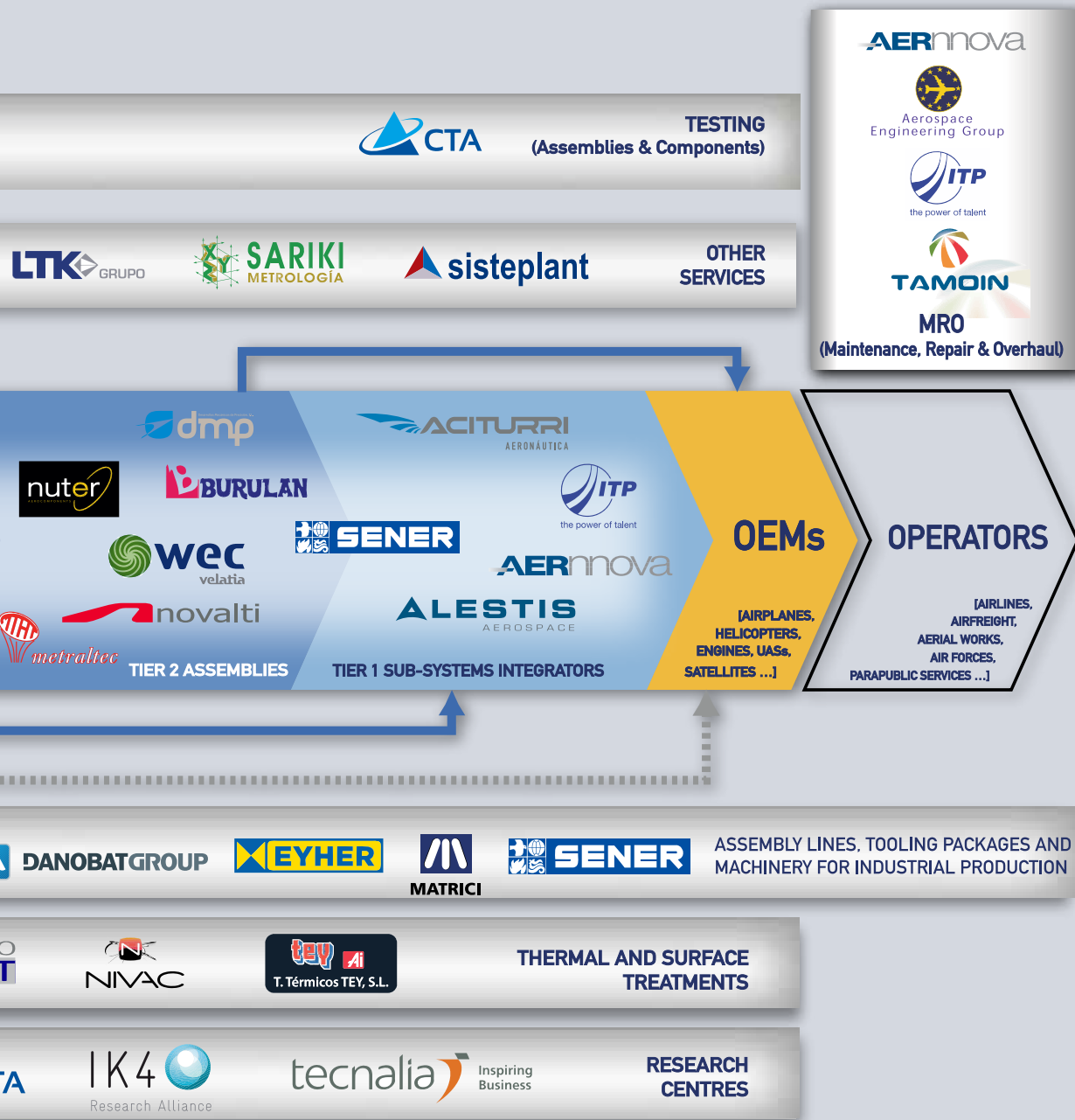
BURDINBERRI



AYZAR

GRUP TTT

CT



CAPABILITIES

		ACTIURRI	AERINNOVA	AEROMECC	AEROSPACE ENG. GR.	AIBE	ALESTIS	ALFA PRECISION CASTING	ALTRAN	ARATZ	ASTORKIA	AYZAR	BOST	BURDINBE	BUR
AIRFRAME, ENGINE AND SPACE: SYSTEMS AND COMPONENTS	Systems integration	●				●									
	Conceptual design	●					●								
	Detail design engineering	●	●			●	●	●	●					●	
	Big components assembly	●	●			●									
	Medium components assembly	●	●	●		●		●	●	●				●	
	Small components assembly	●	●	●	●	●	●	●	●	●	●			●	●
	Materials supply and management	●	●			●		●							
	Special cutting and drilling		●			●									
	Production solutions for internal movements and works in heights														
	Robotics, automation & production systems	●	●			●							●	●	●
	Aeroengine metallic component manufacturing	●		●		●		●	●	●	●				●
	Airframe metallic component manufacturing	●	●	●		●		●	●	●	●			●	●
	Space metallic component manufacturing	●	●	●		●		●	●	●	●			●	●
	Manufacturing engineering and CAD-CAM-CAE	●	●	●		●		●	●	●	●			●	●
	High precision machining	●	●	●		●		●	●	●	●			●	●
	Sheet metal work		●			●									
	Metallic tooling design and manufacturing	●	●	●	●	●	●	●	●	●	●			●	●
	Investment casting						●								
	Thermal and surface treatments	●	●			●					●				●
	Thermal spray														
Composites engineering	●	●			●		●								
Composites manufacturing	●	●			●		●								
Composites tooling design	●	●			●		●	●					●		
Composites tooling manufacturing	●	●			●		●	●					●		
Metrology advanced services and equipment															
Non-destructive testing	●	●			●		●	●		●			●		
Testing and certification		●			●		●								
Engine maintenance repair & overhaul															
Airframe maintenance repair & overhaul		●													
Systems & Equipment maintenance repair & overhaul				●											
Aeronautic Logistic Services															
EQUIPMENT, AVIONICS AND OTHERS	UAS Design Engineering and Support	●	●					●							
	Equipment Design engineering	●	●			●		●							
	Avionics Space and Defence Systems SW and HW					●		●							
	Test benches and Simulation Systems	●													
	Mechanical systems		●					●	●						
	Control and electronic systems														
	High precision rubbers														
	Machine-tools for metallic processing												●	●	
	Machine-tools for composite processing													●	
	Machine-tools for aeroengine MRO													●	
EN9100															
NADCAP															

Members
100% of special p

3.3 ACTIVITIES 2013

3.3.1 Aerostructures

3.3.2 Engines

3.3.3 Systems and Equipment

3.3.4 Space

3.3.5 Maintenance

3.3.6 Aircraft and Space engineering R&D Projects

3.3.7 Manufacturing, Processes, Materials and other R&D Projects

3.3.1 AEROSTRUCTURES

AERNNOVA



BURULAN



EYHER



LTK GRUPO



General Description of the Product/service	DIRECT CLIENT	OEM	MODEL
ACITURRI			
Stringer and coatings & Landing gear door	AIRBUS MILITARY	AIRBUS	A320
Section 18 structural assembly	AIRBUS MILITARY	AIRBUS	A320
HTP Torsion box	AIRBUS OPERATIONS	AIRBUS	A320
Leading edge of HTP assembly	AIRBUS MILITARY	AIRBUS	A330
Passenger door structural assembly	ALESTIS	AIRBUS	A330
Leading edge of horizontal stabilizer assembly	AIRBUS MILITARY	AIRBUS	A340
HTP Tips & Passenger door structural assembly	AIRBUS MILITARY	AIRBUS	A340
VTP	AIRBUS OPERATIONS	AIRBUS	A350 XWB
Internal structure of S19	AIRBUS OPERATIONS	AIRBUS	A350 XWB
Belly Fairing (Zones 0,1, 2 , 3.1, 3.2, 3.3 y 4)	AIRBUS MILITARY	AIRBUS	A380
Wing Ribs and HTP, Tail rudder	AIRBUS OPERATIONS	AIRBUS	A380
Sponsons	DAHER-SOCATA	AIRBUS MILITARY	A400M
Spar	AIRBUS FRANCE	AIRBUS MILITARY	A400M
Flap and Vanes	AIRBUS GERMANY	AIRBUS MILITARY	A400M
Central Box: Structural assembly and equipment & Tip wings integration	AIRBUS MILITARY	AIRBUS MILITARY	CN235, C295
Rudder Components & Integration	AIRBUS MILITARY	BOEING	737
Elevators and HTP	AIRBUS MILITARY	DASSAULT	FALCON 7X
Wing to Fuselage Fairing	EMBRAER	EMBRAER	KC-390
Sponsons and VT	FOKKER	EUROCOPTER	NH 90
Composite components	AIRBUS MILITARY	EUROFIGHTER	TYPHOON
Auxiliary Fuel Tanks	AIRBUS MILITARY	EUROFIGHTER	TYPHOON

3.3.1 AEROSTRUCTURES

General Description of the Product/service	DIRECT CLIENT	OEM	MODEL
AERNNOVA			
Elevators Assy /Main Landing Gear Doors Assy / Horizontal stab. Spars / Fus. Section 18 Covers / Interior “dado” panels	AIRBUS	AIRBUS	A320
Elevator Components / Karman Fairings. Design Maintenance and Manufacturing of Main Landing Gear Doors Assy	AIRBUS	AIRBUS	A330/A340
Conceptual and detailed design and manufacture of HTP horizontal stab. fixed parts and Elevators - Risk Partner	AIRBUS	AIRBUS	A350 XWB
Conceptual and detailed design and manufacture of MLG Pressure bulkhead	EADS-SOGERMA	AIRBUS	A350 XWB
Build to print Rudder	AIRBUS	AIRBUS	A350 XWB
Horizontal Stabilizer: Design and Manufacturing of Leading Edges, Trailing Edges and Box Joint.	AIRBUS	AIRBUS	A380
Rear Fuselage - Section 19: Design & manufacturing of Internal Metallic Structure, including attachment fittings to Vertical Stabilizer.	AIRBUS	AIRBUS	A380
Stiffeners and angle bars S19.1 / trailing edge covers HTTP (composite)	AIRBUS	AIRBUS	A380
Skin Panels Assembly S-19 (Built to Print)	AIRBUS	AIRBUS	A380
Stringers / tip HTTP / wing stringers (composite)	AIRBUS MILITARY	AIRBUS MILITARY	A400M
Forward landing gear traps/ engine housings (composite)	AIRBUS MILITARY	AIRBUS MILITARY	CN235, C295
Spoilers	EADS-SOGERMA	ATR	ATR 72
Build to print of Fully equipped Wings	BEECHCRAFT	BEECHCRAFT	KING AIR, BARON, BONANZA
Manufacture of Prototypes and FTVs / Complete structure	BELL	BELL	Bell 505
Conceptual engineering Wing Insparr Ribs and structures for sections 11, 12 and 42	BOEING	BOEING	747-8I/F
Manufacturing of complete Tail section (vertical and horizontal stabilisers) and elevators	BOMBARDIER	BOMBARDIER	CRJ700/900/1000
Conceptual Design & Manufacture of Central Wing Box (composite)	BOMBARDIER	BOMBARDIER	CSeries
Design Tail Cone (composite)	BOMBARDIER	BOMBARDIER	CSeries
Design and manufacture of complete Tail section (vertical and horizontal stabilizers), rudder and elevators - Risk Partner	EMBRAER	EMBRAER	EMB 170/175/190/195/ LINEAGE 1000
Design and manufacture of rear fuselage - Risk Partner	EMBRAER	EMBRAER	EMB 170/175/190/195/ LINEAGE 1000
Design and manufacture of complete wings-Risk Partner	EMBRAER	EMBRAER	ERJ135/140/145

3.3.1 AEROSTRUCTURES

General Description of the Product/service	DIRECT CLIENT	OEM	MODEL
Design and manufacture of nacelles - Risk Partner	EMBRAER	EMBRAER	ERJ135/140/145
Design and manufacture of wing to fuselage fairings -Risk Sharing Partner- Partially Tranfered to Embraer	EMBRAER	EMBRAER	ERJ135/140/145
Design and manufacture of complete wings - Risk Partner	EMBRAER	EMBRAER	LEGACY Family
Design and manufacture of nacelles -Risk Partner	EMBRAER	EMBRAER	LEGACY Family
Design and manufacture of wing to fuselage fairings -Risk Partner- Partially Tranfered to Embraer	EMBRAER	EMBRAER	LEGACY Family
Design and manufacture of rear fuselage - Risk Partner	EMBRAER	EMBRAER	LINEAGE 1000
Design and Manufacturing of Flaps, Ailerons and Rudder	EMBRAER	EMBRAER	KC-390
Design of Rear Fuselage, Pylon, Cargo Ramp and Upper Door	EMBRAER	EMBRAER	KC-390
Design of Wing Box	EMBRAER	EMBRAER	KC-390
Design and Manufacturing of Horizontal & Vertical stabilizer	EMBRAER	EMBRAER	E-jets E2
Design of Cockpit	EMBRAER	EMBRAER	E-jets E2
Upper structure manufacture	EUROCOPTER	EUROCOPTER	EC 225 /725 Super Puma
Lower structure manufacture. Tail cone (composite)	EUROCOPTER	EUROCOPTER	EC 225 /725 Super Puma
Tail Cone manufacture	HELIBRAS	EUROCOPTER	EC 225 /725 Super Puma
Build to print Fuselage	AGUSTAWESTLAND	EUROCOPTER	NH 90
Rear fuselage(composite)	EUROCOPTER	EUROCOPTER	TIGRE
Wing covers, housings and conduits (composite)	EADS	EUROFIGHTER	TYPHOON
Design and manufacture of the equipped transition section and tail cone - Risk Partner	SIKORSKY	SIKORSKY	S-92 / H-92
Design and manufacture of the HS - Risk Partner	SIKORSKY	SIKORSKY	S-92 / H-92
Design and manufacture of the main rotor pylon, fairings and engine cowlings - Risk Partner	SIKORSKY	SIKORSKY	S-92 / H-92
AEROMECH			
Structural door components. Contract with Latecoere for the manufacture of 44 types of door parts	SEVERAL	BOEING	787
Motor pylon supports	SEVERAL	BOMBARDIER	Q-Series
Horizontal stabilizer structure & Structural components front section	SEVERAL	DASSAULT	FALCON 5X
Door of structural components	SEVERAL	EMBRAER	170/175/190/195

3.3.1 AEROSTRUCTURES

General Description of the Product/service	DIRECT CLIENT	OEM	MODEL
ALESTIS			
BBAA HTP & VTP	ACITURRI	AIRBUS	A320
TIP'S HTP	AIRBUS	AIRBUS	A320
Panels and Formers S18 / HTTP Box	AIRBUS MILITARY	AIRBUS	A320
TTP'S	AERNNOVA	AIRBUS	A320
TIP'S HTTP	AIRBUS MILITARY	AIRBUS	A330
PAX Door	AIRBUS	AIRBUS	A330
TIP'S HTTP	AIRBUS MILITARY	AIRBUS	A340
PAX Door	AIRBUS	AIRBUS	A340
Ribs HTP	AIRBUS	AIRBUS	A340
Belly Fairing - Risk Partner	AIRBUS	AIRBUS	A350 XWB
S19.1 - Risk Partner	AIRBUS	AIRBUS	A350 XWB
MLGD / S19.1 / Rear Fairing - Risk Partner	AIRBUS	AIRBUS	A380
Belly Fairing	AIRBUS MILITARY	AIRBUS	A380
Assembly tasks	AIRBUS MILITARY	AIRBUS MILITARY	A330MRTT
Rear Cones - Risk Partner	AIRBUS MILITARY	AIRBUS MILITARY	A400M
BBAA HTP	AIRBUS MILITARY	AIRBUS MILITARY	A400M
Elevator	AIRBUS MILITARY	AIRBUS MILITARY	A400M
Cowlings	AIRBUS MILITARY	AIRBUS MILITARY	A400M
Center Wing	AIRBUS MILITARY	AIRBUS MILITARY	C212
Rear & Central fuselage	AIRBUS MILITARY	AIRBUS MILITARY	CN235, C295
HTP / VTP	AIRBUS MILITARY	AIRBUS MILITARY	CN235, C295
Cockpit	AIRBUS MILITARY	AIRBUS MILITARY	CN235, C295
Sponsons	AIRBUS MILITARY	AIRBUS MILITARY	CN235, C295
Baggage Compartment	AIRBUS MILITARY	AIRBUS MILITARY	CN235, C295
Aileron	AIRBUS MILITARY	BOEING	777
Flaperon	AIRBUS MILITARY	BOEING	777
BBAA HTTP - Risk Partner	AIRBUS MILITARY	DASSAULT	FALCON 7X
Winglet	EMBRAER	EMBRAER	170/175/190/195
Wingstub	EMBRAER	EMBRAER	170/175/190/195
Wing's 4th Station	AERNNOVA	EMBRAER	ERJ135/140/145
Central Fuselage - Risk Partner	EMBRAER	EMBRAER	LEGACY450/500

3.3.1 AEROSTRUCTURES

General Description of the Product/service	DIRECT CLIENT	OEM	MODEL
Empennage - Risk Partner	EMBRAER	EMBRAER	LEGACY450/500
Assemblies Set - Risk Partner	EMBRAER	EMBRAER	PHENOM 100/300
Participation in P3Orion Conversion	AIRBUS MILITARY	LOCKHEED MARTIN	P-3 Orion
ALTRAN			
Weights and mass engineering	AIRBUS	AIRBUS	A30X
Design BF A350	ALESTIS	AIRBUS	A350 XWB
Development S12	AIRBUS	AIRBUS	A350 XWB
Design wing Ailerons and spoilers	AIRBUS	AIRBUS	A350 XWB
Development S12	AEROLIA	AIRBUS	A350 XWB
Support engineering HNC	AIRBUS	AIRBUS	A350 XWB
Support engineering HNC Fan Cowls	AIRBUS	AIRBUS	A380
Supplier management Tier1 and Tier2	AIRBUS	AIRBUS	AIRBUS Families
Development of processes and materials HTP and S19	AIRBUS	AIRBUS	AIRBUS Families
Structural Dimensioning Cockpit	AIRBUS	AIRBUS	GRA
Assembly engineering	AIRBUS	AIRBUS MILITARY	A330 MRTT
Nacelle fatigue analysis	AIRBUS	AIRBUS MILITARY	A400M
Manufacturing tool design KC390	EMBRAER	EMBRAER	KC390
Primary Structure Development	EMBRAER	EMBRAER	KC390
Autopilot Development	SOLAR IMPULSE	SOLAR IMPULSE	PT60M
ARATZ			
Composite Tooling	AIRBUS	AIRBUS	A350 XWB
Assembly tooling	AIRBUS	AIRBUS	AIRBUS Families
Assembly tooling	DASSAULT	DASSAULT	FALCON Family
ASTORKIA			
Structural components	AERNNOVA	AIRBUS	A380, A350
Structural components	Several	AIRBUS	AIRBUS Families
Structural components	Several	BOEING	787,747
Structural components	AERNNOVA	BOMBARDIER	CRJ700/900
Structural components	AERNNOVA	EMBRAER	EMBRAER Families
AYZAR			
Heat treatments	BURDINBERRI	AIRBUS	AIRBUS Families
Heat treatments	ACITURRI	AIRBUS	AIRBUS Families
BURDINBERRI			
RTM beam cut-out tooling	AIRBUS OPERATIONS	AIRBUS	A350 XWB
Hot forming BF Tooling	ALESTIS AEROSPACE	AIRBUS	A350 XWB
NEO Tooling	EADS-CASA	AIRBUS	A350 XWB
FP Barrel S19 Tooling	REDUCTIA AEROSPACE	AIRBUS	A350 XWB
STR 7-9 WLC Stringers	REDUCTIA AEROSPACE	AIRBUS	A350 XWB
Stringers V1000	REDUCTIA AEROSPACE	AIRBUS	A350 XWB

3.3.1 AEROSTRUCTURES

General Description of the Product/service	DIRECT CLIENT	OEM	MODEL
BURULAN			
Manufacture of components, surface treatments, assemblies.	AERNNOVA	AIRBUS	AIRBUS Families
Manufacturing of components, surface treatments, assemblies	AERNNOVA	BOMBARDIER	CRJ700/900
Manufacture of components, surface treatments, assemblies	AERNNOVA	BOMBARDIER	Cseries/ CS300
Manufacture of components, surface treatments, assembly, ball joint stapling	AERNNOVA	EMBRAER	170/175/190/195
Manufacturer of components, surface treatments, assemblies	AERNNOVA	SIKORSKY	H-92
CTA			
Fire certification tests of interior materials	AIR NOSTRUM LAM	AIR NOSTRUM	Airlines
Integral THSA door frame test	AIRBUS	AIRBUS	A350 XWB
S19 stringer run-out test	AIRBUS	AIRBUS	A350 XWB
HTP skin panel test	AERNNOVA	AIRBUS	A350 XWB
Stiffened elevator skin panel test	AERNNOVA	AIRBUS	A350 XWB
HTP spar web test	AERNNOVA	AIRBUS	A350 XWB
HTP stringer run-out test	AERNNOVA	AIRBUS	A350 XWB
MLGB stringer run-out analysis	AERNNOVA	AIRBUS	A350 XWB
HTP central skin joint test	AERNNOVA	AIRBUS	A350 XWB
WLC stringer run-out test	AIRBUS	AIRBUS	A350 XWB
Support 2 continuous rib test	AIRBUS	AIRBUS	A350 XWB
S19.1 firewall fireproof test	ALESTIS	AIRBUS	A350 XWB
Fire certification tests of interior materials	BOEING R&T EUROPE	BOEING	Airlines
Panel buckling test	AEROLIA	BOMBARDIER	GLOBAL 7000
Panel residual strength test	AEROLIA	BOMBARDIER	GLOBAL 7000
Flap inboard test	AERNNOVA	EMBRAER	KC-390
Aileron test	AERNNOVA	EMBRAER	KC-390
Rudder test	AERNNOVA	EMBRAER	KC-390
Forward wing tests	SIP	PIAGGIO	P180-MPA3
Flap tests	SIP	PIAGGIO	P180-MPA3
Metallic fitting tests	SIP	PIAGGIO	P180-MPA3
Fire certification tests of interior materials	DIEHL AIRCABIN	Several	Airlines
Fire certification tests of interior materials	L&L PRODUCTS EUROPE SAS	Several	Airlines
Fire certification tests of interior materials	HUTCHINSON-CENTRE DE RECHERCHE	Several	Airlines
Fire certification tests of interior materials	AIMPLAS	Several	Airlines
Fire certification tests of interior materials	WL GORE & ASSOCIATES (UK) LTD.	Several	Airlines
Fire certification tests of interior materials	LOGITRADE SAS	Several	Airlines
Fire certification tests of interior materials	JCB AERO	Several	Airlines
Fire certification tests of interior materials	INVENT GMBH	Several	Airlines
Fire certification tests of interior materials	PINTA INSULATION	Several	Airlines

3.3.1 AEROSTRUCTURES

General Description of the Product/service	DIRECT CLIENT	OEM	MODEL
Fire certification tests of interior materials	ZOTEFAM	Several	Airlines
Fire certification tests of interior materials	RELATS,S.A.	Several	Airlines
Fire certification tests of interior materials	AERTEC	Several	Airlines
Fire certification tests of interior materials	AXON CABLE S.A.S	Several	Airlines
EYHER			
work-in-heights-platforms for the S19 manufacturing	MTORRES	AIRBUS	A350 XWB
Work-in-heights-platforms for the flow line cw	ARITEX	AIRBUS	A340
Work-in-heights-platform for HTP manufacturing	MTORRES	BOEING	787
Work-in-heights-platforms for joint rudder manufacturing	SERRA	EMBRAER	170/190
GRUPO TTT			
Heat and surface treatments	AERNOVA	AGUSTA WESLAND	NH 90
Heat and surface treatments	SONACA	AIRBUS	AIRBUS Families
Heat and surface treatments	AERNOVA	AIRBUS	AIRBUS Families
Heat and surface Treatments	AIRBUS MILITARY	AIRBUS MILITARY	A400M / C295
Heat and surface treatments	BHR Helicopter	BHR Helicopter	F360, F290
Heat and surface treatments	Several	BOMBARDIER	CRJ700/900
Heat and Surface treatments	SONACA	DASSAULT	FALCON Family
Heat and surface treatments	AERNOVA	EMBRAER	EMBRAER Families
Heat and surface treatments	SONACA	EMBRAER	EMBRAER Families
Heat and surface treatments	AERNOVA	EUROCOPTER	EUROCOPTER Families
Heat and surface treatments	AERNOVA	SIKORSKY	S-92
INDUSTRIAS GALINDO			
Tooling manufacturing	INESPASA	AIRBUS	A350 XWB
Tooling manufacturing	AERNOVA	AIRBUS	A380
Tooling manufacturing	ALESTIS	AIRBUS	A350 XWB
Tooling manufacturing	ALESTIS	BOEING	787
Tooling manufacturing	AERNOVA	EMBRAER	170/190
Tooling manufacturing	CTA	Several	Miscellaneous
LTK GRUPO			
Special Aerospace Logistics: Transport, Stock, Quality control...	AIRBUS	AIRBUS	AIRBUS Families
Special Aerospace Logistics: Transport, Stock, Quality control...	AIRBUS MILITARY	AIRBUS MILITARY	A400M/330 MRTT
Special Aerospace Logistics: Transport, Stock, Quality control...	AIRBUS	AIRBUS MILITARY	CN235, C295
Special Aerospace Logistics: Transport, Stock, Quality control...	ALESTIS	EMBRAER	170/175/190/195
MATRICI			
Tooling for carbonfiber and metallic parts	AIRBUS OPERATIONS	AIRBUS	Miscellaneous
Tooling for carbonfiber and metallic parts	AIRBUS MILITARY	AIRBUS	Miscellaneous
Tooling for carbonfiber and metallic parts	AERNOVA	Several	Miscellaneous

3.3.1 AEROSTRUCTURES

General Description of the Product/service	DIRECT CLIENT	OEM	MODEL
MESIMA			
Materials management and supply	BURULAN	EMBRAER	EMBRAER Families
Materials management and supply	AIRBUS MILITARY	Several	Miscellaneous
METRALTEC			
Manufacture and assembly of elements (Sheet metal working, machining, heat and surface treatments, painting)	FIBERTECNIC	AIRBUS	A320
Manufacture and assembly of elements (Sheet metal working, machining, heat and surface treatments, painting)	AERNNOVA	AIRBUS	A380
Manufacture of elementary parts and assembly (sheet metal, machining, heat and surface treatments, painting)	AERNNOVA	BOMBARDIER	CRJ700/900
Manufacture of elementary parts and assemblies (sheet metal, machining, heat treatments and surface treatments, painting)	AERNNOVA	EMBRAER	170/175/190/195, ERJ135/140/145, KC390
Manufacture of elementary parts (sheet metal, machining, heat treatment, surface treatment, painting)	FIBERTECNIC	EUROFIGHTER	TYPHOON
Manufacture of elementary parts and assemblies (sheet metal, machining, heat treatments and surface treatments, painting)	AERNNOVA	SIKORSKY	S-92
NOVALTI			
Landing gear trap	AIRBUS	AIRBUS	A380
Belly Fairing components	AIRBUS	AIRBUS	A380
Belly Fairing components	Various	AIRBUS	A350XWB
NUTER			
Structural components	AERNNOVA	AIRBUS	A380
Components	AERNNOVA	BOMBARDIER	CRJ700/900
Structural components	AERNNOVA	EMBRAER	ERJ135/140/145, 170/175/190/195
Structural components	AERNNOVA	SIRKOSKY	S-92
SARIKI METROLOGIA			
Measurement Equipment and Consultancy -supply, maintenance, training and software programming-	VEIRU	AIRBUS	Miscellaneous
Measurement Equipment and Consultancy -supply, maintenance, training and software programming-	AIRGRUP / CONSUR	AIRBUS	Miscellaneous
Measurement Equipment and Consultancy -supply, maintenance, training and software programming-	MTORRES	Several	Miscellaneous
SENER			
Removal of inserts from leading edge.	AIRBUS	AIRBUS	A320
Auxiliary tools for the wing flap assembly in two airbus models	STRATA	AIRBUS	A330, A340
Fatigue analysis and damage tolerance	AIRBUS	AIRBUS	A340/600

3.3.1 AEROSTRUCTURES

General Description of the Product/service	DIRECT CLIENT	OEM	MODEL
Design, construction, installation, transport and start up of the system in which the carbon fibre laminates of the wing stringer positioning line are generated	AIRTEX	AIRBUS	A350 XWB
Conceptual design of the Belly Fairing.	AIRBUS	AIRBUS	A350 XWB
Engineering of the front area of the Belly Fairing and pre-plateau stage of section 19.1	ALESTIS	AIRBUS	A350 XWB
Conceptual design of the landing gear. Pre-plateau stage	AIRBUS	AIRBUS	A350 XWB
HTP box for the Getafe production line	AIRBUS	AIRBUS	A350 XWB
Development of main landing gear traps: justification of strength corresponding to new flight mode groups up to the test support	AIRBUS	AIRBUS	A380
Development of Belly Fairing and support work	AIRBUS	AIRBUS	A380
Detailed design of parts such as the elevator for the cargo version	AIRBUS	AIRBUS	A380
Four access platforms for drilling the upper and lower shells of section S19	AIRBUS	AIRBUS	A380
Design and production of HTP assembly stations 70 and 71	THYSSEN GERMANY	AIRBUS	A350 XWB
Fuel access covers (FTAC) & Definition of a new design for fuel access covers (FTAC)	AIRBUS MILITARY	AIRBUS MILITARY	A400M
HTP box	AIRBUS MILITARY	AIRBUS MILITARY	A400M
Phase 4 of the Internal Noise Reduction Program	AIRBUS MILITARY	AIRBUS MILITARY	C295 Persuader
HTP box	BOEING	BOEING	787
Cseries Wing equipment station elevators	BOMBARIDER	BOMBARIDER	Cseries
Handling system for big mobile aircraft parts	EMBRAER	EMBRAER	KC390 program
SISTEPLANT			
Manufacturing Execution System implementation	MTORRES	UAC	Irkut MS-21
Engineering and industrialisation of A350 Belly Faring Assembly Line	ALESTIS	AIRBUS	A350 XWB
Manufacturing Execution System implementation	ALETSIS	AIRBUS	A350 XWB
Manufacturing Execution System implementation	AIRBUS POLAND	AIRBUS	Miscellaneous
Job Instructions definition and standardization	AIRGRUP	Several	Miscellaneous
5Ss in welding area	AIRGRUP	Several	Miscellaneous
Lead-time parameterization in order to maximize plant capacity	AIRGRUP	Several	Miscellaneous
TEY			
Heat treatments	CESA	AIRBUS	AIRBUS Families
Heat treatments	AIRBUS / MILITARY	AIRBUS	AIRBUS Families
Heat treatments	AERNNOVA	SIKORSKY	S-92
Heat treatments	ACITURRI	AIRBUS	AIRBUS Families

3.3.2 ENGINES



ACITURRI



GRUPO TTT



SARIKI METROLOGÍA



GRUPO ITP

General Description of the Product/service	DIRECT CLIENT	OEM	ENGINE MODEL	PLATFORMS
ACITURRI				
Mounting Rings, Thermals and fittings	ITP	EUROJET	EJ200	EUROFIGHTER TYPHOON
Components	WEC	EUROJET	EJ200	EUROFIGHTER TYPHOON
Housings	ITP	ROLLS-ROYCE	F414	BOEING F/A-18E/F
Struts	ITP	GENERAL ELECTRIC	GE90-115	BOEING 777
End Fittings	SL Engineering	ROLLS-ROYCE	Several	Several
Lugs and vanes	ITP	ROLLS-ROYCE	TP400	AIRBUS A400M
Lugs and vanes & T.Match	ITP	ROLLS-ROYCE	TRENT 1000	BOEING 787
Housings	ITP	ROLLS-ROYCE	TRENT 500	AIRBUS A340
Housings	ITP	ROLLS-ROYCE	TRENT 700	AIRBUS A330
Lugs and vanes	ITP	ROLLS-ROYCE	TRENT 900	AIRBUS A380
Lugs and vanes	ITP	ROLLS-ROYCE	TRENT XWB	AIRBUS A350
AEROMECH				
Support ring	Several	CFM International	CFM56	AIRBUS A320 / BOEING 737
LPT rings	ITP	EUROJET	EJ200	EUROFIGHTER TYPHOON
Turbine casing & Thermal	ITP	Several	Several	Miscellaneous
AIBE				
Design and manufacture of clamping systems and fixtures for machining processes and special machines	ITP	GENERAL ELECTRIC	GE90	BOEING 777
Design and manufacture of clamping systems and fixtures for machining processes and special machines	ITP	ROLLS-ROYCE	TRENT Family	Several

3.3.2 ENGINES

General Description of the Product/service	DIRECT CLIENT	OEM	ENGINE MODEL	PLATFORMS
ALTRAN				
Support in the development and mission of the APU	AIRBUS	AIRBUS	Several	AIRBUS Families
Aerodynamics, structural and heat analysis	ITP	ROLLS-ROYCE	TRENT XWB	AIRBUS A350XWB
ARATZ				
Machined parts	ITP	EUROJET	EJ200	EUROFIGHTER TYPHOON
ASTORKIA				
Engine components	Several	Several	Several	BOEING 747
Engine components	ITP	ROLLS-ROYCE	TRENT 900	AIRBUS A380
AYZAR				
Heat treatments	ACITURRI	Several	Several	Miscellaneous
CTA				
Aerodynamic Technology Acquisition Rig Programme	ITP	Several	Several	Miscellaneous
DANOBAT GROUP				
Vertical grinding machine for turbine discs	ITP	Several	Several	Miscellaneous
DMP				
Main transmission gears	TURBOMECA	TURBOMECA	ALL RANGE	Miscellaneous
Accessory transmission gears	TURBOMECA	TURBOMECA	ALL RANGE	Miscellaneous
Transmission shafts Curvic-Coupling	TURBOMECA	TURBOMECA	ARRIEL / MAKILA	EUROCOPTER DAUPHIN / SUPERPUMA
HP turbine discs	AEROTECH	TURBOMECA	ARRIEL / MAKILA	EUROCOPTER DAUPHIN / SUPERPUMA
Transmission shafts Curvic-Coupling	TURBOMECA	TURBOMECA	ARRIUS	EUROCOPTER EC135
Carter parts	PCB	CFM International	CFM56	AIRBUS A320 / BOEING 737
Main shaft Ge90	AUBERT&DUVAL	GENERAL ELECTRIC	GE90	BOEING 777
Thrust struts	Several	EA	GP7200	AIRBUS A380
Shaft	ITP	TURBOMECA	MTR390	EUROCOPTER TIGRE
Thrust struts	Several	Several	SaM146	SSJ100
Thrust struts	Several	ROLLS-ROYCE	TRENT 900	AIRBUS A380
ELECTROHILO				
TEC segmentation	ITP	EUROJET	EJ200	EUROFIGHTER TYPHOON
Strut manufacture	ITP	MTRI	MTR390-E	EUROCOPTER TIGRE
Inner vanes erosion. Recanteado alabes	ITP	EPI	TP400	AIRBUS A400M
Edging of VANES and BCVs	ITP	ROLLS-ROYCE	TRENT 1000	BOEING 787
HUB drill, Separation Top Core Vane, Vanes erosion	ITP	ROLLS-ROYCE	TRENT 900	AIRBUS A380
Edging of VANES and BCVs	ITP	ROLLS-ROYCE	TRENT XWB	AIRBUS A350XWB

3.3.2 ENGINES

General Description of the Product/service	DIRECT CLIENT	OEM	ENGINE MODEL	PLATFORMS
GRUPO ITP				
Parts of external equipment of engine	ROLLS-ROYCE	ROLLS-ROYCE	BR725	GULFSTREAM G650
Components	GENERAL ELECTRIC	GENERAL ELECTRIC	CF34-10	EMBRAER 190/LINEAGE 1000
Lost wax casting super alloys for Turbine	SNECMA	CFM International	CFM56	AIRBUS A320 / BOEING 737
Design and manufacture of the Diffuser cones and By-Pass Module - Member of the EUROJET Consortium	NETMA	EUROJET	EJ200	EUROFIGHTER TYPHOON
Design and manufacture of the post burner duct and variable nozzle - Member of the EUROJET Consortium	NETMA	EUROJET	EJ200	EUROFIGHTER TYPHOON
Manufacture of Externals - Member of the EUROJET Consortium	NETMA	EUROJET	EJ200	EUROFIGHTER TYPHOON
Final assembly of the engine - Member of the EUROJET Consortium	NETMA	EUROJET	EJ200	EUROFIGHTER TYPHOON
Lost wax casting super alloys - nozzle	ITP	EUROJET	EJ200	EUROFIGHTER TYPHOON
Lost wax casting super alloys - low pressure turbine	ITP	EUROJET	EJ200	EUROFIGHTER TYPHOON
Design and validation of the ROLL POST	ROLLS-ROYCE	ROLLS-ROYCE	F136	LOCKHEED MARTIN F-35
Manufacture of rear turbine structure	GENERAL ELECTRIC	GENERAL ELECTRIC	GE90-115	BOEING 777
Lost wax casting super alloys for Turbine	MTU	EA	GP7000	AIRBUS A380
Structural components	HONEYWELL	HONEYWELL	HTF7000	BOMBARDIER CHALLENGER 300
Design and manufacture of three LPT - Member of the MTRI Consortium	EUROCOPTER	MTRI	MTR390-E	EUROCOPTER TIGRE
Final assembly of the engine - Member of the MTRI Consortium	EUROCOPTER	MTRI	MTR390-E	EUROCOPTER TIGRE
Lost wax casting super alloys - low pressure turbine	ITP	MTRI	MTR390-E	EUROCOPTER TIGRE
Modules manufacturing	PRATT & WHITNEY	PRATT & WHITNEY	PW1000G	Cseries/MRJ90/MS-21/A320neo
Components manufacturing	PRATT & WHITNEY CANADA	PRATT & WHITNEY	PW535E	EMBRAER PHENOM 300
Lost wax casting super alloys for Turbine	SNECMA	POWERJET	SaM146	SUKHOI SUPERJET 100
Design and manufacture of low pressure turbine (LPT) - Member of EPI Consortium	AIRBUS MILITARY	EPI	TP400	AIRBUS A400M
Design and manufacture of the Front Frame and Exhaust System - Member of the EPI Consortium	AIRBUS MILITARY	EPI	TP400	AIRBUS A400M
Manufacture of Externals - Member of EPI Consortium	AIRBUS MILITARY	EPI	TP400	AIRBUS A400M

3.3.2 ENGINES

General Description of the Product/service	DIRECT CLIENT	OEM	ENGINE MODEL	PLATFORMS
Final assembly of engine - Member of EPI Consortium	AIRBUS MILITARY	EPI	TP400	AIRBUS A400M
Lost wax casting super alloys for intermediate pressure turbine	ROLLS-ROYCE	EPI	TP400	AIRBUS A400M
Lost wax casting super alloys for the LPT	ITP	EPI	TP400	AIRBUS A400M
Design and manufacture of low pressure turbine (LPT) - Risk Partner	ROLLS-ROYCE	ROLLS-ROYCE	TRENT 1000	BOEING 787
Design and manufacture of Rear Frame - Risk Partner	ROLLS-ROYCE	ROLLS-ROYCE	TRENT 1000	BOEING 787
Lost wax casting super alloys for the LPT	ITP	ROLLS-ROYCE	TRENT 1000	BOEING 787
Lost wax casting super alloys for the intermediate pressure turbine	ROLLS-ROYCE	ROLLS-ROYCE	TRENT 1000	BOEING 787
Design and manufacture of low pressure turbine (LPT) - Risk Partner	ROLLS-ROYCE	ROLLS-ROYCE	TRENT 500	AIRBUS A340
Design and manufacture of the Rear Frame - Risk Partner	ROLLS-ROYCE	ROLLS-ROYCE	TRENT 500	AIRBUS A340
Lost wax casting super alloys for the LPT	ITP	ROLLS-ROYCE	TRENT 500	AIRBUS A340
Assembly of the LPT and component manufacture	ROLLS-ROYCE	ROLLS-ROYCE	TRENT 700	AIRBUS A330
Lost wax casting super alloys for the intermediate pressure turbine	ROLLS-ROYCE	ROLLS-ROYCE	TRENT 700	AIRBUS A330
Design and manufacture of the low pressure turbine (LPT) - Risk Partner	ROLLS-ROYCE	ROLLS-ROYCE	TRENT 900	AIRBUS A380
Design and manufacture of the Rear Frame - Risk Partner	ROLLS-ROYCE	ROLLS-ROYCE	TRENT 900	AIRBUS A380
Lost wax casting super alloys for the LPT	ITP	ROLLS-ROYCE	TRENT 900	AIRBUS A380
Lost wax casting super alloys for the intermediate pressure turbine	ROLLS-ROYCE	ROLLS-ROYCE	TRENT 900	AIRBUS A380
Design and manufacture of the low pressure turbine (LPT) - Risk Partner	ROLLS-ROYCE	ROLLS-ROYCE	TRENT XWB	AIRBUS A350XWB
Design and manufacture of the Rear Frame - Risk Partner	ROLLS-ROYCE	ROLLS-ROYCE	TRENT XWB	AIRBUS A350XWB
Lost wax casting super alloys for the LPT	ITP	ROLLS-ROYCE	TRENT XWB	AIRBUS A350XWB
Lost wax casting super alloys for the intermediate pressure turbine	ROLLS-ROYCE	ROLLS-ROYCE	TRENT XWB	AIRBUS A350XWB
GRUPO TT				
Heat and Surface treatments	Several	EUROJET	EJ200	EUROFIGHTER TYPHOON
Heat and surface treatments	ITP	ROLLS-ROYCE	Several	Miscellaneous
Heat and surface treatments	SNECMA	SNECMA	Several	Miscellaneous
Heat and surface treatments	Several	TURBOMECA	Several	Miscellaneous

3.3.2 ENGINES

General Description of the Product/service	DIRECT CLIENT	OEM	ENGINE MODEL	PLATFORMS
INDUSTRIAS GALINDO				
Manufacturing of Tooling for turbine shafts and static components	ITP	Several	Several	Miscellaneous
Design of Cutting Tools	ITP	Several	Several	Miscellaneous
Design of Cutting Tools	MECACHROME	Several	Several	Miscellaneous
Manufacturing of Tooling for LPT Components (inter stage seals)	PCB	Several	Several	Miscellaneous
Manufacturing of Tooling for LPT Components (inter stage seals)	ITP	ROLLS-ROYCE	TRENT XWB	AIRBUS A350XWB
MATRICI				
Tooling for metallic parts	ITP	ROLLS-ROYCE	TRENT 900	AIRBUS A380
MESIMA				
Materials management and supply	ITP	ROLLS-ROYCE	Several	Miscellaneous
Materials management and supply	NOVALTI	ROLLS-ROYCE	Several	Miscellaneous
Materials management and supply	WEC	SEVERAL	SEVERAL	Miscellaneous
NIVAC				
Thermal and surface treatments	SEVERAL	SEVERAL	SEVERAL	Miscellaneous
NOVALTI				
Components	ITP	EUROJET	EJ200	EUROFIGHTER TYPHOON
Engine components	ITP	MTRI	MTR390-E	EUROCOPTER TIGRE
Components for LPT	ITP	EPI	TP400	AIRBUS A400M
Components for the LPT	ITP	ROLLS-ROYCE	TRENT 1000	BOEING 787
Components	ITP	ROLLS-ROYCE	TRENT 500	AIRBUS A340
Components for the LPT	ITP	ROLLS-ROYCE	TRENT 900	AIRBUS A380
Components for the LPT	ITP	ROLLS-ROYCE	TRENT XWB	AIRBUS A350XWB
NUTER				
Fittings	ITP	EUROJET	EJ200	EUROFIGHTER TYPHOON
Fittings	ITP	EPI	TP400	AIRBUS A400M
Fittings	ITP	ROLLS-ROYCE	TRENT FAMILY	Miscellaneous
SARIKI METROLOGIA				
Measurement Equipment and Consultancy -supply, maintenance, training and software programming-	ITP	Several	Several	Miscellaneous
Measurement Equipment and Consultancy -supply, maintenance, training and software programming-	ASTORKIA	Several	Several	Miscellaneous

3.3.2 ENGINES

General Description of the Product/service	DIRECT CLIENT	OEM	ENGINE MODEL	PLATFORMS
SENER				
Test gantry	ITP	EPI	TP400	AIRBUS A400M
Test bench at Bordeaux (France)	ITP	EPI	TP400	AIRBUS A400M
SIEGEL				
Components	ITP	EPI	TP400	AIRBUS A400M
Components	ITP	EUROJET	EJ200	EUROFIGHTER TYPHOON
Machined Components	ITP	PRATT & WHITNEY	Several	Miscellaneous
Machined Components	ITP	ROLLS-ROYCE	TRENT Family	Miscellaneous
SISTEPLANT				
Manufacturing Execution System implementation	PCB	Several	Several	Miscellaneous
TEY				
Heat treatments	SENER	EPI	TP400	AIRBUS A400M
Heat treatments	ACITURRI	ITP	TRENT1000	Miscellaneous
Heat treatments	ITP	ROLLS-ROYCE	TRENT Family	Miscellaneous
Heat treatments	DMP	TURBOMECA	Several	Miscellaneous
Heat treatments	TURBOMECA	TURBOMECA	Several	Miscellaneous
Heat treatments	WEC	Several	Several	Miscellaneous
WEC				
Ducts for external equipment of engine	ITA	ROLLS-ROYCE	BR 715	BOEING 717
Parts of external equipment of engine	SNECMA	CFM International	CFM56	AIRBUS A320 / BOEING 737
Exhaust nozzle parts	ITP	EUROJET	EJ200	EUROFIGHTER TYPHOON
TEC parts	ITP	EUROJET	EJ200	EUROFIGHTER TYPHOON
Parts of external equipment of engine	ITP	EUROJET	EJ200	EUROFIGHTER TYPHOON
Parts of external equipment of engine	SNECMA	GENERAL ELECTRIC	GE90-115k	BOEING 777
Fabricated vanes for TEC/TBH	Several	PRATT&WHITNEY	GTF	Miscellaneous
Rings, annular components, combustion chamber components	HONEYWELL	HONEYWELL	Several	Miscellaneous
TEC Front Cases	GKN Aerospace Engine Systems	ROLLS-ROYCE	Several	Miscellaneous
Parts for engine cooling devices	SNECMA	SNECMA	SIVERCREST	DASSAULT FALCON 5X
Parts of external equipment of engine	ITP	EPI	TP400	AIRBUS A400M
Structural parts	ITP	ROLLS-ROYCE	TRENT 1000	BOEING 787
Structural parts	ITP	ROLLS-ROYCE	TRENT 500	AIRBUS A340
Parts of external equipment of engine	ITP	ROLLS-ROYCE	TRENT 900	AIRBUS A380
Parts of external equipment of engine	ITP	ROLLS-ROYCE	TRENT Family	Miscellaneous
Structural parts	ITP	ROLLS-ROYCE	TRENT XWB	AIRBUS A350

3.3.3 SYSTEMS AND EQUIPMENT

DMP



TECNASA



CTA



General Description of the Product/service	DIRECT CLIENT	SYSTEM / EQUIPMENT	PLATFORMS
ACITURRI			
Hydraulic Tanks	CESA	Hydraulic System	AIRBUS A380
Equipped elements	RATIER FIGEAC	Turboprop systems	Several
AEROMEC			
Nose and main landing gear components	Several	Landing Gear	CASA C295
Main landing gear components	Several	Landing Gear	CASA CN235
AIBE			
Precision machining of components	MTORRES	Several	Miscellaneous
ALFA PRECISION CASTING			
Conduits- Air Fittings (Lost wax casting superalloys)	LIEBHERR AEROSPACE	Air conditioning	AIRBUS A320
Conduits- Air Fittings (Lost wax casting superalloys)	LIEBHERR AEROSPACE	Air conditioning	AIRBUS A380
Conduits- Air Fittings (Lost wax casting superalloys)	LIEBHERR AEROSPACE	Air conditioning	BOEING 787
Optronic equipment housings (lost wax casting aluminium)	SAGEM DEFENSE	Optronic systems TV-Thermography	EUROCOPTER NH90
Radar housings (Lost wax casting aluminium)	INDRA	Radars	EUROFIGHTER TYPHOON
ALTRAN			
Door actuator dimensioning	CESA	Doors	AIRBUS A400M
Landing gear design	AIRBUS MILITARY	Landing Gear	AIRBUS A320/380/400M
Harness design	AIRBUS MILITARY	Electrical system	C295 CH01

3.3.3 SYSTEMS AND EQUIPMENT

General Description of the Product/service	DIRECT CLIENT	SYSTEM / EQUIPMENT	PLATFORMS
CTA			
MLG retraction actuator test	CESA	Landing gear	AIRBUS A350 XWB
Belly fairing air inlet test	TEAMS	Several	AIRBUS A350 XWB
Landing gear actuators system test	CESA	Landing gear	AIRBUS A400M
Ramp door actuators system test	CESA	Actuators	AIRBUS A400M
DANOBAT GROUP			
Grinding Machines for Landing Gears	MESSIER-BUGATTI-DOWTY	Several	Miscellaneous
DMP			
Landing gear components	CESA	CYLINDERS	AIRBUS A330
Shock Absorber	MESSIER-BUGATTI-DOWTY	MLG	AIRBUS A330/A340
Shock Absorber	MESSIER-BUGATTI-DOWTY	MLG	AIRBUS A350XWB
Shock Absorber	MESSIER-BUGATTI-DOWTY	NLG & MLG	BOEING 787
Actuation systems	CESA	Several	C235/295
Main rotor servocontrol kit	GOODRICH	MAIN ROTOR	EUROCOPTER DAUPHIN
Main rotor servocontrol kit	GOODRICH	Main rotor	EUROCOPTER ECUREUIL
Balancier équipé	MESSIER-BUGATTI-DOWTY	Main rotor	EUROCOPTER SUPER PUMA
Flight control & actuation systems	CESA	CESA	EUROFIGHTER TYPHOON
Engine actuation systems	CESA	EJ200	EUROFIGHTER TYPHOON
Actuation systems	CESA	Several	SIKORSKY S92
Landing gear components	CESA	Balancier	EUROCOPTER TIGRE
Main transmission components	AIRBUS MILITARY	Main rotor	EUROCOPTER X4
GRUPO TTT			
Heat and surface treatments	MESSIER-BUGATTI-DOWTY	Landing Gear	AIRBUS Families
Heat and surface treatments	MESSIER-BUGATTI-DOWTY	BRAKES	AIRBUS Families
Heat and surface treatments	HISPANO SUIZA	Systems	Miscellaneous
Heat and surface treatments	IAI	Systems	Miscellaneous
Heat and surface treatments	BHR Helicopter	Systems	F360, F290
INDUSTRIAS GALINDO			
Tooling manufacturing	WEC	Several	Miscellaneous
MATRICI			
Tooling for metallic parts	AUBERT DUVAL	LANDING GEAR	BOEING 737

3.3.3 SYSTEMS AND EQUIPMENT

General Description of the Product/service	DIRECT CLIENT	SYSTEM / EQUIPMENT	PLATFORMS
METRALTEC			
Manufacture of elementary parts and assemblies (sheet metal, machining, heat treatments and surface treatments, painting)	SENER	Several	Miscellaneous
Manufacture of elementary parts and assemblies (sheet metal, machining, heat treatments and surface treatments, painting)	MTORRES	Several	Miscellaneous
NOVALTI			
Oil flow test bench	ITP	Several	EUROCOPTER TIGRE
Hydraulic and pneumatic test bench	ITP	Several	BOEING 787
NUTER			
Components	CESA	AIRBUS	AIRBUS A330/A350XWB
Components	CESA	AIRBUS MILITARY	AIRBUS A400M
ORBITAL AEROSPACE SYSTEMS			
System integration test bench and supportability for Ground and Flight test	E2S Airbus Military	Air Refuelling	AIRBUS A330-MRTT
SW Multifunction Control Display and BOOM Control and Computing System	E2S Airbus Military	BOOM	AIRBUS A330-MRTT
MTF Model and Test Support	CASSIDIAN	Military Test Facilities	AIRBUS A400M
Verification and validation	CASSIDIAN	Human Management Interface	AIRBUS A400M
Design, implementation and integration of critical SW on board, communication, LLF..)	E2S Airbus Military	Mission Management System	AIRBUS A400M
SW and Firmware design and testing	E2S Airbus Military	Audio Management System	AIRBUS A400M
Model and Test support	E2S Airbus Military	Military Test Facilities	AIRBUS A400M
SW development of Tactical Situation System	E2S Airbus Military	Tactical Situation Management	AIRBUS A400M
Flight Test	E2S Airbus Military	Mission Management System	AIRBUS A400M
Tests and requirements definition, implementation and validation	GTD	Communication System	AIRBUS A400M
Avionic SW	EUROCOPTER	SW Zentrum	EUROCOPTER TIGER
Flight Test	E2S Airbus Military	Atlante	EUROFIGHTER TYPHOON
Test Bench SW	CASSIDIAN	Test Benches	EUROFIGHTER TYPHOON
Testing SW, Test Bench	ATECH	TEST BENCHES	EUROFIGHTER TYPHOON
MaTe test conversion, configuration manager	E2S Airbus Military	Testing	EUROFIGHTER TYPHOON

3.3.3 SYSTEMS AND EQUIPMENT

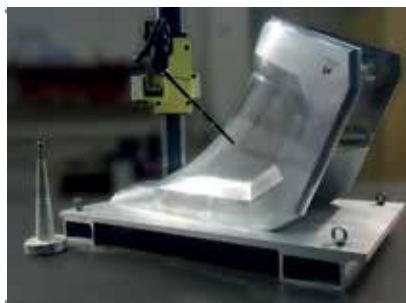
General Description of the Product/service	DIRECT CLIENT	SYSTEM / EQUIPMENT	PLATFORMS
SENER			
Production of the Control Section of aerodynamic fins and fixed wings (Air - Air version)	DBD	IRIS-T	Defence aircrafts
FASS subsystem of drive and control of aerodynamic fins	TAURUS Systems GmbH	TAURUS KEPD 350	Defence aircrafts
Development, qualification, industrialisation and production of the Control Section of aerodynamic fins	MBDA-UK	METEOR	Defence aircrafts
Integration of the TAURUS KEPD 350 in the EF18 and acquisition of units	MALOG	TAURUS KEPD 350	Defence aircrafts
Image management unit for two Tactical Recognition systems (ReccelLite or Litening Pods)	ZEISS OPTRONICS	IPU 2 / IPU 3	Defence aircrafts
Development and qualification of the Control Section of aerodynamic fins (Surface Launch version)	DBD	IRIS-T	Ground equipment
Stabilized Mirror Unit (SMU) of the sight	SAAB Dynamics	RBS 70 NG	Ground equipment
Program to extend the life of the Spanish Navy's AB212 helicopters	Head of Logistics Support (JAL) - Spanish Navy	BELL	AB-212
SISTEPLANT			
Investigation on Intelligent health monitoring technologies applied to actuators	SENER	Several	Miscellaneous
TECNALIA			
Man-Machine interfaces for the AIRBUS plants in PUERTO REAL, GETAFE and STADE	AIRBUS	Equipment and software	AIRBUS Families
Drilling and riveting robots autocalibration software	AIRBUS	Equipment and software	AIRBUS Families
TECNASA			
Firing Handles	MARTIN-BAKER	Ejection Seats	Defence aircrafts
O-RINGS	MARTIN-BAKER	Ejection Seats	Defence aircrafts
JIGS	MARTIN-BAKER	Ejection Seats	Defence aircrafts
TEY			
Heat treatments	CESA	Several	Miscellaneous
Heat treatments	CESA	Landing Gears	S-92
Heat treatments	AIRBUS MILITARY	Several	Miscellaneous
Heat treatments	SENER	Several	Miscellaneous
Heat treatments	DMP	Several	Miscellaneous
Heat treatments	MESSIER BUGATTY DOWTY	Landing Gears	Miscellaneous
WEC			
Connection box	SNECMA	Several	AIRBUS A320
Air Bleed equipment parts	HONEYWELL	Air Conditioning	AIRBUS A320/330
Air Bleed equipment parts	LIEBHERR	Air Conditioning	AIRBUS A320/330/400M
Air Bleed equipment parts	LIEBHERR	Air Conditioning	AIRBUS A320neo
Thrust Reverser parts	AIRCELLE	Systems	AIRBUS A380
Air Bleed equipment parts	LIEBHERR	Air Conditioning	AIRBUS A400M
Air Bleed equipment parts	LIEBHERR	Air Conditioning	BOEING 747-8

3.3.4 SPACE

SENER



INDUSTRIAS
GALINDO



SENER



General Description of the Product/service	DIRECT CLIENT	SYSTEM / EQUIPMENT	PLATFORMS
AIBE			
Precision machining of components	SENER	Several	Several
ALTRAN			
Structural dimensioning	EADS ASTRIUM	Reflectors	AMAZONAS3
Structural dimensioning	EADS ASTRIUM	Launcher	ARIANE 5
Test development and validation	EADS ASTRIUM	Reflectors	HISPASAT1E
Structural dimensioning	EADS ASTRIUM	Antennas Top Floor	MEASAT
Structural dimensioning	EADS ASTRIUM	Panels	MGT
ARATZ			
Machined Components	Miscellaneous	Several	Several
Components for satellite antennas	Miscellaneous	Several	Several
CTA			
Magnetometer boom tests	SENER	Magnetometer Boom	BEPICOLOMBO
Lander impact tests	SENER	Lander	EXOMARS
Antenna tests	RYMSA	Antenna	GALILEO
Spacecom satellite heat pipes system	IBERESPACIO	Heat pipes system	TESAT SATELLITE
DMP			
Cryomotor	CEA	Satellite	EUCLID
GRUPO ITP			
Super alloy components for space shuttle engine	SNECMA	Shuttle	ARIANE 5

3.3.4 SPACE

General Description of the Product/service	DIRECT CLIENT	SYSTEM / EQUIPMENT	PLATFORMS
INDUSTRIAS GALINDO			
Tooling manufacturing	THALES-ALENIA SPACE	Collars	CSO SATELLITE
METRALTEC			
Manufacture of elementary parts and assemblies (sheet metal, machining, heat treatments and surface treatments, painting)	SENER	Several	Several
NOVALTI			
On-board components and mechanical systems	THALES ALENIA SPACE	Several	ARABSAT 5C
On-board components and mechanical systems	SENER	Several	SEOSAT
NUTER			
Components	SENER	Several	GAIA
Components	SENER	Several	METEOSAT
ORBITAL AEROSPACE SYSTEMS			
Control System	IAC	EDIFISE	EDIFISE
Full design and development of Scientific Instrument	UAM	IR Camera System	EUSO-Balloon
DOORs Data Base Maintenance	EUMETSAT	Meteorological satellite	METEOSAT THIRD GENERATION
Design and manufacture of mechatronic for spectrometers , control system , embedded SW, FPGA design	CIAC	Ultraviolet Visible sounder UVAS	SEOSAT
SENER			
Analysis of different alternatives for planetary vehicle landing gear	ESA	Planetary exploration ship -Scientific Mission	AURORA - Mars Sample Return Mission
ALMA Amplitude Calibration Device (ACD)	European Southern Observatory (ESO)	Robotic Arm for the ALMA antennas	Atacama Large Millimeter/submillimeter Array (ALMA)
Mechanism that separates the magnetic disturbance magnetometer of the satellites, as well as the accompanying mobile arm	ESA / ASTRIUM GmbH	Planetary exploration ship -Scientific Mission	BEPICOLAMBO
Communication antennas sub-system (HGA & MGA)	ESA / THALES ALENIA SPACE Italy	Planetary exploration ship -Scientific Mission	BEPICOLAMBO
Main system contractor	ESA	MARES system to investigate muscular atrophy caused by weightlessness	COLUMBUS
Main contractor and responsible for the support structure and of the help system at the exit of the Rover (SES) onto the Martian surface	ESA /THALES ALENIA SPACE	Planetary exploration ship -Scientific Mission	EXOMARS
Raman LIBS instrument	INTA / CAB	Planetary exploration ship -Scientific Mission	EXOMARS

3.3.4 SPACE

General Description of the Product/service	DIRECT CLIENT	SYSTEM / EQUIPMENT	PLATFORMS
Deployable parasol, precision pointing mechanism in three axes plus two more times of the M2MM mirror of the optical system.	ESA / ASTRIUM SAS	Observation satellites - Scientific Mission	GAIA
Attitude and orbit complete control system (AOCS/GNC)	ESA / THALES ALENIA SPACE Italy & France	Observation satellites - Scientific Mission	HERSCHEL - PLANCK
In-flight demonstration study of all the functions of the mechanism and Guidance, Navigation and Control system (GNC)	ESA - ESTEC	Docking and joining mechanism -Navigation	IBDM (International Berthing and Docking Mechanism)
FixBox for the ISS	ESA	Fixation Box for a vegetal biology experiment to be performed at the ISS	ISS - International Space Station
Complete Guidance, Navigation and Flight control subsystem (GNC)	ESA	Intermediate experimental vehicle for re-entry into atmosphere	IXV
High gain antenna pointing mechanisms (HGAG) of the Rover	NASA / EADS CASA ESPACIO	Planetary exploration ship -Scientific Mission	MARS SCIENCE LABORATORY
Technical and engineering assistance in the project	ESA	MELISSA project for developing a life-support system for long duration space travel and planetary bases.	MELISSA
Development model of the visible camera scanner	ESA / EADS ASTRIUM	Observation satellite	METEOSAT THIRD GENERATION
Scan assembly (FCI and IRS SCA) and the Calibration and Obturation Mechanism (FCI and IRS COM)	Kayser-Threde	Observation satellite	METEOSAT THIRD GENERATION
Attitude and orbit control system, Special Check Out Equipment (AOCS SCOE)	OHB System AG	Observation satellite	METEOSAT THIRD GENERATION
Attitude Determination and Control system (ADCS)	INTA	Pico-satellite - Navigation	OPTOS
Complete formation flying system (FF)	ESA	Set of small satellites - Navigation	PROBA 3
Main contractor of the formation flying system	ESA	Formation flying system	PROBA 3
Radar deployment system	ESA / ASTRIUM	Observation satellite - Scientific Mission	SENTINEL 1
Calibration mechanism	ESA / ASTRIUM SAS	Observation satellite - Scientific Mission	SENTINEL 2
Design and verification of a swinging mechanism or FMD (Flip Mirror Device)	ESA / JENA OPTRONIK	Observation satellite -Sentinel 3-	SENTINEL 3
Optical instrument: engineering work of systems and optical and thermal-structural design	CDTI / EADS CASA ESPACIO	Optical instrument - Observation satellite	SEOSAT / INGENIO
Communication antennas sub-system	ESA / ASTRIUM UK	Scientific Mission	SOLAR ORBITER
Feedthroughs, doors and mechanism subsystem	ESA / ASTRIUM UK	Scientific Mission	SOLAR ORBITER
EPD (Energetic and Surathermal PArticle Detector Analyzer) instrument	ESA / UNIVERSIDAD DE ALCALÁ DE HENARES	Scientific Mission	SOLAR ORBITER

3.3.4 SPACE

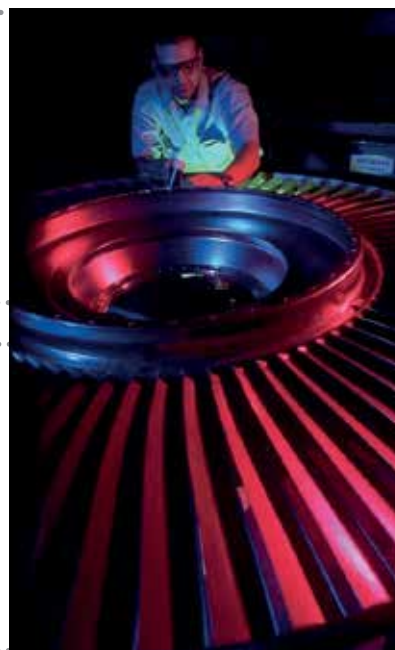
General Description of the Product/service	DIRECT CLIENT	SYSTEM / EQUIPMENT	PLATFORMS
Instrument Boom	ESA / ASTRIUM UK	Scientific Mission	SOLAR ORBITER
So-Phi Instrument	ESA / IAA	Scientific Mission	SOLAR ORBITER
Actuator system for the JST telescope's panoramic camera	Institute of Astronomy, Geophysics and Atmospheric Science of Sao Paulo University	JPCam camera actuator system	T250 or JST (Javalambre Survey Telescope)
Feasibility study of the ISSIS instrument (Imaging and Slitless Spectroscopy Instrument for Surveys)	CDTI	Optical instrument - Observation satellite	World Space Observatory - Ultra Violet (WSO-UV)
Structural Thermal Model (STM) of the ISSIS instrument (Imaging and Slitless Spectroscopy Instrument for Surveys)	INASAN / ROSCOSMOS / CDTI	Optical instrument - Observation satellite	World Space Observatory - Ultra Violet (WSO-UV)
TECNALIA			
PCM materials for launchers	ESA	Avionics	ARIANE
THERCOBOX: Thermally Conductive RTM Carbon Fibre Reinforced Polymer	ESA	Launchers Power control electronics	ARIANE
ALUCRYO: Advanced Aluminium-Based Material for cryo-reservoir applications	ESA	Cryogenic tanks	ARIANE
HPMMC: Metal Matrix Composites as high performance metallic material (TRP)	ESA	Structures	ARIANE
Graphene for thermal heat sinks in active RF microelectronics	ESA	TC/TC electronics	GALILEO
Solid lubricants for harmonic drive	ESA	Mechanism	GALILEO
Hybrid-MMCs: Development and characterization of advanced metal matrix composites	ESA	Satellite Structures	PROBA3
ESA Technology Transfer Broker	ESA	Several	Several
TEY			
Heat treatments	EADS-CASA ESPACIO	Several	Miscellaneous
Heat treatments	INDRA	Several	Miscellaneous
Heat treatments	SENER	ASTRIUM	Miscellaneous

3.3.5 MAINTENANCE

AEROSPACE
ENGINEERING
GROUP



GRUPO ITP



General Description of the Product/ service	DIRECT CLIENT	SYSTEM / EQUIPMENT	PLATFORMS
AERENNOVA			
Technical assistance & Sales of spares 24H/365d	AIRBUS	MLGD, HTP, Fuselage, etc	AIRBUS Families
Composite & metal structure repairs	AIRBUS	MLGD, Elevators	AIRBUS Families
Sales of spares 24H/365d	BEECHCRAFT	Wings, flaps, ailerons, etc	Beechcraft Families
Composite & metal structure repairs	BOMBARDIER	Tips, fairings, panels, etc	BOMBARDIER Families
Technical assistance & Sales of spares 24H/365d	BOMBARDIER	Empenage, fairings, elevators	BOMBARDIER Families
Composite & Metal structure repairs	EMBRAER	Elevators, Rudders	EMBRAER 170/190
Composite & Metal structure repairs	EMBRAER	Flaps, Ailerons, Wing tips, MLGD, etc	EMBRAER ERJ145/135/Legacy
Technical assistance & Sales of spares 24H/365d	EMBRAER	Structures and mobile surfaces	EMBRAER Families
Inspections, special processes and re-qualifications	Operators	Several	Miscellaneous
Technical assistance & Sales of spares 24H/365d	Operators	Several	Miscellaneous
Composite & metal structure repairs and modifications	Operators	Several	Miscellaneous
Design of repairs	OEM & Operators	Several	Miscellaneous
Design of GSEs	OEM & Operators	Several	Miscellaneous
Sales of GSEs	OEM & Operators	Several	Miscellaneous
Maintainability, Reliability Analysis	OEM	Several	Miscellaneous

3.3.5 MAINTENANCE

General Description of the Product/ service	DIRECT CLIENT	SYSTEM / EQUIPMENT	PLATFORMS
Technical Publications, SRM, AMM, ITEM, SB, etc	OEM	Several	Miscellaneous
Modifications at Final Assembly of OEMs	OEM	Several	Miscellaneous
Composite & Metal structure repairs	SIKORSKY	Doors, cowlings, stabilisers	SIKORSKY S-92/ H92
Technical assistance & Sales of spares 24H/365d	SIKORSKY	Doors, cowlings, stabilisers	SIKORSKY S-92/ H92
AEROSPACE ENGINEERING GROUP			
Overhaul and repair of electrical components	MRO, OPERATORS, AIR FORCES, TRADING COMPANIES	Electrical systems	A320/A340/B737/B747/B757/B767/C212/CN235/C295/MD80/C130/P3/ATR/ FOKKER/CRJ/EMBRAER...
Overhaul and repair of hydraulic components	MRO, OPERATORS, AIR FORCES, TRADING COMPANIES	Hydraulic systems	A320/A340/B737/B747/B757/B767/C212/CN235/C295/MD80/C130/P3/ATR/ FOKKER/CRJ/EMBRAER...
Overhaul and repair of electrical components	MRO, OPERATORS, AIR FORCES, TRADING COMPANIES	Fuel systems	A320/A340/B737/B747/B757/B767/C212/CN235/C295/MD80/C130/P3/ATR/ FOKKER/CRJ/EMBRAER...
Overhaul and repair of avionics components	MRO, OPERATORS, AIR FORCES, TRADING COMPANIES	Avionics systems	Miscellaneous
ALTRAN			
Training and Simulators	AIRBUS	Simulators	A320/A340/A380
Supportability and Maintainability Management	AIRBUS MILITARY	Several	AIRBUS A400M/330MRTT
Supportability and Maintainability Management	AIRBUS MILITARY	Several	CASA C295
DANOBAT GROUP			
Precision grinding, de-burring and measuring fully assembled variations of jet engine turbine rotor blade tips Machines	Aeroengines Manufacturers, MRO & Operators	Several	Miscellaneous
GRUPO ITP			
Resolving incidents	ROLLS-ROYCE	RR Trent 700	AIRBUS A330
Resolving incidents	ROLLS-ROYCE	RR Trent 500	AIRBUS A340
Resolving incidents	ROLLS-ROYCE	RR BR717	BOEING 717
Full Maintenance, Inspection and Repair of the F404 -engine, modules and components- & engine and accessories test	Spanish Ministry of Defence	GE F404	BOEING F/A-18

3.3.5 MAINTENANCE

General Description of the Product/ service	DIRECT CLIENT	SYSTEM / EQUIPMENT	PLATFORMS
Full Maintenance, Inspection and Repair of the TFE731 -engine, modules and components- & engine and accessories test	Spanish Ministry of Defence	HONEYWELL TFE731	CASA C101
Full Maintenance, Inspection and Repair of the TPE331 -engine, modules and components- & engine and accessories test	Spanish Ministry of Defence	HONEYWELL TPE331	CASA C212
Full Maintenance, Inspection and Repair of the ATAR -engine, modules and components- & engine and accessories test	Spanish Ministry of Defence	SNECMA ATAR	DASSAULT MIRAGE Families
Full Maintenance, Inspection and Repair of the PW206 -engine, modules and components- & engine and accessories test	Several	P&W PW206	EUROCOPTER EC135
Full Maintenance, Inspection and Repair of the EJ200 -engine, modules and components- & engine and accessories test	Spanish Ministry of Defence	EUROJET EJ200	EUROFIGHTER TYPHOON
Full Maintenance, Inspection and Repair of the T56 -engine, modules and components- & engine and accessories test	Spanish Ministry of Defence	RR T56	LOCKHEED MARTIN C130
Full Maintenance, Inspection and Repair of the T56 -engine, modules and components- & engine and accessories test	Spanish Ministry of Defence	RR T56	LOCKHEED MARTIN P-3
Full Maintenance, Inspection and Repair of the J85 -engine, modules and components- & engine and accessories test	Spanish Ministry of Defence	GE J85	NORTHROP F-5
Full Maintenance, Inspection and Repair of the TPE331 -engine, modules and components- & engine and accessories test	ROYAL AIR FORCE	HONEYWELL TPE331	SHORT TUCANO
GRUPO TTT			
Heat and surface treatments	MESSIER-SERVICE	Systems	Miscellaneous
SISTEPLANT			
Maintenance management	MALOG	Several	Miscellaneous
TAMOIN			
Engine disassembly and overhaul	IBERIA Maintenance	CFM Int. CMF56	AIRBUS A320
Engine disassembly and overhaul	IBERIA Maintenance	CFM Int. CMF56	BOEING 737
Engine disassembly and overhaul	IBERIA Maintenance	P&W JT8D	McDONNELL DOUGLAS MD80 Series

3.3.6

AIRCRAFT AND SPACE ENGINEERING R&D PROJECTS



TECNALIA

ACRONYM and/or NAME OF THE PROJECT and brief description	PROJECT SUMMARY / RELEVANT DETAILS / CONSORTIUMS	CALL
ACITURRI		
E-SEMA	Development of electric smart actuator for gas turbine engine	European - CLEAN SKY
HP-SMART-EMA	Development of high performance electromechanical actuators	European - CLEAN SKY
NICE TRIP (Novel Innovative Competitive Effective Tilt Rotor Integrated Project): convertible aircraft-helicopter	Development of a Tilt-Rotor prototype	European - FP6
TARGET	Sustainable and intelligent technology for composite structure manufacturing	National-CENIT
AERNOVA		
CLEAN SKY	Smart fixed wing aircraft. High accuracy wing assemblies for natural laminar flow	European - CLEAN SKY
AFLONEXT	Maturation of an integrated set of active flow, load and noise control technologies for the next generation of active wing	European - FP7
FLYBAG2	Aircraft Interiors for blasting resistance	European - FP7
DAEDALOS	Dynamics in aircraft engineering design and analysis for light optimized structures	European - FP7
SARISTU	Smart intelligent aircraft structures	European - FP7
LOWFLIP	Low cost flexible integrated composite process	European - FP7
HIPOCRATES	European project for self-healing aeronautical composites	European - FP7
CAPPADOCIA	Coordination action pro "Production, Avionics, Design" on Cost-efficiency in aeronautics	European - FP7
PRONTAS	Out of autoclave wing for a solar power UAV	National - INNFACTO
PERIGEO	Out of autoclave UAV airframe development	National - INNPRONTA- CDTI
PROSAVE2	Advanced Systems research for a more eco- friendly aircraft	Regional- GAITEK - Basque calls

3.3.6 AIRCRAFT AND SPACE ENGINEERING R&D PROJECTS

ACRONYM and/or NAME OF THE PROJECT and brief description	PROJECT SUMMARY / RELEVANT DETAILS / CONSORTIUMS	CALL
ALTRAN		
DARCOV	Automation methodology dimensioning primary structure composites	Others
BURULAN		
More integrated offer	Plant for surface treatments, primer and final paint, assemblies and stapling of ball and socket joints & Bearing installation and staking	Others / Internal Development
CTA		
HP-SMART EMA	Development of a new EM actuator	European - CLEAN SKY
E-SEMA	E-SEMA: Development of electric smart actuator for gas turbine engines	European - CLEAN SKY
WINDSOM	Wing Structural test Development Method	European - CLEAN SKY
VITAL	Aerodynamics: Environmentally friendly aero engine	European - FP6
FUTURE	Aerodynamics: Flutter-free turbomachinery blades	European - FP7
LEMCOTEC	Low Emissions COre-engine TEChnologies	European - FP7
E-BREAK	Engine breakthrough components and subsystems	European - FP7
ENOVAL	Engine module validators	European - FP7
DREAM	Aerodynamics: Validation of radical engine architecture	European - FP7
DOTNAC	Development and optimization of THz NDT on aeronautics Composite multilayered Structure	European - FP7
VIBRATION	Global in flight health monitoring platform for composite aerostructures based on advanced VIBRATION based methods	European - FP7
OPENAER	Aerodynamics: New aircraft and engine configurations for the future system of air transport	National-CENIT
SPACECAP IV	Development of the spatial technologies	Regional - DFA - Basque calls
AIRHEM-II	Health Monitoring in Aeronautics. Consortium coordinated by CTA	Regional - ETORTEK - Basque calls
SIELZA	Development of testing technologies for the experimental validation of advanced sealing systems in low-emission aircraft engines.	Regional - SAIOTEK - Basque calls
ASTEI	Development of Aero-elastic testing technologies for improving the stability of piston seals in low emission aircraft engines	Regional - SAIOTEK - Basque calls
AEROSHIN	Health Monitoring and Advanced Instrumentation applied to Unmanned Air Platforms"	Regional - SAIOTEK - Basque calls
FOTOTIR	Development of combined IT and photogrammetric system for optimizing the stress calculation in aeronautic structures tests	Regional - SAIOTEK - Basque calls
DEBANFIB	Development of versatile test bed for fibre optics	Regional - SAIOTEK - Basque calls
SUMOCAR	Development of new mobile aircraft surfaces in carbon fibre	Regional -ETORGAI - Basque calls

3.3.6 AIRCRAFT AND SPACE ENGINEERING R&D PROJECTS

ACRONYM and/or NAME OF THE PROJECT and brief description	PROJECT SUMMARY / RELEVANT DETAILS / CONSORTIUMS	CALL
GRUPO ITP		
JTI - Clean Sky	Advanced propulsion plants: Development of new concepts for the future generation of aircraft propulsion plants in accordance with the environmental requirements established by ACARE.	European - CLEAN SKY
AIDA - Agressive Intermediate Duct Aerodynamics for Competitive and Environmentally Jet Engines	Aerodynamics: Development of transition ducts between compressors and between turbines in order to reduce consumption and noise emitted by turbomachinery.	European - FP6
MAGPI - Main Annulus Gas Path Interactions	Interaction of secondary flows with the main flow and effects of cavities in turbomachinery.	European - FP6
PREMECCY - Protective Methods for Combined Cycle Fatigue in Gas Turbines	Fatigue prediction: Study of mechanisms and prediction of fatigue in turbomachinery	European - FP6
TATMO - Turbulence and Transition Modelling for Specigla Turbomachinery	Aerodynamics: Improvements in efficiency by means of non-stationary at aerodynamic analysis	European - FP6
VITAL - Environmentally Friendly Aero Engine	Advanced propulsion plants: Integrated project. Substantial reductions in emissions (-18% of CO ₂) and noise (-6dB).	European - FP6
DREAM - Validation of Radical Engine Architecture Systems	Advanced propulsion plants: Study of new architectures for propulsion plants based on the open-rotor concept	European - FP7
FUTURE - Flutter-Free Turbomachinery Blades	Aerodynamics: Technological development to reduce the flutter phenomenon in turbomachinery blade crowns	European - FP7
ERICKA - Engine Representative Internal Cooling and Applications	Technologies for turbine refrigeration	European - FP7
ELUBSYS - Engine Lubrication System Technologies	New lubrication technologies in gas turbines	European - FP7
OPENAIR - Optimisation for low Environmental Noise Impact Aircraft	Technologies for reducing noise in aircraft	European - FP7
LEMCOTEC - Low emissions Core-Engine Technologies	Improvement of core-engine thermal efficiency	European - FP7
TAG - Feasibility studies for the development of general aviation turbines	Feasibility studies for the development of low pressure turbines, structures and external components in turbines for general aviation	National - SAE
MASIR - Advanced Noiseless Machining	Noise reduction: Techniques to reduce noise in industrial environments engaged in the precision machining and well-being of parts.	National Calls
OPENAER - New engine and aircraft configurations for the future air transport system	Aerodynamics, Methods, Materials, Mechanical design, Manufacture and Control.: Development of technologies for the design and manufacture of components in the hot area of an aeronautical gas turbine in "open-rotor" configuration	National-CENIT

3.3.6 AIRCRAFT AND SPACE ENGINEERING R&D PROJECTS

ACRONYM and/or NAME OF THE PROJECT and brief description	PROJECT SUMMARY / RELEVANT DETAILS / CONSORTIUMS	CALL
PROSAVE: Eco-efficient aircraft	Leader: CESA	National-CENIT
NOISE MEASUREMENT - Optimisation and validation of techniques for the advanced measurement of noise in a jet engine.	Advanced instrumentation: Optimisation and validation of techniques for the advanced measurement of noise in a jet engine.	Regional - Madrid Region calls
SACMI - Advanced Control and Monitoring System of ITP	Control systems: Development of a control system applied to the fuel control unit of an aeronautical engine.	Regional - Madrid Region calls
NOVALTI		
TOWARDSTIMACH	NOVALTI-UNIV. MONDRAGON	European - MANUNET
SATELLITE PAYLOAD	NOVALTI-UPNA-UPV	National - INNPACTO
ORBITAL AEROSPACE SYSTEMS		
CRYSTAL (ARTEMIS)	Critical sYSTEM engineering AcceLeration	European - ARTEMIS
UAV-RTEMS	Design and development of a UAV (Unmanned Air Vehicle) D0-178B certifiable Health Monitoring System based on RTEMS real-time operating system.	European - ESA TTP
PLATHW	Design and development of a D0-254 certifiable, cost-effective and multipurpose Hardware platform for Avionics subsystem applications.	National - AVANZA
OPENSYS	Design and development of an application programming interface for the communication between IMA partitions and Cockpit Display System	National - CDTI
SENER		
HP-SMARTEMA - Development of high power density electrical actuators	Design, manufacture and validation of the initial prototypes for electromechanical actuation systems for helicopter engines. Collaboration with TECNALIA, CTA and ACITURRI.	European - CLEAN SKY
E-SEMA - Development of Electric Smart Actuator for gas turbine engines	Development of prototypes for airplane motor actuators Collaboration with TECNALIA, CTA, ACITURRI and MACCON.	European - CLEAN SKY
Robotic arm for extravehicular activities in space	Robot arm	European - ESA
NICE TRIP (Novel Innovative Competitive Effective Tilt Rotor Integrated Project): convertible aircraft-helicopter	SENER designs the rotor components, the drive system and the nacelle	European - FP6
Health Monitoring in Control and Actuation Systems - ACTUATION 2015	Control, diagnosis, and prognosis of the operating function of actuators in order to optimize their operation	European - FP7

3.3.6 AIRCRAFT AND SPACE ENGINEERING R&D PROJECTS

ACRONYM and/or NAME OF THE PROJECT and brief description	PROJECT SUMMARY / RELEVANT DETAILS / CONSORTIUMS	CALL
ELSA - European Levitated Sphere Actuator	Improving European capacity to independently manufacture commercial and scientific satellites by bringing a new actuator for attitude and orbit control systems to a higher level of maturity. Collaboration with CSEM, Maxon, SABCA, CBK and RedShift	European - FP7
LEOSWEEP - Improving Low Earth Orbit Security With Enhanced Electric Propulsion	Develop key technology for the implementation of the Ion Beam Shepherd (IBS) concept and demonstrate the technological feasibility of a first active removal mission of a Ukrainian rocket upper stage, prove its economic viability, and propose a convincing legal and policy implementation to “kick-start” large-scale active debris removal activities in Ukraine, Europe and other space faring nations in the future. Collaboration with UPM, TransMIT, ITM, DRL, SDOY, DME, ISLC, Southampton University, CNRS and UC3M.	European - FP7
WIMAAS - Wide Maritime Area Airborne Surveillance program	Future Unified European Maritime Surveillance System. Collaboration with INTA.	European - FP7
MICRODIS	Microelectronic devices for space instrumentation	National - IDC
SCIMIS	Feasibility study for scientific missions	National - IDC
AGCFO	Operations on the ground and in captive flight in an air-transported microlauncher	National - SAE
FCU WSO	UV camera for world space observatory	National - SAE
SOL-2	Optical communications for deep space missions	National - SAE
SINTONIA	Unmanned zero environmental impact oriented systems.	National-CENIT
HDR qualification with potentiometers	HDR qualification with potentiometers	Others
Image navigation	Image navigation	Others
SISTEPLANT		
PLATINO - HADA - UAV convertible aircraft-helicopter	Led by INTA, Sisteplant provides the health monitoring system	National-CDTI
SIMAP - UAV healthmonitoring system	Design of health monitoring system for UAV	National-CDTI
TECNO-I PLANT	Definition of a new paradigm for aerospace components manufacturing: intelligent manufacturing, extremely agile flow, leading edge technologies	Others / Internal Developmet
TECNALIA		
TESTHEMAS	Design and implementation of a load simulator rig and ground test bench adaptation kit for a HEMAS test rig	European - CLEANSKY
ARMLIGHT	Design, development and manufacturing of EMA and test setup for advanced landing gear system actuation	European - CLEANSKY
FLIGHT-EMA	Advanced flight control system- design, development and manufacturing of an EMA with associated ECU and dedicated test bench	European - CLEANSKY
HP-SMARTEMA	Development of high power density electrical actuators	European - CLEANSKY

3.3.6 AIRCRAFT AND SPACE ENGINEERING R&D PROJECTS

ACRONYM and/or NAME OF THE PROJECT and brief description	PROJECT SUMMARY / RELEVANT DETAILS / CONSORTIUMS	CALL
E-SEMA	Development of Electric Smart Actuator for gas turbine engines	European - CLEANSKY
LIGHTBOX	Lightweight Composite Bus System Housing for Extreme Environments	European - CLEANSKY
SEALEDBOX	Aerospace Housing for extreme environment	European - CLEANSKY
ALICIA	Electronics for transport: Development of the new cabin concept and optimisation of operations under all conditions	European - FP7-AAT
ESPOSA - Integrated approach to efficient propulsion and related aircraft systems for small-size aircraft	Development and integration of novel design and manufacture technologies for a range of small gas turbine engines up to approx. 1000 kW. Coordinator: PRVNI BRNENSKA STROJIRNA VELKA BITES A.S. Some other participants: AVIO S.P.A, MOTOR SICH JSC, HONEYWELL INTERNATIONAL SRO, PIAGGIO AERO INDUSTRIES SPA, FRAUNHOFER-GESELLSCHAFT ZUR FOERDERUNG DER ANGEWANDTEN FORSCHUNG E.V, etc	European - FP7-AAT
SARISTU- Integrated approach to smart airframe structures	The project proposal concerns the challenges posed by the physical integration of smart intelligent structural concepts Coordinator: AIRBUS OPERATIONS GMBH. Some other participants: ALENIA AERONAUTICA SPA, AERNNOVA, SAAB AKTIEBOLAG, SHORT BROTHERS PLC, GKN Aerospace Services Limited, etc	European - FP7-AAT
ACTUATION 2015- Integrated modular actuation systems for the future all-electric aircraft	ACTUATION 2015 aims to develop and validate a common set of standardised, modular and scalable EMA resources for all actuators and all types of aircraft. Coordinator: GOODRICH ACTUATION SYSTEMS SAS. Some other participants: AIRBUS, ALENIA, SENER, HISPANO SUIZA, CESA, etc"	European - FP7-AAT
SOLARNET	SOLARNET brings together and integrate the major European research infrastructures in the field of high-resolution solar physics, in order to promote their coordinated use and development. This network is participated by all pertinent European research institutions, infrastructures and data repositories. Private companies and non-European organizations are also involved in this worldwide initiative.	European - FP7-INFRA
ROVE	Exomars rove vehicle re-design by using multifunctional technologies for the mobility system, power and solar panels integrated into composite chassis	European - FP7-Space
SIDER	Radiation shielding for spacecraft structures by using nanomaterials.	European - FP7-Space
SMARTESS	Mars entry Thermal protection system based in advanced materials	European - FP7-Space
THOR- Innovative thermal management concepts for thermal protection of future space vehicles	Design, develop, implement, test and validate disruptive thermal management concepts for atmospheric entry of space vehicles. Partners: DLR, TECNALIA, TUBITAK, FLUID GRAVITY ENGINEERING, SCUOLA UNIVERSITARIA PROFESSIONALE DELLA SVIZZERA ITALIANA, AEROSPACE AND ADVANCED COMPOSITES GMBH, THALES ALENIA SPACE, JAXA	European - FP7-Space

3.3.6 AIRCRAFT AND SPACE ENGINEERING R&D PROJECTS

ACRONYM and/or NAME OF THE PROJECT and brief description	PROJECT SUMMARY / RELEVANT DETAILS / CONSORTIUMS	CALL
HAMLET	Solid lubricants for space mechanism	European - FP7-Space
HYDRA	TPS Thermal Protection Systems for MSR Mars and Moon mission based in ablative materials	European - FP7-Space
APSAT- Satellite Applications for public Policy and Sustainable development	APSAT aims at demonstrating the efficiency of innovative satellite services for the general public and public bodies managing territories. Tecnalía develops SAFEMOUNTAIN - Through its website and smartphone application, SafeMountain provides the mountaineer with services to prepare a secured trip to the mountains as well as realtime onsite information. Partners: Aerospace Valley, CTAE, INESC, Tecnalía, etc	European - INTERREG
PROMETEO	Fire detection system by using new telecom architecture	National - INNPRONTA
ADAM- Desarrollo de Automatización para Movilidad Autónoma	Development of automation for autonomous mobility	National- INNPRONTA
AIRHEM -2-	Electronics for transport: Health Monitoring for structures	Regional - ETORTEK - Basque calls
WEC		
OPENAER	Characterisation of laser weld in parts for aeronautical engines	National - CENIT
GREENAIR: swifiting to new processes for fabricated componentes	Cold forming processes to lower carbone footprint Vacuum brazing processes for noise-reduction products	Others / Internal development
EUSKESTUR - Laser Welding	New generation for engine radial structures	Regional - ETORGAI - Basque calls

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MANUFACTURING, PROCESSES, MATERIALS AND OTHER R&D PROJECTS

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ACRONYM and/or NAME OF THE PROJECT and brief description	PROJECT SUMMARY / RELEVANT DETAILS / CONSORTIUMS	CALL
ACITURRI		
EMC2- Factory	Eco manufactured transportation means from clean and competitive factory	European - FP7- FoF
AERNNOVA		
SARISTU	New materials for morphing and SHM	European - FP7
DAMTEX	Ultra-thin, non-conventional carbon fibre laminates	National - AirTN
NANOPROT	Nano-cerami material development	National - INNPACTO
CURVED	Composite processes simulation	National - PID
PEEN FORMING II	Development of peen forming for metallic structures	National - PID
SUPERCALCULUS	Advanced numerical simulations	National - PID
ISOP	Peen forming optimisation	National - PID
NANOPROT	Nano ceramic coatings	National - RETOS - Edu. Ministry
ESTAVRIL	New composite development for light weight railway trains	Regional - ETORGAI - Basque calls
SUMOCAR	New composite architectures for control surfaces and ground testing validation	Regional - ETORGAI - Basque calls
ATEA-AERO	New automated composite processes for landing gear doors	Regional - ETORGAI - Basque calls
CVD DIAMANTE	New and more efficient cutting tools for light alloys	Regional- GAITEK - Basque calls
DINA	Neutronic reserch disks development	Regional- GAITEK - Basque calls

3.3.7 MANUFACTURING, PROCESSES, MATERIALS AND OTHER R&D PROJECTS

ACRONYM and/or NAME OF THE PROJECT and brief description	PROJECT SUMMARY / RELEVANT DETAILS / CONSORTIUMS	CALL
HIMAT	Super light weight structures for zero emissions vehicle	Regional- GAITEK - Basque calls
INTEGRA	Advanced inertia wheels developments	Regional- GAITEK - Basque calls
ULTRACAP	Development, testing and validation of ULTRA-precise and ULTRA-repetitive retractable positioning cannons for assembling wing-type aeronautical structures	Regional- GAITEK - Basque calls
VECTURA	New aerostructures assembly and painting technologies	Regional- Interconnecta - Andalucía calls
DESTACAR	Development of high performance technologies for the manufacture of multimaterial components	Regional- Interconnecta - Galicia calls
CTA		
CAYLEY	Consortium coordinated by BOEING R&T. Industrial implementation of new flat panels from recyclable and/or natural materials for the aeronautical industry. Fire certification tests for interior materials	European - CIP Eco-Innovation
Development of green materials	Consortium coordinated by BOEING R&T - Fire certification tests for interior materials	National - CENIT
ACTIMAT	Consortium coordinated by GAIKER	Regional - ETORTEK - Basque calls
FUSONIC	Development of the sonic burner for new generation fire resistance tests and the advanced study of fire behaviour	Regional - SAIOTEK - Basque calls
MODELFIRE	Modeling of the fire behaviour of the advanced materials used in aeronautics.	Regional - SAIOTEK - Basque calls
NEUTER	Design of an intelligent system to detect defects in aeronautical materials using neural networks based on thermographic data	Regional - SAIOTEK - Basque calls
ATEA-AERO	New generation of landing gear door for future single-aisle aircraft	Regional - ETORGAI - Basque calls
GRUPO ITP		
FANTASIA - Flexible and Near-Net-Shape Generative Manufacture Chains and Repair Techniques for Complex Shaped Aero Engine Parts	Repair: advanced processes. New manufacturing and repair techniques based on LMD (Laser Metal Deposition) and LDF (Laser Direct Forming)	European - FP6
VERDI - Virtual Engineering for Robust Manufacturing with Design Integration	Process simulation: Production of scrap during the development stage (virtual tests) and reduction of engine weight (emission reduction)	European - FP6
ACCENT - Adaptive Control of Manufacturing Processes for a New Generation of Jet Engine Components	Process simulation: Development of adaptive control technologies for terrible machine component oriented manufacturing processes	European - FP7
ALEXANDRIA	Development of damage inspection techniques and methodologies and new generation dimensional metrology for the aeronautics, railways, naval and wind power sectors.	National - MICIN
DESAFIO	Development of high reliability manufacturing systems for rotating parts with high surface integrity requirements.	National - MICIN

3.3.7 MANUFACTURING, PROCESSES, MATERIALS AND OTHER R&D PROJECTS

ACRONYM and/or NAME OF THE PROJECT and brief description	PROJECT SUMMARY / RELEVANT DETAILS / CONSORTIUMS	CALL
MATERIALES - Oxycarbide layers of multi-component silicon on metal alloys surfaces by plasma spray	Development of the application of coatings by means of plasma spray	National - PROFIT
RAMPE - Alternative coatings to heavy metals (RAMPE)	Residue removal: Development of alternative coatings for removing Cr-VI	National - PROFIT
VANCAST - Next Generation Nozzle Guide Vane Design and Casting Technology	Technologies for the design and casting of the new generation of low-pressure turbine blades.	Regional - Basque Country Calls
SAGER - Large-scale Energy Storage Systems for the Electricity Grid	Development of energy storage technologies.	Regional - Basque Country Calls
EUSKESTUR	Manufacturing technologies: Development of Basque excellence pole for the manufacture of radial structures for aeronautical turbines	Regional - Basque Country Calls
GENESYS		Regional - Basque Country Calls
PAINT - Polo Aeronautico para la Innovación en Turbinas	High performance manufacturing	Regional - Basque Country Calls
DIALPE - Fatigue life design and verification of the vibration behaviour of gas turbine monocrystal blades	Mechanical technology: study of fatigue and service life behaviour of small size monocrystal blades for a gas turbine.	Regional - Madrid Region calls
GRUPO TTT		
Prosave: Eco-efficient aircraft	Leader: CESA	National-CENIT
IK4		
AEROBEAM	CEIT. Development of stator vanes for avionics industry	European - CLEANSKY
NESMONIC	CEIT. Net shape hot isostatic pressing of IN718	European - CLEANSKY
RORC	CEIT. Rolled only IN718 ring-shaped components	European - CLEANSKY
SENTRY	GAIKER. Sustainable dismantling and recycling of metallic aerostuctures	European - CLEANSKY
WILDCRAFT	CEIT. Design, development and testing of a proof-of-concept demonstrator of a wireless sensor network (wsn) aimed at applications in the aerospace industry	European - CLEANSKY
LIGHTWELD	LORTEK. Characterization of metallurgical joining technologies for Al, Al-Li and Mg joints	European - CLEANSKY
TIFFAN	LORTEK. Manufacturing by SLM of a titanium fan wheel	European - CLEANSKY
WELDMINDT	LORTEK. Open rotor engine WELDeD parts insp using MIniaturized NDT	European - CLEANSKY
ACTUATION2015	TEKNIKER. Development and validation for the standardisation and modularity of EMA in all systems (flight control, landing systems, etc.) to reduce the general costs of LCC, improve reliability, mature technology, reduce weight..	European - FP7
AMCOR	IDEKO. Additive manufacturing for wear and corrosion applications	European - FP7
DYNXPERS	IDEKO. Plug and produce component for optimum dynamic performance system	European - FP7

3.3.7 MANUFACTURING, PROCESSES, MATERIALS AND OTHER R&D PROJECTS

ACRONYM and/or NAME OF THE PROJECT and brief description	PROJECT SUMMARY / RELEVANT DETAILS / CONSORTIUMS	CALL
EASE R3	IDEKO. EASE-R3— Integrated framework for a cost-effective and ease of Repair, Renovation and, Re-use of machine tools within modern factory	European - FP7
ENEPLAN	IDEKO. Energy efficient process planning system	European - FP7
HINMICO	IDEKO. HINMICO— High throughput integrated technologies for multimaterial functional micro Components	European - FP7
IN-LIGHT	CIDETEC. Development of electrochromic aircraft window. EADS	European - FP7
IN-LIGHT	TEKNIKER: development of electrochromic aircraft window. EADS	European - FP7
INTEFIX	IDEKO. Intelligent fixtures for the manufacturing of low rigidity components (Adaptive intelligent tooling)	European - FP7
METALMORFOSIS	IDEKO. MetalMorphosis— Optimization of joining processes for new automotive metal-composite hybrid parts	European - FP7
MIDEMMA	IDEKO. MIDEMMA— Minimizing defects in micro-manufacturing applications	European - FP7
POCO	TEKNIKER. Polymer-matrix composites based on carbon nanotubes (functionalized, aligned and confined)	European - FP7
POPJIM	IDEKO. Plug & produce joint interface modules: machine dynamic behaviour control mechatronics	European - FP7
TRANSPARENCY	IDEKO. Adaptive business collaboration by progressive knowledge sharing and engineering	European - FP7
HIPPOCAMP	IDEKO. High power impulse plasma power operations for the creation of advanced metallic parts-additive technologies, high power plasma for nanocomposites manufacturing	European - FP7 MNP
MERLIN	LORTEK. Development of aero engine component manufacturing using laser additive manufacturing	European - FP7-Transport
E-BREAK	CEIT. Engine breakthrough components and subsystems	European - FP7-AAT
ENOVAL	CEIT. Engine Modules Validator	European - FP7-AAT
DREAMS	IKERLAN- distributed real-time architecture for mixed criticality systems	European-FP7-ICT
MULTIPARTES	IKERLAN - multicores partitioning for trusted embedded systems	European-FP7-ICT
PROXIMA	IKERLAN - Probabilistic real-time control of mixed-criticality multicore and manycore systems	European-FP7-ICT
AEROLICA	IKERLAN - Intelligent structures: development and validation of monitorisation and damage identification systems with application in aeronautics and in marine wind farms	Nacional - Investigación básica
PROSAVE2	TEKNIKER. Research project in advanced systems for more eco-efficient aircraft	Nacional - CENIT
ENDAC	IDEKO. New generation of highly automated non destructive estimation solutions for high impact sectors	Nacional - INNFACTO

3.3.7 MANUFACTURING, PROCESSES, MATERIALS AND OTHER R&D PROJECTS

ACRONYM and/or NAME OF THE PROJECT and brief description	PROJECT SUMMARY / RELEVANT DETAILS / CONSORTIUMS	CALL
GRINPACT	IDEKO. Development and application of variable speed technologies in grinding	National - INNPACTO
ENGRANA	CIDETEC. Development of flexible, advanced manufacturing processes of high performance and high responsibility gears. DMP	National - INNPACTO
RC2	TEKNIKER. Quick and cost-cutting manufacturing of functional prototypes for gas turbines made of pile up metallic layers: rapid manufacture of prototypes of aeronautic turbine blades using "laser cladding" techniques	National - PROFIT
SURFER	TEKNIKER. Development of laser technology applications in the modification and finishing of functional surfaces. AIN, AIMME, AIDO	Others
ELARA	CEIT. Generalization to assembly oriented authority Augmented ReAlity	Others
EUSKESTUR:	TEKNIKER: Basque collaboration project for the manufacture of a new generation of radial turbine structures: modeling of manufacturing processes to reducir development time and improve cathode design / PECM Engineering, ITP	Regional - ETORGAI - Basque calls
PAINT- Polo Aeronáutico para la Innovación en Turbinas	CEIT. Aeronautics pole for Innovation in Turbines	Regional - ETORGAI - Basque calls
IMAGHINE	IDEKO. New generation of machine tools	Regional - ETORGAI - Basque calls
PAINT	IDEKO. Aeronautics pole for innovation in turbines: advanced manufacturing technologies	Regional - ETORGAI - Basque calls
ECOFAB	IDEKO. New ecoefficient processes for strategic industrial sectors	Regional - ETORGAI - Basque calls
PAINT- Polo Aeronáutico para la Innovación en Turbinas	LORTEK. Optimization of the laser fill process for compressor geometries. Development of aero engine component manufacturing using laser additive manufacturing. ITP	Regional - ETORGAI - Basque calls
ATEA AERO	IDEKO. New generation of landing gear door for future single aisle aircraft.	Regional - ETORGAI - Basque calls
PROFUTURE	TEKNIKER. Development of technologies and processes for the factory of the future. ITP	Regional - ETORTEK - Basque calls
PROFUTURE	LORTEK. Development of technologies and processes for the factory of the future. ITP	Regional - ETORTEK - Basque calls
INPRORET	LORTEK. Increase in productivity and new manufacturing challenges	Regional - ETORTEK - Basque calls
LASCLEAN	TEKNIKER. Laser surface cleaning in industrial applications. Inerrobótica, PCB	Regional - GAITEK - Basque calls
PRECISUS	TEKNIKER Ultrasonic assisted drilling for high precision holes in aeronautics. Industrias Laip	Regional - GAITEK - Basque calls
OPTICAM	TEKNIKER. Development and implementation in CAD/CAM of models for the simulation of machining processes. AyS, Bundoberri, Talleres Aratz	Regional - GAITEK - Basque calls
SOFT-MDM	IDEKO. Solutions for improving dynamic behaviour in support structures for multidimensional measurements	Regional - GAITEK - Basque calls

3.3.7 MANUFACTURING, PROCESSES, MATERIALS AND OTHER R&D PROJECTS

ACRONYM and/or NAME OF THE PROJECT and brief description	PROJECT SUMMARY / RELEVANT DETAILS / CONSORTIUMS	CALL
COMPSOFT	IDEKO. Development of software for overall solution in the automated manufacture of structural composite components	Regional - GAITEK - Basque calls
V3	IDEKO. Integrated configuration platform of the grinding process based on variable speed strategies and grinding wheel monitoring	Regional - GAITEK - Basque calls
NOVALTI		
PAINT	NOVALTI-ITP-UPV/EHU	Regional - ETORTEK - Basque calls
Turbine blades for test RIGs	PTB4++, PTB8, PTB9	Others
ORBITAL AEROSPACE SYSTEMS		
Test benches SW	System that provides a common environment for running design models, simulations and real equipment to support testing and / or simulation of avionic equipment subsystem or system.	National - CDTI
SARIKI METROLOGIA		
DICON- Development of new advanced dimensional control systems in manufacturing processes of high-impact sectors	ITP, SARIKI, IDEKO, DANOBAT, SORALUCE, UNIVERSIDAD DE ZARAGOZA, METROMECHANICA, USC	National - INNPACTO
SENER		
High precision linear actuator (HPLA)	High precision Linear Actuator based on own design, applicable to deployment mechanisms	European - ESA GSTP
Test bench	Generic testbed for Guidance, Navigation and Control systems (GNC / AOCs)	European - ESA
TheraEDGE Diagnostic Equipment	Point-of-care testing equipment for respiratory infections, based on the identification of DNA	European - FP7
RESTAURAC	Development of a demonstrator for the restoration of degraded images due to high compression levels 2008	National - COINCIDENTE
Component admissibles in carbon fibre and fatigue life of hybrid structures	Definition of component admissibles in carbon fibre and the effects on the fatigue life of hybrid structures	Others
Miniaturised Deployment Regulator MDR	Regulator appropriate for the deployment of small appendices or mini satellite panels	Others
Rotary Actuator with potentiometers (HDRA_P)	Rotating actuator for space applications (HDRA) incorporating angular position sensors (potentiometers).	Others
New developments in composite material manufacturing systems	Flexible stacking machine for pattern fabric materials	Others
New developments in composite material manufacturing systems	Manufacturing of fabric reinforced polymer matrix through a combination of liquid infusion and hot drape forming	Others
PARIS system	Autonomous cleaning system for parabolic trough plants	Others
HECTOR system	Autonomous cleaning system for central-receiver-tower power plants	Others
M-SPEC	Multi-spectrometer for the molecular multiplexed diagnosis in vitro	Others

3.3.7 MANUFACTURING, PROCESSES, MATERIALS AND OTHER R&D PROJECTS

ACRONYM and/or NAME OF THE PROJECT and brief description	PROJECT SUMMARY / RELEVANT DETAILS / CONSORTIUMS	CALL
AUTOPLAK	Automatic sample inoculation and streaking system for Petri dishes in microbiology laboratories	Others
SISTEPLANT		
ICARO - composite aerostructures	Industrialisation in advanced materials - Led by Airbus, research into materials and manufacturing systems for aerostructures	National - CDTI
TECNALIA		
SUSRAC	Sustainable recycling of aircraft composites	European - CLEANSKY
HIMMOVAL	High speed metallic material removal under acceptable surface integrity for rotating frame	European - CLEANSKY
SPECIMEN	Study on the processing and the performance of cyanate ester composites towards the optimization of harsh service environments	European - CLEANSKY
APRIL	Development of advanced preforms for LCM technologies	European - CLEANSKY
MAGNOLYA	Advanced environmentally friendly chemical surface treatments for cast magnesium helicopter transmission alloys preservation	European - CLEANSKY
ALT	Formulation and characterization of new aluminium alloys produced by ingot metallurgy for high temperature applications (250°C)	European - CLEANSKY
CABLEBOT	FP7 - FoF-ICT-NMP - parallel cable robotics for improving maintenance and logistics of large-scale products. Collaboration with EADS	European - FP7
EMC2	FP7 - FoF-ICT-NMP -eco manufactured transportation means from clean and competitive factory. Collaboration with SPASA - ACITURRI AERONAUTICA	European - FP7
REFORM	FP7 - FoF-ICT-NMP -Resource-efficient factory of recyclable manufacturing composite components. Collaboration with the University of Sheffield - Department of Advanced Manufacturing Research Centre (AMRC) and formtech composites limited.	European - FP7
AMAZE	FP7 - FoF-ICT-NMP -Collaboration with the European Space Agency (ESA), AVIOprop, AVIO S.p.A, Thales Alenia Space, BAE Systems and Bombardier.	European - FP7
HELM- High-frequency Electro-magnetic Technologies for Advanced Processing of Ceramic Matrix Composites and Graphite Expansion	Processing and manufacture of advanced ceramics (ceramic matrix composites) for different industrial sector(including Aerospace). 20 partners: Warrant Group S.r.l, Brembo SGL Carbon Ceramic Brakes S.p.A., Snecma Propulsion Solide , TIMCAL SA , EADS Deutschland GmbH, TECNALIA, etc	European - FP7
HIPOCRATES	Self-healing polymers for concepts on self-repaired aeronautical composite. Coordinator: TECNALIA. Some other partners: University of Patras, University of Bristol, GMI SAS, Aernnova...	European - FP7-AAT
ADVITAC - Advanced integrated composite tail cone	Development of new composite materials and technologies for the tail cone of future regional aircraft / DAHER Aerospace, Coriolis, FRT, Univ. Cranfield...	European - FP7-AAT
IAPETUS - Innovative repair of aerospace structures with curing optimization & life cycle monitoring abilities	Development of structural repair processes by means of new materials and technologies / Huntsman, Inasco, HAI, DAHER, Univ. Patras...	European - FP7-AAT

3.3.7 MANUFACTURING, PROCESSES, MATERIALS AND OTHER R&D PROJECTS

ACRONYM and/or NAME OF THE PROJECT and brief description	PROJECT SUMMARY / RELEVANT DETAILS / CONSORTIUMS	CALL
ELECTRICAL	Novel aeronautical multifunctional composite structures with bulk electrical conductivity and self-sensing capabilities(Airbus, Univ. Patras, Aernnova, EADS, Short Brothers, Arkema, etc	European - FP7-AAT
MAAXIMUS- More Affordable Aircraft through eXtended, Integrated and Mature nUmerical Sizing	Fast development and right-first time validation of a highly-optimised composite fuselage thanks to a coordinated effort between virtual structure development and composite technology. Coordinator: AIRBUS. Some other partners: BOMBARDIER: SONACA; TAI; DLR, INASCO, etc	European - FP7-AAT
LOCOMACHS	Low Cost Manufacturing & Assembly of Composite and Hybrid Structures. Coordinator: SAAB. Participants: Airbus, GKN Aerospace, Dassault, IAI, DLR, NLR, Tecnomat, Dassault, Bombardier, etc.	European - FP7-AAT
BETS	Deorbiting satellite based on electromagnetic tethers	European - FP7-Space
TARGET- Tecnologías Inteligentes y Medioambientalmente Sostenibles para la Generación de Estructuras en materiales compuestos	Development of new technologies for future aircraft in composite/ Collaborations with AIRBUS, AERNNOVA,EADS-CASA, SAIREM, M-TORRES	National - CENIT
PROSAVE2- Proyecto de investigación en sistemas avanzados para un avión más eco-eficiente.	"Development of new technologies for aeronautic systems and sub-systems	
Collaborations with CESA, AERNNOVA, TTT, etc"	National - CENIT	
VECTURA	New aerostructures assembly and painting technologies	Regional - Andalucía Calls
FUTURASSY	Development of robotics solutions for assembly of CFRP aerostuctures. Airbus, Tecnalía, Universidad de Cadiz, Universidad de Sevilla, CATEC	Regional - Andalucía Calls
SIMVA-Desarrollo de sistemas innovadores de mandos de vuelo para aviones de transporte y regionales de nueva generación	Development of new flight control systems	Regional - Andalucía Calls
DOLOMITE	Development of intelligent assembly systems for the aeronautic industry	Regional - Andalucía Calls
PAINT-Polo aeronáutico vasco de innovación para la fabricación de turbinas de gas		Regional - Basque Country Calls
ATEA-AERO-Nueva generación de puerta de tren de aterrizaje para futuro avión de pasillo único	Development of new landing gear door structure	Regional - Basque Country Calls
TEY		
Heat treatments	SENER projects	Others
Heat treatments	ITP projects	Others

3.4. PROGRAMMES AND CLIENTS

3.4.1 LEADING PROGRAMMES

AIRBUS A350XWB	Risk Partners	AERNNOVA, ACITURRI, ALESTIS
AIRBUS A380	Risk Partners	AERNNOVA, ACITURRI, ALESTIS, NOVALTI
AIRBUS A400M	Risk Partners	ACITURRI, ALESTIS
BOEING 747-8I/F, 747 Dreamlifter		AERNNOVA
BOMBARDIER C Series, CRJ700/9000		AERNNOVA
DASSAULT Falcon 7X	Risk Partners	ACITURRI, ALESTIS
EMBRAER 170/190, ERJ 135/145	Risk Partner	AERNNOVA
EMBRAER E170/190/195-E2		AERNNOVA
EMBRAER KC-390		ACITURRI, AERNNOVA
EMBRAER Legacy, Phenom	Risk Partner	ALESTIS
EPI TP400	Consortium Member	GRUPO ITP
ESA GAIA, HERSCHEL, SOLAR ORBITER, MTG		SENER
EUROJET EJ200	Consortium Member	GRUPO ITP
MTRI MTR390E	Consortium Member	GRUPO ITP
PRATT & WHITNEY PW1000G	Risk Partner	GRUPO ITP
ROLLS ROYCE TRENT 500/700/800/900/1000/XWB	Risk Partner	GRUPO ITP
SIKORSKY S-92	Risk Partner	AERNNOVA
TURBOMECA (All range)	Exclusive Transversal Agreement For Special Gears	DMP



*BOMBARDIER CSeries
courtesy Bombardier*

3.4.2 CURRENT AND FORMER PROGRAMMES & CLIENTS



*AIRBUS A350XWB
courtesy Airbus*

AEROSTRUCTURES

AIRBUS A300/ 310/ 318/ 319/ 320/ 321/ 330/ 330MRTT/ 340/ 350XWB/ 380/ 400M
ATR 42, 72

AIRBUS HELICOPTERS AS332, EC135, NH90, TIGRE,
BELL 505 JRX

BEECHCRAFT BARON / BONANZA / KING AIR

BOEING 737, 747-LCF, 747-8I/F, 787, E-3 AWACS

BOMBARDIER CRJ700/ 900, CSeries

DASSAULT FALCON 7X

DORNIER DO728

EADS C101/ 212/ 295, CN235, TBM700

EMBRAER ERJ135/ 140/ 145/ 145LR/ 145XR, LINEAGE, 170/ 175/ 190/ 195, E175/190/195-E2
KC-390, PHENOM

EUROFIGHTER TYPHOON

SIKORSKY S-92

SINO SWEARINGEN SJ30



*ROLLS-ROYCE Trent 900
courtesy Rolls-Royce*

ENGINES

EPI TP400

EUROJET EJ200

GENERAL ELECTRIC CF700, CT7, F404/ 414, GE90-14/ 115, J79, LM2500, T700

HONEYWELL AS907, HTF7000, Lycoming T53/55, Garrett TPE331/TFE731, TF50 MTRI MTR390-
Enhanced

PRATT & WHITNEY F135, JT8-STD / 200, PT6 / T3, PW535 /150/810/1000G

ROLLS ROYCE BR710/715, RB211, TRENT MT30/50, TRENT-500/ 700/ 800/ 900/1000/XWB

ROLLS ROYCE NORTH AMERICA A250, A601K, M250, T63

SNECMA ATAR 9KPLUS/09C/09K50, CFM 56, SaM146, Silvercrest

TURBOMECA ARRIEL, MAKILA, ARRIUS

SYSTEMS & EQUIPMENT

AIRBUS Military, AIRCELLE, ALENIA, BAE Systems, BOMBARDIER, CESA, DIEHL-BGT, EADS,
EUROCOPTER, EUROFIGHTER, GOODRICH, HONEYWELL, INDRA, LATECOERE, LIEBHERR, MARTIN
BAKER, MBDA, MESSIER BUGATTY DOWTY, RATIER FIGEAC, ROLLS-ROYCE, SAGEM, SIKORSKY



*MTG –
Meteosat Third Generation
Courtesy ESA*

SPACE

ESA/NASA:

ARTEMIS, AURORA, CLUSTER, CX-OLEV, EGNOS, ENVISAT, EUREKA, GAIA, GTAB, HERMES,
HERSCHEL-PANCK, HUBBLE SPACE TELESCOPE, HIPPARCOS, INTEGRAL, ISEE-B/COLUMBUS/CRV,
METOP, MSG, MTG, ROSetTA, SOHO, SOLAR ORBITER, SPACELAB, ULISSSES, XMM-NEWTON.

OTHERS:

AMC21, AMOS3, ARABSAT 4A/B, ARIANESPACE, ASTRA1M, ASTRIUM, CIEL-2, CHINASAT9,
EXPRESS AM33/44, GE 1i/2i, GALAXY 17, GALILEO, HELIOS I/II, HISPASAT 1C/D, KOREASAT 5,
METEOSAT, MINISAT, NETLANDER, OLYMPUS, PLEIADES, SPOT-4, SYRACUSE 3B, SUPERBIRD7,
SPAINSAT, TURKSAT 3A, YAMAL 200.

3.5 FACTS AND FIGURES

Members aggregate turnover and employment were in 2013

1,720 million € and 12,418 people

[directly generated in all of their worldwide facilities]

2013 Geographical breakdown:	Turnover (M€)	Increase vs. 2012	Employment	Increase vs. 2012
Basque Country	808	5.4%	4,098	1.4%
Rest of Spain	671	4.6%	6,319	2.7%
Rest of the World	242	37%	2,001	7.2%
TOTAL	1,720	8.6%	12,418	3%

2013	M€	% over Sales	Average % over Sales since 1993
MEMBERS R&D INVESTMENT	166	9.7%	16.4%
MEMBERS EXPORTS	1,100	64%	72.4%

CLUSTER DIMENSION: Facilities in the Basque Country

1.2% of the BASQUE GDP (*)	5.6% of the BASQUE Industrial GDP (*)	2% of the BASQUE Industrial EMPLOYMENT (*)
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HEGAN MEMBERS DIMENSION: Total number of facilities in Spain

13.9% of the SPANISH (**)	1% of the EUROPEAN (***)	24.3% of the SPANISH (**)	2% of the EUROPEAN (***)	18% of the SPANISH (**)	1.3% of the EUROPEAN (***)
aerospace TURNOVER		aerospace EMPLOYMENT		aerospace R&D INVESTMENT	

75 AEROSPACE ORGANIZATIONS

HEGAN Members

(representing the 99% of the Aerospace turnover generated)

5 TIER1
Aerostructures
Engines
Space

11 COMPANIES
with more than
40 people

20 SMEs
with less than
40 employees

141 FACILITIES
65 in the Basque Country,
52 in the rest of Spain
24 abroad (Brazil, China, Germany, India,
Malta, Mexico, Portugal, Romania, UK, USA)

1 AEROSPACE R&D
CENTRE (CTA)
Testing (R&D and
Certification)

2 R&D CORPORATIONS
with
14 R&D CENTRES
with aerospace activities

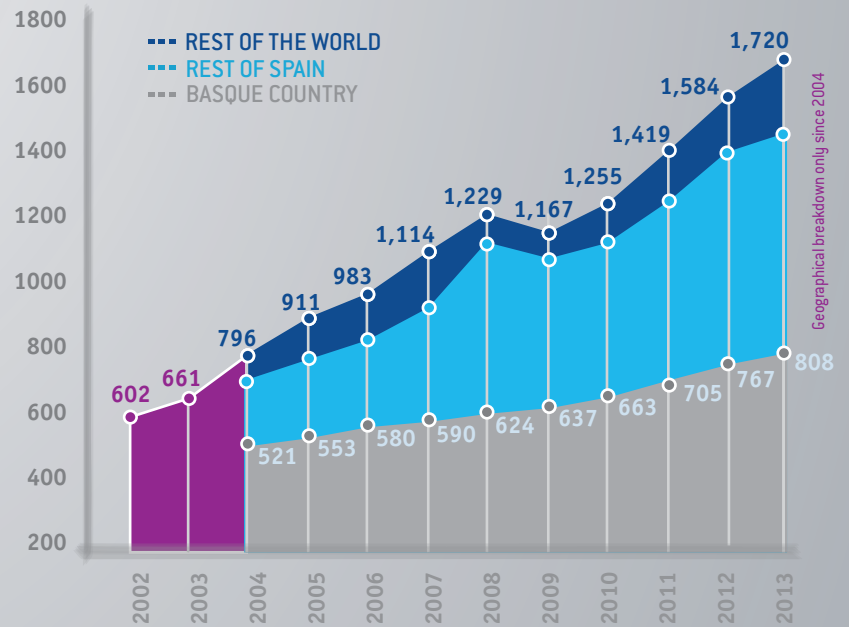
Non-Members

31 COMPANIES
with aerospace
activities

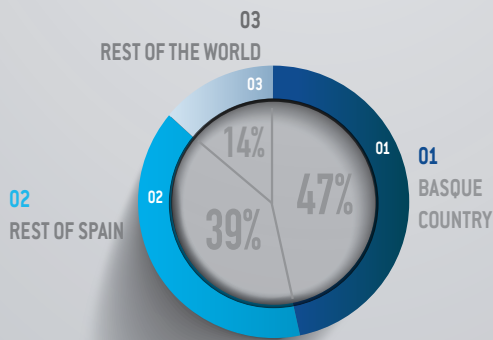
5 UNIVERSITIES
(ETSIB: Aeronautical
Intensification Course)

3.5.1 TURNOVER

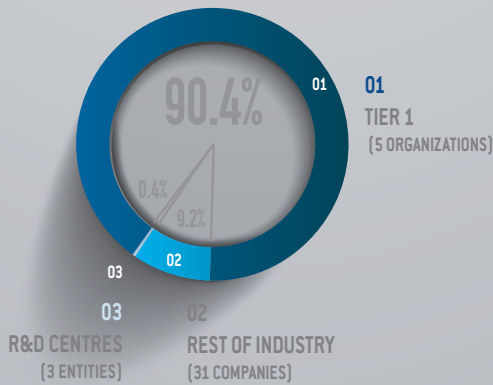
AGGREGATE TURNOVER IN M€ [2002-2013]



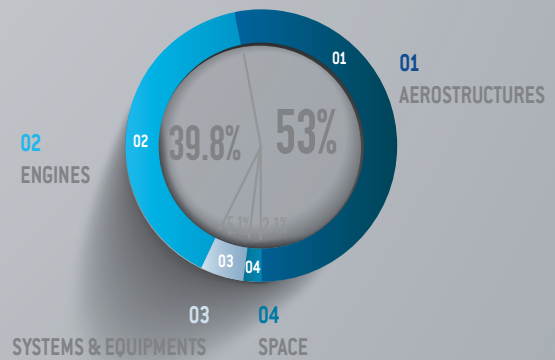
GEOGRAPHICAL DISTRIBUTION OF TURNOVER



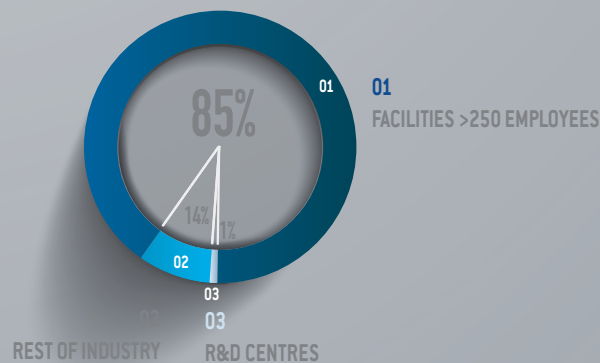
TURNOVER ACCORDING TO MEMBER SIZE



TURNOVER ACCORDING TO SUBSECTORS

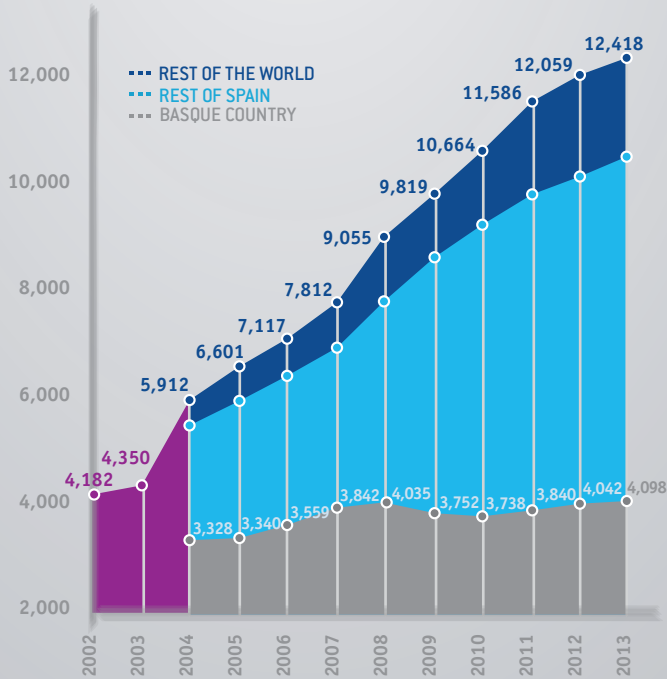


EUSKADI - BASQUE COUNTRY
BASQUE TURNOVER ACCORDING TO MEMBER SIZE

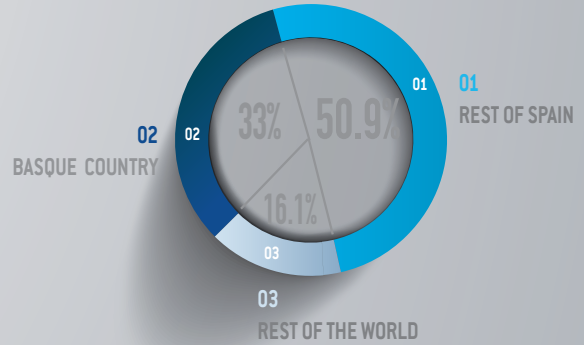


3.5.2 EMPLOYMENT

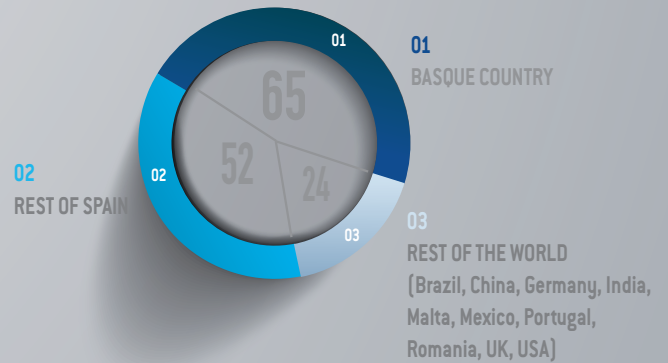
EMPLOYMENT 2002 -2013



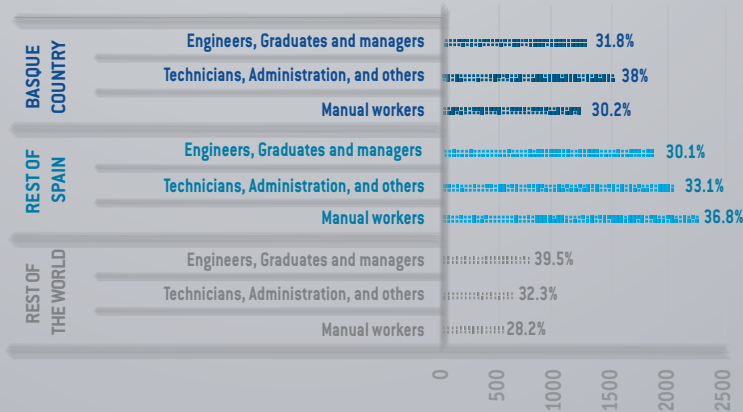
GEOGRAPHICAL DISTRIBUTION OF JOBS



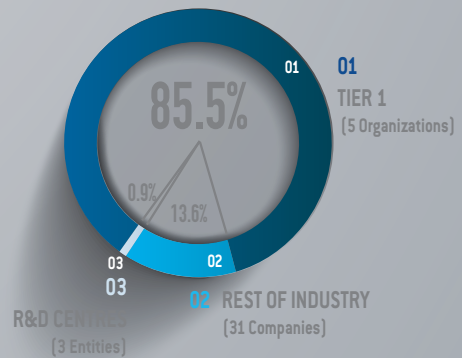
MEMBERS FACILITIES



EMPLOYMENT ACCORDING TO QUALIFICATION



EMPLOYMENT ACCORDING TO MEMBER SIZE



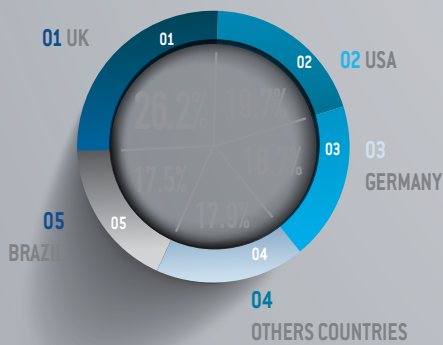
EUSKADI - BASQUE COUNTRY
BASQUE EMPLOYMENT ACCORDING TO MEMBER SIZE



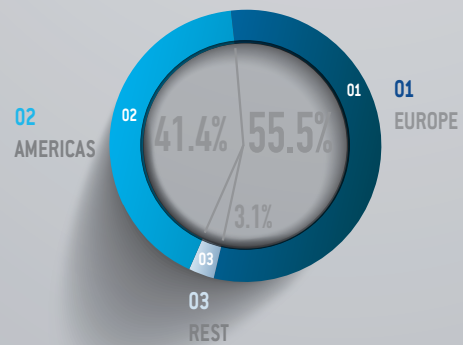
3.5.3 EXPORTS IN M€



EXPORTS ACCORDING TO COUNTRIES



EXPORTS ACCORDING TO CONTINENTS



R&D INVESTMENT OVER SALES [%]

9.7%

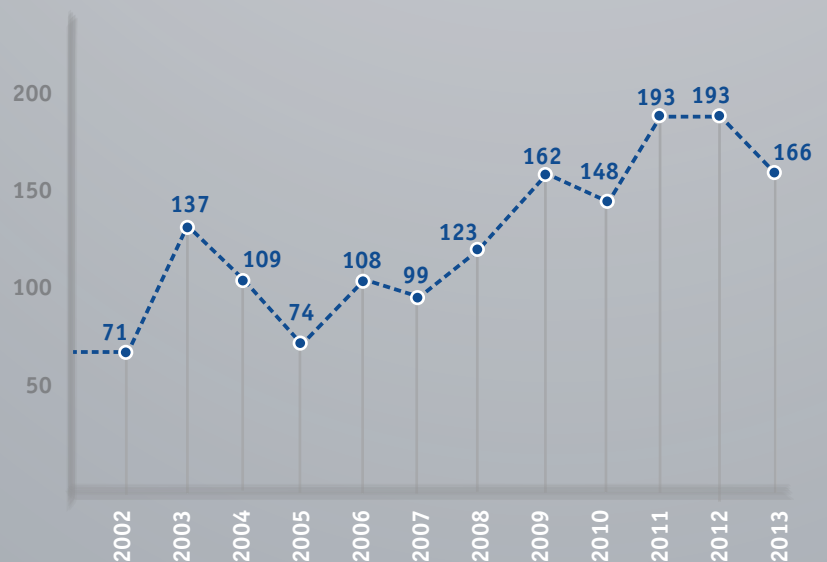
R&D SELF-FINANCING [%]

83%

R&D PERSONNEL

1,476

3.5.4 R&D IN M€





04

CHAPTER

ACKNOWLEDGEMENTS

CHAPTER FOUR

ACKNOWLEDGEMENTS

And now we must bring to an end the first annual report of this new stage which began in HEGAN following the 2013-16 strategic reflection.

We have just reviewed a number of the individual and collective highlights. The enormous figures, the favourable expectations, the talk about stable growth and the maintenance of employment levels and, therefore, the increase in the value of our companies, make us feel very optimistic about the future.

But this report also hints at another asset to which we try to dedicate all the time and energy we can. We as a team wish to use this occasion to express our special thanks to those who, through their active participation in seminars and meetings, their collaboration in the network of forums in which they take part, their frankness and transparency which help us to improve and the enthusiasm and commitment they convey in their conversations, help us to provide the service that HEGAN's members require of us every year in line with the defined challenges.

Thank you for your excellent disposition and for your trust – don't stop helping us!



AGRADECIMIENTOS

Y nos toca cerrar ahora el primer Informe Anual de esta nueva etapa que comenzamos en HEGAN tras la última reflexión estratégica 2013-16.

Acabamos de pasar revista a algunos hitos individuales y colectivos. Los grandes números y las favorables expectativas nos alegran, por cuanto nos hablan de crecimiento estable y mantenimiento de empleo y, por tanto, de aportación de valor.

También hay otra aportación de valor que se trasluce en este informe y a la que tratamos de dedicar nuestra energía en la asociación.

Este equipo quiere aprovechar esta página para expresar un agradecimiento especial a los que - a través de su participación activa en los grupos y jornadas convocadas, la colaboración en red en los foros en los que se participa, la naturalidad y transparencia para ayudarnos a mejorar y el entusiasmo y compromiso que transmiten en sus conversaciones- nos ayudan a aportar el valor que los miembros de HEGAN nos piden cada año en línea con los retos definidos.

Gracias por vuestra excelente disposición y por vuestra confianza y ¡no os canséis de ayudarnos!

ESKER ONEZ

2013tik 2016ra bitarteko azken gogoeta estrategikoa egin ostean, HEGANen hasi dugun etapa berri honetako lehen Urteko Txostena ixtea dagokigu orain.

Banakako eta taldeko zenbait mugarri aztertu berri ditugu. Zenbaki handiek eta alde ditugun igurikimenak asko poztu gaituzte, hazkunde egonkorra eta enpleguari eusteko eta, beraz, gure balioa indartzeko joera erakusten baitute.

Bada beste balio-ekarpen bat, honako txosten honetan ikusgai jarri dena eta elkartearen gure indarren xede izan dadin ahalegintzen garena.

Talde honek aukera hau baliatu nahi du zehaztutako erronken ildoan urtero HEGANeko bazkideek eskatzen diguten balio-ekarpena egiten laguntzen dituguten guztiei esker ona adierazteko; antolatutako talde eta saioetan parte hartuz, parte hartzen duten foroetan sareko laguntza emanez, hobetzen laguntzeko bidean naturaltasunez eta gardentasunez jokatzu edota hizketaldietan erakusten duten gogo eta konpromisoaren bidez izugarri lagundu baititugite.

Eskerrik asko zuen prestutasunagatik eta zuen konfiantzagatik. Eta jarraitu horrela, guri lagunduz aurrerantzean ere!

This publication is co-financed by

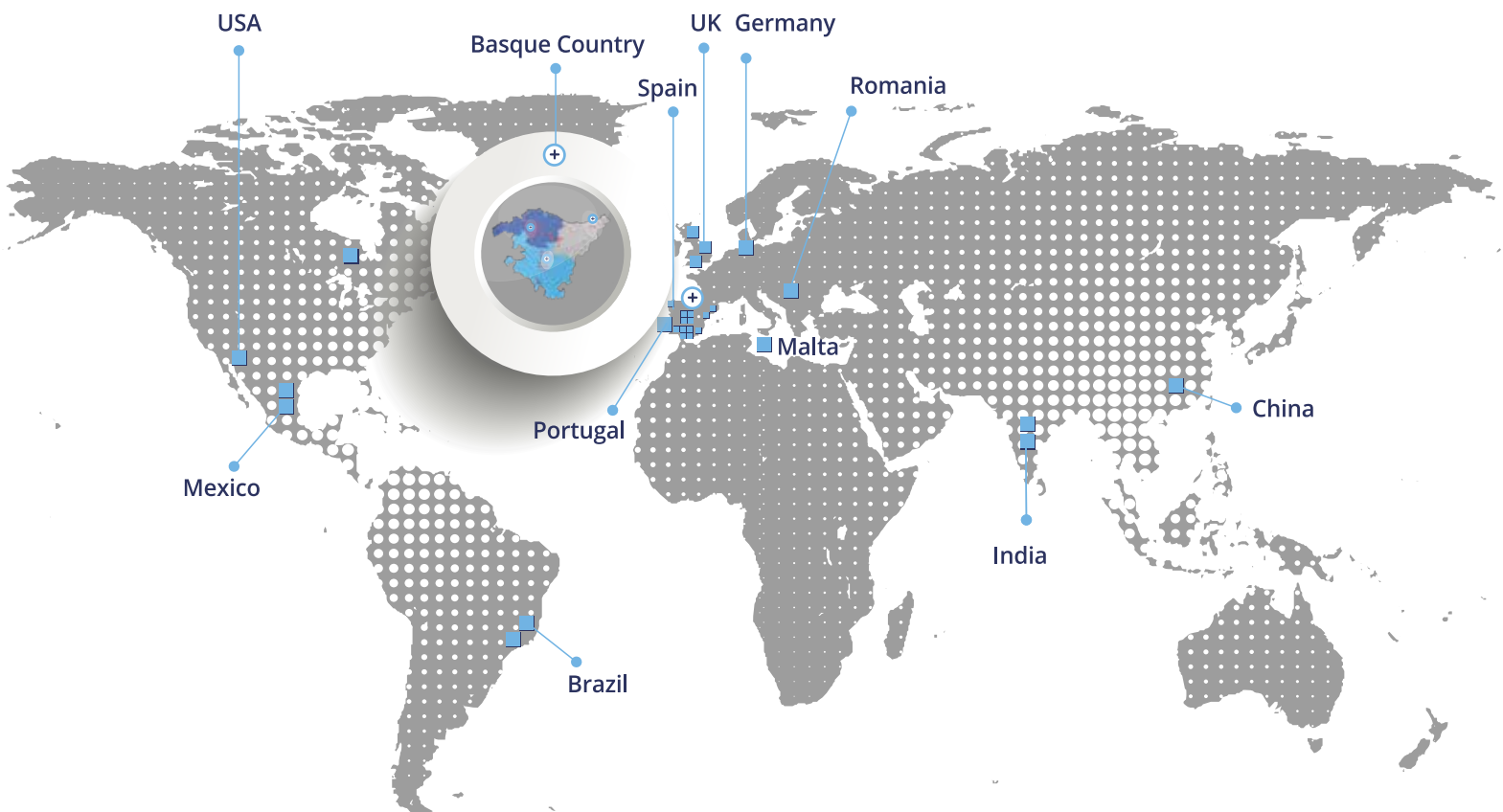


HEGAN participates in the Project **GR² D²** which have been co-financed by the DGPYME –Spanish Ministry of Industry, Energy and Tourism- and co-financed by FEDER (EU)



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