



Elettra Sincrotrone Trieste

Mechanical Engineer for the Elettra 2.0 Project

Deadline: 15 November 2023

Ref: RA/23/30

Background

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. 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. See <http://www.elettra.eu> for more information.

Job description

The successful candidate will collaborate with the Mechanical Design Office, that is in charge of mechanical design activities and manufacturing design of mechanical systems, including structural, thermal and vibration analyses.

Main duties and responsibilities will be:

- design of storage ring components, including frames, girders, vacuum and cooled components;
- converting technical assessments of analysis results and requirements into design recommendations;
- producing technical documentation (design requirements, technical reports, purchasing documents);
- supervising procurement, manufacturing and construction of the components;
- carrying out acceptance tests;
- participating in the installations;
- evaluating prototypes from the point of view of compliance with design specifications, as well as technical and economic feasibility.

The successful candidate is expected to carry out the above duties in compliance with the scheduled objectives and deadlines of the Elettra 2.0 project, leading to the timely production of project deliverables.

The successful candidate will work in close collaboration with staff engineers experienced in mechanical engineering applied to particle accelerators and ultra-high-vacuum. The place of work will be Elettra - Sincrotrone Trieste, but travel to other research laboratories and supplier premises for factory acceptance tests (FATs) is expected.

Qualifications

A Master Degree in Mechanical Engineering or equivalent is required, together with experience in manufacturing processes and knowledge of international rules about drawing dimensions and tolerances (UNI and ISO standards).

The following technical skills would be positively evaluated:

- Hands-on experience in the use of CAD software (knowledge of CATIA and PDM systems would be considered a strong

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asset).

- Knowledge of mechanical manufacturing processes.
- Experience in installation, commissioning, fabrication follow-up and project management.
- Previous experience in managing technical procurement practices.
- Knowledge of scientific instrumentation and high precision motorized systems

Good oral and written communication skills in English and a working knowledge of the Italian language are required.

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

The appointment envisioned is a fixed-term contract of an initial duration of 24 months. The salary will be commensurate with previous experience and qualifications of the candidate.

Applications should include a full curriculum vitae, description as well as any evidence of the qualifications declared, and, if possible, the names and contact information (including electronic mail) of two references.

The deadline for the submission of the application is November 15, 2023.

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 Ivan Cudin (email: ivan.cudin@elettra.eu).

To apply for this position please visit the following link:

<https://www.elettra.trieste.it/it/about/careers/working-withus.html?id=3422>

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