

Giorgio Keppel
Oscar Azzolini



**innovate for
Sustainable
Accelerating
Systems**

WP7 **Integration into Industrial
Solutions**

I Industrial Board meeting

30 October 2024

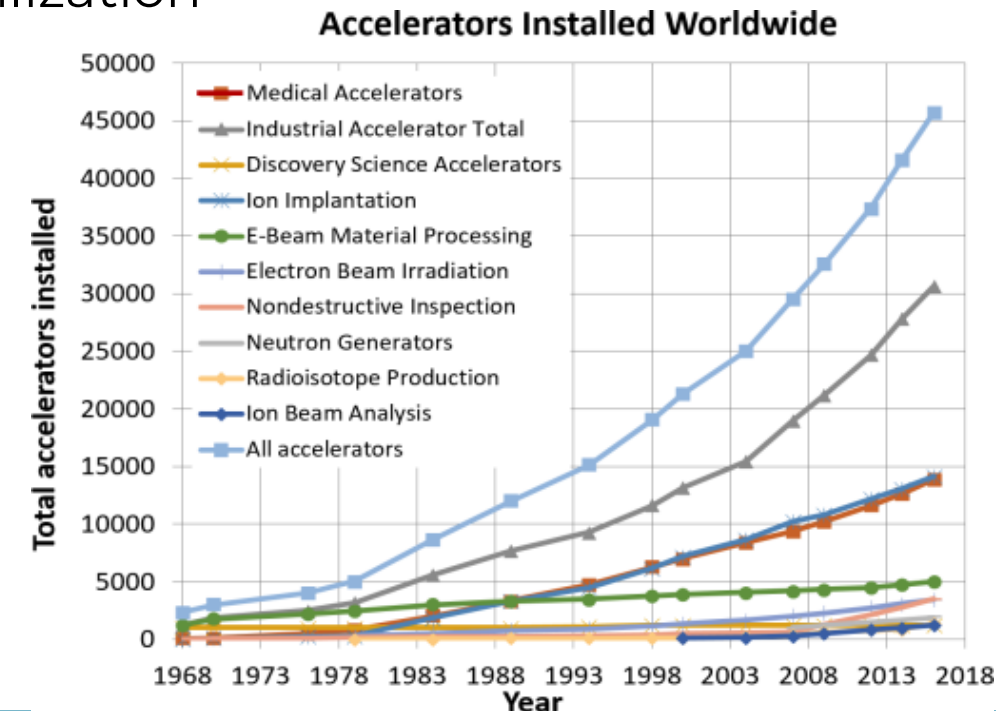
- iSAS is a consortium of 8 Beneficiary and 3 Associated Research Partners from 7 countries in Europe, spanning from Sweden to Italy. In addition, iSAS has **6 Associated Industrial Partners**
- Expertise in RF power (CERN, CNRS, DESY, HZB), SRF cavities (CEA, INFN, HZB, UKRI), beam physics (CERN, CNRS, INFN) and cryogenics.

- Industry Board (IB) consists of **WP leaders**, R&D experts, and **industry representatives** from the consortium
- IB will be in **regular contact** with the **iSAS project management**
- The purpose IB is:
 - to **monitor the evolution** to **industrialization of the technologies** developed in the project through regular meetings
 - to **facilitate** the entry of **new partners**,
 - to **advise** on **possible enhancement strategies**
 - to exploit **new business and financing opportunities**.

	Rappresentative	Deputy	Country
WP1 - Ferro-Electric Fast Reactive Tuners	Axel Neumann	Alick Macpherson	DE
WP2 - Low Level RF controls	Holger Schlarb	Julien Branlard	Desy
WP3 - Nb ₃ Sn on Cu for 4.2 K cavity operation	Cristian Pira	Oleg Malyshev	IT-UK
WP4 - Higher-Order Mode Dampers & Fundamental Power Couplers	Yolanda Gomez Martinez	Dario Giove	FR-IT
WP5 - Integration into a new LINAC Cryomodule	Nuno Elias	Vittorio Parma	ESS-CERN
WP6 - Integration into Accelerator and Collider RIs	Guillaume Orly	Arnaud Madur	CNRS-CEA
WP7 - Integration into Industrial Solutions	Giorgio Keppel	Oscar Azzolini	IT
WP8 - Socital Impact	Ketel Turzo		FR
ACS	Arthur Iziquel		FR
RI Research Instrument			DE
Cryoelectra			DE
Plasmatherm (ex TFE)	Giovanni Terenziani		IT
Euclidtechlabs	C. Jing		USA
Zanon Research	Ambra Gresele		IT

Motivation

- 2021 **accelerator market** estimated **2.4 B\$/y**
- Range of applications:
 - particle physics, nuclear physics, light sources
 - compact FELs for semiconductors photolithography
 - high-power lasers
 - accelerators for isotope production, medical sterilization without ^{60}Co
 - compact systems for food industry
 - wastewater and sludge treatments
- 40.000 accelerators operating around the world from MeV to TeV
- Market **growing 10%** year



iSAS Industrial Section WebSite



- iSAS web site under development: <https://isas.ijclab.in2p3.fr/>



The image is a screenshot of the iSAS website homepage. At the top, there is a dark blue navigation bar with the text 'Home', 'Introduction', 'News', 'Objectives', and 'Work Packages'. Below the navigation bar is a large banner image showing a cityscape with several high-voltage power transmission towers. Overlaid on this image is the text 'iSAS: Innovate for Sustainable Accelerating Systems' and a paragraph: 'The objective of iSAS is to innovate those technologies that have been identified as being a common core of SRF accelerating systems and that have the largest leverage for energy savings with a view to minimizing the intrinsic energy consumption in all phases of operation'. Below the banner are three smaller images with captions: 1. A portrait of a man with the caption 'Andrei Maalberg joins iSAS as a PostDoc from Helmholtz Zentrum Berlin'. 2. A 3D rendering of a particle accelerator structure with the caption 'Related topic: ERL4ALL to extend the reach of iSAS'. 3. A group of five people standing outdoors with a white sculpture on a pedestal, with the caption 'CERN Courier gets iSAS into focus'.

- WP7, following IB's suggestions and guidelines, will be responsible for the **industrial section of the iSAS website**.
- Objective -> a **bridge between iSAS R&D and industrial needs**.

Skeleton 4 main sections:

- Landing Page - Description of importance of synergy between RIs and Companies – List of partners
 - Industrial Outreach' section where short videos and presentations produced by individual WPs will be uploaded
 - Database of Industries interacting with iSAS project
 - Database of the active competences of the iSAS project
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- Online: end of November/December

iSAS in person 2025 meeting



12-14 March 2025

- 12/03 afternoon dedicated to WP meetings
- 13/03 plenary sessions
- 14/03 Industrial Workshop and LNL visit

SAVE THE DATE

- Objective of iSAS is to plan for **concrete co-developments** with **industry** to expedite reaching a **TRL** sufficiently advanced towards largescale deployment of the new energy-saving solutions at current and future Research Institutions
- Main GOAL: **develop demonstrators with a higher degree of readiness for industrialization**

Goal of WP7



- Ambition of iSAS is to **develop solutions** by research institutions and industry **working together** collaboratively right from the start
- The objective is to optimally **match the highest technical energy-saving performance** to the manufacturability, including cost and reliability parameters. In addition, the co-developments can unlock **new opportunities for European industry**

- Organize **design reviews** of specific WPs to optimize the prototype design toward industrialization
- Review panel composed by academic and industry experts to **facilitate the industrialization** of the prototype
- **Maximize the impact** of industrial participation and improving Europe's competitiveness
- Stimulate **Knowledge and Theology Transfer**, encourage new shared IPs. Coordination with the local Knowledge Transfer offices
- Report on the activity and actions taken over the year

Support of IB in:



- **Dissemination** of iSAS technologies
 - Newsletter
 - Workshop
 - B2B meeting
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- Definition of **TRL** for each technologies
- Production of **demonstrator** in synergy with industries

Thank you...

