



GTCR_14_23 Development Engineer Level I-II. Electronics area

Publication date: July 20th 2023

Closing date: August 16th 2023

The public company Gran Telescopio de Canarias, S.A. (GRANTECAN) opens a selection process to hire, in an open call for its Development Group, a position of Development Engineer (Level I-II), in the area of Electronics, for the implementation of new observational capabilities of the Gran Telescopio Canarias (GTC).

GRANTECAN is looking for talented individuals with exceptional skills to operate, maintain, and improve the GTC for the execution of high-quality scientific projects in the field of Astrophysics. Therefore, they require individuals who are honest, responsible, transparent, respectful, and seek continuous improvement in their work. They should prioritize the safety of people, the integrity of the facility, efficiency, and innovation in their actions. Additionally, they should prioritize the responsible, sustainable use of resources with a primary focus on environmental care.

Functions

The selected person will hierarchically report to the Head of Development. **The main function and activity assigned to the selected person fall within the following scientific and technical services:**

- 1) **High spatial resolution astronomical observations.** This involves implementing new scientific instruments that allow reaching the theoretical limit of the telescope in terms of spatial resolution, as well as adapting the telescope to achieve the necessary performance. This includes Adaptive Optics, Laser Guide Star, GRANCAIN camera, FRIDA spectrograph, data reduction pipelines, natural ventilation of the telescope, control adjustment of GTC's axes and mirrors, mirror alignment, co-phasing, Closed Loop Active Optics, segment deformation, GTC Control System update, and new operational tools.
- 2) **New observational capabilities with new or improved instrumentation.** This entails implementing other new scientific instruments for the GTC or improving existing instruments in accordance with the current instrumental plan. This includes OSIRIS+, EMIR, MIRADAS, HiPERCAM, CHORUS, their operational tools and pipelines, as well as adapting the telescope and infrastructure for their installation and operation.

To achieve the aforementioned objectives, the following responsibilities and necessary tasks are established:

- Perform designs and analyses, documenting them through reports, plans, and/or models.
- Prepare technical specifications for the acquisition of equipment and/or the hiring of services.
- Supervise the design, assembly, installation, and commissioning work of equipment and/or services subcontracted to external companies.
- Direct and participate in the assembly and commissioning of equipment and facilities.
- Proactively report the status and progress of tasks. Requires regular supervision from superiors several times a month.
- Manage working time by proposing measures to superiors for better utilization of capacity.
- Self-train and actively collaborate with superiors in their training plans to undertake increasingly complex tasks within their field of work.

Section A (Minimum required qualification)

- University master in Electrical or Electronics Engineering at the second cycle [QF-EHEA](#) (EQF 7) that grants professional qualifications in Spain to practice as an Electrical Industrial Engineer or Industrial Engineer.
- Driver's license for vehicles (level B or higher).

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Section B (Essential experience, knowledge, and specific competencies)

- Knowledge and/or experience in the design, construction, and commissioning of low-voltage electrical installations and machinery.
- Knowledge and experience in creating electrical documentation according to international standards such as IEC.
- Knowledge and/or experience in the use and programming of industrial PLCs.
- Knowledge and/or experience in the use of fieldbuses and their associated communication protocols (e.g., CANOpen, Profinet, Profisafe, Ethercat, Modbus, etc.) for the control of mechanisms and input/output, and the development of applications using them.
- Knowledge and/or experience in machine safety and/or occupational risk prevention.
- Fluent spoken and written Spanish with the ability to perform the required job activities.
- Fluent spoken and written English with the ability to perform the required job activities.

Section C (Experience and/or knowledge in complementary specific competencies)

Additionally, it will be valued if the candidate has knowledge and/or experience in the following aspects:

- Knowledge and experience in the use of electrical CADs, particularly EPLAN.
- Knowledge and experience in the Twincat 3 environment.
- Knowledge and/or experience in analog electronics design and construction.
- Knowledge and/or experience in digital electronics design and construction.
- Knowledge and/or experience in automatic regulation and servocontrol of machinery and/or processes.
- Knowledge of mechanical engineering and use of mechanical CAD tools.
- Knowledge and experience in software engineering and programming languages such as C++, Java, and/or Python.
- Knowledge of engineering in other areas (optics, photonics, systems, etc.) and the ability to work in a multidisciplinary team environment.
- Knowledge and/or experience in data analysis using languages such as Matlab, Python, IDL, etc.
- Specific training in electrical work safety.
- PhD (third cycle QF-EHEA, MECES 4) in areas related to the required specific competencies.
- Previous experience in the design, operation, and/or maintenance of astronomical and/or scientific installations.

Merits to value:

- Section A: Applicants who do not meet these requirements will be discarded and not evaluated.
- Section B: Maximum score: 60 points. Applicants with a score lower than 30 points will be discarded.
- Section C: Maximum score: 40 points.

Evaluation will be based on the documentation provided by the interested person and a personal interview.

GRANTECAN is fully committed to equal opportunities and non-discriminatory recruitment. In equal conditions of merit and capability, the incorporation of personnel from the underrepresented gender in the professional group to which the position belongs will be favoured.

Contractual information

The selected person will sign an indefinite full-time employment contract with GRANTECAN, subject to a six-month probationary period. The duration of this contract will be indefinite, commencing on the contract start date, with validity linked to the scientific and technical service specified in the "Functions" section. From a technical perspective, it is estimated that the implementation of these scientific and technical services will be completed around 2028-2029. All of this is in accordance with Article 23 bis of Law 14/2011, of June 1, on Science, Technology, and Innovation.

The workplace will be at the GRANTECAN headquarters in La Laguna (Tenerife). Occasional work may be required at the Roque de Los Muchachos Observatory (GTC) at an altitude of 2400 meters.

The gross salary will correspond to either Level I (€36,139.62) or Level II (€40,508.36), depending on the qualifications and experience of the selected person. Additional compensation will be provided for work carried out at the Roque de los Muchachos Observatory in La Palma.

Non-EU Citizens:

Individuals who are not citizens of a country belonging to the European Union are invited to apply for this position. However, if selected, they will only be able to sign the contract with GRANTECAN once they have obtained the mandatory documentation to reside and work in Spain.

Application Submission

Interested individuals must send their applications to the email address r.personal@gtc.iac.es before **August 16, 2023, at 15:00 (GMT)**, indicating the relevant reference number in the subject line. The applications should include the following documents (in PDF format):

- Cover letter, describing the motivations for applying to this call.
- Application form (available on our website).
- Curriculum vitae (CV).

Applications submitted after the deadline or those that do not include the required documentation will not be considered. In the case of incomplete applications, the interested person will have a period of three (3) days, starting from the date when the missing documentation is requested, but no later than the deadline.

For more information about this position, please contact the Head of Development at GRANTECAN, F. Javier Castro López-Tarruella (0034 922315031 or email javier.castro.lopez@gtc.iac.es). For information about the process, please contact the Head of Administration at GRANTECAN, Lourdes González Rodríguez (0034 922425720 ext. 721 or email lourdes.gonzalez@gtc.iac.es). For more information about GRANTECAN, please visit our website: <http://www.gtc.iac.es>.