

THE EUROAVIA MAGAZINE

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"Kepler blew the door off for exoplanets science. Now the question is, we found the planets, but are they indeed habitable?"

"The Learning Assurance Life Cycle (LALC) is a new methodology that aims to build the process of creating a machine-learning model more efficient, reliable and cost-effective."

Certifying AI for Aviation,
a long road ahead
by Alessandro Migliacio
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THE EUROAVIA MAGAZINE

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FROM THE EDITOR

This Business Year has brought numerous advancements for EUROAVIA: Working Groups have witnessed unprecedented engagement, International Events have enhanced cultural exchange and collaboration between Local Groups, and many projects have been successfully executed. The new editions of the Airbus Slicing Rocket Workshop and the Future and Beyond, as well as new competitions like Ideathon and PACE Contest perfectly reflect EUROAVIA's dedication to offering young engineers unprecedented opportunities to improve their skills and continuously learn and push their limits. Moreover, EUROAVIA's participation in events, conferences, and air shows has returned stronger than ever. Last but not least, the realisation of the first 5-year plan demonstrates our desire to advance the association with a clear and unified vision, to guide future generations of students and establish ourselves in the contemporary aerospace sector.

The articles in this edition of The EUROAVIA Magazine testify to the relentless commitment shared by all of us both from a local and international perspective. I would like to express my deepest gratitude to everyone who spent their time to contribute. Seeing the variety of content and our shared passion always makes me extremely fascinated and proud. Naturally, my team deserves a special thanks: to Chrysanthi, for her positivity and desire to always do more; Irina, for her guidance and patience; Andrea and Pedro, for embarking with me yet a second time in this journey.

I hope you will be proud to read what you all have contributed to as much as I am to present you with it.

Best regards,

Elena Tonucci

Communication Working Group Coordinator



LETTER FROM THE IB

EUROAVIA's resilience and ambitious vision - A flight towards the Future

As we approach the conclusion of another fruitful year, we celebrate reaching yet another milestone on our journey, and the International Board takes immense pride in sharing this adventure with all of you. In the analogy of EUROAVIA as a plane, the dedicated members of the International Board (Andrea, Francesca, Irina and Vicky) serve as the skilled pilots, steering through challenging times and soaring towards new horizons. Despite encountering turbulence in the past, we have remained resolute in our pursuit of progress. As we reflect on this year, a prevailing question has loomed in our minds: What destination lies ahead in our future flights?

In the wake of the global COVID-19 pandemic, EUROAVIA, under the guidance of its International Boards, faced numerous challenges to support its members and remain relevant in the aviation industry. The crisis tested the organization's resilience, adaptability, and commitment to its mission. Despite the setbacks, EUROAVIA emerged stronger, determined to fill the needs of its members. If the last Business Year marked a comeback to "normality" and to physical events and workshops, then this Business Year served as a turning point to decide the next directions of EUROAVIA, which you can find described in the following paragraphs.

Continuing our legacy, this year saw the successful execution of notable initiatives like the Airbus Slosing Rocket Workshop, Future and Beyond, and the introduction of Ideathon and the PACE Contest. These projects are a testament to our commitment to providing young engineers with opportunities to develop technical and soft skills during their university years. They also embody the continuity of our vision, building upon the achievements of past Boards. Collaborations with prominent aviation companies are vital for offering the execution of these projects, however the quality of our opportunities is related to the visibility of our association in the aerospace industry.

As the aviation industry bounced back from the pandemic's impact, EUROAVIA recognized the importance of being visible and relevant. We embraced new communication strategies to reach a broader audience and showcase our activities, and we were present in events, conferences, and air shows where we could make ourselves known.

It is important to mention that some of the activities we were involved in are closely related to the values promoted by the European Union and by the current aerospace industry. Our Vice-president, Victoria Prieto, attended the Aviation 4 Girls event in Brussels (Belgium) that was hosted in the EUROCONTROL HQ. The event was aimed at empowering young girls and raising awareness about the equality of chances within the aerospace industry. She also attended the finals of ASRW in Belgrade (Serbia), which presented a great opportunity to interact and promote our association within the local industry.

Irina Stoican, the current president, was part of the jury for the High Five Awards organised by the Clean Aviation Joint Undertake, an initiative for rewarding the leading figures who are advocating for a clean and sustainable aviation that was held at the Air Show in Paris (France).



Francesca D'Aversa, the secretary of EUROAVIA, joined the physical stages of Ideathon in Terrassa (Spain) and will try to join the finals in Munich (Germany), to support the organisation team in the inauguration of the project, as well as increase the visibility of the international side and strengthen the collaborations between EUROAVIA and its Local Groups.



The IB was also present in internal initiatives, with all officers participating in the WG Open Days sessions. Francesca presented the AS Roundtables in Patras (Greece), Irina the AS Roundtable Istanbul (online), and Andrea Hidalgo, the current Treasurer, the AS Roundtables in Terrassa and Castelldefels (Spain). These are only a few examples, however the values that we want to pursue as an association shine through. And these values form a vision that leads EUROAVIA to grow towards a new version of itself.

To ensure sustainable growth and prosperity, EUROAVIA embarked on the formulation of a meticulous 5-year plan. This comprehensive strategy aimed to solidify EUROAVIA's position in the industry and elevate its impact on aviation enthusiasts and professionals worldwide. Addressing the needs of our members, ideas and visions were developed. Overall, EUROAVIA's 5-year plan represents a forward-thinking and holistic approach, reflecting the association's commitment to advancing the aerospace industry and empowering young leaders for a bright future.

What was presented above is only a small part of the achievements of this Business Year. We would like to express our deepest gratitude to all the WG members and the taskforces who contributed to this year's success. Even if we, as IB, have reached our destination, we are sure that our association will continue its journey and carry on the EUROAVIA spirit with fresh ideas and commitment. The future holds limitless possibilities, and we eagerly look forward to soaring towards new heights as we embark on the next phase of EUROAVIA's adventure.

The International Board of EUROAVIA 2022-2023

ABOUT THE IB:

The International Board is the body that manages and represents EUROAVIA at an international level.

This Business Year, it has been composed of Irina Stoican (AS București), Victoria Prieto (AS Sevilla), Francesca D'Aversa (AS Napoli), and Andrea Hidalgo (AS Castelldefels), having the roles of President, Vice-President, Secretary, and Treasurer, respectively.



LETTER FROM THE DIB

Since the resumption of EUROAVIA after the pandemic, we have seen remarkable progress and growth within our association. Although this has been a challenging time, we have successfully weathered the storm and now stand strong as a beacon of opportunity for all our members. As we move forward, we are fuelled by the momentum gained during our recovery, and our aim is not only to maintain this momentum, but to surpass all previous achievements.

For the first time in EUROAVIA's history, we have developed a comprehensive 5-year plan that will guide us with a more streamlined approach to managing the association. This plan will serve as a roadmap, outlining our visions and goals; and ensuring a focused and efficient execution of projects and initiatives.

My commitment to ongoing projects remains unwavering, and I am enthusiastic about initiating new projects that align with our vision and the 5-year plan. Building on the foundations laid by previous Boards and members, I also bring fresh perspectives and ideas to improve the Association.

As the IB, my main focus will be to empower our members to get the most out of their EUROAVIA life. I recognise EUROAVIA as a platform for personal development and growth, while maintaining a strong European connection. By optimizing the management of the association and aligning it with our vision, our members should benefit from a wealth of opportunities to thrive both locally and globally within EUROAVIA.

I also see EUROAVIA as a bridge between young engineers and companies. In this regard, I am determined to forge new partnerships and secure sponsors who share our vision of promoting the professional life of students. Our ultimate goal for EUROAVIA is to inspire aerospace enthusiastic students to collaborate, innovate and shape the future of aerospace across Europe.

I would like to express my sincere gratitude to all our members who, through their unwavering commitment and passionate efforts, have brought EUROAVIA to where it is today. As we look to the future, I look forward to working with every EUROAVIAN to collectively build the wings of their future and soar to new heights.

With best wishes,

The Designated International Board of EUROAVIA 2022 -2023

ABOUT THE DIB:

Pavitarpal Singhlitt is a master's student in aerospace engineering at the University of Aachen. He is passionate about everything that is airplane-related and is aiming to work in the jet propulsion industry.



INTERNATIONAL EVENT REPORTS

What better way to immerse yourself in the “EUROAVIA Spirit” than by participating in our International Events? These gatherings offer the perfect chance to explore, connect, and make incredible memories alongside newfound friends. In the following pages, you will find detailed reports about the fantastic journeys our members embarked on this past Business Year.

FLY-IN TAMPERE 2022

AS TAMPERE | 1ST - 5TH SEPT. 2022

Greetings from Tampere! We are excited to tell you about our latest event that was held at the start of September. It has been a long time since there has been an international event in Finland. This is due to the only EUROAVIA in Finland moving from Helsinki to Tampere. This was also the first time for the board to host such an event. Although we have had time to practise since the event was supposed to be held in 2020 and we have planned an event every year. Luckily this year we were finally able to hold it.



In the event, we wanted to show our participants what Finland is all about. We are located in the outskirts of Europe so our culture might not be so familiar to everyone. On the first day, we had lectures by Finnish industry and a university introduction. In the evening, we went to a summer

cottage near the University to introduce Finnish summer culture by barbequing and going to the sauna.

On Saturday, we had a casual competition. During this event, the participants learned more about Finnish aviation and geography. The goal of the competition was to navigate from the historical Helsinki-Malmi airport to Tampere. The route showed the two teams the Finnish Archipelago, forests, historical landmarks and cities. The scoring for the competition was based on time and when arriving in Tampere the teams were within minutes from each other.





Since the teams were close to each other, the next part of the competition became even more exciting. We had prepared 16 pictures of aircraft that the teams had to identify. Once again, the teams were very close to each other and the final score difference was 2.

On the last day of our event, we toured Tampere and went to a museum in the city. This museum gave an insight into the history of Tampere. We would like to thank all the great conversations we had with participants about technology and history! We also went to the Näsinneula tower, from which we got a great view of the city.

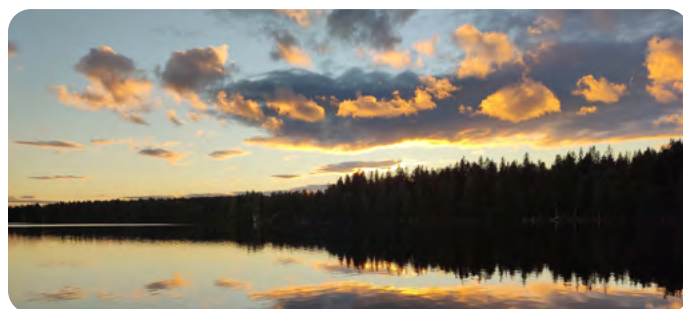


In the evening, the Final Dinner was held. It was once again a new thing for the organizers, and we had forgotten to get forks and knives. Luckily with a bit of improvising, we were able to fix this and we had a great time.

AS Tampere would like to thank all the participants and sponsors for making the event such a great time for all of us!



In the evening, we went to a summer cottage near the University to introduce Finnish summer culture by barbecuing and going to the sauna.



EUROAVIA Tampere is located in central Finland and it consists of members from Tampere University and from Tampere University of Applied Sciences. They joined the EUROAVIA network back in 1985 as AS Helsinki. Their members are active in competitions such as the Air Cargo Challenge.

ABOUT THE AS:
AS TAMPERE



ExMEAC & AMEAC 2022

AS NAPOLI | 1ST - 8TH OCT. 2022



From the 1st to the 8th of October, many of you visited us in our beautiful and colorful city of Naples to attend not one, but two Congresses! In fact, during the first weekend of the month, we hosted the ExMEAC, an extraordinary Congress that took place in one of the most iconic science museums of our city: Città della Scienza. Then, for the entire length of the event, our participants became full-fledged Neapolitan engineering students attending our own EUROAVIAN courses at the University Federico II of Naples!



During our Sponsor Day, on the 5th of October, this business reality met the academic one to fulfill the mission that EUROAVIA Napoli brings forward since day one: being the bridge that connects students and companies to prepare the engineers of tomorrow. It began with Institutional Greetings from the Scuola Politecnica delle Scienze di Base, the Campania Region, and the Department of Industrial Engineering.

The first to present their companies and activities to our participants was Planetek Italia, which cast an eye to the future dealing with space missions. Then we had Novotech Aerospace Advanced Technology Srl, which showed us many groundbreaking projects, such as the SEAGULL Aircraft. To follow, another presentation was held by ALTEN Italia, which operates as a technology consulting and engineering company worldwide.



We are beyond honored and grateful for being able to realize an event as crucial as this, where we had the pleasure of hosting people from many countries all over the world, such as France, Spain, Portugal, Greece, Serbia, Croatia, Germany, Romania, Turkey, and even Egypt. All of them came together to make salient decisions regarding the future of our Association and made us realize the true extent of EUROAVIA International!





The Campania Aerospace Technological District – DAC is the symbol of collaboration between research centers, universities, and firms in the Campania region, all related to many aerospace sectors: General Aviation, Commercial Aviation, Space and Carriers, and Maintenance and Transformation. Next up was MES Group, “friends” with EUROAVIA Napoli for a very long time, which showed our participants the great opportunities for professional growth that they offer through their training courses. Lastly, we heard the presentations of Protom, the first Italian Knowledge & Technology Intensive Company, and Co.Ri.S.T.A., who concluded this Sponsor Day by presenting their reality and research projects.

Let us thank all these realities again for making this event possible! We also wanted to make a special mention to Leonardo and TopView S.r.l. for being present during the event and supporting our ideals!



But among the seriousness of the Congress and the professionalism of the Sponsor Day, we also had our fun! One of the most amusing experiences that we had was the City Tour: together with our experienced guide, we showed our participants around the city through legends and curiosities! We started from Via Toledo,

visited one of the oldest banks in all Campania and the Quartieri Spagnoli (Spanish Neighborhoods), and many iconic points of interest you can not miss if you are visiting Naples: Galleria Umberto I, San Carlo Theater, Castel Nuovo, better known as Maschio Angioino, and the Royal Palace, with its famous staircase. Then we continued from Piazza del Plebiscito, where our participants challenged themselves with some ancient traditions. In the past, they used to say that whoever manages to cross the square blindfolded staying at the middle would be the next King of Naples - some of them even succeeded! And to conclude our beautiful city tour, we had to take a stroll on the Lungomare and, lastly, see the captivating Castel Dell’Ovo at night.

AS Napoli could not be more proud of how it all turned out: it was everything we expected and more. Events like this really do open your eyes to a new world of opportunities, and we are proud to start a new chapter of our Association here in Naples.

See you around Europe! (Ce verimm!)

Until next time,
AS Napoli

EUROAVIA Napoli “Umberto Nobile” is based in the Università “Federico II” of Naples. They joined the EUROAVIA network in 1991. With more than thirty years of history, they established a solid network among students and companies such as CIRA, Thales Alenia Space, MARS center, ALI Scarl, and many others.

ABOUT THE AS:
AS NAPOLI



CIVIL AVIATION WORKSHOP

AS RZESZÓW | 23RD - 27TH OCT. 2022

At the end of October, AS Rzeszow organized the Civil Aviation Workshop. This event was a brilliant opportunity to welcome 15 guests from other EUROAVIA associations. We hosted EUROAVIANS for 5 days, providing them with interesting workshops, a visit to the Academic Gliding Centre in Bezmiechowa, and a tour of the city.

On Sunday the 23rd, all the guests arrived and checked-in at our university campus. In the evening, we all went together to eat pizza and discuss the plans for the whole event. Unfortunately, the weather did not allow us to have the welcome barbecue on campus, which we have originally planned.

Monday's schedule was tightly packed. In the morning, we started up with a grand opening, conducted by our university authorities. Right after we had the first workshop 'Safran climate strategy' presented by Safran Transmission Systems Poland - Danuta Majka and Marek Mahej. We learned how the company is making their products more ecofriendly and what projects there are for the near future. The topic of the next presentation was 'Future perspectives for climate-neutral aviation', which was presented by Professor Andrzej Majka. We looked at which type of propulsion is the best in terms of environmental impact and how advanced it is nowadays.

In-between workshops, there were also small coffee breaks to discuss all the concepts and ideas with the speakers. The third workshop of the day was "Modern methods and tools to improve safety in parachuting", where we could learn how physical value sensors work, and how to implement them into simulation. Presenting the lecture was Piotr Grzybowski PhD.



At the end of the first day, Grzegorz Drupka PhD (supervisor of AS Rzeszow) together with Magdalena Kobrzyńska (president of AS Rzeszów) prepared a workshop called "Emergency and abnormal aircraft handling competition". We tested our flying skills in difficult conditions to find out who was the best pilot. The winner was Dennis Chelemen from AS Bucharest.

Tuesday's workshop started with EME Aero and their presentation – "GTF engine - game changer



in aviation” and “EME Aero as a high-tech center for this engine” presented by Aleksandra Szafraniec, Grzegorz Skiba and Agnieszka Grabowska. During the meeting, we talked about innovative methods of design and production of the GTF engine. The second lecture was presented by the former EUROAVIA members Aleksandra Kwiecień and Grzegorz Mazurkiewicz from GE Aerospace under the title ‘GE Aerospace: Advancing flights for future generations’ and ‘Preliminary design scaling engine’. The task was to properly scale the engine.

The next part of the workshop was a trip to the underground museum in the city centre. We all found out why there is an artificial frog in the city well. The last part of the day was a short visit to the hangar located on the university campus, where there are various aircraft and engines.



On Wednesday, we woke up early for the 2-hour journey to the Academic Gliding Centre in Bezmiechowa. When we arrived, we were greeted by a breathtaking view. First, we started with a workshop on the “Academic Gliding Centre” presented by Daniel Lichoń PhD. The first part of the lecture took place in the laboratory room, where the history of the gliding centre and the specifics of gravity launching were discussed. We then went to the hangar, where our host explained how the glider mechanisms work and showed us examples of Polish designs. The plan for the day included a glider flight, but unfortunately the weather was not good. During our free time, we took many photos including the interior of the glider.

We finished our Wednesday tour with a lunch consisting of Polish pierogi, and a compote to drink. Soon after lunch, we returned to Rzeszów and prepared ourselves for the final dinner and Spirit Night.

Thanks to the restaurant Lord Jack, we were able to close our event in a beautiful venue with exquisite food. We summed up the party and enjoyed our last moments together. Later, we met up on campus and took part in the Spirit Night. On Thursday we had our last breakfast together and said goodbye to each other.



We would like to thank all the participants who visited us. It was a great time, and we hope you enjoyed your stay in the capital of Subcarpathia. We are looking forward to the next international event!

We would also like to thank our university, which helped us organise the event and supported our team. We would also like to thank Grzegorz Drupka PhD, who supports AS Rzeszów during all activities.

Special thanks to Politechnika Rzeszowska, Grzegorz Drupka, PhD, Piotr Grzybowski, PhD, Professor Andrzej Majka, PhD, Daniel Lichoń, PhD, Safran, Mrs. Danuta Majka, Mr. Marek Mahaj, EME Aero, Mrs. Aleksandra Szafraniec, Mrs. Agnieszka Grabowska, Mr. Grzegorz Skiba, GE Aerospace, Mrs. Aleksandra Kwiecień, Mr. Grzegorz Mazurkiewicz, Lord Jack and Happy Neons.

AS Rzeszów is based in a beautiful city renowned for one of the prettiest old town squares of Poland. They joined the EUROAVIA network in 2004.

ABOUT THE AS:
AS RZEZSÓW



THE ELECTRONICS AND CONTROL SYSTEMS SYMPOSIUM

AS PATRAS | 7TH - 12TH NOV. 2022

Autopilot systems help transport millions of passengers to their destination safely every year. SpaceX recently achieved the first automatic landing of their reusable thrust vectored rocket.

These breakthroughs have shaped and continue to shape the future of aerospace exploration and prove that electronics in combination with automation and control systems are an integral part of aeronautics. These breakthroughs also inspired 20 EUROAVIANS from all over the world to meet in Patras, Greece, from the 7th to the 12th of November of 2022 for the Electronics and Control Systems Symposium.

University of Patras was a huge support for us, especially the departments of Mechanical Engineering and Electrical and Computer Engineering. They were there since day one, and we wouldn't have made it without them.

It all started with a lecture about PCB Design for Manufacturability by Dr. Dimitris Tsipianitis and a lab visit at the Electronic Circuits & Applications Laboratory.



On the next day, we participated in a workshop on Automatic Control of Drones with Python by the Robotics Group. We can't thank Dr. Panagiotis Koustoubardis and Ioannis Tsikelis enough as a realization.

Later on, we attended a very important lecture on Prescribed Performance Control and Applications by Dr. Charalampors Behlioulis.

Last but not least, we participated in a lab visit and a presentation on the Laboratory for Manufacturing Systems & Automation (LMS) by Dr. Dimitrios Koustoubardis.

All the above were truly exciting moments for our guests. We are beyond honored and grateful to be able to realize such an event, enriched with the University's activities.



These breakthroughs have shaped and continue to shape the future of aerospace exploration and prove that electronics in combination with automation and control systems are an integral part of aeronautics.

It is worth mentioning, though, that during the ECS Symposium, academic life truly met the business and the industry. There were several companies that supported our mission and they were for sure a huge addition to the ECS experience.



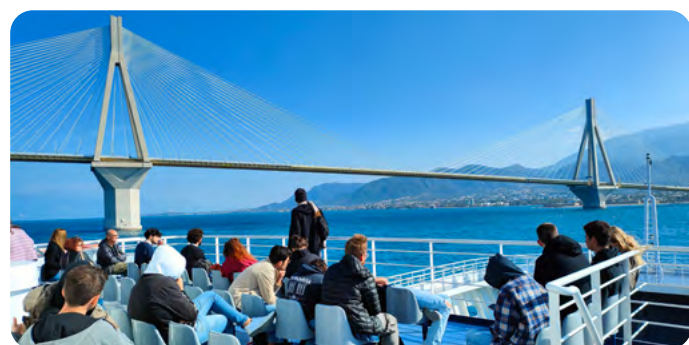
FEAC Engineering is an engineering company specialized in providing consulting services from product concept and Computer Aided Design (CAD) drafting to advanced Finite Element Analysis (FEA) and design optimization by using state-of-the-art CAE tools. Haris Kokkinos



delivered a lecture on the company's activities and their significance to the aerospace industry that left our guests truly speechless.

Gefyra, the most famous bridge in Greece and one of the greatest engineering challenges in the country, welcomed us with a lecture about how the bridge was built and then gave us a tour both on and under the bridge in order for us to better understand its theory. Needless to say, the view was truly breathtaking!

Adamant Composites is developing high-end, state-of-the-art solutions serving primarily the Space, Aerospace, Defence and Energy Storage markets. They welcomed us into their labs, gave us a tour of their facilities, all while creating a very welcoming environment. Everybody left more than impressed: inspired.



And last but not least, Achaia Clauss Winery gave us a tour on their oldest cellars, accompanied with an amazing guide that told us the history of the winery (it is the oldest active winery in Greece after all) and about the importance of wine in the greek culture during the centuries. It was the perfect, cinematic ending to our event.

Of course, among the lectures, the visits, and the seriousness, we tried to have fun and introduce our participants to the true greek culture. For this, we organized treasure hunts, city tours, and concept nights.

If we want to be completely honest though, none of these would have been possible without the work of EUROAVIA Patras' members that have been working for months with dedication and meraki to make this event come true. So thank you, Organization Committee, thank you volunteers and thank you Fotini - Artemis Kiskira for being the perfect Main Organizer.

AS Patras is truly proud of how the event turned out. It was a rewarding experience for all the people that were involved, both guests and hosts. We met some amazing people and we also had the chance to see Patras, our home, as tourists. What's greater than that?

We truly hope the participants left with their minds and their hearts full. We sure did. See you around Europe!

All the best,
AS Patras

AS Patras first joined the EUROAVIA network in 2002. It consists of students with a common interest in aerospace and aeronautics who organise events in collaboration with the industry. They distinguish themselves for their technical work force taking part in many engineering projects.

ABOUT THE AS:
AS PATRAS



FORMATION WORKSHOP 2022

AS CLUJ-NAPOCA | 4TH - 10TH DEC. 2022

The beginning of December was a busy period for the EUROAVIA members who attended the Formation Workshop (FoWo) held in Cluj-Napoca.

Participants from 8 affiliated societies came together to attend work-life balance workshops, but also to experience the student life in Cluj. For 6 days, both participants and volunteers attended the workshops held by Andrea Curatolo, our amazing EUROAVIA trainer from ETS, and returned home with more knowledge on topics such as Public speaking, Project management, Time management, and many others.

Depending on the day that the participants arrived, some got the chance to witness the festivities held on December 1st, Romania's National Day, attending concerts, parades, and other events. For the duration of the event, the participants lived in the student accommodations of the Technical University of Cluj-Napoca. The official opening of the event was on Monday, December 5th, when the participants started attending the trainings. Andrea started off with a team building session, before moving on to public speaking trainings. After the trainings, the participants and volunteers had free time to explore the city and get to know each other better.



On Tuesday, the topics of the trainings ranged from Healthy Routines to Creative Thinking, held both at the study hall of the accommodations, and at the Technical University of Cluj-Napoca. After the trainings, the mandatory tradition of Cultural Night was held at the university's cultural club, where each of the participants brought their country's or region's flag, along with some culinary goodies. After properly exchanging everyone's culture, we moved the party to the accommodations.

Wednesday started off with some necessary time off (after the cultural night), and with presentations from our sponsors. This was also the day which contained the trainings held by an external trainer from ANOSR (The National Alliance of Student Organizations from Romania).



The trainings held by Andrea on Thursday were varied, ranging from Decision Making to Time and risk management, and Project management. The participants and volunteers had a pretty busy day, which culminated with a trip to the Cetățuie Hill, where they gazed at the entire city of Cluj, on a foggy winter evening.



On Friday, volunteers from our AS held some informal presentations regarding the international aspect of EUROAVIA, but also about the opportunities for members in the EUROAVIA Working Groups. After a quick rundown of each WG, the participants were encouraged to join various groups and contribute to the well-being of the organization. After having lunch, we continued with a city-tour of Cluj, where our volunteers showed some of the main landmarks of our beloved city, presented some important historical figures, visited the Christmas market, and strolled through the Central Park. The main attraction, however, was a visit to the Bârlog brewery, one of the few craft beer factories in the region, where the participants got to see the brewing process and have a taste of the various types of beer Bârlog has to offer.



After the city tour, we went to the final dinner, held at Marty's restaurant, where we took a look back at the past few days, took photos, laughed at various moments from the event, watched a football game, and overall had a great time together. We thanked the participants and trainers for their attendance, and expressed our gratitude to our amazing volunteers.



In the end, this event turned out great, despite the challenges we've faced along the way. We want to thank the participants once again for being interested in coming to Transylvania, and for not being afraid of vampires. We were honored to host the event and meet everyone, and we hope you all had an amazing time, and will return to visit Cluj again. Of course, we also want to thank our exceptional volunteers, who not only made this event possible, but put a lot of effort into turning it into one of our best and most liked events. This FoWo was very important for EUROAVIA Cluj-Napoca, because it brought more life into our small organization, and sparked lots of interest to attend more international events, both for the participants and our volunteers.

AS Cluj-Napoca is located at the Technical University of Cluj-Napoca. Part of the EUROAVIA network since 2008, it encompasses enthusiastic and motivated members with team spirit and multicultural knowledge. They are interested in aerospace applications and developments.

ABOUT THE AS:
AS CLUJ-NAPOCA



EMEAC 2023

AS BREMEN | 2ND - 8TH APRIL 2023

Dear EUROAVIA members,

We are thrilled to share our experience hosting the EMEAC 2023 in the beautiful city of Bremen! From 2nd to 8th of April, we had the pleasure of welcoming EUROAVIA members from all over Europe to attend our congress. It was an amazing opportunity to showcase our city's rich history, culture, and the cutting-edge aerospace industry.



We would like to express our gratitude to our sponsors, OHB, OKAPI:Orbits, Atlas Air Service, and CAE GmbH, who made this event possible. They enabled us to provide an exceptional experience for our attendees and bring together students and companies to shape the future of the aerospace industry.

During our Sponsor Day on the 5th of April, our sponsors shared insights into their activities and projects. Atlas Air Service presented its comprehensive aviation services, including aircraft maintenance, sales, and management. CAE GmbH discussed its advanced simulation technologies and training solutions for the aviation industry. OKAPI:Orbits shared its innovative work in the field of space situational awareness, while OHB presented its extensive experience in space technology and its involvement in key space missions.



During the city tour, we showed our attendees some of the most iconic points of interest in the city, including the Bremen Cathedral, the Schnoor Quarter, and the Town Musicians of Bremen statue.



We are proud of how the event turned out, and we hope that our attendees had a fantastic time in Bremen. We want to thank all our sponsors, partners, volunteers, and attendees for making this event possible.

See you around Europe!



AS Bremen joined the EUROAVIA network in 2006 and is based at the City University of Applied Sciences Bremen, Germany. Their city is important in the aviation and aerospace field thanks to renowned companies such as Airbus, OHB, Ariane Group and DLR.



ABOUT THE AS:
AS BREMEN

UPCOMING INTERNATIONAL EVENTS

4 - 8 OCTOBER '23
InSpace
AS FORLÌ-BOLOGNA

6 - 10 MAY '24
Symposium
AS ANKARA

5 - 9 NOVEMBER '23
Ideathon 2023 Finals
AS MÜNCHEN

17 - 23 JUNE '24
Symposium
AS AACHEN

25 - 1 NOVEMBER - DECEMBER '23
FoWo
AS ATHENS

8 - 13 JULY '24
Symposium
AS CÁDIZ



TRAIN NEW TRAINERS 2023

AS PISA | 6TH - 14TH MAY 2023

From the 6th to the 14th of May, AS Pisa hosted the last edition of the ETS TNT – Train New Trainers, an international event that offers to the participants the possibility of becoming part of the ETS (EUROAVIA Training System) WG. This is the Working Group inside EUROAVIA that is responsible for organizing soft-skills training events for its members, both internationally, such as the FoWo event, as well as locally, providing trainers capable of managing a soft-skills training session in all its aspects.

This event saw thirteen people coming to Pisa from all over Europe, joining together in a challenging and all-encompassing learning experience, sharing thoughts and emotions through this journey that brought them to the goal of becoming trainers.

The TNT included 30 hours of courses, organized and delivered by four of the active members of the ETS and two external trainers, on topics that cover the full range of skills necessary to be able to design and deliver soft-skills trainings.

The TNT started officially on Saturday the 6th with the participants arrival, while the trainers' group was already there from the 4th for preparation of the tasks and teambuilding. After the participants' arrival, we all headed to the city centre for the Welcome Dinner, where we tasted some of the Tuscan food specialities.

The first day of trainings (Sunday) was dedicated to fundamentals of Trainers' attitude and ethics, Feedback and presentation skills, Group Dynamics, with a break between them for lunch at the University canteen. In fact, all the meals were consumed at these University's canteens scattered through the city centre.



This event saw thirteen people coming to Pisa from all over Europe, joining together in a challenging and all-encompassing learning experience, sharing thoughts and emotions through this journey that brought them to the goal of becoming trainers.

On both Monday morning and afternoon, we got into Facilitation, and then on Tuesday we focused on Learning Theory and Training Design 1.

After the first three-days effort, we were ready for the Cultural Night, a tradition within EUROAVIA International Events, in which the participants coming from different countries share some of their typical beverage/food. On Wednesday morning, participants took some time off for



the (rainy) City Tour. In the afternoon, the Sponsor Conference took place, where our partners ANSYS, Peyrani, and ALTEN showed their activity in the field of engineering and manufacturing and let some time for the several questions coming from the audience.



We exploited this moment also for assigning to each couple of future trainers the topics for their First Delivery, that took place on Friday and had the role of a final test for the participants after the whole week of trainings. The last day before the participants' deliveries was dedicated to Training Design 2 and Inclusion and Diversity, and that night was the most demanding one for the future trainers, since they had to prepare everything for their upcoming first deliveries.

The first deliveries were alternated with feedback sessions from the trainers to evaluate the performance of the trainees and give them some advice for the future.

Saturday the 13th was the last day of trainings, and, as a conclusion of this journey, there were Follow-up and Evaluation and My path as a Trainer trainings, just before the most emotional moment of the week: the final ceremony and the handing of the Certificates of Participation to every participant.

Sunday was the saddest day, the departure day, but before that we took the time for the Final Dinner on Saturday, with plenty of pizza and a sweet conclusion: the celebration of the birthday of two of our participants, right in front of the Leaning Tower!



With this article, we would also like to share with you the joy and pride that we, as AS Pisa, felt when we saw all our efforts resulting in such an amazing experience for everyone, concretizing once again the spirit of our association.



In conclusion, we would like to wish the best to the participants for their upcoming experience in the ETS, and to thank the IE WG and ETS itself for having helped us throughout all the process. It was a joy making this event a success together! See you all around Europe!



AS Pisa is one of the EUROAVIA founders. It is located in the beautiful city of Pisa, Italy, which hosts many famous monuments like the Leaning Tower, as well as numerous research institutes in the scientific and engineering fields.

ABOUT THE AS:
AS PISA



FLY-IN PARIS 2023

AS PARIS | 23RD - 27TH JUNE 2023

Last June, we, members of EUROAVIA Paris, hosted the 2023 Paris Fly-in. For 4 days, 20 participants from different local groups were able to enjoy visits around Paris but most importantly, the Paris Air Show! Keep reading to discover what we have done.

We started the event with the greeting of the participants on June 23rd at the accommodation where they stayed, in the calm suburbs of Paris, and a “get-to-know” drink. The next day, altogether, we had the chance to visit the capital and the main monuments. We, of course, started off by visiting the Eiffel Tower then, the Trocadéro, the Arc de Triomphe, and Champs-Élysée. After multiple metro rides, the Parc des Tuileries offered a nice spot to have a picnic under the shadow of the trees. A stand offering free samples of ice cream may have been persecuted by EUROAVIA members... In the afternoon, we enjoyed a very express visit of the Louvre Museum as only the Mona Lisa seemed to have found its audience.



Sunday, participants were all invited to go to the Paris Air Show. When arriving at Bourget early in the morning, and after multiple group pictures, we were welcomed on the Safran stand by their employees. Goodie bags were given to the participants and different presentations were given. Safran engineers showed us the Airbus A350 landing gear, their new generation engine, and the nacelle of the Leap Engine. The Safran visit was concluded by a drink and the possibility for participants to talk to recruiters and give their CVs. In the afternoon, members were able to visit the different aircraft, meet companies they wanted to see and watch the airshow. The Patrouille de France, A321 XLR and the F35 were some of the highlights.

The ride back to the accommodation was long and tiring, as the train had broken down, which gave an opportunity for us, the organizers, to test the participants' patience as it took 3 hours. They all passed the test and were rewarded with pizzas and the cultural night. We tried different delicacies from the countries of the participants and wished a very happy birthday to one of them. The following day was a day-off, where most of the participants took the opportunity to keep discovering Paris, many headed towards the Sacré-Coeur and Moulin Rouge. We finished off the day with the final dinner in a very traditional French bistro: le Bouillon. We were all well-dressed and could enjoy French dishes and drinks. The sparkling Eiffel Tower and the Champs-de-Mars were the perfect place to take the final pictures.

Tuesday, the last day of the fly-in, participants left Paris in the morning after an emotional goodbye.

We had an awesome and memorable event and hope everyone enjoyed it as much as we did. We look forward to seeing you at another EUROAVIA event or at the next Paris Air Show in 2025.



AS Paris is based in the beautiful city of lumières in France. It joined the EUROAVIA network in 2008 and it gives EUROAVIAns the opportunity to join the international aeronautics and aerospace meeting at Paris-le-Bourget since then!

ABOUT THE AS:
AS PARIS



AIRBUS SLOSHING ROCKET WORKSHOP 2023

AS BEOGRAD | 6TH - 12TH AUGUST 2023

At the sports airport Ecka, near Zrenjanin, an exceptionally successful final of the prestigious international competition in the design and production of water-pressure-propelled glider rockets - Airbus Sloshing Workshop 2023 - was held. This contest attracted teams from various parts of Europe, and the victory was claimed by the AirSloths team from Italy.



The Association of Aerospace Students Beoavia, in collaboration with the European company Airbus, organized this challenging competition at the Faculty of Mechanical Engineering of the University of Belgrade, gathering four teams from Italy, Romania, and Croatia. Throughout the period from August 6th to 12th, competitors had the opportunity to get to know Serbian culture and landmarks of Belgrade, adding further value to their experiences.



The competitors' stay in Belgrade culminated in four days of intensive work on designing innovative solutions for glider rockets destabilized by the movement of water stored in a pressureless tank. On Thursday, August 10th, at the Faculty of Mechanical Engineering, the teams presented their innovations to the judges, including

three representatives from Airbus and Professor at the Faculty of Mechanical Engineering, and Beoavia's mentor dr. Toni Ivanov.

The grand finale of Airbus Sloshing Workshop 2023 began with a spectacular flight of the unmanned aircraft Phoenix, designed by the Beoavia association. Afterwards, the four competitive aircraft took off. Euroavia Zagreb, Waveriders Italy, AirSloths Italy, and Ripper 1 Romania showcased their outstanding projects.

After careful deliberation, the jury decided that the AirSloths Italy team deservedly secured the first place due to their exceptional innovativeness and design quality. Second place was awarded to the Waveriders Italy team, while the Euroavia Zagreb team claimed third place. The Ripper 1 Romania team proudly finished in fourth place.

This competition not only showcased the remarkable talent and innovations of young engineers but also strengthened the bonds between the Association of Aeronautics Students Beoavia and other collaborating companies and institutions. We anticipate that this success will serve as inspiration for future generations of students and researchers in the field of aeronautics.



AS Beograd, or Beoavia, joined the EUROAVIA network in 2018. They are based in Serbia and boast a highly capable team of motivated individuals participating in technical projects and organising events close with their partners.

ABOUT THE AS:
AS BEOGRAD



WORKING GROUP CONTRIBUTIONS

A pivotal wheel in the EUROAVIA machine is represented by the Working Groups. In this section, you will be able to read their accomplishments during the past Business Year, and how much they enjoyed meeting and working together for our association - whilst having a lot of fun!



COMMUNICATION



This Business Year, the Communication WG has grown and improved the marketing strategy of EUROAVIA. To kick-off the year, many of the members attended the physical meeting of the CM WG from the 8th to the 11th of October 2022 in the fascinating city of Athens. This was the perfect opportunity to strengthen the bonds between the members, organize the work, brainstorm new ideas, and, naturally, visit the stunning monuments and museums of Athens and eating delicious Greek food. We also organized two soft skills training sessions about creative thinking and team building – the perks of having an ETS trainer in our group!

Satisfied from the amazing experience, we went back to work full of determination. The Website Unit has been writing many articles for the Aeronautical Blog, with which you were also able to test your knowledge about the aerospace sector in our AeroTrivia quizzes. The Press Unit has been writing the monthly EUROAVIA Newsletter, always being delighted with your contributions. Not to mention the great work that

we have carried out to deliver the 7th issue of The EUROAVIA Magazine, that you are reading RIGHT NOW! Finally, the Social Media Unit has been the one undergoing the most changes, with many new members, fresh ideas, a brand new and intentional marketing strategy for Instagram and LinkedIn, and the opening of the EUROAVIA TikTok profile!

We expect many new creative initiatives to be carried out in the next BY, and if you want to join our team, we are specifically looking for new members in the Press Unit. Imagine your name on the front page of this amazing magazine! Sounds great, right? Do not hesitate to join us and follow us on your preferred social media!

Much love,

The Communication WG



HUMAN RESOURCES



The Human Resources WG has undergone significant changes in the past year. The Physical Meeting held in Toulouse in July 2022 served as a heartfelt farewell to our former coordinator, Ángel, who contributed greatly to the WG's success. During the PM, the HR team worked on developing the "Local Board Manual" to facilitate the transition for new LBs. Following the EMEAC, Ángeles - we know, we aren't very imaginative with coordinators' names - was elected as our new coordinator.

With the start of the new Business Year, the WG established fresh goals in collaboration with the IB, shifting its focus to the well-being of our WG members, who play a vital role in sustaining EUROAVIA. Hence, new surveys to gauge the satisfaction of EUROAVIA volunteers with their respective WGs were created. While innovating itself, the WG continued to provide guidance and support to new members joining our WGs.

Even though the workforce changed during the Business Year, we have always managed to get the work done. Francisca (AS Covilhã) and Dilara (AS Kocaeli) have been there since the beginning, spreading the EUROAVIA spirit despite challenging circumstances. Chiara (AS Forlì-Bologna) later joined, bringing valuable experience. Our newest member, Ebede (AS Kocaeli) has just started her adventure with us, and we are excited to see what she has to offer. We couldn't have achieved all of this without our brilliant IB responsible, Vicky, who we miss as a member and hope will come back eventually.

Finally, as Ángel would say: JOIN HR!!!

The Human Resources WG



AFFILIATED SOCIETIES



The past year marked significant steps forward for the Affiliated Societies Working Group (AS WG). Through regular meetings and focused discussions, we have built stronger connections with the Local Groups.

Our primary objective this year was to strengthen communication with existing and new Local Groups. By prioritizing relevant topics and using Boards of Presidents (BoPs), we successfully bridged the gap between EUROAVIA International and Local Groups, resulting in a more positive response from our members.

We provided guidance and support beyond BoPs to new Local Groups in need. This included building communication networks between EUROAVIA International and these groups, extending invitations to International Events, and simplifying the process of submitting information for congresses and international activities. Engaging with EUROAVIA on an international

scale offers tremendous benefits and growth opportunities for individuals and Local Groups alike.

The AS WG is the go-to destination for assistance from EUROAVIA International and input about the Local Groups' contribution to EUROAVIA. Our team provides guidance, support, and resources to navigate EUROAVIA's network effectively.

We extend heartfelt gratitude to the BoP Coordinators, Search & Rescue and Expansion Unit members, and our wonderful former Coordinator and current Back-up Coordinator, Cris and Elif, who set the course for the Working Group during the beginning of the Business Year.

The Affiliated Societies WG



DESIGN



We didn't believe it either, but towards the end of this Business Year, the Design WG had the opportunity to participate in a special Physical Meeting!

Hosted in the beautiful setting of Bucharest, Romania, we gathered for the first time to work on significant tasks for our WG. As you may know, the Design WG is responsible for the visual image of our Association: that means ensuring that every material used for its promotion is indeed astonishing and captivating - as it should be! Therefore, huge events like the Ideathon hold great importance for us. That's why we dedicated a portion of our time in this PM to accomplish the graphics essential for its successful execution: banners, badges, templates, certificates — you name it!

Another aspect of our work that brings us immense joy is providing support to Local Groups. Among the most demanding design tasks are Logos, and our objective is to ensure that they align with our Corporate Identity while remaining faithful to the specific Local Group.

That is why it was amazing to design a draft for AS Leuven's new logo collectively as a group - being together allowed us to tap into a deeper level of engagement and creativity. We also worked on some surprises for the Congress and focused on team-building activities, such as our little "Design Workshop" in a Ceramic Cafe. Meeting in person after months of online meetings was a refreshing and invigorating experience that brought us closer as a group!

The Design WG



BUSINESS RELATIONS



The Business Relations WG has been involved in a diverse range of projects.

The Brochure Subunit, as its name implies, is responsible for creating the content that goes inside the documents sent to companies. This subunit has not only worked on the content for Future and Beyond, but also on the development and creation of new content for the new extended version of the EUROAVIA brochure.

Another integral subunit within our team is the Approaching Subunit. Their primary focus is on researching and identifying companies that may express interest in collaborating with our association. This subunit has been actively seeking sponsors for two important EUROAVIA events: Future and Beyond and Ideathon.

We have also been committed to helping different AS in developing their own brochures and implementing effective procedures to engage with companies and secure partnerships or sponsorships. By providing them with practical examples and a different insight, we strive to empower AS members and try to make it easier for them.

The Business Relations WG



REGULATIONS AND EUROPEAN CONNECTIONS



EU Grants Unit

EUROAVIA changes and improves year by year, the EU Grants Subunit of the REC WG instead was completely renewed in only a few months! Is it a subunit right now? Yes. Will it stay the same after AMEAC 2023? Who knows. Why? Because it is at its FULL POWER!

New members brought energy, new ideas, and innovation, giving us the chance to work on three different complex projects at the same time! From long projects development to short European Grants applications and data management, the EU Grants Subunit is now an erupting volcano: it's in fact a kaleidoscope of ideas, lightened by the flashes of the EUROAVIAns, with the help of third parties.

As you probably could tell, the group is also a cluster of skills: Digital skills, coordination, language proficiencies, project management are just a few of the skills needed for our activities, but that can also be learnt while achieving the objectives of the group.

Now you must be wondering: What are the objectives and the tasks you work on to reach them? The goals are very straightforward: allow EUROAVIA to grow through large-scale projects and funds, but also help LGs navigate the complexity of the grants. This is done by developing projects for the European Grants Calls by the European Commission and the European Youth Foundation, but also by creating an online database for all AS to navigate through the grant calls available for them!

Do you want to be part of this? You know where to find us. See you!

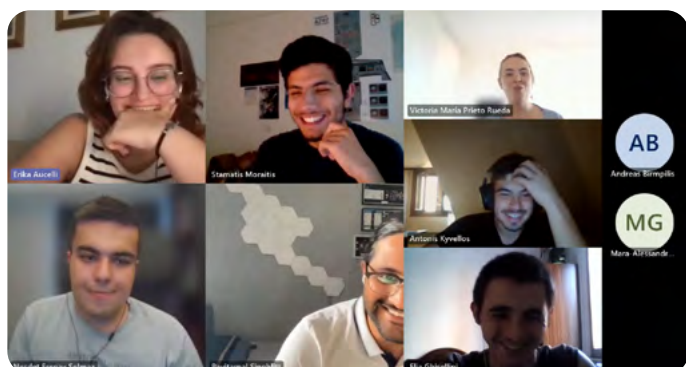
Statutory Unit

The Statutory Unit of the Regulations and European Connections WG is the subunit known for being in charge of the EUROAVIA legal documents. This February we had the opportunity to meet physically in Toulouse to digitalize the EUROAVIA Archive, that has existed since the beginning of our association.

We were able to see the differences between generations, how they used to meet with little to no technology and the fun activities and experiences they had then, similar to what we have now. It was like a real time machine! The Statutory Unit discovered old traditions, every document and minutes from the congresses, the old logo, merchandise, and very funny e-mails.

We are looking forward to meeting again and finishing what we have already started, hoping to find out new things about EUROAVIA and have some fun together.

The Regulations and European Connections WG



LOCAL GROUP REPORTS

Local Groups are the engines of EUROAVIA, without which our association would not exist. They are based in universities all across Europe (and not only), where aviation and space enthusiasts come together. They organise unique local events and projects to share the love for the sky! Dive into the stories of our Local Groups and let them ignite your inspiration for the new Business Year!

NATIONAL AERONAUTICS ENCOUNTER

AS COVILHÃ

After waiting patiently for four years, the skies of Castelo Branco have, once again, rejoiced in the beauty of an Air Festival organised by AEROUBI & AS Covilhã. On the 13th and 14th of May 2023, almost 50 aircraft took to the sky in what was, surely, our biggest event since 2019.

Solely organised by our students, and with the ever-helping hand of the Castelo Branco municipality, the Aerodrome of Castelo Branco (CB Aerodrome) awoke on the 12th to the sound of aircraft arriving from every direction. Aircraft from all regions of Portugal and even Spain made their way to our small Aerodrome, bringing with them the life and essence of the event.

With a team composed only of volunteers, everyone took up their tasks and got to work. Having “safety and security” as our maxim, we set out to separate the designated areas required in an event such as this, always ensuring the public had the best viewing spots available.

After all, what’s an Air Festival for if not for spotting? To this effect, a designated spotter area was selected as close to the runway as possible, always ensuring our maxim was put into action without compromising the amazing photos that were about to be taken.

Events such as these tend to bring along for the ride several companies and entities related to

the aeronautics sector. Since our objective with this Festival was to bring the population and the Aeronautics Sector of Portugal closer together, all these people coming along to share their knowledge and experience in the area just made it better. Between several aviation schools, our national aeronautics authority and even the Portuguese Air Force, several other entities marked their presence in the CB Aerodrome, making the connection to the public ever more personal.

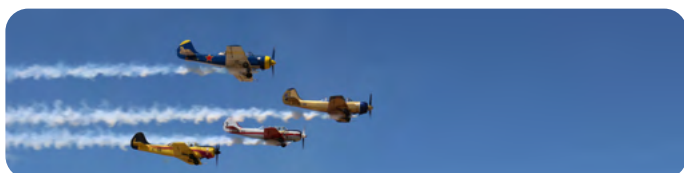
Besides all this focus on the Aeronautics sector, we also had several talks with professionals and representatives of the State, Aviation Schools and even our AS, debating several relevant issues regarding Aeronautics in Portugal.





Now, turning our eyes to the sky, we can talk about the aircraft that flew over our heads, pulling a huge amount of g's in what was described as "amazing aerobatic demonstrations".

Several light aerobatics aircraft performed on the weekend, each with its unique program and unique pilots. From retired commercial airline captains to dedicated aerobatics pilots, every performance was awe-inspiring. The loops, screws, knives, and spirals kept everyone with their heads held high. Some of them came so close to the ground you could see the pilot waving at the public.



YakStars airshow

On a more professional note, we had the privilege of seeing the Yak Stars, a team made up of both Portuguese and Spanish pilots, all flying the infamous Yak-52, an amazing aerobatics aircraft that's been flown since the 1970s. Their group manoeuvres, loops and formations were something most of us hadn't seen, making each second an amazing experience.

Even after all this, there are still stars in this show that haven't been spoken of. For starters, and right in time for the fire-fighting season, we witnessed the arrival of two Canadair CL-415's, that had come right out of maintenance. Between 2 training flights and their actual performance at the Air Show, we witnessed these giant beauties take up to the sky with their engine roar following behind.

And, of course, from the Portuguese Air Force, we had none other than the mighty Airbus C-295, that expediently arrived, parked, and shut down, as is customary of the Air Force. The C-295 took flight several times, always taking kids that had never flown along for the ride. Before leaving on Sunday, the pilots saluted us, waving their wings before climbing away.

All in all, this Air Festival was the one big event AEROUBI & AS Covilhã had for this year and having witnessed the collaboration of all our members, the public and all the involved entities made us believe in the future of our association and our country. Above all this, the safety and security precautions that were implemented culminated in a very streamlined event, ensuring that everything went according to plan.

With all our planned activities carried out and with this Air Festival to close our academic year, we can confidently say AS Covilhã has grown both in numbers and in spirit.

AS Covilhã joined the EUROAVIA network in 1993 and is based at the Universidade de Beira Interior, Portugal. They organise events like Fly by the Mountains and the National Aeronautic Event.



ABOUT THE AS:
AS COVILHÃ



AS BUCUREȘTI EVENTS 22/23

AS BUCUREȘTI

Dear EUROAVIAns,

We are thrilled to announce that this year has been a huge success for us! Having organized 12 successful events, reuniting over 200 members, AS Bucharest has never been busier. Here are some highlights of our last months.

Freshers' Week

Freshers' Week was the first EUROAVIA event of this academic year here in Bucharest, with the main goal of integrating freshmen into student life. This event took place in October, during the first week of college. On these days, the participants of the event enjoyed a day of getting to know each other, followed by a party the next day, ending on the third day with a treasure hunt with prizes for everyone in the university hall. The organizing team did a great job setting up this successful event!

Aircraft Workshop 2023

After a few years of absence, our dear old AircraftWorkshop is back in business! During the 3 days of the event, participants had the opportunity to design, build and launch their very own aircraft models, surrounded by fellow aerospace enthusiasts, EUROAVIA members and skilled technical trainers. It's been a huge pleasure to share these moments with such amazing people.



Head Start Session

Head Start Session took place in November and consisted of three training sessions that were destined to improve the participants' Teamwork

Abilities, Self-leadership and Conflict Management. In addition to the skills that the participants acquired, they also had the opportunity to meet new people with common interests and create friendships at the beginning of the year.



Charitable event

Students and community members gathered for a movie night with a twist. Hosted by EUROAVIA on the campus of Politehnica University of Bucharest, the event aimed to combine the magic of cinema with the spirit of generosity. With a donation fee to enter, attendees embarked on a cinematic journey. Every donation made at the event was directed towards an initiative by the Metropolis Foundation. This project aims to establish a day center, providing support and resources for parents and children facing economic hardship. Through their contributions, attendees played a role in brightening the lives of families in need.

AeroConnect

In March, the biggest networking event of the Romanian aerospace industry took place: AeroConnect 2023, organized by EUROAVIA Bucharest on the 18th of March at the Student's Cultural House.

With over 20 companies that participated and presented their unique opportunities for a successful career, AeroConnect attracted over 300 participants. The event was divided into 2 areas, the Networking Zone and the Forum Zone. The

first one consisted of stands where those who were interested could get a glimpse of what it is like to work in each of the companies, from their representatives. The second one consisted of short presentations of the companies, together with the inspirational speeches of 3 captivating speakers.



Drone Workshop 2023

During the 24th-26th of March and 31st-2nd of April, the second edition of DroneWorkshop, the biggest technical event of EUROAVIA Bucharest, took place. It gathered about 100 young people, passionate about the field or just curious, eager to learn something new. During the two weekends, the competitors had several training sessions, which had the purpose of familiarizing them with the drone field and preparing them for the most awaited moment of the event, building the drones, followed by their launch.

Rocket Workshop 2023

May 2023 brought another amazing edition of RocketWorkshop within EUROAVIA Bucharest, the oldest technical event of the association. Approximately 200 students from POLITEHNICA University of Bucharest and pupils from ROSPIN School had the opportunity to design, build and launch their model rockets, with the help of trainers from the Technical Department. The focus of the workshop was mainly on teamwork and creativity, but also on understanding the working principles of rockets and applying them in real life, in a fun and friendly environment.



AeroCamp

Do you want to become a great leader, learn how to choose the right words so you impress, or make the best decision? Aerocamp is the opportunity to do that! This year the participants had a great time developing their soft skills and getting ready for their next step with the help of our new trainers, most of whom are fresh TNT Graduates. They've done a great job delivering quality information and made this event complete and also fun.



EUROAVIA București reunites engineering students from the University Politehnica of Bucharest. Founded in 1991, it counts almost 200 members who are always ready to participate in technical workshops, soft skills events and company visits.



ABOUT THE AS:
AS BUCUREȘTI

AS SEVILLA EVENTS 22/23

AS SEVILLA

Hello, EUROAVIAns!

As we all know, the academic year is coming to an end. For our EUROAVIA Magazine contribution, we would like to take a look back at this year and what it has meant to us.

As usual, the first activity was the **BBQ gathering**. We welcomed the new members in a relaxed and enjoyable atmosphere, where the students had the opportunity to meet their new class colleagues and catch up on each other's summer activities. The Local Board provided plenty of food and drinks; setting up tables and playing music.



During the following months, we were able to do plenty of visits. We started with a trip to **Tablada's Headquarters**, in which we explored the storage, repair, and maintenance facilities for military aircraft. We visited its museum, showcasing the base's transformations over time, and the engine testing bench building, where the students could watch a real motor working. Another visit took us to the **National Particle Accelerator Centre**, where we learned about accelerators used for research and healthcare purposes. The facility tested electronic equipment and features radiation-shielded rooms. We witnessed the impressive Tandem accelerator in action, delivering particle beams for target testing. Later, during our visit to **CATEC**, we discovered their ambitious projects. They showcased drones for high-risk infrastructure inspections, robots with versatile movement capabilities, and advanced composite material fabrication methods. It was a fascinating experience! Then, **Moron Air Base**

welcomed the students for a morning visit, in which they were taught about Eurofighters and big transporting airplanes of the USA army. Furthermore, they had the opportunity to watch closely the activity of Ala 11, the most important air division of the Spanish air army. Finally, one of the coolest visits of the semester was the one to **INTA (National Institute of Aerospace Technology)** in Huelva. INTA is at the forefront of aerospace technology development and primarily focuses on certifying weapon systems. We learned about the launch capabilities of sub-orbital rockets and witnessed the control center resembling those of NASA. The visit included a demonstration of tracking radars, target aircraft hangar, mortar launches, and a glimpse into the solar energy laboratory.



Before Christmas, the Local Board hosted the **Annual Christmas Dinner and Party** for our members. The dinner was held in a magnificent restaurant near Plaza de España, followed by the great party located a few kilometers away. As always, everyone enjoyed and had a really good time.

Once back on the board, students returned to the scheduled with visits to **Babcock International** and El Copero Base. At Babcock International, we received a warm welcome and toured their campus facilities. We learned about the operation and meticulous care of their emergency health helicopters. Inside the hangars, we examined the internal components of the helicopters and witnessed ongoing repairs. Meanwhile, at **El Copero** military base, we explored the BHEL-MA-IV battalion dedicated to Cougar and Super Puma helicopters. We watched the assembly and control functions of the helicopters, avion-



ics maintenance, rotor disassembly, and engine repair procedures. The visit concluded with a memorable sighting of a Super Puma taking off!

A month later, we had the privilege of visiting the **Armilla Military Base** in Granada, where we witnessed helicopter maintenance and training activities. The enthusiastic guides explained the internal workings of these vehicles and showcased the intricate process of engine repair using specialized tools. Later, we explored the **Parque de las Ciencias** and experienced the vibrant streets of Granada. This trip provided a refreshing break for our members, fostering camaraderie and a better understanding of one another. On another occasion, a large group visited the **Naval Station of Rota**, which houses both Spanish and US forces. We toured the Spanish hangars, observing decommissioned helicopters and the legendary Harrier. We then crossed over to the American side, marvelling at the streets resembling those in the US. We had the opportunity to explore massive Lockheed C-17s and C-5s, with access to their cargo holds and controls. Finally, we visited an amphibious ship near the US Navy Destroyers in the Spanish section.

During the spring break, the Local Board co-organized an incredible **University Welcome Party**: an outdoor disco event where members enjoyed fantastic weather, mingled with friends, and met new people. The event received a tremendous response, potentially establishing a new tradition alongside the BBQ gathering and Annual Christmas Dinner and Party.

Before entering the exams, we were able to do two more trips. During the visit to the **Royal Navy Institute and Observatory** in San Fernando, Cádiz, we explored one of Spain's oldest scientific centers. We were taught about an old

telescope used for celestial mapping and learned about the observatory's role in timekeeping. The visit included a watch of a medieval High Tower and the fascinating display of three atomic clocks. Lastly, this year's calendar ended with our visit to San Roque military base, in Cádiz, to know a little bit more about how the 74th Air Defence Artillery Regiment works with the Hawk and Patriot missiles.

Finally, **Workshops** have also been a huge addition to students' formation. We were able to develop numerous of them, being the most important the LaTeX, the Glider, and the Rocket one. At LaTeX, experienced members of the Board taught about this advanced text processor widely used. Meanwhile, Glider and Rocket's workshops were more focused on students, as they had to learn and develop their own aircraft. This encourages our members to develop their capacities and explore their curiosity.

Overall, we are sure this year was off the charts. We are really happy with the outcome and already looking forward to next year.

See you around Europe!

AS Sevilla joined the EUROAVIA network in 2008. Since then, it reunites aerospace enthusiasts in the heart of one of Andalusia's most beautiful cities. They organise a large number of events for their members and give them incredible opportunities!

ABOUT THE AS:
AS SEVILLA



FLY A ROCKET! – Or how I got to launch a rocket and see the northern lights

MARCO ACÚRCIO | AS LISBOA

Northern Norway is a place mainly associated with snow, fjords and northern lights – few would think of it together with rocket launches.

Nevertheless, that is a connection I will likely make for the rest of my life, after taking part in the most recent cycle of the Fly a Rocket! programme, an initiative jointly organised by the European Space Agency (ESA) Education office, Andøya Space Education and the Norwegian Space Agency (Norsk Romsenter). In this programme, students get to learn more about rocketry, both theoretically and through hands-on experience, by preparing and launching a sounding rocket – all of this while spending a week on the island of Andøya, around three degrees north of the Arctic Circle.

All of this began by subscribing to ESA Education's newsletter, which led me to get to know the Fly a Rocket! programme from an email they sent. I recommend you subscribe too so that you can also be aware of such opportunities. After confirming that I was indeed interested and fulfilled the eligibility criteria, I decided to apply.

A few weeks later I got the exciting news that I had been accepted. I was handed a worksheet divided into two parts I should submit to be authorised to go to Norway. I also got access to a page explaining many concepts (ranging from rockets and satellites to their theoretical backgrounds and even counting on electronics, the physics of auroras, etc.).

Although the organisers sponsor the participants' flights to Andøya, it is up to each one to book and organise them, so one has some freedom to choose the itinerary. After taking care of all this I was finally ready to go to Norway. I would spend the days between March 12th and 18th at the Andøya Space Centre, though my trip was from March 11th to 19th to avoid missing flights. On my way there I got to know the cities of Oslo and Bodø. I was lucky to experience clean skies that allowed me to see the snowy fjords from above. It's also worth noting that Bodø is a very worthwhile destination for aviation fans with its impressive Norwegian Aviation Museum, featuring both a military and a civilian aircraft section.



Once at the Space Centre, I got to know my colleagues: we were 24 students from all over Europe (and even Canada!), who all loved space. After spending the first night and being shown the Space Centre, we started working. There were three teams: Sensors, Payload and Telemetry. Sensors was the biggest team and the one I was part of. We were responsible for soldering



and testing each sensor module (accelerometer, GPS, etc.), including preparing and launching an atmospheric balloon (I was in the balloon team myself, along with 4 colleagues). After preparing the sensors, it was up to Payload to assemble the rocket's avionics with them. They decided where to place the sensors and prepared some things such as the power supply. Lastly, there was Telemetry which had to prepare everything for receiving the data the rocket would send to the ground during the launch.

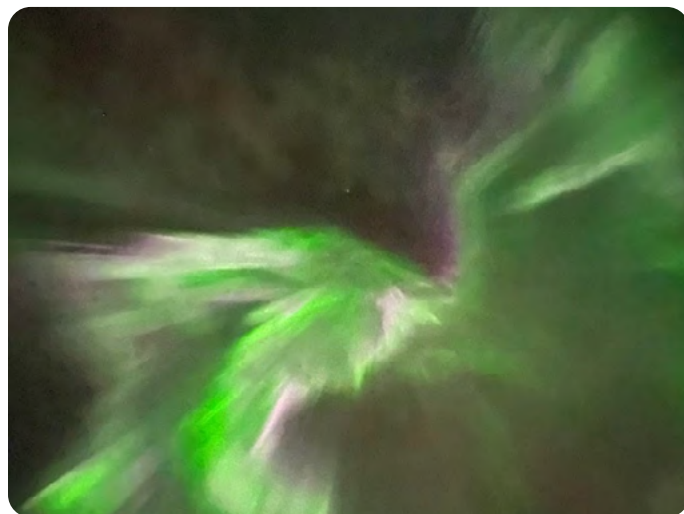


After assembling the rocket, which we named Gungnir after Odin's spear, we all signed it and carried it to the launch site, where it was later set by the Space Centre's personnel.

On the launch day, we had a pre-flight meeting to be aware of everyone's roles and safety rules. Special roles during the launch included Range Control (who conducted the whole procedure by reading the checklists and making the count-down), the PIs (principal investigators) and the people handling the telemetry. The rest of the people were outside waiting to see the rocket launch.

Though I had already witnessed some rocket launches at EuRoC 22, as a member of Rocket Experiment Division (RED), a project of AS Lisboa (AeroTéc), I can say it's always a special moment. 3, 2, 1, ... you get nervous as you wait for the rocket to rise, which never happens at zero since it takes some time for the ignition to produce the required thrust. But when it does happen, after a few seconds that feel much longer than they actually are, it is surprisingly fast – after only a few seconds, it is too high for you to be able to see it, leaving behind a trail of smoke. Then you wait patiently to know of its outcome through its data. In this case, it ended (as expected) crashing into the sea.

Of course, not all the week was filled with technical work – we also had lectures, walks around the island and lots of free time to socialise. We also got extremely lucky in that we saw very active northern lights.



To finish the week, we had a very nice celebratory dinner. That night, we also had the possibility of watching the launch of NASA's VortEx mission, but it ended up being delayed for bad weather (I still enjoyed getting to see the procedures first hand though).

As the week ended, we were all a bit sad that it finally came to an end, but we were also very happy that it happened. I am sure all of us got a lot from this experience. We now know more about rockets and how they are prepared and launched, but also about other countries' people and cultures. All in all, I feel the Fly a Rocket! programme made me a more complete human being and I strongly recommend you apply for the next edition.

*Marco Acúrcio, member of AeroTéc
EUROAVIA Lisbon*

EUROAVIA Lisboa, also known as AeroTéc, is made up of engineering students from Instituto Superior Técnico, Portugal. It was founded in 1997 and counts around 230 members working on numerous different projects – from technical competitions to community-driven events.

ABOUT THE AS:
AS LISBOA



PLANESPOTTING IN FRANKFURT

AS DRESDEN

As a teambuilding event and to quench our thirst for planes and airport atmosphere, we as members of EUROAVIA Dresden travelled from Dresden to Frankfurt on the weekend of 21.01 and 22.01.2023. Our trip started early, as we had to catch the first ICE train heading west to make our first programme item at 1 pm.

After arriving, we had a little time left, which we spent in a café near the observation deck, where we could already get some impressions of the lively apron. We were also able to unpack our cameras and put them to use for the first time.



Just in time for the midday wave and the departures to Asia and North America, we embraced a guided airport tour in which we were able to travel by bus for two hours across the busy apron of Frankfurt Airport. Here we saw, among other things, several A380s, including the reactivated one from Lufthansa, and a large number of international airlines.

Afterwards, we picked up our rental car for the next day, checked into the hotel and headed into the city to finish off the evening and meet up with a EUROAVIA Dresden alumni. We had a wonderful evening and were able to exchange ideas about many things.

The next morning we had a hearty breakfast at the hotel plus a few extra rolls for food on the way. It was super exciting to sit in a breakfast room with the flight attendants and cockpit crews who flew all over the world afterwards.

With our rental car, we made our way to the most famous spotter locations. Here we were treated to a spectacular array of short- and long-haul aircraft taking off and landing at Germany's busiest airport. There were definitely a lot of highlights here as well. Many B747-400s and -800s departed at the vantage point of Runway 18 West during our stay. To warm up, we went back to the car a few times and finally changed locations again to the opposite side of the airport, from where we could see the take-offs more closely.

After a successful day, we returned our rental car around 3 pm and hopped on a train heading home.

We had a wonderfully exciting weekend with lots of memories and photos, some of which are shown in this magazine article.



EUROAVIA Dresden is located at the faculty for Transport Sciences at the Technological University of Dresden, Germany. Since 1990, they consist of a variety of majors ranging from mechanical engineering and transport economics to psychology students who share a passion for the aerospace field.

ABOUT THE AS:
AS DRESDEN



DrONE

ZACHAROULA KOUTRAKOU, ANTONIOS KYVELLOS | AS PATRAS

A couple of months ago, FEAC Engineering approached us with an idea: a student competition that challenges participants to design, simulate, and develop a drone from scratch.



Today, with the expertise of FEAC Engineering and ALTUS LSA, we are excited to announce DrONE!

This competition is open to students all around Greece, with a passion for drone technology and a desire to apply their skills and knowledge to a real-world project.

Participants will work in teams in two phases: in the first one they need to design a drone that meets specific performance and functional requirements, using simulation tools to optimize their designs. In the second phase, the top 3 designs will need to present their reports to a panel of judges and claim their prizes!

Throughout the competition, participants will have the opportunity to collaborate with industry experts, receive mentorship from experienced professionals, and learn from their peers. They will also gain valuable hands-on experience in drone development, including the use of cutting-edge simulation and design software.

As stated before, at the end of the competition each team will present and defend their design to a panel of judges, who will evaluate their designs based on a range of criteria, including performance, efficiency, safety, and innovation. Prizes, such as financial awards, internships, and high-end software usage verifications, will be awarded to the top-performing teams, along with recognition for their outstanding achievements.

This competition offers an unparalleled opportunity for students to gain practical experience in drone development and to showcase their skills to industry professionals. It is also a chance to build lasting connections with like-minded individuals and to learn from experts in the field.

For AS Patras, this is our first time being involved in such a big project as the organization of a Pan-hellenic competition. Steadily, we are thrilled to see that more and more companies are involved, offering once-in-a-lifetime opportunities to the participants.

If you want to learn more about DrONE or are interested in participating, remember to stay tuned to our social media!

*Zacharoula Koutrakou,
President of AS Patras*

*Antonios Kyvellos,
Marketing Executive of AS Patras*

AS Patras first joined the EUROAVIA network in 2002. It consists of students with a common interest in aerospace and aeronautics who organise events in collaboration with the industry. They distinguish themselves for their technical work force taking part in many engineering projects.



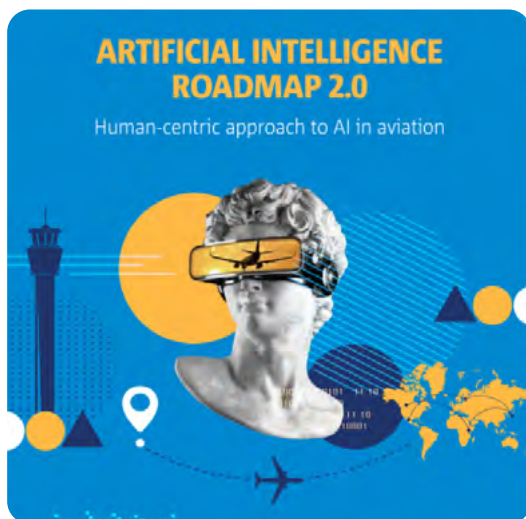
ABOUT THE AS:
AS PATRAS

TECHNICAL ARTICLES

Staying abreast of industry trends is a top priority for EUROAVIA. In the pages ahead, you will discover enlightening interviews and articles featuring insights from industry experts and EUROAVIANS. We express our deep appreciation for the contributions they shared with us. Stay tuned to be updated on the directions of the aerospace industry!

CERTIFYING AI FOR AVIATION, A LONG ROAD AHEAD

ALESSANDRO MIGLIACCIO and GIOVANNI IANNONE | AiShed



The latest bubble of interest in niche technology is here, nowadays all that people can think about is how the latest version of chat GPT can revolutionize the way we work and create, maybe even aircraft design? Sure, as the world opens up to a new technology, there will be a financial bubble that will inevitably pop. That said, this time things are not going the way of crypto and housing. There is no bubble in this space right now, and there isn't an over-reliance on hype to drive demand for these technologies like we saw in the tech sector during the late 90s.

As AI enters a new era, there is a need to look at the implications it has in automating tasks that humans have grown to associate with intelligence. AI can be leveraged for use in conversational exchanges and plan and schedule

activities, making it an essential instrument for industries. With such powerful capabilities, establishing a legislative framework needs to be prioritized. Standards harmonization and risk management are two areas that must be addressed concerning the rules governing AI's adoption in everyday operations. Data protection requirements also need to be established as existing knowledge may be gathered so as to feed models which generate AI-based decisions.

The European Commission's introduction of the AI Act Proposal on April 21, 2021 is a significant development in providing legislative frameworks for AI technology. With this proposal, standards will be harmonized across the European Union to ensure that AI technology is used responsibly and ethically. Moreover, a risk management system will be set up to assess any potential risks of deploying AI applications and a data protection framework established to ensure users' privacy and their right to delete personal data collected by these applications. Furthermore, the proposal also provides for knowledge-sharing initiatives among Member States regarding existing knowledge related to AI technologies.

This comprehensive approach taken by the European Commission demonstrates its commitment in regulating the development and use of AI technology.

AI perimeter

Artificial Intelligence (AI) is a rapidly evolving field that encompasses various technologies, including deep learning, machine learning, computer vision, and natural language processing. While AI may seem like a relatively new concept, it has actually been applied in the aviation industry for decades. Among the plethora of AI technologies, decision trees and neural networks have emerged as highly disruptive forces in the field. These technologies are not only attracting attention but also raising important regulatory concerns. As the European Union Aviation Safety Agency (EASA) turns its focus towards regulating AI, decision trees and neural networks have taken center stage due to their potential implications in areas such as deep learning, machine learning, computer vision, and natural language processing.

But let's take a step back. The aviation industry has been at the forefront of utilizing AI technologies to enhance safety, improve operational efficiency, and enhance the overall passenger experience. For instance, machine learning algorithms are used to analyze vast amounts of data collected from aircraft sensors and predict maintenance issues before they occur. This proactive approach helps prevent untimely breakdowns and reduces flight delays.

The importance of the system approach

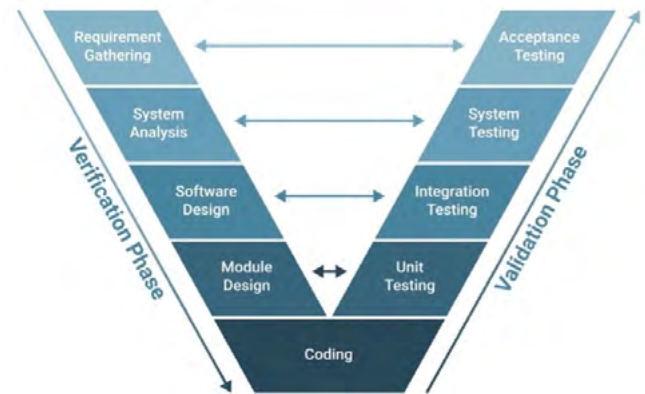
In the science of AI, a main feature of AI is data collecting. A large amount of data has to be collected for allowing the best AI System training. Such a process becomes an essential part of an AI system that can be defined as complex.

The systems engineering approach, which contributes to the creation of more and more innovative and complex systems, is recognized in the industrial field. Standardized rules and regulations have been updated to integrate this subject.

As presented in the book "Systems Engineering Neural Networks", the key aspect of a system is its own life cycle, which needs to be continuously monitored in its operating environment in order to identify and correct the failures by preventive actions that are able to restore the full system capability. Additionally, fulfilling the system's need for maintenance by establishing it early on as a non-functional requirement will save significant time and cost later on during the

system operation, some of it can be achieved by accurate wholistic modeling of the system. (see. Model Based Systems Engineering - MBSE)

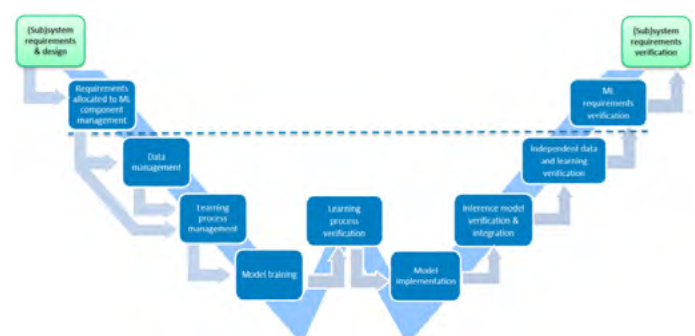
But before we can leverage "big data" to design better systems or enhance existing ones, we need to understand the W model: a variation on the traditional systems engineering V model that we invite the reader to review.



Engineering V-shaped process

The Learning Assurance Life Cycle (LALC) is a new methodology that aims to build the process of creating a machine-learning model more efficient, reliable and cost-effective. It consists of five steps – Data Collection, Model Development, Testing & Validation, Deployment, and Maintenance – which can be represented in the form of a tightly packed diagram. This diagram provides an overview of the key elements involved in each step and outlines the crucial activities that need to be completed for successful implementation of LALC. It helps understand the relationship between different steps and make sure that all necessary components are taken care of before embarking on creating an AI model.

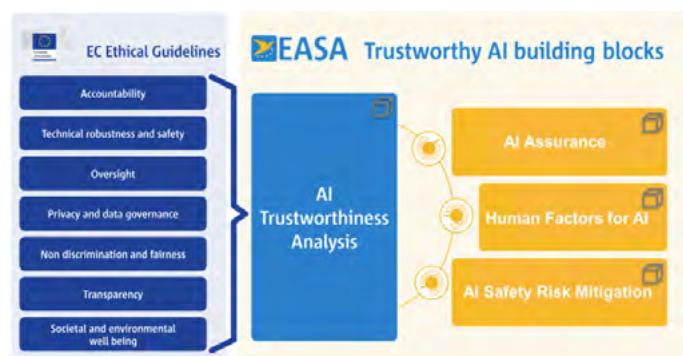
In the world of modern aviation, AI models can be used to analyze and interpret data in complex flight scenarios, and consequently give pilots a better understanding of their environment. As such, the implementation of AI models into operational software is crucial for modern flight operations.



Trustworthiness

As AI technology continues to evolve, it is essential to take into account all technical objectives that the system needs to fulfill in order to ensure safety and effective operations. Combining this with human centric objectives and ethical attributes will result in an efficient risk management system, also guaranteeing data protection and trustworthiness.

The AI Assurance building block is an important step in ensuring that AI-based systems are trustworthy and adhere to public standards. It covers both technical and legislative aspects of ensuring safety of these systems and provides guidance on topics such as the AI acts, the harmonization of standards related to safety, data protection considerations, risk management systems, and AI trustworthiness. It is a crucial component in making sure that all stakeholders involved in developing or using these systems are aware of all applicable regulations.



EASA AI Levels

Interpretation of future AI regulations could address the system development assurance process that establishes to limit as much as possible the probability of development errors that could compromise the safety of the aircraft. The development process must certainly address both the Functions (at the aircraft or system level) and all those Items could have an adverse effect on safety. The assigned developmental assurance level (DAL) has no relationship to the probability of failure, in fact, the analysis of the probability of the failure condition becomes necessary later to demonstrate that the design meets the criteria chosen for certification. Therefore, once a Function DAL (FDAL) and/or an Item DAL (IDAL) are assigned based on the severity classification of failure conditions (A, B, C, etc...) then all involved functions and/or items are considered to determine the system development assurance

levels. To date when AI software is to be introduced into an aircraft, the associated DAL does take into account the possible failure condition (FC). The AI software must have a level based on the severity classification of the failure condition.

AI level	Function allocated to the system to contribute to the high-level task	Authority of the end user
Level 1A Human augmentation	Automation support to information acquisition	Full
	Automation support to information analysis	Full
Level 1B Human assistance	Automation support to decision-making	Full
Level 2A Human-AI cooperation	Overseen and overridable automatic decision	Full
	Overseen and overridable automatic action implementation	Full
Level 2B Human-AI collaboration	Overseen and overridable automatic decision	Partial
	Overseen and overridable automatic action implementation	Partial
Level 3A Supervised advanced automation	Supervised automatic decision	Upon alerting
	Supervised automatic action implementation	Upon alerting
Level 3B Autonomous AI	Non-supervised automatic decision	Not applicable
	Non-supervised automatic action implementation	Not applicable

AI levels of severity classification of the failure condition

For this purpose, legislative frameworks have been established providing clear direction on the actions to be undertaken when operating AI systems. The standards harmonization process should also be completed in order to provide guidance on how different systems interact with each other safely.

The goal behind these activities is simple: To create a safe and trustworthy environment for everyone using AI-based solutions.



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ABOUT THE AUTHORS:
GIOVANNI IANNONE

SIMULATING SPACE ON EARTH

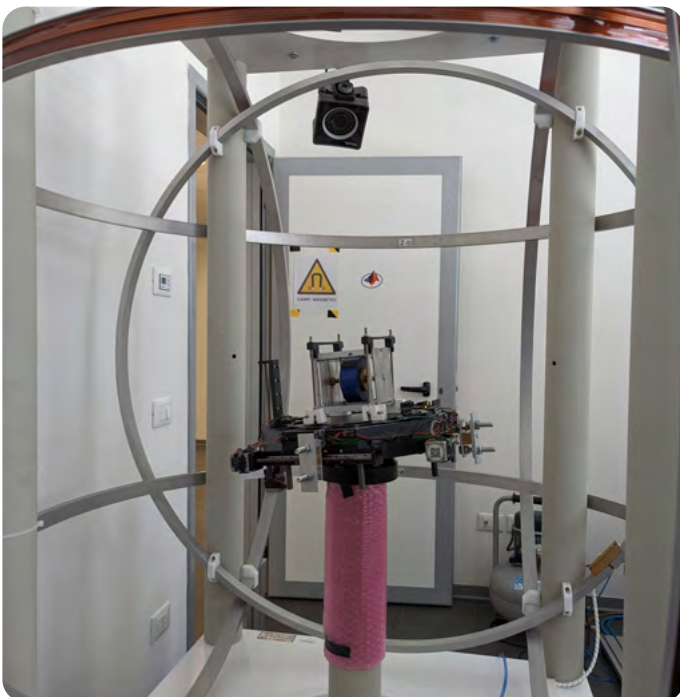
ANDREA CURATOLO | AS FORLÍ-BOLOGNA

How do you simulate space on Earth? That seems like an ambitious goal, but it is actually possible to simulate space on Earth or, better, simulating some conditions that a spacecraft encounters into space.

From when it is assembled to the moment it starts operating in space, a satellite undergoes a series of very stressful conditions. The launch is characterized by very strong vibrations, the space environment is characterised by a strong radiation, a steep temperature gradient, vacuum condition, variable magnetic field, and “micro-gravity”. Still, there are plenty of satellites perfectly operating in space, thus enabling a lot of services on Earth. This is the result of decades of experience in space engineering and of satellite testing on ground. In particular, there is a sub-system for which testing is not trivial at all: The Spacecraft Attitude Determination and Control System (ADCS). This is the system allowing a spacecraft to determine and change its orientation in space and is extremely important because its failure can compromise the operability of the spacecraft (for instance, the solar panels need to point the sun, or the antenna need to point towards Earth). The ADCS is composed of sensors that utilise the Earth magnetic field, the Earth albedo, the stars or the Sun to determine its current orientation and of actuators like thrusters, reaction wheels or magnetorquers to change it.

Testing this system means reproducing the attitude dynamics of a body in space, characterised by very low torques. These torques are especially low (10^{-6} Nm) for a satellite of small dimensions, like the CubeSats, satellites of standardised size that became extremely popular thanks to their low cost and development time. At the Microsatellites and Space Microsystem Laboratory of the University of Bologna, an attitude simulator testbed has been developed to test the CubeSat’s ADCS. It consists of a spherical air bearing that allows the rotation of the spacecraft with low friction, a Helmholtz cage for simulating the Earth’s magnetic field, a Sun simulator and a mass balancing system that allows to reduce the torque due to gravity to very low values (10-5 Nm). Recently, an upgraded version of this simulator is under development for the European Space Research and Technology Centre (ESTEC) of the European Space Agency. The new facility will allow the testing of CubeSats with different sizes and dimensions, will have a movable sun simulator and a vision system for independent attitude estimate as well as many other features. The facility is currently under manufacturing and testing and it is expected to be delivered to ESTEC for the end of 2023.

Let’s see what the future holds for this interesting project!



ABOUT THE AUTHOR:

ANDREA CURATOLO

Andrea Curatolo is a PhD student in Aerospace Science and Technology at the University of Bologna. He is a member of EUROAVIA since 2019 and a member of the Communication WG since 2021. His passions are sport, productivity books and space exploration. He won’t refuse a night spent dancing and drinking with friends.

JOB MARKET CONSIDERATIONS AND HOW IT AFFECTS THE ROLE OF EUROAVIA

Charting EUROAVIA's course: adapting to the changing job market for future success

LEO BUCHNER | AS MÜNCHEN

A constant in all of my time in EUROAVIA has been what we call the “EUROAVIA Spirit”. Everybody that joins an International Event experiences this, and it drives us to spend our time and energy on EUROAVIA’s mission. Without it, we wouldn’t have some of the best people among us, and our meetings, projects and events wouldn’t leave the impact that they do. I’d like to invite every member of the EUROAVIA community to join me and think about what comes next in EUROAVIA and how we can start a transformative journey that aims to navigate the evolving currents of the job market of our field.

As much as the EUROAVIA spirit was a constant, the association also needed to change its profile and adapt to a new role with changes in the broader aviation and aerospace markets. In 2019, during my first year in university, it was not uncommon for the most decorated EUROAVIA members in my home university in Munich to have difficulties finding a job right out of university. Their search for a job required multiple attempts, and sometimes took months on end. I think that I don’t need to elaborate on the Covid times much. Not only it was sometimes unthinkable to join companies for a new job, but also EUROAVIA was unable to continue with our conventional activities, first and foremost international events. We brought many events into a virtual setting and adapted to the new circumstances once more.

Now, we are in a completely different situation once again. And we’re only beginning to recognize how impactful the current situation of our sector, and the labor market in general is on a student association like us.

Last year, the total number of open positions in Germany reached an all-time high and according to EUROSTAT the job vacancy rate for both the eurozone and the EU reached an all-time high of roughly 3%. At the same time, roughly 6% of workers in the EU changed their jobs in the recent 3 months, suggesting both demand for workers and a dynamic labour market. I will leave the de-

tailed analysis of these topics to economists but I would like to dare to draw some conclusions on how this might affect EUROAVIA.



As much as the EUROAVIA spirit was a constant, the association also needed to change its profile and adapt to a new role with changes in the broader aviation and aerospace markets.

But first, I would like to take a step back to when I started my time in EUROAVIA. Back then, the biggest benefit of being part of EUROAVIA was standing out between a wide field of candidates – of whom companies could cherry-pick the most promising candidate. Job openings wouldn’t be open for long, and candidates would flow in without much effort on the company’s side.

Now, as outlined above, the situation has turned 180°. Job openings remain open for record times, especially those, that seem unappealing among the many job opportunities that graduates currently have. And it is justified to ask, why a candidate should apply for a job that doesn’t have the same level of attraction compared to other jobs they also have good chances to get.

What is interesting is that these developments, while I’m sure appreciated, do not have a lot of consequences on the behaviour of graduates. Ultimately, it does not matter if you need to be the best out of many, or simply the best for what you want to do. It does, however, change the role of a student association like EUROAVIA. I’d like to make three points in this magazine article, suggesting possible focal points of EUROAVIA activity in the coming years.

1. Database

As outlined above, the students and graduates of EUROAVIA are the most important asset of the association. Major, nationality and estimat-

ed time of graduation play a big role in the hiring process, and the value of collaborating with EUROAVIA will ultimately be valued most by estimating the value of our members. Adding to the number of members, but also extending the range of majors beyond mostly aerospace/mechanical engineering will strengthen our position with companies a lot. Especially electrical engineers and computer science graduates are widely in demand at aerospace companies currently and we want the companies to know that EUROAVIA is always an address relevant for their search for candidates. As many of our universities also have departments in those fields, inviting students from these majors to become members of EUROAVIA is highly recommendable in my opinion.

The basic parameters of our members' curricula vitae will be completed by their skills, and key competencies, creating a candidate profile much more extensive and holistic than a CV could ever be.

2. Job Marketplace

Taking this idea one step further implies not only being able to forward information about our members to universities but also creating a marketplace of Job Requests for partner companies, actively promoting specific jobs with our members. Unlike the job marketplace itself, we can broaden the perspective and develop a EUROAVIA format, actively specifying hard requirements, perspective skills and key competencies important to the job.

I'd like to underline the term "key competence". Many terms listed as requirements in JRs are actually skills developed on the job. Key Competences, however, are broader, signaling potential in a specific field, rather than just a skill. In the end, a hammer can be used both by a carpenter and a blacksmith, but that doesn't signal if either is going to be good at their job.

Those key competencies, in the long term, could be used to create a matching algorithm between the candidate profiles in our EUROAVIA Database and the JRs in our Job Marketplace.

3. EUROAVIA Skill Tree

Lastly, I'd like to suggest a feedback loop, combining the first and second points. After building a reputation and believability in our database of candidate profiles, and extending both the con-

cept of a CV and a job marketplace to formats more fitting to the current market situation, companies should be interested in fostering the skills they deem valuable in the future.

For example, the topic of certification might be important for a company over a horizon of 5 years, suggesting that people starting to join universities today will be the desired graduates of companies in the mid-term. This gives us an edge when organizing our day-to-day activities, because organizing events where our members can educate themselves on industry-relevant topics, is what EUROAVIA is about in the first place. Elevating the quality of our events, increasing organizing budgets with the help of the companies interested in those topics, all the while recording our members' participation and engagements in order to allow them to collect "skill points" in the skill trees of that key competence, will make participating in our events more attractive and relevant.

I highly suggest that the activity of EUROAVIA International focus on a common member database, a Job Marketplace and the EUROAVIA Skill tree to further increase the value that EUROAVIA wants to create, both for students and industry. Those three focal points will build the foundation of why this idea can work in the future and create a positive feedback loop increasing the value of EUROAVIA activity to new levels.



ABOUT THE AUTHOR:
LEO BUCHNER

Leo is studying his Masters' Degree in Aerospace at the Technical University of Munich. He has been in the local board since his first year of studies in 2018. After a couple of years as the president, he assists the local board as an advisory member. Leo has been active in EUROAVIA International since 2019 as an ETS Trainer and in the AS WG since 2021.

INTERVIEWS

INTERVIEW WITH ROGER HUNTER

LUCIA RUOCCO | AS NAPOLI

Luccia Ruocco (L.R.): What sparked your interest in aerospace engineering and led you to pursue a career in this field?

Roger Hunter (R.H.): I am a child of Apollo. Apollo was taking off in the 1960s, I was a fifth or sixth-grade kid, and one day there was this local broadcast. There was a news reporter in Tallahassee, Florida. It was early in the morning and they said, "If you go outside at 7 AM, you will see an Apollo test shot screaming across the sky before it impacts the Atlantic Ocean." So here I was, sitting on the front porch of my parents' house, and just as he predicted, you could see this thing screaming across the sky and I was amazed by the speed of it. It was one of the first tests of the Apollo Capsule that was going to take the astronauts to the moon. It was incredible. I grew up on a farm, this was so foreign to me, but I loved science fiction books. When I saw it, it related to the books I was reading and that sparked my interest and it stayed that way until today. When I went to university, I was in ROTC, Reserve Officers' Training Corps, and since I wear glasses, I could not be an Air Force pilot. They told me, "Well, we have needs for other officers. What do you want to be?" handing me this big Air Force Specialty Codes book. The one that sparked my interest was "Space Operations"; I was curious about what the DOD, Department of Defense, and the Air Force were doing in the space field. My first assignment in active duty was to a classified Air National Guard Base in Colorado, and to me, it was right out of science fiction. I fell in love with it. I was intended to stay in the Air

In EUROAVIA, looking up to experts and professionals in the aerospace sector is fundamental to learn and explore the future possibilities in the field. Allow yourself to get inspired by the interview in this section and keep dreaming bigger!



ABOUT THE INTERVIEWEE:
ROGER HUNTER

In the last few decades, Roger Hunter has been one of the leading personalities in the aerospace field. Over 40 years of experience in Department of Defense, Commercial, and Government Space Missions. Served as Project/Program Manager for several important US national missions, including the Global Positioning System, Clementine II/XSS-10, the NASA Kepler mission, and currently on the NASA Small Spacecraft Technology Program.

Force for four years, serve and then go somewhere else, but I kept getting great assignments, while they were paying for my education. I was involved in something I am passionate about, so that is what sparked and let me keep my interest.

L.R: How did you transition from the Department of Defense to NASA?

R.H: When it came time to retire from the Air Force, I still wanted to stay in the aerospace industry. Boeing recruited me to work on GPS, Global Positioning System satellites and ground stations, because that was one of the jobs I did in the Air Force. I took the job and then, seven and a half years later, I received a call from NASA saying they were building something called a "Kepler Space Telescope" and they wanted me as a Program Manager. I knew who Johannes Kepler was from my physics studies, and I found out that NASA was naming a Space Telescope after him because they were going to go look for planets. They wanted to go for another Earth. I loved the job at Boeing, but I could not say no to that. And so I have been there for 15 years now.

L.R: As the Project Manager for the NASA Kepler Project, what were the main goals and what were some of the key discoveries made by the Kepler Telescope?

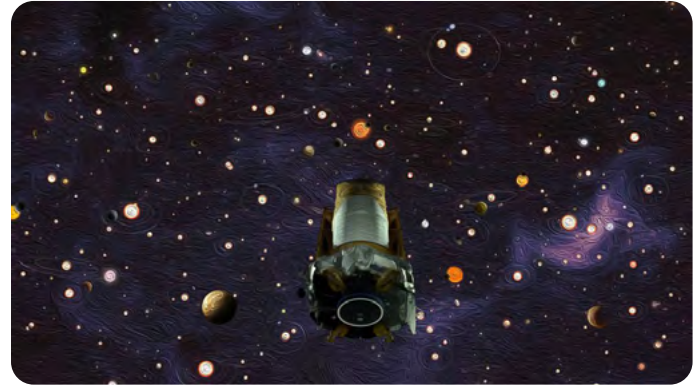
R.H: The fundamental objective was to determine the occurrence rate of the habitable zone of Earth-size planets around other stars in the Milky Way galaxy, and we did that. For us, the results were stunning, because it was even more than we anticipated. Go outside at night, get away from the city lights, and look up into the sky, every star has a planetary system. We now know that because of Kepler. Out of all those stars, which ones in those planetary systems are Earth-sized and have habitable zone? 40 percent. I just saw an article that some scientists found improvements in the algorithms that process the data that Kepler collected, and they added that to the bounty of planets already detected. Kepler blew the door off for exoplanets science. Now the question is, we found the planets, but are they indeed habitable? Space Telescopes like the James Webb are going to be used to peer into the atmospheres of those planets to see if there is an indication of some sort of biological decomposition going on on the surface.



Kepler blew the door off for exoplanets science. Now the question is, we found the planets, but are they indeed habitable?

You could stand off at the end of our solar system, and stare back at Earth when it comes across and passes in front of the sun. When that sunlight gets to the atmosphere, you can do spectroscopy on it, to determine what is in it. Water vapour, carbon dioxide, methane; things like that indicate there is a biological decomposition. But we cannot imagine a planet yet, we can detect its presence by transit photometry, but we do not know if there is indeed something alive on that planet, science always needs more confirmation. This is the purpose of the next Telescopes. I think the most amazing one is going to be when LOUVOIR gets fielded, and you will be able to image one of these planets in our stellar neighbourhood between 25 to 35 light-years

away. You will see a pale blue dot, just as we saw with our other telescopes when we were looking back at Earth.



An artist's depiction of the Kepler Space Telescope and some of the planets it discovered | Credit: NASA

L.R: Currently you are working at NASA's Ames Research Center. Could you elaborate on your role in the NASA Small Spacecraft Technology Program?

R.H: As the Program Manager, you are responsible for leading the team. You are responsible for making sure that all of the technology demonstrations that you have ongoing execute properly. You are also required to be cognizant of the next generation, the next leap occurring in technology, electronics, or software development. Researchers at NASA's Ames Research Center are developing Satellite Swarms, which are groups of spacecraft working together as a unit, without being managed individually by mission controllers. A swarm's ability to perform autonomously will make new types of science and exploration possible, particularly as they venture farther into deep space.

One of the things that we are watching is the increasing impact that artificial intelligence and machine learning are going to have on this industry. We are working on power, propulsion, autonomous navigation, processing, and that is where A.I. and M.L. come in. Everything is progressing and there are always ways to reinvent things done in the past. I have to make sure that we continue to foster that kind of environment, whether it is with universities or with small businesses, even other larger companies, and sometimes other NASA Centers. You see, NASA is not the fount of all ideas. Ideas can come from anywhere, and that is why we invest a lot in research done by universities, not just by profes-

sors, but also PhD students. Our job is to sift out where are the best ideas that represent the low-hanging fruit that can easily be invested in and also give you a return on investment as soon as possible.

L.R: As an experienced program manager, can you give us three skills or qualities you believe are essential for success in the field of aerospace engineering?

R.H: Passion. Whatever you choose for your career path should be something you are passionate about, something that gives you pleasure. You cannot buy happiness with money, but you can procure happiness with service to other people, making an impact for humanity's benefit. One of the best jobs I have ever had, other than Kepler, was working on the GPS in the Air Force because you could have an impact on all 8 billion people on this planet. I do not consider it going to work, I consider it going to find another challenge and solve it to help humanity. That is one of the things that I recommend to make yourself a better aerospace engineer, but also a better person.



I do not consider it going to work, I consider it going to find another challenge and solve it to help humanity.

Whenever I get asked what one piece of advice I would give to young people, I always think of an interview between Jimmy Carter and Hyman Rickover, a genius who fundamentally change the US Navy. In the last question, Rickover asked him to tell them one thing he was proud of, and Carter responded by saying "I graduated 59th in my class of 800". Rickover looks at him and says, "You didn't do your best then, did you?", leaving Carter speechless. Rickover swivelled in his chair and said two words, "Why not?". So one thing I would tell people is always do your best, even if it sounds cliché.

The last thing is to never say no, or rather, as people say, never say never. Sometimes opportunities come along and you have to recognize

them. When the Center Director called me, I had a great job at Boeing, I was living like a king. Then the door to become Kepler Program Manager opened and I am glad I walked through it. It can be scary, but you have to have the courage to not succumb to your fears. You have to aspire to something that will change your life, as Kepler changed me. Of course, no job is perfect; even Kepler had us on headaches and many things happened during 10 years. But sometimes you have to take advantage of opportunities and make the best of them.



Autonomous swarm navigation on four CubeSats in low-Earth orbit | Credit: Blue Canyon Technologies/ NASA



ABOUT THE INTERVIEWER:
LUCIA RUOCCO

Lucia first joined EUROAVIA in 2019, when she participated in the Formation Workshop hosted by AS Sevilla. Since then, she has been part of the Local Board in AS Napoli as International Editor Member for two years, and Coordinator of the Design Working Group since August 2022.

MEET THE NEW PAS

The EUROAVIA network is continuously growing! This Business Year, we welcomed in our family three new PAS: Oeiras (Portugal), Milano (Italy), and Samsun (Turkey). Read their presentations in this section to get to know them better and welcome them in our community!

PAS SAMSUN

Dear EUROAVIAns, as PAS Samsun, we are happy to be a part of EUROAVIA again. As five founding members who put forward the idea of being a part of this big family, we would like to thank the EUROAVIA executives who treated us warmly and guided us on this path. Our aim in establishing EUROAVIA Samsun is to bring together our aviation enthusiast members in our society with the aviation enthusiasts of Europe and to share culture. We are looking forward to showing you the beauties of Samsun, the pearl of the Black Sea. Our community continues its activities within the body of Samsun University and has around forty active members. As a community, we organize various technical and social trips for our members every year and organize fusion meetings and cinema days. Finally, the biggest activity we do with our members is to be a part of EUROAVIA as PAS Samsun. Our members follow all the news and events of EUROAVIA with enthusiasm. They support us in present and future activities.

Step by step to become AS Samsun

As PAS Samsun, we are moving step by step to become AS Samsun, so we are planning a Fly-In event full of surprises for you. What will be wait-

ing for you when you come to Samsun, the pearl of the Black Sea is:

- The unique beauties of Samsun
- Fun beach nights
- Mini model rocket training and launch for rocket lovers. Why shouldn't you fly when the rocket you built is flying? You have also seen that you are floating in the skies of Samsun on a plane.
- Technical trips that will contribute to your career
- And many surprise events...

After becoming AS Samsun

As AS Samsun, we will do our best for the development of EUROAVIA and our members. We are determined to become active members of the EUROAVIA family, and we are taking firm steps on this path.

Thank you for featuring us in this issue of EUROAVIA Magazine. And finally, we look forward to meeting you, our valued EUROAVIAns, at future events.

SEE YOU IN SAMSUN! – SAMSUN'DA GÖRÜŞMEK ÜZERE!



PAS OEIRAS

Founded in 2020, Atlantic University's Aeronautical Engineering Nucleous, known as AEROAT-LA, has undergone a remarkable transformation and emerged as PAS Oeiras. Our mission remains unwavering: to support and mentor students and members who aspire to careers in the aerospace, defence and space industries.

Developed by Aeronautical Engineering students, our main goal is to provide an enjoyable and differentiated experience, both in academic and professional support.

Our current motto, "NOSTRI ALUMNI HODIE CRAFTINA FABRUM" or "our students of today, the engineers of tomorrow", summarises our belief that we are all learners on a journey of knowledge. With the help of Atlantic University's Aeronautical Engineering Department, we are confident that we will achieve all our goals.

At EUROAVIA, we are now PAS Oeiras and our main mission is to facilitate the direct exposure of our trainees to industry, allowing them to cultivate the necessary skills for future employment in various sectors. We actively participate in high schools, educational fairs and professional events to promote the field of aviation to the general public.

Throughout the academic year, we participate in a wide range of projects, some of which include Aeronautical and Academic Weeks, information and mentoring sessions, Career Day, study visits, Engineers for a Day, Women In STEM initiatives, development and technology projects, educational and academic fairs, Ciência Viva workshops, Oeiras Educa initiatives, national competitions, Course Ambassador projects, Sci-

ence Clubs with visits to secondary schools and round tables.

We are proud to offer such a diverse portfolio of projects, ensuring our members countless opportunities for growth, learning and excellence in the field of aeronautics. By actively participating in these initiatives, they gain valuable hands-on experience, further their personal and professional development, and contribute to the advancement of the aerospace industry.

We are excited to embark on this new chapter as PAS Oeiras and are incredibly happy to have the opportunity to share it with all the EUROAVIA community. Our hearts are full of excitement as we anticipate the countless possibilities that lie ahead. With each passing day, we hope to create a vibrant tapestry of experiences, seizing every opportunity that comes our way.

At PAS Oeiras, we believe in the transformative power of community. We unite under a shared purpose – to foster talent, encourage collaboration, and push the boundaries of possibility in the aviation industry. Our wingspan extends far beyond the confines of our campus.

As we embrace this new era, we are confident that it will be filled with growth, learning and remarkable opportunities for our members. Together, we will navigate the skies of knowledge, reaching new heights and making our mark in the aerospace industry.

The future is bright, and we are ready to fly towards success.

*Your new community,
PAS Oeiras*



PAS MILANO

Fly Mi EUROAVIA Milano is one of the newest additions to the EUROAVIA network and we are thrilled to embark on this exciting journey of exploration, innovation, and passion for the aerospace sector.

Fly Mi was established on May 5, 2022, at Politecnico di Milano by a group of proactive students who now form our Local Board. Our aim is to serve as a reference point for all students interested in the aerospace sector, eager to get involved and put into practice the theoretical notions learned during lessons. Our mission is to challenge the boundaries of aviation, fostering a culture of creativity and teamwork while aiming for excellence in every project we undertake.

With a focus on model remotely piloted aircraft, we believe that innovation in this area will significantly impact the future of aviation technology. On the other hand, we aim to be part of the European context and community, actively participating in the EUROAVIA family. We have already taken significant steps towards establishing ourselves in the aerospace community. Our board participated in the prestigious AMEAC in Napoli on October 4th, 2022, where we introduced our association to EUROAVIA. We were honoured to be approved as a Prospective Affiliated Society (PAS) thanks to the presentation of our Local Board and our university's renowned reputation in aerospace education, state-of-the-art facilities, and strong industry connections. Locally, we have been actively engaged, launching our first project "Aethra" in September 2022, aiming to excel in international competitions. Additionally, we hosted a workshop on modern aerodynamics last April, where participants ex-

plored CFD simulation and practical examples within our association. Moreover, Fly Mi had the privilege of hosting former astronaut Paolo Nespoli last May, inspiring us with his life journey and motivating us with the life motto: "DREAM THE IMPOSSIBLE." The dialogue between the students and the Politecnico professor was highly inspiring. With a dedicated and skilled student team, Fly Mi EUROAVIA Milano is ready to push the boundaries in the aerospace world and make a difference. We started also to get involved internationally: some of you may know some of us from the middle BoPs meetings or from our online speech in the occasion of the EMEAC in Bremen.

The journey does not end here; in fact, it is only the beginning. With unwavering dedication and a passion for growth, we are already preparing for the next milestone. In 2024, Fly Mi will proudly host its first International Event in Milano, where we will showcase our expertise, projects, and dedication to the aerospace world. Upon successfully hosting this event, we hope to be granted full recognition as an Affiliated Society (AS) and to officially be part of the EUROAVIA family. We invite you all to join us on this thrilling ride, filled with cutting-edge technology, innovation, and collaboration. Stay tuned for regular updates and more information about our upcoming event in Milano. Our social media channels will keep you informed and connected, allowing you to witness firsthand the unfolding of our exciting journey!



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ALTER TECHNOLOGY is the leading provider of micro and optoelectronics services in engineering, procurement, assembly, and test in space and harsh environment sectors. The company develops and offers complete turn-key solutions covering front-end engineering test, wafer and dice probing and final test, as well as wafer sawing, packaging, and assembly. The services also extend to equipment and systems testing and certification in fields like small satellites, drones, security, nuclear, and much more.

Alter Technology has a strong presence in the space industry, providing services to ensure the reliability of components used in space missions. They play a crucial role in verifying that electronics can withstand the extreme conditions of space travel. Alter Technology is an official sponsor of Future & Beyond.

b2match is a user-friendly event management tool that offers registration, ticketing, event page creation, and meeting scheduling features, making it the perfect software for events with a strong networking component. With years of experience and well over 2,000 events in its portfolio, the producing company is the market leader in Europe in this field.

b2match specialises in providing event management and networking solutions for conferences, trade shows, exhibitions, and other business events. Their platform offers tools to facilitate matchmaking, scheduling meetings, and connecting participants based on their interests, industries, and goals. This helps attendees make the most out of their event experience by enabling them to find relevant contacts and engage in meaningful networking.

B2match is an official sponsor of Future & Beyond, offering their platform as support for the Business-to-Business and Business-to-Students day of the event.

ANSYS



Ansys is an American company that develops and provides engineering simulation software, applicable in many fields and useful for product design, testing and operations.

For more than 50 years, Ansys engineering simulation software has enabled innovators across industries to push boundaries using the predictive power of simulation. The next great leaps in human advancement will be powered by Ansys.

EDUopinions



EDUopinions.com is a leading platform in the field of education reviews and opinions. With a mission to empower students and parents in making informed decisions about their educational choices, EDUopinions.com provides a comprehensive platform for sharing experiences, insights, and reviews of educational institutions worldwide.

GTD Sistemas de Información



Based in Barcelona, GTD Sistemas de Información offers top notch systems engineering solutions to the European space transportation industry, including flight software development, launch pad monitoring and control, and flight safety systems. They serve the Space and Launchers, Ground, and Earth Observation segments, delivering high assurance software solutions to prominent space industry clients. GTD stays at the forefront of NewSpace developments, providing ground systems for new spaceports and on-board systems for microlaunchers.

In July, GTD became an official sponsor of the Ideathon, the engineering competition for student teams organised by EUROAVIA, providing the Monitoring and predictive maintenance of on-board reusable systems challenge.

PACE Aerospace & IT



Founded in 1995, PACE has built a reputation for developing trailblazing software products, which took them from university spin-off to international market player and partner of choice for leading aerospace and aviation companies as Airbus and Boeing. Together with PACE TXT, EUROAVIA organised the PACE Contest.

The PACE Contest consisted in an online challenge in which the participating teams are asked to develop an innovative design for an electric aircraft with the usage of the software provided directly from PACE TXT. The three finalist teams had the chance to take part to the PACE Days, where they presented their project in front of leading companies in PaceDays in Berlin, Germany.

MathWorks



MathWorks is the leading developer of mathematical computing software. MATLAB, the language of engineers and scientists, is a programming environment for algorithm development, data analysis, visualization, and numeric computation. Simulink is a block diagram environment for simulation and Model-Based Design of multidomain and embedded engineering systems. Engineers and scientists worldwide rely on these products to accelerate the pace of discovery, innovation, and development in automotive, aerospace, communications, electronics, industrial automation, and other industries. MATLAB and Simulink are fundamental teaching and research tools in the world's top universities and learning institutions. Founded in 1984, MathWorks employs more than 6,000 people in 34 offices around the world, with headquarters in Natick, Massachusetts, USA.

In September 2023, an agreement was signed between MathWorks and EUROAVIA to sponsor the Airbus Sloshing Rocket Workshop. Thanks to this agreement, MathWorks will offer all participants in the challenge a free licence for its software, webinars on how to use it for the challenge, and participation in the challenge jury.

SimScale



SimScale is a cloud-based simulation platform that allows engineers, designers, and scientists to perform various types of simulations and analyses using computational fluid dynamics (CFD), finite element analysis (FEA), and other simulation techniques. SimScale enables users to simulate and analyse the behaviour of physical systems virtually, helping them optimize designs, test hypotheses, and make informed decisions before physical prototyping or production.

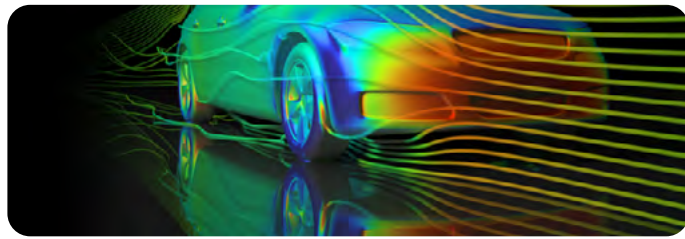
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Great advances aren't made in baby steps. They happen in big, bold leaps. To push innovation forward faster and achieve their most ambitious engineering goals with confidence, visionary companies partner with Ansys.

Advancing simulation is what we do. Our nearly 6,000 employees are singularly focused, our spirit of innovation is reflected in 580+ active patents.

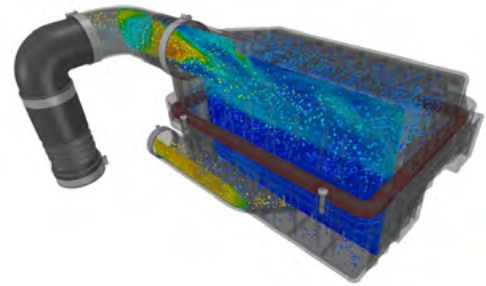
Building a Better Future, Together

At Ansys, we believe in being a power for positive change. The use of simulation by our customers to reduce their own carbon footprints and the footprints of their products is nearly infinite. At the heart of our environmental, social, and governance (ESG) initiatives we are committed to advancing sustainability through our products, investing in our people and ONE Ansys culture, operating responsibly, and collaborating with stakeholders, supporting the communities in which we live and work.

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Our open ecosystem connecting computer-aided design, computer-aided manufacturing, and computer-aided engineering providers means Ansys software integrates seamlessly into existing platforms. Our customers can make the right technology choices for their own systems.

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- 1,760+ start-up program participants



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Ansys simulation gives engineers the ability to explore and predict how products will work — or won't work — in the real world. It's like being able to see the future, enabling engineers to innovate as never before. This simulation superpower also speeds time-to-market, lowers manufacturing costs, improves quality, and decreases risk. It is the ultimate advantage that empowers companies to take a leap of certainty.

- Reduced warranty reserves
- Streamlined regulatory approval
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- More products with the same resources

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The demand for graduates with engineering simulation skills is exploding. This is largely due to the widespread use of simulation across product development and optimization workflows. To better prepare students, the Ansys Academic program offers simulation software and materials education resources to support the teaching of engineering, science and design curricula. Students can take advantage of our free student software downloads for homework outside of the classroom, capstone projects, student competitions and more. Our free student software has been downloaded more than 2.7 million times.

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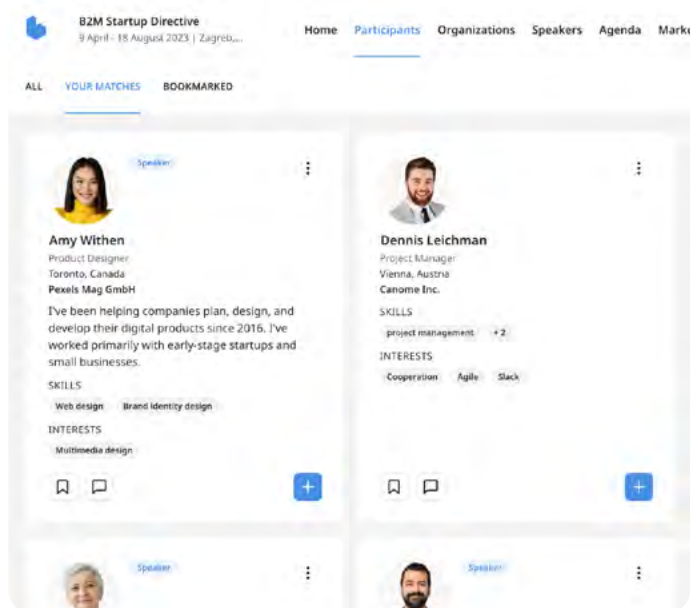
Where networking transform into opportunity



In a rapidly evolving world where relationships hold the key to progress, event matchmaking platforms are reshaping the very essence of how professionals network and collaborate. Introducing b2match - a transformative innovation poised to redefine the way enterprises connect, interact, and advance together.

A New Era of Purposeful Connections

Amidst a sea of superficial interactions, b2match emerges as a beacon of purpose in the realm of events and communities. Tailored to a wide array of occasions, from conferences to brokerage events, b2match empowers professionals across industries to transcend transactional connections, forging partnerships that drive collective growth.

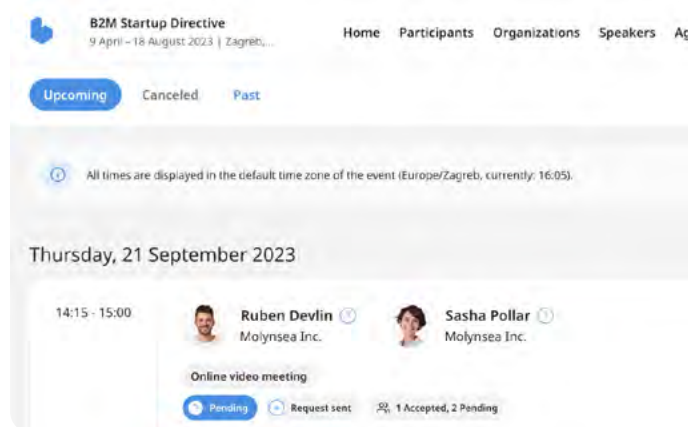


Smart Networking, Elevated Outcomes

Picture a scenario where networking isn't just about exchanging pleasantries, but rather a smart process that curates connections aligned with your goals. With the utilization of b2match's advanced algorithms, spontaneity transforms into purposeful strategy. The platform deftly recommends connections based on shared interests and interactions of the participant, making each connection a step towards building meaningful, impactful collaborations.

Empowering Proactive Engagement

In a world where opportunities favor the proactive, b2match hands you the reins. Craft an attention-grabbing event website, structure your agenda, and motivate attendees to showcase their offerings on the marketplace. This guarantees that each interaction is infused with purpose and geared towards tangible outcomes. As the world evolves swiftly, taking the lead with b2match becomes your compass for unlocking a realm of untapped possibilities.



Customized Experiences for Every Occasion

Whether it's a bustling trade show or an intimate seminar, b2match seamlessly adapts to the nuances of your event's format. Attendees are equipped with intuitive tools to navigate through schedules, enabling them to tailor their event journey and focus on what truly resonates.

Event Management, Elevated Efficiency

For event organizers, b2match is nothing short of a game-changer. It automates essential processes—registration, scheduling, and communication—allowing organizers to allocate their energy towards curating an immersive experience. The result? A seamless event journey that leaves participants engaged and fulfilled.

Seize the reins of b2match's capabilities and harness its advanced features to craft events that resonate, inspire, and spark innovation. Contact us today and leave a lasting mark on your industry.

INSIGHTS FROM STUDENTS:

Evaluating Aerospace Engineering Programs



Aerospace engineering is an exciting and challenging field that offers numerous opportunities for aspiring engineers. When considering which program to pursue, it's helpful to explore the advice of other students who have first-hand experience with these degrees. Let's delve into their stories and explore the impact of these programs.

Practical Learning and Real-World Experiences

One common theme from student success stories is the emphasis on practical learning and real-world experiences. Students appreciate programs that go beyond theoretical knowledge and offer hands-on opportunities to apply what they've learned.

From working on aerospace projects to participating in internships at renowned companies, students credit these practical experiences for their growth and preparedness for the industry.

"At EETAC it's not only the studies that matter, many other factors come into play! From EUROAVIA we try to give the students a better overall experience, giving them the opportunity to take part in university-related projects, such as Drone Racing, Robot Battles, and many more."

Industry Connections and Networking

Successful aerospace engineering programs often have strong ties with industry leaders. Students highlight the value of networking events, guest lectures by industry professionals, and collaborations with aerospace companies.

These connections provide students with invaluable insights into the industry, mentorship opportunities, and even potential job placements. By building relationships with professionals in the field, students gain a competitive edge and broaden their career prospects.

"TU Delft is among the best technical European universities. It is full of international students, which gives you the possibility of interacting with different cultures. The university is

connected well to many research institutes and companies, that know the quality of the students graduating from TU Delft and value them highly."

Supportive Faculty and Mentorship

The impact of supportive faculty and mentorship cannot be understated. Students attribute their success to professors who are not only knowledgeable in their respective fields but also approachable, supportive, and invested in their students' growth. Mentors who guide students through their academic journey, offer career advice, and share their industry experiences play a pivotal role in shaping students' confidence and aspirations.

"University of Southampton's Aeronautics and Astronautics programme focuses on important physics and maths concepts through theoretical, experimental and computational analysis. The professors are interactive and highly responsive to any queries that the student has. Personally, I've found all my professors to deliver content in an informative and cohesive way. The professors also release a mid-semester survey to collect information on how well the students find the course or if there are any queries."

Conclusion

Exploring student success stories provides valuable insights into how aerospace engineering programs have made a difference in their educational journeys. From practical learning experiences and industry connections to research opportunities and supportive faculty, the impact of these programs is evident in the stories of student achievement. By considering the factors highlighted by successful students, prospective aerospace engineering students can make informed decisions about the programs that align with their goals and aspirations.

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AERO Friedrichshafen PARTNER



AERO Friedrichshafen is Europe's Leading trade show for General Aviation happening annually in April at the venue of Messe Friedrichshafen. The show is organised by Fairnamic GmbH, a joint venture between Messe Friedrichshafen and Messe Frankfurt. Thanks to the partnership between AERO Friedrichshafen, all EUROAVIA members can take part in the AERO Friedrichshafen's Careers Day and the trade show. Also, 30 selected EUROAVIA members will receive free tickets and camping space for the air show. Apart from this, EUROAVIANS can also benefit from a special 10€ discounted ticket and much more.

AiShed PARTNER



AiShed is an organisation dedicated to the development of neural networks through the power of AI based on systems engineering principles. It is a group of professionals, including EUROAVIA Alumni, passionate about using AI technology to solve real-world problems and improve lives, with a focus on innovation. They deliver AI solutions that drive efficiency and enhance decision-making, whether it's through machine learning, natural language processing, or other cutting-edge technologies. Besides promoting each other's activities and initiative, AiShed will also offer discounts for the book, materials, and courses they offer students. AiShed has shown a great interest in shaping the new generation of new engineers through EUROAVIA.

ALTAIR Enterprises PARTNER



Organised by Altair Enterprises, the International Space Convention (ISC) is an international gathering of high-profile representatives from international space agencies, companies, and institutions. The last edition of the ISC took place online between 16th -19th of March 2023, and ISC offered EUROAVIA 500 free online tickets.

Currently, Altair Enterprises offered EUROAVIA free unlimited tickets to the next edition of ISC that will take place next year from the 12th to the 16th of February 2024, online. In exchange, EUROAVIA will promote the courses offered by Altair Enterprises, as well as sharing the opportunity for becoming an instructor for said courses with our members.

EEIL PARTNER



Leadership helps industrial companies to attract, retain and develop their next-generation leaders and talents. Together with its global network of members, partners and individuals, EEIL extensively researches what issues these leaders of the future will have to face in their workplace. Knowledge is generated by research consortia and shared within an active network through conferences and developmental workshops. EEIL and EUROAVIA provide of mutual support for activities held by both sides. This year, multiple representatives from the IB and the WGs joined the "Net Zero Carbon Industry by 2050: Myth of reality?" conference that took place on the 7th of June 2023.

ICAS
PARTNER



ICAS is a non-political and non-profit organisation whose aim is to provide regularly scheduled events and publications that enable a better understanding of engineering and an improved level of cooperation among aeronautical professionals across the world. Among their activities, the biennial congress of ICAS is worth mentioning. The last edition took place in Stockholm, Sweden, between the 4th and the 9th of September 2022. The next edition will be held in Florence, Italy, between the 9th and the 13th of September 2024. The partnership between ICAS and EUROAVIA consists of mutual support for the activities held by both sides, as well as invitation for EUROAVIA's selected members to congresses organised by ICAS.

ITAérea
PARTNER



ITAérea is the first business school worldwide specialised in airport and aeronautical management in terms of number of students, headquarters, and professors. It is strategic partner of the United Nations Institute for Training and Research (UNITAR) and the International Training Centre for Authorities and Leaders in Mérida, Mexico (CIFAL) and aims to foster the development of training for worldwide managers of the air transport sector. It also offers university degrees thanks to the agreement signed with the University for E-Learning in Madrid (UDIMA). Furthermore, it is the main training provider for managers in the Latin American Region of Airports Council International (ACI-LAC).

**International
Space
University**
PARTNER



ISU is a private, non-profit institution that forms future leaders of the global space community by providing interdisciplinary educational programs to students and space professionals in an international and intercultural environment. Since 1987, ISU is the only university worldwide devoted entirely to space education. Today, ISU is made up of a unique network around the world with hubs in Europe, the USA and the Asian Pacific region, and partnerships with leading space organizations worldwide. ISU counts 5400 alumni in 110 different countries, including astronauts, entrepreneurs along, and current and former space industry and government leaders. This partnership allows EUROAVIA members to take advantage of discounts of over 50% for ISU courses and participating in joint events.

**Junior Enterprises
Europe (JEE)**
PARTNER



JEE is an umbrella organisation that represents, integrates, and supports the European Network of Junior Enterprises. The aim of JEE is to empower students to be capable and committed to generate a relevant impact through the Junior Enterprise concept. Junior Enterprises are non-profit student organisations that provide services for companies. Junior Entrepreneurs combine theoretical university degrees with the practical experience of running an organisation and delivering projects to clients in the business world. Students from Junior Enterprises are uniquely prepared to enter the labour market. EUROAVIA and JEE agreed on providing mutual help and advice, collaborating in joined events and offering advice for grants applications, and put into practice a mutual exchange of visibility.

NEREUS PARTNER



SGAC PARTNER



SPACE GENERATION
ADVISORY COUNCIL

NEREUS serves as an advocate for matters related to regional space uses and highlighting the regional dimension of European space policy and programs. Its core mission is to spread the use and understanding of space technologies for the benefit of regions and their citizens. While supporting local and regional authorities, their stakeholders, and companies, to better exploit the potential of European space programmes, NEREUS aims at increasing the understanding and awareness of space on Earth, as well as spreading its applications. The partnership between NEREUS and EUROAVIA consists of a mutual exchange of visibility, with the possibility for the members of both parties to join specific events.

SGAC is an international non-governmental, non-profit organisation that represents students and young professionals in the space sector to the United Nations, States, agencies, industry, academia and other space sector organisations. SGAC's focus is providing pragmatic space policy advice to policy makers based on the interests of its network of university students and young professionals, in the age range of 18-35, interested in space from around the world. This international network is the largest and most diverse of its kind, and constantly growing. The agreement with EUROAVIA includes the possibility of co-operating in activities, which are mutually beneficial and support each other's interests, such as providing Points of Contacts, promoting activities and doing joint conferences.

Aviation for All (AviAll) COLLABORATOR



Aviation for All

AviAll is an association that promotes and strengthens the contribution of its members in all aviation and aerospace career fields and interests by connecting, engaging and inspiring. They provide educational outreach programs, mentoring programs, scholarships, annual AviAll recognition awards, an annual AviAll conference, and networking events. Their members include pilots, maintenance technicians, air traffic engineers, air traffic controllers, business owners, air force personnel, journalists, flight attendants, dispatchers, security agencies, students, aeromedical officers, airport managers, and many others. There is a current collaboration between AviAll and EUROAVIA of mutual benefit, consisting mainly in attending events of interest organised by either of the associations and EUROAVIA's participation in their competitions.

BMFA & EMFU COLLABORATOR



Est. 1922

The European Model Flying Union (EMFU) is an organisation that works to preserve and protect the interests of the model flying community throughout Europe. They serve as a 'forum' for sharing information and collecting input for EU bodies, providing a consistent message to the EU's primary regulatory actors: the European Commission and the European Aviation Safety Agency (EASA). They also aid members in working together, providing information and ideas that may be useful in their work at the national level.

Among the associations that comprise the EMFU there is the British Model Flying Association (BMF). The BMFA is the British National Governing Body for the sport of model flying. Its aims are to promote, protect, organise and encourage model flying within the UK.

CEAS COLLABORATOR



CEAS is an international non-profit association, with the aim to develop a framework within which the major aerospace societies in Europe can collaborate. It presently comprises twelve Trustee Member Societies with roughly 35 thousand individual members: 3AF (France), AAAR (Romania), AIAE (Spain), AIDAA (Italy), CzAeS (Czech Republic), DGLR (Germany), FTF (Sweden), NVvL (Netherlands), PSAA (Poland), RAeS (United Kingdom), SVFW (Switzerland), TsAGI (Russia), and four Corporate Members: EASA (European Aviation Safety Agency), ESA (European Space Agency), EUROAVIA and EUROCONTROL. Thanks to CEAS, EUROAVIA members can have access to this information also through "The Quarterly Bulletin of the CEAS", promoting upcoming international aerospace events concerning science, aerospace and defence security, technical presentations, workshops, conferences, and containing news from the aerospace sector.

EUROCAE COLLABORATOR



EUROCAE is a non-profit organisation founded in 1963 as "The European Organisation for Civil Aviation Equipment" with the aim of developing standards for European civil aviation. At the beginning of the Business Year, EUROAVIA was invited to join one of its working groups called "EUROCAE Working Group 125 on the Next Generation of Aviation Professionals (NGAP WG)".

The aim is to close the gap between industry and education and training in the aviation field, in order to allow a smoother transit from the educational to the working environment and help the new generation of professional in facing the first experiences in the aviation, as well as maintaining the enthusiasm throughout the career.

EASA COLLABORATOR



EASA is an agency of the European Union. Its mission is to promote the highest common standards of safety and environmental protection in civil aviation. It monitors the implementation of standards through inspections on its member states, and provides the necessary technical expertise, training and research. The main tasks of the Agency include, but are not limited to rulemaking, inspection, training, standardisation, safety and environmental certification of aircraft, approval of aircraft designs, data collection, and analysis and research for the improvement of aviation safety. Their collaboration with EUROAVIA focuses on bringing multiple opportunities and contacts from other companies and organisations that may be of interest to EUROAVIA.

PEGASUS COLLABORATOR



PEGASUS is a network of aeronautical universities in Europe created to facilitate student exchanges and collaborative research between universities. The network currently has 30 members in 12 different European countries. Today more than 3000 aerospace engineers graduate at Master level from the member institutions of PEGASUS each year. EUROAVIA has an ongoing collaboration with the PEGASUS Student Conference and is given three places for EUROAVIA members to send their research papers and participate in the conference. This year the conference took place in Rome, Italy, hosted by the Sapienza Università di Roma, between 14th-15th of April 2023, and one team applied through EUROAVIA.

SEAC embraces the modern model of education, which is delivered 100% online, enhancing space education's accessibility to anyone in the world, with the objective of empowering the space leaders of tomorrow. SEAC operates with very small classes, ideal to facilitate interaction between lecturers and students, allowing the possibility to address individual questions and tailor the education to specific needs, in a highly international environment. Lecturers are top experts working directly in the space industry, and Forbes list makers. The lectures bring direct experience to the students: the case method is much more impactful, and it brings an enormous added value to education. The partnership with SEAC consists in discounts on their courses for EUROAVIA members.



IDEATHON 2023 SPONSORS

Ideathon is an aerospace-related competition for European students. The participating teams must come up with the best solution to the challenges proposed by the sponsors. The first phase of the competition took place physically in Terrassa, Spain, between the 3rd and 7th of September. The finalist teams will meet for the last phase of the competition in Munich, Germany, between the 5th and 9th of November.

This competition aims to stimulate the scientific curiosity and potential of the participants, giving them an incredible opportunity not only to develop their ideas, but also to network with like-minded students and company representatives. All of this, whilst being immersed in an international environment that promotes cultural exchange and personal growth.

Ideathon 2023 is sponsored by:



Ansys challenge:

Design and mission optimization of a crisis response aerial vehicle

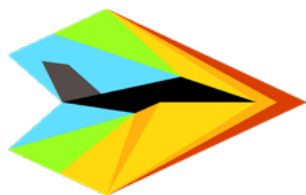
The conceptual design parameters of any aerial vehicle are implicitly related to its intended mission. Therefore, it is easily inferred that the optimization of either of the two is equally essential for achieving the best possible configuration and operational envelope for the final design. The aim of this challenge is to provide insight on how digital mission engineering (DME) tools and simulation are useful in streamlining the above process, by providing an answer to the “what if’s” during design, testing, and operations in a mission context. Given a specific mission and access to DME tools you will be tasked with conceptually designing your own aircraft that best satisfies its objectives and simulating the performance of your final design within the mission envelope. Note that the teams have complete freedom to tackle and prioritize the challenge objectives according to the strengths and limitations of each team’s expertise.



GTD challenge:

Monitoring and predictive maintenance of on-board reusable systems

The increasing number of space missions has fuelled the deployment of new launch services that focus on reusability as capability to enable their business models in a competitive scenario, by reducing their operations’ cost, making more agile campaigns and increasing launch rate. Two axes drive that target, first the correct awareness in real-time of the launcher systems’ status. Secondly the flight data exploitation towards predictive maintenance on ground of the reusable systems to ready its availability for next flight. That strategy highly contributes to the reusability and hence to cost reductions and agile campaigns. Your team will be entrusted with the detailed definition of the strategy/methodology for the implementation of an on-board system monitoring (which are the parameters to monitor?) and post-flight RAMS assessment, with the objective of increasing the reusable system availability. The use data exploitation techniques in the domain of predictive maintenance is encouraged, applied to the collected in-flight data. With these studies we might answer the question, what is the real impact of reusability on launch operations’ costs and launch service business model?



FUTURE & BEYOND 2023 SPONSORS AND ATTENDANTS

Future & Beyond is an online event where engineering students and companies from the aerospace sector find the best opportunity to gather together and share opinions, experiences and discussions about current affairs inside the industry.

This second edition took place from the 18th to the 21st of September and lasted four days.

The first day is focused on soft skills training sessions delivered by EUROAVIA Training System and external trainers, aimed at helping student improving their CV and their job interview skills. During the second and third day, students and companies come in contact directly with each other with Roundtables, to improve their networks, share ideas, and ask questions. The final day covers B2B and B2S meetings. The former gives the opportunity to companies to share their projects, improve their network and explore collaboration and partnership possibilities with other companies. The latter, enables companies to discuss with young students with fresh ideas and an innovative point of view, to explore together new ideas and possibilities in the job market.

The 2023 Edition of Future & Beyond is sponsored by:



In addition, this edition had the following companies as attendants:



T-C-ALLIANCE
A QUALITY FUTURE FOR AVIATION



GAMES

WORD SEARCH! Here we hid 10 objects that you can find at an EUROAVIA Congress. Will you be able to find all of them? Words are hidden ← ↑ → ↓ ↘

T	D	T	O	S	J	Z	E	C	U	S	O	E	L	J	G	Q	V	Z	J	H	Q	O
U	A	A	O	L	N	D	P	A	R	E	M	M	A	H	Z	C	S	X	P	Z	I	U
H	B	I	U	J	A	J	M	E	F	M	W	X	A	D	V	S	L	Z	V	Q	J	B
P	P	I	I	K	I	P	T	A	Z	D	U	I	P	E	X	Q	K	C	I	E	Z	S
X	J	Z	Z	O	X	T	W	W	G	N	V	P	N	V	D	I	J	T	B	T	P	N
E	D	H	B	B	S	I	W	R	P	A	Q	J	A	G	I	Y	V	F	G	Q	A	O
A	G	L	Y	U	S	E	C	R	Y	Q	Z	V	U	L	V	B	Z	W	U	W	T	I
Q	P	C	Z	H	X	L	W	V	F	C	U	I	F	G	I	D	E	Z	S	T	K	T
D	D	Y	Y	R	E	V	O	G	N	U	H	V	N	B	L	N	V	T	B	A	V	A
I	O	A	R	U	F	G	K	P	M	A	T	S	U	E	O	V	K	Y	E	G	X	T
P	L	C	T	C	D	B	K	F	J	F	H	J	Q	G	M	N	J	A	F	K	C	N
Q	I	D	E	K	L	B	X	L	M	G	V	M	U	J	H	D	P	Y	Z	M	X	E
O	O	N	E	W	C	Q	P	A	Y	E	N	O	M	D	X	S	J	L	F	H	A	S
I	C	R	S	K	O	L	Z	G	E	J	C	P	M	T	Z	M	N	T	L	O	Y	E
H	E	C	R	Y	I	U	Y	X	Z	S	Z	J	O	I	C	Z	B	M	B	I	P	R
W	A	A	T	Q	H	Y	G	K	V	Z	O	B	D	F	W	Z	O	M	X	O	J	P

FIND THE DIFFERENCES! How good is your eye? Look closer, get to the detail and find the 8 differences between these two pictures.



GREETINGS

We wish that you enjoyed reading this issue of the EUROAVIA Magazine as much as we enjoyed creating it. We leave this page empty so you can fill it out with other EUROAVIAns greetings, dedications, doodles... Or whatever you want! It's your magazine!

With love, the Press Unit and Design Team

LIST OF (P)AS/(P)AM

AS Aachen	PAS Glasgow	AS Paris
AS Ankara	PAS Gaziantep	AS Patras
AS Athens	AS Istanbul	AS Pisa
AS Beograd	PAS Izmir	AS Rzeszów
AS Bordeaux	AS Kocaeli	PAS Samsun
AS Bremen	PAS Kyiv	AS Sevilla
AS Braunschweig	AS Leuven	AS Stuttgart
AS București	AS Lisboa	AS Terrassa
AS Castelldefels	AM Jalandhar	AS Tampere
AS Cádiz	AS Madrid	AS Toulouse
AS Cluj-Napoca	PAS Milano	AS València
AS Covilhã	AS München	AS Zagreb
AS Delft	AS Napoli	AM Zewail City
AS Dresden	PAS Oeiras	
AS Forlì-Bologna	AS Oostende	

LIST OF ACRONYMS

ACC	Air Cargo Challenge
AM	Adjunct Member
AMEAC	Annual Meeting of the EUROAVIA Congress
AS	Affiliated Society
AS WG	Affiliated Societies Working Group
ASRW	Airbus Sloshing Rocket Workshop
BR WG	Business Relations Working Group
BY	Business Year
CM WG	Communication Working Group
DIB	Designated International Board
DN WG	Design Working Group
DroWo	Drone Workshop
EMEAC	Electoral Meeting of the EUROAVIA Congress
ETS WG	EUROAVIA Training System Working Group
ExMEAC	Extra Electoral Meeting of the EUROAVIA Congress
FoWo	Formation Workshop
HR WG	Human Resources Working Group
IB	International Board
IB WG	International Board Working Group
IE	International Event
IE WG	International Events Working Group
IT WG	Information Technology Working Group
PAM	Prospective Adjunct Member
PAS	Prospective Affiliated Society
REC WG	Regulations and European Connections Working Group
TNT	Train New Trainers
WG	Working Group

SPONSORS

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