hegan

basque aerospace cluster

INFORME ANUAL

URTEKO TXOSTENA

ANNUAL REPORT

2021

The Aeronautics and Space Cluster Association of the Basque Country - HEGAN is...

...Member of

EACP
EUROPEAN AEROSPACE CLUSTER PARTNERSHIP

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Agencia Vasca de la Innovación

SPACE aero™

PLATAFORMA TECNOLÓGICA AEROESPACIAL ESPAÑOLA

...Collaborator of

TEDAE
Asociación Española de Empresas Tecnológicas de Defensa, Seguridad, Aeronáutica y Espacio

...Registered at

Teknologia Ikertzaren eta Sareko Erregistroa
Registro de agentes de la Red Vasca de Ciencia, Tecnología e Innovación

AEI CLUSTER
Agrupaciones Empresariales Innovadoras

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1

PRESENTATION

Thank you for taking a few minutes to read the 2021 Annual Report of the Aeronautics and Space Cluster of the Basque Country - Hegan, a year marked by the beginning of a gradual recovery of the aerospace sector, thanks to a more favourable macro environment and the specific action plans implemented by the sector.

A lot has changed since 2018; we have experienced growth, celebrated the record employment numbers and turnover achieved in 2019, witnessed the enormous impact the Pandemic had on our operations in 2020, and now, we have just finished 2021 noting that we are a very resilient industry but one that has not yet overcome the crisis.

We say that we are a resilient industry because we have managed to maintain our activity in comparison to the previous year and, more importantly, together we have managed to generate a 3% rise in employment. In the same way (or precisely), as we are aware that talent and innovation is what maintains and develops the sector, all the entities in the cluster (Companies, Technology Centres and Universities) have invested 15 million more in R&D&I projects than last year, up to 117 million, reaching 6.3% of the turnover.

But the effects of the Pandemic are still affecting the sector and the Cluster in a very significant way, according to our forecasts and those of the sector as a whole, we will not reach 2019 levels until 2023-2024. This is in addition to the dramatic situation in Ukraine, which has created a very delicate geopolitical context that adds uncertainty to the reality of our sector.

All of the above adds more importance than ever to the development of initiatives that support the aerospace sector, preferably applied to industrial projects that guarantee continued economic growth in the medium and long term. We recall the relevant role of the sector as a driver of technical development and a vector of technology transfer to other sectors, at a time when innovation is key to the recovery of the economy as a whole. For this reason, we claim our role as a key strategic sector, through the creation of value for society, quality employment and dynamization of R+D+i. We are part of the solution in the fight against climate change as a developer of clean technologies for the future.

Many things have changed, yes, but not our spirit, our will, and our work, that of the whole cluster, to create a fairer, more sustainable, and more united world.

Carlos ALZOLA ELIZONDO
President of HEGAN

>>

1. Aurkezpena

Eskerrik asko, Hegan Euskadiko Aeronautika eta Espazioko Klusterraren 2021eko Urteko Memoriari minutu batzuk eskaintzeagatik. Urte horretan, zehazki, sektore aeroespazialaren pixkanakako susperraldia gertatu da, makroingurune onuragarriago bati eta sektoreak abian jarritako ekintza-plan espezifikoei esker.

2018. urtetik, asko aldatu dira gauzak: hazkundea bizi izan dugu; 2019an, enpleguan eta fakturazioan lortutako errekorra ospatu genuen; 2020an, gure eragiketetan pandemiak izan zuen eragin handiaren lekuko izan ginen; eta, orain, 2021a amaitu berri dugu, eta egiaztatu dugu oso sektore erresilientea garela baina sektoreak oraindik krisia ez duela gainditu.

Sektore erresilientea garela diogu, aurreko urtearekin alderatuta jarduerari eustea lortu dugulako eta, are garrantzitsuagoa, guztion artean enplegu gehiago sortzea lortu dugulako (% 3 gehiago). Era berean, argi dugu talentua eta berrikuntza direla sektoreari eusten diotenak, eta, horregatik hain justu, klusterreko erakunde guztion artean (enpresak, teknologia-zentroak eta unibertsitateak), iaz baino 15 milioi gehiago inbertitu ditugu I+G+b proiektuetan (117ra milioira arte), eta fakturazioaren % 6,3ra iritsi gara.

Baina pandemiaren ondorioek oraindik ere eragin handia dute sektorean eta klusterrean; gure aurreikuspenen eta, oro har, sektorearen aurreikuspenen arabera, ez gara 2019ko mailara iritsiko 2023-2024. urteetara arte. Horri, gainera, Ukrainan bizitzen ari diren egoera lazgarria gehitu behar zaio, gure sektorearen errealitateari ziurgabetasuna eransten dion testuinguru geopolitiko oso delikatua sortu baitu.

Horrek guztiak inoiz baino garrantzi handiagoa ematen dio sektore aeroespazialari laguntzeko ekimenak garatzeari, batez ere epe ertain eta luzera hazkunde ekonomiko jarraitua bermatzen duten industria-proiektuei aplikatuta. Gogoan izan behar dugu sektoreak zer garrantzi duen, garapen teknikoaren eragile eta beste sektore batzuetara teknologia transferitzeko bektore gisa, funtsezkoa baita ekonomia osoa suspertzeko berrikuntza une honetan. Horregatik, gizartearentzat balioa sortzeko, kalitatezko enplegua eratzeko eta I+G+b dinamizatzeko iturri gisa sektore estrategiko giltzarria garela aldarrikatzen dugu. Klima-aldaketaren aurkako borrokaren konponbidearen parte gara, etorkizuneko teknologia garbien garatzaileak garen aldetik.

Gauza asko aldatu dira, bai, baina bada zerbait aldatu ez dena, guk guztiok, klusterrak, mundu bidezkoago, iraunkorrago eta bateratuago bat sortzeko dugun gogoa, borondatea eta lana.

Carlos ALZOLA ELIZONDO
HEGANeko lehendakaria

1. Presentación

Gracias por dedicar unos minutos a la Memoria Anual 2021 del Cluster de Aeronáutica y Espacio del País Vasco - Hegan, un año marcado por el inicio de una recuperación paulatina del sector aeroespacial, gracias a un entorno macro más favorable y a los planes de acción específicos puestos en marcha por el sector.

Desde 2018 han cambiado muchas cosas. Hemos vivido el crecimiento, celebrado el récord de empleo y facturación que conseguimos en 2019, hemos sido testigos del gran impacto que tuvo la Pandemia en nuestras operaciones en 2020, y, ahora, acabamos de terminar 2021 constatando que somos un sector muy resiliente pero que aún no ha superado la crisis.

Decimos que somos un sector resiliente porque hemos logrado mantener la actividad con respecto al año anterior y, más importante, entre todos, hemos conseguido generar un 3% más de empleo. Del mismo modo (o precisamente), al ser conscientes de que es el talento y la innovación lo que mantiene y desarrolla el sector, el conjunto de entidades del clúster (Empresas, Centros Tecnológicos y Universidades) hemos invertido en proyectos de I+D+i 15 millones más que el año pasado, hasta los 117, alcanzando el 6,3% de la facturación.

Pero los efectos de la Pandemia aún siguen afectando de manera muy significativa al sector y al Cluster, según nuestras previsiones y las del sector en su conjunto, no alcanzaremos niveles del 2019 hasta el 2023-2024. Esto se suma, además, a la dramática situación que se está viviendo en Ucrania, lo que ha creado un contexto geopolítico muy delicado que añade incertidumbre a la realidad de nuestro sector.

Todo lo anterior añade más importancia que nunca al desarrollo de iniciativas para apoyar el sector aeroespacial, preferentemente aplicadas a proyectos industriales que garanticen crecimiento económico continuado a medio y largo plazo. Recordamos el relevante papel del sector como inductor de desarrollo técnico y vector de transferencia tecnológica a otros sectores, en un momento en el que la innovación resulta clave para la recuperación de la economía en su conjunto. Por esta razón, reivindicamos nuestro papel de sector estratégico clave como fuente de creación de valor para la sociedad, de empleo de calidad y dinamización de I+D+i. Somos parte de la solución en la lucha contra el cambio climático como desarrollador de tecnologías limpias de futuro.

Muchas cosas han cambiado, sí, pero no nuestro ánimo, nuestra voluntad ni nuestro trabajo, el de todo el clúster, por crear un mundo más justo, más sostenible y más unido.

Carlos ALZOLA ELIZONDO
Presidente de HEGAN

2

The Cluster Association

HEGAN is a private non-profit association that brings together the Basque Aeronautics and Space sector, created with the mission of representing and revitalising the sector, to facilitate its competitiveness in the short-, medium- and long-term through cooperation and innovation between companies and other agents, answering cooperatively to its strategic challenges.

General Assembly

This is the highest-ranking body of the Association. It is made up of all member companies and is the forum through which they can express their wishes.

2021 General Assembly

HEGAN'S Team

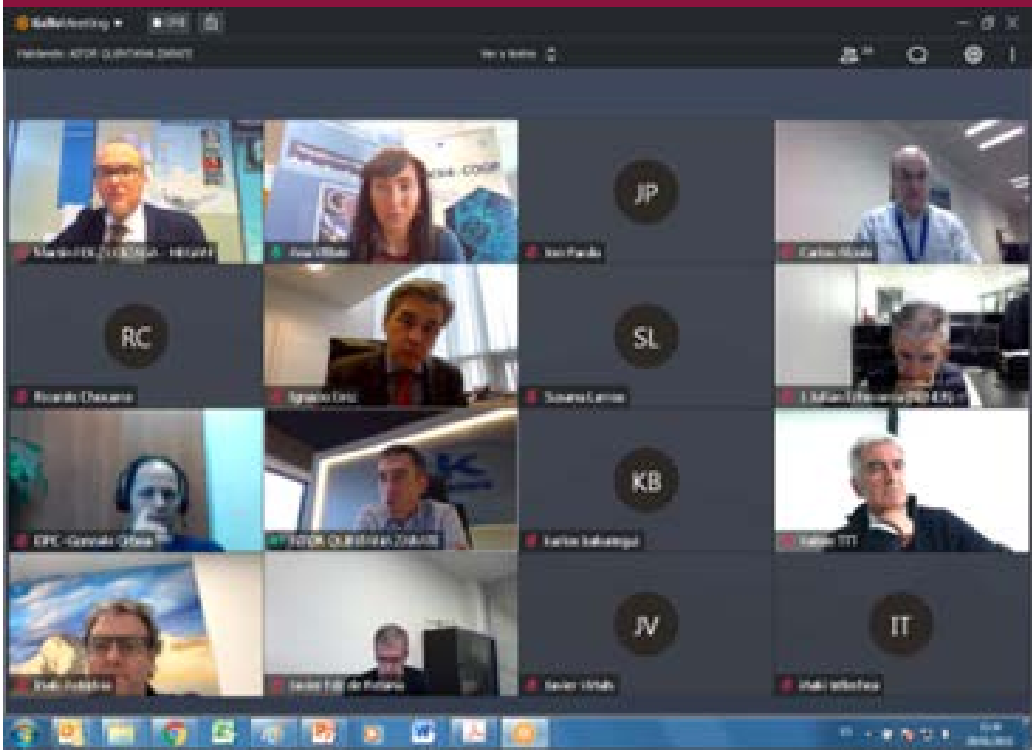
Mentxu DÍAZ, Administration
Martín FDEZ LOIZAGA, Deputy Director
Ana RODRÍGUEZ, Head of Operations
Javier PIÑÁN, Head of Innovation
Ana VILLATE, Director

Board of Directors

This is the collegiate administration and management body. Its current members, appointed by the General Assembly, are:

Jose Julián ECHEVARRIA - President, SENER Aeroespacial • Iñaki ASTORKIA – Vice-President, Astorkia •Javier FDEZ DE RETANA – Secretary/Treasure, Aernnova • Íñigo EZQUERRA, Capgemini Engineering • Ignacio EIRIZ, CTA • Gonzalo ORBEA, EIPC • Carlos ALZOLA, ITP Aero • Borja GARATE, Metrología Sariki •José AMORES, Mizar Additive • Adolfo ZABALA, WEC • Aitor COBANERA - Guest, SPRI • Javier VIÑALS - Guest, SENER Aeroespacial • Susana HERERO - Guest, ITP Aero • Susana LARREA - Guest, SPRI

2021 Board o Directors



2. HEGAN activities 2021

2021 was the year of implementation of the new HEGAN 2021-2024 strategic plan. Master, Tactical, Inspirational and Strategic Vectors define the 4 Challenges in which all our actions are directed. This strategic map is what marks the path of help, support and work for the Cluster and all our Members.

In 2021 we defined HEGAN Strategic Plan 2021-2024 with new Challenges and Vectors:

Key Actions 2021

#1 Innovation Committee

Projects: Identification, Proposals, Participation… - Technological webinars and workshops - AeroTrends Conferences – Supply Chain development…

#2 Webinars and workshops - Competitive Intelligence (SICC) – AeroAcademy - Relations with the academic world…

#3 Annual Report, Web, Catalogs…, Missions, B2Bs, AirShows…

#4 Press releases, Media… Government relations…

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aeroacademy
hegan

Working hard for a reliable future...

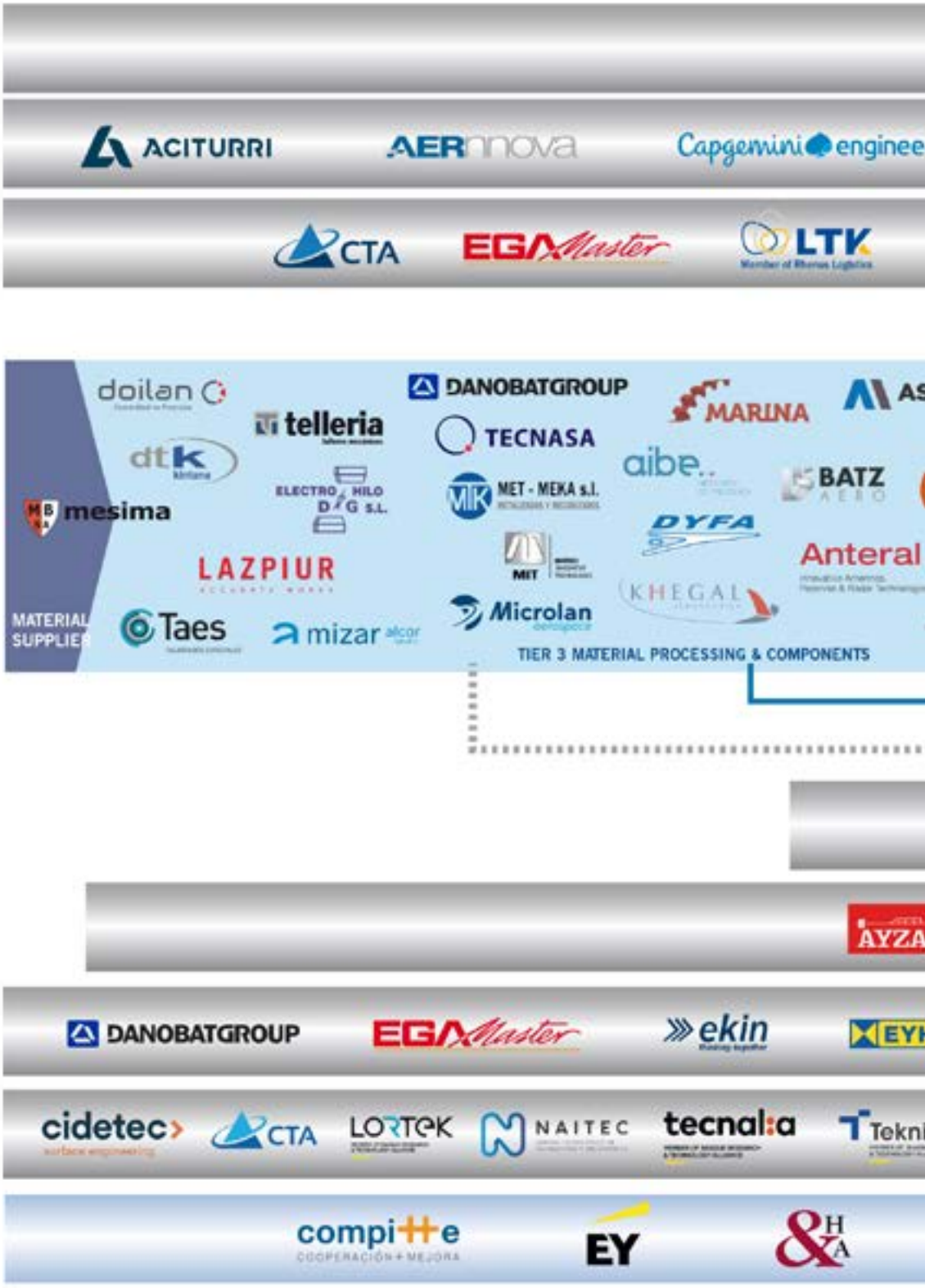
The Aeronautical and Space Sector is strategic and key to the economy of a country since it is a creator and generator of highly qualified direct employment, in addition to having indirect and induced job creation rates that, in the most prudent of studies, multiply by four to direct employment; insofar as it is technology-intensive, it is a vector of scientific and technical transfer to other sectors and industries; and as a developer of high value-added products and services.

The need to fly will return. Connecting, meeting, meeting, traveling, learning, relating, escaping, working and undertaking cannot be substituted for a screen or a webcon. And this recovery will come with new paradigms: efficient, clean, neutral, sustainable airplanes ...

The Sector is not alien to a cleaner world but has been a bulwark in this fight: for more than twenty years, the Aerospace Industry has imposed higher environmental demands on itself than any other sector. And it has succeeded: today, airplanes are more efficient than a few decades ago, emitting between -68% less noise on average and -32% CO2 and -40% NOx per passenger than the models of the last century.

The Sector is part of the solution (decarbonization, electrification, 0 emissions ...) as a developer and demonstrator of clean technologies aligned, therefore, with the Sustainable Development Goals (SDG).

3 The Cluster MEMBERS



A competitive Value Chain, made up by 68 Members that cover the complete P

CFAA
ADVANCED MANUFACTURING CENTRE
ITP Aero
SENER
ENGINEERING AND EMBEDDED SYSTEMS
RENISHAW
apply innovation
SARIKI
METROLOGIA
Sisteplant
ADVANCED SERVICES PRODUCTION ENGINEERING AND TESTING
AERnova
ITP Aero
MRO
(Maintenance, Repair & Overhaul)
STORKIA
XUBI
Group
nuter
wec
AEROMEC
Galindo
Korta
ARATZ GROUP
Egile
SATLANTIS
metraltec
EIPC
TIER 2 ASSEMBLIES
ACITURRI
ITP Aero
AERnova
SENER
TIER 1 SUB-SYSTEMS INTEGRATORS
OEMs
(AIRPLANES, HELICOPTERS, ENGINES, UASs, SATELLITES, ...)
OPERATORS
(AIRLINES, AIRFREIGHT, AERIAL WORKS, AIR FORCES, PARAPUBLIC SERVICES...)
ACITURRI
AERnova
ARATZ GROUP
burdinberri
ASSEMBLY LINES AND TOOLING PACKAGES
TTT GROUP
surface technologies
THERMAL AND SURFACE TREATMENTS
EUROUTIL
ONA
SIKULAN
wolco
MACHINE-TOOLS AND PROCESS SOLUTIONS
Deusto
Universidad de Deusto
Mondragon Unibertsitatea
Goi Eskola Politeknikoa
Escuela Politécnica Superior
upna
R&D CENTRES AND UNIVERSITIES
IMAP | Albia Capital
LABORAL kutxa
CLUSTER ALLIES

AERNNOVA

ITP AERO

SENER AEROESPACIAL

AALBERTS S. T. TEY

ANTERAL

ARATZ GROUP

ASTORKIA

AYZAR

DOILAN

DTK

DYFA

EGA MASTER

EUROUTIL

EYHER

INDUSTRIAS GALINDO

KHEGAL AERONAUTICA

MESIMA

METALURGICA MARINA

MET-MEKA

METRALTEC

RENISHAW

ONA ELECTROEROSION

SATLANTIS

SIKULAN

TTT GROUP

WEC

WOLCO

XUBI GROUP

TECNALIA

TEKNIKER

UNIV. DE DEUSTO

UPV/EHU

COMPITTE

ERNST AND YOUNG

HERRERO Y ASOCIADOS

LABORAL KUTXA

ACITURRI
AEROMEC
AEROSPACE ENG. GR.
AIBE
BATZ
BURDINBERRI
CAPGEMINI ENGINEERING
DANOBATGROUP
EGILE
EIBAR PRECISION CASTING
EKIN
ELECTROHILO
KORTA
LAZPIUR
LTK GRUPO
MATRICI
METROLOGÍA SARIKI
MICROLAN AEROSPACE
MIZAR ADDITIVE
NUTER
SISTEPLANT
TAES
TECNASA
TM TELLERIA
CIDETEC
CTA
LORTEK
NAITEC
MONDRAGON UNIB.
TECNUN
UPNA
IMAP ALBIA CAPITAL

Key Partners for a Reliable FUTURE...

> Industry
> R&D. Org
> Universities
> Allies

Members Activities 2021

- Aerostructures
- Engines
- Systems & Equipment
- Space
- RTD Projects

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Aerostructures

General Description of the Product/services	DIRECT CLIENT
AALBERTS SURFACE TECHNOLOGIES TEY	
Heat treatments	AIRBUS DS
Heat treatments	CESA
Heat treatments	ACITURRI
Heat treatments	EMBRAER
Heat treatments	AERNNOVA
Heat treatments	AERNNOVA
Heat treatments	CESA
ACITURRI	
HTP	AIRBUS CANADA
VTP Dorsal Fin	AIRBUS OPERATIONS
HTP Torsion box	AIRBUS OPERATIONS
Leading edge panels and LEX of HTP	AIRBUS OPERATIONS
Leading Edges HTP & VTP	AIRBUS
TIP's HTP	AIRBUS
TTP's	AERNNOVA
Leading edge of HTP assembly	AIRBUS DS
Passenger door structural assembly	AIRBUS DS
CFRP Spar Outboard Aileron	AIRBUS OPERATIONS
TIP's HTP	AIRBUS DS
PAX Door	AIRBUS
Ribs HTP	AIRBUS
Wing Assembly Conversion	AIRBUS DS
VTP	AIRBUS OPERATIONS
Internal structure of S19	AIRBUS OPERATIONS
Outboard FLAP CFRP parts (V1000)	FOKKER-GKN
Belly Fairing - Risk Partner	AIRBUS
S19.1 -Tail Cone	AIRBUS
Belly Fairing (Zones 0,1, 2 , 3.1, 3.2, 3.3 y 4)	AIRBUS DS
HTP Ribs	AIRBUS OPERATIONS
Rudder & Elevators	AIRBUS OPERATIONS
S19.1 CFRP Omegas	AIRBUS OPERATIONS
S19.1 Ducts & Housing	AIRBUS OPERATIONS
MLGD / S19.1 / Rear Fairing	AIRBUS
Belly Fairing (panels)	AIRBUS DS
Auxiliary Fin & HTP Box Extension	DAHER-SOCATA
CFRP Rudder Spar	AIRBUS FRANCE
Sponsons	DAHER-SOCATA

	OEM	PLATFORMS
	AIRBUS DS	AIRBUS DS families
	AIRBUS	AIRBUS families
	AIRBUS	AIRBUS families
	EMBRAER	KC-390
	FOKKER	Miscellaneous
	SIKORSKY	S-92
	SIKORSKY	S-92
	AIRBUS	A220
	AIRBUS	A320
	AIRBUS	A320
	AIRBUS	A320
	AIRBUS	A320 & A320neo
	AIRBUS	A320 & A320neo
	AIRBUS	A320 & A320neo
	AIRBUS	A330
	AIRBUS	A330
	AIRBUS	A330
	AIRBUS	A330
	AIRBUS	A320neo
	AIRBUS	A320neo
	AIRBUS DS	A330MRTT
	AIRBUS	A350 XWB
	AIRBUS	A350 XWB
	AIRBUS	A350 XWB
	AIRBUS	A350 XWB
	AIRBUS	A350 XWB
	AIRBUS	A380
	AIRBUS	A380
	AIRBUS	A380
	AIRBUS	A380
	AIRBUS	A380
	AIRBUS	A380
	AIRBUS	A380
	AIRBUS	A400M
	AIRBUS	A400M
	AIRBUS	A400M

Aerostructures

General Description of the Product/services	DIRECT CLIENT
ACITURRI (cont.)	
Wing to Fuselage Fairing	AIRBUS FAL San Pablo
Flap CFRP parts and Vanes	AIRBUS OPERATIONS
Elevator & Cowlings	AIRBUS DS
Elevator & Cowlings	AIRBUS DS
Auxiliary Fin & HTP Box Extension	AIRBUS OPERATIONS
Ventral Fin	AIRBUS OPERATIONS
Central Box: structural assembly and equipment & Tip wings integration	AIRBUS DS
Rear fuselage	AIRBUS DS
HTP / VTP	AIRBUS DS
Sponsons and Vertical Tail	FOKKER-GKN
Rudder Components & Subassembly	AIRBUS DS
CFRP Flaperon Skins	AIRBUS DS
FLAPERONS CFRP PANELS	BOEING
Aileron	AIRBUS DS
Flaperon	AIRBUS DS
S46 Passenger door surround	AIRBUS DS
Keel Beams CFRP Parts cargo floor	BOEING
HTP Tips & Strakelet	BOEING
EDGE BANDS	BOEING
Elevators	AIRBUS DS
HTP Parts	AIRBUS DS
Ailerons	FOKKER-GKN
Landing Gear Doors / Tail Cone	DASSAULT AVIATION
Winglet & Wingstub	EMBRAER
Wing to Fuselage Fairing	EMBRAER
Central Fuselage	EMBRAER
Empennage & Wings	EMBRAER
Composite parts	EMBRAER
CFRP Fairings	AIRBUS DS
Fuselaje	LILIUM
Wings and Canards	LILIUM
AERNNOVA	
Design and Build Center Wing Box & Tail Cone	AIRBUS
Engineering support to front and mid fuselage	AIRBUS
MGL Doors & Elevators	AIRBUS
Cabin interiors: "Dado" panels	AIRBUS
MLG Doors	AIRBUS
Elevator components	AIRBUS
Karman fairings	AIRBUS
Design and Build Rear upper fuselage & Dorsal fin	AIRBUS

	OEM	PLATFORMS
	AIRBUS	A400M
	AIRBUS	A400M
	AIRBUS	A400M
	AIRBUS DS	A400M
	AIRBUS	BELUGA XL
	AIRBUS	BELUGA XL
	AIRBUS DS	CN235, C295
	AIRBUS DS	CN235, C295
	AIRBUS DS	CN235, C295
	AIRBUS HELICOPTERS	NH90
	BOEING	737
	BOEING	777
	BOEING	777
	BOEING	777
	BOEING	777
	BOEING	787
	BOEING	787
	BOEING	787
	BOEING	787
	DASSAULT	FALCON 7X/8X
	DASSAULT	FALCON 7X/8X
	DASSAULT	FALCON 7X/8X
	DASSAULT	FALCON 10X
	EMBRAER	190/195
	EMBRAER	KC-390
	EMBRAER	LEGACY450/500
	EMBRAER	LEGACY450/500
	EMBRAER	LEGACY450/500
	EUROFIGHTER	TYPHOON
	LILIUM	LILIUM
	LILIUM	LILIUM
	AIRBUS	A220
	AIRBUS	A220
	AIRBUS	A320
	AIRBUS	A320
	AIRBUS	A330
	AIRBUS	A330
	AIRBUS	A330
	AIRBUS	A330XL Beluga

Aerostructures

AERNNOVA (cont.)	
Design and Build Fish Tail & VTP fairing	AIRBUS
Design and Build of Wing fixed Traiting Edge & Elevators	AIRBUS
Design and Build of HTP & MLG Bay Bulkhead	AIRBUS
Rudder & Aii inlet bulkhead	AIRBUS
Pax. Doors & Pylon Spar (composite)	AIRBUS
Design and Build Sect. 19	AIRBUS
Design and Build Horizontal Stabilizer	AIRBUS
Ailerons Skins & Sect.19-19.1 pannels assembly	AIRBUS
HTP Ribas & Engine cowlings	AIRBUS DS
Metallic parts & FAL Support	AIRBUS DS
Engine cowlings Assy & NLG Doors & Elevators	AIRBUS DS
Rear fuselage skins	AIRBUS HELICOPTERS
Tail boom, lower & upper struture (floor to floor)	AIRBUS HELICOPTERS
Components & assemblies	AIRBUS HELICOPTERS
Rear fuselage & Horizontal stabilizer skins & components	AIRBUS HELICOPTERS
Floor assembly & Mid-cabin assembly	BELL
Forward fuselage assembly & Tailboom	BELL
Large and Complex Machined parts and Assemblies	SPIRIT
Design of Swing zone & Latching mechanism	BOEING
Engineerig of Wing box, Spars & Stringers	BOEING
Engineering of Spoilers, Ailerons & Fuselage Sect 42	BOEING
Large and Complex Machined parts and Assemblies	SPIRIT
Enginnering support to Center Wing Box and Wing ribs optimization	BOEING
Engineering support to HTP, VTP and Passenger doors	BOMBARDIER
Design and Build Horizontal & Vertical Stabilizers	EMBRAER
Forward fuselage	EMBRAER
Design and Build of Coplete Empennge and Rear Fuselage	EMBRAER
Design and Build Wing movables & Rudder	EMBRAER
HTP Composite components	EMBRAER
Design of Rear fuselage I and II & Cargo Ramp and Door	EMBRAER
Detail design of Wing Main Box and Pylon	EMBRAER
Design and Build of Flare Dispenser	EUROFIGHTER
Rear fuselage & Tail boom	LEONARDO
Front fuselage composite panels	LEONARDO
Design and engineering of Complete and Equipped wings	PILATUS
Design and build of Rear fuselage / Aft transition tailcone	SIKORSKY
AEROMEC	
Wing ribs structure	non-disclosure
Wing ribs structure	non-disclosure
AIBE	
Precision machining of components	M.TORRES
Precision machining of components	KUKA SYSTEMS AEROSPACE

	AIRBUS	A330XL Beluga
	AIRBUS	A350XWB
	AIRBUS	A350XWB
	AIRBUS	A350XWB
	AIRBUS	A350XWB
	AIRBUS	A380
	AIRBUS	A380
	AIRBUS	A380
	AIRBUS DS	A400M
	AIRBUS DS	A400M
	AIRBUS DS	C295/CN235
	AIRBUS HELICOPTERS	H135
	AIRBUS HELICOPTERS	H225 SUPER PUMA
	AIRBUS HELICOPTERS	H225 SUPER PUMA
	AIRBUS HELICOPTERS	TIGRE
	BELL	505 JET / RANGER X
	BELL	505 JET / RANGER X
	BOIENG	737NG / MAX
	BOIENG	747 LCF
	BOIENG	747-8 I/F
	BOIENG	747-8 I/F
	BOIENG	777
	BOIENG	787
	BOMBARDIER	LEARJET 85
	EMBRAER	E2
	EMBRAER	E2
	EMBRAER	EMB170/190
	EMBRAER	KC-390
	EMBRAER	KC-390
	EMBRAER	KC-390
	EMBRAER	KC-390
	EUROFIGHTER	TYPHOON
	NH INDUSTRIES	NH-90
	NH INDUSTRIES	NH-90
	PILATUS	PC24
	SIKORSKY	S-92
	AIRBUS	A320
	AIRBUS	350XWB
	several	miscellaneous
	several	miscellaneous

Aerostructures

ARATZ GROUP	
Composite Tooling	AIRBUS
Lay Up Tooling	AIRBUS
Assembly tooling	AIRBUS
Composite Tooling	SPIRIT (BOMBARDIER)
Assembly tooling	DASSAULT
Composite Tooling	DASSAULT
ASTORKIA	
Machined Components	AERNNOVA
Machined Components	non-disclosure
Machined Components	AERNNOVA
Machined Components	AERNNOVA
AYZAR	
Heat treatments	ACITURRI
BURDINBERRI	
TAIL Cone Curing Tool	ALESTIS
Wing Curing Tool	OMPM
Wing Trimming Tool	OMPM
CIDETEC	
Repocessability, Repairability and Recyclability of composites	AERNNOVA
Repocessability, Repairability and Recyclability of composites	SOFITEC
Repocessability, Repairability and Recyclability of composites	AIRBUS
Surface Treatments	M&M
Surface Treatments	IDEC
CTA	
Tail boom frame tests	AIRBUS HELICOPTERS
Wing structural tests	HAL
Prime air components structural testing	AERNNOVA
Fire certification tests of interior materials	BOEING R&T EUROPE
HTP tests	DAHER
Tail cone tests	DAHER
E2 Horizontal Stabilizer Fatigue Test	AERNNOVA
E2 Flap Supports Structural Test	ASCO INDUSTRIES
Fire certification tests of interior materials	AIR NOSTRUM LAM
Fire certification tests of interior materials	DIEHL AEROSPACE
Fire certification tests of interior materials	IACOBUCCI HF AEROSPACE
Fire certification tests of interior materials	HUTCHINSON-CR
Fire certification tests of interior materials	COMPOSITE INDUSTRIES
Fire certification tests of interior materials	PMV INDUSTRIES
Fire certification tests of interior materials	JCB AERO

	AIRBUS	A350 XWB, A321XLR
	AIRBUS	A350 XWB, A321XLR
	AIRBUS	AIRBUS families
	BOMBARDIER	Cseries CS100-A220
	DASSAULT	Falcon family
	DASSAULT	Falcon family
	AIRBUS	AIRBUS families
	BOEING	747 / 787
	BOMBARDIER	CRJ700/900
	EMBRAER	EMBRAER families
	AIRBUS	AIRBUS families
	DASSAULT	FALCON 10X
	LEONARDO	miscellaneous
	LEONARDO	miscellaneous
	AIRBUS	AIRBUS families
	AIRBUS	AIRBUS families
	AIRBUS	AIRBUS families
	AIRBUS	AIRBUS families
	AIRBUS	AIRBUS families
	AIRBUS HELICOPTERS	RACER
	AIRBUS HELICOPTERS	RACER
	AMAZON	Prime Air
	BOEING	Airliners
	DAHER	TBM
	DAHER	TBM
	EMBRAER	E-Jets E2
	EMBRAER	E-Jets E2
	Several	Airliners
	Several	Airliners
	Several	Airliners
	Several	Airliners
	Several	Airliners
	Several	Airliners
	Several	Airliners

Aerostructures

General Description of the Product/services	DIRECT CLIENT
CTA	
Fire certification tests of interior materials	INDUSTRIAL NEO-TEX
Fire certification tests of interior materials	PINTA INSULATION
Fire certification tests of interior materials	VELCRO EUROPE
Fire certification tests of interior materials	ROMTEX ANJOU AERONAUTIQUE
Fire certification tests of interior materials	SN CENTRAIR
Fire certification tests of interior materials	DESSO
DTK	
Landing gear trap components	AERNNOVA
Stabilizer components	AERNNOVA
DYFA	
Tooling for Aeronautical manufacturing	AIRBUS
Machining of components	ACITURRI
Machining of Composite (Carbon fiber / Fiberglass) & Metallic components	AERNNOVA
Tooling for aeronautical Assembly	AIRBUS
Tooling for aeronautical Assembly	AIRBUS HELICOPTERS
EGAMASTER	
Special Hand-Tools for Aerostructures assemblies	AERNNOVA
EIBAR PRECISION CASTING - EIPC	
Secondary structure components	TAI
Fuel system components	AIRBUS
Secondary structure components	AIRBUS DS
Secondary structure components	AIRBUS DS
EUROUTIL	
Tooling for Fuselages and LGs	AUBERT&DUVAL
INDUSTRIAS GALINDO	
Tooling manufacturing	non-disclosure
Tooling manufacturing	non-disclosure
Tooling manufacturing	non-disclosure
Tooling manufacturing	non-disclosure
KHEGAL AERONÁUTICA	
Elementary components Machining	non-disclosure
Elementary components Machining	AERNNOVA
Elementary components Machining	non-disclosure
Fuselage Holders for assembly line and Tooling for test bench	non-disclosure
Elementary components Machining	non-disclosure

	OEM	PLATFORMS
	Several	Airliners
	Several	Airliners
	Several	Airliners
	Several	Airliners
	Several	Airliners
	Several	Airliners
	AIRBUS	A320
	AIRBUS	A350XWB
	AIRBUS	A320/330/400M
	AIRBUS	A350XWB
	EMBRAER	ERJ170/190, KC-390
	DASSAULT	Falcon 7X
	AIRBUS HELICOPTERS	NH90
	Several	Miscellaneous
	AIRBUS	A320neo/ A330neo
	AIRBUS	A320neo/ A330neo
	AIRBUS DS	C235, C295
	EUROFIGHTER	TYPHOON
	Several	Miscellaneous
	AIRBUS	A350 XWB
	AIRBUS	A380
	BOEING	787
	EMBRAER	E-JET family
	ATR	42/72
	AIRBUS	A220
	AIRBUS	AIRBUS Families
	AIRBUS	AIRBUS Families
	DASSAULT	Falcon Family

Aerostructures

General Description of the Product/services	DIRECT CLIENT
LTK GRUPO	
Special Aerospace Logistics: Transport, Stock, Handling, Quality control…	AIRBUS DS
Special Aerospace Logistics: Transport, Stock, Handling, Quality control…	AIRBUS DS
Special Aerospace Logistics: Transport, Stock, Handling, Quality control…	AIRBUS DS
Special Aerospace Logistics: Transport, Stock, Handling, Quality control…	AIRBUS
MESIMA	
Materials management and supply	AIRBUS DS
METRALTEC	
Manufacture of elementary parts and assembly (sheet metal, machining, heat and surface treatments, painting)	AERNNOVA
Manufacture and assembly of elements (Sheet metal working, machining, heat and surface treatments, painting)	AERNNOVA
Manufacture and assembly of elements (Sheet metal working, machining, heat and surface treatments, painting)	ACITURRI
Manufacture and assembly of elements (Sheet metal working, machining, heat and surface treatments, painting)	ACATEC
Manufacture of elementary parts and assemblies (sheet metal, machining, heat treatments and surface treatments, painting)	AEROVODOCHODY
Manufacture and assembly of elements (Sheet metal working, machining, heat and surface treatments, painting)	AERNNOVA
Manufacture and assembly of elements (Sheet metal working, machining, heat and surface treatments, painting)	ACITURRI
Manufacture of elementary parts and assemblies (sheet metal, machining, heat treatments and surface treatments, painting)	AERNNOVA
Manufacture of elementary parts (machining)	KHEGAL AERONÁUTICA
Manufacture of elementary parts and assemblies (sheet metal, machining, heat treatments and surface treatments, painting)	AERNNOVA
Manufacture of elementary parts and assemblies (sheet metal, machining, heat treatments and surface treatments, painting)	OGMA
Manufacture of elementary parts and assemblies (sheet metal, machining, heat treatments and surface treatments, painting)	AERNNOVA
Manufacture of elementary parts (sheet metal, machining, heat treatment, surface treatment, painting)	AERNNOVA
Manufacture of elementary parts and assemblies (sheet metal, machining, heat treatments and surface treatments, painting)	AERNNOVA
MICROLAN	
Precision Machining of components, Turning and Milling	MTORRES

	OEM	PLATFORMS
	AIRBUS DS	A330MRTT
	AIRBUS DS	A400M
	AIRBUS DS	CN235, C295
	AIRBUS	AIRBUS families
	AIRBUS DS	Miscellaneous
	AIRBUS	A220
	AIRBUS	A320
	AIRBUS	A320
	AIRBUS	A320
	AIRBUS	A321
	AIRBUS	A350
	AIRBUS	A350
	AIRBUS	A380
	AIRBUS	A380
	EMBRAER	EMBRAER families
	EMBRAER	KC-390
	SIKORSKY	S-92
	EUROFIGHTER	TYPHOON
	EUROFIGHTER	TYPHOON
	Several	Miscellaneous

Aerostructures

General Description of the Product/services	DIRECT CLIENT
NUTER	
Machined Components	AERNNOVA
Machined Components	AERNNOVA
Machined Components	AERNNOVA
Machined Components	AERNNOVA
RENISHAW IBÉRICA	
Positioning of carbon fibre parts in the machine tool before machining, avoiding the need of expesive tooling, in an auttmated cycle.	non disclosure
SISTEPLANT	
Manufacturing Execution System implementation - New features	ACITURRI
Brainstorming Factory of the Future	SPACE ASOC.
TAES	
Components Deep precision Drilling	MEUPE
Components Deep precision Drilling	AEROTECNIC
Components Deep precision Drilling	EPCO
Components Deep precision Drilling	KANTER
Components Deep precision Drilling	ACITURRI
TTT GROUP	
Heat and surface treatments	SPIRIT
Heat and surface treatments	MITSUBISHI CORPORATION
Heat and surface treatments	ALESTIS
Heat and surface treatments	AIRBUS DS
Heat and surface treatments	SONACA
Heat and surface treatments	AERNNOVA
Heat and surface treatments	AERNNOVA
Heat and surface treatments	AERNNOVA
Heat and surface treatments	BHR Helicopter
Heat and surface treatments	non-disclosure
Heat and surface treatments	SONACA
Heat and surface treatments	AERNNOVA
Heat and surface treatments	non-disclosure
Heat and surface treatments	AERNNOVA
Heat and surface treatments	SKF
Heat and surface treatments	PARKER
Heat and surface treatments	AERNNOVA

	OEM	PLATFORMS
	AIRBUS	A220
	AIRBUS	A380
	EMBRAER	ERJ family / E-JET family
	SIKORSKY	S-92
	AIRBUS	Miscellaneous
	AIRBUS	A350XWB
	AIRBUS	Miscellaneous
	Several	Miscellaneous
	Several	Miscellaneous
	Several	Miscellaneous
	Several	Miscellaneous
	Several	Miscellaneous
	AIRBUS	A220
	AIRBUS	A220
	AIRBUS	A400M/380
	AIRBUS DS	AIRBUS DS families
	AIRBUS	AIRBUS families
	AIRBUS	AIRBUS families
	AIRBUS HELICOPTERS	AIRBUS HELICOPTERS families
	BELL	Bell 505
	BHR Helicopter	F360/290
	BOEING	737 / 777 / 787
	DASSAULT	FALCON family
	EMBRAER	EMBRAER families
	EMBRAER	KC-390
	Several	Miscellaneous
	Several	Miscellaneous
	Several	Miscellaneous
	SIKORSKY	S-92

Engines

General Description of the Product/services	DIRECT CLIENT
AALBERTS SURFACE TECHNOLOGIES TEY	
Heat treatments	ACITURRI
Heat treatments	ITP AERO
Heat treatments	EGILE
Heat treatments	SAFRAN HELICOPTER ENGINES
Heat treatments	WEC
Heat treatments	SAFRAN AERO BOOSTERS
ACITURRI	
Belts	SAFRAN OIL SYSTEMS
Hub Compressor	SAFRAN AIRCRAFT ENGINES
Brackets	SAFRAN AIRCRAFT ENGINES
Fun Hub Frames	SAFRAN AIRCRAFT ENGINES
Lugs and Shrouds	SAFRAN AIRCRAFT ENGINES
Lugs and vanes	ITP AERO
Mounting Rings, Thermals and fittings	ITP AERO
Components	WEC
Housings	ITP AERO
Struts	ITP AERO
Hubs	ITP AERO
Irods	ITP AERO
End Fittings	SL ENGINEERING
Rings	ROLLS-ROYCE
Structures	ROLLS-ROYCE
Casings	ROLLS-ROYCE
Lugs and vanes	ITP AERO
Lugs and vanes	ITP AERO
Hubs	ITP AERO
Housings	ITP AERO
Housings	ITP AERO
Hubs	ITP AERO
Lugs and vanes & T.Match	ITP AERO
AEROMEC	
Support ring	non-disclosure
Engine TBH	non-disclosure
LPT rings	non-disclosure
Engine TBH	non-disclosure
Intermediate pressure Turbine	non-disclosure
Engine exhaust Zone.	non-disclosure
Engine exhaust Zone.	non-disclosure
Turbine casing & Thermal	non-disclosure

	OEM	ENGINE MODEL	PLATFORMS
	ROLLS-ROYCE	TRENT 1000	BOEING 787
	ROLLS-ROYCE	TRENT family	Miscellaneous
	SAFRAN HELICOPTER ENGINES	Several	Miscellaneous
	SAFRAN HELICOPTER ENGINES	Several	Miscellaneous
	Several	Several	Miscellaneous
	Several	Several	Miscellaneous
	CFM INTERNATIONAL	LEAP 1A/1B	AIRBUS A320neo / BOEING 737 MAX
	CFM INTERNATIONAL	LEAP 1A/B	AIRBUS A320neo / BOEING 737 MAX
	CFM INTERNATIONAL	LEAP 1A/B	AIRBUS A320neo / BOEING 737 MAX
	CFM INTERNATIONAL	LEAP 1A/B/C	AIRBUS A320neo / BOEING 737 MAX/Comac C919
	CFM INTERNATIONAL	LEAP 1B	BOEING 737 MAX
	EPI	TP400	AIRBUS A400M
	EUROJET	EJ200	EUROFIGHTER TYPHOON
	EUROJET	EJ200	EUROFIGHTER TYPHOON
	GENERAL ELECTRIC	F414	BOEING F/A-18E/F
	GENERAL ELECTRIC	GE90-115	BOEING 777
	PRATT&WHITNEY	Several	Miscellaneous
	PRATT&WHITNEY	Several	Miscellaneous
	ROLLS-ROYCE	Several	Miscellaneous
	ROLLS-ROYCE	Several	Miscellaneous
	ROLLS-ROYCE	Several	Miscellaneous
	ROLLS-ROYCE	Several	Miscellaneous
	ROLLS-ROYCE	TRENT XWB	AIRBUS A350XWB
	ROLLS-ROYCE	TRENT 900	AIRBUS A380
	ROLLS-ROYCE	TRENT 7000	AIRBUS 330neo
	ROLLS-ROYCE	TRENT 700	AIRBUS A330
	ROLLS-ROYCE	TRENT 500	AIRBUS A340
	ROLLS-ROYCE	TRENT 1000	BOEING 787
	ROLLS-ROYCE	TRENT 1000	BOEING 787
	CFM INTERNATIONAL	CFM56	AIRBUS A320 / BOEING 737
	EPI	TP400	A400M
	EUROJET	EJ200	EUROFIGHTER TYPHOON
	PRAT & WHITNEY	PW1500G	AIRBUS A220
	PRAT & WHITNEY	PW535	Cesna Citation & Embraer Phenom 300
	ROLLS-ROYCE	TRENT XWB	AIRBUS A350XWB
	ROLLS-ROYCE	TRENT 1000	BOEING 787
	Several	Several	Miscellaneous

Engines

General Description of the Product/services	DIRECT CLIENT
ARATZ GROUP	
Machined Components	ITP AERO
Machined Components	ITP AERO
ASTORKIA	
Machined Components	ITP AERO
Machined Components	ITP AERO
BATZ AERO	
Hot formed panels for special alloys	ITP AERO
Hot formed panels for special alloys	SALLEN
Hot formed panels for special alloys	WEC
Hot formed panels for special alloys	WEC
Hot formed panels for special alloys	MATRICI
Hot formed panels for special alloys	MATRICI
Hot formed panels for special alloys	WEC
CTA	
Aerodynamic Technology Acquisition Rig Programme	ITP AERO
DANOBATGROUP	
Vertical grinding Machine-Tools for aeroengine manufacturing	GENERAL ELECTRIC
EGAMASTER	
Torque control traceability and permit system	ITP AERO
Remote Asset localization system	ITP AERO
EGILE	
Carter parts	ITP AERO
Carter parts	ITP AERO
Engine actuation systems	HÉROUX-DEVTEK SPAIN
Main shaft Ge90	AUBERT&DUVAL
Heat Shields	ITP AERO
NGVs	ITP AERO
NGVs	ITP AERO
Boitiers Roulements	SAFRAN TRANSMISSION SYSTEMS
Fourreaux	SAFRAN TRANSMISSION SYSTEMS
Gears and shafts	SAFAN AERO BOOSTERS
Gears and shafts	SAFRAN HELICOPTER ENGINES
Main transmission gears	SAFRAN HELICOPTER ENGINES
Accessory transmission gears	SAFRAN HELICOPTER ENGINES
Shaft	ITP AERO
EIBAR PRECISION CASTING - EIPC	
Castings Components	ITP AERO

	OEM	ENGINE MODEL	PLATFORMS
	ROLLS-ROYCE	TRENT 700	AIRBUS A330
	ROLLS-ROYCE	TRENT 900	AIRBUS A380
	EPI	TP400	AIRBUS A400M
	ROLLS-ROYCE	TRENT family	All range
	EPI	TP400	A400M
	ROLLS-ROYCE	TRENT 7000	AIRBUS A330neo
	ROLLS-ROYCE	TRENT XWB	AIRBUS A350XWB
	ROLLS-ROYCE	TRENT 900	AIRBUS A380
	ROLLS-ROYCE	TRENT 900	AIRBUS A380
	ROLLS-ROYCE	BR715	BOEING 717
	ROLLS-ROYCE	TRENT 1000	BOEING 787
	Several	Several	Miscellaneous
	Several	Several	Miscellaneous
	Several	Several	Miscellaneous
	Several	Several	Miscellaneous
	CFM INTERNATIONAL	CFM56	AIRBUS A320 / BOEING 737
	CFM INTERNATIONAL	LEAP 1A/B	AIRBUS A320neo / BOEING 737MAX
	EUROJET	EJ200	EUROFIGHTER TYPHOON
	GENERAL ELECTRIC	GE90	BOEING 777
	PRAT & WHITNEY	PW1000G	AIRBUS A220/320neo
	ROLLS-ROYCE	TRENT 1000	BOEING 787
	ROLLS-ROYCE	TRENT XWB	AIRBUS A350XWB
	SAFRAN AIRCRAFT ENGINES	LEAP 1A/1B	AIRBUS A320neo / BOEING 737MAX
	SAFRAN AIRCRAFT ENGINES	LEAP 1A/1B	AIRBUS A320neo / BOEING 737MAX
	SAFRAN AIRCRAFT ENGINES	LEAP 1A/1B	AIRBUS A320neo / BOEING 737MAX
	SAFRAN AIRCRAFT ENGINES	M88	RAFALE
	SAFRAN HELICOPTER ENGINES	ALL RANGE	Miscellaneous
	SAFRAN HELICOPTER ENGINES	ALL RANGE	Miscellaneous
	SAFRAN HELICOPTER ENGINES	MTR390-E	AIRBUS HELICOPTERS TIGRE
	ROLLS-ROYCE	TRENT 1000	BOEING 787

Engines

General Description of the Product/services	DIRECT CLIENT
EIBAR PRECISION CASTING (cont.)	
Castings Components	ITP AERO
Castings Components	ITP AERO
EKIN	
Broaching Tools for the manufacture of Fir Tree turbine discs	ITP AERO
ELECTROHILO	
Inner vanes stubs machining (spark erosion) and Vanes edge cutting (wire)	ITP AERO
TEC segmentation	ITP AERO
Edging of VANES and BCVs	ITP AERO
Separation Top Core Vane, Vanes erosion, Top Core Vane manufacture	ITP AERO
Segments wire-cut	ITP AERO
Wire-cut, machininf and sheet-metal works	ITP AERO
Segments wire-cut	ITP AERO
Wire-cut, machininf and sheet-metal works	ITP AERO
Segments wire-cut	ITP AERO
EUROUTIL	
Design of Cutting Tools	non-disclosure
Manufacturing of Tooling for LPT Components (inter stage seals)	non-disclosure
Tooling	SAFRAN
Manufacturing of Tooling for turbine shafts and static components	non-disclosure
Segments wire-cut	non-disclosure
ITP AERO	
Lost wax casting super alloys for Turbine	SAFRAN AIRCRAFT ENGINES
Lost wax casting super alloys for Turbine	MTU
Design and manufacture of low pressure turbine (LPT) - Member of EPI Consortium	AIRBUS DS
Design and manufacture of the Front Frame and Exhaust System - Member of the EPI Consortium	AIRBUS DS
Manufacture of Externals - Member of EPI Consortium	AIRBUS DS
Final assembly of engine - Member of EPI Consortium	AIRBUS DS
Lost wax casting super alloys for intermediate pressure turbine	ROLLS-ROYCE
Lost wax casting super alloys for the LPT	ROLLS-ROYCE
Design and manufacture of the Diffuser cones and By-Pass Module - Member of the EUROJET Consortium	NETMA
Design and manufacture of the post burner duct and variable nozzle - Member of the EUROJET Consortium	NETMA
Manufacture of Externals - Member of the EUROJET Consortium	NETMA
Final assembly of the engine - Member of the EUROJET Consortium	NETMA

OEM	ENGINE MODEL	PLATFORMS
ROLLS-ROYCE	TRENT XWB	AIRBUS A350XWB
ROLLS-ROYCE	ULTRAFAN & PEARL700	Miscellaneous
Several	Miscellaneous	Miscellaneous
EPI	TP400	AIRBUS A400M
EUROJET	EJ200	EUROFIGHTER TYPHOON
ROLLS-ROYCE	TRENT 1000 / 7000	BOEING 787 / AIRBUS A330 NEO
ROLLS-ROYCE	TRENT 900	AIRBUS A380
ROLLS-ROYCE	TRENT XWB	AIRBUS A350XWB
ROLLS-ROYCE	ULTRAFAN	Miscellaneous
ROLLS-ROYCE	ULTRAFAN	Miscellaneous
ROLLS-ROYCE	STELLA	Miscellaneous
ROLLS-ROYCE	STELLA	Miscellaneous
CFM INTERNATIONAL	LEAP	AIRBUS A320neo / BOEING 737MAX
ROLLS-ROYCE	TRENT XWB	AIRBUS A350XWB
SAFRAN	Several	Miscellaneous
Several	Several	Miscellaneous
Several	Several	Miscellaneous
CFM INTERNATIONAL	CFM56	AIRBUS A320 / BOEING 737
EA	GP7000	AIRBUS A380
EPI	TP400	AIRBUS A400M
EPI	TP400	AIRBUS A400M
EPI	TP400	AIRBUS A400M
EPI	TP400	AIRBUS A400M
EPI	TP400	AIRBUS A400M
EPI	TP400	AIRBUS A400M
EUROJET	EJ200	EUROFIGHTER TYPHOON
EUROJET	EJ200	EUROFIGHTER TYPHOON
EUROJET	EJ200	EUROFIGHTER TYPHOON
EUROJET	EJ200	EUROFIGHTER TYPHOON

Engines

General Description of the Product/services	DIRECT CLIENT
ITP AERO (cont.)	
Lost wax casting super alloys - nozzle	NETMA
Lost wax casting super alloys - low pressure turbine	NETMA
Components	GENERAL ELECTRIC
Manufacture of rear turbine structure	GENERAL ELECTRIC
Structural components	HONEYWELL
Design and manufacture of three LPT - Member of the MTRI Consortium	AIRBUS HELICOPTERS
Final assembly of the engine - Member of the MTRI Consortium	AIRBUS HELICOPTERS
Lost wax casting super alloys - low pressure turbine	AIRBUS HELICOPTERS
Lost wax casting super alloys for Turbine	SAFRAN AIRCRAFT ENGINES
Modules manufacturing	PRATT & WHITNEY
Components manufacturing	PRATT & WHITNEY CANADA
Components manufacturing	PRATT & WHITNEY CANADA
Parts of external equipment of engine	ROLLS-ROYCE
Design and validation of the ROLL POST	ROLLS-ROYCE
Design and manufacture of low pressure turbine (LPT) - Risk Partner	ROLLS-ROYCE
Design and manufacture of Rear Frame - Risk Partner	ROLLS-ROYCE
Lost wax casting super alloys for the LPT	ROLLS-ROYCE
Lost wax casting super alloys for the intermediate pressure turbine	ROLLS-ROYCE
Design and manufacture of low pressure turbine (LPT) - Risk Partner	ROLLS-ROYCE
Assembly of the LPT and component manufacture	ROLLS-ROYCE
Lost wax casting super alloys for the intermediate pressure turbine	ROLLS-ROYCE
Design and manufacture of the low pressure turbine (LPT) - Risk Partner	ROLLS-ROYCE
Design and manufacture of the low pressure turbine (LPT) - Risk Partner	ROLLS-ROYCE
Design and manufacture of the Rear Frame - Risk Partner	ROLLS-ROYCE
Lost wax casting super alloys for the LPT	ROLLS-ROYCE
Lost wax casting super alloys for the intermediate pressure turbine	ROLLS-ROYCE
Design and manufacture of the low pressure turbine (LPT) - Risk Partner	ROLLS-ROYCE
Design and manufacture of the Rear Frame - Risk Partner	ROLLS-ROYCE
Lost wax casting super alloys for the LPT	ROLLS-ROYCE
Lost wax casting super alloys for the intermediate pressure turbine	ROLLS-ROYCE
Development of the intermediate pressure turbine and the rear structure	ROLLS-ROYCE

OEM	ENGINE MODEL	PLATFORMS
EUROJET	EJ200	EUROFIGHTER TYPHOON
EUROJET	EJ200	EUROFIGHTER TYPHOON
GENERAL ELECTRIC	CF34-10	EMBRAER 190/LINEAGE 1000
GENERAL ELECTRIC	GE90-115	BOEING 777
HONEYWELL	HTF7000	BOMBARDIER CHALLENGER 300
MTRI	MTR390-E	AIRBUS HELICOPTERS TIGRE
MTRI	MTR390-E	AIRBUS HELICOPTERS TIGRE
MTRI	MTR390-E	AIRBUS HELICOPTERS TIGRE
POWERJET	SaM146	SUKHOI SUPERJET 100
PRATT & WHITNEY	PW1000G	MRJ90/MS-21/A220/A320neo
PRATT & WHITNEY	PW535E	EMBRAER PHENOM 300
PRATT & WHITNEY	PW800	GULFSTREAM G500/600
ROLLS-ROYCE	BR725	GULFSTREAM G650
ROLLS-ROYCE	F136	LOCKHEED MARTIN F-35
ROLLS-ROYCE	TRENT 1000	BOEING 787
ROLLS-ROYCE	TRENT 1000	BOEING 787
ROLLS-ROYCE	TRENT 1000	BOEING 787
ROLLS-ROYCE	TRENT 1000	BOEING 787
ROLLS-ROYCE	TRENT 500	AIRBUS A340
ROLLS-ROYCE	TRENT 700	AIRBUS A330
ROLLS-ROYCE	TRENT 700	AIRBUS A330
ROLLS-ROYCE	TRENT 7000	AIRBUS A330neo
ROLLS-ROYCE	TRENT 900	AIRBUS A380
ROLLS-ROYCE	TRENT 900	AIRBUS A380
ROLLS-ROYCE	TRENT 900	AIRBUS A380
ROLLS-ROYCE	TRENT 900	AIRBUS A380
ROLLS-ROYCE	TRENT XWB	AIRBUS A350XWB
ROLLS-ROYCE	TRENT XWB	AIRBUS A350XWB
ROLLS-ROYCE	TRENT XWB	AIRBUS A350XWB
ROLLS-ROYCE	TRENT XWB	AIRBUS A350XWB
ROLLS-ROYCE	ULTRAFAN	Miscellaneous

Engines

General Description of the Product/services	DIRECT CLIENT
KHEGAL AERONÁUTICA	
Injection elementary components Machining	AD GROUP
MESIMA	
Materials management and supply	ITP AERO
Materials management and supply	WEC
METALÚRGICA MARINA	
Machining Tooling manufacturing	ITP AERO
Load Tester Tooling manufacturing	ITP AERO
METRALTEC	
Manufacture of elementary parts and assemblies (heat treatments and surface treatments, painting)	ASTORKIA
Manufacture of elementary parts and assemblies (machining, surface treatments)	MIZAR additive
METROLOGÍA SARIKI	
Measurement Equipment and Consultancy-supply, maintenance, training and software programming	ITP AERO
Measurement Equipment maintenance, training and software programming	ITP AERO
Measurement Equipment maintenance, training and software programming	EGILE
NUTER	
Fittings	ITP AERO
Fittings	ITP AERO
Fittings	ITP AERO
Airfoils & Small parts	ITP AERO
Small Parts & Fittings	ITP AERO
Nozzels	ITP AERO
Fittings	ITP AERO
Fittings	ITP AERO
Small Parts	ACITURRI
ONA ELECTROEROSIÓN	
Wire EDM Machine-tools	SAFRAN HELICOPTERS ENGINES
Die-Sinking EDM machine	GENERAL ELECTRIC
Die-Sinking EDM machine	AVIC CHINA
Wire EDM machine	GENERAL ELECTRIC
RENISHAW IBÉRICA	
Measurement data for the production and repair of blades and bladed disks: Blade tip refurbishment, in-process blade measurement and root blending of bladed disks. Contact and non-contact tool setting systems to detect and adjust to the condition or wear of cutting tools.	non disclosure

	OEM	ENGINE MODEL	PLATFORMS
	CFM INTERNATIONAL	CFM56	AIRBUS A320 / BOEING 737
	ROLLS-ROYCE / GE	Miscellaneous	Miscellaneous
	Several	Miscellaneous	Miscellaneous
	Several	Several	Miscellaneous
	Several	Several	Miscellaneous
	Several	Several	Miscellaneous
	Several	Several	Miscellaneous
	Several	Several	Miscellaneous
	Several	Several	Miscellaneous
	Several	Several	Miscellaneous
	EPI	TP400	AIRBUS A400M
	EUROJET	EJ200	EUROFIGHTER TYPHOON
	GENERAL ELECTRIC	Several	Miscellaneous
	PRATT & WHITNEY	PW-800	GULFSTREAM G500/600
	PRATT & WHITNEY	PW1000G	A220 / A320NEO / SpaceJet (MRJ)
	PRATT & WHITNEY	PW1000G	A220 / A320NEO / SpaceJet (MRJ)
	ROLLS-ROYCE	TRENT family	Miscellaneous
	ROLLS-ROYCE	ULTRAFAN	Miscellaneous
	SAFRAN AIRCRAFT ENGINES	Several	Miscellaneous
	SAFRAN HELICOPTERS ENGINES	Several	Miscellaneous
	SAFRAN AIRCRAFT ENGINES	Several	Miscellaneous
	GENERAL ELECTRIC	Several	Miscellaneous
	ROLLS-ROYCE	Several	Miscellaneous
	Several	Several	Miscellaneous

Engines

General Description of the Product/services	DIRECT CLIENT
RENISHAW IBÉRICA (cont.)	
Precision sensors for fast, accurate acquisition of component dimensions and surface data. They include blade-specific software applications.	non disclosure
Component set up, tool setting and in-cycle gauging and first off component inspection for accurate machining processes.	non disclosure
SIKULAN	
Special Cutting Tools	ITP AERO
SISTEPLANT	
Review of Assembly standards	ITP AERO
TAES	
Components Deep precision Drilling	EGILE
Components Deep precision Drilling	GAZC
Components Deep precision Drilling	GALVATEC
TECNASA	
Silicone Grommets	ITP AERO
TTT GROUP	
Heat and Surface treatments	ITP AERO
Heat and Surface treatments	ITP AERO
Heat and Surface treatments	SAFRAN AIRCRAFT ENGINES
Heat and Surface treatments	SAFRAN HELICOPTER ENGINES
Heat and Surface treatments	SAFRAN TRANSMISSION SYSTEMS
WEC	
Parts of external equipment of engine	SAFRAN AIRCRAFT ENGINES
Parts of external equipment of engine	SAFRAN AIRCRAFT ENGINES
Parts of external equipment of engine	ITP AERO
Structural parts	ITP AERO
Exhaust nozzle parts	ITP AERO
TEC parts	ITP AERO
Parts of external equipment of engine	ITP AERO
Parts of external equipment of engine	SAFRAN AIRCRAFT ENGINES
Rings, annular components, combustion chamber components	HONEYWELL
Parts of external equipment of engine	ITP AERO
TEC Front Cases	GKN Aerospace Engine Systems
Structural parts	ITP AERO
Parts of external equipment of engine	ITP AERO
Dynamic seals components	ITP AERO
Parts for engine cooling devices	SAFRAN AIRCRAFT ENGINES
WOLCO	
Special Cutting Tools	ITP AERO

	OEM	ENGINE MODEL	PLATFORMS
	Several	Several	Miscellaneous
	Several	Several	Miscellaneous
	Several	Several	Miscellanous
	Several	Several	Miscellanous
	Several	Miscellanous	Miscellanous
	Several	Miscellanous	Miscellanous
	Several	Miscellanous	Miscellanous
	Several	Miscellanous	Miscellanous
	EUROJET	EJ200	EUROFIGHTER TYPHOON
	ROLLS-ROYCE	Several	Miscellaneous
	SAFRAN AIRCRAFT ENGINES	Several	Miscellaneous
	SAFRAN HELICOPTER ENGINES	Several	Miscellaneous
	Several	Several	Miscellaneous
	CFM INTERNATIONAL	CFM56	AIRBUS A320 / BOEING 737
	CFM INTERNATIONAL	LEAP 1A/B	AIRBUS A320neo / BOEING 737MAX
	EPI	TP400	AIRBUS A400M
	EPI	TP400	AIRBUS A400M
	EUROJET	EJ200	EUROFIGHTER TYPHOON
	EUROJET	EJ200	EUROFIGHTER TYPHOON
	EUROJET	EJ200	EUROFIGHTER TYPHOON
	GENERAL ELECTRIC	GE90-115k	BOEING 777
	HONEYWELL	Several	Miscellaneous
	PRATT & WHITNEY	PW 814	GULFSTREAM G500
	ROLLS-ROYCE	Several	Miscellaneous
	ROLLS-ROYCE	TRENT family	Miscellaneous
	ROLLS-ROYCE	TRENT family	Miscellaneous
	ROLLS-ROYCE	TRENT family	Miscellaneous
	SAFRAN AIRCRAFT ENGINES	SILVERCREST	CESSNA Citation / DASSAUL FALCON 5X
	Several	Several	Miscellanous

Systems & Equipment

General Description of the Product/service	DIRECT CLIENT
AALBERTS SURFACE TECHNOLOGIES TEY	
Heat treatments	AIRBUS DS
Heat treatments	HÉROUX-DEVTEK SPAIN
Heat treatments	EGILE
Heat treatments	INDRA
Heat treatments	SAFRAN LANDING SYSTEMS
Heat treatments	SENER AEROESPACIAL
ACITURRI	
Auxiliary Fuel Tanks	AIRBUS DS
Hydraulic Tanks	HÉROUX-DEVTEK SPAIN
Equipped elements	RATIER FIGEAC
AEROMEC	
Nose and main landing gear components	non-disclosure
CIDETEC	
Non Destructive Inspection	EGILE
Surface preparation	EIBAR PRECISION CASTING
Surface Treatments	ELHCO
Non Destructive Inspection	GRUPO TTT
CTA	
RAM Air Channel tests	AIRBUS OPERATIONS
Electrovalve Tests	CIRCOR
Flow servovalve tests	COLLINS
Flow Servovalve tests	SAFRAN
Inert Gas Generation Sustem Tests	STELIA
DANOBATGROUP	
Grinding Machine-Tools for Landing Gears	SAFRAN LANDING SYSTEMS
Machine tools for aerocomponents manufacturing	non-disclosure
EGILE	
Gears and shafts	AIRBUS HELICOPTERS
Lubricant Pumps	AIRBUS HELICOPTERS
Carters and main rotor shaft	HELICOPTERES GUIMBAL
Landing gear components	HÉROUX-DEVTEK UK
Actuation systems	HÉROUX-DEVTEK SPAIN
Landing gear components	HÉROUX-DEVTEK SPAIN
Flight control & actuation systems	HÉROUX-DEVTEK SPAIN
Actuation systems	HÉROUX-DEVTEK SPAIN
Slider	SAFRAN LANDING SYSTEMS

	SYSTEM / EQUIPMENT	PLATFORMS
	Several	Miscellaneous
	Several	Miscellaneous
	Several	Miscellaneous
	Several	Miscellaneous
	Landing Gear	Miscellaneous
	Several	Miscellaneous
	Fuel system components	EUROFIGHTER TYPHOON
	Hydraulic system	AIRBUS A380
	Turboprop systems	Miscellaneous
	Landing Gear	AIRBUS DS C295
	Landing gear	Miscellaneous
	Air Control System	Miscellaneous
	Landing gear	Miscellaneous
	Landing gear	Miscellaneous
	RAC	ZEROe
	Electrovalve	AIRBUS A350 XWB
	Electrovalve	PW1100G
	Servovalve	Mitsubishi SpaceJet (MRJ)
	IGSS	AIRBUS A350 XWB
	Landing gear	Miscellaneous
	Several	Miscellaneous
	MLG and AGB	H160, H175, …
	MLG and AGB	H160, H175, …
	Main rotor	Cabri G2, VSR700
	Landing Gear	SAAB GRIPEN
	Several	AIRBUS DS CN235/C295
	Balancier	AIRBUS HELICOPTERS TIGRE
	Several	EUROFIGHTER TYPHOON
	Several	SIKORSKY S92
	NLG	AIRBUS A320

Systems & Equipment

General Description of the Product/service	DIRECT CLIENT
EGILE (cont.)	
Rack	SAFRAN LANDING SYSTEMS
Cylinder & Piston	SAFRAN LANDING SYSTEMS
Shock Absorber	SAFRAN LANDING SYSTEMS
Shock Absorber	SAFRAN LANDING SYSTEMS
Balancier équipé	SAFRAN LANDING SYSTEMS
Slider	SAFRAN LANDING SYSTEMS
Shock Absorber	SAFRAN LANDING SYSTEMS
Shock Absorber	SAFRAN LANDING SYSTEMS
Gears and shafts	SAFRAN POWER UNITS
Gears and shafts	SAFRAN POWER UNITS
EIBAR PRECISION CASTING	
Optronic equipment housings (Lost wax casting aluminium)	ELBIT SYSTEMS
Radar housings (Lost wax casting aluminium)	INDRA
Conduits- Air Fittings (Lost wax casting superalloys)	LIEBHERR AEROSPACE
Conduits- Air Fittings (Lost wax casting superalloys)	LIEBHERR AEROSPACE
Actuator equipment housings (Lost wax casting aluminium)	SAFRAN AEROSYSTEMS
Optronic equipment housings (Lost wax casting aluminium)	SAFRAN ELECTRONICS AND DEFENCE
Carter Air (Lost wax casting aluminium)	SAFRAN POWER UNITS
Optronic equipment housings (Lost wax casting aluminium)	THALES GROUP
INDUSTRIAS GALINDO	
Tooling manufacturing	non-disclosure
KHEGAL AERONÁUTICA	
Oil tanks Elementary components Machining	AD GROUP
METRALTEC	
Manufacture of elementary parts and assemblies (sheet metal, machining, heat treatments and surface treatments, painting)	SENER AEROESPACIAL
MICROLAN	
Precision Machining of components, Turning and Milling	Several
NUTER	
Machined Components	HÉROUX-DEVTEK SPAIN
Machined Components	HÉROUX-DEVTEK SPAIN
Machined Components	HÉROUX-DEVTEK SPAIN
RENISHAW IBÉRICA	
Raman spectroscopy technology for the material make-up of specialist components and the quality of component surface coatings	non-disclosure

	SYSTEM / EQUIPMENT	PLATFORMS
	NLG	AIRBUS A320
	RETRACTION ACTUATOR MLG	AIRBUS A330
	MLG	AIRBUS A330/A340
	MLG	AIRBUS A350
	Landing Gear	AIRBUS HELICOPTERS SUPER PUMA
	NLG	ATR 42/72
	MLG	BOEING 787
	NLG	BOEING 787
	Pump	DASSAULT RAFALE
	APUs	Miscellaneous
	Optronic systems TV-Thermography	Miscellaneous
	Radars	EUROFIGHTER TYPHOON
	Air conditioning	AIRBUS A220 / A320neo/ceo /BOEING 787
	Air conditioning	COMAC / KC395 / EJET / G7000
	Engines-Actuators-Electronical equipments	AIRBUS A320/330
	Optronic systems TV-Thermography	Miscellaneous
	APUs (Auxiliary Power Units)	SUPERPUMA
	Engines-Actuators-Electronical equipments	AIRBUS A320/330/ ECNH90 / B737MAX
	Several	Miscellaneous
	Lubrication systems	AIRBUS A350XWB
	Several	Miscellaneous
	Several	Miscellaneous
	Several	AIRBUS A330/A350XWB
	Several	AIRBUS A400M
	Several	EUROFIGHTER
	Several	Miscellaneous

Systems & Equipment

General Description of the Product/service	DIRECT CLIENT
SENER AEROESPACIAL	
WARNING LIGHT CLUSTER	EUROPAVIA
NATO Pod	GENERAL ATOMICS
RSL-2130+RT211 Spare Parts	HENSOLDT Australia
RSL 2730A ANTENNA	HENSOLDT Sensors
RSL-2730A -BAE (WARTON)	HENSOLDT Sensors
RSL2730 SSR ANTENNA	INDRA
Portable Antennas	INDRA
Mixed Columns	INDRA
FCAS/NGWS CC Phase 1A	INDRA
SPARE PARTS	INDRA
SUPPLY OF A SSR ANTENNA MODEL RSL-2330+	INTERSOFT
PTRANS SCATER ZL	MINISTERIO DE DEFENSA DGAM
LVA 8m MSSR Antenna, model RSL-2730(A)	MITSUBISHI ELECTRIC EUROPE
ANTENNA LVA MK2	RAYTHEON SYSTEMS
Stabilized Mirror Unit (SMU) of the sight	SAAB DYNAMICS
FCAS/NGWS RC Phase 1B	SATNUS TECHNOLOGIES
RBS70NG SMU PRODUCCION EN SERIE	SBD
FCAS/NGWS RC Phase 1A	UTE SATNUS
SISTEPLANT	
Manufacturing Execution System implementation - New features	EGILE
Manufacturing Execution System implementation	HÉROUX-DEVTEK SPAIN
TAES	
Components Deep precision Drilling	HÉROUX-DEVTEK SPAIN
TECNASA	
Firing Handles	MARTIN-BAKER
O-RINGS	MARTIN-BAKER
JIGS	MARTIN-BAKER
TTT GROUP	
Heat and surface treatments	BHR Helicopter
Heat and surface treatments	GOODRICH
Heat and surface treatments	HEROUX DEVTEK
Heat and surface treatments	IAI
Heat and surface treatments	SAFRAN LANDING SYSTEMS
Heat and surface treatments	SAFRAN LANDING SYSTEMS
Heat and surface treatments	SAFRAN TRANSMISSION SYSTEMS
Heat and surface treatments	non-disclosure
Heat and surface treatments	non-disclosure
Heat and surface treatments	WITZENMANN

	SYSTEM / EQUIPMENT	PLATFORMS
	Control Systems	Security Systems
	Control Systems	Security Systems
	ATC Secondary Radars	Ground equipment
	ATC Secondary Radars	Ground equipment
	ATC Secondary Radars	Ground equipment
	ATC Secondary Radars	Ground equipment
	ATC Secondary Radars	Ground equipment
	ATC Secondary Radars	Ground equipment
	Control Systems	Security Systems
	ATC Secondary Radars	Ground equipment
	ATC Secondary Radars	Ground equipment
	Control Systems	Security Systems
	ATC Secondary Radars	Ground equipment
	ATC Secondary Radars	Ground equipment
	Control Systems	Ground equipment
	Control Systems	Security Systems
	Control Systems	Security Systems
	Control Systems	Security Systems
	Several	Miscellaneous
	AIRBUS	Miscellaneous
	Several	Miscellaneous
	Ejection Seats	Defence aircrafts
	Ejection Seats	Defence aircrafts
	Ejection Seats	Defence aircrafts
	Miscellaneous	F360, F290
	Miscellaneous	Miscellaneous
	Landing Gear	KAI (Korean Aerospace Industries)
	Miscellaneous	Miscellaneous
	Landing Gear	AIRBUS families
	Brakes	AIRBUS families
S	Several	Miscellaneous
	Ventilation / LIEBHERR	Miscellaneous
	Landing Gear	SIKORSKY
	Wing leading edge ventilation	AIRBUS families

Systems & Equipment

General Description of the Product/service	DIRECT CLIENT
WEC	
Air Bleed equipment parts	HONEYWELL
Air Bleed equipment parts	LIEBHERR
Air Bleed equipment parts	LIEBHERR
Air Bleed equipment parts	LIEBHERR
Air Bleed equipment parts	LIEBHERR
Air Bleed equipment parts	LIEBHERR
Air Bleed equipment parts	LIEBHERR
XUBI GROUP	
Rotating transmission	GENERAL DYNAMICS
Actuation sytems/linear actuator	IAI
Gear transmission	IAI
Rotating transmission	IAI

	SYSTEM / EQUIPMENT	PLATFORMS
	Air Treatment Management	AIRBUS A320/330, DASSAULT F7X
	Air Treatment Management	AIRBUS A320/A330/A400M, CSeries
	Air Treatment Management	AIRBUS A320neo
	Air Treatment Management	AIRBUS A330neo
	Air Treatment Management	AIRBUS A400M
	Air Treatment Management	BOEING 747-8
	Air Treatment Management	DASSAULT F7X
	Azimut	Miscellaneous
	Control systems	Miscellaneous
	Control systems	Miscellaneous
	Radar	Miscellaneous

Space

General Description of the Product/service	DIRECT CLIENT
AALBERTS SURFACE TECHNOLOGIES TEY	
Heat treatments	AIRBUS DS
Heat treatments	INDRA
Heat treatments	SENER AEROESPACIAL
AERNNOVA	
Large and Complex Machined parts and Assemblies	SPACE X
Large and Complex Machined parts and Assemblies	SPACE X
AIBE	
Precision machining of components	SENER AEROESPACIAL
Precision machining of components	IDOM
Precision machining of components	SATLANTIS
ANTERAL	
Safety Subsystem antennas	Thales Alenia Space
Conformal antennas for launchers	ESA
ARATZ GROUP	
Machined Components	non-disclosure
Machined Components	non-disclosure
CIDETEC	
Surface preparation	SENER AEROESPACIAL
Surface treatments	FINITEC ELECTROLISIS
CTA	
Multi-Payload Component Static Tests	AIRBUS DS
Antenna	AIRBUS DS
Controller shock tests	CRISA
Heat pipes system	IBERESPACIO
Mechanisms	SENER AEROESPACIAL
Solar panels	DHV
DANOBATGROUP	
High precision mechanical components	SENER AEROESPACIAL
DYFA	
CAD, CAM, Machining and dimensional control panels satelite	non-disclosure
INDUSTRIAS GALINDO	
Tooling manufacturing	non-disclosure
ITP AERO	
ITP AERO	SAFRAN AIRCRAFT ENGINES
LTK GRUPO	
Special Aerospace Logistics: Transport, Stock, Handling, Quality control…	AIRBUS DS
METALÚRGICA MARINA	
Precision machining of laboratory components	SENER AEROESPACIAL
Precision machining of dummies	SENER AEROESPACIAL

	SYSTEM / EQUIPMENT	PLATFORMS
	Several	Miscellaneous
	Several	Miscellaneous
	Several	Miscellaneous
	Several	FALCON 9
	Several	FALCON HEAVY
	Several	Miscellaneous
	Several	Miscellaneous
	Several	Miscellaneous
	Space Rider	TT&C
	Launchers	TT&C
	Satellite	Miscellaneous
	Satellite Antennas	Miscellaneous
	Satellite	Miscellaneous
	Satellite Antennas	Miscellaneous
	Structure	FALCON 9
	Telecom	Miscellaneous
	Flight Control	Miscellaneous
	Thermal Protection System	Miscellaneous
	Telecom	Miscellaneous
	Power	Miscellaneous
	HGAG Antenna	Perseverance
	Satellites	Miscellaneous
	Collars	CSO SATELLITE
	Shuttle	ARIANE 5
	Several	Miscellaneous
	Several	Miscellaneous
	Several	Miscellaneous

Space

General Description of the Product/service	DIRECT CLIENT
METRALTEC	
Manufacture of elementary parts and assemblies (sheet metal, machining, heat treatments and surface treatments, painting)	SENER AEROESPACIAL
Manufacture of elementary parts and assemblies (heat treatments)	PLD
MICROLAN	
Precision Machining of components, Turning and Milling	non-disclosure
NUTER	
Machined Components	SENER AEROESPACIAL
Machined Components	SENER AEROESPACIAL
Machined Components	SENER AEROESPACIAL
RENISHAW IBÉRICA	
Metal 3D printing systems	non disclosure
SATLANTIS	
High resolution multispectral Cameras for Earth observation microsatellites	Several
Embedded solution for methane emissions detection and quantification	Several
Mission Specifications and Thermal Requirements for an Earth Observation Mission based on a High Resolution Optical Payload	ESA
VIESGO	VIESGO
High resolution optical imager for ESA MANTIS mission	Open Cosmos / ESA
High resolution cubesat for EO	Several
SENER AEROESPACIAL	
For the lunar landing vehicle that will later be coupled to the station in order to collect lunar soil samples: structural design, mechanisms and thermal control	AIRBUS
Design of the four Hatches and the internal secondary structure	AIRBUS
PROBA-3 SOLAR ARRAY MECHANISMS	AIRBUS
DTA-1201 SERIES PRODUCTION	AIRBUS
Design of the docking and berthing mechanisms between the I-HAB and the various modules, which will be assembled in orbit	AIRBUS + THALES ALENIA SPACE
MSR ERO TPM	AIRBUS DS
SFR-ACTS	AIRBUS DS
Spainsat-NG DSSPA & DLNA	AIRBUS DS
TTC ANTENNAS	AIRBUS DS
Badr-8 Tcr Equipment	AIRBUS DS
EUTELSAT 36X TCR equipment	AIRBUS DS
CO3D X-BAND ANTENNA	AIRBUS DS
LO MetOp 2G	AIRBUS DS
Opdn G2g (output Power Distribution Network)	AIRBUS DS

	SYSTEM / EQUIPMENT	PLATFORMS
	Several	Miscellaneous
	Several	Miscellaneous
	Satellites	Miscellaneous
	Several	GAIA
	Several	METEOSAT THIRD GENERATION
	Several	MTG
	Several	Miscellaneous
	Space imagers: iSIM Family	Miscellaneous
	GEI-SAT	Miscellaneous
	iSIM family	Miscellaneous
	Product services	Miscellaneous
	iSIM-90	Miscellaneous
	iSIM-SAT 16U	Miscellaneous
	Future space station in lunar orbit	LOP-Gateway lunar mission
	Future space station in lunar orbit	LOP-Gateway lunar mission
	SOLAR ARRAY MECHANISMS	PROBA-3
	Actuador	OTROS
	Future space station in lunar orbit	LOP-Gateway lunar mission
	TPM	MSR ERO
	SFR-ACTS	SFR-ACTS
	NG DSSPA & DLNA	Spainsat
	ANGOSAT 2 TTC ANTENNAS	ANGOSAT
	Badr-8 Tcr Equipment	OTROS
	Equipment	EUTELSAT
	ANTENNA	OTROS
	LO MetOp 2G	Metop
	Opdn G2g (output Power Distribution Network)	OTROS

Space

General Description of the Product/service	DIRECT CLIENT
SENER AEROESPACIAL (cont.)	
Tcr Equipment	AIRBUS DS
RAS	AIRBUS DS
MULTI FREQUENCY FEEDS phase A/B1	AIRBUS DS
WHITE TAIL KU-BAND ANT.&FIL.	AIRBUS DS
OPDN (output Power Distribution Network)	AIRBUS DS
ANTENNAS	AIRBUS DS
L BAND RLNA & CPSU	AIRBUS DS
PRE ADC AMPLIFIER	AIRBUS DS
C-BAND ANTENNAS & FILTERS	AIRBUS DS
Medium-Gain Antenna Main Assembly (MGAMA)	AIRBUS DS
MEASAT 3D	AIRBUS DS
S-BAND ANTENNAS	AIRBUS DS
LO	AIRBUS DS
Thuraya Lna's	AIRBUS DS
Thuraya Tcr Equipment	AIRBUS DS
Smile Payload Module (plm) X-band Antenna	AIRBUS DS
Gw-v Development	AIRBUS DS
Cpsu	AIRBUS DS
Gw-lna Development	AIRBUS DS
Tcr Antennas	AIRBUS DS
USER BEAM LNAs Ku-Ka BAND	AIRBUS DS
DTA10-104 rotary actuators	AIRBUS DS
Reflector Pointing Assembly	AIRBUS DS
S-band And X-band Tcr Global Horn	AIRBUS DS
Ka-band Feeders Chains And Global Horn	AIRBUS DS
X-band Dra Radiating Chains	AIRBUS DS
Spainsat Phase 1 (Govsatcom)	AIRBUS DS
EQUIPMENT	AIRBUS DS
METOP-SG SAS HDRM DLM	AIRBUS DS
Spainsat-ng X-band Dra Radiating Chains	AIRBUS DS
SEOSAT/INGENIO INSTRUMENT	AIRBUS DS
Additional Test Caps For GPS	AIRBUS ONEWEB
GPS ANTENNAS	Airbus Oneweb Satellites North Ame
TTC ANTENNAS	Airbus Oneweb Satellites North Ame
Kassav	ARIANE GROUP
TELEMETRY ANTENNA (TMANT)	ARIANE GROUP
TMANT Exploitation	ARIANE GROUP
VNE phase CDE1	AVIO SPA

	SYSTEM / EQUIPMENT	PLATFORMS
	Tcr Equipment	BADR-8
	RAS	BIOMASS
	Equipment	CIMR
	KU-BAND	EUROSTAR
	OPDN	GALILEO 2ND GEN.
	ANTENNAS	GEO-NG
	L BAND RLNA & CPSU	INMARSAT 6
	PRE ADC AMPLIFIER	INMARSAT 6
	C-BAND ANTENNAS & FILTERS	INMARSAT 6
	Sciencie Mission	JUICE
	MEASAT 3D	MEASAT 3D
	S-BAND ANTENNAS	METOP
	LO	METOP 2G
	Thuraya Lna's	Miscellaneous
	Thuraya Tcr Equipment	Miscellaneous
	Smile Payload Module (plm) X-band Antenna	Miscellaneous
	Equipment	ONESAT
	Equipment	ONESAT
	Equipment	ONESAT
	Tcr Antennas	ONESAT
	USER BEAM LNAs Ku-Ka BAND	ONESAT
	Telecommunications platforms	ONESAT / EUROSTAR NEO
	Equipment	SPAINSAT
	Equipment	SPAINSAT
	Equipment	SPAINSAT
	Equipment	SPAINSAT
	Equipment	SPAINSAT
	Equipment	THEOS-2
	SAS HDRM DLM	METOP
	Ng X-band Dra Radiating Chains	SPAINSAT
	INSTRUMENT	SEOSAT/INGENIO
	Tests	ONEWEB
erica LLC	ANTENNAS	ONEWEB
erica LLC	ANTENNAS	ONEWEB
	Kassav	ARIANE 6
	TELEMETRY ANTENNA (TMANT)	ARIANE 6
	TELEMETRY ANTENNA (TMANT)	ARIANE 6
	VNE phase CDE1	NAVIGA

Space

General Description of the Product/service	DIRECT CLIENT
SENER AEROESPACIAL (cont.)	
TDRS Antennas	AVIO SPA
VEGA Batch 3 TLM Antennas	AVIO SPA
NAVIGA	AVIO SPA
Spherex Program	BALL AEROSPACE
SPACE WEATHER FOLLOW-ON (SWFO)	BALL AEROSPACE
JANUS PSM-MCM	CSIC
Advanced Receiver for L-Band Radiometer	ESA
Assembly and testing of actuator at 40K temperature to demonstrate whether this concept is valid for the ARIEL mission.	ESA
Compact Ka	ESA
KU-BAND GLOBAL ANTENNAS	ESA
Design, manufacture and test a prototype of the HDRA (Hold Down and Release Actuator) mechanism	ESA
Design, manufacture and test the Instrument Selection Mechanism (ISM)	ESA
Analysis of different alternatives for planetary vehicle landing gear	ESA
Design, manufacture and test devices for assembly of the Biomass satellite	ESA
ISL Antenna	ESA
DEMPCOS	ESA
Clamping mechanism for the B1 phase	ESA
MGSE	ESA
Development of fluid connectors for refueling between DSG (Deep Space Gateway) modules connected by IBDM (International Berthing and Docking Mechanism)	ESA
LPA UHF Helix Antenna	ESA
Fixation Box for a vegetal biology experiment to be performed at the ISS	ESA
C-BAND HORN MADE OF CFRP	ESA
Complete Guidance, Navigation and Flight control subsystem (GNC)	ESA
Design, manufacture and test devices for assembly of the Biomass satellite	ESA
MAGBOOM	ESA
Mechanical ground support equipment (MGSE) for assembly and testing of solar array wings	ESA
DFACS assessment and prototyping	ESA
S-band deployable antenna integrated into the lunar ascent module	ESA

	SYSTEM / EQUIPMENT	PLATFORMS
	Antennas	VEGA
	Antennas	VEGA
	Navigation Equipment	VEGA-C
	Spherex Program	OTROS
	SPACE WEATHER FOLLOW-ON (SWFO)	OTROS
	PSM-MCM	JANUS
	Advanced Receiver for L-Band Radiometer	Advanced Receiver for L-Band Radiometer
	REFOCUSING MECHANISM DERISKING	ARIEL
	Compact Ka	ARTES 3-4
	KU-BAND	ARTES C&G
	Sciencie Mission	ATHENA
	Sciencie Mission	ATHENA
	Planetary exploration ship -Scientific Mission	AURORA - Mars Sample Return Mission
	Sciencie Mission	BIOMASS
	ISL Antenna	COMET
	DEMPCOS	DEMPCOS
	Mission to combat the space debris problem	E-Deorbit
	Mechanical ground support equipment (MGSE)	ELECTRA
	REFUELING INTERFACE DEVELOPMENT	ESPRIT
	LPA UHF	EXOMARS
	FixBox	ISS - International Space Station
	C-BAND HORN	ITI
	Intermediate experimental vehicle for re-entry into atmosphere	IXV
	Scientific Mission	JPL mission
	Sciencie Mission	JUICE
	Sciencie Mission	JUICE
	Equipment	LISA
	Future space station in lunar orbit	LOP-Gateway lunar mission

Space

General Description of the Product/service	DIRECT CLIENT
SENER AEROESPACIAL (cont.)	
Technical and engineering assistance in the project	ESA
Main contractor of the entire program	ESA
DEPLOYABLE DATA DOWN LINK ARRAY ANTENA	ESA
AOCS ENHANCED VERIFICATION	ESA
ENVISION SRS - BB BOOM ANTENNA	ESA
SPADS	ESA
PODIUM	ESA
SCRIPT	ESA
ARTIFICIAL INTELLIGENCE TEC. for GNC DESIGN	ESA
HIPERGA - Future High Perf. Gyros. Techno for AOCS	ESA
DTK	ESA
THORMUX - Photonic RF Demux	ESA
HDRM Roadmap	ESA
Radar deployment system	ESA / AIRBUS DS
In-flight demonstration study of all the functions of the mechanism and Guidance, Navigation and Control system (GNC)	ESA / ESTEC
Hard Capture System (HCS) of the IBDM (International Berthing and Docking Mechanism)	ESA / ESTEC
Main contractor of the formation flying system	ESA / GMV
Design and verification of a swinging mechanism or FMD (Flip Mirror Device)	ESA / JENA OPTRONIK
Scan assembly (FCI and IRS SCA) and the Calibration and Obturation Mechanism (FCI and IRS COM)	ESA / Kayser-Threde
Optical Bench (OBA)	ESA / LEONARDO
Attitude and orbit control system, Special Check Out Equipment (AOCS SCOE)	ESA / OHB System
ExoMars Rover Solar Array Assembly	ESA / ROSCOSMOS
Prime contractor for Euclid's AOCS/GNC	ESA / THALES ALENIA SPACE
High Gain Antenna Gimbal	ESA / THALES ALENIA SPACE
Design and construction of the cells of the secondary (M2) and tertiary (M3) mirrors	ESO - European Southern Observato
Design and construction of the cells for the fifth mirror (M5)	ESO - European Southern Observato
Miniaturized Uhf Antennas For Planetary (mapp)	ESTEC
AMFORASS ADDITIVE MANUF.FOR SELECTIVE SURFACES	ESTEC FINANCE DIVISION
ICI	EUMETSAT / ESA

	SYSTEM / EQUIPMENT	PLATFORMS
	Developing a life-support system for long duration space travel and planetary bases.	MELISSA
	Phases C/D and E1	PROBA 3
	Antenna	ESA
	AOCS	ESA
	Antenna	Envision
	SPADS	OTROS
	PODIUM	OTROS
	SCRIPT	OTROS
	ARTIFICIAL INTELLIGENCE TEC. for GNC DESIGN	OTROS
	HIPERGA - Future High Perf. Gyros. Techno for AOCS	OTROS
	DTK	DTK
	Photonic RF Demux	THORMUX
	HDRM Roadmap	OTROS
	Observation satellite - Scientific Mission	SENTINEL 1
	Docking and joining mechanism -Navigation	ISS - International Space Station
	Docking and joining mechanism -Navigation	ISS - International Space Station
	Formation flying system	PROBA 3
	Observation satellite -Sentinel 3-	SENTINEL 3
	Observation satellite	METEOSAT THIRD GENERATION
	FLORIS Instrument	FLEX
	Observation satellite	METEOSAT THIRD GENERATION
	EXOMARS ROVER	EXOMARS
	Scientific Mission	EUCLID
	Scientific Mission	EUCLID
ory	Infrared optical telescope	E-Extreme Large Telescope
ory	Infrared optical telescope	E-Extreme Large Telescope
	Miniaturized Uhf Antennas For Planetary (mapp)	OTROS
	AMFORASS ADDITIVE MANUF.FOR SELECTIVE SURFACES	OTROS
	Delivery of the Engineering Qualification Models (EQM) of the Ice Cloud Imager (ICI) Back End Receivers	METOP SG

Space

General Description of the Product/service	DIRECT CLIENT
SENER AEROESPACIAL (cont.)	
AERIAL	EUROPEAN SPACE RESEARCH TECHNOLO
DEPLOYMENT MECHANISM FOR ELECTRA DPR	IBERESPACIO
ARIEL M2 Phase B	INSTITUT D ESTUDIS ESPACIALS DE C
Comet-I Instruments Fase B	INSTITUTO DE ASTROFÍSICA DE AND
Loutch Svm	ISS-Reshetnev Company
SKIF-D Ka-Band Receiver	ISS-Reshetnev Company
S-band Antennas For Cas500 3,4 & 5	KOREA ASTRONOMY AND SPACE SCI
DTJ Phase CD	LEONARDO
FLEX FLORIS INSTRUMENT OPTICAL MODULE STRUCTU	LEONARDO
LM400 FILTERS	LOCKHEED MARTIN
NG OPIR Ka-Band OMUX	LOCKHEED MARTIN SPACE SYSTEMS
40e Power Dividers	MAXAR
C-band	MAXAR
Power Propulsion Element	MAXAR
PASSIVE EQUIPMENT	MAXAR
Thermal louvers for the satellite mission to the asteroid Psyche	MAXAR
PSYCHE LOUVERS	MAXAR Technologies (Loral)
SIRIUS XM 9&10	MAXAR Technologies (Loral)
Gateway XORI Fluid Transfer	MDA (McDonald, Dettwiler and Asso
AMOS 8 ANTENNAS	MDA (McDonald, Dettwiler and Asso
WSO/UV/PDD	MINECO
EMIRATES LUNAR ROVER MAST & GIMBAL	MOHAMMED BR
C-band Program	NORTHROP GRUMMAN
Mechanical ground support equipment (MGSE) for assembly of BIOMASS Space Mission	OHB ITALIA
PB2	OHB ITALIA
Misrec G2g Patp	OHB SYSTEM
OPSAT REPOINTING MECHANISM	OHB SYSTEM AG
CHIME RMU	OHB SYSTEM AG
PLATO PSHF	OHB SYSTEM AG
OPTSAT TTC S-BAND ANTENNAS	OHB SYSTEM AG
MTG SCAN ASSEMBLY	OHB SYSTEM AG / THALES ALENIA SI
ISL APM	OHB-SYSTEM
ISL APME	OHB-SYSTEM
ISL	OHB-SYSTEM
ISL Udc	OHB-SYSTEM
FOC S-Band Antennas (Batch 3)	OHB-SYSTEM
I-Hab HCS-IBDM (International Berthing and Docking Mechanism)	QINETIC SPACE

	SYSTEM / EQUIPMENT	PLATFORMS
OGY CENTRE ESTEC	AERIAL	AERIAL
	DEPLOYMENT MECHANISM	ELECTRA
CATALUNYA (IEEC)	M2 Phase B	ARIEL
ALUCÍA C.S.I.C.	Instruments Fase B	Comet-I
	Loutch Svm	OTROS
	SKIF-D Ka-Band Receiver	OTROS
IENCE INSTITUTE	S-band Antennas For Cas500 3,4 & 5	OTROS
	DTJ Phase CD	PROSPECT
	OPTICAL MODULE STRUCTURE	FLEX
	FILTERS	OTROS
COMPANY	NG OPIR Ka-Band OMUX	OTROS
	Equipment	INTELSAT
	Equipment	INTELSAT
	Propulsion	Miscellaneous
	PASSIVE EQUIPMENT	OVZON-3
	PSYCHE LOUVERS	PSYCHE
	Equipment	OTROS
	SIRIUS XM 9&10	OTROS
ociates)	XORI Fluid Transfer	Gateway
ociates)	ANTENNAS	OTROS
	WSO/UV/PDD	WSO
	Equipment	OTROS
	C-band Program	Miscellaneous
	MGSE	BIOMASS
	PB2	COMET
	Misrec G2g Patp	GALILEO 2ND GEN.
	Equipment	OPSAT
	RMU	CHIME
	PLATO PSHF	OTROS
	ANTENNAS	OPTSAT
PACE ITALIA	SCANNER	METEOSAT THIRD GENERATION
	Equipment	GALILEO
	Equipment	GALILEO
	Equipment	GALILEO
	Equipment	GALILEO
	Equipment	GALILEO
	I-Hab HCS	ISS - International Space Station

Space

General Description of the Product/service	DIRECT CLIENT
SENER AEROESPACIAL (cont.)	
S-BAND ANTENNAS	QinetiQ Space
EXOMARS ROVER SOLAR ARRAY MECH. ASSEMBLY	SELEX ES
S5-SWIRSS-OBA	SELEX ES
Galaxy 37 Passives	SPACE SYSTEMS LORAL, LLC.
LGA ANTENNAS	THALES ALENIA SPACE ESPAÑA
S BAND ANTENNAS	THALES ALENIA SPACE ESPAÑA
NG UHF OMUX	THALES ALENIA SPACE ESPAÑA
S8-LSTM SCAU	THALES ALENIA SPACE ESPAÑA
Eutelsat-36x- Uhf Filters	THALES ALENIA SPACE ESPAÑA
CIMR	THALES ALENIA SPACE ESPAÑA
Amazonas Nexus	THALES ALENIA SPACE FRANCE
Prototyping of Spacecraft Refuelling	THALES ALENIA SPACE FRANCE
Equipment	THALES ALENIA SPACE FRANCE
Tt&c And Global Horn Antennas	THALES ALENIA SPACE FRANCE
Hera Hga & Lga Antennas	THALES ALENIA SPACE FRANCE
TT&C Global horn Ant. & Test couplers	THALES ALENIA SPACE FRANCE
Reflector	THALES ALENIA SPACE ITALIA
Lunar Communication System	THALES ALENIA SPACE ITALIA
Assessment on the motorised Hatch, the communication antenna pointing mechanism and the robotic arm interfaces	THALES ALENIA SPACE ITALIA
Interfaces for the robotic arms (external and internal)	THALES ALENIA SPACE ITALIA
Navigation Filters (navflt)	THALES ALENIA SPACE ITALIA
Galileo G2 SARP	THALES ALENIA SPACE ITALIA
SPACE RIDER	THALES ALENIA SPACE ITALIA
EUCLID AOCS	THALES ALENIA SPACE ITALIA
EXM18 AOC GNC SCOE	THALES ALENIA SPACE ITALIA
LISA MECHANISM	THALES ALENIA SPACE ITALIA
CIMR-MCA	THALES ALENIA SPACE ITALIA
METEOSAT THIRD GENERATION	THALES ALENIA SPACE ITALIA
ATHENA MAMD	THALES ALENIA SPACE ITALIA
TECNALIA	
Novel structural components for launchers/satellites applications by additive manufacturing	ESA
Corrosion protective hybrid coating for space	ESA
Citric acid as a green alternative for the passivation of stainless steel tubes	ESA
Application of Surface Functionalisation in Space Mechanisms	ESA

	SYSTEM / EQUIPMENT	PLATFORMS
	PROBA-3 S-BAND ANTENNAS	PROBA-3
	EXOMARS ROVER	EXOMARS
	SWIRSS-OBA	S5
	Galaxy 37 Passives	OTROS
	LGA ANTENNAS	EUCLID
	S BAND ANTENNAS	FLEX
	Equipment	SPAINSAT
	LSTM SCAU	S8
	Filters	Eutelsat
	CIMR	CIMR
	Amazonas Nexus	Amazonas Nexus
	Prototyping of Spacecraft Refuelling	Miscellaneous
	Equipment	SATRIA
	Antennas	SES-22
	Antennas	Hera
	TT&C Global horn Ant. & Test couplers	SES-23
	Reflector	HALO
	Communications	HALO
	Future space station in lunar orbit	LOP-Gateway lunar mission
	Future space station in lunar orbit	LOP-Gateway lunar mission
	Navigation Filters (navflt)	GALILEO 2ND GEN.
	Galileo G2 SARP	GALILEO
	Equipment	SPACE RIDER
	AOCS	EUCLID
	AOC GNC SCOE	EXOMARS
	MECHANISM	LISA
	CIMR-MCA	CIMR
	MTG	MTG
	ATHENA MAMD	ATHENA
	Instrument	Optics
	Spacecraft Structures	REACH
	Spacecraft Structures	REACH
	Spacecraft Structures	Mechanisms

Space

General Description of the Product/service	DIRECT CLIENT
TECNALIA	
Novel structural components for launchers/satellites applications by additive manufacturing	ESA
Corrosion protective hybrid coating for space	ESA
Citric acid as a green alternative for the passivation of stainless steel tubes	ESA
Application of Surface Functionalisation in Space Mechanisms	ESA
Investigation of additive manufacturing of improved ceramic packages for detectors	ESA
Technology transfer of IRUCOAT (Environmentally friendly corrosion protective hybrid coating as substitute of chromium based conversion coatings	ESA
TTT GROUP	
Heat and surface treatments	AIRBUS DS
Heat and surface treatments	SENER AEROESPACIAL

	SYSTEM / EQUIPMENT	PLATFORMS
	Instrument	Optics
	Spacecraft Structures	REACH
	Spacecraft Structures	REACH
	Spacecraft Structures	Mechanisms
	Instrument	Electronics
	Technology transfer (bikes)	REACH
	Propulsion systems	ARIANE
	Systems	Miscellaneous

MRO

General Description of the Product/service	DIRECT CLIENT
ACITURRRI	
MRO A400M	AIRBUS DS
Wing Assembly Conversion	AIRBUS DS
AERNNOVA	
Technical assistance & Sales of spares 24H/365d	AIRBUS
Composite & metal structure repairs	AIRBUS
Sales of spares 24H/365d	BEECHCRAFT
Composite & metal structure repairs	BOMBARDIER
Technical assistance & Sales of spares 24H/365d	BOMBARDIER
Composite & Metal structure repairs	EMBRAER
Composite & Metal structure repairs	EMBRAER
Technical assistance & Sales of spares 24H/365d	EMBRAER
Maintainability, Reliability Analysis	OEMs
Technical Publications, SRM, AMM, ITEM, SB, etc	OEMs
Modifications at Final Assembly of OEMs	OEMs
Design of repairs	OEMs & Operators
Design of GSEs	OEMs & Operators
Inspections, special processes and re-qualifications	Operators
Technical assistance & Sales of spares 24H/365d	Operators
Composite & metal structure repairs and modifications	Operators
Composite & Metal structure repairs	SIKORSKY
Technical assistance & Sales of spares 24H/365d	SIKORSKY
AEROSPACE ENGINEERING GROUP	
Overhaul and repair of electrical components	MRO, Operators, Air Forces, Trading Com
Overhaul and repair of hydraulic components	MRO, Operators, Air Forces, Trading Com
Overhaul and repair of electrical components	MRO, Operators, Air Forces, Trading Com
Overhaul and repair of avionics components	MRO, Operators, Air Forces, Trading Com
ELECTRONBEAM WELDING	Several
SPIN TEST 40.000 RPM	Several
NDTs	Several
DANOBATGROUP	
Grinding Machine Retroffiting	MRO Operators
Machine tools for landing gear MRO	MRO Operators
EGAMASTER	
FOD Tool Control system	GLOBALIA
Electronic Kanban systems	GLOBALIA

	SYSTEM / EQUIPMENT	PLATFORMS
	AIRBUS DS	A400M
	AIRBUS DS	A330MRTT
	MLGD, HTP, Fuselage,etc	AIRBUS families
	MLGD, Elevators	AIRBUS families
	Wings, flaps, ailerons, etc	BEECHCRAFT families
	Tips, fairings, panels, etc	BOMBARDIER Families
	Empenage, fairings, elevators	BOMBARDIER Families
	Elevators, Rudders	EMBRAER 170/190
	Flaps, Ailerons, Wing tips, MLGD, etc	EMBRAER ERJ145/135/Legacy
	Structures and mobile surfaces	EMBRAER families
	Several	Miscellaneous
	Several	Miscellaneous
	Several	Miscellaneous
	Several	Miscellaneous
	Several	Miscellaneous
	Several	Miscellaneous
	Several	Miscellaneous
	Several	Miscellaneous
	Doors, cowlings, stabilisers	SIKORSKY S-92/ H92
	Doors, cowlings, stabilisers	SIKORSKY S-92/ H92
npanies	Electrical Systems	AIRBUS / ATR / BOEING / BOMBARDIER / EMBRAER / FOKKER…
npanies	Hydraulic Systems	AIRBUS / ATR / BOEING / BOMBARDIER / EMBRAER / FOKKER…
npanies	Fuel Systems	AIRBUS / ATR / BOEING / BOMBARDIER / EMBRAER / FOKKER…
npanies	Avionics Systems	Miscellaneous
	Several	Miscellaneous
	Several	Miscellaneous
	Several	Miscellaneous
	Engines	Miscellaneous
	Landing gear	Miscellaneous
	Several	Miscellaneous
	Several	Miscellaneous

MRO

General Description of the Product/service	DIRECT CLIENT
ITP AERO	
Resolving incidents	ROLLS-ROYCE
Resolving incidents	ROLLS-ROYCE
Resolving incidents	ROLLS-ROYCE
Full Maintenance, Inspection and Repair, modules and components & engine and accessories test	Spanish Ministry of Defence
Full Maintenance, Inspection and Repair, modules and components & engine and accessories test	Spanish Ministry of Defence
Full Maintenance, Inspection and Repair, modules and components & engine and accessories test	Spanish Ministry of Defence
Full Maintenance, Inspection and Repair, modules and components & engine and accessories test	Spanish Ministry of Defence
Full Maintenance, Inspection and Repair, modules and components & engine and accessories test	Several
Full Maintenance, Inspection and Repair, modules and components & engine and accessories test	Spanish Ministry of Defence
Full Maintenance, Inspection and Repair, modules and components & engine and accessories test	Spanish Ministry of Defence
Full Maintenance, Inspection and Repair, modules and components & engine and accessories test	Spanish Ministry of Defence
Full Maintenance, Inspection and Repair, modules and components & engine and accessories test	Spanish Ministry of Defence
Full Maintenance, Inspection and Repair, modules and components & engine and accessories test	ROYAL AIR FORCE
RENISHAW IBÉRICA	
Retrofited CMMs to be used in engines MRO	Non disclosure

	SYSTEM / EQUIPMENT	PLATFORMS
	RR Trent 700	AIRBUS A330
	RR Trent 500	AIRBUS A340
	RR BR717	BOEING 717
	GE F404	BOEING F/A-18
	HONEYWELL TFE731	CASA C101
	HONEYWELL TPE331	CASA C212
	SNECMA ATAR	DASSAULT MIRAGE Families
	P&W PW206	EUROCOPTER EC135
	EUROJET EJ200	EUROFIGHTER TYPHOON
	RR T56	LOOCKHEED MARTIN C130
	RR T56	LOOCKHEED MARTIN P-3
	GE J85	NORTHROP F-5
	HONEYWELL TPE331	SHORT TUCANO
	Retrofited CMM equiped with REVO2 (5 axis measurement)	Several

RTD

PROJECT	SUMMARY
AALBERTS SURFACE TECHNOLOGIES TEY	
ITP AERO projects	Heat treatments
SENER AEROESPACIAL projects	Heat treatments
ACITURRI	
EWIRA	Manufacturing, assembly and integration of extended wing fo
DAAMAS	Development of WAAM (Wire Arc Additive Manufacturing) technol
DOMMINIO	Digital method for improved manufacturing of multifunctIonal a
OVERLEAF	LH2 composite storage solutions for aviation applications
COPERNICO	Development of strutral parts by RTM
FEINA	Development of strutral parts by WAAM
NEOTAIL	Rudder development in thermoplastics
IMPACT	Development of impact absortion solutions based on auxenitic
CRYOTANK-LOX	LOX composite storage solutions for space applications
AERCOST	Advanced technlogies for composite airframe components
MULTIGLIDE	Flexible forming for highly integrated airframe components
COMPCOAT	Coating solutions to improve composites resistance to tempera
CIMA	Aerodynamics optimization by morphologic seal solutions
AERNNOVA	
CLEAN SKY 2	Airframe ITD
CLEAN SKY 2	LPA, HLFC HTP and WING
CLEAN SKY 2	LPA, REAREND
CLEAN SKY 2	LPA, THERMOPLASTIC PANELS
FIBEREUSE	Large scale demonstration of new circular economyvalue-chain
SUCOHS	Sustainable & Cost efficient High-performance composite Stru
THOMAS	Collaborative light robotics for assembly operations
S2R PIVOT	Development of new structural components in composite for
ANTERAL	
VALIDDANTENNESS	VALIdation de la fabrication aDDitive d'ANTENNES pour applica metal manufacturing techniques for antennas for space applica
QON-Space	Quasioptical systems for space observation
LANs-6G	New Lens Antenna Technologies for New Space & 6G
BATZ AERO	
RIB-ON	Innovative stamping die for aluminium ribs hot stamping
CIDETEC	
U-CROSS	Early detection, monitoring and prediction of corrosion dam of calibrated Ultrasonic CorROSion Sensors
STELLAR	Development of SmarT Eco-friendly anticontamination techn
AMANECO	Assessment of additive manufacturing limits for eco design op
H2FREE	Investigation and modelling of Hydrogen effusion in electrochemicall

	CALL
	Others
	Others
r a regional aircraft	European - CLEAN SKY 2
ogies as advanced manufacturing methods for engine components	European - Manunet
irframe parts	European-H2020-MG
	European-HE
	National - RETOS -CDTI
	National - RETOS -CDTI
	National-CIEN-CDTI
c material	National-COINCIDENTE
	National-PID-CDTI
	National-PTA-CDTI
	National-PTA-CDTI
atures	Regional - Castilla y Leon Calls
	Others
	European - CLEAN SKY 2
	European - CLEAN SKY 2
	European - CLEAN SKY 2
	European - CLEAN SKY 2
ns based on the reuse of end-of-life fiber reinforced composites.	European - H2020
ctures	European - H2020
	European - H2020
landing gears	European - H2020
ations Spatiales: This project will explore and validate additive ations, specially for small satellites	European - NAEN Euroregion
	Regional - Navarra Calls
	Regional - Navarra Calls
	European - CLEAN SKY 2
nage of coated aeronautic Al alloys through the application	European - CLEAN SKY 2
ologies for LAminaR wings	European - CLEAN SKY 2
timization in heat exchangers	European - CLEAN SKY 2
ly plated ultra-high-strength-steels used for landing gear structures	European - CLEAN SKY 2

RTD

PROJECT	SUMMARY
CIDETEC (cont.)	
LUBGEAR	Tribological behaviour under loss of LUBrication of new optimized GEARs for friction re
REINTEGRA	Innovative End of Life procedures for REcycling INTEGRAl welded Al-Li Aerostructures
AIRPOXY	ThermoformAble, repaIrable and bondable smaRt ePOXY based composites for aero stru
HARVEST	Hierarchical multifunctional composites with thermoelectrically powered autonomous s
HIPERION	Generación de conocimiento y capacidades para nuevas tecnologías espaciales y futuras
CTA	
ORBIT	AerOdynamic Rigs for VHBR IP Turbine. Experimental aerodynamics
OUTCOME	OUT of autoclave COMpositE manufacturing, wing and tail unit components and multifu
ARIAS	Advanced Research Into Aeromechanical Solutions. Aeroelasticity test
VALIDDANTENNESS	VALIdation de la fabrication aDDitive d'ANTENNES pour applications Spatiales
AVANWINGLET	RESEARCH IN TECHNOLOGIES OF ADVANCED MANUFACTURING FOR COMPETITIVE, FLEXIBLE AN
TASTE	Aerodynamic Technologies for Geared Turbofan
TRANSCEND	MATERIALS AND PROCESSES ADVANCED OF LOW COST FOR HIGH AIRCRAFT CADENCE
ZEROe	TECHNOLOGIES FOR OPERATE AIRCRAFT WITH ZERO EMISSIONS
PHIADI	INNOVATIVE ADVANCED E INTELLIGENT HYDROGEN PROPULSION
HIPERION	Generation of knowledge and capabilities for new space technologies and future plane
EKOHEGAZ	DIGITALIZATION IN THE INTELLIGENT AND SUSTAINABLE AERONAUTICAL INDUS
CODISAVA-2	Advanced distributed control for safety and energy efficiency of air transport
MMMfavIN	Multifunctional magnetoactive materials for advanced manufacturing and smart indus
LATIDO	Development of new systems for more efficient and reliable lubrication of aeronautical engine
HEGAZKIN 2021	Validation of New Technologies for Zero Emission Aircraft
CONAVANTER	Development of advanced thermal control techniques and sensor communication for op
ECOSEL	Development of experimental technologies for new concepts of turbine seals in
EGILE	
NEWGENPAGB	Development of a power gearbox for a turbopropengine to be installed in future jets
ADDIMOT	New electric engine design based on AM process
APEM-AM	Inco 718 additive manufacturing process simulation and monitoring
NINFA	Metal AM componen certification
LUBEOFF	Effect of oil off condition on tranmissions
AEROLUBE	Oil gerotor pumps CFD simulation
LATIDO	New multiphase oil pumps for aerospace industry
HI-PREST	No backlash and high reduction gearbox for ultra high presition positioning
EIBAR PRECISION CASTING - EPIC	
HIPERTURB	Development of investment casting process of nickel superalloys with enhanced weldability
INEVITABLE	Optimization and performance improving in metal industry by digital technologies
OSMOSIS	Strategic specialization in cast seal segments production for the new high speed aeronau
ADDHOC	Manufacturing metal products with high mechanical characteristics, low series production an
FAKTORIA	Research on new technologies and production processes of the basque aeronautic
TURBTECH	Digitalization of the investment casting process for the development of low-pressure tur

	CALL
eduction in power gearboxes	European - CLEAN SKY 2
	European - CLEAN SKY 2
ıctures	European-H2020
tructural health monitoring for the aviation industry	European-H2020
s misiones planetarias	Regional - Basque calls - ELKARTEK
	European - CLEAN SKY 2
nctional design. Test technologies, STRUCTURAL TEST,	European - CLEAN SKY 2
	European- H2020
	European - NAEN Euroregion
D EFFICIENT PRODUCTION OF WINGLETS OF COMPOSITE MATERIA	National - CIEN
	National - RETOS Colaboración
	National- PTA
	National- PTA
	National- PTA
etary missions	Regional - Basque calls - ELKARTEK
STRY for the ZERO EMISSIONS AIRCRAFT	Regional - Basque calls - ELKARTEK
	Regional - Basque calls - ELKARTEK
stry	Regional - Basque calls - ELKARTEK
es using new methodologies of advanced design and monitoring	Regional - Basque calls - HAZITEK
	Regional - Basque calls - DFA
ptimization of aeronautical manufacturing processes.	Regional - Basque calls - DFA
n zero emission engines.	Regional - Basque calls - DFB
s	European - CLEAN SKY 2
	European - CLEAN SKY 2
	National - CDTI - Cervera
	National - CDTI - CIEN
	Regional - Basque calls - ELKARTEK
	Regional - Basque calls - ELKARTEK
	Regional - Basque calls - HAZITEK
	Regional - Basque calls - HAZITEK
	European - CLEAN SKY 2
	European – H2020
utic turbines	National - CDTI
d customized geometries by additive manufacturing technologies	Regional - Basque calls - HAZITEK
manufacturing network for the future high speed turbines	Regional - Basque calls - HAZITEK
bine cast components	Regional - Basque calls - HAZITEK

RTD

PROJECT	SUMMARY
ITP AERO	
Clean Sky 2	VHBR Engine Intermediate Pressure Turbine Technology
ARIAS	Advanced Research Into Aeromechanical Solutions
TURBONOISE	Validation of improved turbomachinery noise prediction models and developm broadband noise
ENCOMPASS	ENgineering COMPASS
EMUSIC	Efficient Manufacturing for Aerospace Components Using Additive Manufacturing, N
BOOSTER2	Acquisition of basic compressor technologies
COLD SPRAY	High Speed Cold Filling Repairs for Nickel Base Alloys
SALUD	Sistema de Análisis Unificado para el Diagnóstico
JANO	Join ActioN towards digital TranfOrmation
FUTURALVE	Material and advanced manufacturing technologies for new generation high-speed turb technologies necessary to design optimized components of high speed turbines and be
ENVIDIA	Virtual Environment for the Design and Manufacture of Aeronautical Turbines
ESCALITURB	Competitive technologies for aeronautical turbine hot structures. Develop the technolog more than 1000 components year) hot structures interturbine of the aeronautical engine
TALDEA	Turbinas de ALta velocidad: DEsarrollo de tecnologías de fabricación Avanzada. Develop future high-speed turbines of future aeronautical engines in segments of medium and h
KHEGAL AERONÁUTICA	
TECH4CUT	Machining optimization
LORTEK	
ALFORAMA	Innovative Al alloy For aircraft structural parts using Additive MAnufacturing technology
ECO-TECH	Development of innovative and ECO-friendly airframe TECHnologies from desing to man
DALI	Demonstrator for Aircraft heat exchanger LIfe prediction
PERFORM	European Periphery Teaching Factory of the Future on Additive Manufacturing
REDAMP 2	Real time monitoring of DED Additive Manufacturing Process for zero defect manufact
AUTHENTIC	Automated thermographic inspection system for the inspection of aeronautic weldings
NEMARCO	New manufacturing routes (for NiCrSiFeB alloys) to replace cobalt in aircraft componen
AMANECO	Assessment of additive manufacturing limits for ecodesign optimization in heat excha
HYPERCOG	Hyperconnected architecture for high cognitive production plants.
MULTIFUN	Enabling MULTI-FUNctional performance through multi-material additive manufacturing
AMABLE	Development of Aero Engine Component Manufacturing using Laser Additive Manufacturing
DURABLE	Maintenance drones and robots to ehhance renewable energy systems in the atlantic a
SAM	Sector Skills Strategies in Additive Manufacturing
EFPF Open Call Third party	European Connected Factory Platform for Agile Manufacturing
MICROFORM	The use of microperforations with variable size in the external skin of the aircraft wings a Hybrid Laminar Flow Control (HLFC).

	CALL
	European - CLEAN SKY 2
	European - H2020
ent of novel design methods for fan stages with reduced	European - H2020
	European - H2020
let Shape HIP and Investment Casting'	European - H2020
	National - CDTI
	National - CDTI
	National - CDTI
	National - CDTI
ines. Development of advanced materials and manufacturing able to manufacture them with better use of the raw material	National - CIEN
	National - MICIN
gy to perform 100% reliably and in high production (from 10 to e of the middle segment	Regional - Basque calls - HAZITEK
ment of advanced manufacturing technologies to produce igh thrust	Regional - Basque calls - HAZITEK
	Regional - Basque calls - HAZITEK
y	European - CLEAN SKY
ufacturing to improve aircrafe life cycle environmental footprin	European - CLEAN SKY
	European - CLEAN SKY
	European - EIT Manufacturing
uring	European - EIT Manufacturing
	European - H2020
nt	European - H2020
ngers	European - H2020
	European - H2020
g	European - H2020
	European - H2020 - FoF
rea	European - Interreg
	European - Others
	European - Others
llows to reduce the complexity in the design of the wings with	European - H2020 - CLEANSKY 2

RTD

PROJECT	SUMMARY
LORTEK (cont.)	
ADDITOOL	Implementation of metal additive manufacturing in the world of tooling
CEFAM	Strategic program for the Training of Excellence in Additive Manufacturing of Metallic ma
IN-SENSE	New generation of intelligent structures through the introduction of embedded sensors
NINFA	Nuevos métodos de evaluación, diseño e INspección en Fabricación Aditiva adaptado
INNPROBAT	RESEARCH INTO NEW PRODUCTION PROCESSES TO REDUCE THE COST OF BATTERIES AN
TECMADIVA	DIGITALIZED MATERIAL ADDITIVE TECHNOLOGIES for the automated manufacture and re
QUALIFAM	QUALITY ASSURANCE IN METALLIC ADDITIVE MANUFACTURING TECHNOLOGIES THROUG VALUE CHAIN
CEMAP	Development of High Performance Ceramic and Metallic Materials for Advanced Man
DATAPRIN	Development of new technologies and tools that Accelerate the Transition to Intelligent
INSPECTA	A robust and automatable approach to critical joint and defect inspections
HIPERION	Generation of knowledge and capabilities for new space technologies and future planeta
IMAGINE	IMAGINE: Manufacturing for Intelligent Industry (Hybrid manufacturing technologies f
OPTICED	Process optimization for zero defect manufacturing of large parts
ALENCO	Development of the SLM process for precipitation hardening alloys for high performance
RESTERIA	Development of a resonant induction platform for the optimization of inductive thermog
LOTUR-AI	Predictive Quality of Arc Welding processes
ILEMA	Industrial Learning Machine: Capturing Expert Knowledge in Metallic Additive Manufact
HARITIVE	Development of a new manufacturing chain for high added value components using WA industrial sectors.
AM_AVANZA	New efficient additive manufacturing processes for the design of unique structures throu
SOLIDEX	Premium comprehensive solutions for highly demanding and highly demanding applica
PRODIGIOSA	Digital products for the technological impulse in the industry and new advanced service
TALDEA	High speed turbines: Development of advanced manufacturing technologies.
CONAN	Smart inspection for advanced zero defect manufacturing.
OMNIJOIN	The adaptation of its production processes in the field of arc welding joining processes t
MADE	Research and develop new materials and manufacturing routes to create a new generati
HIGHTECH	Advanced technology for the development of new components and solutions aimed at e
OMNIJOINT	Comprehensive solution for the intelligent control of joining and adjacent processes
EGOKIA	Knowledge sharing digital space
MONDAI	Development of multilevel conversations between manufacturing assets applying artific

	CALL
	European - Intereg Sudoe
aterials	National - CDTI Cervera CCTT
in additive manufacturing	National- AEI Cluster
os a toda la cadena de suministro	National - CIEN - CDTI
D THEIR ENVIRONMENTAL IMPACT	National - MISIONES - CDTI
epair of high value-added parts	National - MISIONES - CDTI
GH THE OPTIMIZATION OF THE DIFFERENT STAGES OF THE	Regional - ELKARTEK - Basque calls
ufacturing	Regional - ELKARTEK - Basque calls
Production	Regional - ELKARTEK - Basque calls
	Regional - ELKARTEK - Basque calls
ary missions	Regional - ELKARTEK - Basque calls
for smart industry)	Regional - Basque calls
	Regional - Basque calls
e aeronautical components	Regional - Basque calls
graphy tests through the application of Artificial Intelligence	Regional - Basque calls
	Regional - Basque calls - DFG
uring processes	Regional - Basque calls - DFG
AM for its validation in demonstrators in highly demanding	Regional - Basque calls - HAZITEK
ugh the use of advanced materials.	Regional - Basque calls - HAZITEK
tions.	Regional - Basque calls - HAZITEK
s.	Regional - Basque calls - HAZITEK
	Regional - Basque calls - HAZITEK
	Regional - Basque calls - HAZITEK
o the macro-trend known as Industry 4.0.	Regional - Basque calls - HAZITEK
on of electromechanical devices.	Regional - Basque calls - HAZITEK
extreme service conditions	Regional - Basque calls - HAZITEK
	Regional - Basque calls - HAZITEK Estratégico
	Regional - Basque calls - HAZITEK Estratégico
ial intelligence technologies	Regional - Basque Callas - PCyT

RTD

PROJECT	SUMMARY
MESIMA	
FAKTORIA	Development of advanced manufacturing technologies to produce future high-speed tu
METALÚRGICA MARINA	
FAKTORIA	Material and advanced manufacturing technologies for new generation high speed turb technologies necessary to design optimized components of high speed turbines and be
METROLOGÍA SARIKI	
NINFA	Advanced additive manufacturing for aeronautical components. 3D tomography
ABIO	Inspection, monitoring and new developments on metrology tools
FAKTORIA	Advanced manufacturing and materials technologies for the new generation of h
KAIA	Inspection, monitoring and new developments on metrology tools
MICROLAN	
VALIDDANTENNESS	VALIdation de la fabrication aDDitive d'ANTENNES pour applications Spatiales
MONDRAGON UNIBERTSITATEA	
SURFNANOCUT	Surface engineering through machining focused on materials used in aeronautics and
LUBEOFF	Research on the influence of lack of lubrication in aeronautical transmissions and develo
EKOHEGAZ	Digitalización en la industria aeronáutica inteligente y sostenible para el avión ce
FAKTORIA	Investigación de nuevas Tecnologías y Procesos productivos de la red de fabricación a
UDITURN	Determination of the process window for turning the nickel alloy Udimet 720 Li based
NAITEC	
VALIDDANTENNESS	VALIdation de la fabrication aDDitive d'ANTENNES pour applications Spatiales
INMOV	Development of the spanish network in autonomus and non tripulate drone system
EMERAL	Emergency UAV for long Range Operations
NAVEAC Drive Lab	Development of a logistic lab based in last mile needs out and intra doors based in a c
U SPACE	Consolidation of the USPACE Team in Navarra, based in actuations for emerge integration in the regulation tests with ENAIRE-
RENISHAW IBÉRICA	
FUTURALVE	Futuralve project is to create advanced material and manufacturing technologies for th sector. Throughout the project Renishaw is directly involved with the development of will also contribute to the metrology and part verification of the aerospace parts throu measurement system REVO® and on-machine contact scanning system SPRINT™.
3D Manufacturing Technologies	CATEC is a technical centre of excellence and aims to become, over the next few years, aerospace technologies. In this Centre Renishaw has installed its Ren AM500M, RenAM
Advanced Manufacturing Technologies	The objective is to develop advanced manufacturing technologies; these develop menta centre also acts as an intersection of ideas and advancement for agencies and companie engines and structural components sector. The centre has several different manufacturi printing machine AM400.

	CALL
rbines: waterjet cutting and trimming	Regional - Basque calls - HAZITEK
ines. Development of advanced materials and manufacturing able to manufacture them with better use of the raw material.	Regional - Basque calls - HAZITEK
inspection systems and protocols for AM parts	National- CIEN - CDTI
	Regional - Basque calls - HAZITEK
igh-speed turbines. 3D inline inspection system	Regional - Basque calls - HAZITEK
	Regional - Basque calls - HAZITEK
	European - NAEN Euroregion
automotive: machining process focused on the material	National -RETOS
opment of advanced solutions to survive off-design conditions	Regional - Basque calls - ELKARTEK
ero emisiones	Regional - Basque calls - ELKARTEK
eronáutica vasca para las futuras Turbinas de Alta Velocidad	Regional - Basque calls - HAZITEK
on finite element modeling and its experimental validation	Regional - Basque Calls - PIBA
	European - NAEN Euroregion
	National - CERVERA
	Regional - Navarra Calls
combination of autonomus car and drones	Regional - Navarra Calls
ncy situations. Definition of the fligth systems and	Regional - Navarra Calls
he new generation of high-speed turbines for the aerospace new lightweight additively manufactured materials. Renishaw ghout the Futuralve project by its award winning 5 axis	National - CIEN - CDTI
a national and international R&D centre for developing 500M and AM 250 additive manufacturing machines.	Others: CATEC
l level technologies can be quickly transferred to industry. The s with capabilities, interests, and businesses in the aeronautical ng technologies, including Sprint, REVO and the metal 3D	Others: CFAA

RTD

PROJECT	SUMMARY
SATLANTIS	
OPTISSE	The main objective is to develop a very high optical payload for small satellites for de
NEMOS	The main objective is to detail design an EO mission for maritime surveillance for defe
OMEGA	The main objective is to research and develop an innovative optical instrument (iS European Earth Observation Mission MANTIS (Mission Agile Nanosatellite for Terr needs of the Oil and Gas sector.
CubeSats	The main objective of this project is the development of a high-resolution multispectral which is designed from nanostructures for optical components (multispectral lenses and formed by the compnay and the CSIC IMN-CNM.
BIZKARGI	This is a business strategy project whose ultimate objective is to offer the market a earth observation applications that includes both the SATLANTIS payload and the e
CIBERSEGURIDAD	The objective of this project is to implement a CASB tool, thanks to which SATLANTIS and control of the main in cloud applications.
LUR-BAT	The objective of this project is to develop a low-orbit nanosatellite mission that will al can exploit for the benefit of citizens, the Basque economic sectors, and the diverse in camera for its integration into the EUSKALSAT satellite
I022 BDIHKonexio Programa	Prueba de Concepto de solución escaneado óptico de piezas para aseguramiento de l
SENER AEROESPACIAL	
APOS-UE	Project on indoor navigation of soldiers or small mobile platforms. SENER Aeroespaci to provide the navigation solution.
EXCEED COMINT	Trusted and system-on-Chip for European Defense applications. The EXCEED projec flexible and trustable processor family targeting a number of ruggedized and secur controllers, signal processing arrays, flexible radio, flexible cryptography, secure po
OPTIMISE	Innovative positioning system for defence in GNSS-denied areas. This project will pr -or a smart combination of disruptive technologies- having all advantages and limit software architecture to integrate them.
ADVANCED TVC FOR MICRO-LAUNCHERS	Design, developing and test of an Advanced Thrust Vectoring Control (TVC) for micr
EO-DDL PDT EM	Development of a full dual (X and K) band EO Data Downlink System (EO-DDL), targ includes two on-board sub-systems: the Payload Data Transmitter (PDT) assembly a Antenna (UDBA) assembly.
AURORA	The AURORA project provides a suite of European tools for the development and va interoperability and the exchange of information on the platform. Simplifying the p software programming times and lower production costs. The auto-coding in-flight missions, including the telecommunications market and the so-called NewSpace.

	CALL
fence aplications.	European- EDIDP Program
ence applicacionts based on msall satellites.	European- EDIDP Program
SIM-12U) for the 12U CubeSat (qbee 12) nanosatellite for the estrial Imagery Services), which will respond to the specific	National - PID - CDTI
optical camera that can be integrated into CubeSats platforms, and d filters). In this project SATLANTIS is the leader of a consortium	National - Retos Colaboración
very high resolution standardized comprehensive solution for entire satellite platform.	Regional - Basque Calls - DFB 3i
will be able to mitigate the risk of data loss thanks to the visibility	Regional - Basque Calls - Ciberseguridad Industrial
llow the Basque Government to have earth observation data that it nterests of autonomy. In this project SATLANTIS provides the	Regional - HAZITEK - Basque calls
a calidad en nodo del BDIH con sensor OptiScan y software M3	Regional - Basque Calls – Konexio
al is responsible for the data fusion part of the sensors developed	European - ESA - GSTP
t is aimed at creating a European supply chain of reconfigurable, e defence applications such as secure communications sitioning, navigation and timing and mission critical controllers.	European - EDA
ropose a PNT "toolbox", offering a set of emerging technologies ts (that will be assessed and evaluated), as well as a backbone	European - EDA
ro-launchers.	European - EDA
eting data rates higher than 2 Gbps per channel. The DDL nd the Ultracompact Dual Band steerable (mechanically)	European - EDA
lidation of auto-coding in-flight software that optimizes process yields a more reliable solution, significantly shorter software is applicable in both scientific missions and commercial	European - H2020

RTD

PROJECT	SUMMARY
SENER AEROESPACIAL (cont.)	
EROSS	EROSS (European Robotic Orbital Support Services) objective is to demons trate the GEO satellites, enabling a large range of efficient and safe orbital support services. T on-orbit servicing spacecraft (chaser) to perform rendezvous, capturing grasping, b (target) provisioned for servicing operations including refuelling and payload trans
ET PACK	Satellite de-orbiting system, based on a space tether
HIPATIA	HIPATIA (HelIcon PlasmA Thruster for In-Space Applications). The Spanish scientific t Airbus, the National Centre of Scientific Research, both in France, and the company will validate the performances and operation of a new electric space propulsion tec small space platforms: the Helicon Plasma Thruster (HPT), testing the functioning of
BMOM	The objective of Business Model For Orbital Maneuvering Kit - BMOM is making a bu flagship result of ET PACK project into a genuine innovation with a disruptive socio- competitiveness of the European space industry. The project ET PACK is developing activated at the end-of-life for post mission disposal.
PERIOD	SENER Aeroespacial is part of the European consortium for PERIOD (PERASPERA In-Or by PERIOD will pioneer construction of major components such as antenna reflectors, replacements, directly in space. This is the precursor to future manufacturing of large team of seven European innovators, bringing their own expertise in fields such as rob Aeroespacial, DFKI, EASN-TIS, GMV, GMV-SKY, ISISPACE and Space Applications Servic
ACTECA	ACTECA - Accelerators and Associated Technologies for Large Scientific Facilities. Deve for applications in particle accelerators and more direct application in the DONES /IFM
POD COMINT	Development of a prototype of COMINT equipment (Inteligencia de Comunicacione
COMINT E2	Development of a basic prototype of COMINT equipment (Inteligencia de Comunicaci
ARCO	Development of a convoy of vehicles with mixed functionality (tele-operated and au navigation unit. The project aims to obtain the requirements definition of a military and to reach a TRL5/6 demonstrator.
HI-PREST	HI-PREST, Technologies for highly reliable mechanisms and sub-micrometric precisi of six Basque companies, led by SENER Aeroespacial and comprising the companies KORTA and ULMA Embedded Solutions, is working together on a project to develop cameras and other optical instruments
MADE	Researching and developing new materials and manufacturing routes (additive) to actuators for space applications.
TMBE	The main objective of the TMBE (Towards Model Based Enterprise) project is researc intelligent digital models applied to the design of products, processes and business

	CALL
e European solutions for the Servicers and the Serviced LEO/ The project will assess and demonstrate the capability of the erthing and manipulating of a collaborative client satellite fer/replacement	European - H2020
	European - H2020
team SENER Aeroespacial-UC3M leads a consortium with Advanced Space Technologies in Germany. This consortium hnology that could be used in various types of satellites or f the new prototype.	European - H2020
usiness model for a Deorbit Kit in order to turn the economic impact in the space sector while increasing the a Deorbit Kit (DK) that will be bolt-on to satellites and	European - H2020
rbit Demonstration) Project. The "orbital factory" envisioned assembly of spacecraft components and satellite payload structures in orbit. Airbus Defence and Space is leading a otic operation, virtual reality, and in-space assembly: SENER es.	European Union - H2020
elopment of a high power RF summing cavity, with 160 inputs MIF projects (National Fusion Laboratory).	National - CIEN
es) located in a POD for tactical usage in aircrafts and UAVs.	National - DGAM
ones) for satellite communications and mobile communications.	National - DGAM
utonomous). SENER Aeroespacial is responsible for the product (following the requirements of the Spanish Army)	National - Spanish Ministry of Defense
on in critical applications and environments. A consortium EGILE Mechanics, FAGOR Automation, IBARMIA Innovatek, a high-performance scanner, with applications in telescopes,	Regional - Basque calls - HAZITEK
create a new generation of electromechanical devices: electric	Regional - Basque calls - HAZITEK
ch into advanced technologies for companies managed by models.	Regional - Basque calls - HAZITEK

RTD

PROJECT	SUMMARY
SENER AEROESPACIAL (cont.)	
MFOC	Development of technology, methodology and applications for the use of MPSoC (M SENER Aeroespacial, will validate the proposed technological concept, its potential board flight equipment.
CLIM Pre-Dev	Development of know-how and procedures for telescopes alingment TMA (Three M
TAP - Teleoprated ASCOD Platform	Design and development of a modular and interoperable system that allows transforn with teleoperable and/or supervised autonomous modes of operation.
MIRROR	The overall MIRROR activity has the objective to develop a multi arm robot system t Replacement Units (ORUs) or reflector Single Mirror Tiles (SMTs) from their stowed l
SISTEPLANT	
OASIS	Nanomaterial manufacturing process industrialization (Buckypapers). Open Access Si composite materials and components. Scaling up of 4 pilot plans (2 in the Basque Cou
PLATOON	Smart Maintenance and Failure Prediction on HVAC Elements
MAS4AI	Smart process and real time regulation of manufacturing process
ALUJOINT	Zero defects Manufacturing in multi-material welding process
GEVO	Intelligent Plant Assistant for Manufacturing Intelligence
ePROMAT	Large Dimension Composite Manufacturing Cell
TECNALIA	
OUTCOME PROJECT/ CONSORTIUM	Out of autoclave composite manufacturing, wing and tail unit components and m - Out of autoclave composite manufacturing, wing and tail unit components: Adva - Hot stamping of innovative aluminium alloys
C3CHARME	Next generation ceramic composites for combustion harsh environments and spac
IDEN	Intelligent Distributed Electrical Network
PHIVE	Development of power electronic technologies for >1kV aerospace applications
ERICE	Super hydrophobic and erosion resistant coating for turbine scroll and downstream
FASELAG	FAil-Safe Electro-mechanical actuation for LAnding Gear: development of an electrom main and nose landing gears for future SMALL A/C. Development of ECU HW&SW
VALEMA	Validation tests of electromechanical actuators and its dedicated control units at TRL
EMA4FLIGHT	Development of Electromechanical Actuators and Electronic control Units for Flight C
HFLE	Hybrid Fixed Leading Edge. - Development of RTM tool for leading edge with HLFC system - RTM process automation
SOFOCLES	Smart and Flexible Clamping solutions for Sealing
FLEXGAN	K-band GaN-based SSPA for flexible payloads and multicarrier operation for 5G satelli
CURE	Copernicus for Urban Resilience in Europe
AMULED	Air Mobility Urban Large Experimental Demonstrations
AEROTAPE	Fuselage high performance thermoplastic composites based on customized stack the
Uspace4UAM	Large scale demonstrations project
AMU-LED	Air Mobility Urban Large Experimental Demonstrations

	CALL
Multi-Processor System on Chip) systems. The Project, led by and its advantages for the use of this type of system in on-	Regional - Open Innovation Program - Madrid Calls
irror Anastigmatic).	Others - AIRBUS DS
ming a manned ASCOD platform into an unmanned platform	Others - General Dynamics European Land Systems
hat can relocate over a spacecraft, deploying Orbital ocation to their operational location.	Others - GMV AEROSPACE AND DEFENCE
ngle entry point for scale-up of Innovative Smart lightweight untry, 1 in Patras - Greece and another in Varsaw - Poland)	European-H2020
	European-H2020
	European-H2020
	Regional - Basque calls - HAZITEK
	Regional - Basque calls - HAZITEK
	Regional - Basque calls - HAZITEK
ultifunctional design. CORE PARTNER OF ITD AIRFRAME anced preforming and RTM	European - CLEAN SKY 2
ce	Europeam- H2020-IL-LEIT-NMP
	European - CLEAN SKY 2 - SYS
	European - CLEAN SKY 2 - SYS
pipe	European - CLEAN SKY 2 - SYS
nechanical actuation system (EMAS) for extension-retraction of	European - CLEAN SKY 2 - SYS
6 level. Development of ECU HW&SW	European - CLEAN SKY 2 - SYS
ontrol Systems. Development of ECU HW&SW	European - CLEAN SKY 2 - SYS
	European - CLEANSKY 2 - LPA
	European- EIT Manufacturing
te concept	European- H2020-IL-LEIT-SPACE
	European- H2020-IL-LEIT-SPACE
	European- H2020-JTI-SESAR
rmoforming process	European - Smart-EUREKA
	European- SESAR
	European- SESAR

RTD

PROJECT	SUMMARY
TECNALIA (cont.)	
PLASTAIR	New aeronautical components of thermoplastic compound through highly efficie
AEROEMA	Electromechanical Actuation for Flight Controls. Development of ECU SW & HW, Mode complete EMA
AVANWINGLET	Advanced manufacturing technologies and the optimization of media and processes
CODISAVA	Advanced distributed control for air transport safety and energy efficiency
EKOHEGAZ	Digitalization in the intelligent and sustainable aeronautical industry for the zero emi
HASI4.0	Flexible, digital, connected and sustainable aeronautical manufacturing factory
HEGALAK	Hypersustaining surface for the wing of the future
DRYDRAPE	Installation for hot forming of dry fiber preforms
HI-PREST	Technologies for a new generation of ultra-precision and high-stability automated sys
FAKTORIA	Research of new technologies and production processes of theBasque aeronautics ma
TECNUN	
PIBA55	Obtaining Noise Maps Using a Microphone Array Network Using Spatial Estimation ar
CODISAVA 2	Advanced Distributed Control for Air Transport Safety and Energy Efficiency
AEROLUBE	Oil gerotor pumps CFD simulation
TEKNIKER	
ASSALA	Advanced Simulation Solutions Applied to Quality Control of Laser Deposited Metals
LiTRAS	Linear Innovative Thrust Reverser Actuator System
RECYCOMP	Development of equipment for composite recycling process of uncured material
FLUIDER	Real-time sensors for monitoring fluid contamination from electro-actuators
INNOTOOL	Development of Thermoplastic press-forming Tool for Advanced Rear End Closing Fra of the Advanced Rear End Prototype
WEIBAL	Development of an innovative system for measuring the weight and unbalance of an
EUCoM	Development of new standards for the evaluation of the uncertainty of geometric me
LAVA	Metrology applications for high volume applications
MULTIPOINT	Multi-beam femtollaser system for high-performance micro-drilling of HLFC struc
i-TRIBOMAT	Intelligent Open Test Bed for Materials Tribological Characterisation Services
MadebyEurope	Added Value Manufacturing KIC
DIMAER	Development of design and manufacturing technologies to produce special DIaMond
ESCAPHIB	Structures and systems in tail for a hybrid propulsion airliner
LUBRINTEL	New intelligent lubrication systems for metal processing
5R	Red Cervera de Tecnologías robóticas en fabricación inteligente
PROCODA	HIGH-VALUE PROCESSES BASED ON KNOWLEDGE AND DATA
ELKARBOT	New functionalities in flexible robotics that promote the implementation of robots in
HIPERION	Generation of knowledge and capabilities for new space technologies and future plar
Precitek	Precision engineering for the improvement of manufacturing means
COGILE	Enabling technologies (KET) for efficient cooperation between workers (IanGILE) and
TrebezIA	Intelligent and agile BRTA ecosystem to accelerate the implementation of the new generati

	CALL
nt forming processes	National - CERVERA
el Based Design, Integration , tunning and validation of	National- CIEN
to produce configurations of composite material winglets.	National- CIEN
	Regional - Basque calls - ELKARTEK
ssions airplane	Regional - Basque calls - ELKARTEK
	Regional - Basque calls - HAZITEK
	Regional - Basque calls - HAZITEK
	Regional - Basque calls - HAZITEK
stems	Regional - Basque calls - HAZITEK
anufacturing network for the future High Speed Turbines	Regional - Basque calls - HAZITEK
nd Distributed Consensus	Regional - Basque calls - PIBA
	Regional - Basque calls - ELKARTEK
	Regional - Basque calls - ELKARTEK
	European - CLEAN SKY 2
	European - CLEAN SKY 2
	European - CLEAN SKY 2
	European - CLEAN SKY 2
me Prototype and Tooling 4.0 for Assembly and transportation	European - CLEAN SKY 2
aircraft	European - CLEAN SKY 2
asurements in the industry.	European - H2020
	European - H2020
tures	European - H2020
	European - H2020
	European - H2020
l tool for the AERonautical sector	National-CDTI-CIEN
	National-CDTI-CIEN
	National-CDTI-CIEN
	National-CDTI-CIEN
	Regional - Basque calls - ELKARTEK
the Basque industry	Regional - Basque calls - ELKARTEK
netary missions	Regional - Basque calls - ELKARTEK
	Regional - Basque calls - ELKARTEK
the intelligent systems of the Factory of the Future	Regional - Basque calls - ELKARTEK
ion of robotics in the factories of the future in the Basque Country	Regional - Basque calls - ELKARTEK

RTD

PROJECT	SUMMARY
TEKNIKER (cont.)	
ABIO	Abio: Smart Manufacturing
FAKTORIA	Sensorized tooling for machining
HEGALAK	High-Cadence Hyper-lift Surface for the Wing of the Future
GLACIER	Development of a sub zero SMART cooling system to optimize the machining of
LEMAK	New structures in Sandwich material for High Cadence Rudders for the Empen
ULCAVEEN	ULtrasonic CAVitation pEENing en componentes sometidos a fatiga mecánica
ADDINVAR	Feasibility study of the Invar 36 tool manufacturing process using laser technolo
DDV Motor	Linear force motor for Direct Drive Servovalve (DDV)
CLEAN-US	Integration of cleaning equipment without immersion for micro-perforated she
GEHIKUNTZA-FDM	Development of a head for the additive manufacturing of continuous fiber reinf
HORACE	Triboelectric energy harvesting for mars exploration
MetroLDR	Metrology for space large deployable reflectors
MIPU	MICRO-PUMP FOR BALL BEARING LIQUID RE-LUBRICATION
ROD-BUSHING	Tribological study under the "ROD-BUSHING" configuration
NEWVMR	NEW MAGNETOREOLOGICAL VALVE FOR LANDING GEAR
TTT GROUP	
NINFA	FA Suply Chain
UPNA	
TESLA	Development of the advanced technologies for future European satellite applica millimetre (above 300 GHz) wave frequencies, in multiple domains, including el materials and manufacturing technologies, and experimental characterization (
MIRACLE	Prove the feasibility of developing a radiative cooling device based on a Photon idea, fabricate a prototype, and start the roadmap to be used in other applicatio
INTERSPACE	Filters and passive components for future ground and space millimeter wave int measurement of passive components in millimeter frequencies
PID-2019-109984RB-C43	Radiofrequency antennas and headers for advanced radiometers in millir observation instruments. Main results: design, manufacture and characte
FUTUREFILTER	High-frequency passive filters and components for future high-capacity g connected world. Main results: high performance filters
BANDAQ	Analysis of satellite payloads and optimization of machining geometries for hig antenna feed chain configuration
LANs-6G	New lens antenna technologies for new space & 6G. Main results: high performa
AEROTERA	Fast and accurate characterization of the electrical and dimensional properties of the results: measurement techniques
GGWFILTROS	High-frequency devices for communications satellites with advanced manufactu

	CALL
	Regional - Basque calls - ELKARTEK
	Regional - Basque calls - ELKARTEK
	Regional - Basque calls - ELKARTEK
composite and thermoplastic fibers	Regional - Basque calls - ELKARTEK
nage of the Future	Regional - Basque calls - ELKARTEK
	Regional - Basque calls - ELKARTEK
ogy	Others
	Others
et metal	Others
orced polymer structures	Others
	Others
	Others
	Others
	Others
	Others
	Regional - ETORGAI - Basque calls
ations. Main results: Microwave/millimetre (1 to 300 GHz) and sub-ectromagnetic design and theoretical analysis/modelling, advanced e.g. high-power effects and space qualifications)	European - H2020
ic Meta-Concretes (PMC). Main results: prove the feasibility of this ons	European - H2020-FETOPEN
egrated radio systems. Main results: design, manufacture and	National - RETOS
meter frequencies that enable the new generation of earth erization of components	National - RETOS
ground and space communications systems in a hyper-	National - MINECO - RETOS
h capacity satellites in Q Band. Main results: compact Q-band	Regional - Navarra Calls
nce antennas	Regional - Navarra Calls
e surface of aeronautical elements with terahertz frequencies. Main	Regional - Navarra Calls
uring. Main results: GGW tecnology and metal 3D printing (SLM)	Regional - Navarra Calls

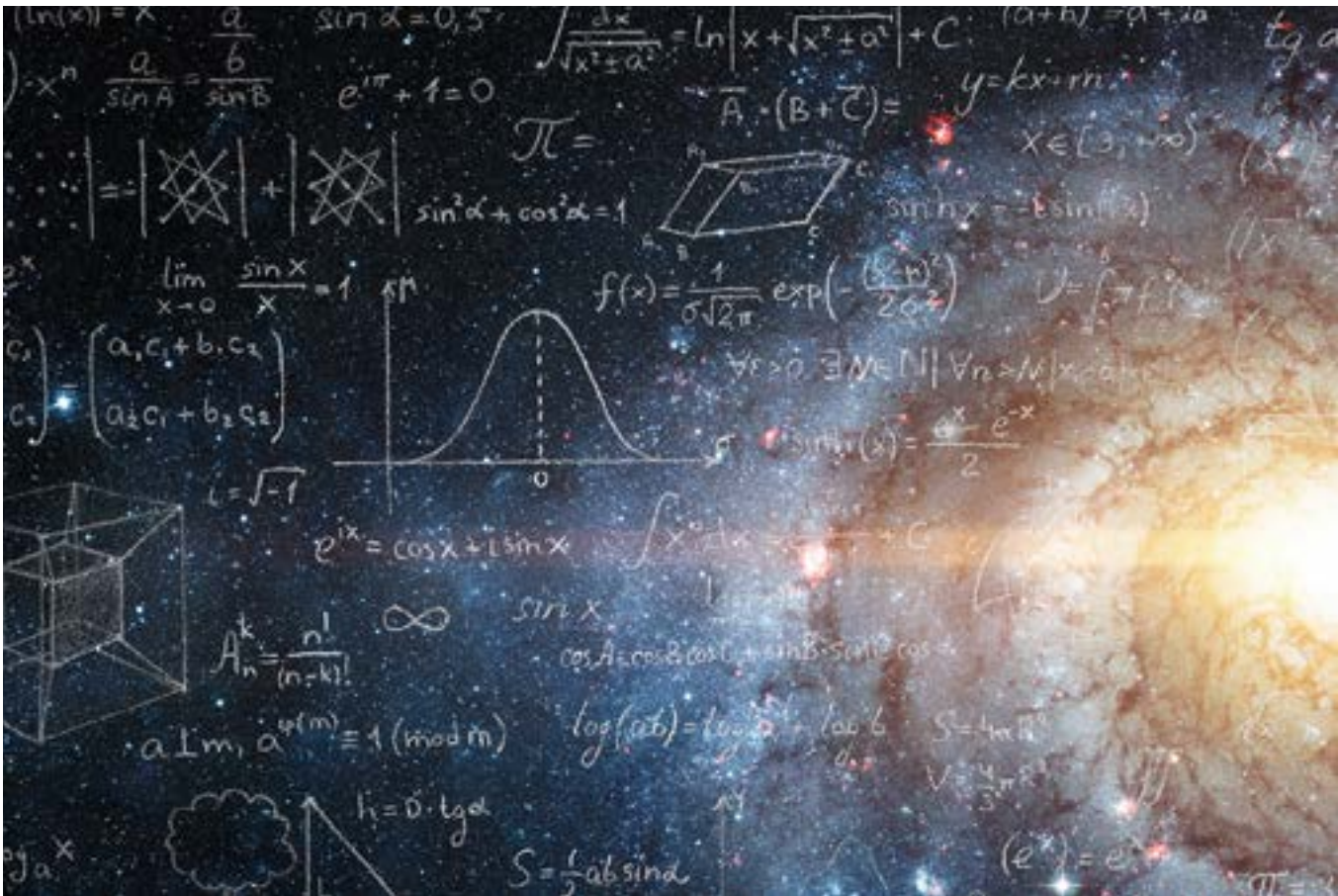
RTD

PROJECT	SUMMARY
UPV/EHU	
HUC	Development and validation of a powder HIP route for high temperature Astrolo sinterizado para fabricar carcasas de turbinas.
INTER-Q	Interlinked process, product, & data quality framework for zero defect manu fac AI-driven optimization tools to assure the quality in smart factories. Main results
PARADISSE	A Productive, Affordable and Reliable solution for large scale manufacturing of Subtractive processes with high Efficiency . The overall objective of PARADDISE stakeholders of manufacturing value chain t he knowledge and the tools for cor and Machining (milling and turning). Additive and subtractive manufacturing p
ADAM^2	Analysis, Design, And Manufacturing using Microstructures. It is proposed a u Analysis, Design, And Manufacturing using Microstructures produced by mult lead to scientific-technological development that impacts CAD and tool manu ploitation of heavy materials between an order of magnitude to two orders, in
HCR Taylor	New production of tools oriented to manufacture high value added component
JANO	Joint Action towards Digital Transformation. Apply digital transformation for th Digital business, the Intelligent factory and Connected product. Main results: Di
5G-Euskadi	Pilot for 5G technology. The SN4I (Smart Networks for Industry) deployed is b case. Main results: Deploy 5G sensors and MEC based applications and evaluat
TASTE	Aerodynamic technologies for next generation of geared turbofans. Rigs, con high-speed engines. Main results: designs and processes for components to be used at CTA and LIF
ITENEO	A global approach to improve the manufacturing of casings for the new aero wave of engines for aircrafts (NEO). Main results: High-feed turning and turn Cryogenic cooling on Ni-Co alloys. Polishing by robotic polishing and final ch
ENVIDIA	Virtual Environment of Design and Manufacturing of Aeronautical Turbines. Mo Leading to the concept of Virtual Engine, and allowing to migrate to a complete economically viable way.
FAKTORIA	New technologies and processes of Basque Manufacturing supply chain compar technologies for future turbines related with Ultrafan new aircraft engine. Main
COMPLETER	Components for test bench elements of critical system . A new process for produ Main results: A new industrial process with rect impact in turbine and compress
BEATRICE	High-performance broaching tools for new transport systems . Optimization o conditions. Main results: new broaching tools for several sectors, automotive a
ABIO II	Development of machine and systems for competitive Manufacturing of aerona to improve OEE in aeronautical production. Main results: software for smart cor

	CALL
oy to manufacture Ultrafan® IP Turbine Casings. Un nuevo proceso de	European - CLEAN SKY 2
turing. Digital solutions, intelligent systems, hybrid digital twins and s: use of blockchain and radical quality testing techniques	European - H2020 FoF
metallic components by combining laser-based ADDItive and project is to rationalize, to structure and to make available to the mbining two antithetical processes: Laser Metal Deposition (LMD) rocesses .	European - H2020 - FoF
nified manufacturing pipeline that will focus on all stages involving i-material 3D printers. Main results: The results of this project will facturing European markets and are expected to reduce the ex- volume.	Eusopean - H2020 FETOPEN
s of turbo machinery (haute couture taylor made)	National - Proof of concept
he development of key technologies oriented to put into action the gital twin, Process predictive models, predictive maintenance	National - CIEN
eing used as the pre-deployment scenario for the Industry 4.0 use te performance.	National - Red.es
n pressor and turbine components for next testing programs of T.	National - Retos Colaboración
engines. Improving manufacturing technologies used in the next -milling modelling, heck control by optical means.	National - Retos excelencia
deling and simulation of key processes for high speed turbines. ly new engine configuration in a safe, robust, efficient and	National - Retos Colaboración
nies for next future high-speed turbines. Manufacturing results: machine and optimised processes for 2030 engine programs.	Regional - Basque calls - HAZITEK
uction diof complex components for high-speed turbines or component manufacturing.	Regional - Basque calls - HAZITEK
f broaching tools, substrates, geometry, coatings, in high-speed and aeronautics .	Regional - Basque calls - HAZITEK
utical components. Optimization of machines and production lines ntrol of production lines.	Regional - Basque calls - HAZITEK

RTD

PROJECT	SUMMARY
WEC	
SELESTUR	New product family for dynamic sealing inter-stages turbine
ESCALITURB	Advanced forming, welding processes for hot structures on Turbines
CFAA Projects	Advanced welding processes
WOLCO	
TALDEA	Development of advanced Cutting-Tools
FACKTORIA	Development of advanced Cutting-Tools



	CALL
	Regional - Basque calls - HAZITEK
	Regional - Basque calls - HAZITEK
	Others: CFAA
	Regional - Basque calls - HAZITEK
	Regional - Basque calls - HAZITEK

Facts and Figures 2021

68 AEROSPACE MEMBERS

4 TIER 1:
Aerostructures - Engines - Space

9 *MID-CAPS*
Subassys - Equipment - Advanced Services - Engineering

39 SMEs
Components, Parts, Special Processes, Tooling, Advanced Services, Equipment... for Aerostructures, Engines, Systems and Space

1 AEROSPACE RTD CENTRE:
Certification Testing and RTD (3 Labs)

5 RTD ENTITIES
with 8 RTD labs with aerospace activities

5 UNIVERSITIES
ETSIB: Master in Aeronautics, Master in Space

169 FACILITIES AROUND THE WORLD
83 in the Basque Country
56 in the rest of Spain
30 abroad: Brazil, China, Germany, India, Malta, Mexico, Poland, Romania, UK, USA

5 CLUSTER allies:
M&A - Risks & Insurance - Intelectual Property - Legal & Tax - Financing

Members aggregated TURNOVER and EMPLOYMENT:
1,867 million € and 14,186 people

2021 Geographical breakdown	Turnover (M€)	△ 2020	Employment	△ 2020
Basque Country	766	-2%	4,679	-1%
Rest of Spain	755	-14%	6,666	-2%
Rest of the World	346	62%	2,841	28%
TOTAL	**1,867**	**-0,3%**	**14,186**	**3.1%**

2021	M€	% over Sales	Average % over Sales since 1993
MEMBERS **RTD investment**	117	6.3%	13.5%
MEMBERS **Exports**	1,371	73.4%	69.5%

CLUSTER DIMENSION (Facilities in Basque Country)

1% of the Basque GDP (*)	**4.6%** of the Basque Industrial GDP (*)	**2.4%** of the Basque Industrial EMPLOYMENT (*)

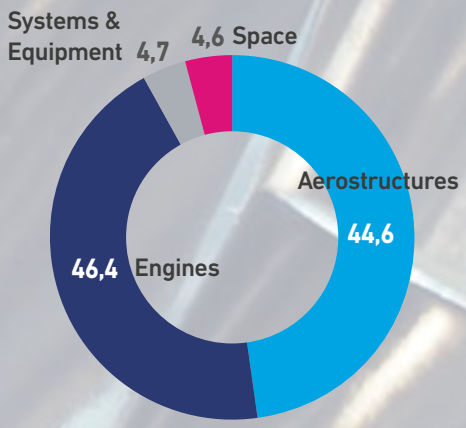
HEGAN MEMBERS DIMENSION (Facilities in Spain)

18% of the SPANISH (**) **1%** of the EUROPEAN (***) **aerospace TURNOVER**	**31%** of the SPANISH (**) **2%** of the EUROPEAN (***) **aerospace EMPLOYMENT**	**12%** of the SPANISH (**) **0,7%** of the EUROPEAN (***) **aerospace R&D INVESTMENT**

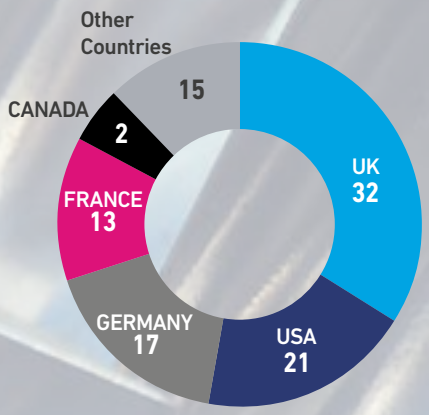
(*) EUSTAT 2021. (**) TEDAE 2020. (***) ASD 2020

Facts and Figures 2021

TURNOVER ACCORDING TO SUBSECTORS (%)



EXPORTS ACCORDING TO COUNTRIES (%)



RTD EFFORT

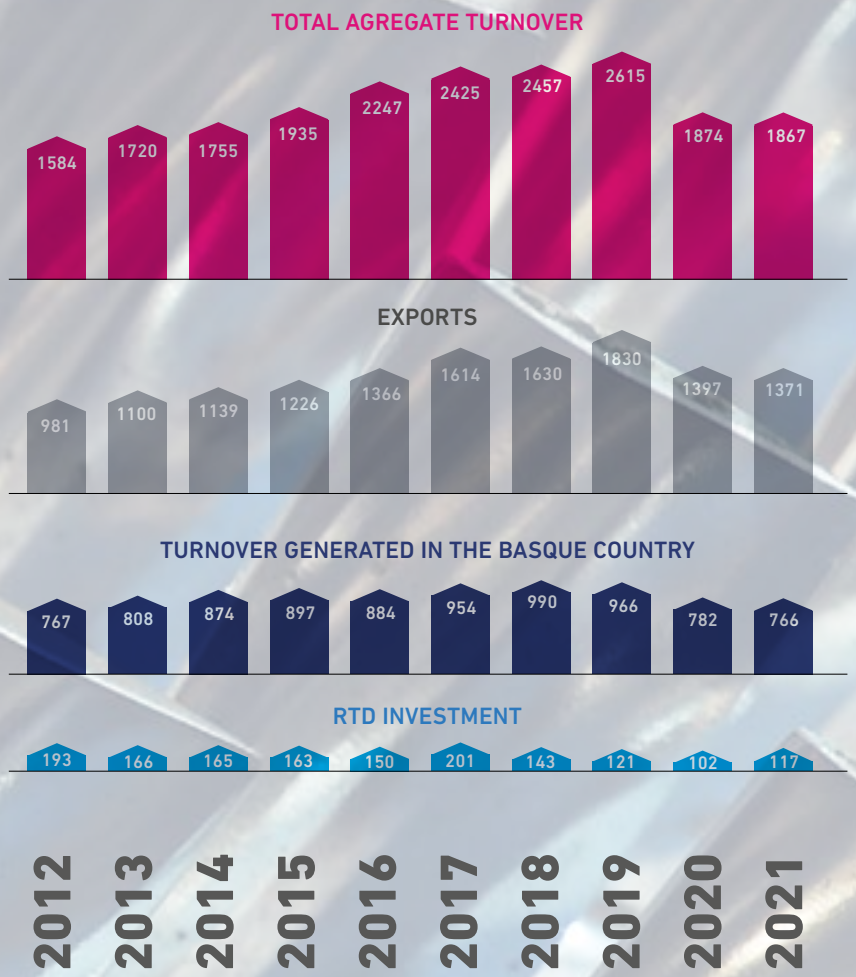
Auto-Financing 76 (%)
Public Support 24 (%)

227 RTD Projects active in 2021
12 Members participating in Clean Sky 2

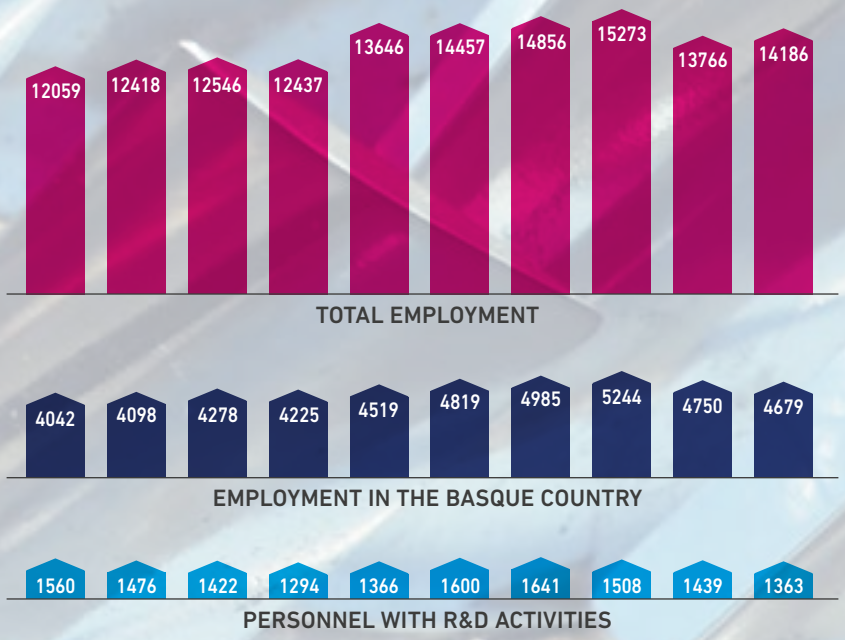
PEOPLE

Employment According To Qualification	TOTAL	FEMALE
Managers Engineers & Graduates	40%	53% (1,680)
Technicians, Administration and Others	25%	36% (1,137)
Manual Workers	35%	11% (337)
Total FEMALE Employment		22% (3,155)

EVOLUTION IN M€



EVOLUTION: PEOPLE



4

ACKNOWLEDGEMENTS

On behalf of the Hegan team and on behalf of myself, we would like to thank the Members of this Association. You have continued to trust us as a valuable tool for your competitive development and the sustainability of our sector after a year, 2021, which, despite the clear difficulties, is showing signs of a gradual recovery.

This period, including the first months of 2022, has been outstanding in terms of your participation in the initiatives of this Cluster. We have held meetings, sessions, webinars, conferences, workshops, committees, work groups in which we have seen the participation and involvement of a multitude of Associates. Collaborating and working together is essential to consolidate this path of recovery on which we are already walking firmly.

Of course, we extend our acknowledgements to all those who constitute the Euskadi Cluster: Administrations, Agencies, Start-ups... They are all essential pieces towards building the solid framework that supports the development of our Sector, of the Industry, and thus, of our Society.

MILESKER BIHOTZ-BIHOTZETIK! THANK YOU VERY MUCH INDEED!

Heganeko taldearen izenean eta nire izenean, eskerrak eman nahi dizkizuegu elkarte honetako kideei. Zuen garapen lehiakorrerako eta beste urte batez, 2021ean, zailtasunak zailtasun, pixkanaka suspertzen ari dela ikusten dugun sektoreari eustea lortu dugu.

Denboraldi hori, 2022ko lehen hilabeteak barne, garai aparta izan da kluster honetako ekintzetan izan duzuen parte hartzeari dagokionez. Bilerak, saioak, web-mintegiak, topaketak, lantegiak, batzordeak eta lantaldeak egin ditugu, eta elkarteko kide asko eta askoren parte-hartzea eta inplikazioa izan ditugu. Lankidetza eta elkarlana funtsezkoak dira, indarberritze-bide hori sendotzeko, eta bide horretatik tinko goaz dagoeneko.

Eta nola ez, eskerrak eman nahi dizkiegu Euskadiko Klusterra osatzen duten guztiei ere: administrazioei, agentziei, ekimenei… Horiek guztiak funtsezkoak dira gure sektorearen, industriaren eta, beraz, gure gizartearen garapenaren oinarri den egitura sendoa eraikitzeko.

MILA ESKER BIHOTZ-BIHOTZEZ!

En nombre del equipo de Hegan y en el mío propio, queremos transmitir nuestro agradecimiento a los Miembros de esta Asociación. Habéis seguido contando con nosotros como herramienta de valor para vuestro desarrollo competitivo y el sostenimiento de nuestro sector tras un año, 2021, que a pesar de las dificultades, vislumbra una paulatina recuperación.

Este periodo, incluyendo los primeros meses de 2022, ha sido una época excepcional en cuanto a vuestra participación en las acciones de este Cluster. Hemos realizado reuniones, sesiones, webinarios, encuentros , talleres, comités , grupos de trabajo; en la que hemos contado con la participación e implicación de multitud de Asociados. La colaboración y el trabajo en común es esencial para consolidar esta senda de recuperación por la que ya caminamos con firmeza.

Cómo no, este agradecimiento lo extendemos a todos los que conforman el Cluster de Euskadi: Administraciones, Agencias, Iniciativas... Todas ellas son piezas esenciales para construir el sólido armazón en que se apoya el desarrollo de nuestro Sector, de la Industria y por lo tanto de nuestra Sociedad.

MILESKER BIHOTZ-BIHOTZETIK! ¡MUCHAS GRACIAS DE VERDAD!

Ana VILLATE
Directora HEGAN

HEGAN participated in the international project co-financed by INTERREG SUDOE:
BLOCK4Coop - Cooperation to promote and implement BLOCKCHAIN technology in the development of Industry 4.0

Interreg Sudoe
European Regional Development Fund
EUROPEAN UNION

HEGAN participated in the international project co-financed by Euroregion NAEN:
VALIDDANTENNESS - validation de la fabrication additive d'antennes pour applications spatiales

EURORÉGION
EUROESKUALDEA
EURORREGIÓN
NOUVELLE-AQUITAINE • EUSKADI • NAVARRE
AKITANIA BERRIA • EUSKADI • NAFARROA
NUEVA AQUITANIA • EUSKADI • NAVARRA

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