
Telescope Configuration Manager (10208)

Job Location

Cheshire, UK (Head Office)

Area / Department

Telescope Operations

Contract Type

Permanent

Salary

Competitive salary with generous pension, private healthcare and leave benefits

Closing Date

14/09/2022

Ref No

10208

At the SKAO we are coordinating a global effort to deliver one of the largest science facilities on the planet. The SKAO telescopes will be next-generation instruments that will help to answer key questions in astrophysics, drive technological innovation and support human capital development.

More than a dozen partner countries and over a thousand scientists and engineers around the world are already on board, making the SKA project an international collaboration like no other, and one of the most ambitious science and engineering endeavours of the 21st century.

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Being part of Team SKA means contributing to something extraordinary: a uniquely exciting project to advance human knowledge that will last for decades. In return, we offer a diverse multicultural working environment, 30 days annual leave plus public holidays, a generous pension scheme, visa and support with relocation (if applicable), regular social events, a family-friendly environment and much more. Come and join us!

An amazing opportunity for an experienced individual with system engineering knowledge in the area of Configuration Management, especially in the context of radio astronomy telescopes, to join an international organisation and contribute to the delivery of one of the largest scientific facilities on the planet.

The Role

The Telescope Configuration Manager is a key member of the SKAO Assurance Group and will be responsible for the Configuration Management activities on the Radio Telescopes being constructed in South Africa and Australia. These activities include Baseline Management, Configuration Identification of As-Built products, Change Control and Concession Management.

The Telescope Configuration Manager will join the SKAO Configuration Management Team and will report to the Head of Configuration Management.

The Telescope Configuration Manager will drive the implementation of the Telescope Configuration Management Plan and will work closely with: the System Engineering team to manage changes in requirements and interfaces; with the Product Assurance team to perform Physical Configuration Audits; with the Project Management team to contribute to the Change Management process; and with Contractor Configuration Managers to review and accept data pack deliveries.

To manage the software development of the project, SKAO has adopted the Scaled Agile Framework (SAFe®) for Lean/Agile development processes. The Telescope Configuration Manager will work closely with the hardware system engineering team and the software management team in order to integrate these deliverables into a coherent configured system.

The successful candidate will be an organised individual who understands, or is able to quickly acquire, system engineering knowledge in the area of Configuration Management, especially in the context of radio astronomy telescopes.

SKAO is committed to providing a flexible working environment, meeting the requests of our Colleagues whilst also fulfilling the needs and objectives of the Observatory. We encourage open conversations during the interview and application process in relation to any specific requirements, and later with line managers, to assess individual flexible working arrangements alongside the needs of the organisation and responsibilities and accountabilities of the specific role and team. There may be occasions where this role requires the post holder to work across different time zones and, in line with SKAO policy, flexible working hours will be supported in agreement with the line manager.

As an international organisation, SKAO will facilitate UK work permits for non-resident candidates and support candidates with the relocation process.

Key Responsibilities, Accountabilities and Duties

- Facilitate and coordinate the configuration scope of work for the telescope which include contractors and external partners, ensuring Configuration Management outputs for Identification, Change Control, and Baseline Management and Audits are achieved.
- Facilitate and coordinate the production of Design and As-Built documentation from contractors and internal colleagues to ensure that they meet or exceed SKAO requirements, and that they comply with relevant standards and codes of practice.
- Provide direction and technical advice to SKA project team members, to support them in their delivery Configuration Management artefacts.
- Identify opportunities for processes, facilities or equipment improvements and develop proposals to enhance operational efficiency.
- Adapt and develop working practices within Configuration Management, in line with all regulations to ensure that engineering activities/projects are delivered effectively and meet set safety, scheduling, cost and quality objectives.
- Proactively collaborate across services/directorates to optimise efficient, effective configuration management activities that supports wider business objectives, and to influence team and specialist peers internally.
- Produce technical reports including recommendations; inputs to progress reporting against own planning for own work areas.
- Develop the Product Breakdown Structure for the accepted Products as they are integrated into the Telescope.
- Draw product baselines in ALIM after reviews.
- Deploy methodology for, and manage item serialisation in collaboration with the Operations team.
- Upload and manage As-Built data packs for the accepted products.
- Manage Engineering Change Proposals against the approved product baseline(s) in accordance with the project change processes.
- Register and manage Concessions against non-conforming product items.
- Support final product hand-over audits, and perform physical Configuration Audits in support of Product Assurance.
- Providing configuration reporting to project forums and management on the Telescope.
- Provide technical configuration management advice and coaching to stakeholders.

Mandatory Knowledge, Skills and Experience

- Degree in System Engineering or other closely related and relevant field, with training in Configuration Management, or equivalent experience.
- Significant experience in Configuration Management roles with demonstrable direct experience of formal and stringent Configuration Control in one or more high value engineering development projects.
- Substantial experience of Configuration Management practices such as formal configuration baseline control, product breakdown structures, developmental configuration

documentation management, as-built configuration management, and functional and physical configuration audits.

- Knowledge of ALIM/eB and/or other Configuration Management tools.
- Good verbal and written communication skills in English.
- Ability and willingness to travel nationally and internationally as required (typically for one week, up to 6 times per year).

Desirable Knowledge, Skills and Experience

- Fluency with relevant modern System Engineering processes and tools.
- Up to date knowledge of external issues (legislative, regulatory, best practice standards etc.) that affect Configuration Management.
- Knowledge of Jira, Jama and Confluence.
- Knowledge of Project Management concepts.
- Ability to influence stakeholders in a complex organisation.
- Familiarity with the formalism for, and requirements of, quality control environments such as ISO 9000.

Equality Diversity and Inclusion Statement

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Our aim is to recruit and retain the most talented individuals, regardless of gender, race, disability, age, sexual orientation, marital status, religion, nationality or background.

Women have traditionally been under-represented in the fields of science and engineering; SKA Observatory welcomes and encourages female applicants.

Where applicants with a disability need facilities or adjustments to enable them to participate in the recruitment process, these will be provided.

SKA Observatory welcome all candidates, especially those from member countries.

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Database Engineer (10210)

Job Location

Cheshire, UK (Head Office)

Area / Department

Software Data Management and IT

Contract Type

Permanent

Salary

GBP 50,000 - 65,000 depending on experience, with excellent benefits

Closing Date

12/09/2022

Ref No

10210

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An amazing opportunity for an experienced and creative software engineer to join a multicultural organisation and support the SKAO database development and operations at a global level.

The Role

The Database Engineer will ensure that the software platforms supporting the development and operations of the SKA telescopes are developed to the highest standards. This position will initially join the development activities for the Observation Monitoring and Controls for the SKA telescopes, working closely with the teams developing the SKA control system and observatory tools.

The Database Engineer will be joining the SKAO Computing and Software team under the supervision of the Services Architect and will work alongside other engineers.

The SKA telescopes operate on a range of different computing models and technologies, and the project is always looking at the evolution of the technologies in this area, making this an extremely exciting role.

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Key Responsibilities, Accountabilities and Duties

- Work in coordination with the Services Architect and other platform and network engineers to define the strategy and the activity to support the SKAO database development and operations.
- Contribute to the definition of the database architecture with particular attention to our globally distributed operation model.
- Be responsible for and drive the consolidation of the technical choices for database implementation across the different areas of development for SKAO.
- As the role will interact with telescope operations, some international travel might be required to SKAO partner sites, as necessary and when possible in the context of any international travel restrictions (typically for up to one week, 2-4 times per year).

Mandatory Knowledge, Skills and Experience

- Experience of software engineering to support and develop Relational Databases and associated services, and ability to write SQL queries, stored procedures, and perform basic database development leveraging SQL database standard.
- Experience with different database paradigms and their related technical implementations: relational databases, no-sql or document oriented databases, time series databases.
- Experience in developing and supporting operations of highly available database deployments utilising approaches such as sharding, replication and mirroring, and associated recovery techniques.
- Ability to analyse requirements and select suitable database technologies to model applications.
- Ability to communicate in a professional, friendly and effective manner, both orally and in writing, to an international, multicultural audience.
- Be a flexible team player who is adaptable to change.

Desirable Knowledge, Skills and Experience

- Interest in astronomy and large scientific collaborations
- Expert in developing database web-APIs in languages and frameworks such as Python, JS, Go, or C++
- Familiarity with or experience of working based on lean/agile principles

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Senior Domain Engineer (10214)

Job Location

Cheshire, UK (Head Office)

Area / Department

Engineering

Contract Type

Permanent

Salary

GBP 65,000 - 75,000 depending on experience, with excellent benefits

Closing Date

30/09/2022

Ref No

10214

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A unique opportunity for an experienced Senior Engineer to join an international team and participate in the construction, verification and commissioning of one of the largest scientific facilities on the planet.

The Role

The Senior Domain Engineer will provide engineering support and leadership, both in their specific discipline and across the entire SKA-Mid Telescope. Working in collaboration with the SKAO System Scientists, the Senior Domain Engineer will be responsible for the performance of the SKA-Mid Telescope.

Reporting to SKAO Head of Engineering, the Senior Domain Engineer will join the SKA-Mid Telescope Delivery Team, a multidisciplinary team responsible for the “delivery” of the SKA-Mid Telescope. This role will be known internally as SKA-Mid Telescope Domain Specialist.

This role will be based at the SKAO Global Headquarters at the iconic Jodrell Bank Observatory in the UK, and will require occasional travel and liaising with colleagues located overseas.

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Key Responsibilities, Accountabilities and Duties

- Provide guidance, advice and technical leadership for the SKA MID Telescope, as a member of the MID Telescope Delivery Team (TDT), both at a system level and in their area of expertise.
- Lead engineering analysis, including technical budget analysis, technical notes, and engineering reports as required.
- Lead and participate in investigations into technical issues.
- Advise the TDT Project Manager on technical risks and performance compliance.
- Apply a systemic approach to problem solving, demonstrating a comprehensive understanding of the work area’s technology and process.
- Lead team projects, and provide specialist assistance to working groups, colleagues and engineering project managers.

- Represent SKAO at technical professional forums to keep up to date with best practice within a specialist engineering field.
- Occasionally travel nationally and internationally as required.
- Undertake any other reasonable duties as directed by the SKA Project Engineer.

Mandatory Knowledge, Skills and Experience

- Degree in Physics, Engineering or another closely related and relevant field, or equivalent experience.
- Substantial experience in the engineering of large, high-value research and development projects; radio astronomy, astronomy, telecommunications or defence - or a broad technical knowledge of the engineering of high technology systems, such as large observatories, space systems, telecommunications networks, nuclear power plants, etc.
- Proven experience in design and characterisation of complex signal chains, from the detection to the processed digital data. The technical areas of experience could include system performance analysis and simulation in the analog and digital domain as well as optical components, imaging components, sensors, spectroscopic, microwave, particle detectors, opto-electronic detectors & components, signal processing, ADCs and fast read-out electronics.
- Experience in working with international projects and scientists from a variety of cultures, including projects with 'in-kind' contribution.
- Experience in leading diverse professional staff/project teams with the ability to coach and mentor.
- Strong analytical skills and experience in performance, technical budget analysis and in addressing multidisciplinary, multifaceted complex problems.
- Effective oral and written communication skills in English with the ability to influence people in widely differing parts of a complex organisation.

Desirable Knowledge, Skills and Experience

- Membership of, or eligibility for membership of, a recognised national or international engineering institute.
- Knowledge of, or a demonstrable interest in, the development, operation and ethos of large-scale international research infrastructures such as observatories.
- Experience in design for volume production and/or in large-scale manufacturing and assembly.
- Familiarity with telescopes based on radio interferometry, including experience with debugging interferometers at an early stage of development.

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