



Elettra Sincrotrone Trieste

Control System Technician for Elettra 2.0

Deadline: 28 February 2025

Ref: IA/25/1

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 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 212 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

Synchrotron light sources are complex systems made by a large number of mechanical, electrical and electronic components. Each instrument is interfaced with the control system, which enables remote operation through computers and networks. Magnets, screens, mirrors, grids, sensors and other components are widely adopted and their precise mechanical placement is mandatory. Motors, mainly stepper motors, encoders, and limit switches are widely used.

The successful candidate will join engineers and technicians to work on the design, development, installation, operation and maintenance of motion control systems. The work will cover the design of digital and analog electronic boards, junction boxes, signal conditioning, cabling and commissioning. The development of firmware for motion controllers and software for positioning systems within the Tango control system framework is foreseen. The successful candidate will write technical documentation, such as technical specification, drawings, wiring diagrams, procedures and test reports.

Qualifications

A bachelor degree in electronic/electrical/mechanical engineering or a diploma in electronic/electrical/mechanical engineering is required together with a proven track record in the following areas:

- design, development and test of electric/electronic equipment;
- motion control systems;
- development in C++, Python;
- use of Altium, Autocad and Autocad Electrical;
- familiarity with laboratory electronic instrumentation (multi-meter, oscilloscope, power-supply, welding station,...).

The following technical skills would be considered a plus:

- Knowledge of Galil, and Intelligent Motion System products;
- Knowledge of Beckhoff motion control products;
- knowledge of Git;
- Knowledge of Linux.

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

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

The candidate is expected to be fluent in written and spoken English, as well as in Italian.

General information

The deadline for the submission of the application is February 28, 2025.

The appointment will be a fixed-term contract with an initial duration of 24 months, in accordance with the National Metalworkers Collective Labour Agreement and the Company Agreement, ex. art. 8 of the Decree Law 138/2011, dated 28th March 2024.

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

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

The ranking of eligible candidates resulting from this selection procedure may be used for additional appointments within the following 24 months.

The interviews may be held via video conferencing.

We thank all applicants in advance.

For more information, please contact Roberto Pugliese (email: roberto.pugliese@elettra.eu).

To apply for this position please visit the following link:

<https://www.elettra.trieste.it/it/about/careers/working-withus.html?id=4239>

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