



ANNUAL REPORT 2025

CFAA

10 years...
flying together

Fabrikazio Aeronautiko Aurreratuko Zentroa
Centro de Fabricación Avanzada Aeronáutica



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48170 Zamudio*

01 ABOUT US

The Aeronautics Advanced Manufacturing Center, a new Company-University relationship model

The Aeronautics Advanced Manufacturing Center was established as a novel model for collaboration among diverse partners focusing on advanced manufacturing technologies and machines. This center was promoted and financially supported by the Basque Government and the Bizkaia Provincial Council.

CFAA is envisioned as a collaborative research centre of the University of the Basque Country (UPV/EHU) and a consortium of companies. The main aim is to work and develop 'Manufacturing Readiness Levels' 6-7 projects, in which validation tests in representative environments are required.

The outcomes include the introduction of new manufacturing processes, advancements in machine tools, additive manufacturing, inspection techniques, digital technologies aligned with Industry 4.0 principles, innovative ideas, and the provision of advanced training at all technical levels, ranging from vocational training to PhD programs.



02 CFAA FIGURES

	2025	2016-2025
Total budget [k€]:	2079	13650
Funding coming from companies [k€]:	1494	8530
Initial funding for facilities [k€]:	-	9000
Industrial partners:	+ 4	119
Number of TRL 5-6 projects performed:	155	1101
Number of papers published (JCR):	28	350
Number of researchers / technicians at CFAA:	+ 4	39
Number of PhD students (Doctorate):	3	19
Number of MSc students (Master level):	+ 3	29
Total people visiting CFAA	170	1650





03 PEOPLE

2025

Total “souls on board” (PhD):	63	(26)
Direction (PhD)	2	(2)
Technical management (PhD):	6	(5)
Researchers (PhD)	24	(7)
Academic researchers (PhD):	9	(9)
PhD students:	3	
MSc students:	3	
Undergraduate students:	5	
Administrative:	1	
Technical students in Dual Program:	6	
Visiting and academic collaborators:	4	(3)

03 PEOPLE



03 PEOPLE

Some of us...



Norberto López de Lacalle
General Director
Machining Processes



Aitzol Lamikiz
Deputy Director
Additive Manufacturing



José Antonio Sánchez
Head of Dept. of Mech. Eng.
Precision Processes



Asier Fernández
Tech. Management
Manuf. Technologies



Izaro Ayesta
Tech. Management
Non-convnt. Machining



Adrián Rodríguez
Tech. Management
Special Processes



Roberto Polvorosa
Tech. Coordinator
Machining Processes



Octavio Pereira
Tech. Coordinator
Machining Processes



Silvia Martínez
Tech. Coordinator
Additive Manufacturing



Iker Cerrillo
Tech. Coordinator
Welding Technologies



Jon Ander Ealo
Postdoc. Researcher
Machining Processes



Leonardo Sastoe
Postdoc. Researcher
Digital manufacturing



Gonzalo Mtz. de Pison
Researcher
Machining Processes



Ander del Olmo
Researcher
Broaching & Machining



Pablo Fdez. de Lucio
Postdoc. Researcher
Machining Processes



Asier Artabe
Researcher
Machining Processes



Soraya Caneda
Researcher
Non-convnt. machining



Mikel Gonzalez
Postdoc. Researcher
Finishing Processes



Ibon Holgado
Researcher
Non-destructive testing



Francisco J. Amigo
Postdoc. Researcher
Machining Processes



Nagore Villarrazo
Researcher
Machining Processes



Guillermo Gonzalez
Researcher
Smart Metrology



Dmytro Lesyk
Postdoc. Researcher
Post-processing technologies



Jun Wang
Postdoc. Researcher
Non-convnt. machining



Cristian Pérez Salinas
Researcher
Broaching & Machining



Endika Tapia
Researcher
Digital manufacturing



Jokin Perez
Researcher
Finishing Processes



Ander Basaras
Researcher
Additive Manufacturing



Iñigo Fonfría
Researcher
Non-destructive testing



J. Exequiel Ruiz
Postdoc. Researcher
Additive Manufacturing



Ainhoa Castrillo
Researcher
Precision Machining



Álvaro Sainz de la Maza
Researcher
Machining Processes



Ander Gonzalez
Researcher
Sustainable Manufacturing



Eki Beroitz
Researcher
Sustainable Manufacturing



Jorge Gil
Researcher
Fixture & Clamping



Eduardo Martín
CFAA Fellow
Manuf. Technologies



Montse Martin
Administrative



Soraya Plaza
Academic Researcher
Metrology & Inspection



Naiara Ortega
Academic Researcher
Metrology & Inspection



Amaia Calleja
Academic Researcher
Machining Processes



Haizea Gonzalez
Academic Researcher
Machining Processes



Eneko Ukar
Academic Researcher
Laser technologies

04 INDUSTRIAL PARTNERS

FULL MEMBERS:	25
ASSOCIATED MEMBERS:	85
COLLABORATORS:	9

Full members: Type A



Full members: Type B



Full members: Type C



Associated Members



Collaborators



Fondo Europeo de Desarrollo Regional (FEDER)
Una manera de hacer Europa
Eskualde Garapenerako Europar Funtzia (EGEF)
Europa gileak eredu bat

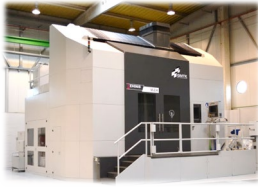


05 TECHNOLOGIES

- MACHINING (Multitasking, turning, milling, hole making...)
- CUTTING TOOLS (Tool life, wear mechanism, edge design...)
- EDM (Wire & Die-Sink Electro Discharge Machining)
- ADDITIVE (Laser Powder Bed Fusion, Laser Metal Deposition)
- METROLOGY (Multicontact, non-contact & optical metrology)
- INSPECTION (X-Ray, tomography, Ultrasonic inspection...)
- WELDING (TIG, MIG, Plasma, Spot and Laser Welding)
- FINISHING (Robotic cell, deburring, polishing, edge finishing...)
- BROACHING (Broaching, tool design and process technology)
- DIGITALIZATION (Machine learning, Industry 4.0, Digital twins...)
- GREEN MANUFACTURING (Advanced lubri-coolant technologies, LCA...)



06 EQUIPMENT



GMTK
GEMINIS VL2.4



DANOBAT
TV-1500



IBARMIA
THR16 Multiprocess



HERMLE
C52U MT



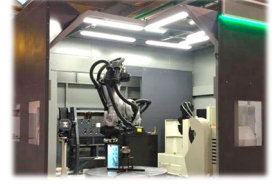
MAZAK
QT250MB-50000



MAZAK
QT250MB-50000



EKIN
A 218



GETTING
KUME Dbr PE203



ONA
NX7



ONA
AV35



RENISHAW
AM400



RENISHAW
AM500



KUKA
KRC 16 HW



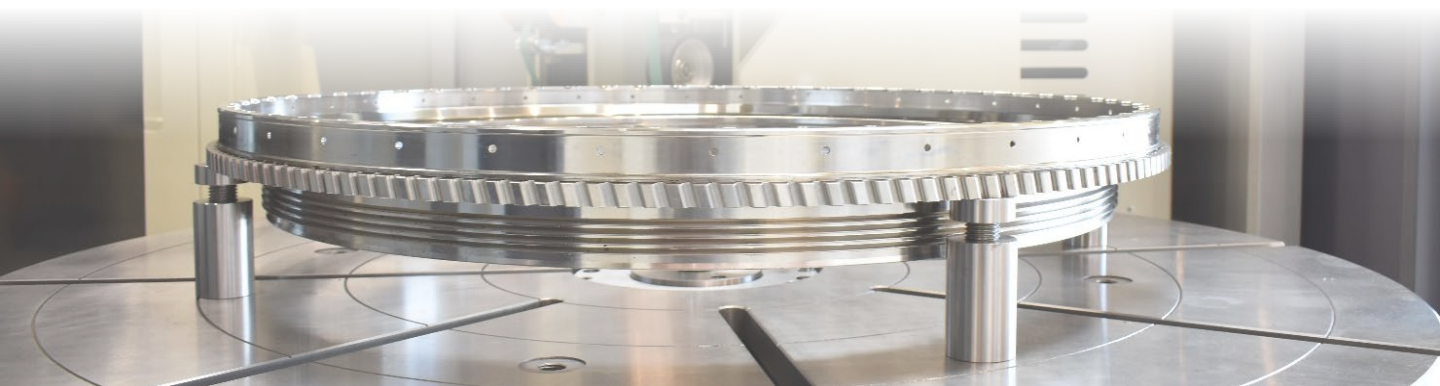
TRUMPF
TruLaser Cell 3000

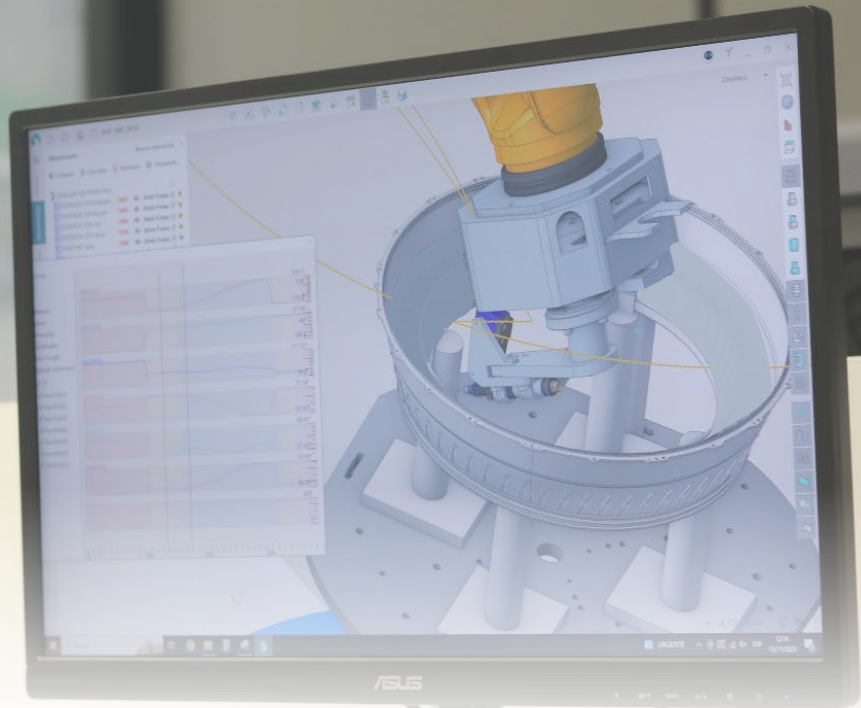


GE
X/CUBE compact 225



2 x MITUTOYO
CRYSTA APEX





06 EQUIPMENT (support devices)



SEM TESCAN
Vega Compact



MELTIO
M Engine V2



ZOLLER
SmartCheck 600



ALICONA
IF G5



ZEISS
T-SCAN Hawk 2



SOUDAX
Spot Welding



MITUTOYO
Formtracer
SV-C3200



HAMMELMANN
Bomba 300bar



NI
Pxie 5171



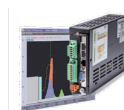
TEKTRONIX
DPO5034B



OROS
OR35



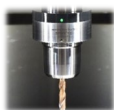
INGETEAM
IC3



MARPOSS
Artis



SAVVY
Smart box



PRO-MICRON
Spike 1.2



SPRINT
Sprint OSP60



BECOLD
Cryogenic
system



MIRUGAS
(Nippon Gases)



**VOLUME
GRAPHICS**
VGStudio



ENCY
(MecDATA)



SIEMENS
NX



DEWESOFT
Sirius



MASTERCAM
APlus



ZEISS
GOM Inspect



DEFORM 3D
FEM Simulation



MATERIALISE
FA Magics



TETRALYTIX
Toolzyer



MAL
Npro: NX Plugin

07 TOWARDS THE SDGs

SUSTAINABLE DEVELOPMENT GOALS



Quality Education

Technical degrees, MSc thesis, PhD Thesis, advanced training...



Gender equality

More than 30% women in the workforce...



Industry, innovation and infrastructure

Research, process development, industrial representative environment...



Affordable and clean energy

Novel affordable and clean energy processes and mobility technologies...



Responsible consumption and production

Process consumption control. In 2023, 12% lower electricity consumption...



Partnerships for the Goals

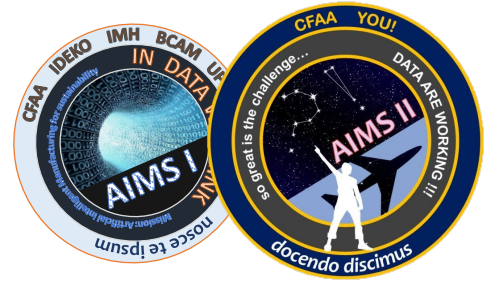
Alliances, agreements and collaborative environment...

08 ALLIANCES



As part of the University of the Basque Country, CFAA implies strong relationships with research groups and Universities in Brasil, Argentina, Colombia, Ecuador, México, USA, India, China, Europe...

09 AULA AIMS II



ARTIFICIAL INTELLIGENT MANUFACTURING FOR SUSTAINABILITY

AIMS Unit began as a 3-year agreement involving CFAA, University of the Basque Country, the research centre IDEKO, the advance formation centre IMH Campus and the Basque Research Centre of Applied Mathematics BCAM. Today, AIMS II consolidates the project with 6 years of signed collaboration agreements. The aim is to promote and collaborate on new projects in digitalization and artificial intelligence. Consequently, CFAA serves as a pilot factory for innovative machines, all interconnected within advanced networks. This setup makes data readily accessible, necessitating multidisciplinary collaboration and accelerating the adoption of numerous new technologies. We are confident that shared ideas and intensive efforts will yield optimal results in these cutting-edge areas.

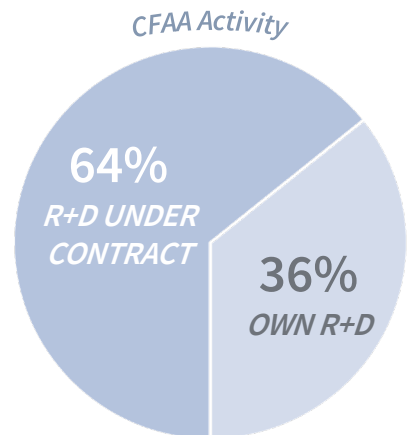
Another dimension of AIMS involves the promotion of new courses and seminars on manufacturing, in coordination with Aeroacademy, an initiative by the Basque aeronautics cluster Hegan focused on training.

Partners:



- 600 m2 working place
- Networking areas
- Meeting & training rooms
- PhD Students and senior researchers
- Your companies experts are welcome !!





10 LONG-TERM PROJECTS

EUROPEAN FRAME-PROJECTS

[INTER-Q] Interlinked process, product, & data quality framework for zero defect manufacturing

H2020 FoF-11-2020

CFAA partners involved: Ideko-Danobat, ITP Aero, UPV/EHU, Promicron

[ADAM^2] New manufacturable microstructured high-added value components with enhanced properties

H2020-FETOPEN-2018-2019-2020-01

CFAA partners involved: UPV/EHU, Trimek

[SUDOE-ADDITOOOL] Development and diffusion of Metal Additive Manufacturing technologies in tooling industrial sector for smart and sustainable growth of space

Interreg 20/24

CFAA partners involved: UPV/EHU

[HUC] Development and validation of a powder HIP route for high temperature Astroloy to manufacture Ultrafan® IP Turbine Casings.

Clean Sky 2 (H2020-CS2-CFP07-2017-02)

CFAA partners involved: UPV/EHU, ITP Aero

Institutional framework projects with UPV/EHU as consortium partner account for approximately 36% of the overall budget and activity of the CFAA. Remaining activity is managed through private contracts with partner companies and other entities.

10 LONG-TERM PROJECTS

NATIONAL FRAME-PROJECTS

[SARA] Federated process management architecture in discrete event manufacturing systems

Transmisiones, Ministry of Science and Innovation 2025-2027

CFAA partners involved: Fagor, Ibarmia, Ideko, Bcam, UPV/EHU

[FAUSTO] Sustainable and Secure Autonomous Factory through Deep Technologies

Transmisiones, Ministry of Science and Innovation 2025-2027

CFAA partners involved: ITP Aero, Ekin, Danobat, Savvy, Ideko, UPV/EHU

[TASTE] Aerodynamic technologies for next generation of geared turbofans

Retos colaboración, Ministry of Science and Innovation 2020-2023

CFAA partners involved: ITP Aero, UPV/EHU

[CRESCENDO] Production systems for exhaustive quality control in machined components from new Ultra Near Net Shape primary processes

Colaboración público-privada, Ministry of Science and Innovation 2021

CFAA partners involved: Ibarmia, UPV/EHU

[HCTaylor] New cutting tools production for manufacturing high added-value turbomachinery components

I+D+I Pruebas de Concepto, Ministry of Science and Innovation 2021

CFAA partners involved: UPV/EHU

[COAX] Proposal of two new laser head families for application with high reactivity materials and multimaterial coatings

I+D+I Pruebas de Concepto, Ministry of Science and Innovation 2021

CFAA partners involved: UPV/EHU

[ITENEO] A global approach to improve the manufacturing of casings for the new aeroengines

Proyectos de I+D+i, Ministry of Science and Innovation 2019

CFAA partners involved: UPV/EHU

[NEOPHYM] A new method for obtaining functional components by hybrid and machining processes

Proyectos de Generación de Conocimiento, Ministry of Science and Innovation 2022

CFAA partners involved: UPV/EHU

[DISTINCTIVE] Digital environment for heterogeneous structures manufacturing by Additive Manufacturing

Proyectos de Generación de Conocimiento, Ministry of Science and Innovation 2022

CFAA partners involved: UPV/EHU

[QUOLINK] A new way to assess quality in manufacturing processes by merging process data in high connected production systems in aeroturbines

Transición ecológica y digital, Ministry of Science and Innovation 2021

CFAA partners involved: UPV/EHU

[VERDE] Virtual environment for the redesign and re-manufacturing of metal parts by 3D printing

Transición ecológica y digital, Ministry of Science and Innovation 2021

CFAA partners involved: UPV/EHU

[MHAYA] Towards new industrial ecosystems of 2030, driven by new generation of cognitive machine tools, capable of learning and working autonomously and empathetically

Misiones, CDTI, Ministry of Science and Innovation 2022

CFAA partners involved: Danobat, Ibarmia, Ona, UPV/EHU

[REPRAIL] Development of a hybrid process based on additive manufacturing, machining and artificial vision for the REPAIR of high added value parts for the RAIL sector

Chineka, CDTI, Ministry of Science and Innovation 2023

CFAA partners involved: Ibarmia, UPV/EHU

10 LONG-TERM PROJECTS

REGIONAL FRAME-PROJECTS

[DATUA] Advanced Digitalization in Aeronautical Turbine Manufacturing.

HAZITEK strategic 2025 (Basque Government)

CFAA partners involved: ITP Aero, EIPC, Savvy, Ega Master, UPV/EHU

[INSULA] Ultra-fast inspection of aeronautical castings using resonant tomography

HAZITEK strategic 2025 (Basque Government)

CFAA partners involved: EIPC, UPV/EHU

[FAHECH] Additive Manufacturing of Repairable Hybrid Cutting Tools

HAZITEK strategic 2025 (Basque Government)

CFAA partners involved: Wolco, Alfe, UPV/EHU

[ERAGIN] A new ERA in advanced manufacturing of intermediate pressure modules for the Generation of Innovation and Knowledge.

HAZITEK strategic 2024 (Basque Government)

CFAA partners involved: Danobat, ITP Aero, Ona, Ekin, Savvy, Met. Marina, Intermaher, Intenance, Sariki, UPV/EHU

[LASTER] Technologically advanced LASer solutions for efficient and robust manufacturing

HAZITEK strategic 2024 (Basque Government)

CFAA partners involved: Fagor, ITP Aero, Savvy, UPV/EHU

[PROVERSE] Process metaverse through research into technologies for part virtualization and machining

HAZITEK strategic 2024 (Basque Government)

CFAA partners involved: Ibarmia, UPV/EHU

[WELD4ALL] Research into artificial intelligence methods for NDT detection of defects in multiple materials using active thermography

HAZITEK strategic 2024 (Basque Government)

CFAA partners involved: Sariki, UPV/EHU

[SKIVING] Development of technologies for the manufacture of gears by skiving

HAZITEK strategic 2022 (Basque Government)

CFAA partners involved: Ibarmia, Metalúrgica Marina, EIPC, Metal Estalki, Laip, TdG, UPV/EHU

[UPSCALE] Research and development of technologies, processes and simulation models required for optimized integration of subcomponents

HAZITEK strategic 2023 (Basque Government)

CFAA partners involved: Ibarmia, Oerlikon, UPV/EHU

[ACCUBASK] New technological solutions for precision engineering and advanced metrology...

HAZITEK strategic 2023 (Basque Government)

CFAA partners involved: Ona, Ibarmia, Danobat, UPV/EHU

[CONFLES] New manufacturing and automation technologies for a controlled, flexible, efficient and sustainable process applied to the machining of high performance materials

HAZITEK strategic 2023 (Basque Government)

CFAA partners involved: Ibarmia, Fagor, Sariki, UPV/EHU





10 LONG-TERM PROJECTS

REGIONAL FRAME-PROJECTS

[REVIR] Revaluation of chips generated during the machining process

ELKARTEK 2025 (Basque Government)

CFAA partners involved: UPV/EHU

[HANDIA] Humans at the center of AI-powered non-destructive inspection technologies

ELKARTEK 2025 (Basque Government)

CFAA partners involved: UPV/EHU

[ORLEGI] New generation of processes for sustainable (re)manufacturing

ELKARTEK 2024 (Basque Government)

CFAA partners involved: UPV/EHU

[BISUM2] Bio-Inspired Surfaces for Machine Elements II

ELKARTEK 2024 (Basque Government)

CFAA partners involved: UPV/EHU

[EKOPROP] Thermal management technologies for smart and sustainable propulsion of zero-emission aircraft

ELKARTEK 2024 (Basque Government)

CFAA partners involved: UPV/EHU

[METROTEK] Holistic and in-process metrology to control production

ELKARTEK 2024 (Basque Government)

CFAA partners involved: UPV/EHU

[ECOVERSO] Research into methods and systems that enable Virtual Factories to react with agility and robustness to uncontrolled ECOsystems.

ELKARTEK 2024 (Basque Government)

CFAA partners involved: UPV/EHU

[LAWI] Acquisition of laser-wire supply system

Infraestructura científica 2023. University of the Basque Country (UPV/EHU)

CFAA partners involved: UPV/EHU

[AIMS] Artificial intelligent manufacturing for sustainability unit

Aulas universidad-empresa-sociedad 2023. University of the Basque Country (UPV/EHU)

CFAA partners involved: UPV/EHU

11 SCIENTIFIC PRODUCTION

Publication Type	2017	2018	2019	2020	2021	2022	2023	2024	2025	Total
Conference	6	14	11	8	5	13	12	14	11	94
	<i>6</i>	<i>14</i>	<i>11</i>	<i>8</i>	<i>5</i>	<i>13</i>	<i>12</i>	<i>14</i>	<i>11</i>	<i>94</i>
Journal Paper (JCR)	26	57	37	60	40	41	31	30	28	350
Q1	<i>21</i>	<i>26</i>	<i>20</i>	<i>33</i>	<i>25</i>	<i>30</i>	<i>22</i>	<i>19</i>	<i>21</i>	<i>217</i>
Q2	<i>2</i>	<i>20</i>	<i>13</i>	<i>18</i>	<i>13</i>	<i>9</i>	<i>7</i>	<i>7</i>	<i>6</i>	<i>95</i>
Q3	<i>0</i>	<i>2</i>	<i>3</i>	<i>0</i>	<i>1</i>	<i>2</i>	<i>1</i>	<i>2</i>	<i>1</i>	<i>12</i>
Q4	<i>3</i>	<i>9</i>	<i>1</i>	<i>9</i>	<i>1</i>	<i>0</i>	<i>1</i>	<i>0</i>	<i>1</i>	<i>25</i>
Total	32	71	48	68	45	54	43	44	39	444



Accumulated cites (*papers published between 2017-2025*): 7,700 cites
 Accumulated cites (*papers published by the Group, 2000-2025*): 36,700 cites

UNIVERSITY RESEARCH GROUP BY THE BASQUE SYSTEM

Excellence group type A.

- 2022-2025 IT 1573-22 Advanced manufacturing in environments 4.0
- 2026-2023 IT 1894-26 Sustainable advanced manufacturing for industrial transformation

Recognized and funded by:



EUSKO JAURLARITZA
GOBIERNO VASCO

ZIENTZIA, UNIBERTSITATE ETA
 BERRIKUNTZA SAILA
 DEPARTAMENTO DE CIENCIA,
 UNIVERSIDADES E INNOVACIÓN



12 AWARDS

- **Young Talent Awards 2025**
Organized by: Asociación de Profesionales para la Competitividad del Mecanizado
- **Quality Innovation Award Spain 2025**
Organized by: CEX – Centros de Excelencia
- **ODS Awards 2024**
Organized by: Cadena SER and BBK
- **IJPEM-GT Awards 2023**
Organized by: The Korean Society of Precision Engineering
- **López Peñalver Award 2023**
Organized by: RAI - Real Academia de Ingeniería de España
- **Innovation and Sustainable Technologies Award 2023**
Organized by: Diario de Álava
- **Young Researchers Grant 2023**
Organized by: Departamento de Ingeniería Mecánica, UPV/EHU
- **Best PhD Thesis Award 2021**
Organized by: SIF - Sociedad de Ingeniería de Fabricación
- **Best MSc Thesis Award 2020**
Organized by: SIF - Sociedad de Ingeniería de Fabricación
- **Best Equipment Award 2018**
Organized by: Asociación de Profesionales para la Competitividad del Mecanizado

13 CFAA PARTNERS - Opinions

Throughout the year, CFAA friends visited us, and we seized the opportunity to ask for their insights:

Jaime Fernández Castañeda
ITP Aero

At the CFAA, a new model of public-private collaboration is being put into practice, which relates the aeronautic business sector (a business association with more than 100 partners currently) and the UPV/EHU through research applied to the market. The objective is for the largest centre of knowledge generation in advanced manufacturing technologies, such as the university, to work with a direct focus on final applications in a representative environment of production companies in the market. The success is spectacular and the results are exceeding all expectations that we could imagine a decade ago when it was born.



Nerea Aranguren
Danobatgroup

As the driving force behind the Aeronautics Advanced Manufacturing Centre (CFAA), we at Danobatgroup cannot fail to express our deep appreciation for the way this centre consistently championed excellence in innovation and development in the field of advanced manufacturing within the aerospace industry over the past year. Being part of this initiative fills us with pride, as we witness its consolidation and its commitment to not only upholding the highest standards but also pioneering new paths in research and development.

The collaborative spirit at CFAA has been instrumental in fostering connections and partnerships among diverse public-private stakeholders, including large corporations, SMEs, startups, academic institutions, research centers, and industry professionals. The cooperative spirit extends beyond traditional boundaries, linking various domains such as machine tools, aeronautics, and other manufacturing technologies. This unique, expansive network has proven invaluable, giving rise to collaborative opportunities that have resulted in the co-creation of innovative solutions. Furthermore, CFAA has successfully forged a unique ecosystem for talent development by providing a space for the training of highly skilled professionals and where excellence converges with creativity.

13 CFAA PARTNERS - Opinions

Arrate OLAIZ

Ibarmia

At IBARMIA we were clear from the beginning that we wanted to be part of the CFAA and the road we have travelled so far confirms that we were not wrong.

We are very active in taking advantage of this collaborative space to develop knowledge on machines and processes, as well as incorporating technologies and/or knowledge from other partners.

Having a research space like this allows us to test the machine in conditions very close to industrial ones and therefore helps to reduce the risk and the time to market of the developments.

If we add to this a team of people who are trained and always willing to collaborate, the work is even easier.

We will continue working and making the CFAA a reality with a great future projection.



Jose Mª Ramos

ONA Electroerosión, S.A.

Since the early beginning of the CFAA activities, ONA has maintained a continuous line of collaboration in the electrical discharge machining technology (EDM) applied to the manufacturing of turbine components. A team of top-level researchers, highly skilled in non-conventional machining, has been consolidated on the leadership of Dr. Izaro Ayesta. They are addressing new shared challenges requiring deep knowledge in multidisciplinary fields like AI, software development or data science. That is the case of the MHAYA project, where the CFAA is collaborating with ONA on the digitalization of the discharge process at very high frequency, with the target of demonstrating the feasibility of a new disruptive ONA generator design.

13 CFAA PARTNERS - Opinions



Iñaki Beitia
Renishaw Ibérica, S.A.U.

Renishaw, as a founding member of the CFAA and a company specializing in smart manufacturing systems, industrial metrology, and additive manufacturing, is a unique brand in supplying a wide range of technologies for process control and verification. The CFAA ecosystem is an ideal place to test all the knowledge we can contribute to elevating the latest stages of PRL and bringing them to real production. We can develop these challenges within the CFAA in a spirit of collaboration or individually. We will continue actively support all these initiatives and CFAA with the latest innovations from Renishaw.

Pablo Acha
Nippon Gases

We started working in the CFAA some years ago with the aim of improving our current technological solutions and continue developing new ones. During these years, we have done projects with different companies that give us the opportunity to work in welding, cutting, additive manufacturing and cryogenic machining areas.

The machines of the CFAA allow us to do tests in the same or very similar machines of our customers, and its well qualified workers give us the opportunity to achieve our objectives in the time scope we plan them.



David Bernar
Wolco Group

We have been working with the CFAA for the past 7 years. In these years our experience has been that thanks to the effort and professionalism of the personnel of the CFAA we have been able to develop new technologies as well as new products. This could not have been possible without the CFAA. As a small- medium company our competitors are large multinational companies that of course have more resources for R+D projects. The fact that we can use the full power of resources of the CFAA gives us the opportunity to compete at a higher level. We are proud to be the first tool manufacturer that is an associate of the CFAA, as we believed in them and the team from the very beginning.



13 CFAA PARTNERS - Opinions



Pedro Pablo Rodriguez
EIPC

EIPC is a leading company in the world of special castings for engines and other aircraft components. We have identified new opportunities in additive manufacturing and secondary processes for both additive manufacturing and casting, and the projects we are developing in cooperation with CFAA are providing us with sound information in both fields. There are many opportunities arising in our sector and the possibility to collaborate with a group of companies with a common agenda helps to identify the most relevant ones. After the global crisis we suffered in the aeronautic sector in 2020, now we must take advantage of the recovering of the industry, and CFAA will be a key actor to help us in this purpose.

Guillermo Celaya
EKIN S. Coop.

The CFAA produces traction on member companies by promoting the generation of R+D. This is the only way to improve. Think, test, and develop the products of the future. Everything evolves thanks to R+D. Thanks to the CFAA, we are manufacturing the cutting tools, capable of machining the components that will be part of the engines of the future. We never stop “thinking together”.

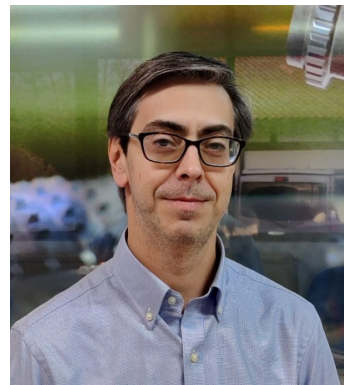


Boni Muriel y Santi Zamora
Izar Cutting Tools, S.A.L.

IZAR Cutting Tools is a leading company in the manufacturing of high-precision cutting tools, aiming to provide customized solutions for the machining needs of our clients.

The CFAA offers comprehensive support to IZAR Cutting Tools, aiding in the development of geometries, manufacturing processes, trends in new materials, and the testing of these advancements.

The result of this collaboration is a continuous improvement in the quality and innovation of our products, serving as an example of how cooperation between the university and the company generates synergies for the economic and social development of our environment.



13 CFAA PARTNERS - Opinions



Freddy Corrales
CERATIZIT Cutting Tools

CFAA was born as a new relationship model at research levels with application to the market. This clear focus on the market is where CERATIZIT, as a producer of cutting tools, has found an ideal space where the University gives us support at the R&D level. This exchange of knowledge has allowed us to improve and create new innovative products in the market of Aerospace machining. This knowledge is then transferred to our customers who benefit from it to improve themselves as a company. We also have an optimal space for the demonstration and industrial application of new developments in machining and Mechatronics.

We are very proud to be partners of CFAA and one of CERATIZIT's values "Long-term thinking" applies here: We deliver lasting value by being committed. Commitment to CFAA.



Javier Arenas López
Fagor Aotek S.Coop.

Fagor Automation and the CFAA have forged a robust collaboration in recent years, addressing key technological challenges in the machine tool sector, a mission especially relevant to us as CNC manufacturers. These joint efforts have strengthened our ability to provide advanced solutions tailored to our customers' specific needs, capitalizing on our shared commitment to innovation and continuous improvement.

Through various projects, we have explored the holistic optimization of manufacturing processes with the firm intention of achieving 'Zero Defect' production. We have advanced tools to maximize the benefits of digitalization and, more recently, we have turned our attention to the implementation of artificial intelligence in machining operations. We look forward to continuing this collaboration with the CFAA, addressing together future technological challenges in the field of advanced manufacturing.

13 CFAA PARTNERS - Opinions



Borja Garate
Metrología Sariki, SA – Grupo Unceta

Sariki is a global provider of dimensional measurement solutions and our mission underlines that we have to be at the forefront of technology to properly meet the needs of our customers. CFAA allows us to bring together developments from technology providers, our own initiatives and ambitious customer challenges in a collaborative space. The world doesn't move fast, it flies, and being part of this crew is both a source of pride and responsibility.

Ibon Azkona
Metal Estalki

Innovation has been a philosophy we follow in our company and we are fully committed to it. For that reason CFAA has been a key R&D partner for Metal Estalki in the field of the aeronautical industry during many years and is expected to continue being so in the future. We have collaborated with CFAA on important projects related to new manufacturing processes and cutting tool PVD coatings.

We are currently working on several projects related to cutting tool life improvements through new tool edge treatments, new coating materials and new post-treatments. We have many new ideas and CFAA is helping us make them a reality.



Pako Juaristi
INTERMAHER

Intermaher actively collaborates with the CFAA to address the real manufacturing challenges faced by our aerospace customers. Our focus is straightforward: improving processes, eliminating inefficiencies, and delivering technical solutions that create measurable impact on the shop floor.

Working with demanding materials such as titanium, Inconel, and other superalloys, we combine high-performance machine tools, specialized cutting solutions, and optimized CNC cycles to enhance our customers' productivity and reliability. Our mission is clear: turn every challenge into a proven, results-driven solution.



13 CFAA PARTNERS - Opinions



Ainhoa Etxabbarri
TRIMEK, S.A.

The intensive collaboration with different agents and partners of the CFAA has overcome our expectations, as these collaborations incremented the adjustment of some of our own products for the aeronautic sector while also providing high-tech equipment and expert knowledge transfer for precise and excellent experimentation.



Iosu Iribar
Fresmak

At FRESMAK we provide our customers with the most innovative workholding solutions for the machining industry, developing products with high added value, standard or bespoke, adapted to the requirements of our customers.

Over the last few years, we have worked with the CFAA on different projects in which we have developed several innovative workholding solutions. The CFAA has provided us with a collaborative environment to test our developments on state-of-the-art machinery and with the most qualified and competent professionals. Furthermore, for us it has been a link to be able to work with the leading companies in the aeronautical industry.



Gorka Marina
Grupo Metalúrgica Marina

Being part of the CFAA has been a key catalyst for our growth. On the one hand, it has fostered our interaction and collaboration with other companies and institutions in the aeronautical industry, as well as favoring commercial opportunities and the exchange of knowledge and experience in the sector.

On the other hand, at the center we have had access to state-of-the-art specialized machinery, which has given us a great competitive advantage that allows us to manufacture different parts and equipment.

But, above all, CFAA has given us the possibility of participating in R&D initiatives with other partners, which has greatly boosted our capacity for innovation and our involvement in more efficient manufacturing.

13 CFAA PARTNERS - Opinions



Joseba Allende Larrea
WEC Velatia

WEC has been working with the CFAA since its early creation. In all these years of collaboration, we have had the opportunity to develop many interesting R&D projects. These developments allow us to improve some of our production processes, as well as explore others that we do not have. The evaluation of new possible investments and production processes is of key interest, mainly to have real experienced data to go ahead with a real integration in our facilities or not. CFAA is a very valuable complement to increase our knowledge and technological development at a faster pace than we would be able to achieve on our own.



Mikel Artola & Raul Erasquin
Kendu S.Coop

Since 1976, we have been committed to provide precise and efficient answers to our customers' machining needs within the aeronautic sector. As the markets rapidly evolve, we seek to offer quality and precision tools that adjust to the new demands. To that end, the advantages that arise from being a partner of the CFAA are of immeasurable value to us. As a company that aims to perform as closely as possible with our customers, the ability to develop as a team with the CFAA has taught us immensely and has undoubtedly strengthened our ability to adjust to new challenges. Due to our ongoing collaboration, we are able to keep offering value and remain relevant.



13 CFAA PARTNERS - Opinions

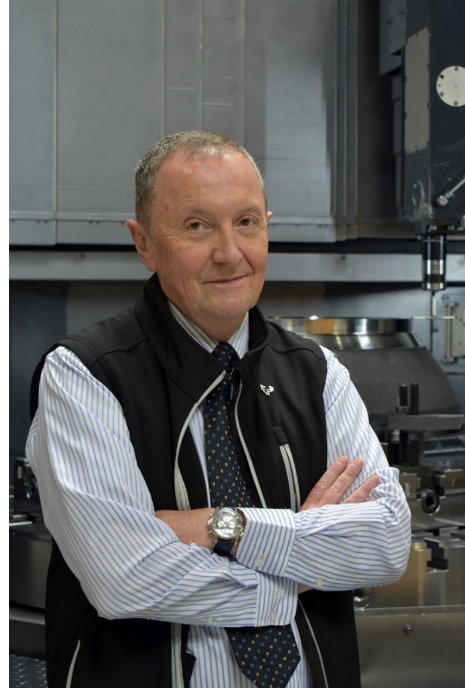
L. Norberto López de Lacalle

University of the Basque Country (UPV/EHU)

CFAA is one good idea. In 2014 the constitutive agreement was signed by Basque institutions: Basque Government, Bizkaia Provincial Council, the University of the Basque Country and an association of companies, then 11 today 108.

Several tips can explain the success of the idea. First, here two industrial sectors seek for collaboration, aeronautics and space with machine tools and production equipment. One is all time proposing challenges and machine tool manufacturers will help to propose good solutions. On the other hand, this is happening in a centre inside the structure of the university, so applied research projects, advance training, Ph.D. development and other activities help to achieve objectives. We attract also attention of some PhD and students coming from abroad. In short, to our mission of performing TRL 4-7 projects more no tangible benefits are happening.

As a professor, as engineer and as still today an apprentice of the noble arte of working metals, CFAA is a clear example of efficiency of R&D along with training. Our industrial sector face currently new challenges and cooperation is the basic ingredient of the success recipe. For the University of the Basque Country and the Faculty of engineers of Bilbao is also a centre to keep full contact with our productive sectors, offering students many opportunities to start a career in manufacturing and link this with companies' necessities. The future will depend on them, and on us to help them to get expertise in key technologies.



14 A SUCCESSFUL DECADE

- 2014 From an idea to a signature of the **Constitutive Agreement**
- 2015 General plan and **specifications** for workshop machine layout
- 2016 CFAA **workshop conditioning** and commissioning of the first machines
- 2017 Launching full activity and official **inauguration of the CFAA**
- 2018 Incorporation of **new partners** (from 11 to 47 in 2018) (109 in 2023)
- 2019 Incorporate new **high-tech machines** via renting (Mazak Integrex, ...)
- 2020 First **real demonstrator** for testing of the Ultrafan® turbine case
- 2021 3-year agreement to create the **AIMS Unit collaborative space** (CFAA, UPV/EHU, IDEKO, IMH, BCAM)
- 2022 Implementing a new 5G network operating at CFAA as the pre-deployment **scenario for the Industry 4.0** use case
- 2023 Starting activity on a research line focused on **sustainable manufacturing** and eco-efficiency, “the green corner”
- 2024 Signing of the new Agreement 25-28 with AIE for the maintenance of the CFAA
- 2025 Incorporate new **high-tech machines** via renting (Multitask, Dig. X-Ray, LPBF)



