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MARCH 2025

Dear colleagues, partners, and satellite innovation enthusiasts,

Welcome to the Seventh edition of our HARMONY project newsletter! As we step into 2025, the HARMONISTS continue to make strides in their doctoral journeys, contributing groundbreaking research and innovations in satellite systems engineering. This edition brings exciting updates, with new milestones reached, vibrant discussions at key conferences, and the continued collaboration that makes HARMONY a leading force in the field. Join us as we highlight the latest progress and share the remarkable work of our doctoral network.

[Visit our website to know more about the HARMONY PhDs!](#)

Retrospective

Alessandro Mastropietro, Giulio Orlando, and Aymeric cailleux participated for the **Science is Wonderful!** event held on 13-14 March 2025, an annual science fair hosted by the European Commission. Their booth, titled “Hey Mr. Satellite – Let’s Have a Talk!”, provided an exciting opportunity to over 4,000 children and students attending the event to explore space-related topics. Highlights included a telecommunication experiment, a NanoAvionics satellite mockup, and a CubeSat construction activity, all designed to inspire the next generation of scientists.

It was an exciting time for the team, allowing them to connect their advanced research with the mission of inspiring young minds to follow their footsteps!

**Hey Mr. Satellite -
Let's have a talk !**



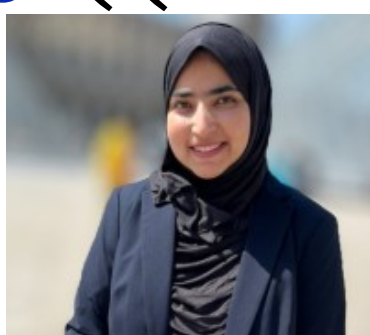
Regarding the research activities of our Doctoral candidates, Giulio Orlando has started a secondment period at the University of Bundeswehr Munich, where he presented his research to the Signal Processing Research Department. He also attended the ASMS 2025 Conference in Sitges, Spain, presenting his paper on distributed satellite architectures. Giulio now focuses on the practical impairments on the performance of his technology.

Martin Togstad, who joined the HARMONY team in January, is working on his PhD research on deployable antennas for space at LSS GmbH in Munich, collaborating with Heriot-Watt University. He will attend EuCAP in Stockholm from March 30 to April 4, 2025, to enhance his expertise.

Aymeric Cailleux has been advancing research in power amplifier behavioral modeling and spectral regrowth for direct-to-cell communication. His work led to the acceptance of a paper for the ESA Space Microwave Week in May, and he is a co-author on another paper. Aymeric also attended the IEEE Aerospace Conference in Yellowstone, Montana, where he engaged with experts on aerospace and communication technologies.



Voices of HARMONY



Joining the HARMONY project as a PhD researcher has been an exciting journey, allowing me to explore advanced satellite communication technologies while collaborating with experts across Europe. My research focuses on enhancing security and efficiency in satellite networks, combining traditional engineering approaches with machine learning to develop innovative solutions for future space systems.

HARMONY has provided me with the unique opportunity to bridge academic research with real-world applications, gaining insights from both industry and academia. Beyond my technical work, I am passionate about fostering inclusivity in STEM. Recently, I shared my thoughts on “Support Women in Engineering,” highlighting the importance of diversity in driving innovation.

Being part of this network has been both inspiring and rewarding. I look forward to continuing my journey, contributing to cutting-edge research, and playing a role in shaping the future of space technology.

Azra Batool - PhD Candidate

Commitment

The HARMONY Project remains unwavering in its commitment to shaping the future of space research by empowering the next generation of engineers. With a focus on mobility and innovation, HARMONY's PhD candidates conduct groundbreaking research across top-tier universities and industry leaders throughout Europe, cultivating a wealth of experience that spans both academic and industrial landscapes. This dynamic model not only equips them with advanced technical expertise but also nurtures vital skills in problem-solving, adaptability, and interdisciplinary collaboration.

Our HARMONISTS are also passionate about sharing their research with the world, demonstrating the real-world impact of their work. Giulio, Alessandro, and Aymeric recently represented HARMONY at the exciting Science is Wonderful! event held on March 13-14, a flagship science fair hosted by the European Commission. This event brought together the best of EU-funded research to inspire the next generation of scientists and engineers. In preparation for this event, our team has



been making space science engaging and accessible through hands-on demonstrations, from telecommunication experiments to a NanoAvionics satellite mockup, and even a CubeSat construction challenge that invited attendees to explore the engineering marvels of space technology. Their contributions exemplify HARMONY's vision of bridging cutting-edge research with real-world applications, sparking curiosity in young minds and engaging the broader community.

HARMONY is also deeply committed to fostering inclusivity in the engineering sector. Azra Batool, one of our brilliant doctoral researchers, recently shared her powerful insights in an interview on “Support Women in Engineering.” Her reflections underscore the critical importance of diversity in STEM, echoing HARMONY's dedication to creating a more inclusive and equitable future for space technology.

Through its trailblazing research, mobility-driven training programs, and impactful community outreach, HARMONY continues to shape the future of the space industry.

Equipping young engineers with interdisciplinary skills and real-world experience is essential to driving innovation and shaping a sustainable future for the space industry.

Looking Ahead

We trust that our seventh newsletter has offered valuable insights and a comprehensive overview of our ongoing initiatives. Stay tuned for more publications and dissemination activities, which will be featured in our next newsletter in June.

Wishing you a joyful spring season filled with warmth and new beginnings!

Kind regards,

The HARMONY Team

Thank you!

