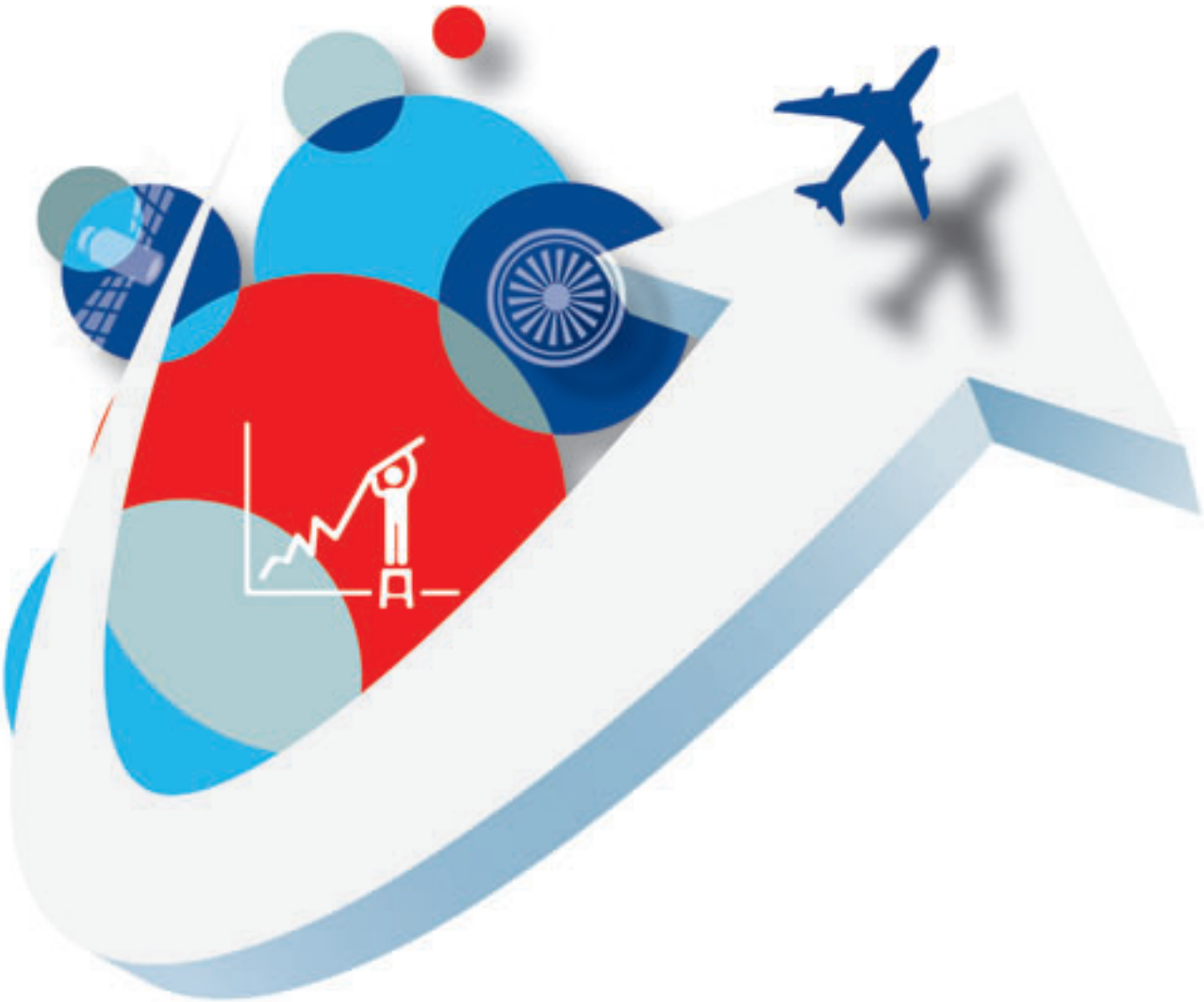
2012 Annual Report

Informe Anual 2012. Urteko Txostena



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2012 Annual Report

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PRESENTACIÓN

Comenzamos estas líneas expresando un sentimiento sincero de solidaridad con todas las personas que están sufriendo las consecuencias de esta crisis mundial tan larga, trasladando el parecer de las más de 12000 personas que al final de 2012 trabajaban en alguna oficina de las entidades miembros de HEGAN alrededor del mundo.

En nuestro caso la vida profesional nos ha llevado este año por una senda dura, de mucho trabajo, pero de una cosecha de frutos importantes que generan esperanza y que os invitamos a que conozcáis en las páginas del presente informe.

Mirando al contexto que afecta a nuestro sector hoy, nos encontramos con la dolarización en el proceso de compras y un euro quizás sobrevalorado, la volatilidad del coste de las materias primas, y la ya conocida dificultad para obtener una financiación adecuada a los plazos y cifras del sector y para mantener los altos niveles de I+D+i que son propios en la fabricación de aviones, y algunos otras barreras que vencer.

Sin embargo en 2012, siguiendo el consejo del gran Stephen Covey, decidimos poner nuestra mirada –conscientes del marco que acabamos de describir- en el círculo de influencia, en lo que podemos cambiar, y así, reflexionamos conjuntamente en los retos del sector aero vasco en los que la existencia de HEGAN podía aportar valor.

Y además, nos preguntamos cómo debíamos ser –qué capacidades, también como personas- para cumplir con un 2016 ideal. El resultado ha sido excelente: personas –equipo interno, miembros y colaboradores -motivadas para construir ese sueño con flexibilidad, y sentido de dirección compartido. Y el contenido… lo veréis dentro: ahora, sólo una pinceladas.

El empleo en Euskadi es un tercio del total, y en 2012 se ha contratado en todo el mundo casi 500 profesionales de los que el 43% corresponden a las plantas ubicadas en el País Vasco. Las ventas en el total de las plantas también ha aumentado, en un 11,7%, acercándose a los 1.600 millones de euros, lo que ha ayudado a mantener la cifra de inversiones en I+D en 193 millones de euros.

Acerca de las exportaciones, la cifra global nos resulta poco útil para medir la competitividad y la diversificación de producto o mercado de nuestras empresas, dados los consorcios que se crean o los cambios de sedes sociales del cliente. No obstante, se está produciendo una mejora paulatina en la cifra de exportación en las empresas medianas y pequeñas que en 2012 incrementó un 11% en estas entidades superando los 28 millones de euros.

Parece lógico citar dos hitos de gran repercusión tractora para la consolidación de este sector como son la entrada con fuerza en los programas PW1000G y KC-390, de Pratt & Whitney y de Embraer respectivamente, que amplían de una forma muy diferente la cartera de programas y mercados de aeronaves en los participan nuestras empresas.

Recogiendo el espíritu de la reflexión estratégica que algunos profesionales –unos pocos trabajando voluntariamente al servicio de la globalidad- hemos elaborado, queremos compartir con el lector el deseo de mirar por encima de las fronteras y disfrutar de la riqueza y del valor que representa la diversidad, para ganar competitividad creando alianzas, nuevas incorporaciones y capacidades y, en definitiva, una nueva industria en el siempre industrial País Vasco.

Extendamos la melodía de la coopetitividad – cooperar y competir-, cocreando una nueva sinfonía para el sector globalizado e interconectado, que sonará de una forma excelente si cuidamos, con detalle, toda la cadena de valor de cada avión, con una visión constructiva de la relación cliente-proveedor.

Os invitamos así a uniros a esta nueva música de confianza entre diferentes, continuación de la que comenzamos en 1993, que nos abre un horizonte lleno de trabajo, ilusión y de una firme esperanza constructiva.

AURKEZPENA

Lehenik eta behin, mundu-krisi luze honen ondorioak pairatzen ari diren pertsona guztiei gure benetako elkartasuna adierazi nahi diegu, 2012aren amaieran munduan HEGANeko kide diren erakundeetan lanean ari ziren 12.000 pertsona baino gehiagoren izenean.

Gure kasuan, bizitza profesionalak bide gogorretik eraman gaitu aurtengo urtean, lan handiko bidetik, baina, aldi berean, itxaropena sortzen duten emaitza garrantzitsuak eman ditu bide horrek. Txosten honetako orrien bidez gure ibilbidea ezagutzera gonbidatzen zaituztegu.

Gaur egun gure sektoreari eragiten dion testuinguruari begiratzen badiogu, hauxe da aurkituko duguna: erosketa-prozesuan gertatu den dolarizazioa eta euroari balio handiegia eman izana, lehengaien kostuen aldakortasuna, eta sektorearen epeei eta zifrei egokitutako finantziazioa lortzeko eta hegazkinen fabrikazioan horren garrantzitsuak diren I+G+b-ko maila gorenei eusteko jada ezagunak diren zailtasunak, eta baita gainditu beharreko beste hainbat oztopo ere.

Hala ere, 2012. urtean, Stephen Covey maisuaren aholkuei jarraituz, gure begirada eragin-eremuan jartzea erabaki genuen, deskribatu dugun testuingurua kontuan hartuta; zer aldatu genezakeen aztertu genuen, eta, horrela, euskal sektore aeronautikoari HEGANek egin ziezaiokeen balio-ekarpena adierazten zuten erronkei buruzko gogoeta egin genuen elkarrekin.

Gainera, 2016a urte ideala izateko zer-nolakoak izan behar genuen –pertsona gisa zer gaitasun izan behar genituen– galdetu genion geure buruari. Emaitza bikaina izan da: zuzendaritza partekatuaren zentzuaz jabetuta, amets hori malgutasunez eraikitzeko motibatuta daude pertsonak –barneko taldea, kideak eta laguntzaileak–. Eta edukia… txostenean ezagutuko duzue: orain, ukitu batzuk besterik ez.

Sektore honetako enpleguari dagokionez, enplegu osoaren heren bat da Euskadin, eta 2012an, ia 500 profesional kontratatu dira mundu osoan; horietatik % 43, Euskal Herrian kokatutako lantegietan. Lantegi guztiak kontuan hartuta, salmentak ere % 11,7 igo dira, 1.600 milioi eurora gerturatuz, eta hori lagungarri izan da I+G esparruan 193 milioi euroko inbertsioa egiten jarraitu ahal izateko.

Esportazioei dagokienez, ezin dugu kopuru osoan oinarrituta gure enpresen produktuaren edo merkatuaren lehiakortasuna eta dibertsifikazioa behar bezala neurtu, partzuergoak sortzen baitira eta bezeroek egoitza sozialak aldatu egiten baitituzte. Hala ere, esportazio-kopurua apurka-apurka hobetzen ari da enpresa ertainetan eta txikietan, eta 2012an, % 11 igo zen erakunde horietan, 28 milioi euroko zenbatekoa gaindituz.

Bidezkoa da sektorearen sendotze-prozesuan trakzio-indar garrantzitsua izan duten bi mugarri aipatzea: hurrenez hurren Pratt&Whitney eta Embraer etxeei dagozkien PW1000G eta KC-390 programetan buru-belarri egindako lana, programen zorroa eta gure enpresek parte hartzen duten aireontzien merkatuak oso modu desberdinean zabaldu baitituzte.

Profesional batzuek, globaltasunaren zerbitzura borondatez lanean aritu garen gutxi batzuek, egin dugun gogoeta estrategikoaren espiritua jasoz, irakurlearekin partekatu nahi dugu mugaz harago begiratzeko desioa, eta aniztasunak ematen digun aberastasunaz elkarrekin goza dezagun nahi dugu, lehiakorragoak izateko, itunak sortuz eta jende eta gaitasun berriak bilduz eta, azken batean, Euskal Herri industrializatu honetan industria berri bat eraikiz.

Zabal dezagun lehiakortasunaren melodia –elkarlanean aritzea eta lehiatzea– guztion artean sinfonia berri bat sortuz, sektore globalizatu eta interkonektatu baterako. Benetan sinfonia bikaina izango da, bezero eta hornitzaileekiko harremanei buruzko ikuspegi eraikitzailean oinarrituta, hegazkin bakoitzaren balio-katea xehetasun osoz zaintzen badugu.

Beraz, desberdinen arteko konfiantzan oinarritutako musika berri honekin (1993an hasi genuenaren jarraipena) bat egitera gonbidatzen zaituztegu, lanez eta ilusioz betetako etorkizuna, itxaropen eraikitzaile sendoa duena, zabaltzen baitigu.

PRESENTATION

We would like to begin by expressing our sincere feeling of solidarity with those people who are suffering the consequences of this long world economic crisis, and on behalf of the more than 12,000 workers of HEGAN's associate members located throughout the world.

In our professional progress, 2012 was a tough year with a heavy workload , but the results set out on the following pages of this report are a source of hope for the future.

Regarding the situation that affects our sector today, we are witness to the dollarisation of the purchasing process and a somewhat overvalued euro, volatility in the cost of raw materials and the all-too-familiar difficulties encountered by businesses when attempting to obtain the adequate financing for the timeframes and volumes of the sector and maintain the appropriate R&D&I levels needed for manufacturing aircrafts, as well as a number of other obstacles.

Nevertheless, in 2012, following the advice of the great Stephen Covey and conscious of the circumstances described above, we decided to concentrate on the circle of influence in which we can change things and in this way we reflected jointly on the challenges facing the Basque aeronautical sector in which the presence of HEGAN can be of great value.

In addition, we ask ourselves about our own capabilities, about what we must do at a personal level to bring about an ideal situation in 2016. The results have been excellent: our people - staff, associate members and collaborators – are motivated to build this dream with a flexible attitude and a sense of a shared endeavour. Here, we will provide just a taste of the information set out in the following pages.

Employment in the Basque Country is a third of the total and in 2012 almost 500 professionals were hired all over the world, of which 43% corresponded to production facilities in the Basque Country. Sales in all our plants also increased by 11.7%, amounting to almost 1600 million euros, which has helped to maintain our R&D investments at 193 million euros.

Regarding exports, the overall figure is of little use to measure the competitiveness and product/market diversification of our companies, in view of the consortiums that are being created and the changes that are taking place in the location of the headquarters of our clients. However, a gradual improvement can be seen in the export figures of medium and small sized companies, which in 2012 increased 11% to over 28 million euros.

It would seem logical to mention two milestones with great repercussions for the consolidation of the sector, such as the coming into force of the PW1000G and KC-390 programmes of Pratt & Whitney and Embraer respectively, which increased in very different ways the portfolio of aircraft programmes and markets in which our companies are taking part.

In the spirit of the strategic reflection drawn up by a number of professionals -some working voluntarily for the collective benefit-, we have sought to share with the reader the desire to look beyond boundaries and to enjoy the wealth and value of diversity, to gain in competitiveness by creating alliances, new incorporations and capabilities and, in short, a new industry in the Basque country, with its long industrial tradition.

Let us spread the song of "co-opetitivity" (co-operate and compete), co-creating a new symphony for the globalised, interconnected sector, which will sound fantastic if we look after the entire value chain of each aircraft with great care, with a constructive vision of the customer-supplier relationship.

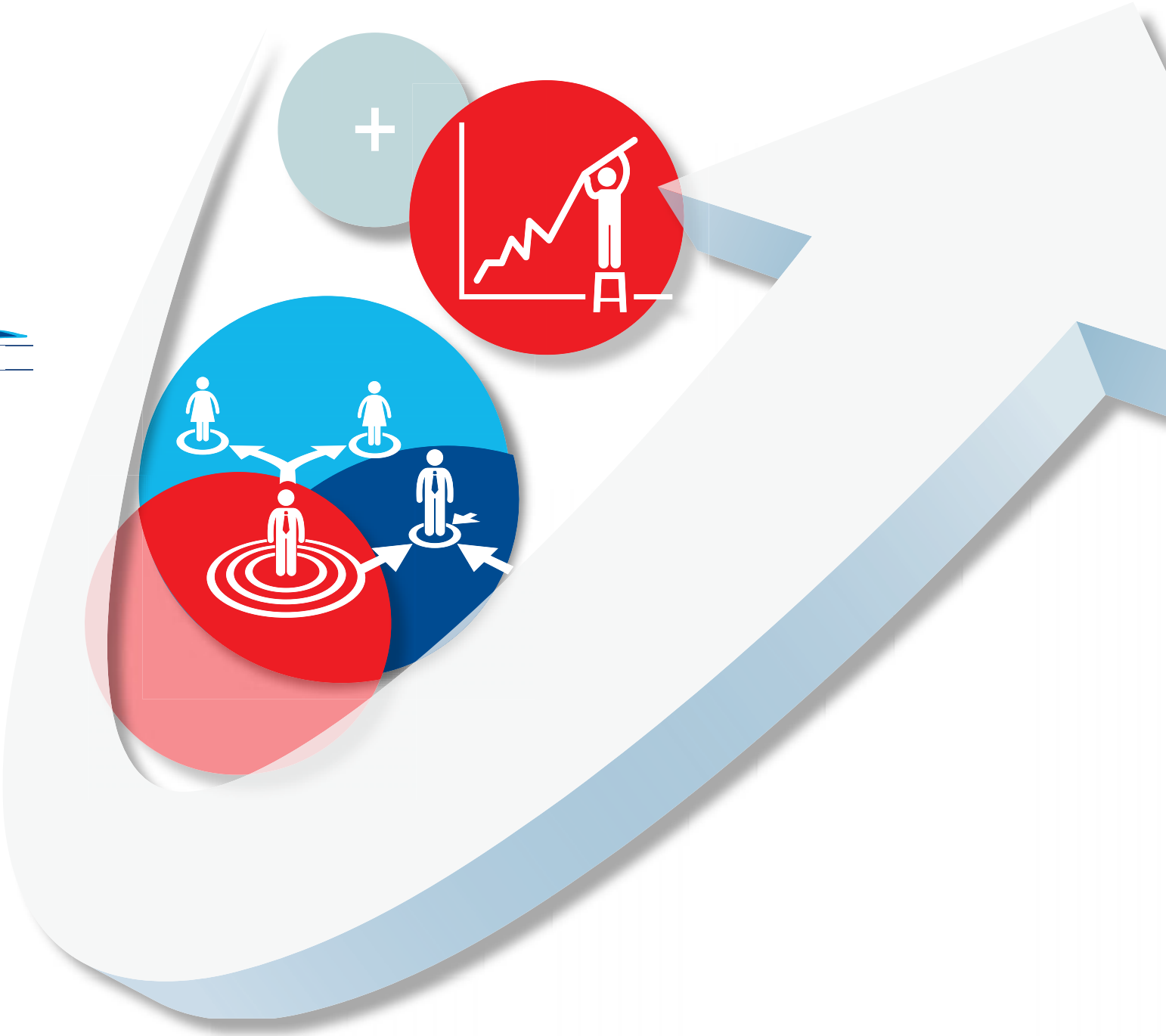
We invite you to join us in this new music of trust between different entities, to continue the work we began in 1993, opening up a horizon full of work, illusion and a solid, constructive hopeness.

Ignacio Mataix Entero
President

José Juez Langara
Managing Director

CHAPTER TWO

THE CLUSTER ASSOCIATION



2.1.- ORGANIZATION

2.2.- HEGAN 2012

2.3.- ANNUAL ACCOUNTS

- Association 2012 results
- Association Balance Sheet

2.1.- ORGANIZATION

General Assembly 2012

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 2012 were as follows:

Ignacio Mataix -President- GRUPO ITP
Pedro Fuente -VicePresident-, AERNNOVA
Jorge Unda -Secretary-, SENER
Leire Bilbao, BASQUE GOVERNMENT - has replaced Inmaculada Freije since December 2012 -
Armando Jiménez, ALFA PRECISION CASTING
Ángel Alonso, NOVALTI
Lara Cuevas, 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 Ezquerra, ALTRAN -has replaced Mikel Sanz (NIVAC) since February 2013-
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

As of 2005, the permanent committees of HEGAN were restructured in temporary and flexible working groups engaged in a number of specific tasks, reporting to the Executive Committee. 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. Last year, the most active working groups were the 'Strategic Consultative Team', the 'Value Chain Strengthening Working Group' and the 'Competitive Intelligence System Working Group', who worked hard in 2012.

HEGAN's team

Employees of the Cluster Association permanent team are as follows:

Mentxu Díaz – Administration
Martín Fernández Loizaga – Deputy Director
José Juez Langara – Director
Ana Rodríguez – Communication & People.

And had the permanent support of CTA, specially of Adeli Gutiérrez and Ana Villate.

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 éstos.

Junta Directiva
Es el Órgano Colegiado de Administración y Dirección. Sus miembros 2011, designados por la Asamblea General, fueron:

Ignacio Mataix -Presidente-, GRUPO ITP
Pedro Fuente -VicePresidente-, AERNNOVA
Jorge Unda -Secretario-, SENER
Leire Bilbao, GOBIERNO VASCO - sustituyendo a Inmaculada Freire desde diciembre 2012 -
Armando Jiménez, ALFA PRECISION CASTING
Angel Alonso, NOVALTI
Lara Cuevas, 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 2011 fueron:

Plácido Márquez -Presidente-, GRUPO ITP
Jon Larrinaga, AERNNOVA
Armando Jiménez, ALFA PRECISION CASTING
Iñigo Ezquerra, ALTRAN -sustituyendo a Mikel Sanz (NIVAC), desde febrero 2013-
Juan Miguel López Uria, 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
A partir de 2005, los comités permanentes de HEGAN sufrieron una restruccturacion pasando a ser grupos de trabajo temporales y flexibles dedicados especificamente a actividades puntuales y reportando al Comité Ejecutivo. Estos grupos de trabajo se crean y desaparecen a voluntad de lo asociados y según sus necesidades especificas del momento. El año pasado, los grupos de trabajo más avctivos fueron el "Equipo estratégico de contraste", el "Grupo de refuerzo de la cadena de valor", y el "Grupo de tabajo de Inteligencia Competitiva", grupos que trabajaron duro en 2012.

Equipo de HEGAN
El equipo permanente de la Asociación es el siguiente:

Mentxu Díaz, – Responsable de Administración
Martín Fernández Loizaga – Director Adjunto
José Juez Langara – Director
Ana Rodríguez – Comunicación y Personas

Y contó con el soporte permanente de CTA, especialmente de Adeli Gutiérrez y Ana Villate.

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 2012rako izendatutakoak:

Ignacio Mataix -Lehendakaria-, GRUPO ITP
Pedro Fuente -LehendakariOrdea-, AERNNOVA
Jorge Unda -Idazkaria-, SENER
Leire Bilbao, EUSKO JAURLARITZA -Inmaculada Freijek ordezkatu zuen 2012ko abenduan-
Armando Jiménez, ALFA PRECISION CASTING
Ángel Alonso, NOVALTI
Lara Cuevas, SPRI
José Juez Langara, HEGAN

Batzorde betearazlea
Zuzendaritza Batzordearen ordezkari den talde hau organo betearazlea da klusterraren jardueretan. Bi hilean behin biltzen da, eta hauek dira batzordeko kideak 2011. urtean:

Plácido Márquez -Lehendakaria-, GRUPO ITP
Jon Larrinaga, AERNNOVA
Armando Jiménez, ALFA PRECISION CASTING
Iñigo Ezquerra, ALTRAN -Mikel Sanzek (NIVAC) ordezkatu zuen 2013ko otsailean-
Juan Miguel López Uria, EUSKO JAURLARITZA
Ángel Alonso, NOVALTI
Javier Viñals, SENER
Susana Larrea, SPRI
Borja Emparan, WEC
José Juez Langara – HEGANeko zuzendaria
Martín Fernández Loizaga – HEGANeko zuzendari laguntzailea

Lan taldeak
2005. urtetik aurrera, HEGANeko batzorde iraunkorrak berregituratu egin ziren, eta horien ordez behin-behineko lan talde malguak, ekintza zehatzetara zuzendutakoak, sortu ziren, Batzorde Betearazlearekin lotuta. Lan talde horiek bazkideen nahierara sortzen eta desagertzen dira, unean uneko behar berezien arabera. 2011n, talde aktiboenak Aukeren Proiektuko Lan Taldea eta Finantzazioko Lan Taldea eta Adimen Lehiakorrerako Sistemako Lan Taldea izan dira, horiexek izan baitira 2011ko bi jarduera nagusien euskarriak.

Heganeko taldea
Honako hauek osatzen dute elkarteko talde iraunkorra:

Mentxu Díaz – Administrazio arduraduna
Martín Fernández Loizaga – Zuzendari laguntzailea
José Juez Langara – Zuzendaria
Ana Rodríguez – Komunikazioa eta Pertsonak

Eta CTAren etengabeko laguntza izan zuen, batez ere Adeli Gutiérrez eta Ana Villate andreena.

2.2- HEGAN 2012

En la primavera de 2012 comenzamos un nuevo proceso de reflexión estratégica. El proceso que nos marcaría nuestras acciones hasta el año 2016.
Este proceso, debía ser un ejercicio ligero -pero no por ello dejar de ser concienzudo-; centrado en el papel a desempeñar por la asociación para ayudar a desarrollar los retos a los que se enfrentan nuestros socios y el sector; que el peso del ejercicio lo llevase el equipo del Hegan, contando necesariamente con un equipo de contraste formado por representantes de los asociados; y que estuviera terminada durante el ejercicio 2012 (adelantándonos).

Se aceptó una propuesta que previmos daba respuesta a esas cuestiones y a otra más: era económica… y eso, en los tiempos que corren, fue un criterio más a tener en cuenta.

Nuestra identidad lleva implícita una fuerte vocación de servicio al sector, es lo que da sentido a nuestra propia existencia, los retos del sector debían dar sentido de dirección a nuestro quehacer; y la reflexión debía sentar las bases de cómo debíamos ser para desplegar las acciones.

Así, en otoño, ya teníamos detectados los retos del sector, aquellos en los cuales la existencia de HEGAN podía aportar valor al socio:

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

Y con el aliño de todos ellos:

- Generar una cultura de cooperación.

Además dimos vuelta a cómo debíamos ser:

- La estructura, ligera.
- Funcionamiento en red.
- Económicamente más independientes.
- Orientados a resultados..
- La "casa" de todos.
- Organización centrada en personas.

Y a las capacidades de las que necesitábamos:

- Proactividad y cocreación
- Generar sentido y tener olfato para las oportunidades
- Facilitación de procesos, indagación y escucha
- Asertividad y resiliencia
- Generar energía positiva, tener espíritu positivo y sentido del humor
- Identificación de capacidades
- Cuidar el detalle

El despliegue se planteó de manera abierta y para hacerlo entre todos. Pensábamos que teníamos los "mimbres" –las personas, equipo y socios, motivadas– para hacerlo flexible, práctico e innovador.

Durante este proceso tuvimos en cuenta las claves que ser 'Asociación Cluster' implica -desarrollo de la competitividad a través de la cooperación-, las actividades que en la Reflexión anterior (2009-2012) habíamos concretado, y los compromisos que teníamos…, lo integramos todo y comenzamos a desarrollar el camino trazado…

2.2- HEGAN 2012

2012ko udaberrian, gogoeta-prozesu estrategiko berri bat lantzen hasi ginen, 2016ra arte gure jarduera gidatuko zuen prozesua, hain zuzen. Prozesuak arina izan behar zuen, baina horrek ez du esan nahi arretaz egin behar ez zenik; gure bazkideei eta sektoreari gainditu beharreko errokak garatzen laguntzeko elkarteak zuen zeregina aztertzea zuen xede. Lan horretaz, Heganeko taldea arduratuko zen, baina elkarteko bazkideen ordezkariekin osatutako kontraste-talde bat izatea ere ezinbestekoa izango zen; eta 2012ko ekitaldian amaitu behar zen gainera (aurreratu egin ginen).

Gure ustez alderdi horiek guztiak kontuan hartzen zituen proposamen bat onartu genuen, eta, gainera, beste alderdi bat ere kontuan hartzen zuela ohartu ginen: ekonomikoa… Eta hori, gaur egungo egoeran, kontuan hartu beharreko irizpidea zen.

Gure nortasunak sektorearekiko bokazio-zerbitzu sendoa darama berarekin, eta horixe da, hain zuzen, gure izateari zentzua ematen diona. Sektorearen erronkek gidatu behar zuten gure zeregina, eta gogoetak gure izaeraren oinarriak ezarri behar zituen, ekintzak hedatu ahal izateko.

Horrela, udazkenerako jada hautemanda genituen sektoreko erronkak, HEGANek bazkideari egin ziezaiokeen balio-ekarpena adierazten zuten erronkak, alegia:

- Balio-katea sendotzea
- Bezeroekin betetzen zuten lekua hobetzea
- Sektorea ordezkatzea
- Erabaki estrategikoak hartzeko testuingurua eskaintzea
- Talentua sortzea, atxikitzea eta erakartzea
- Prestakuntza espezifikoa

Eta horiekin guztiekin gatzospinduta:

- Lankidetzarako kultura bat sortzea

Gainera, zer-nolakoak izan behar genuen aztertu genuen berriro:

- Egitura, arina
- Sareko funtzionamendua
- Ekonomikoki independenteagoak
- Emaitzak lortzera bideratutakoak
- Guztien "etxea"
- Pertsonetan oinarritutako antolamendua

Zer-nolako gaitasunak behar genituen ere aztertu genuen:

- Jarduera eta elkarren arteko sorkuntza sustatzea
- Zentzua sortzea eta aukerak hautemateko sena izatea
- Prozesuak erraztea, ikertzea eta entzutea
- Baikorrak izatea eta gainditzeko gaitasuna izatea
- Energia positiboa sortzea, baikortasunez eta humorez jardutea
- Gaitasunak identifikatzea
- Xehetasunak zaintzea

Modu irekian eta guztion artean egiteko moduan planteatu zen hedapena. Malgua, praktikoa eta berritzailea izateko "zume" guztiak genituela uste genuen –pertsonak, taldea eta bazkideak, guztiak motibatuta–.

Prozesu horretan, 'Kluster Taldea' izateak berarekin dakartzan giltzarriak –lankidetzan oinarrituta lehiakortasuna garatzea–, aurrez egindako gogoetan (2009-2012) zehaztutako jarduerak eta une hartako konpromisoak hartu genituen kontuan; horiek guztiak batu, eta marraztutako ibilbidea urratzeari ekin genion…

In the spring of 2012, we began a new process of strategic reflection. The process that would set the actions to take from now until 2016.

This process would focus on the role to be played by the Association to help our members and the sector as a whole to tackle the challenges that face them at this time. HEGAN's team would bear the brunt of this task with the necessary assistance of the consultative team formed by representatives from our associate members and its work would be completed during the 2012 financial period (in advance).

The team accepted a proposal that responded to these issues and was also economical ... and in the current economic climate, this was also a factor to take into consideration.

A vocation for service to the sector represents a central part of our corporate identity -it is what makes sense of our own existence-. The challenges of the sector had to give our work a sense of direction and by debating these issues, establish the basis for the way in which we had to act.

Thus, in the autumn, we had already detected those challenges facing the sector for which HEGAN could add value to its members:

- Strengthen the value chain
- Improve positioning with certain clients
- Represent the sector
- Provide context for strategic decision-making
- Generate, keep and attract talent
- Specific training

And with the dressing :

- Generate a culture of cooperation

Trust and Working Spaces

Trust and Working Spaces

We also talked about how should we be:

- A lightweight structure
- Networking
- Economically more independent
- Result oriented
- A common resource
- Person oriented organisation

And the capabilities we may need:

- Proactivity and co-creation
- To generate sense and have a good nose for opportunities
- Facilitate processes, enquire and listen
- Assertiveness and resilience
- Generate positive energy, have a positive spirit and sense of humour
- Identify capabilities
- Pay attention to detail

The way to do this was talked about openly and was considered to be everyone's responsibility. We were sure we had the right ingredients -motivated people, equipment and members-, to make it flexible, practical and innovating.

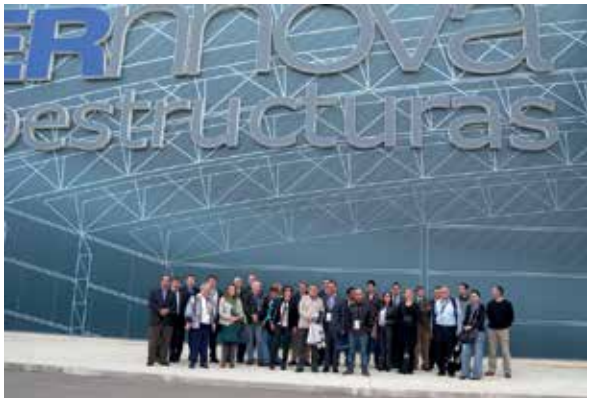
During this process we took into account the key issues involved in being a *'Cluster Association'*, namely, competitiveness through cooperation, the activities we had specified in the previous Reflection (2009-2012) and the undertakings we had made. We put all these ingredients together and began to prepare the way forward.

2.2.- HEGAN 2012

Although all those challenges are important, challenge 1 and 2 were the ones that commanded most respect as they involved a new, more challenging role for us. These challenges contain an objective more directly focused on the competitiveness of our members than the four that followed, which were more horizontal and more supportive of the first two. We decided to start as soon as possible, even before the presentation of this Strategic Reflection 2013-2016. For this reason, we began a complex process to generate Groups for Long-term Challenges. So far, these have led to the creation of four working teams made up of representatives from our members, ready to generate projects in collaboration in a number of different areas.

In addition to this work of joint reflection, in 2012 we took a number of actions relating to the search for talent together with Bizkaia:xede and the universities; with the financing of companies and the search for collective solutions to improve their costs, together with Banco de Sabadell, Vadillo Asesores and LTK; to commercial aspects at Aeromart-Toulouse and Airtec-Frankfurt together with the Alava Chamber of Commerce - delegated by the Basque Chambers of Commerce to carry out his action-; relating to training, representation, communications and competitive intelligence ...

Finally, in order to be more effective in this new stage for HEGAN, we worked to adapt the organisation to this new a strategy, taking people into account, resulting in a new management model: FLEXIBLE.



Aerospace Cluster Tour in the *TCI Annual Global Conference 2012* celebrated in the Basque Country

New HEGAN Management Model: FLEXIBLE

Siendo todos importantes, el reto 1 y el 2 eran los que más respeto nos infundían, implicaban jugar un rol nuevo y más desafiante para nosotros. Estos retos cuentan con un objetivo más directamente centrado en la competitividad de las asociadas que los cuatro siguientes, más horizontales y de soporte para los primeros. Decidimos arrancarlos lo antes posible... antes incluso que la presentación de esta Reflexión Estratégica 2013-2016. Para ello, iniciamos un proceso complejo para la generación de Grupos para Retos de Gran Recorrido que por ahora ha dado lugar a cuatro equipos de trabajo formados por representantes de los socios, dispuestos a generar proyectos en colaboración en distintas áreas.

Además de este trabajo de reflexión compartida, en el año 2012 hemos realizado acciones relacionadas con el talento junto a Bizkaia:xede y las universidades; con la financiación de las empresas y la búsqueda de soluciones colectivas para mejorar sus costes junto a Banco de Sabadell, Vadillo Asesores y LTK; de carácter comercial en Aeromart-Toulouse o Airtec-Frankfurt junto a la Cámara de Comercio de Álava -delegada por las Cámaras Vascas para esta acción-; de formación, de representación, de comunicación; y de inteligencia competitiva...

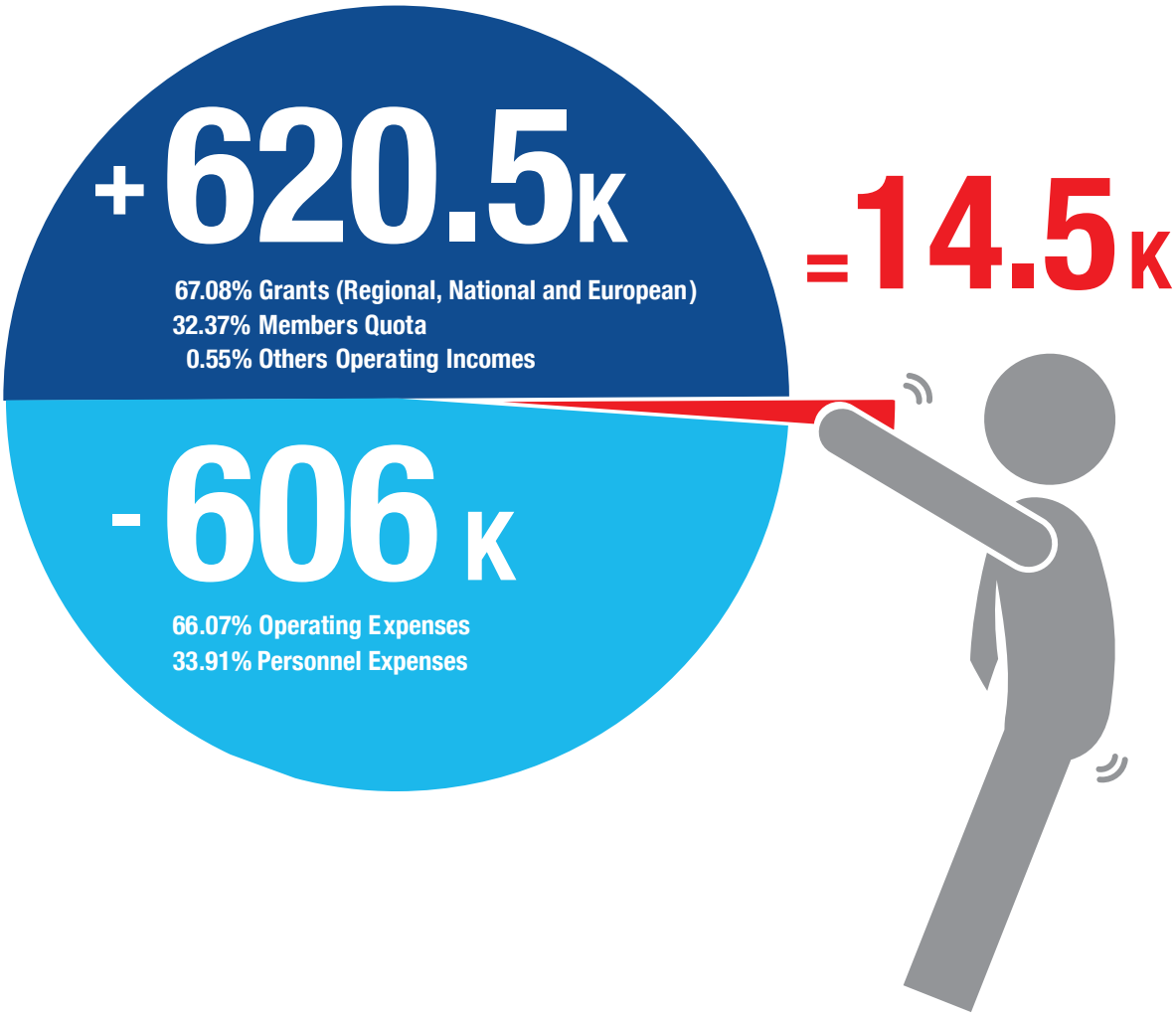
Finalmente para poder ser más efectivos en esta nueva etapa de HEGAN, hicimos un trabajo de adaptación de la organización a la estrategia teniendo en cuenta las personas, y del que resultó un nuevo modelo de gestión: FLEXIBLE.

Denak garrantzitsuak ziren arren, 1. eta 2. erronkek sortzen ziguten errespetu handiena, rol berri bat izatea eskatzen baitzuten eta desafiatzaileagoak baitziren. Bi erronka horiek elkarteko bazkideen lehiakortasunarekin lotura zuzenagoa duen helburu bat dute, ondorengo beste lau erronkekin alderatuta, azken horiek horizontalagoak baitira, bai eta aurreko bien euskarri ere. Lehen bi erronka horiek lehenbailehen abian jartzea erabaki genuen, 2013-2016 Gogoeta Estrategiko hau aurkeztu aurretik, alegia... Horretarako, Ibilbide Luzeko Taldeak sortzeko prozesu konplexu bati ekin genion, eta, gaur egun, bazkideen ordezkariekin osatutako lau lantalde daude, lankidetzan oinarrituta hainbat arlotan proiektuak sortzeko prest.

Elkarren artean egindako gogoeta horrez gain, 2012. urtean, talentuarekin lotutako ekintzak ere egin ditugu Bizkaia:xede ekimenarekin eta unibertsitateekin batera; enpresen finantziazioa eta horien kostuetan hobera egiteko taldeko irtenbideak bilatzen aritu gara Banco Sabadell, Vadillo Asesores eta LTK etxearekin; merkataritzaren esparruan, Tolosako Aeromart edota Frankfurteko Airtec ekitaldietan izan gara Arabako Merkataritza eta Industria Ganberarekin batera –ekintza horretarako Euskal Ganberen ordezkaria-; prestakuntzaren, ordezkaritzaren edota komunikazioaren esparruak ere landu ditugu, eta baita adimen lehiakorrarena ere ...

Azkenik, HEGANen etapa berri honetan eraginkorragoak izateko, pertsonak kontuan hartuta antolamendua estrategiara egokitzeko lanean aritu gara, eta lan horren emaitza izan da, hain zuzen, sortu den kudeaketa eredu berria: kudeaketa eredu MALGUA.

Association 2012 results



Association Balance Sheet

Net assets (%)

452.5k€

60.02%

CHAPTER THREE

THE CLUSTER MEMBERS

3.1.- MEMBERS
3.2.- VALUE CHAIN AND CAPABILITIES
3.3.- ACTIVITIES 2012

3.3.1 - Aerostructures
3.3.2 - Engines
3.3.3 - Systems and equipment
3.3.4 - Maintenance
3.3.5 - Space
3.3.6 - Aircraft and space engineering R&D projects
3.3.7 - Manufacturing, processes, materials and other R&D projects

3.4.- PROGRAMMES AND CLIENTS
3.5.- FACTS AND FIGURES

THE CLUSTER MEMBERS

Industry

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THE CLUSTER MEMBERS

3.2.- VALUE CHAIN

3.2.- CAPABILITIES

		ACITURRI	AERNNOVA	AEROMEC	AEROSPACE ENG. GR.	AEROVISION	AIBE	ALESTIS	ALFA PRECISION CASTING	ALTRAN	ARATZ	ASTORKIA	AYZAR	BURDINBERRI	BURULAN	DMP	ELECTROHILO	GRUPO ITP	GRUPO TTI	INDUSTRIAS GALINDO	LTK GRUPO	MATRICI	MESIMA	METRALTEC	NIVAC	NOVALTI	NUTER	ORBITAL AEROSPACE	SENER	SIEGEL	SISTEPLANT-GOLDGYM	TAMOIN	TECHASA	TEY	WEC	CIA	IK4	TECNALIA
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		■													■						■												■			■	■
	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	■	■					■		■	■		■															■										
	Non-destructive testing	■	■					■		■	■	■	■		■		■	■			■		■		■			■				■	■	■	■	■	■	■
	Testing and certification		■					■		■	■						■								■			■								■	■	■
	Engine maintenance repair & overhaul																■														■							
	Airframe maintenance repair & overhaul		■																																			
	Electrical components maintenance repair & overhaul				■																																	
	Aeronautic Logistic Services																			■																		
UAS EQUIPMENT and AVIONICS	Design and Integration of high performance mini UAS				■																																	
	UAS Design Engineering & 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																															■						
QUALITY	EN9100	Members are EN9100 certified since 2005																																				
	NADCAP	100% of special processes are NADCAP certified since 2007																																				
		INDUSTRY																																	R&D organizations		

THE CLUSTER MEMBERS

3.3.- ACTIVITIES 2012

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

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 1, 2 , 3.1 y 3.3)	AIRBUS MILITARY	AIRBUS	A380
Wing Ribs and HTP, Tail rudder	AIRBUS OPERATIONS	AIRBUS	A380
Sponsons	DAHER-SOCATA	AIRBUS MILITARY	A400M
Spar, Flap and Vanes	AIRBUS FRANCE	AIRBUS MILITARY	A400M
Spar, 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
Composite material parts	AERNNOVA	BOMBARIDER	CRJ700/900
Elevators and HTP	AIRBUS MILITARY	DASSAULT	FALCON 7X
Structural fittings equipped with ball and socket joints	AERNNOVA	EMBRAER	170/175/190/195
Wing to Fusselage Fairing	EMBRAER	EMBRAER	KC-390
Sponsons and VT	FOKKER	EUROCOPTER	NH 90
Composite components	AIRBUS MILITARY	EUROFIGHTER	TYPHOON
Fairing flare gun manufacturing	AIRBUS MILITARY	EUROFIGHTER	TYPHOON

THE CLUSTER MEMBERS

ACITURRI

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 stabiliser 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
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
Conceptual engineering Wing 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
Design and manufacture of nacelles - Risk Partner	EMBRAER	EMBRAER	ERJ135/140/145
Design and manufacture of wing to fuselage fairings -Risk Sharing Partner- Partially Tranferred 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

AERNNOVA

3.3.1 - Aerostructures

General Description of the Product/service	DIRECT CLIENT	OEM	MODEL
Design and manufacture of wing to fuselage fairings -Risk Partner- Partially Tranferred 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			
Design of Central fuselage, Pylon and Doors			
Design of Wing to Fusselage Fairing			
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 / HTTP assembly (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 main rotor pylon, fairings and engine cowlings - Risk Partner	SIKORSKY	SIKORSKY	S-92 / H-92
AEROMEC			
Structural door components. Contract with Latecoere for the manufacture of 44 types of door parts	LATECOERE	BOEING	787
Motor pilon supports	FIGEAC AERO	BOMBARDIER	Q-Series
Structural components front section	LATECOERE	DASSAULT	FALCON 7X
Door of structural components	LATECOERE	EMBRAER	170/175/190/195
AIBE			
Design and manufacture of fastening systems for machining processes and control tools	ACITURRI	AIRBUS	A380
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 & 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

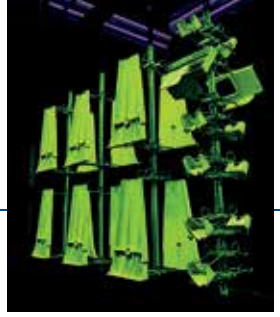
BURDINBERRI

CHAPTER THREE

THE CLUSTER MEMBERS

General Description of the Product/service	DIRECT CLIENT	OEM	MODEL
Rear Cones - Risk Partner	AIRBUS MILITARY	AIRBUS MILITARY	A400M
BBAA HTP	AIRBUS MILITARY	AIRBUS MILITARY	A400M
Elevator & 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 & Baggage Compartment & Sponsons	AIRBUS MILITARY	AIRBUS MILITARY	CN235, C295
Aileron & Flaperon	AIRBUS MILITARY	BOEING	777
BBAA HTTP - Risk Partner	AIRBUS MILITARY	DASSAULT	FALCON 7X
Winglet & Wingstub	EMBRAER	EMBRAER	170/175/190/195
Wing's 4th Station	AERNNOVA	EMBRAER	ERJ135/140/145
Central Fuselage - Risk Partner	EMBRAER	EMBRAER	LEGACY450/500
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
Structural Dimensioning Cockpit	AIRBUS	AIRBUS	A350 XWB
Design wing Ailerons and spoilers	AIRBUS	AIRBUS	A350 XWB
Development S12	AEROLIA	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
Assembly engineering	AIRBUS	AIRBUS MILITARY	A330 MRTT
Nacelle fatigue analysis	AIRBUS	AIRBUS MILITARY	A400M
Manufacturing tool design KC390	EMBRAER	EMBRAER	KC390
Development Central Wing	SOLAR IMPULSE	SOLAR IMPULSE	PT60M
Autopilot Development	SOLAR IMPULSE	SOLAR IMPULSE	PT60M
ARATZ			
Composite Tooling	AIRBUS	AIRBUS	A350 XWB
Tooling assembly	AIRBUS	AIRBUS	AIRBUS Families
Assembly tools	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

3.3.1 - Aerostructures



BURULAN

General Description of the Product/service	DIRECT CLIENT	OEM	MODEL
AYZAR			
Heat treatments	BURDINBERRI	AIRBUS	AIRBUS Families
Heat treatments	ACITURRI	AIRBUS	AIRBUS Families
BURDINBERRI			
Curing tools BELLY FAIRING	ALESTIS AEROSPACE	AIRBUS	A350 XWB
Design and manufacture SCT WUC BATCH3 ALA	REDUCTIA AEROSPACE	AIRBUS	A350 XWB
Edge finishing tools leading edge rudder and HTP	SERRA SOLDADURA	AIRBUS	A350 XWB
Hot forming machines SECTION 19	REDUCTIA AEROSPACE	AIRBUS	A350 XWB
Flaperones	AIRBUS MILITARY	BOEING	787
BURULAN			
Manufacture of components, surface treatments, assemblies.	AERNNOVA	AIRBUS	AIRBUS Families
Manufacture 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	S-92
CTA			
Fire certification tests of interior materials	AIR NOSTRUM LAM	AIR NOSTRUM	Airlines
Fire certification tests of interior materials	BOEING R&T EUROPE	BOEING	Airlines
Materials mechanical tests	AERNNOVA	BOMBARDIER	Cseries
A350XWB S19 CFRP integral frames	EADS - AIRBUS	EADS - AIRBUS	A350 XWB
A350 MLG DOOR OMEGA beam under pure torsion	EADS SOCATA	EADS - AIRBUS	A350 XWB
A350XWB lower wing ftac impact tests	EADS - AIRBUS	EADS - AIRBUS	A350 XWB
A380 VTP fitting 1 DT & RS test	AERNNOVA	EADS - AIRBUS	A380
A400M landing gear actuators system test	CESA	EADS - AIRBUS	A400M
A400M ramp door actuators system test	CESA	EADS - AIRBUS	A400M
A400M NLGD tests with extended perimeter	EADS - AIRBUS	EADS - AIRBUS	A400M
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
Fire certification tests of interior materials	ZOTEFOAMS	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

THE CLUSTER MEMBERS

General Description of the Product/service	DIRECT CLIENT	OEM	MODEL
GRUPO TTT			
Heat and surface treatments	AERNNOVA	AGUSTA WESLAND	NH 90
Heat and surface treatments	SONACA	AIRBUS	AIRBUS Families
Heat and surface treatments	AERNNOVA	AIRBUS	AIRBUS Families
Heat and surface Treatments	AIRBUS MILITARY	AIRBUS MILITARY	A400M / C295
Heat and surface treatments	SEVERAL	BOMBARDIER	CRJ700/900
Heat and Surface treatments	SONACA	DASSAULT	FALCON Family
Heat and surface treatments	AERNNOVA	EMBRAER	EMBRAER Families
Heat and surface treatments	SONACA	EMBRAER	EMBRAER Families
Heat and surface treatments	AERNNOVA	EUROCOPTER	EUROCOPTER families
Heat and surface treatments	AERNNOVA	SIKORSKY	S-92
INDUSTRIAS GALINDO			
Tooling manufacturing	INESPASA	AIRBUS	A350 XWB
Tooling manufacturing	CTA	SEVERAL	SEVERAL
Tooling manufacturing	WEC	SEVERAL	SEVERAL
INGEMAT			
Design of assembly jigs and fixtures for hybrid structure of the Belly Fairing	ALESTIS	AIRBUS	A350 XWB
LTK GRUPO			
Special Aerospace Logistics: Transport, Stock, Quality control...	AIRBUS	AIRBUS	AIRBUS Families
Special Aerospace Logistics: Transport, Stock, Quality control...	AIRBUS MILITARY	AIRBUS MILITARY	A330 MRTT
Special Aerospace Logistics: Transport, Stock, Quality control...	AIRBUS	AIRBUS MILITARY	A400M
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
Special Aerospace Logistics: Transport, Stock, Quality control...	EUROCOPTER	EUROCOPTER	EC135, NH90, TIGRE
MATRICI			
Tooling for carbonfiber and metalic parts	AIRBUS OPERATIONS	AIRBUS	SEVERAL
Tooling for carbonfiber and metalic parts	AIRBUS MILITARY	AIRBUS	SEVERAL
Tooling for carbonfiber and metalic parts	AERNNOVA	SEVERAL	SEVERAL
MESIMA			
Materials management and supply	BURULAN	EMBRAER	EMBRAER Families
Materials management and supply	AIRBUS MILITARY	SEVERAL	SEVERAL
METRALTEC			
Manufacture and assembly of elements (sheet metal working, machining, heat and surface treatments, painting)	FIBERTECNIC	AIRBUS	A320
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

SENER

3.3.1 - Aerostructures

General Description of the Product/service	DIRECT CLIENT	OEM	MODEL
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	SEVERAL	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
SENER			
Removal of inserts from leading edge.	AIRBUS	AIRBUS	A320
Auxiliary tools for the wing flap assembly in two airbus models	STRATA	AIRBUS	A330 and A340
Fatigue analysis and damage tolerance	AIRBUS	AIRBUS	A340/600
Design, construction, installation, transport and start up of the system in which the carbon fibre laminates of the wing stringer positioning line are generated	ARITEX	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
Design and production of HTP assembly stations 70 and 71	THYSSEN GERMANY	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
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 Programme	AIRBUS MILITARY	AIRBUS MILITARY	C295 Persuader
HTP box	BOEING	BOEING	787
Programme to extend the life of the Spanish Navy's AB212 helicopters	Head of Logistics Support (JAL)	Spanish Navy	AB-212

3.3.1 - Aerostructures

General Description of the Product/service	DIRECT CLIENT	OEM	MODEL
SISTEPLANT			
Manufacturing Execution System implementation	MTORRES	Aerocomposite Rusia	SEVERAL
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	SEVERAL
Manufacturing Execution System implementation	MTORRES	Avic Hong Du	SEVERAL
Job Instructions definition and standardisation	AIRGRUP	SEVERAL	SEVERAL
5Ss in welding area	AIRGRUP	SEVERAL	SEVERAL
Lead-time parameterisation in order to maximise plant capacity	AIRGRUP	SEVERAL	SEVERAL
Lean assessment	COSUR	SEVERAL	SEVERAL
TEY			
Heat treatments	CESA	AIRBUS	AIRBUS Families
Heat treatments	AIRBUS	AIRBUS	AIRBUS Families
Heat treatments	AIRBUS MILITARY	AIRBUS MILITARY	AIBUS MILITARY Families
Heat treatments	AERNNOVA	SIKORSKY	S-92

3.3.2 - Engines

General Description of the Product/service	DIRECT CLIENT	OEM	ENGINE MODEL	PLATFORMS
ACITURRI				
Mounting Rings, Thermales and fittings	ITP	EUROJET	EJ200	EUROFIGHTER TYPHOON
Components	WEC	EUROJET	EJ200	EUROFIGHTER TYPHOON
Struts	ITP	GENERAL ELECTRIC	GE90-115	BOEING 777
Housings	ITP	ROLLS-ROYCE	Trent 700	AIRBUS A330
Housings	ITP	ROLLS-ROYCE	Trent 500	AIRBUS A340
Lugs and vanes	ITP	ROLLS-ROYCE	XWB	AIRBUS A350
Lugs and vanes	ITP	ROLLS-ROYCE	Trent 900	AIRBUS A380
Lugs and vanes	ITP	ROLLS-ROYCE	TP400	AIRBUS A400M
Lugs and vanes & T.Match	ITP	ROLLS-ROYCE	T1000	BOEING 787
Housings	ITP	ROLLS-ROYCE	F414	BOEING F/A-18E/F
End Fittings	RMDG Aerospace	ROLLS-ROYCE	SEVERAL	SEVERAL
AEROMEC				
LPT rings	ITP	EUROJET	EJ200	EUROFIGHTER TYPHOON
Turbine casing & Thermal	ITP	GENERAL ELECTRIC	LM-2500	Industrial
Support ring	FIGEAC AERO	SNECMA / GE	CFM-56	B-737; A-320
AIBE				
Design and manufacture of clamping systems and fixtures for machining processes and special machines	ITP	GENERAL ELECTRIC	G90	B777
Design and manufacture of clamping systems and fixtures for machining processes and special machines	ITP	ROLLS-ROYCE	Trent family	SEVERAL
ALTRAN				
Aerodynamics, structural and heat analysis	ITP	ROLLS-ROYCE	Trent XWB	AIRBUS A350XWB
ARATZ				
Machined parts	ITP	EUROJET	EJ200	EUROFIGHTER TYPHOON

THE CLUSTER MEMBERS

DMP

General Description of the Product/service	DIRECT CLIENT	OEM	ENGINE MODEL	PLATFORMS
ASTORKIA				
Engine components	ITP	ROLLS-ROYCE	Trent 900	AIRBUS A380
Engine components	SEVERAL	SEVERAL	SEVERAL	BOEING 747
AYZAR				
Heat treatments	ACITURRI	SEVERAL	SEVERAL	SEVERAL
CTA				
TBH Stub-Lug Buckling Test	ITP	ROLLS-ROYCE	Trent XWB	AIRBUS A350XWB
Validation tests of Aerodynamic Technologies	ITP	ROLLS ROYCE	Trent XWB	AIRBUS A350XWB
Validation tests of Aerodynamic Technologies	ITP	ROLLS ROYCE	Trent 900	AIRBUS A380
Validation tests of Aerodynamic Technologies	ITP	ROLLS ROYCE	Trent 1000	BOEING 787
DMP				
Thrust struts	SEVERAL	SEVERAL	SaM146	SSJ100
Carter parts	PCB	CFM International	CFM56	AIRBUS A320 / BOEING 737
Thrust struts	SEVERAL	EA	GP7200	A380
Main shaft Ge90	AUBERT&DUVAL	GENERAL ELECTRIC	Ge90	B777
Thrust struts	SEVERAL	ROLLS-ROYCE	TRENT 900	A380
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
HP turbine discs	AEROTECH	TURBOMECA	ARRIUS	EUROCOPTER EC135
Main transmission gears	TURBOMECA	TURBOMECA	ALL RANGE	ALL RANGE
Accessory transmission gears	TURBOMECA	TURBOMECA	ALL RANGE	ALL RANGE
ELECTROHILO				
Inner vanes erosion. Blade edge finishing	ITP	EPI	TP400	AIRBUS A400M
TEC segmentation	ITP	EUROJET	EJ200	EUROFIGHTER TYPHOON
Strut manufacture	ITP	MTRI	MTR390-E	EUROCOPTER TIGRE
Edging of VANES and BCVs	ITP	ROLLS-ROYCE	Trent XWB	AIRBUS A350XWB
HUB drill, Separation Top Core Vane, Vanes erosion	ITP	ROLLS-ROYCE	Trent 900	AIRBUS A380
Vane edging, Bottom Core, Thick Subassy, Bars,Thin Vane	ITP	ROLLS-ROYCE	Trent 1000	BOEING 787

3.3.2 - Engines

GRUPO ITP

General Description of the Product/service	DIRECT CLIENT	OEM	ENGINE MODEL	PLATFORMS
GRUPO ITP				
Lost wax casting super alloys for Turbine	SNECMA	CFM International	CFM56	AIRBUS A320 / BOEING 737
Lost wax casting super alloys for Turbine	MTU	EA	GP7000	AIRBUS A380
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
Final assembly of engine - Member of EPI Consortium	AIRBUS MILITARY	EPI	TP400	AIRBUS A400M
Lost wax casting super alloys for interme-diate 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 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
Manufacture of rear turbine structure	GENERAL ELECTRIC	GENERAL ELECTRIC	GE90-115	BOEING 777
Components	GENERAL ELECTRIC	GENERAL ELECTRIC	CF34-10	EMBRAER 190/LINEAGE 1000
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
Lost wax casting super alloys for Turbine	SNECMA	POWERJET	SaM146	SUKHOI SUPERJET 100
Components manufacturing	P&W CANADA	PRATT & WHITNEY	PW535E	EMBRAER PHENOM 300
Modules manufacturing	P&W	PRATT & WHITNEY	PW1000G	Cseries/MRJ90/MS-21/ A320neo
Assembly of the LPT and component manu-facture	ROLLS-ROYCE	ROLLS-ROYCE	Trent 700	AIRBUS A330

THE CLUSTER MEMBERS

General Description of the Product/service	DIRECT CLIENT	OEM	ENGINE MODEL	PLATFORMS
Lost wax casting super alloys for the intermediate pressure turbine	ROLLS-ROYCE	ROLLS-ROYCE	Trent 700	AIRBUS A330
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
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
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 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
Parts of external equipment of engine	ROLLS-ROYCE	ROLLS-ROYCE	BR725	GULFSTREAM G650
Design and validation of the ROLL POST	ROLLS-ROYCE	ROLLS-ROYCE	F136	LOCKHEED MARTIN F-35
GRUPO TTT				
Heat and Surface treatments	SEVERAL	EUROJET	EJ200	EUROFIGHTER TYPHOON
Heat and surface treatments	ITP	ROLLS-ROYCE	SEVERAL	Several
Heat and surface treatments	SNECMA	SNECMA	Several	Several
Heat and surface treatments	SEVERAL	TURBOMECA	Several	Several
INDUSTRIAS GALINDO				
Manufacturing of Tooling for LPT Components (inter stage seals)	ITP	ROLLS-ROYCE	Trent XWB	AIRBUS A350XWB
Manufacturing of Tooling for turbine shafts and static components	ITP	SEVERAL	SEVERAL	SEVERAL
Desing of Cutting Tools	ITP	SEVERAL	SEVERAL	SEVERAL
Manufacturing of Tooling for LPT Components (inter stage seals)	PCB	SEVERAL	SEVERAL	SEVERAL

3.3.2 - Engines

GALINDO

General Description of the Product/service	DIRECT CLIENT	OEM	ENGINE MODEL	PLATFORMS
MATRICI				
Tooling for metalic parts	ITP	ROLLS-ROYCE	Trent 900	A380
MESIMA				
Materials management and supply	ITP	ROLLS-ROYCE	SEVERAL	SEVERAL
Materials management and supply	NOVALTI	ROLLS-ROYCE	SEVERAL	SEVERAL
Materials management and supply	WEC	SNECMA	SEVERAL	SEVERAL
NIVAC				
Thermal and surface treatments	SEVERAL	SEVERAL	SEVERAL	SEVERAL
NOVALTI				
Components for LPT	ITP	EPI	TP400	AIRBUS A400M
Components	ITP	EUROJET	EJ200	EUROFIGHTER TYPHOON
Engine components	ITP	MTRI	MTR390-E	EUROCOPTER TIGRE
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 1000	BOEING 787
Components for the LPT	ITP	ROLLS-ROYCE	Trent XWB	AIRBUS A350XWB
NUTER				
Fittings	ITP	EPI	TP400	AIRBUS A400M
Fittings	ITP	EUROJET	EJ200	EUROFIGHTER TYPHOON
Fittings	ITP	ROLLS-ROYCE	Trent Family	SEVERAL
SENER				
Test gantry	ITP	EPI	TP400	AIRBUS A400M
SIEGEL				
Components	ITP	EPI	TP400	AIRBUS A400M
Machined Components	ITP	P&WC	PW810	CESSNA COLUMBUS
Components	ITP	EUROJET	EJ200	EUROFIGHTER TYPHOON
Machined Components	ITP	ROLLS-ROYCE	Trent Family	SEVERAL
SISTEPLANT				
Quality Function Deploymebnt	ITP	various	various	
TEY				
Heat treatments	SENER	EPI	TP400	AIRBUS A400M
Heat treatments	ACITURRI	ITP	TRENT1000	SEVERAL
Heat treatments	DMP	TURBOMECA	SEVERAL	SEVERAL
Heat treatments	ITP	ROLLS ROYCE	SEVERAL	SEVERAL
Heat treatments	ITP	EUROJET	EJ-200	SEVERAL
Heat treatments	ITP	ITP	Trent Family	SEVERAL
Heat treatments	TURBOMECA	TURBOMECA	SEVERAL	SEVERAL
Heat treatments	WEC	SNECMA	SEVERAL	SEVERAL

3.3.2 - Engines

General Description of the Product/service	DIRECT CLIENT	OEM	ENGINE MODEL	PLATFORMS
WEC				
Ducts for external equipment of engine	ITA	Pratt & Whitney	V2500	AIRBUS A320
Parts of external equipment of engine	SNECMA	CFM International	CFM56	AIRBUS A320 / BOEING 737
Ducts for external equipment of engine	ITA	ROLLS-ROYCE	Trent 700	AIRBUS A330
Structural parts	ITP	ROLLS-ROYCE	Trent 500	AIRBUS A340
Ferrule parts	ITP	ROLLS-ROYCE	Trent 900	AIRBUS A380
Parts of external equipment of engine	ITP	EPI	TP400	AIRBUS A400M
Ducts for external equipment of engine	ITA	ROLLS-ROYCE	BR 715	BOEING 717
Parts of external equipment of engine	SNECMA	GENERAL ELECTRIC	GE90-115k	BOEING 777
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	ITP	ROLLS-ROYCE	Trent Family	SEVERAL
Rings, annular components, combustion chamber components	HONEYWELL	HONEYWELL	SEVERAL	SEVERAL
TEC Front Cases	GKN Aerospace Engine Systems	ROLLS-ROYCE	SEVERAL	SEVERAL

3.3.3 - Systems and equipment

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
AERNNOVA			
Missile launcher tubes (composite)	MBDA	MILAN / MISTRAL	Defence aircrafts
Logistics container (composite)	Diehl BGT Defence	IRIS T	Defence aircrafts
Antennas and randomes (composite)	INDRA	Radars	Defence aircrafts
Wing conduits (composite). Flare dispenser (composite)	ALENIA	Wings Systems	EUROFIGHTER TYPHOON
Ammunition box (composite)	RHEINMETALL	Special equipment	EUROFIGHTER TYPHOON
AEROMEC			
Auxiliary and main landing gear components	CESA	Landing Gear	CASA C295
Main landing gear components	CESA	Landing Gear	CASA CN235
AEROVISION			
Design and Integration of high performance mini Unmanned Air Systems (UAS)	Itself	UAS	AEROVISION FULMAR F-T
Design and Integration of high performance mini Unmanned Air Systems (UAS)	THALES ESPAÑA	UAS (Maritime Version)	AEROVISION FULMAR F-T / F-M
Operation Services of FULMAR System for 3rd parties	Itself / THALES	UAS	AEROVISION FULMAR F-T
Design and Integration of high performance mini Unmanned Air Systems (UAS)	UAS ASIA PACIFIC (AUSTRALIA)	UAS (Maritime Version)	AEROVISION FULMAR F-M
Design and manufacturing of Ground equipment for UAS (Launcher, landing net, gimbal...)	Miscellaneous	UAS Ground Equipment	Miscellaneous
AIBE			
Precision machining of components	SENER	MISCELLANEOUS	MISCELLANEOUS

THE CLUSTER MEMBERS

DMP

General Description of the Product/service	DIRECT CLIENT	SYSTEM / EQUIPMENT	PLATFORMS
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	A400M
Landing gear design	AIRBUS MILITARY	Landing Gear	AIRBUS A320/380/400M
Support in the development and mission of the APU	AIRBUS	apu	AIRBUS A380/A350XWB
Harness design	AIRBUS MILITARY	Electrical system	C295 CH01
CTA			
A400M LANDING GEAR ACTUATORS SYSTEM TEST	CESA	EADS - AIRBUS	A400M
A400M RAMP DOOR ACTUATORS SYSTEM TEST	CESA	EADS - AIRBUS	A400M
DMP			
Shock Absorber	MESSIER-DOWTY	MLG	A330/A340
Shock Absorber	MESSIER-DOWTY	MLG	AIRBUS A350XWB
Shock Absorber	MESSIER-DOWTY	NLG & MLG	BOEING 787
Main rotor servocontrol kit	GOODRICH	Main rotor	EUROCOPTER DAUPHIN
Main rotor servocontrol kit	GOODRICH	Main rotor	EUROCOPTER ECUREUIL
Balancier équipé	MESSIER-DOWTY	Main rotor	EUROCOPTER SUPER PUMA
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	Several
Heat and surface treatments	IAI	Systems	Several
MATRICI			
Tooling for metallic parts	AUBERT DUVAL	Landing gear	Boeing 737

ORBITAL AEROSPACE

3.3.3 - Systems and equipment

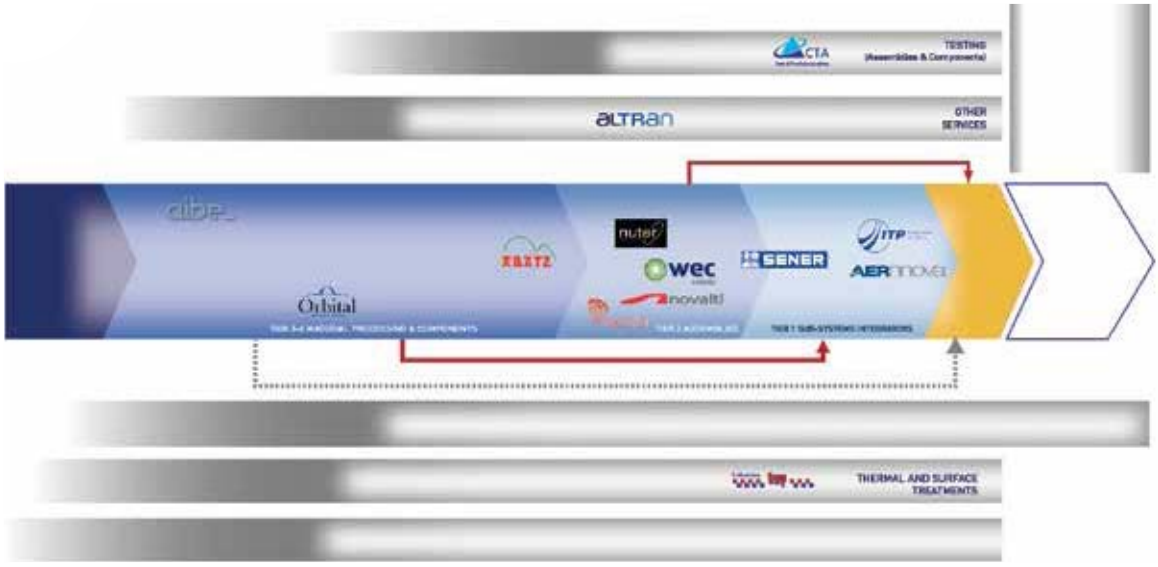
General Description of the Product/service	DIRECT CLIENT	SYSTEM / EQUIPMENT	PLATFORMS
METRALTEC			
Manufacture of elementary parts and assemblies (sheet metal, machining, heat treatments and surface treatments, painting)	SENER	SEVERAL	SEVERAL
NOVALTI			
Oil flow test bench	ITP	Several	EUROCOPTER TIGRE
Hydraulic and pneumatic test bench	ITP	Several	BOEING 787
NUTER			
Components	CESA	AIRBUS	AIRBUS A330/A350XWB
Components	CESA	AIRBUS MILITARY	AIRBUS A400M
ORBITAL AEROSPACE			
System integration test bench and supportability for Ground and Flight test	E2S Airbus Military	Air Refuelling	A330-MRTT
SW Multifunction Control Display and BOOM Control and Computing System	E2S Airbus Military	BOOM	A330-MRTT
MTF Model and Test Support	CASSIDIAN	Military Test Facilities	A400M
Verification and validation	CASSIDIAN	Human Management Interface	A400M
Design, implementation and integration of critical SW on board, communication, LLF..)	E2S Airbus Military	Mission Management System	A400M
SW and Firmaware design and testing	E2S Airbus Military	Audio Management System	A400M
Model and Test support	E2S Airbus Military	Military Test Facilities	A400M
SW and Firmware design and testingm	E2S Airbus Military	Tactical Situation Management	A400M
Flight Test	E2S Airbus Military	Mission Management System	A400M
Tests and requirements definition,implementation and validation	GTD	Communication System	A400M
Flight Test	E2S Airbus Military	Atlante	EF2000
Test Bench SW	CASSIDIAN	Test Benches	Eurofighter
Testing SW, Test Bench	ATECH	Test Benches	Eurofighter
MaTe test conversion, configuration manager	E2S Airbus Military	Testing	Eurofighter
Avionic SW	EUROCOPTER	SW Zentrum	TIGER

3.3.3 - Systems and equipment

AEROVISION

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 aircraft
FASS subsystem of drive and control of aerodynamic fins	TAURUS Systems GmbH	TAURUS KEPD 350	Defence aircraft
Development, qualification, industrialisation and production of the Control Section of aerodynamic fins	MBDA-UK	METEOR	Defence aircraft
Integration of the TAURUS KEPD 350 in the EF18 and acquisition of units	MALOG	TAURUS KEPD 350	Defence aircraft
Image management unit for two Tactical Recognition systems (RecceLite or Litening Pods)	ZEISS OPTRONICS	IPU 2 / IPU 3	Defence aircraft
Development and qualification of the Control Section of aerodynamic fins (Ground - Air version)	DBD	IRIS-T SL	Ground equipment
SISTEPLANT			
Investigation on Intelligent health monitoring techno-logies applied to actuators	Sener		
TECNASA			
FIRING HANDLES	MARTIN-BAKER	Ejection Seats	Defence aircraft
O-RINGS	MARTIN-BAKER	Ejection Seats	Defence aircraft
JIGS	MARTIN-BAKER	Ejection Seats	Defence aircraft
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
TEY			
Heat treatments	CESA	Landing Gears	SEVERAL
Heat treatments	**AIRBUS MILITARY**	**SEVERAL**	**SEVERAL**
Heat treatments	SENER	SEVERAL	SEVERAL
Heat treatments	DMP	SEVERAL	SEVERAL
WEC			
Air Bleed equipment parts	HONEYWELL	Air Conditioning	AIRBUS A320/330
Connection box	SNECMA	SEVERAL	AIRBUS A320
Air Bleed equipment parts	LIEBHERR	Air Conditioning	AIRBUS A320/330/400M
Thrust Reverser parts	AIRCELLE	Systems	AIRBUS A380
Air Bleed equipment parts	LIEBHERR	Air Conditioning	BOEING 747-8

3.3.4 - Space



General Description of the Product/service	DIRECT CLIENT	SYSTEM / EQUIPMENT	PLATFORMS
AERNNOVA			
Baseplate and Crushable	SENER	SPACE	EXOMARS
AIBE			
Precision machining of components	SENER	SEVERAL	SEVERAL
ALTRAN			
Structural dimensioning	EADS ASTRIUM	Reflectors	AMAZONAS3
Test development and validation	EADS ASTRIUM	Reflectors	HISPASAT1E
Structural dimensioning	EADS ASTRIUM	Antennas Top Floor	MEASAT
ARATZ			
Machined Components	SEVERAL	MISCELLANEOUS	MISCELLANEOUS
Components for satellite antennas	SEVERAL	MISCELLANEOUS	MISCELLANEOUS
CTA			
BEPICOLOMBO magnetometer boom tests	SENER	Magnetometer Boom	BEPICOLOMBO
EXOMARS lander impact tests	SENER	Lander	EXOMARS
Tesat Spacecom satellite heat pipes system	IBERESPACIO	Heat pipes system	TESAT SATELLITE
GRUPO ITP			
Super alloy components for space shuttle engine	SNECMA	Shuttle	ARIANE 5
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	MISCELLANEOUS	ARABSAT 5C
On-board components and mechanical systems	SENER	MISCELLANEOUS	SEOSAT
NUTER			
Components	SENER	MISCELLANEOUS	GAIA
Components	SENER	MISCELLANEOUS	METEOSAT

THE CLUSTER MEMBERS

General Description of the Product/service	DIRECT CLIENT	SYSTEM / EQUIPMENT	PLATFORMS
ORBITAL AEROSPACE			
Control System	IAC	EDIFISE	EDIFISE
EUSO-Balloon, Full design and development of Scientific Instrument	UAM	IR Camera System	EUSO-Balloon
DOORs Data Base Maintenance	EUMETSAT	Metereological 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 - Retorno de Muestras de Marte (MSR)
ALMA Amplitude Calibration Device (ACD)	European Southern Observatory (ESO)	Robotic Arm for the ALMA antennas	Atacama Large Millimiter/submilli-miter 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	BEPICOLOMBO
Communication antennas sub-system (HGA & MGA)	ESA / THALES ALENIA SPACE Italy	Planetary exploration ship -Scientific Mission	BEPICOLOMBO
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
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
Design and verification of a swinging mechanism or FMD (Flip Mirror Device)	ESA / JENA OPTRONIK	Observation satellite -Sentinel 3-	GMES (SENTINEL-3)
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	Internationa Space Station (ISS)
Complete Guidance, Navigation and Flight control subsystem (GNC)	ESA	Intermediate experimental vehicle for re-entry into atmosphere	IXV

SENER

3.3.4 - Space

General Description of the Product/service	DIRECT CLIENT	SYSTEM / EQUIPMENT	PLATFORMS
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 Tercera Generación (MTG)
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
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 Suprathermal PArticle Detector Analizer) instrument	ESA / UNIVERSIDAD DE ALCALÁ DE HENARES	Scientific Mission	SOLAR ORBITER
Actuator system for the JST telescope's panoramic camera	Institute of Astronomy, Geophysics and Atmosferic 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)
TEY			
Heat treatments	EADS-CASA ESPACIO	MISCELLANEOUS	MISCELLANEOUS
Heat treatments	INDRA	MISCELLANEOUS	MISCELLANEOUS
Heat treatments	SENER	MISCELLANEOUS	MISCELLANEOUS
WEC			
Mechanical parts for Vulcain engine	AVIO S.p.A	Vulcain engine	Ariane 5

3.3.- ACTIVITIES 2012

3.3.5 - Maintenance

General Description of the Product/ service	DIRECT CLIENT	SYSTEM / EQUIPMENT	PLATFORMS
AERNNOVA			
Technical assistance & Sales of spares 24H/365d	AIRBUS	MLGD, HTP, Fuselage,etc	AIRBUS families
Composite structure repairs	AIRBUS	MLGD, Elevators	AIRBUS families
Technical assistance & Sales of spares 24H/365d	Beechcraft	Wiings	Beechcraft families
Composite structure repairs	BOMBARDIER & Operators	Tips, fairings, etc	BOMBARDIER Families
Inspections, special processes and re-qualifications	Operators	Several	BOMBARDIER Families
Metal structure repairs	Operators	Wings, stabilises, fuselages,etc	BOMBARDIER Families
Composite structure repairs	EMBRAER & Operators	Elevators, Rudders	EMBRAER 170/190
Composite structure repairs	EMBRAER & Operators	Flaps, Ailerons, Wing tips, Winglets	EMBRAER ERJ145/135/Legacy
Composite structure repairs	EMBRAER & Operators	Landing gear doors, Spoilers, Fairings	EMBRAER ERJ145/135/Legacy
Inspections, special processes and re-qualifications	Operators	Several	EMBRAER Families
Metal structure repairs	Operators	Wings, stabilisers, fuselages,etc	EMBRAER Families
Technical assistance & Sales of spares 24H/365d	Operators	Several	SEVERAL
Composite structure repairs	SIKORSKY	Doors, cowlings, stabi-lisers	SIKORSKY S-92
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...

THE CLUSTER MEMBERS

General Description of the Product/ service	DIRECT CLIENT	SYSTEM / EQUIPMENT	PLATFORMS
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 FUEL 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 AVIONIC COMPONENTS	MRO, OPERATORS, AIR FORCES, TRADING COMPANIES	Avionic systems	Miscellaneous
ALTRAN			
Supportability and Maintainability Management	AIRBUS MILITARY	SEVERAL	AIRBUS A400M/330MRTT/c295
Training and Simulators	AIRBUS	Simulators	A320/A340/A380
GRUPO ITP			
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
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 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	LOOCKHEED MARTIN C130

3.3.5 - Maintenance

General Description of the Product/ service	DIRECT CLIENT	SYSTEM / EQUIPMENT	PLATFORMS
Full Maintenance, Inspection and Repair of the T56 -engine, modules and components- & engine and accessories test	Spanish Ministry of Defence	RR T56	LOOCKHEED 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	SEVERAL
SISTEPLANT			
Maintenance management	MALOG	SEVERAL	SEVERAL
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

GRUPO ITP

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
ACITURRI		
HP-SMART-EMA	Developemnt of High Performance Electromechanical Actuators	European - CLEAN SKY
E-SEMA	Developemnt of Electric Smart Actuator for Gas Turbine Engine	European - CLEAN SKY
NICE TRIP (Novel Innovative Competitive Effective Tilt Rotor Integrated Project): convertible aircraft-helicopter	Development of a Tilt-Rotor prototype	European - FP6
SINTONIA	UAV with low environmental impact	National-CENIT
TARGET	Sustainable and intelligent technology for composite structure manufacturing	National-CENIT
AERNNOVA		
AFLONEXT	Maturation of an integrated set of active flow, load and noise control technologies for the next generation of active wing	European - FP7
CLEAN SKY	Smart Fixed Wing Aircraft. High accuracy wing assemblies for Natural Laminar Flow	European - FP7
FLYBAG2	Aircraft Interiors for blasting resistance	European - FP7
DAEDALOS	Dynamics in Aircraft Engineering Design and Analysis for Light Optimized Structures	European - FP7
CESAR	Cost Effective Small Aircraft	European - FP7
ADVICE	Autonomous Damage Detection and Vibration Control Systems	European - FP7
PRONTAS	Out of autoclave wing for a solar power UAV	National - INNPACTO
PERIGEO	Our of autoclave UAV airframe development	National - INNPRONTA- CDTI

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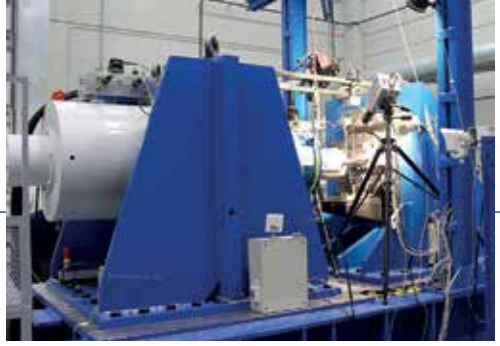


CTA

ACRONYM and/or NAME OF THE PROJECT and brief description	PROJECT SUMMARY / RELEVANT DETAILS / CONSORTIUMS	CALL
SINTONIA	Sistemas no tripulados orientados al nulo impacto ambiental (Boeing)	National - PID-CDTI
TARGET	Sustainable and environmental friendly technologies for next generation composites structures	National - PID-CDTI
PROSAVE2	Advanced Systems research for a more eco- friendly aircraft	Regional - GAITEK
ALTRAN		
DARCOV	Inetrnal development: Automation Methodology Dimensioning Primary Structure Composites	Others
BURULAN		
More integrated offer	A new plant for surface treatments, primer and final paint, assemblies and stapling of ball and socket joints & Bearing installation and staking.	Others
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
VITAL	Aerodynamics: Environmentaly Friendly Aero Engine	European - FP6
DREAM	Aerodynamics: Validation of Radical Engine Architecture	European - FP7
FANTOM	Full field Aeronautical Non destructive Technique for On -line and Maintenance applications.	European - FP7
DOTNAC	Development and optimization of THz NDT on aeronautics Composite multilayered Structure	European - FP7
FUTURE	Aerodynamics: Flutter-Free Turbomachinery Blades	European - FP7
LEMCOTEC	Low Emmissions Core-Engine Technologies	European - FP7
E-BREAK	Engine Breakthrough Components and Subsystems	European - FP7
OPENAER	Aerodynamics: New aircraft and engine configurations for the future system of air transport	National-CENIT
AIRHEM-II	Health Monitoring in Aeronautics. Consortium coordinated by CTA	Regional - ETORTEK
VAXNUM	Desarrollo de tecnologias capacitadoras para la validación Aerodinamica experimental de componentes del nucleo en aero-motores de bajas emisiones.	Regional - SAIOTEK
TIVECA	Measurement Technologies for validation of radical engine archi-tecture.	Regional - SAIOTEK
AEROFIRE	Fire behaviour of the advanced composite materials used in aero-nautical structural components	Regional - SAIOTEK

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
SIELZA	**Desarrollo de Tecnologias de ensayo para la validación experimental de sistemas de sellado avanzado en aeromotores de bajas emisiones.**	**Regional - SAIOTEK**
NEWFIRE	Fire behaviour of the advanced composite materials used in aeronautical structural components / microgravity.	Regional - SAIOTEK
AVICOHM	**Healt Monitoring demostrator for UAs. Consortium coordinated by CTA**	**Regional - SAIOTEK**
GRUPO ITP		
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 CO2) 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
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 - 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
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
PROSAVE: Eco-efficient aircraft	Leader: CESA	National-CENIT

THE CLUSTER MEMBERS

ACRONYM and/or NAME OF THE PROJECT and brief description	PROJECT SUMMARY / RELEVANT DETAILS / CONSORTIUMS	CALL
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
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
IK4		
ACTUATION 2015	Desarrollo y validación para la estandarización y modularidad del EMA en todos los sistemas (control de vuelo, sistemas de aterrizaje, etc) para reducir costes generales de LCC, mejora de la fiabilidad, maduración de la tecnología, reducción de peso, menor impacto medioambiental.	European - FP7
ELUBSYS	Engine lubrication systems technologies: Optimización del consumo de aceite y de combustible, mejorando la lubricación del motor (Safrane, Universidad Bruselas, ITP,...)	European - FP7
SINTONIA	"(Partner: CESA) Investigación científica para adquisición de nuevos conocimientos y desarrollo de tecnologías para reducir el impacto medioambiental y aumentar la eficiencia en UAVS: - Sistemas de actuación electromecánicos (EMAs) para plataformas UAVs como alternativa a los sistemas convencionales, que incorporan tecnologías 'Health Monitoring' para proporcionar prestaciones funcionales que hagan que el actuador sea "smart". - MEMS (Micro Electro Mechanical Systems)	National - CENIT
PROSAVE2	"(Partners: CESA / SISTEPLANT) Investigación y desarrollo de tecnologías en el área de sistemas que permitan a las empresas una diferenciación tecnológica para competir en el mercado: sistemas de actuación avanzada, trenes de aterrizaje, sistemas de reabastecimiento en vuelo, sistema de purificación de gases y sistemas de generación y reaprovechamiento energético. - Desarrollo de un sistema HM para EMA. - sistemas de gestión de configuración - Implementación de sistemas de suspensión semiactiva para tren de aterrizaje (CESA, SISTEPLANT).	National - CENIT
INGEMAT		
Robcom	Robotized machining cell with flexible fixture	Others
ORBITAL AEROSPACE		
CRYSTAL (ARTEMIS)	CRitical sYSTem engineering AcceLeration	European - ARTEMIS
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.	Development of high power density electrical actuators. Collaboration with SENER, CTA, Castle Aero	European - CLEAN SKY
Actuator for Turbomeca	Design, manufacture and validation of the initial prototypes for electromechanical actuation systems for helicopter engines. Collaboration with TECNALIA, CTA and ACITURRI.	European - CLEAN SKY

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
MTU project	Development of prototypes for airplane motor actuators Collaboration with TECNALIA, CTA, ACITURRI and MACCON.	European - CLEAN SKY
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
Robotic arm for extravehicular activities in space	Robot arm	European - ESA
HISAC (Environmentally Friendly High Speed Aircraft)	Assess the feasibility of a small, environmentally friendly and economically feasible supersonic transport aircraft.	European - FP6
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
VULCAN - Vulnerability analysis and new materials and design approaches for aircraft stengthening against fire and blast due to accident or terrorist attacks	Development of improved design for sub-structures with high energy absorption capacity materials in the presence of fire and explosion.	European - FP6
WIMAAS (Wide Maritime Area Airborne Surveillance) program	Future Unified European Maritime Surveillance System. Collaboration with INTA.	European - FP7
Feasibility study and and configuration of EUCLID project		National - IDC
MICRODIS - Microelectronic devices for space instrumentation		National - IDC
Feasibility study for MISTIGRI project		National - IDC
SCIMIS - Feasibility study for scientific missions		National - IDC
EMA (Health Monitoring for Actuators)	Definition of a real-time monitoring system for electromechanical actuators for the determination of operating failures and operability level, providing high added value for the final product	National - SAE
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
OPENAER	Study new aircraft and engine configurations for the future care transport system.	National-CENIT
DEIMOS - Development and innovation of polymeric membrane and solid oxide fuel cells	Fuel piles for aircraft: Development and innovation of fuel piles of polymeric membrane and solid oxide	National-CENIT
SINTONIA	Unmanned zero environmental impact oriented systems.	National-CENIT
HDR qualification with potentiometers		**Others**
Image navigation		Others
Climate control system for combat vehicles	Climate control system for combat vehicles that improve their performance in desert environments	Others

THE CLUSTER MEMBERS

ACRONYM and/or NAME OF THE PROJECT and brief description	PROJECT SUMMARY / RELEVANT DETAILS / CONSORTIUMS	CALL
PIVOT - Advanced mechanical flexion elements for small turns		Regional - GAITEK
HEALTH-HM	Real-time monitoring of aeronautical actuators to determine operating failures and operability levels	**Regional - GAITEK**
ELGA	Integrated landing gear system by means of electromechanical drive and control (EMLG – ElectroMechanical Landing Gear)	Regional - INNOTEK
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 aeroespace components manufacturing: intelligent manufacturing, extremely agile flow, leading edge technologies	Internal Developmet
TECNALIA		
ACTIPPTSENS	Active pressure, position and temperature sensors for turboshaft engines	European - CLEANSKY
ASE-TB	Design and development of an adaptative, smart and eco-efficient test bench for synchronized testing of linear actuators in the aeronautic sector	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
LIGHTBOX	Lightweight Composite Bus System Housing for Extreme Environments	European - CLEANSKY
ROVE	Exomars rove vehicle re-design by using multifunctional technologies for the mobility system, power and solar panels integrated into composite chassis	European - FP7
SIDER	Radiation shielding for spacecraft structures by using nanomaterials.	European - FP7
SMARTESS	Mars entry Thermal protection system based in advanced materials	European - FP7
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
HAMLET	Solid lubricants for space mechanism	European - FP7
HYDRA	TPS thermal protection systems for MSR Mars and Moon mission based in ablative materials	European - FP7

3.3.6 - Aircraft and space engineering R&D projects

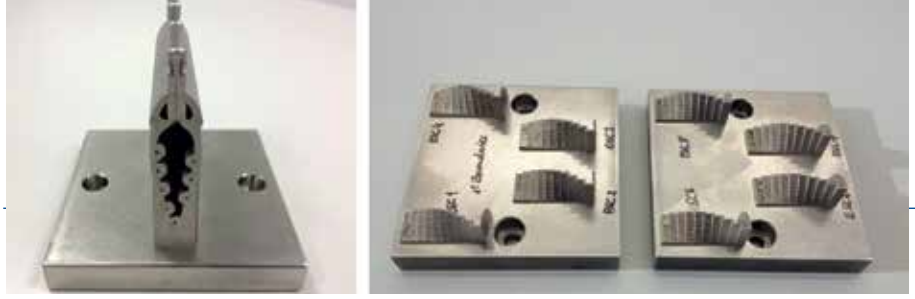
ACRONYM and/or NAME OF THE PROJECT and brief description	PROJECT SUMMARY / RELEVANT DETAILS / CONSORTIUMS	CALL
SOLARNET	SOLARNET brings together and integrates the major European research infrastructures in the field of high-resolution solar physics, in order to promote their coordinated use and development. 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
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
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. Tecnalia 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, Tecnalia, etc	European - INTERREG
PROMETEO	Fire detection system by using new telecom architecture	National - INNPRONTA
AIRHEM -2-	Electronics for transport: Health Monitoring for structures	Regional - ETORTEK
WEC		
OPENAER	Characterisation of laser weld in parts for aeronautical engines	National - CENIT
ETORGAI - Laser Welding	New generation for engine radial structures	Regional - EUSKESTUR
Laser Cutting	Characterisation of optimised laser cutting parameters in aeronautical materials	Others

3.3.- ACTIVITIES 2012

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
ACITURRI		
EMC2-Factory	"Eco Manufactured transportation means from Clean and Competitive Factory"	European - FP7
AERNNOVA		
ELECTRICAL	Novel Aeronautical Multifunctional Composite Structures With Bulk Electrical Conductivity And Self-Sensing Capabilities	European - FP7
LAYSA	Multifunctional Layers for Safer Aircraft Composites Structures	European - FP7
SARISTU	New Materials for Morphing and SHM	European - FP7
NANOPROT	Nano-ceramic material development	National - INNPACTO
CARMAM	New composite pressure bulkhead developments	National - PID
INCATOR	New composite torsion boxes	National - PID
PEEN FORMING II	Development of peen forming for metallic structures	National - PID
SUPERCALCULUS	Advanced numerical simulations	National - PID
ESTAVRIL	New composite development for light weight railway trains	Regional - ETORGAI
SUMOCAR	New composite architectures for control surfaces and ground testing validation	Regional - ETORGAI
CVD DIAMANTE	New and more efficient cutting tools for light alloys	Regional - GAITEK
DINA	Neutronic Reserch Disks development	Regional - GAITEK
HIMAT	Super light weight structures for zero emissions vehicle	Regional - GAITEK
INTEGRA	Advanced Inertia Wheels Developments	Regional - GAITEK

ACRONYM and/or NAME OF THE PROJECT and brief description	PROJECT SUMMARY / RELEVANT DETAILS / CONSORTIUMS	CALL
ALESTIS		
Environmental and intelligent technologies for composite materials structures generation (TARGET)	Development of composites	National - CENIT
Window frame A380	DEVELOPMENT OF COMPOSITES	Others
360º Fabric Composite	DEVELOPMENT OF COMPOSITES	Others
LEADING EDGE A400M	BIRD IMPACT COMPOSITES	Others
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 - Fire certification tests for interior materials	Consortium coordinated by BOEING R&T	National - CENIT
ATLANTIDA	Consortium coordinated by BOEING R&T - UAV Technologies application for ATM research & development	National - CENIT
SPACECAP III	Development of spatial technologies	Regional - DFA
DUOMO	Consortium coordinated by DANOBAT/ IDEKO	Regional - ETORGAI
ACTIMAT	Consortium coordinated by GAIKER	Regional - ETORTEK
SITICAD	IR for Tensional analysis. Post-process techniques	Regional - SAIOTEK
MODELFIRE	Modelling of the behaviour in the presence of Fire of the advanced materials used in aeronautics	Regional - SAIOTEK
NEUTER	Design of an Intelligent System for detecting defects in aeronautical materials by means of neural networks based on thermographic data	Regional - SAIOTEK
AEROSHIN	Health Monitoring and advanced instrumentation applied to Unmanned Air Platforms	Regional - SAIOTEK
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 Formig)	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	Development of High Reliability Manufacturing Systems for rotating parts with High Surface Integrity Requirements.	National - MICIN



IK4

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
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
GRUPO TTT		
Prosave: Eco-efficient aircraft	Leader: CESA	National-CENIT
IK4		
RORC	CEIT. Rolled only IN718 ring-shaped components	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
CAMEL	IDEKO. Drastic reduction in the consumption of coolant in grinding operations using Minimum Quantity of Lubricant (MQL) techniques: ECOLOGICAL GRINDING	European - FP7
DINXPERT	IDEKO. Plug and produce component for optimum dynamic performance system	European - FP7
POPJIM	IDEKO. Plug & produce joint interface modules: machine dynamic behaviour control mecathronics	European - FP7
INTEFIX	IDEKO. Intelligent fixtures for the manufacturing of low rigidity components	European - FP7
INNOSHADE	CIDETEC. Innovative Switchable Shading Appliances based on Nanomaterials and Hybrid Electrochromic Device Configurations.Fraunhofer, EADS, CNRS, AKZO, etc.	European - FP7
IN-LIGHT: s	TEKNIKER: Development of electrochromic aircraft Window. EADS	European - FP7
POCO	TEKNIKER. Polymer-Matrix Composites based on Carbon Nanotubes (Functionalised, Aligned and Confined)	European - FP7
MINILUBES	TEKNIKER. Mechanism of interaction in nano-scale of novel ionic lubricants with functional surfaces	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
E-BREAK	CEIT. Engine Breakthrough Components and Subsystems	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
ENOVAL	CEIT. ENgine mOdules VALidator	European - FP7-AAT
AEROBEAM	CEIT. Development of Stator Vanes for Avioindustry	Eurpean - CLEANSKY
ENDAC	IDEKO. New generation of highly automated non destructive estimation solutions for high impact sectors	National - INNPACTO
ENGRANA	TEKNIKER: Development of flexible, advanced manufacturing processes of high performance, high responsibility gears. DMP	National - INNPACTO
GRIMPACT	IDEKO. Development and application of variable speed technologies in grinding operations	National - INNPACTO
RC2	TEKNIKER. Quick and cost-cutting manufacturing of functional prototypes for gas turbines made of piled up metallic layers: rapid manufacture of turbine blade prototypes by means of "laser cladding" techniques	National - PROFIT
MACTI	TEKNIKER. Development of composite structures for machine tools. CMI Aeronáutica, S.L	Regional - ETORGAI
IMAGHINE	IDEKO. New generation of machine tools	Regional - ETORGAI
PAINT- Polo Aeronáutico para la Innovación en Turbinas	IDEKO. Aeronautics Pole for Innovation in Turbines. Advanced Manufacturing Technologies.	Regional - ETORGAI
PAINT- Polo Aeronáutico para la Innovación en Turbinas	LORTEK. Optimisation of laser additive for compressor geometries. Development of Aero Engine Component Manufacturing using Laser Additive Manufacturing. ITP	Regional - ETORGAI
EUSKESTUR:	TEKNIKER: Basque collaboration project for the manufacture of a new generation of radial turbine structures: modelling of the manufacturing process to reduce the development time and improve the cathode design / PECM Engineering, ITP	Regional - ETORGAI
Inspección de defectos superficiales en materiales metálicos	IDEKO. Inspection of surface defects in metal by active thermography for the replacement of magnetic particles	Regional - ETORGAI
ECOFAB	IDEKO. New eco-efficient processes for strategic industrial sectors	Regional - ETORGAI
AIRHEM	TEKNIKER. Health monitoring in aeronautics. Sensorisation and monitorisation / CTA, Tecnalia	Regional - ETORTEK
PROFUTURE	TEKNIKER. Development of technologies and processes for the factories of the future. ITP	Regional - ETORTEK
NOVAFIB	IDEKO. New concept of machine for the automation of fiber glass deposition for large parts	Regional - GAITEK
PROFIBRA	IDEKO. Development of high production systems for the manufacture of carbon fibre structural components	Regional - GAITEK
SOFT-MOM	IDEKO. Solutions for improving the dynamic behaviour in support structures for multi-dimensional measurements	Regional - GAITEK
AEROCAB: s	TEKNIKER: Headstocks for machining aeronautical parts. GOIALDE HIGH SPEED	Regional - GAITEK
HEMA	TEKNIKER. Actuators health monitoring: sensorisation and monitorisation of actuators in aeronautics / SENER	Regional - GAITEK

THE CLUSTER MEMBERS

ACRONYM and/or NAME OF THE PROJECT and brief description	PROJECT SUMMARY / RELEVANT DETAILS / CONSORTIUMS	CALL
COMPSOFT	IDEKO. Development of software for the overal solution of the automated manufacture of composite structural components	Regional - GAITEK
LASCLEAN	TEKNIKER. Laser surface cleaning in industrial applications. Inser-robótica, PCB	Regional - GAITEK
PRECISUS	TEKNIKER Ultrasonic assisted drilling for high precision holes in aeronautics .Industrias Laip	Regional - GAITEK
V3	IDEKO. Integrated configuration platform for the grinding process based on variable speed strategies and monitorisation of the grinding wheel	Regional - GAITEK
BLADETEK	IDEKO. Development of automated measuring systems for assistance during assembly and verification during manufacture of aeropropulsion turbines	Regional - GAITEK
DISCGRIN	IDEKO. Development of a new system for grinding and measuring high added value discontinuous parts of extreme precision	Regional - GAITEK
OPTICAM	TEKNIKER. Development and implementation in CAD/CAM of models for simulating machining processes. AyS, Bundinberri, Talleres Aratz	Regional - GAITEK
SURFER	TEKNIKER. Development of laser technology applications in the modification and finishing of functional surfaces. AIN, AIMME, AIDO	Others
NOVALTI		
TOWARDSTIMACH	NOVALTI-UNI. MONDRAGON	European - MANUNET
SATELLITE PAYLOAD	NOVALTI-UPNA-UPV	National -INNPACTO
PAINT	NOVALTI-ITP-UPV/EHU	Regional - ETORTEK
Turbine blades for test RIGs	PTB4++, PTB8, PTB9	Others
ORBITAL AEROSPACE		
Test benches SW	System that provides a common environment for running design models, simulations and real equipments to support testing and / or simulation of avionic equipment subsystem or system.	National - CDTI
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
SENARIO - Advanced sensors and novel concepts for intelligent and reliable processing in bonded repairs	Attitude control systems: Development of innovating sensorial systems linked to intelligent control equipment and aerostructures maintenance methodologies.	European - FP6
NOESIS - Aerospace nanotube hybrid composite structures with sensing and actuating capabilities	Development of composite material with carbon nanotubes and with sensorial and drive capacity, by itself for aeronautics applications.	European - FP6
DATAFORM - Digitally Adjustable Tooling for manufacturing Aircraft panels using multi-point FORMing methodology	Development of a flexible technology for the manufacture of metal aircraft panels, based on computer-controlled multipoint tooling methodology	European - FP7
HP-SMART-EMA	Development of high energy density electrical actuators	European - FP7
TheraEDGE Diagnostic Equipment	Point-of-care testing equipment for respiratory infections, based on the identification of DNA	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
RESTAURAC	Development of a demonstrator for the restoration of degraded images due to high compression levels 2008	National - COINCIDENTE
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 NTE-SENER
AUTOPLAK	Automatic sample inoculation and streaking system for Petri dishes in microbiology laboratories	Others NTE-SENER
SISTEPLANT		
ICARO - composite aerostructures	Industrialisation in advanced materials - Led by Airbus, research into materials and manufacturing systems for aerostructures	National - CDTI
TECNALIA		
SPECIMEN	Study on the processing and the performance of cyanate ester composites with a view to the optimisation of harsh service environments	European - CLEANSKY
APRIL	Development of advanced preforms for LCM technologies	European - CLEANSKY
HP-SMARTEMA	Development of high power density electrical actuators. Collaboration with SENER	European - CLEANSKY
MAGNOLYA	Advanced environmentally friendly chemical surface treatments for cast magnesium helicopter transmission alloys preservation	European - CLEANSKY
ALT	Formulation and characterisation of new aluminium alloys produced by ingot metallurgy for high temperature applications (250ºC)	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

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
HELM- High-frecuency 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 sectors (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
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 optimisation & 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
LAYSA - Multifunctional layer for safer aircraft composite strutures	Developments of multifunctional laminated composite materials/ Aernnova, Aries Complex, Inasco, HAI, Univ. Patras, etc...	European - FP7-AAT
INMA	Innovative Manufacturing of complex Ti sheet aeronautical components/ Univ. Patras, Airbus, EADS, INDUSTRIAS PUIGJANER S.A.etc	European - FP7-AAT
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, Tecnatom, Dassault, Bombardier, etc.	European - FP7-AAT
SINTONIA- Unmanned Systems Oriented towards Zero Environmental Impact	Development of technologies to improve the efficiency of UAV. Collaborations with BR&TE, AERNNOVA, CESA, ACITURRI, SENER, etc	National - CENIT
TARGET- Intelligent and Environmentally Sustainable Technologies for the generation of Structures in Composite Materials	Development of new technologies for future aircraft in composites/ Collaborations with AIRBUS, AERNNOVA,EADS-CASA, SAIREM, M-TORRES	National - CENIT
PROSAVE2- Research Project in advanced systems for a more eco-efficient aircraft.	"Development of new technologies for aeronautic systems and sub-systems	
Collaborations with CESA, AERNNOVA, TTT, etc"	National - CENIT	
FUTURASSY	Development of industrial robotics for use in Carbon Fiber Structural Assemblies in the Aeronautics Industry. Airbus, Tecnalia, University of Cadiz, University of Sevilla, CATEC	Regional - Andalucía 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**		AERNNOVA
BOMBARDIER **CSeries**		AERNNOVA
DASSAULT **Falcon 7X**	Risk partners	ACITURRI, ALESTIS
EMBRAER **170/190, ERJ 135/145**	Risk partner	AERNNOVA
EMBRAER **KC-390**		ACITURRI, AERNNOVA
EMBRAER **Legacy / Phenom**	Risk partner	ALESTIS

EPI **TP400**	Consortium member	GRUPO ITP
ESA **GAIA, HERSCHEL**		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/XWB**	Risk partner	GRUPO ITP
ROLLS ROYCE **TRENT XWB**	Risk partners	ACITURRI, GRUPO ITP
SIKORSKY **S-92**	Risk sharing partner	AERNNOVA
TURBOMECA **(All range)**	Exclusive transversal agreement for special gears	DMP

3.4.2 - Current and former Programmes & Clients

AEROSTRUCTURES
AIRBUS A300/ 310/ 318/ 319/ 320/ 321/ 330/ 330MRTT/ 340/ 350XWB/ 380/ 400M
ATR 42, 72
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, EMB170/ 175/ 190/ 195, KC-390, PHENOM
EUROCOPTER AS332, EC135, NH90, TIGRE,
EUROFIGHTER TYPHOON
SIKORSKY S-92
SINO SWEARINGEN SJ30

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
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 DOWTY, RATIER FIGEAC, ROLLS-ROYCE, SAGEM, SIKORSKY

SPACE
ESA/NASA:
ARTEMIS, AURORA, CLUSTER, CX-OLEV, EGNOS, ENVISAT, EUREKA, GAIA, GTAB, HERMES, HERSCHEL-PLANCK, HUBBLE SPACE TELESCOPE, HIPPARCOS, INTEGRAL, ISEE-B/COLUMBUS/ CRV, METOP, MSG, ROSetTA, SOHO, SPACELAB, ULISSES, 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 agregate **turnover** and **employment** were in 2012

1,584 million € and 12,059 people

(directly generated in all of their worldwide facilities)

2012 Geographical breakdown:	Turnover (M€)	Increase vs. 2011	Employment	Increase vs. 2011
Basque Country	767	8.8%	4,042	5.3%
Rest of Spain	641	14.7%	6,150	2.4%
Rest of the World	176	14.3%	1,867	7.4%
TOTAL	**1,584**	**11.6%**	**12,059**	**4.1%**

2012	M€	% over Sales	Average % over Sales since 1993
R&D INVESTMENT	193	12.2%	16.8%
EXPORTS	981	61.9%	72.8%

CLUSTER DIMENSION: Facilities in the Basque Country

1.1%	4.8%	1.8%
of the BASQUE GDP (*)	of the BASQUE Industrial GDP (*)	of the BASQUE Industrial EMPLOYMENT (*)

HEGAN MEMBERS DIMENSION: Total number of facilities in Spain

15.5% of the SPANISH (**)	1% of the EUROPEAN (***)	24.2% of the SPANISH (**)	2% of the EUROPEAN (***)	19.6% of the SPANISH (**)	1.4% of the EUROPEAN (***)
aerospace TURNOVER		aerospace EMPLOYMENT		aerospace R&D INVESTMENT	

65 AEROSPACE ORGANIZATIONS

HEGAN Members (representing the 99.5 % of the Aerospace turnover generated)

5 TIER1
Aerostructures
Engines
Space

10 COMPANIES with more than 40 people

20 SMEs with less than 40 employees

131 FACILITIES
63 in the Basque Country,
48 in the rest of Spain
20 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 11 R&D CENTRES with aerospace activities

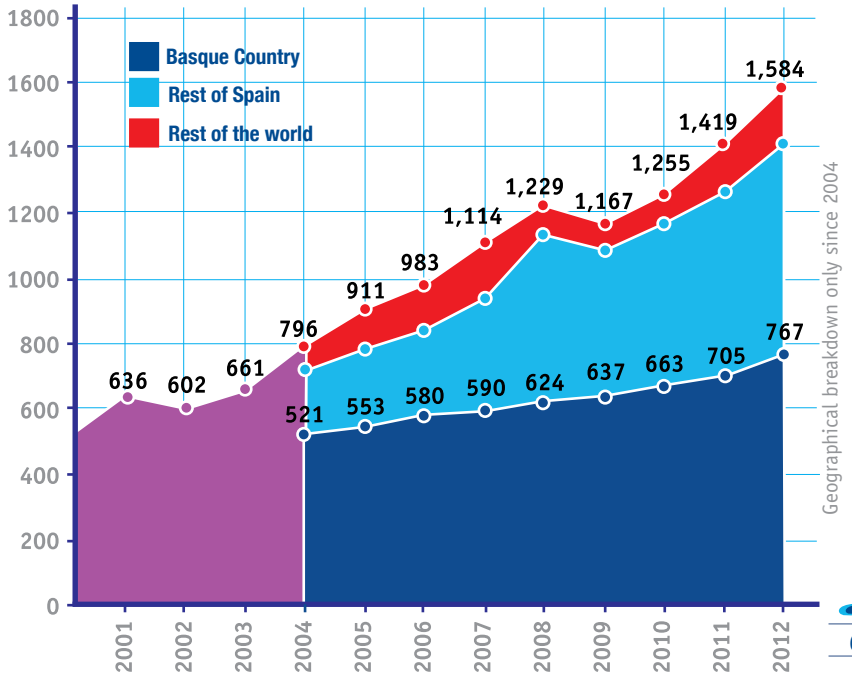
Non-Members

22 COMPANIES with aerospace activities

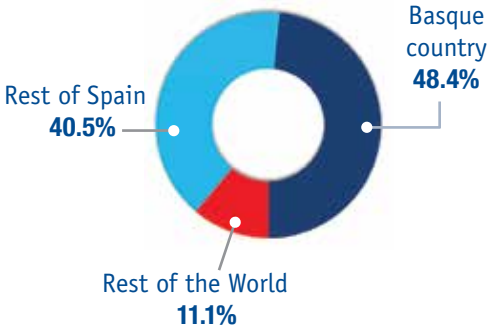
5 UNIVERSITIES (ETSIB: Aeronautical Intensification Course)

2011 Comparison. (*) EUSTAT 2011 (est.), (**) TEDAE 2011, (***) ASD 2011

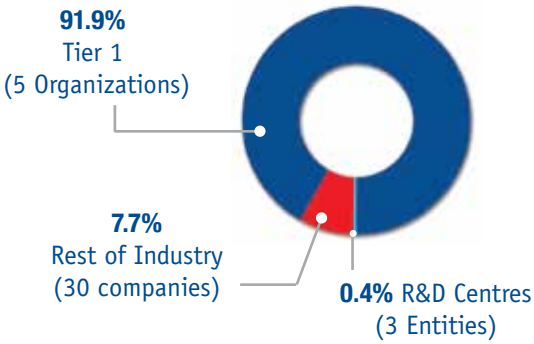
2001-2012 Aggregate turnover in M€



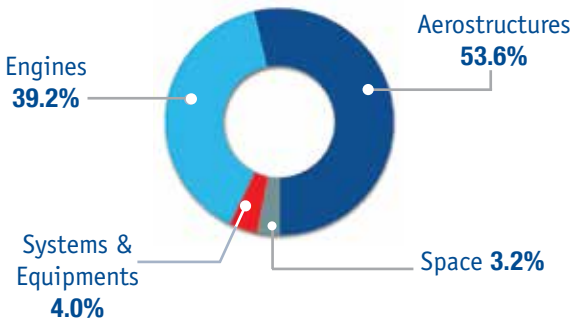
Geographical distribution of Turnover



Turnover according to member size

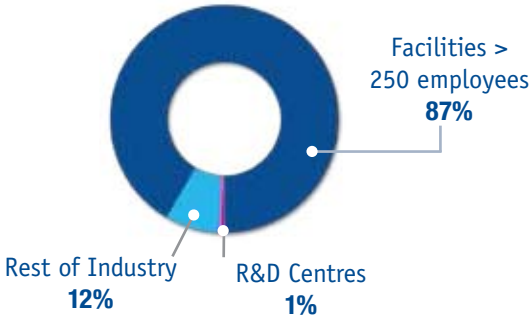


Turnover according to subsectors

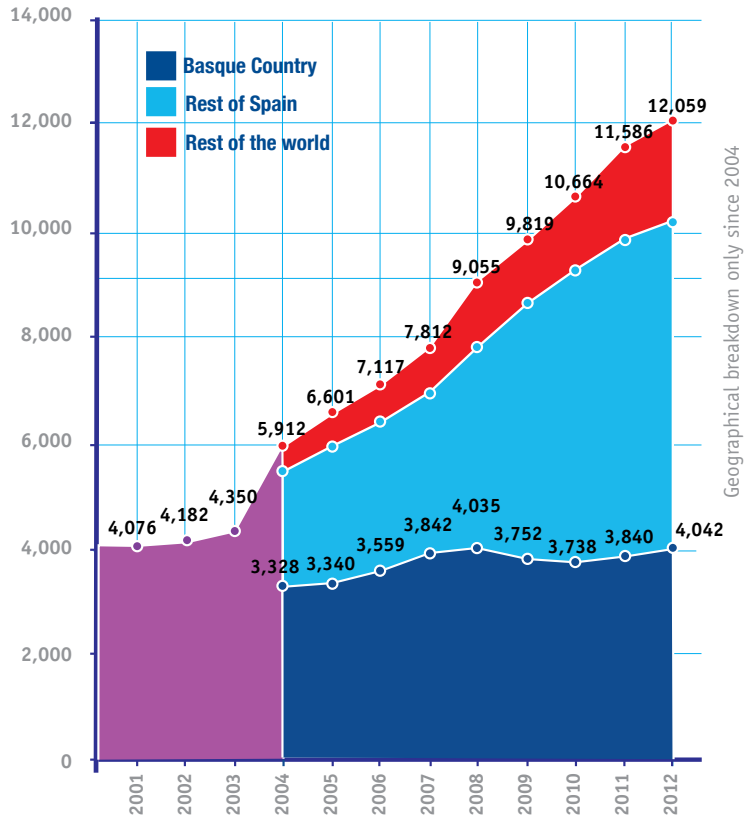


EUSKADI - BASQUE COUNTRY

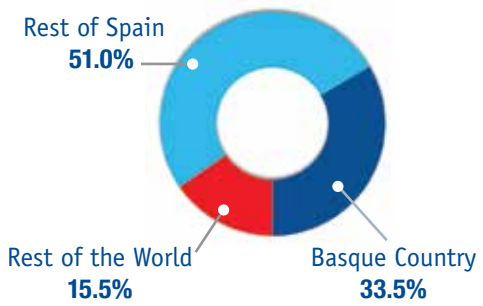
Basque Turnover according to member size



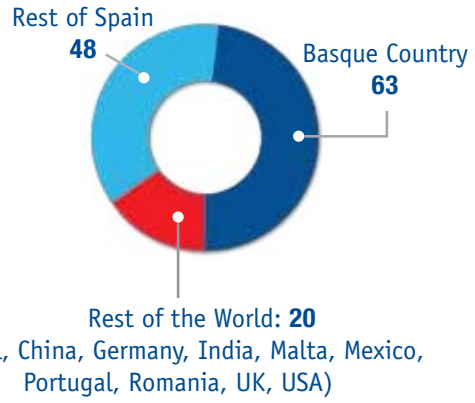
3.5.2 - Employment



Geographical distribution of jobs

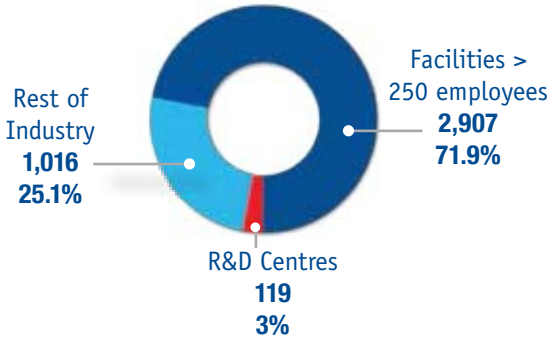


Members facilities

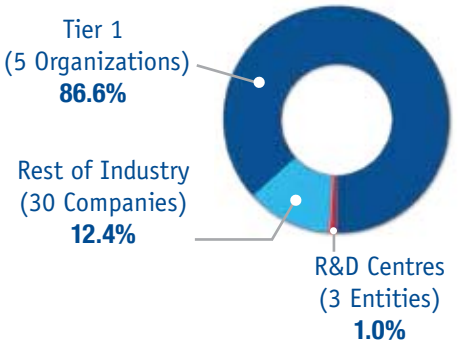


EUSKADI - BASQUE COUNTRY

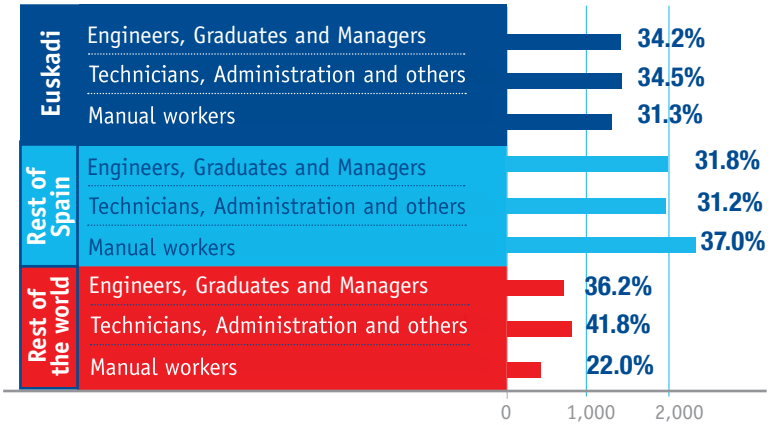
Basque Employment according to member size



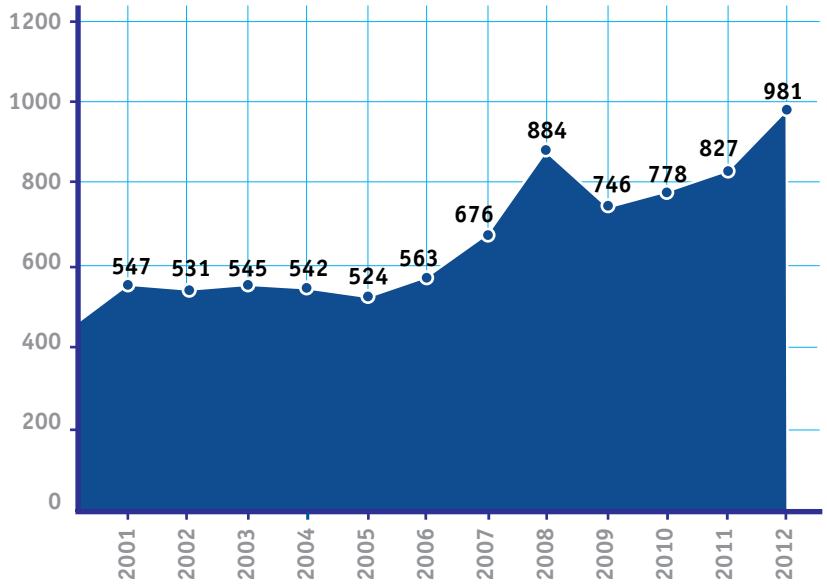
Employment according to member size



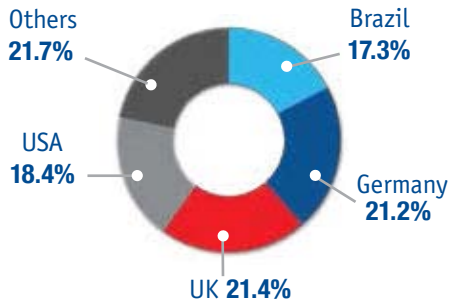
Employment according to qualification



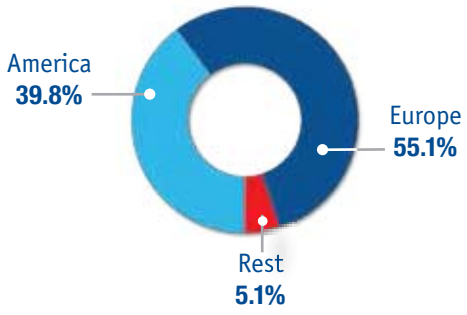
3.5.3 - Exports in M€



Exports according to Countries



Exports according to Continents

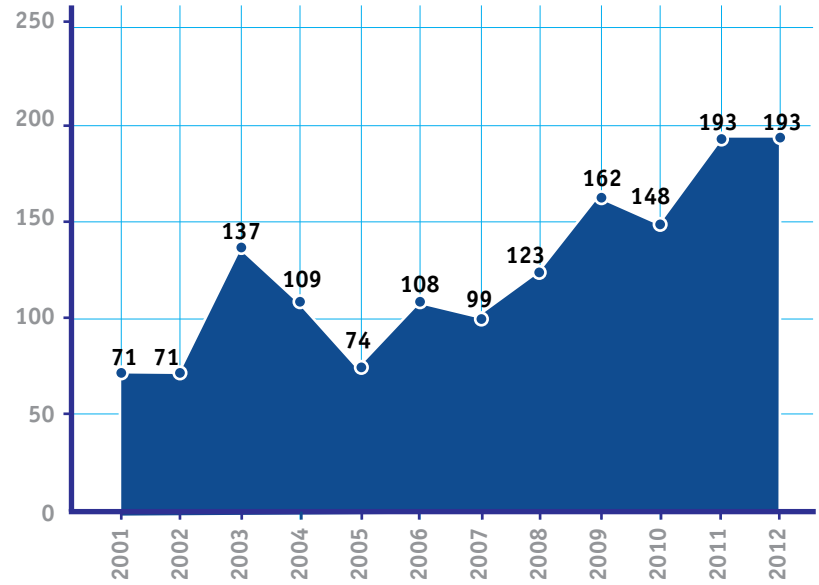


3.5.4 - R&D in M€

R&D Investment over Sales %
12.2%

R&D Self-financing (%)
82.0%

R&D personeel
1,560



CHAPTER FOUR

ACKNOWLEDGEMENTS

You have just read some of the results from the year 2012 and we would like to remind you about something.

On the 10th anniversary of HEGAN, we said "Throughout this time, workers in companies, R&D centres, universities, the government and in the association itself, have played their own particular roles without superseding one another and have defended the general concerns of the cluster association above their own particular interests, putting on the "cluster cap" as we say".

Today, 20 years after the initial meeting of the first Technology Committee of the Aeronautics and Space Cluster of the Basque Country, we still consider that that attitude, which is not always easy, was, is and will always be important.

Moreover, and after the synergies –harmonious union of tasks- that we have generated in 2012 we also knew that every person in each entity in each organised workgroup is important and that we need to listen to them, listen to ourselves and enjoy the final melody.

And one of the key points in achieving this is to create spaces of trust and to keep these alive. And that is what we are doing now.

Encouraged at all times by the excellent example set by our predecessors –the pioneers- and by the constant, permanent challenge involved in participating in the life that is hidden behind the construction of safe aircraft, important elements of interrelation between people and cultures, the development of society, we offer ourselves to continue building society and we ask you to help us in order to achieve our goal.

Many thanks.

AGRADECIMIENTOS

Acabáis de leer algunos de los resultados de las vivencias del 2012 y nos gustaría recordar algo que parece que viene a cuento.

En el X aniversario de HEGAN, decíamos "A lo largo del trayecto, trabajadores, empresas, centros tecnológicos, universidades y la propia administración han desempeñado sus papeles, sin suplantarse ninguno y tratando todos de ponerse el "gorro del cluster" como nos gusta decir, para que el interés común prevaleciera sobre otros particulares".

Hoy, a los 20 años de la primera reunión del Comité de Tecnología del Cluster de Aeronáutica y Espacio del País Vasco, seguimos pensando que fue, es y será siempre importante esa actitud, que algunas veces no es fácil.

Además, y después de las sinergias –unión armónica de nuestros trabajos – que hemos generado en 2012, también hemos aprendido que cada persona de cada entidad en cada grupo de trabajo organizado es importante y que necesitamos escucharla, escucharnos y saborear la melodía final.

Y una de las claves para lograrlo es crear espacios de confianza y mantenerlos vivos. En esa tarea estamos.

Animados constantemente por el excelente ejemplo de los primeros –los pioneros- y por el reto constante y permanente que supone la participación en la vida que se esconde tras la construcción de aeronaves seguras, elementos importantes de interrelación de personas y culturas, de desarrollo de sociedad, nos ofrecemos a seguir construyendo ésta y… os pedimos que nos ayudéis en ese afán.

Muchas gracias.

ESKER ONEZ

Irakurri berri dituzue 2012ko bizipenek emandako emaitza batzuk, eta gure ustez honekin guztiarekin zerikusia duen gauzatxo bat gogorarazi nahi dizuegu.

HEGANen X. urteurrenean, hauxe esan genuen: "Ibilbide honetan zehar, langileek, enpresek, teknologia-zentroek, unibertsitateek eta baita administrazioak ere bakoitzak bere lana bete dute, inoren gainetik jarri gabe, eta guztiak saiatu dira "klusterraren txapela" janzten –horrela esatea gustatzen zaigu–, guztion interesa interes partikularren gainetik egon dadin".

Gaur egun, Euskadiko Aeronautika eta Espazioko Kluster Elkartearen Teknologia Batzordeak lehenengo bilera egin zuenetik 20 urte pasatu eta gero, uste dugu jarrera hori garrantzitsua izan dela beti, dela gaur egun eta izango dela gerora ere, batzuetan horren erraza ez izan arren.

Gainera, eta askotariko sinergiak sortu ondoren –gure lanen batasun harmonikoaz ari gara–, antolatutako lan-talde bakoitzean erakunde bakoitzeko pertsona bakoitza garrantzitsua dela ikasi dugu 2012. urtean, eta beharrezkoa dugula hari entzutea, geure buruari entzutea eta azken melodiaz gozatzea.

Konfiantzazko guneak sortzea eta horiei bizirik iraunaraztea da hori lortzeko giltza. Horretan gabiltza, hain zuzen.

Lehenengoek, aitzindariek, eskaini ziguten eredu bikainak etengabe animatuta, aireontzi seguruen eraikuntzaren atzean dagoen bizitzan parte hartzeak berarekin dakarren erronka irmo eta etengabeak bultzatuta eta, finean, kontuan hartuta pertsonen eta kulturen arteko erlazioan eta gizartearen garapenean zeinen elementu garrantzitsuak diren beroriek, bide hori urratzen jarraitu nahi dugu, eta, beraz, egitasmo horretan laguntzeko eskatzen dizuegu.

Eskerrik asko.

Non-members-photos courtesy of Airbus, Embraer, EADS, ESA, Pratt & Whtney and NASA

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SEVENTH FRAMEWORK PROGRAMME

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