



Dimensional Metrology Engineer (EN-MME-MM-2022-198-LD)

- Geneva, Switzerland
- Contract

<https://jobs.smartrecruiters.com/CERN/743999873053179-dimensional-metrology-engineer-en-mme-mm-2022-198-ld->

Company Description

At CERN, the European Organization for Nuclear Research, physicists and engineers are probing the fundamental structure of the universe. Using the world's largest and most complex scientific instruments, they study the basic constituents of matter - fundamental particles that are made to collide together at close to the speed of light. The process gives physicists clues about how particles interact, and provides insights into the fundamental laws of nature. Find out more on <http://home.cern>.

Job Description

Introduction

The Engineering Department (EN) pushes back the limits of technology so that physicists can carry out their research. Within the Mechanical & Material Engineering Group (MME) of the EN department, you will join the Materials, Metrology and Non-Destructive Testing (MM) section [EN-MME-MM](#), more specifically the dimensional metrology laboratory that undertakes the inspection of parts, components and assemblies from small items to large units. This includes dimensional measurements with various cutting-edge equipment such as CMM (Coordinate Measuring Machines), 3D laser scanners and an X-ray Computed Microtomography (μ CT) unit.

As a dimensional metrology engineer, you will be in charge of the definition of the measurement techniques taking into account all the parameters and characteristics of the inspection, including the accuracy and measurement uncertainty. In addition, you will have the opportunity to get involved in the whole lifecycle of mechanical fabrication of components for CERN particle accelerators, from development and production to integration operations and final testing.

Are you passionate about high quality manufacturing? Are you skilled in combining mechanics, assembly, creativity, measurements, and rigour? This is an opportunity for you: you will be part of a multidisciplinary team fabricating the large variety of parts and units used at CERN, in the framework of a wide range of research and development projects. Join a highly qualified team of engineers and technicians in measurement processes. CERN, Take part!

Functions

As part of a group of specialists, you will mainly carry out geometrical and dimensional measurements, namely:

- Be responsible for predicting the needs of inspection methods and implementing metrology features to the conceptual design study during the design and manufacturing phase of the projects;

- On the basis of the parts to be conceived, evaluate and select the appropriate measurement methods and the required tools in view of performing final measurements and quality inspections;
- Perform quality control and final dimensional inspection of parts for actual and future CERN accelerators and experiments, whether manufactured on-site or off-site;
- Perform quality control and high-precision metrology inspections, using conventional tooling for dimensional certification, numerically controlled 3D CMMs and ultra-precise non-contact 2D and 3D laser operated measuring machines. Portable measuring apparatus (3D scanners, poly-articulated measuring arm and conventional portable measuring tooling) may also be used;
- Produce relevant documentation and reports of results obtained on the measured parts for subsequent presentation to the users;
- Collaborate with sub-contractors on the acceptance, intermediate quality control and dimensional checking of components during production. This will involve occasional travel within the Member States;
- Keep abreast of developments in international standards on quality control, develop and maintain measurement procedures and templates.

Qualifications

Master's degree or PhD or equivalent relevant experience in the field of Mechanical Engineering or a related field.

Experience:

- Proven experience in high precision metrology and quality control of advanced mechanical components;
- Experience in programming and operation of computer-aided metrology machines;
- Experience with portable volume measurement instruments and methods;
- Proven hands-on experience of conventional measurement instruments and devices;
- Experience in developing and documenting standard or non-standard test procedures and calibration protocols.
- Experience in design and manufacturing work would be an advantage.

Technical competencies:

- Knowledge and application of advanced metrologic techniques: (micrometric 3D and proficiency in 3D metrology software; optical metrology; knowledge of surface metrology and standards including roughness measurements; good knowledge of state-of-the-art dimensional metrology technologies and processes; knowledge of the market in the metrology equipment field would be an advantage)
- Knowledge and application of conventional dimensional metrology
- Manufacturing of mechanical parts: (ability to interpret engineering drawings in accordance with ISO GPS standards; knowledge of precision mechanics)

Behavioural competencies:

- **Achieving Results:** having a structured and organised approach towards work; being able to set priorities and plan tasks with results in mind Driving work / projects along and seeing them through to their conclusion
- **Demonstrating Accountability:** working conscientiously and reliably; delivering on promises
- **Solving Problems:** addressing complex problems by breaking them down into manageable components Assimilating large quantities of information, identifying key issues and formulating conclusions clearly and concisely.
- **Communicating Effectively:** ensuring that information, procedures and decisions are appropriately documented
- **Working in Teams:** cooperating constructively with others in the pursuit of team goals; balancing personal goals with team goals. Building and maintaining constructive and effective work relationships

Language skills:

Spoken and written English or French: ability to understand and speak the other language in professional contexts. Ability to draw-up technical specifications and/or scientific reports and to make oral presentations in at least one of the two languages.

Additional Information

Eligibility and closing date:

[Diversity](#) has been an integral part of CERN's mission since its foundation and is an established value of the Organization. Employing a diverse workforce is central to our success. We welcome applications from all [Member States and Associate Member States](#).

This vacancy will be filled as soon as possible, and applications should normally reach us no later than 16.01.2023.

Employment Conditions

Contract type: Limited duration contract (5 years). Subject to certain conditions, holders of limited-duration contracts may apply for an indefinite position.

These functions require:

- Work in Radiation Areas.
- Interventions in underground installations.
- A valid driving licence is required.
- Work during nights, Sundays and official holidays, when required by the needs of the Organization.
- Shift work, when required by the needs of the Organization.
- Stand-by duty, when required by the needs of the Organization.

Job grade: 6-7

Job reference: EN-MME-MM-2022-198-LD

Benchmark Job Title: Mechanical Engineer