Elettra Sincrotrone Trieste

Fluid and mechanical systems Engineer

Deadline: 4 January 2026
Ref: SA/25/39

Background

Elettra Sincrotrone Trieste is an international multidisciplinary research center offering international users access to synchrotron and free-electron laser radiation for the characterization and processing of matter. The extremely high quality of the light sources 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 synchrotron radiation source - Elettra 2.0 - belonging to the new generation of storage rings (DLSR or Diffraction Limited Storage Ring) is being installed and will join the already operating free-electron source FERMI in the second half of 2026. 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 are being upgraded and new beamlines constructed to take full advantage of the characteristics of Elettra 2.0. See http://www.elettra.eu for more information.

Beamline/Activity/Project description

The core task of the Elettra Fluidic-Mechanical Team is the management, operation and maintenance of fluid and mechanical plants serving our accelerators, laboratories and buildings and providing process cooling water, compressed air, technical gases, liquid nitrogen, heating, ventilation and air conditioning (HVAC), etc. The most important plants are controlled by a general supervision system to ensure the correct operation of the two main facilities Elettra and FERMI. Many mechanical-fluidistic system are being upgraded to meet the specifications of the new Elettra 2.0 machine and related beamlines.

Job description

The successful candidate will join the the Elettra Fluidic-Mechanical Team, contribute to the management, operation and maintenance of fluid and mechanical plants serving our accelerators, laboratories and buildings, and collaborate in the design and construction of the upgraded fluidistic and mechanical systems. He/she may be required to cover shifts for on-call emergencies.

He/she will be involved both in the definition of technical aspects (technical specifications, timing, layout drawings, flow diagrams process, pipe and equipment plants for all process systems, etc.), as well as in the administrative aspects (tender specifications, supplier follow-up, cost vs. benefit analysis, project planning and reporting, etc.) required the realizazion of the new fluidistic and mechanical systems.

He/She will perform engineering evaluations and analyses, and make engineering decisions for all aspects of the assigned tasks.

Qualifications

A Master's degree in mechanical engineering or energy systems, or related field is required, together with:

- proven experience in the management, design and construction of mechanical systems, HVAC systems, and in the application of fluid dynamics;

- solid experience in developing BIM-MEP models with Autodesk Revit and in creating and managing federated models using Autodesk Navisworks, including the coordination of files originating from different BIM-authoring software (such as Revit, CATIA, SolidWorks, etc.).

Registration in the official register of Italian professional engineers is a mandatory requirement.

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Experience in defining and simulating complex hydronic networks using fluid-dynamic simulation software (e.g., AFT Fathom, Pipe Flow Expert, Fluid-Flow FliteSoftware, Pipe-Flo Revalize, or similar tools) will be considered an additional asset.

Good oral and written communication skills in English and Italian are required.

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

General information

The appointment envisioned is a permanent staff position, with a three-months trial period.

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

Applications should include the candidate's full curriculum vitae, the names and contact information (including electronic mail) of up to two persons who have agreed to provide references.

The interviews may be held via video conferencing.

The ranking of suitable candidates resulting from this selection process may be used within the following 24 months.

Permanent employees of Elettra Sincrotrone Trieste S.C.p.A. will be excluded from the present selection procedure. 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 also 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 (subsection16ter) of Italian legislative decree no. 165/2001.

The deadline for the submission of the application is January 4, 2026.

We thank all applicants in advance.
For more information, please contact Salvatore Noe` (email: salvatore.noe@elettra.eu).

To apply for this position please visit the following link:
https://www.elettra.trieste.it/it/about/careers/working-withus.html?id=4277