# Data Operations Software Developer

**Job Location**

Cheshire, UK (Head Office)

**Area / Department**

Telescope Operations

**Contract Type**

Permanent

**Salary**

£55,000- 65,000, Depending on experience plus excellent benefit

**Closing Date**

06/12/2024

**Ref No**

10308

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.

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Our Global HQ is located near the buzzing city of Manchester at the historic Jodrell Bank Observatory, a UNESCO World Heritage site located in the Cheshire countryside. It is home to a rapidly expanding international team of more than a hundred, working in a highly collaborative and inclusive way, in coordination with SKAO teams in Australia and South Africa as part of a global astronomy and engineering community.

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!

This is an ideal role for a software or data engineer with a familiarity of scientific research settings who is keen to contribute to the development of the global network of data centres that will allow scientists to make scientific discoveries from the vast data products generated by the SKAO telescopes.

## The Role

The SKAO Data Operations group is looking to employ a talented and driven software engineer to join our small, friendly team **based in the SKAO Global Headquarters located at Jodrell Bank in the UK**. With the SKA now in construction, the development of the global network of data centres - the SKA Regional Centre Network (SRCNet) - to support the operations of the SKA has entered an exciting phase.

SRCNet is crucial to the success of the SKA project; since the observatory’s output data products will be too large for astronomers to download and process locally, scientists will rely on the SRCNet to make new scientific discoveries. In addition to efficiently storing and managing the Exabyte-scale archive of data products globally, the SRCNet will provide services for astronomers to discover, visualise and process the SKA telescope data products, promoting the principles of open science and reproducibility of results.

In order to support our delivery of the SRCNet, we are looking for someone with experience in delivering production-quality software with a particular focus on deployment and operational aspects as required for running services in a cloud ecosystem. This includes a good understanding of programming languages and frameworks commonly used in web service development, as well as the containerisation and orchestration technologies that help operators manage, maintain and further develop these services. Complementing these, a background in scientific research is desirable, but not required.

Due to the global nature of the SRCNet development effort, with multiple stakeholders and developers distributed globally, the successful candidate will possess strong organisational and communication skills, with a drive to collaborate with partner organisations and people to excel in this role. This will include occasional travel nationally and internationally, approximately up to 4 times a year.

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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.

## Key Responsibilities, Accountabilities and Duties

* Effectively work within the Agile software development team based at SKAO HQ, and with the developers in other teams across the SRCNet project
* Contribute to the design, development, deployment and maintenance of software to run in, or support interoperation between, the SRCNet data centres
* Collaborate with cross-functional teams to identify and resolve operational issues, ensuring high availability and performance of our systems
* Communicate work outcomes and demonstrate software functionality regularly
* Create and maintain documentation related to infrastructure, processes, and workflows

## Mandatory Knowledge, Skills and Experience

* Demonstrable experience working in a professional software engineering capacity
* Postgraduate qualification in Astronomy, Physics, Computer Science or a closely related and relevant field or equivalent experience
* Proficiency in object-oriented programming (e.g. Python), with a proven commitment to software quality, including version control best practices and testing
* Experience with Kubernetes and containerisation technologies (e.g. Docker, Singularity)
* Ability to resolve multifaceted and complex problems, develop coherent solutions
* Ability to manage workloads and targets in a dynamic and collaborative environment
* Ability to build effective working relationships with engineers and scientists from a variety of cultures, to communicate ideas well and to foster a collaborative ethos
* Experience with, or a proven commitment to, Agile practices, including the importance of end-user focus and a pragmatic approach to decision making

 Desirable Knowledge, Skills and Experience

* Experience managing resources on cloud computing platforms (commercial or on-premise)
* Experience with CI/CD including GitOps tools

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# SKA-Low Junior Project Manager

**Job Location**

Geraldton, Australia

**Area / Department**

Project Management

**Contract Type**

Fixed Term Contract

**Salary**

AUD 116,000 - 136,000 Depending on the level of experience, plus excellent benefits

**Closing Date**

22/11/2024

**Ref No**

10326

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Construction activities for the SKAO's telescopes in Australia and South Africa started in 2021, along with a ramping up of SKAO staff in both countries. It is expected that the transition from the Construction Phase to the Operations Phase will happen around 2028.

SKAO Operations in South Africa will be conducted in partnership with the South African Radio Astronomy Observatory (SARAO). SKAO Operations in Australia will be conducted in partnership with the Commonwealth Scientific and Industrial Research Organisation (CSIRO). The Observatory will also partner closely with a global network of SKA Regional Centres through which astronomers will access science data products and a suite of tools and resources to further analyse the SKA telescopes' data.

For more information on the SKA project visit https://www.skao.int/

The SKA Observatory offers a competitive salary and a generous pension and benefits package. As an employee of an intergovernmental organisation, an appointee who is not a national of the country in which the role is based may be subject to personal Privileges and Immunities.

A unique opportunity for a junior project professional who can support the Station Project Manager and the Deputy Senior Project Manager SKA-Low in overseeing their work packages, provide specific support in contract management and project administration, as well as in project management tasks like planning and reporting. Being located in Geraldton the Junior Project Manager plays an important role in communications with the other SKA-Low Project Managers located in Perth and the HQ at Jodrell Bank.

## The Role

The Junior Project Manager for SKA-Low will report to the Senior Project Manager for SKA-Low and will be responsible for preparing and managing specific construction contracts and work packages for the SKA-Low project. This role involves leading a matrixed team of internal staff and contractors to ensure that these contracts and work packages are delivered according to scope, schedule, and budget. The Junior Project Manager will monitor progress, identify risks, and communicate with key stakeholders. The deliverables will include both hardware and software (sub)systems.

**For this role, the successful candidate will be based in Geraldton, Australia. This is a fixed term position with duration of three years.**

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## Key Responsibilities, Accountabilities and Duties

* Assist the Station Project Manager and other SKA-Low Managers in planning and preparing for Station Deployment of the SKA-Low Telescope.
* Support the procurement of materials and services by adhering to organizational processes to select suppliers that best meet the project requirements.
* Coordinate and lead matrixed teams of staff and contractors within defined parameters, monitoring their work against contracted schedules and plans, and taking corrective actions or escalating performance issues when necessary.
* Contribute to project quality reviews to identify, assess, and mitigate risks that could impact project success.
* Collaborate with internal and external stakeholders to resolve queries, providing specialized knowledge to inform decision-making.
* Ensure that project controls are in place for managed contracts to meet the expected cost, schedule, and quality standards and liaise with the Project Controls team at SKAO HQ
* Travel to contractor sites and the construction site in Western Australia as needed, typically 1-2 times per year for 1-2 weeks, with possible visits to SKAO HQ at Jodrell Bank near Manchester, UK.

## Mandatory Knowledge, Skills and Experience

* Relevant Project Management qualification or training with good understanding of project management methodologies
* Understanding of the technical specialism within which the role will be working, with considerable on the job training provided, and the ability and willingness to quickly learn about new technologies via interaction with technical specialists.
* Practical experience of contributing to the successful delivery of engineering-based programmes/projects (typically at least two years) which may have been gained in a project support role.
* Knowledge of contract management and procurement procedures.
* Good analytical and problem-solving skills, with the ability to gather data and use this to inform understanding.
* A flexible and self-motivated team player who is adaptable to change.
* Good English oral and written communication skills

## Desirable Knowledge, Skills and Experience

* Recognised university degree-level education/training in engineering or physical sciences.
* Membership of recognised national or international project management and/or engineering institutes.
* Experience or knowledge of agile delivery methods.
* Experience or knowledge of NEC contracting or other types of contracts.
* Experience of working with international teams, either geographically dispersed or in different time zones.
* Familiarity with the formalism for, and requirements of, quality control environments such as ISO9001

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# SKA-Low HR Advisor

**Job Location**

Perth, Australia

**Area / Department**

Business Support

**Contract Type**

Permanent

**Salary**

AUD 90,000- 100,000 Depending on the level of experience, plus excellent benefits

**Closing Date**

25/11/2024

**Ref No**

10327

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## The Role

Following the establishment of the Observatory as an Intergovernmental Organisation and the creation of local offices in Australia and South Africa, there is a requirement for an HR Advisor to provide local HR advice and support to both local and global SKA Low personnel.

This role would be suitable for an experienced generalist HR Advisor with expertise in employee relations and HR project delivery to support existing HR team.  The HR Advisor will report to SKA Low HR Business Partner and be part of the SKA-Low Business Enabling team.

In Australia, SKAO is collaborating with CSIRO, Australia’s national science agency, to operate the SKA-Low Telescope. SKA-Low teams will operate out of our Engineering Operations Centre in Geraldton, on Yamaji country, and Science Operations Centre in Perth, on Noongar country. The successful individual will be expected to work extremely closely and effectively with the CSIRO-employed SKA HR Business Partner to deliver joined up solutions whilst jointly embedding one SKAO culture and team environment.

This position is available on a full-time, part-time or job share basis. We also support flexible hours working arrangements and note a level of flexibility will be required of the candidate to accommodate meetings outside the standard band of hours to reflect time zones of stakeholders, in particular SKAO in the UK. The position will require some domestic travel to Geraldton and the Inyarrimanha Ilgari Bundara, the CSIRO Murchison Radio Astronomy Observatory and may require occasional international travel.

## Key Responsibilities, Accountabilities and Duties

* Provide high quality and consistent subject matter expertise on people related matters across the entire employee lifecycle, working closely with HR colleagues to build one SKA team ethos
* Monitor service delivery tool to receive, triage and use initiative to respond to complex queries, maintain records and ensure matters are resolved or referred for resolution, seeking guidance on escalating matters
* Support and work closely with both SKAO and CSIRO HR colleagues in the delivery of wider HR SKA people objectives, in particular this being  in relation to all staff working on the SKA-Low collaboration, both in relation to SKAO and CSIRO-employed staff.
* Implement HR administrative and project activity in line with agreed priorities, including supporting recruitment, induction, capability development and other SKA-Low staff activity
* Proactively respond to feedback and concerns, following up or escalating as required
* Anticipate and manage people queries in ambiguous situations, recognising and taking account of different policy backdrops in line with both SKAO and CSIRO employed staff. Demonstrate flexibility in thinking and adjust strategies, goals and priorities when required
* Demonstrate integrity, tact and the ability to handle personal, sensitive and confidential information; understand appropriate use and disclosure of personal information and relevant privacy legislation
* Work in in a values‐aligned manner, modelling desired culture, to achieve a cohesive, collaborative team.

## Mandatory Knowledge, Skills and Experience

* Tertiary qualifications in human resources management, employee relations or related field
* Experience in roles providing the full range of generalist HR advice across the employment lifecycle that is consistent, accurate and considered
* Demonstrated ability to influence, advise and communicate with all levels both written and verbal
* Strong knowledge of ER/IR matters including interpretation of enterprise agreement, policy and procedure, and legislation
* Strong learning agility with demonstrated ability to work with new and different approaches, being comfortable operating within a varied and complex environments
* Excellent customer service supported by strong organisational abilities enabling rapid resolution of queries
* Strong ability to initiate, build and maintain strong and effective relationships and partnerships with all levels of stakeholders
* Demonstrated ability to lead small projects, and provide expert input and support on larger project activity
* Proactive approach, being able to identify and recommend innovations to improve work practices and the workplace environment
* Motivated and resilient team player with the drive to support the overall SKA Observatory objectives

## Desirable Knowledge, Skills and Experience

* Experience contributing to a geographically dispersed team, building a strong and inclusive team culture across site
* Knowledge of Australian employment law
* Knowledge of Intergovernmental organisations, with an understanding the impact of privileges and immunities on the reward and policy landscape
* Knowledge of monthly payroll requirements
* Experience in start up environment
* Experience of implementing new HR systems

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# Product Manager, Control System Software

**Job Location**

Cheshire, UK (Head Office)

**Area / Department**

Science

**Contract Type**

Permanent

**Salary**

£55,000- 65,000, Depending on experience plus excellent benefit

**Closing Date**

02/01/2025

**Ref No**

10310

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A fantastic opportunity for a talented and motivated Product Manager to guide and support the software development effort for delivering and maintaining the distributed control system that underpins the successful operation of the SKAO telescopes.

## The Role

In SKAO software development, Product Managers ensure progress and alignment with the project’s vision and milestones. This role involves guiding the development of control system products that interface with telescope hardware and software subsystems, providing software tools and services that are used to operate the Mid and Low telescopes.

In this role, you will work collaboratively with experts and stakeholders across the SKAO project and with Product Owners in a set of (approx. 5-10) development teams to develop and maintain requirements, use cases, product strategy, roadmaps, and backlogs that specify and communicate the direction and status of product delivery. This will involve developing a detailed understanding of how control system products and telescope subsystems interface and integrate to deliver key observatory functions. You will coordinate with stakeholders and development teams to define and prioritise software features and other technical tasks and assess and accept work when it is complete.

As a globally distributed project, our software development teams span multiple time zones, embracing and benefiting from this diversity. You will support colleagues in a small management team to build a collaborative working environment built on transparency, trust and respect, where ideas and input from a broad, culturally diverse body of contributors can be valued.

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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.

**This is a permanent role and will be based at the SKAO Headquarters at Jodrell Bank, Cheshire, UK.**

## Key Responsibilities, Accountabilities and Duties

As a Product Manager for SKAO control system software, the post holder will work closely with engineers, architects, operations staff, and other product managers across the organisation to:

* Develop, communicate, and execute on the vision and strategy for the SKAO control system software products
* Communicate product roadmaps, releases, and value propositions aligned with telescope delivery and operations schedules
* Synthesise user insights to maintain and update actionable product requirements, user stories, and product specifications
* Within the quarterly software development cycle, manage the development and prioritisation of the product backlogs
* Occasional travel nationally and internationally.

## Mandatory Knowledge, Skills and Experience

* Demonstrable experience in Product Management or Product Owner in a relevant domain
* A strong technical understanding of the operation of radio telescopes or similar large scientific facilities, from a distributed control system perspective interfacing software and hardware components
* The ability to navigate and execute amidst ambiguity, and to flex to different domains based on the problem at hand, finding simple, easy-to-understand solutions
* Excellent communication and interpersonal skills, able to convey and influence decisions and priorities on complicated topics in easily understandable terms to a diverse set of external and internal stakeholders.
* Understanding of Agile practices, including the importance of customer focus and a pragmatic approach to decision-making.

## Desirable Knowledge, Skills and Experience

* Postgraduate qualification in Astronomy, Physics, Computer Science or a closely related and relevant field, or equivalent experience in a professional scientific operational capacity.
* SAFe PO/PM or equivalent accreditation

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