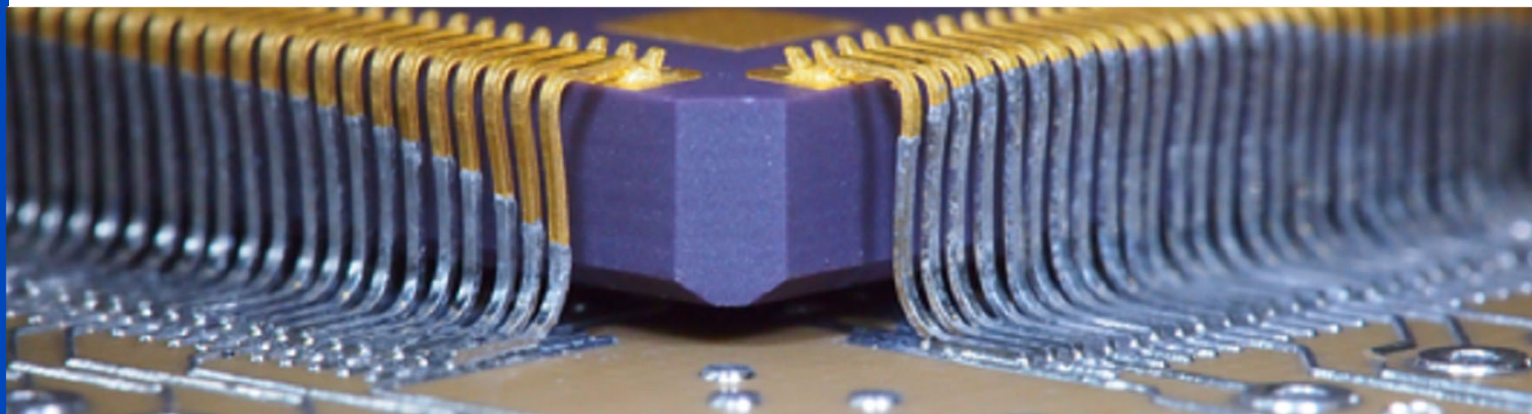
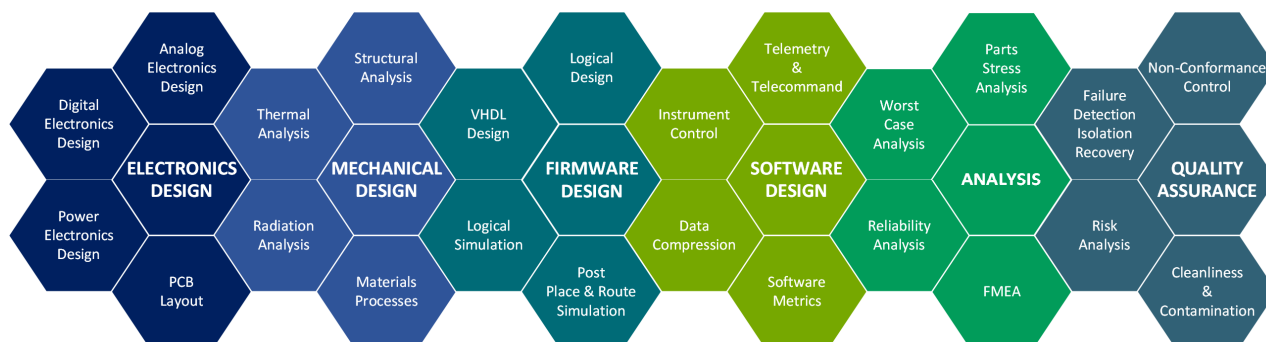




MAIN RESEARCH GOAL: Developing and contributing to the state-of-the-art instruments enabling IWF science, with a special focus in space electronics for high performance onboard computing and custom data processing.

CORE COMPETENCES



INSTRUMENTS ACTIVE IN SPACE

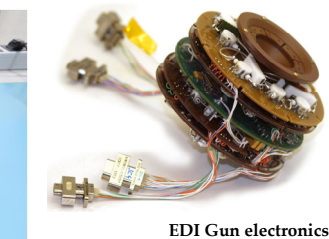
The team has participated in numerous ESA and NASA missions with instruments like the **Active Satellite Potential Control** for ESA's **Cluster** and NASA's **Magnetospheric MultiScale (MMS)** mission, the **Electron Gun** for the **Electron Drift Instrument (EDI)** on board **MMS**, the **Boîtier Extracteur** for the first extrasolar planetology mission **CoRoT** and the **Back-End Electronics** for the **CHEOPS** exoplanet mission launched 2019.



BEPICOLOMBO: PLANETARY ION CAMERA (PICAM)

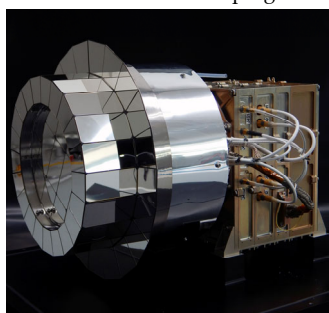
The group led the development of **PICAM** on **BepiColombo**, a time-of-flight ion mass spectrometer designed to characterize ions escaping from Mercury. BepiColombo was launched in 2018 and **PICAM** has been operating nominally since then.

As **Principal Investigator**, the IWF provided the DPU and the software, and was responsible for building, integrating and testing the instrument. The team is actively operating the instrument, planning for the upcoming main science phase and improving the onboard software to maximize science return.



EDI Gun electronics

CHEOPS Back-End Electronics



INSTRUMENTS COMPLETED 2023-2025

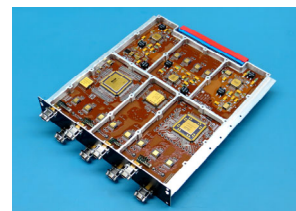
SMILE: SXI ELECTRONICS BOX (EBOX)

The team completed the digital processing unit and the electronics box for the **Soft X-ray Instrument** onboard **SMILE** in 2023. **SMILE** is an ESA/CAS mission designed to improve our understanding of the dynamic interaction between solar wind, magnetosphere and ionosphere.



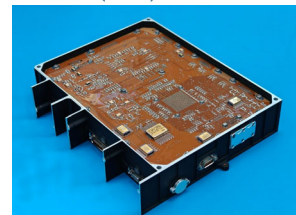
PLATO: ROUTER AND DATA COMPRESSION UNIT (RDCU)

The **RDCU** for ESA's **PLATO** (**PLAnetary Transits and Oscillation of stars**) was delivered in 2024. This board provides real-time compression of the data-stream coming from the 26 cameras, which continuously observe the stars to find and study a large number of exoplanetary systems.



COMET INTERCEPTOR: DATA PROCESSING UNIT (DPU) FOR MANIAC

The group finalized the **DPU** for the **MANiaC mass spectrometer** onboard ESA's **Comet Interceptor** in 2025. **MANiaC** will study the composition of the cometary environment. The IWF contributed with a high performance quad-core DPU and the instrument application software.



FUTURE INSTRUMENTS

- EBOX for **ARRAKIHS**, ESA's F2 mission (2026-2029)
- DPU for **ATHENA WFI**, ESA's L3 mission (2027-2035)
- **CHIMERA**, **PICAM** follow-up for ESA's L4 mission to Enceladus (2033+)
- EBOX for **WALTzER**, IWF-led proposal for ESA's F3 mission (2028-2034)