Big Science Business Forum 2024

TRIESTE
1 – 4 OCTOBER 2024

Technology Transfer Track Posters

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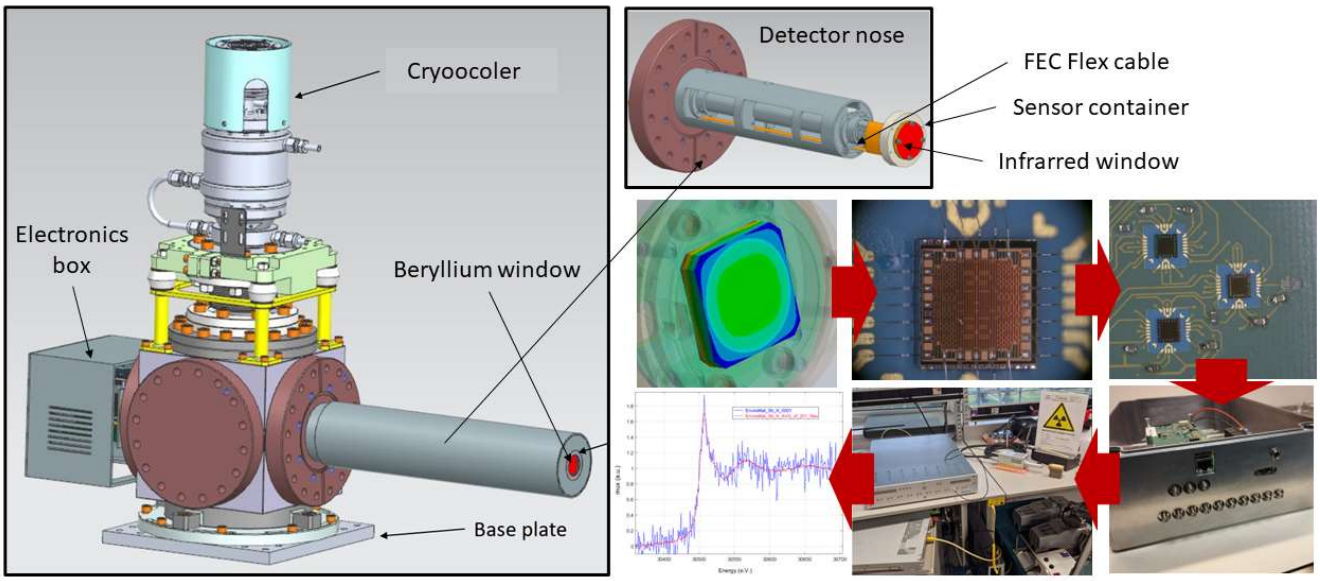
We are looking for an industrial partner for knowledge transfer and industrialization

XAFS-DET: Germanium-based X-ray Spectroscopy Detector System

XAFS-DET is a high throughout X-ray Spectroscopy Detector System, based on germanium technology, for synchrotron applications. The detector delivers a higher X-ray throughput and works in a broad energy range (from 5 to 100 keV) thanks to its smaller sensor pixel size and new electronics chain.



Key features:

- **XAFS-DET provides higher throughput per unit area and an improved operation stability than current detectors.**
- **Its design overcomes the limitations of current detector available in the market and opens new experimental possibilities, for example in the field of energy or environment where very low concentration of chemical species must be detected.**
- **The improvement in performance is based on its shrunk seven sensor elements, which allow the operation of XAFS-DET very close to the sample, at throughput per unit area of 250 kcps/mm^2.**
- **Germanium elements are equipped with a compact version of multi-channel CMOS integrated front-end electronics and read out by an advanced digital pulse processor.**
- **The compact detector design includes a cryostat, a cooling system, and the electronics housing.**

Technology classification:

- **Diagnostics and detectors, sensors, optics and instruments**

Developed by LEAPS-INNOV, a consortium of 11 European synchrotron & electron-free facilities

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