Position Details

Technical Services – CSOF5

|  |  |
| --- | --- |
| The following information is for applicants | |
| Advertised Job Title | Network Engineer - SKA-Low Telescope |
| Job Reference | 95586 |
| Tenure | Indefinite Full-Time, Part-Time or Job-Share |
| Salary Range | AU$105,806 to AU$114,500 per annum, plus up to 15.4% superannuation |
| Location(s) | Perth, Western Australia |
| Relocation Assistance | Will be provided to the successful candidate if required |
| Applications are open to | Australian and New Zealand Citizens and Permanent Residents  All Applicants |
| Client Focus – Internal | 0% |
| Client Focus – External | 100% |
| Position reports to the | This position will report to the SKA-Low Site Reliability Engineering Manager. |
| Number of Direct Reports | 0 |
| Enquire about this job | To enquire about this role, please contact the SKA-Low Site Reliability Engineering Manager, Louisa Quartermaine, on [louisa.quartermaine@skao.int](mailto:louisa.quartermaine@skao.int) |
| How to apply | Apply online at  <https://jobs.csiro.au/>  Internal applicants please apply via **Jobs Central**  If you experience difficulties when applying, please email [careers.online@csiro.au](mailto:careers.online@csiro.au) or call 1300 984 220. |

**Acknowledgement of Country**

CSIRO acknowledges the Traditional Owners of the land, sea and waters, of the areas that we live and work on across Australia. We acknowledge their continuing connection to their culture and pay our respects to their Elders past and present. View our [vision towards reconciliation](https://www.csiro.au/en/about/Indigenous-engagement/Reconciliation-Action-Plan).

**The CSIRO Experience**

As an employee of CSIRO, you will be eligible for the many benefits of working at Australia’s National Science Agency. You can read more here:

1. [Life at CSIRO](https://www.csiro.au/en/careers/life-at-csiro)
2. [Personal Development & Learning](https://www.csiro.au/en/careers/life-at-csiro/Career-development)
3. [Generous Leave & Conditions](https://www.csiro.au/en/careers/life-at-csiro/Generous-leave-conditions)
4. [Work / Life Balance](https://www.csiro.au/en/careers/life-at-csiro/Balance)

**Background**

The SKA Observatory (SKAO) is a next-generation radio astronomy facility that will revolutionise our understanding of the Universe and the laws of fundamental physics. Enabled by cutting-edge technology, it promises to have a major impact on society, in science and beyond. As an intergovernmental organisation, the SKAO brings together sixteen countries around the world.

The Observatory has a global footprint and consists of the SKAO Global Headquarters in the UK, the SKAO’s two telescopes at radio-quiet sites in South Africa and Australia, and associated facilities to support the operations of the telescopes.

Constructing and operating these telescopes will position the SKAO as the leading research infrastructure for radio astronomy globally, providing science capabilities to the international astronomical community for decades to come.

Australia will host the SKAO’s low frequency telescope (SKA-Low) in remote Western Australia on Wajarri Yamaji Country.

The Traditional Owners and native title holders, the Wajarri Yamaji, have gifted CSIRO with the traditional name Inyarrimanha Ilgari Bundara for the CSIRO Murchison Radio-astronomy Observatory, home to the SKA-Low telescope. The traditional name means ‘sharing sky and stars’ in the Wajarri language.

In Australia, SKAO is collaborating with CSIRO to operate and support the construction of the SKA-Low Telescope. SKA-Low teams will operate out of:

* Inyarrimanha Ilgari Bundara, the CSIRO Murchison Radio-astronomy Observatory on Wajarri Yamaji Country.
* Our Engineering Operations Centre on Nhanhangardi, Naaguja, Wilynyu and Amangu Country in Geraldton.
* Our Science Operations Centre on Whadjuk Noongar Country in Perth.

Further Reading: [Explore SKAO](https://www.skao.int/en/about-us/skao)

​**Role Overview**

The SKA-Low Computing and Software team delivers novel computing and technology solutions to meet the requirements of the SKA Project (read more [here](https://www.skatelescope.org/software-and-computing/)). The SKAO is driven by software and systems which include:

* An integrated control system that controls and monitors over 2 million process variables.
* Data processing systems that process the vast quantities of data produced by the SKA Low, which will require a high-performance supercomputer capable of more than 100 petaflops and will result in hundreds of Petabytes of data archived per year.
* Science management systems to manage the interaction with scientists from around the world and ensure the huge amounts of data are made available to the appropriate people in a timely manner.
* Networks that move the data at rates exceeding Tbits/second across hundreds of km within the telescope and then shipping it to the scientific community using a world-wide 100 Gbit network.

The SKA-Low Network Engineer will be responsible for the deployment, configuration, and support of the networking infrastructure of the SKA-Low Telescope, the Science Operations Centre (SOC) and the SKAO Science Processing Centre (SPC) located at the Pawsey Supercomputing Research Centre. This position will work alongside the SKAO’s Network Architect, SKA Low Network Engineer at the Engineering Operations Centre in Geraldton, SKAO’s Computing Infrastructure Lead, other domain specialists, project managers and system engineers to ensure the networks for the SKA-Low Telescope are fit for purpose, providing the quality needed for a system that will have to last, and be continually developed, for decades. This role will also be an active contributor to the general design and implementation of the SKA-Low Networks. This role will report directly to the SKA-Low Site Reliability Engineering Manager.

Due to the locations involved in the SKA Project, in particular South Africa and the United Kingdom, this role will require work outside of normal hours. It will also require domestic travel to Inyarrimanha Ilgari Bundara, the CSIRO Murchison Radio-astronomy Observatory on Wajarri Yamaji Country, to our facilities in Geraldton, and occasionally internationally, specifically to the United Kingdom and South Africa.

CSIRO and the SKA Observatory value and respect differences, and we are committed to building an inclusive culture by creating an environment where you can balance a successful career with your commitments and interests outside of work. We believe that you will do your best at work if you have a work / life balance. We are open to discussing flexible working opportunities with this role being offered on a full-time, part-time or job share basis. Please raise your preference in your application.

**Duties and Key Result Areas**

* Work with the stakeholders to continually refine the network requirements for the SKA Telescopes to ensure they meet the system requirements in an appropriate and cost-effective manner.
* Assist in the deployment, configuration, and support of networking infrastructure for the SKA-Low Telescope deployed at the Science Processing Centre (SPC) at Pawsey and the Science Operations Centre (SOC). This may also require travel to the Observatory site and the Engineering Operations Centre (EOC) in Geraldton to support networking activities at those locations.
* Be an integral member of the international SKAO Networking team, and actively contributing to on-going design network design activities.
* Be involved in the initial population of tools for asset management and engineering management as equipment arrives during construction.
* Be responsible for preparing documentation and training materials for future installation work during ongoing operations, and documenting lessons learned as the construction phase progresses.
* Provide feedback on 'as built' details for the installation due to practical changes & issues arising during construction.
* Communicate openly, effectively, and respectfully with all staff, clients, and suppliers in the interests of good business practice, collaboration, and enhancement of SKAO and CSIRO’s reputation.
* Adhere to the spirit and practice of both SKAO and CSIRO’s Values as well as the Code of Conduct, Health, Safety and Environment procedures and policy, Diversity initiatives and Zero Harm goals.
* Other duties as directed.

**Selection Criteria**

CSIRO is an Equal Opportunity employer working hard to recruit world-class talent that represents the diversity across our society. As part of our commitment to equitable employment outcomes for under-represented groups, preference will be given to Aboriginal and Torres Strait Islander people and women who meet the role criteria.

**Essential**

*Under CSIRO policy only those who are able to demonstrate how they can meet the essential criteria may be appointed.*

1. Qualified to degree level in a relevant subject or an equivalent level of experience and expertise.
2. Demonstrated experience in installation, optimisation and maintenance of network and security devices and services.
3. Ability to assure compliance with SKAO security policies and applicable legislation and regulation.
4. Knowledge in the design of network systems at enterprise-level, datacentres, or large distributed systems with understanding of new and emerging networking and security technologies.
5. Ability to communicate effectively with a wide range of stakeholders including gathering and distilling information and tailoring it appropriately for the target audience.
6. Experience working in a diverse and collaborative team environment across multiple locations.

**Desirable**

1. Knowledge and understanding of:
   1. Long-haul networking technologies
   2. Software-defined networking systems
   3. Zero-trust networking principles
   4. System information and event management (SIEM) systems and syslog tools
   5. High-Performance Computing (HPC) environments
2. Cisco Certifications/Qualifications such as CCNA or higher
3. Knowledge and/or background with IT Service Management disciplines and Frameworks such as ITIL and/or Site Reliability Engineering (SRE)
4. Experience in the procurement, management, and delivery of network contracts in a complex, high value environment.

**Required Competencies**

* **Teamwork and Collaboration:** Cooperates with others to achieve organisational objectives and may share team resources in order to do this. Collaborates with other teams as well as industry colleagues.
* **Influence and Communication:**Uses knowledge of other party's priorities and adapts presentations or discussions to appeal to the interests and level of the audience. Anticipates and prepares for others reactions.
* **Resource Management/Leadership:** Sets up and maintains effective and efficient work teams and manages performance and resources, to achieve objectives. Chooses appropriate management strategies and communication styles to maintain high levels of motivation and productivity. Gives feedback for development purposes and provides support and direction for improvement.
* **Judgement and Problem Solving:** Investigates underlying issues of complex and ill-defined problems and develops appropriate response by adapting/creating and testing alternative solutions.
* **Independence:** Plans, sets and works to meet challenging standards and goals for self and/or others. Recognises where endeavours will make the most impact or difference, decides on desired outcome and sets realistic goals to reach this target.
* **Adaptability:** Copes with ambiguity or situations that lack clarity. Adapts readily to changing circumstances and new responsibilities (which may include activities outside own preferences) in the interests of achieving team objectives. Recognises the need for and undertakes personal development as a result of changes.

**Special Requirements**

* The successful candidate will be required to gain a National Police Clearance or equivalent. This will be conducted by CSIRO, Talent Services, through our provider HireRight. Please note that individuals with criminal records are not automatically deemed ineligible. Each application will be considered on its merits.
* The successful candidate will be required to undertake a pre-employment medical examination prior to commencement.

**Child Safety**

CSIRO is committed to the safety and wellbeing of all children and young people involved in our activities and programs. View our [Child Safe Policy](https://www.csiro.au/en/about/policies/child-safe-policy).

**CSIRO and SKAO Values**

Visit [CSIRO Online](http://www.csiro.au/) and [Space and Astronomy](https://www.csiro.au/en/Research/Astronomy) and [SKAO online](https://www.skaobservatory.org/) and [SKAO Location](https://research.csiro.au/ska/location/) for more information.  In your application and at interview you will need to demonstrate behaviours aligned to our values of:

|  |  |
| --- | --- |
| **CSIRO** | **SKA Observatory** |
| * People First * Further Together * Making it Real * Trusted | * Diversity and Inclusion * Excellence * Collaboration * Creativity and Innovation * Sustainability and Safety |