



Real people. Real science. Real space impact.

Iodine, Thrusters & Thoughts

Behind the Scenes,

With Gabrielle Poullin,

PPU BREADBOARD Design Responsible

AIRBUS DEFENCE AND SPACE





Gazing at the Sky

Childhood wonder and the seeds of a lifelong fascination

From a young age, Gabrielle Poullin was captivated by the sky. Visits to museums filled with airplanes and rockets sparked a fascination that would eventually guide her professional path. Today, **she brings that childhood curiosity** into her work designing electronics equipment for satellites, specializing in Power Processing Units (PPUs) that power satellite electrical thrusters.

Gabrielle's journey in electronics began with designing satellite equipment and then moved into creating the electrical ground support systems that validate it. Over the years, she has worked on a wide range of functionalities, from data handling units to the very heart of satellite propulsion: the PPUs.

From Circuits to the Cosmos

In the iFACT-MP project, **Gabrielle is at the helm of the PPU BREADBOARD design**. Her role spans everything from defining the global architecture and hardware design to coordinating the software team and producing critical documentation. She carefully selects components for each rack and harness to meet stringent requirements for power, voltage, robustness, and safety. Gabrielle also develops the electrical schematics, specifies mechanical structures, oversees manufacturing, and conducts individual tests. She performs analyses on human safety and potential failure modes, prepares validation plans, and carries out rigorous testing.





The Heart of Propulsion: *Crafting the PPU BREADBOARD that drives iFACT-MP forward*

The PPU BREADBOARD is a **cornerstone** of the iFACT-MP project. It enables the team to monitor the entire electric propulsion system and replicate thrust sequences during endurance tests. With this equipment, the project can reach higher power and voltages than previous electrical ground support systems, directly contributing to the project's ambitious goals.

Challenges beyond the Volt: Navigating risks, high voltages, and complexity with care.

For Gabrielle, one of the most exciting aspects of her work is **replacing satellite equipment and parts of the on-board computer with versatile, easy-to-use ground support equipment**. Yet, this comes with challenges: handling voltages exceeding several hundred volts, while ensuring user safety and maintaining robustness is no small feat. A major milestone came in September 2025 during the coupling tests in Friedrichshafen, which confirmed the compatibility of the PPU BREADBOARD with the thruster, fluidic system, and thermal regulation—a significant leap forward for the team.



Bridging Worlds

Working on iFACT-MP has also been a personally enriching experience for Gabrielle. As her first international project, it has allowed her to collaborate with experts across Europe, expanding her knowledge beyond electronics into fluidics and propulsion. This exposure has deepened her professional growth and broadened her perspective on satellite systems.

Finding Peace in Nature

Outside of work, Gabrielle finds balance and inspiration in nature. She enjoys hiking, bike-packing, sailing, and simply soaking in the peace that the outdoors offers. Her advice to aspiring professionals in the field is simple yet powerful: "be curious and don't hesitate to reach out; passionate people are eager to share their knowledge."

"When I'm not engineering satellites, I'm exploring nature. Hiking, sailing, and finding peace outdoors"



Behind every thruster test and subsystem review, there's a human story, full of curiosity, ambition, and perseverance.

