

The win-win benefit for industry- academia collaboration in new product and solution development

I-FAST Annual Meeting
April 2024

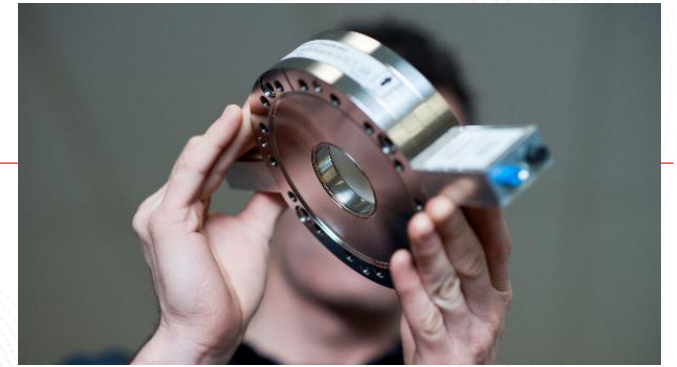




Since 2081, 44 years of expertise, knowledge and know-how in
Current transformers and Analog Electronics

- Located in Saint-Genis-Pouilly, France (at the border with Switzerland)
- Vertically integrated: R&D, Manufacturing, QA, Sales, Support
- 13 highly skilled employees
- ISO9001 (R&D and Manufacturing), ISO13485 (Medical Devices)

Our Mission



- Leverage our close **collaboration** with end-users, providing pertinent technical advice and customer support

**Provide non-destructive
diagnostics solutions
for low current
measurements**

- Continuously improve and innovate instruments to fulfil actual and **new needs** of the particle accelerators community

- Sustain our ability to manufacture **high quality and sustainable** products

Accelerator types

- Particle accelerators in **fundamental physics and nuclear physics**

- Particle colliders
- Proton/ion accelerators

- Medical accelerators in **cancer treatment**

- Conventional (Proton, Electron, Carbon ions)
- FLASH
- BNCT

- Particle accelerators in **material science, biology**

- Synchrotron light source
- XFEL, FEL
- Neutron Spallation



- **Industry**

- Sterilization
- Leakage current, plasma discharge

- Particle accelerators in **nuclear waste transmutation, subcritical reactors**

- HPPA

- **Laser plasma wakefield accelerators**

- Electron and proton acceleration

Collaboration #a:

- 1- GSI needed a short term solution for measuring a beam current with several signal outputs
- 2- BI developed a new 3-range electronics for its ACCT, with the aim to satisfy GSI's need and other types of application

Collaboration #b:

- 1- Thanks to several feedbacks from the field, and a long term GSI need, BI developed a brand new way for measuring a current, not via the shape or the peak current but via the measurement of the base line in-between pulses (CWCT)
- 2- BI needed a real beam for testing, GSI agreed and was satisfied by the results in accordance with their future needs

Conclusion:

- Reinforcement of the very close relationship between GSI and BI
- High added value in technical exchanges and discussions
- Win-win benefit: solution for GSI; access to a beam for BI
- Effective fit between GSI need and BI solution
- New measurement solutions proposed by BI in its catalog

- 1- A GSI PhD student developed a new beam current monitor based on cavity Resonance
- 2- GSI asked BI if ok for industrialization, and Instrumentation technologies for digitalization
- 3- BI accepted and hired the PhD; i-Tech developed a specific digitizer
- 4- BI and i-Tech tested 2 first industrialized CR-BCM at PSI-ProScan, and PSI has kept the 2 sensors

Conclusion:

- Reinforcement of the very close relationship between PSI and BI
- Hiring of the PhD by BI
- High added value in technology transfer
- Win-win benefit: from prototype to products for GSI; access to a FLASH beam for BI; new technology and know how for BI (cavity); papers
- New measurement solutions proposed by BI and i-Tech in their catalog

Other examples of COLLABORATION



**university of
 groningen**

Cyclotron

Measurement of low current
Continuous Wave beam (LC-CWCT)

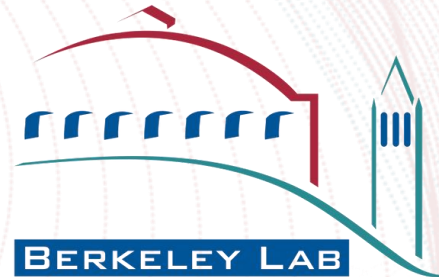


UHDpulse

Electron- proton- and ion- therapy

Current-dose correlation

&
Private
companies



Laser Plasma

Measurement of charge (TURBO-ICT)



And all day-to-day contacts to provide the
best choice :

1 solution per need per particle type per
beam per accelerator

Come to meet us and let's collaborate!

