



Elettra Sincrotrone Trieste

# Power Supplies Engineer for Elettra 2.0

Deadline: 20 November 2020

Ref: GA/20/37

## Company description

Elettra Sincrotrone Trieste is an international multidisciplinary research center operated as a user facility, featuring a 2.0/2.4 GeV, third-generation synchrotron light source (Elettra), a new free-electron laser light source (FERMI) and a variety of support laboratories. The extremely high quality of the machines and beamlines has set new performance records and has been producing results of great scientific and technological interest. See <http://www.elettra.eu> for more information.

## Beamline/Activity/Project description

In order to allow the laboratory to remain competitive in the next 20 years, an entirely new source - Elettra 2.0 - belonging to the new generation of storage rings (DLSR or Diffraction Limited Storage Ring) is being developed. The new source will exhibit a major increase in the brilliance and coherence fraction of the photon beams. The Elettra 2.0 optics is based on our enhanced symmetric six bend achromat structure (S6BA-E) with a 12-fold symmetry and an emittance of 200 pm-rad at 2.4 GeV. The new structure creates also straight sections in the arcs permitting the installation of additional insertion devices, thus increasing the number of beamlines. Existing beamlines will have to be upgraded and new beamlines developed to take full advantage of the characteristics of Elettra 2.0. The new machine is scheduled for commissioning in the second half of 2026.

## Job description

The successful candidate, with specialization in power electronics, will be part of the team responsible for the definition, development, prototyping, procurement, and installation of the power supplies for Elettra 2.0 magnets.

He/she will participate in all activities related to high-precision and high-stability magnet power supplies, including the development and production of new units. This will involve electronic design, firmware programming, prototype testing and - occasionally - pre-series production.

Other activities include collaboration in the definition and drafting of technical specifications followed by tendering, evaluation and factory acceptance testing and final installation.

The successful candidate will work in collaboration with physicists and other engineers for the optimal use of power supplies, understanding the physicists' needs and proposing solutions for interfacing power supplies to remote control and interlock systems.

## Qualifications

A Bachelor or Master degree in Electronic or Electrical Engineering and specialization in power electronics or related fields is required. Any further studies, such as PhD, even in progress, will constitute additional qualifications.

The following technical skills and experience are required:

- power electronics;
- design and testing of both power components and regulation - analogue and digital - of power supplies, in particular switch-mode power supplies;
- familiarity with the main electronic laboratory equipment and the necessary safety precautions to be taken when working on power supplies.

The following additional technical skills would be considered an advantage:

### Elettra - Sincrotrone Trieste S.C.p.A.

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[www.elettra.eu](http://www.elettra.eu)

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- familiarity with Matlab programming language and the main CAD (including PCB design and manufacture) and simulation software tools.
- Expertise in programming and automation systems.

Good time management skills and ability to prioritize are expected, together with the ability to interact with staff at all levels and to work as part of a multi-disciplinary team.

Good oral and written communication skills in English are essential.

A working knowledge of the Italian language is desirable, but is not required.

*The appointment envisioned is a fixed term contract with an initial duration of 12 months, renewable on the parties' agreement.*

*The salary will be commensurate with the previous experience and qualifications of the candidate.*

*Applications should include full curriculum vitae and contact information (including electronic mail) of at least one reference.*

*Due to the situation related to the Covid-19 virus, the interviews will be organized by video conference call.*

The deadline for the submission of the application is November 20, 2020.

In accordance with the provisions of article 21 of the Italian legislative decree no. 39/2013 and in conjunction with article 53 (subsection 16ter) of Italian legislative decree no. 165/2001, employees or former employees of any Italian Public Entity who have exercised authority over Elettra Sincrotrone Trieste S.C.p.A. or have negotiated with Elettra - Sincrotrone Trieste S.C.p.A. within the last three years will be excluded from the present selection procedure. We thank all applicants in advance.

For more information, please contact Marco Cautero (email: marco.cautero@elettra.eu) or Roberto Visintini (email: roberto.visintini@elettra.eu).

To apply for this position please visit the following link:

<https://www.elettra.trieste.it/it/about/careers/working-withus.html?id=1561>

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