# Position Details

## Technical Services- CSOF4

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| The following information is for applicants |
| Advertised Job Title | Software Engineer/Data Analyst – Seagoing |
| Job Reference | 98838 |
| Tenure | Indefinite or Specified Term of 3 years, Full-time |
| Salary Range | AU$96,811 - AU$109,527 per annum plus up to 15.4% superannuation+ pro-rata seagoing allowance |
| Location(s) | Hobart, Tasmania (preferred), Other locations may be considered |
| Relocation Assistance | Will be provided to the successful candidate if required |
| Applications are open to | Australian/New Zealand Citizens and Australian Permanent Residents |
| Position reports to the | Team Leader, Data Acquisition and Processing |
| Client Focus – Internal | 100% |
| Client Focus – External | 0% |
| Number of Direct Reports | 0 |
| Enquire about this job | Contact Steven Van Graas (steven.vangraas@csiro.au) |
| 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 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).

**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).

### Role Overview

The Software Engineer/Data Analyst (seagoing), enables and supports scientific voyages on the research vessel *RV Investigator,* contributing to world-class scientific blue-water research.

The position will sit in the Data Acquisition and Processing Team, within the Scientific Data Systems Group. The roles will provide support to the Marine National Facility (MNF) research vessel RV Investigator in the areas of Information and Communications Technology (ICT) systems and software engineering, network administration, data processing and data management.

The RV Investigator has a sophisticated ICT network used to support the operation of the vessel and to collect data from the vessel’s array of scientific instrumentation. **A requirement of the role is to provide up to 85 days per year of seagoing support on voyages that are typically 3 to 8 weeks in duration**. Whilst at sea, the Software Engineers/Data Analyst will be responsible for the running of various data acquisition systems; monitoring the quality of the collected data; administration of the vessel’s ICT network; providing general computing support to voyage participants; and liaising with scientists to assist them in achieving the scientific objectives of the voyage.

The position will be based in the CSIRO Laboratories in Hobart. Due to the diverse nature of the role, candidates with a range of ICT backgrounds will be considered.

Onshore, role requirements include maintaining existing software and web interfaces, database services and geospatial tools as well as developing new software applications and tools associated with the acquisition, processing, visualisation and management of MNF vessel data. Additional role requirements include maintaining, supporting, and improving the RV Investigator’s ICT infrastructure systems. This includes designing, procuring, and integrating ICT infrastructure components and supporting software tools associated with the ship’s network/server services and the acquisition, processing, visualisation, and management of MNF vessel data. The Software Engineer/Data Analyst will also be required to complete data processing tasks which result in the delivery of quality controlled MNF data products through the CSIRO Information & Data Centre (IDC).

On-the-job training and mentoring will be provided in CSIRO-specific systems and for the seagoing aspect of the role.

### Duties and Key Result Areas

* Develop, integrate, and maintain software and hardware systems in support of the ship’s ICT services and the acquisition, processing, visualisation and management of marine data.
* Undertake the role of computing support person on MNF research voyages - operate data acquisition systems, maintain data quality, provide general ICT support to voyage participants and network administration of the information and communications technology on board the vessel.
* In conjunction with other electronic and computing support staff, diagnose and rectify hardware, firmware and software problems with scientific data acquisition and instrumentation systems, and with the ship’s ICT network infrastructure.
* Maintain and evolve shipboard network, communication and computing infrastructure including routing and switch systems; satellite, VoIP and CCTV systems; printers; backup and other systems onboard the vessel.
* Document existing and new systems to a high level, for both support staff and end users.
* Monitor hardware performance and provide input into discussions on equipment upgrades/replacement.
* Liaise with scientists and assist with the processing, quality control and visualisation of data acquired by the MNF research vessel.
* Liaise with clients to determine their needs and take personal responsibility for their satisfaction, by correcting problems promptly and in a constructive manner.
* Communicate openly, effectively and respectfully with all staff, clients and suppliers in the interests of good business practice, collaboration and enhancement of CSIRO’s reputation.
* Work collaboratively as part of a multi-disciplinary, often regionally dispersed research team, and business unit to carry out tasks in support of CSIRO scientific objectives.
* Adhere to the spirit and practice of CSIRO’s Code of Conduct, Health, Safety and Environment procedures and policy, Diversity initiatives and Making Safety Personal goals.
* Other duties as directed.
* Proactively identify and take ownership of opportunities for improvements in systems and procedures; analyse underlying issues of complex and ill-defined problems; develop solutions and manage them through to delivery of a positive outcome.
* May manage a facility or service supporting a large number of users.
* Collaborate effectively with other teams and industry colleagues to achieve objectives.

## **Selection Criteria**

#### Essential

*Under CSIRO policy only those who meet all essential criteria can be appointed.*

1. A tertiary qualification in Information Technology and/or equivalent relevant experience.
2. Demonstrated computing skills as follows:
	1. Ability to develop software in modern languages (e.g. Python) and experience with frameworks, libraries and languages relevant to the development of data systems and web-based applications.
	2. Windows/Linux system administration.
	3. An understanding of software engineering methodologies and version control systems.
3. Excellent interpersonal, oral and written communications skills, including demonstrated ability to clearly document software, data flows and to produce manuals and/or reports.
4. Demonstrated ability to work collaboratively and interact effectively, sometimes from remote locations, as part of a highly competent and committed team.
5. A strong customer-centric support ethic with the ability to provide a high level of technical support at sea for the duration of voyages (up to 85 days per year, typically 3 to 8 weeks in duration).

**For an appointment at the higher (CSOF4) salary level, as well as satisfying the Essential Criteria listed above, you must also have:**

1. Demonstrated experience specifying, procuring, and integrating complex software and/or ICT infrastructure systems and components.
2. Demonstrated ability to develop and meet goals, working with clients under limited direction to mutually agreed outcomes and specific deadlines.
3. Demonstrated ability to proactively identify and take ownership of opportunities for improvements in systems and procedures; analyse underlying issues of complex and ill-defined problems; collaborate with stakeholders outside of the team; develop solutions and manage them through to delivery of a positive outcome under limited direction.

## **Desirable:**

1. Demonstrated computing skills and domain knowledge as follows:
	1. An understanding of data flow from sensor to data product.
	2. Experience with data science, particularly with oceanographic, atmospheric and/or marine science data sets.
	3. Experience programming in Python.
	4. Portfolio of software programming examples that are the sole work of the candidate.
	5. Database development, administration, and management experience, preferably PostgreSQL.
	6. Experience with DevOps methodology and systems.
2. Demonstrated experience with administration of enterprise level network infrastructure including firewalls; switches; virtual servers; data backup and storage systems.
3. Experience providing customer facing support.

## **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:** Allocates activities, directs tasks and manages resources to meet objectives. Provides coaching and on the job training, recognises and supports staff achievements and fosters open communication in the team.
* **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:** Recognises and makes immediate changes to improve performance (faster, better, lower cost, more efficiently, better quality, improved client satisfaction).
* **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

Appointment to this role is subject to provision of a pre-employment background check and may be subject to other security/medical/character clearance requirements.

* Will be asked to obtain and provide evidence of a National Police Check or equivalent. Please note that people with criminal records are not automatically deemed ineligible. Each application will be considered on its merits.
* Must be willing and able to work at sea and to travel extensively in order to provide operational support in domestic or foreign ports (up to 85 days per year of seagoing support on voyages that are typically 3 to 8 weeks in duration).
* Must obtain an MNF remote medical clearance and a Marine Security Identification Card.

## **About CSIRO**

We solve the greatest challenges through innovative science and technology. Visit [CSIRO Online](http://www.csiro.au/) and [National Collections and Marine Infrastructure](https://www.csiro.au/en/about/people/business-units/NCMI) for more information.

CSIRO is a values-based organisation.  In your application and at interview you will need to demonstrate behaviours aligned to our values of:

* People First
* Further Together
* Making it Real
* Trusted