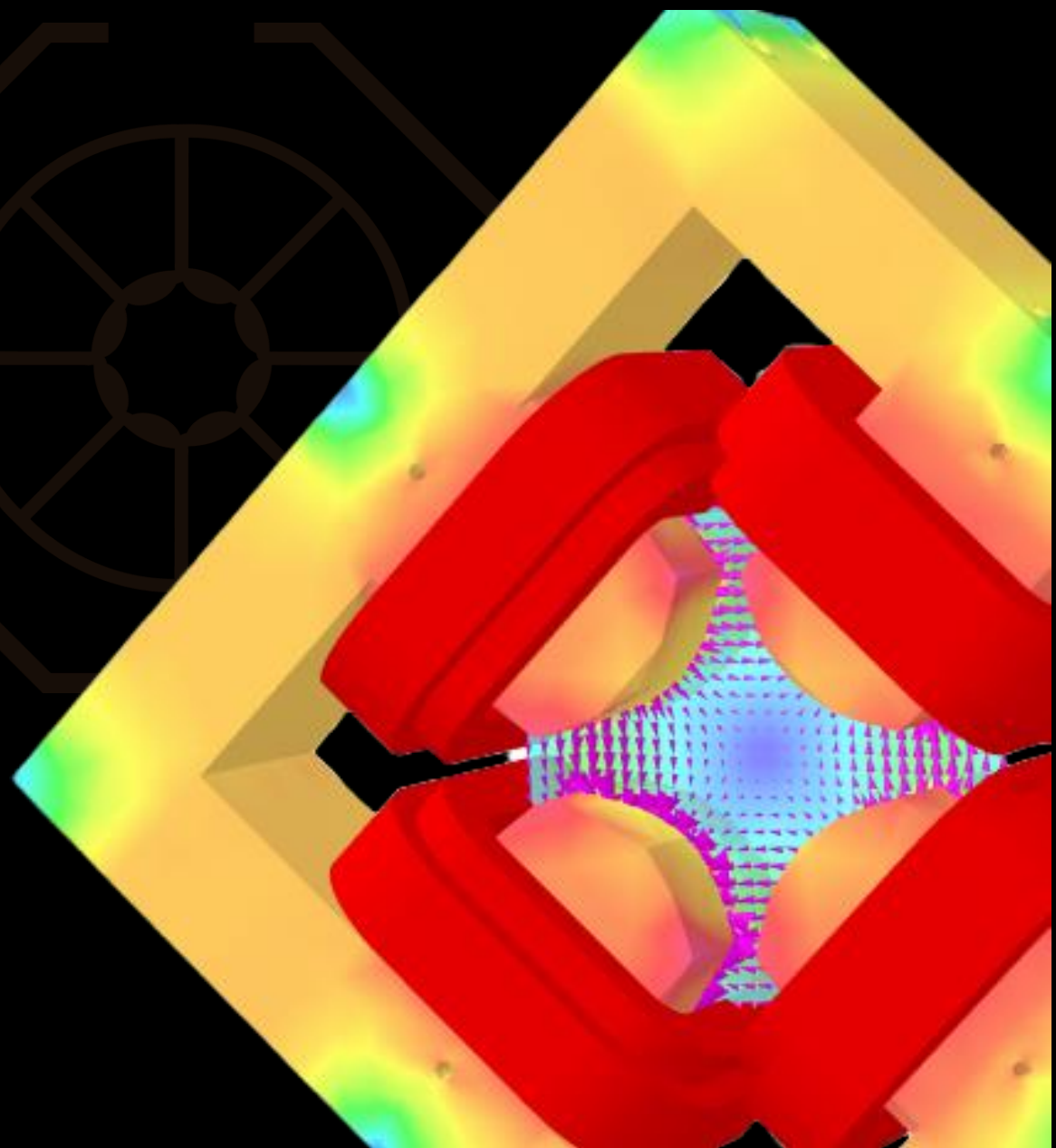




COILS AND ELECTROMAGNETS FOR PARTICLE ACCELERATORS



www.sef-technologies.com



Lauréat

Total Développement Régional

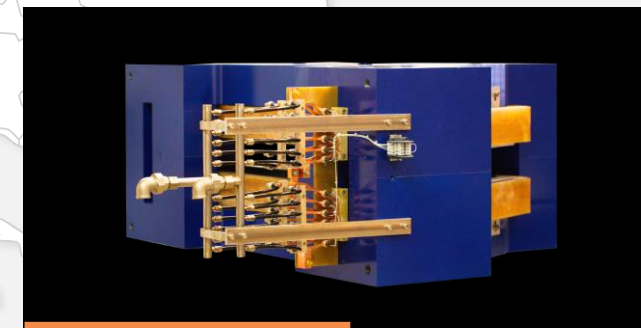
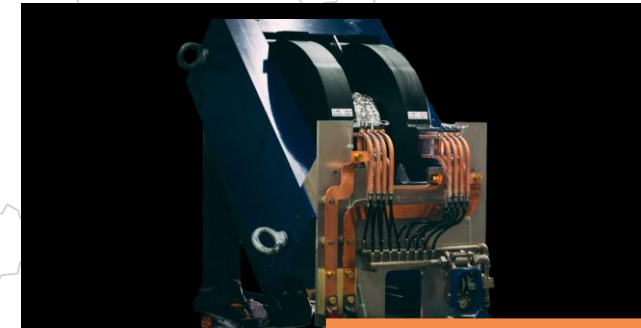


ABOUT US

SEF, created in 1981, manufactures electromagnets used in particle accelerators, mainly synchrotrons and linear accelerators.

Based in the Toulouse area, SEF has over 40 years' unique expertise in this high-tech sector.

Agile team, highly experienced professionals including operators, technicians and engineers



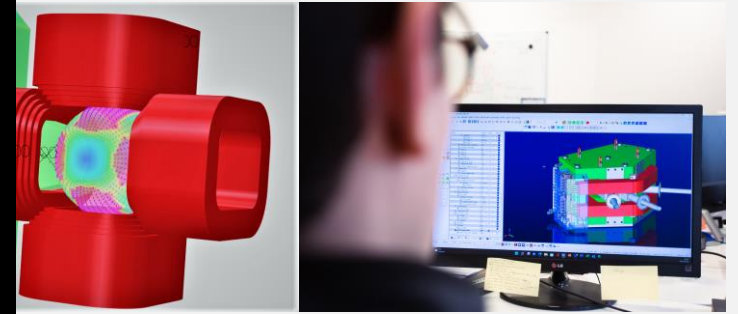
CORE COMPETENCE

SEF Technologies is a leading manufacturer of coils and electromagnets for particle accelerators.

SEF develops and manufactures tailor-made products in compliance with specifications and customer requirements. We have expertise in the entire production cycle from design to manufacture and control of the finished product. Attentive to your needs, our engineering office handles the magnetic simulations and mechanical design of your prototypes and products according to your specifications.



ENGINEERING



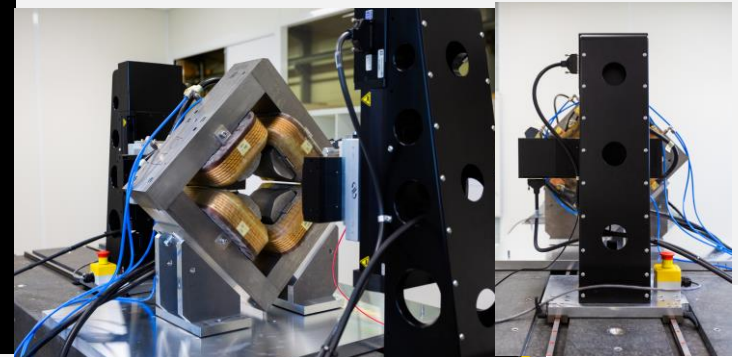
PRODUCTION
OF COILS



MACHINING

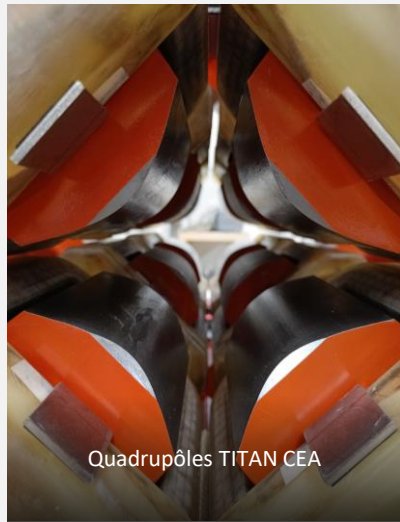


ASSEMBLY, CONTROL
AND TESTING



PRODUCTS

SEF expertise includes the manufacture of the following products:



Quadrupôles TITAN CEA

> RESISTIVE MAGNETS

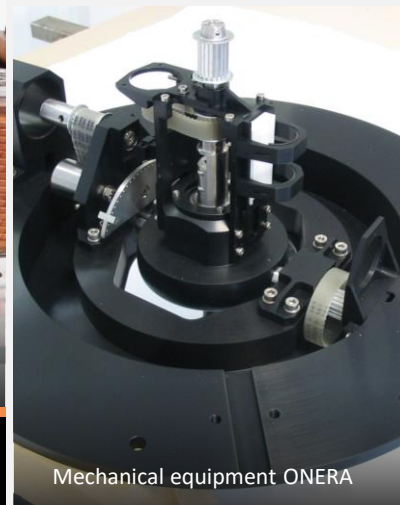
Dipoles, quadrupoles, sextupoles, solenoids, cyclotron main coils, cyclotron correction coils, focusers, inverters, special shaped coils



Permanent and resistive dipoles SOLEIL

> PERMANENT MAGNETS

Dipoles, quadrupoles, inverters



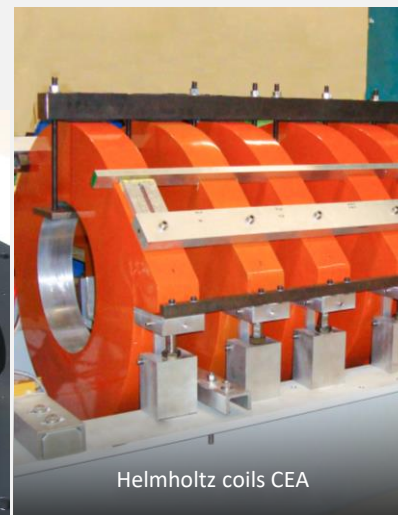
Mechanical equipment ONERA

> MECHANICAL ASSEMBLY

Prototypes of electric motors for aeronautics, automotive, and drone sectors

Venturi injectors

Radar antennas



Helmholtz coils CEA

> INTEGRATION INSTALLATION

Installation on customer premises

Equipment integration (ex.: routing device)

EXPERTISE



The engineering department is made up of experienced specialists in the design and manufacture of electromagnets and young engineers in physics and/or mechanical engineering, along with our longstanding partner, an expert in magnetic computing.



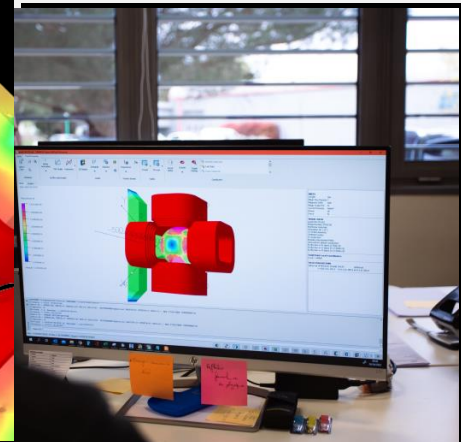
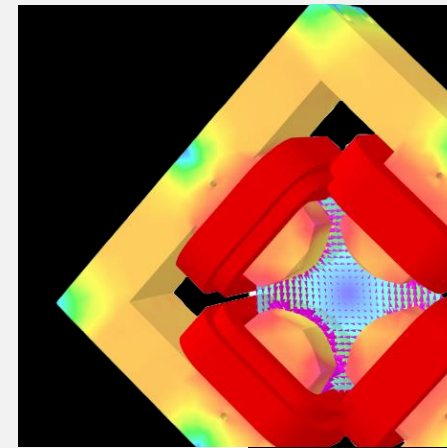
Technological expertise, human and material resources to handle every aspect of production in its workshops from : finalization of design to delivery of the finished product.



Our magnets comply with very precise specifications and all quality standards required for this type of product: electromagnetic functioning, robustness, and resistance to radiation.



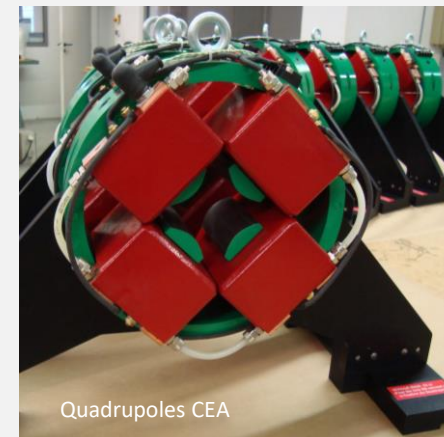
Quality is a key, non-negotiable foundation of our trust-based relationships with our customers, SEF has initiated a project to achieve ISO 9001 certification by 2022.



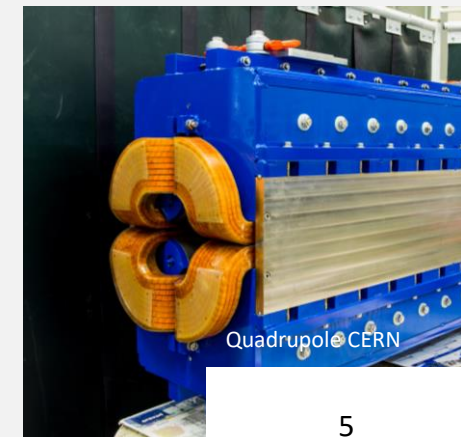
Expertise combining the excellence of craftsmanship and the rigour of industrial processes.



Quadrupoles SOLEIL



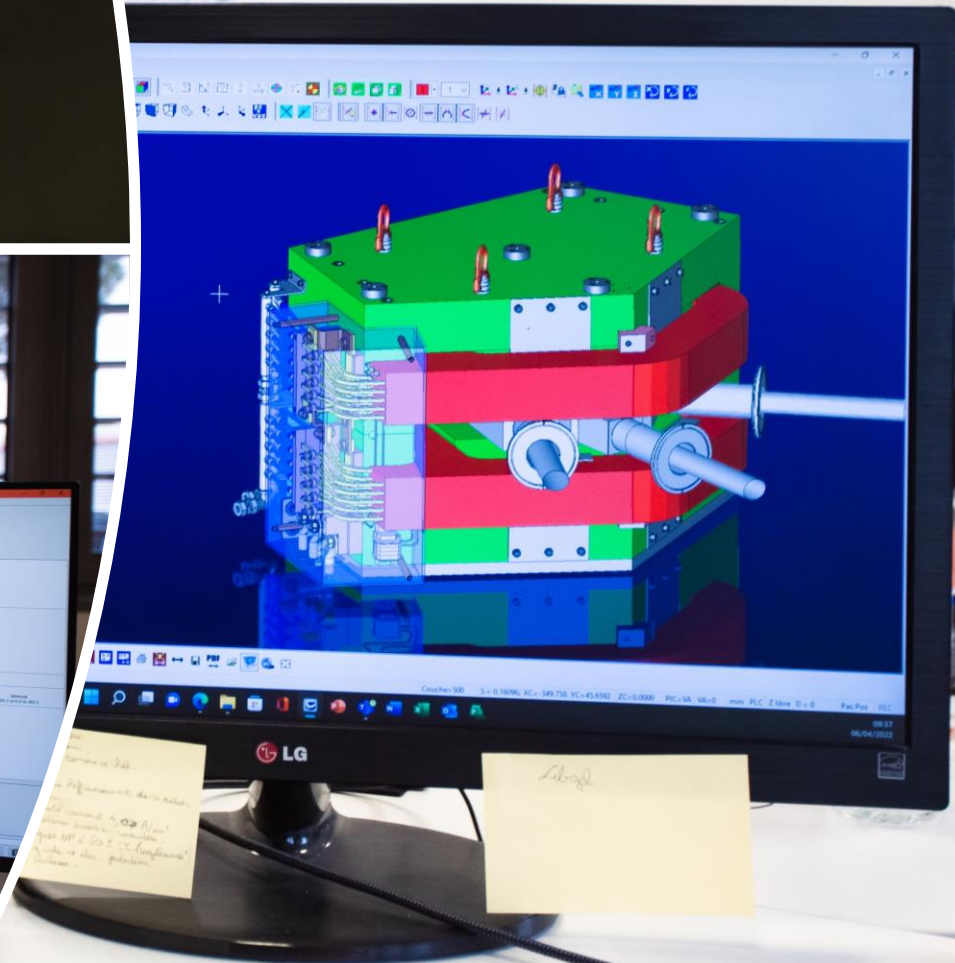
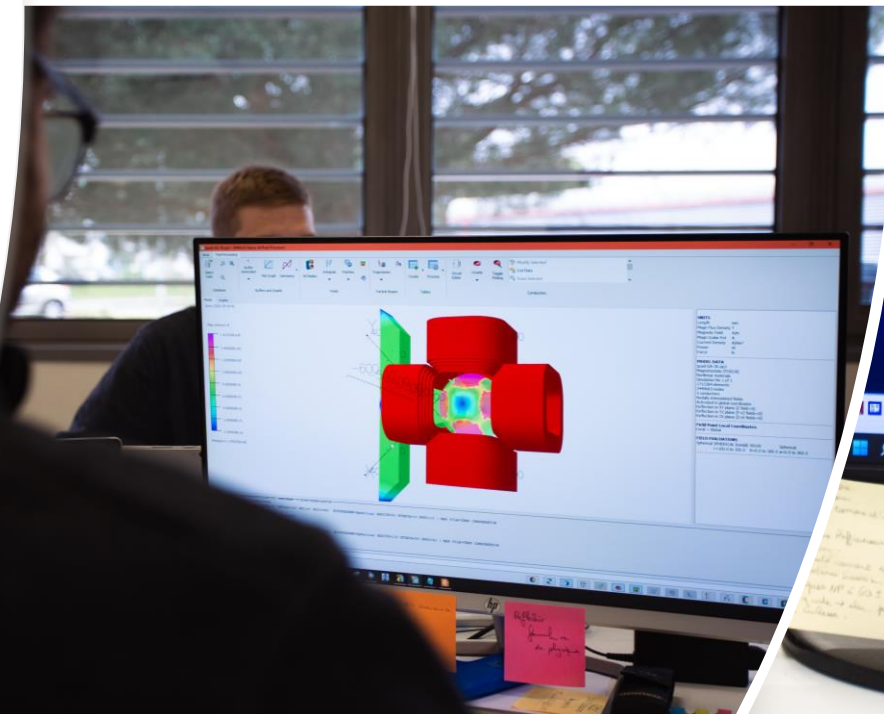
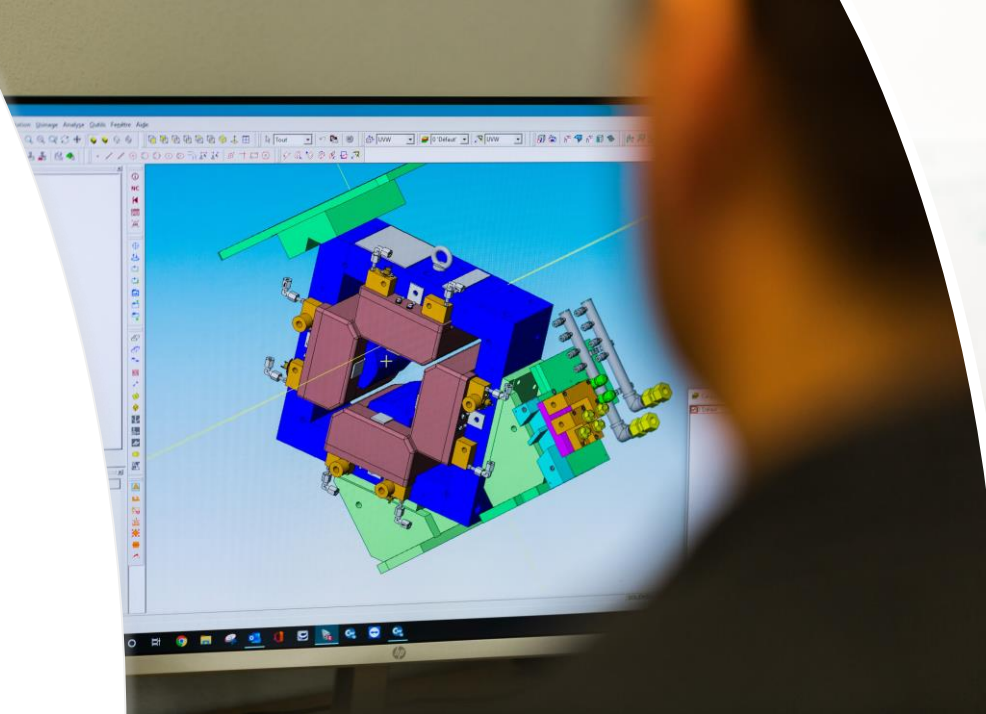
Quadrupoles CEA



Quadrupole CERN

SEF DESIGN OFFICE

- SEF provides the latest state-of-the-art technical skills with over **40 years' experience in the magnet field.**
- For each product design phase, SEF uses magnetic simulation software (Opera/3DS) and mechanical design, to provide comprehensive excellent service. Each SEF Technologies magnet meets a unique set of specifications and complies with the most advanced standards/norms in terms of electromagnetic operation, robustness and radiation resistance.



SYNCHROTRON MARKET

SEF has specialised in **large-scale particle accelerators** (synchrotrons, cyclotrons, linear accelerators...).

SEF has acquired the experience and customer references to be considered for inclusion on fourth generation projects.



Synchrotron CERN



Synchrotron ESRF



Synchrotron SOLEIL



THALES

GANIL



PANTECHNIKA
Boost Your Physics



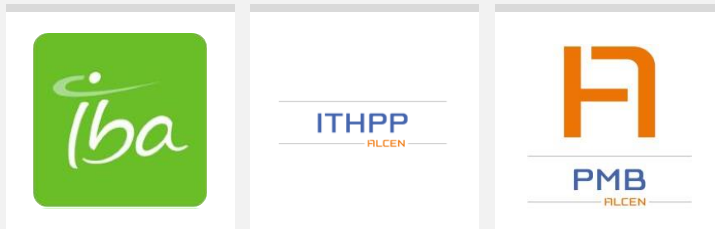
HZB Helmholtz
Zentrum Berlin



PROTON THERAPY MARKET

Proton therapy is gradually becoming a **major resource for targeted treatment of cancer**. It uses compact cyclotron type particle accelerators like Cyclotron and LINAC.

SEF Technologies works with medical equipment manufacturers who propose latest generation machines, combining power, reliability, and accuracy.



ION IMPLANTATION MACHINES

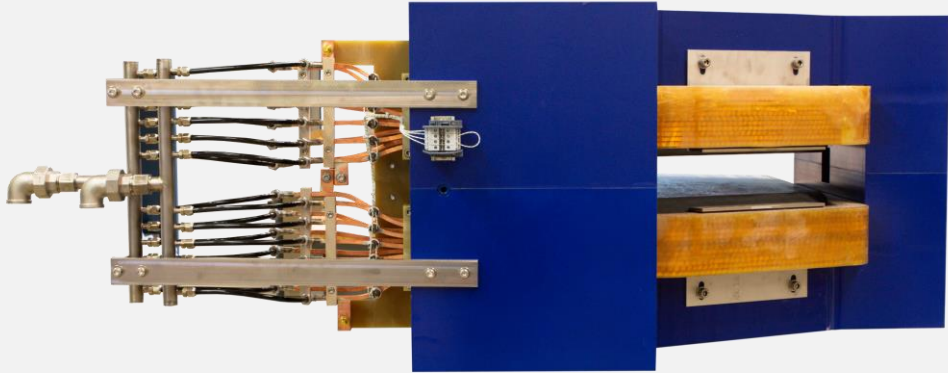
The semiconductor manufacturing market is evolving fast in relation to the **strategic need for electronic components for everyday consumer products**, industry and research.

The relocation of these manufacturing activities in Europe offers development opportunities.

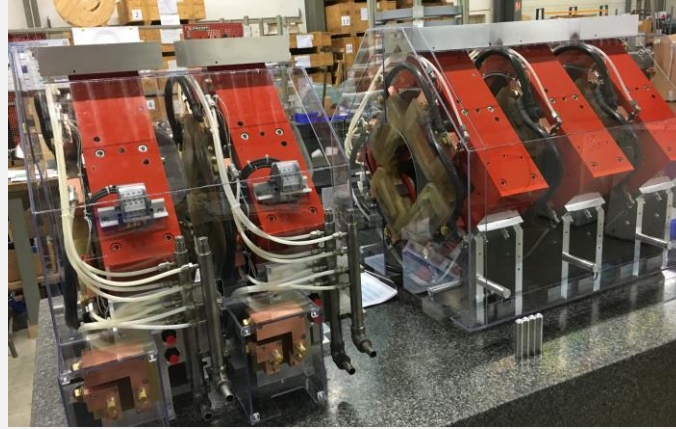
SEF provides magnets to state-of-the-art ion implantation machines manufacturer.



DIPÔLES



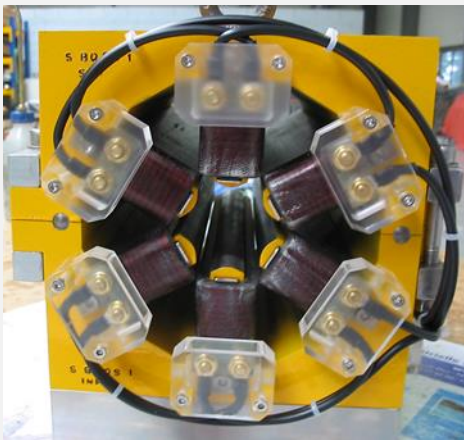
QUADRUPOLES



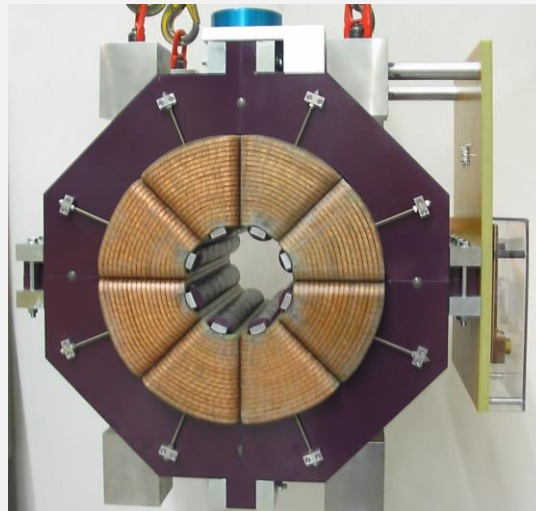
FOCALIZER



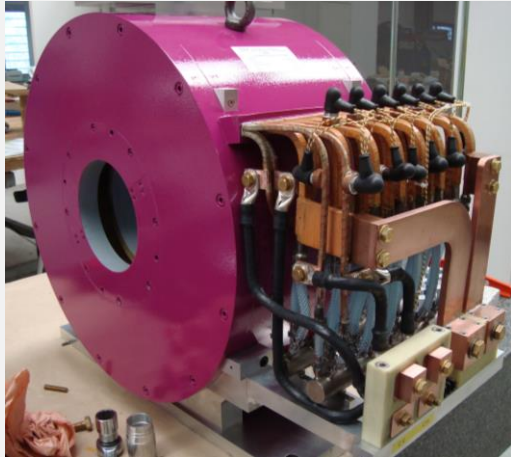
SEXTUPÔLES



OCTUPÔLES



SOLENOIDS



PERMANENT MAGNETS



UNDULATOR



SPECIAL MAGNETS



RADIOTHERAPY MAGNETS



THANK YOU

FOR YOUR ATTENTION

Eric FANIO | CEO

eric.fanio@sef-technologies.com

06 52 61 19 16

320 rue du Chêne vert
31670 LABÈGE (Toulouse, FRANCE)

www.sef-technologies.com

