



Elettra Sincrotrone Trieste

# Mechanical Engineer and Manager of Elettra 2.0 Mechanical Engineering

Deadline: 30 August 2024

Ref: RA/24/37

## 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 join the Mechanical Design Unit (Attività Progettazione e Calcolo), which is part of the Mechanics, Vacuum and Optics (MVO) Group of Elettra Sincrotrone Trieste. She/he will lead the Unit contributions to the Elettra 2.0 Project in the Mechanical Engineering area, coordinating her/his activity with the Manager of the Unit and with the MVO Group Coordinator in order to obtain the required human resources, but reporting directly to the Elettra 2.0 Project management as far as Project deliverables are concerned.

In the framework of the Elettra 2.0 Project, she/he will be directly responsible for two Project Work Packages: "Front Ends, Supports and Mechanical Integration and Interfaces" and "Vacuum Chambers" and will lend support to other workpackages as far as mechanical engineering is concerned, with the following main duties and responsibilities:

- supervising the design activities of the team of engineers involved in the Elettra 2.0 Project;
- negotiating with internal stakeholders to develop requirements and ensure that sub-projects are set up according to good engineering practice;
- managing the budget of the work packages, allocating resources effectively;
- attending organizational meetings;
- providing effective design support to the team during the conceptual design, detailed design, integration, and test phases of a product development program;
- converting technical assessments of analysis results and requirements into technical recommendations;
- verifying that engineering sub-projects meet the requirements and are completed on time and within budget;
- supervising procurement, manufacturing and construction of components;
- evaluating prototypes from the point of view of compliance with design specifications, as well as technical and economic feasibility of series production;
- using technical experience to identify and manage technical risk throughout the project lifecycle, including multi-discipline design;

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

S.S. 14 Km 163,5 in Area Science Park  
34149 Basovizza, Trieste, Italy  
T. +39 040 37581  
F. +39 040 938 0903

P.IVA e C.F. IT00697920320  
Cap. Soc. € 49.969.980,45 i.v.  
PEC: [sincrotrone.trieste.elettra@legalmail.it](mailto:sincrotrone.trieste.elettra@legalmail.it)  
[www.elettra.eu](http://www.elettra.eu)

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- producing technical documentation (design requirements, technical and test reports, purchasing documents);

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 place of work will be Elettra - Sincrotrone Trieste, but travel to other research laboratories and supplier premises for technical meetings and 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). At least five years of previous experience are required, together with the following technical skills:

- Solid knowledge of mechanical design principles and engineering mechanics; specific knowledge of issues related to High Vacuum (HV) and Ultra High Vacuum (UHV) environments will be considered a plus.
- Extensive hands-on-experience in the use of CAD software and FEA tools; knowledge of CATIA and PDM systems will be considered a plus.
- Experience in installation, commissioning, manufacturing follow-up, and project management.
- Knowledge of mechanical manufacturing processes.
- Ability to effectively present information in team meetings and project reviews as needed.
- High problem-solving skills and ability to find new solutions to problems in the design and assembly phases.
- Ability to manage and motivate a team and demonstrate good leadership qualities.
- Experience in managing public and technical procurement practices according to the "Public Contracts Code".

Good oral and written communication skills in English and 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.

## General information

The appointment envisioned is a permanent position in accordance with the National Metalworkers' Union Collective Labour Agreement and the Company Union Agreement dated 28th March 2024.

Salary and level will be commensurate with 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 August 30, 2024.

Permanent employees of Elettra Sincrotrone Trieste S.C.p.A. and 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, 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. We thank all applicants in advance.

For more information, please contact Edoardo Busetto (email: [edoardo.busetto@elettra.eu](mailto:edoardo.busetto@elettra.eu)) or Ivan Cudin (email: [ivan.cudin@elettra.eu](mailto:ivan.cudin@elettra.eu)).

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To apply for this position please visit the following link:

<https://www.elettra.trieste.it/it/about/careers/working-withus.html?id=4210>

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