# Position Details

## Research Projects- CSOF3

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| The following information is for applicants | |
| Advertised Job Title | Mechatronics/Software Engineer |
| Job Reference | 85258 |
| Tenure | Specified Term of 3 years  Full-time |
| Salary Range | AU$66,163 - AU$84,207 per annum (pro-rata for part-time) plus up to 15.4% superannuation |
| Location(s) | Pullenvale, QLD |
| 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 |
| Client Focus – Internal | 50% |
| Client Focus – External | 50% |
| Number of Direct Reports | 0 |
| Enquire about this job | Contact Andrew Strange via email at andrew.strange@csiro.au or phone +61 7 3327 4110 |
| 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).

### Role Overview

CSIRO Mineral Resources (CMR) is one of the largest minerals research and development groups globally, with a proud track record in delivering innovation and solutions across the mineral resources value chain. We thrive on innovation harnessed by the diversity of the minds and lived experiences of our team and apply our expert knowledge and specialised research to provide innovation that solves the complex problems faced by minerals companies, mining equipment, technology, and services (METS) companies, government, and other industry stakeholders.

The role of Research Projects staff in CSIRO is to collaborate in scientific and technological activities with other research staff usually by assisting with detailed planning, undertaking or assisting with experimental, observational or technology development work, and in carrying out the more practical aspects of the work.

The CSIRO Mining Technologies Research Group develops world-leading technology that is used by both the domestic and global mining industry. The group is actively developing advanced sensing, processing, automation, and visualisation solutions for industry to support safe, sustainable, and productive mining processes.

This position is aimed at accelerating the delivery of our mining focussed research agenda. From a technical perspective, the role will involve applied industry research and include algorithm development, software development, sensor interfacing, technology validation, system integration, as well as field activities.

### Duties and Key Result Areas

* Undertake the design, implementation and validation of software with relevant hardware systems as directed by the research team for project work to address challenges.
* Adapt and/or develop original experimental methods, software, and devices in support of existing and further research.
* Independently test possible solutions to resolve identified problems.
* Communicate effectively and respectfully with all staff, clients and suppliers in the interests of good business practice, collaboration and enhancement of CSIRO’s reputation.
* Work as part of a multi-disciplinary applied research team, to carry out tasks under limited direction in support of scientific research.
* Work collaboratively with colleagues within your team, the business unit and across CSIRO, to reach objectives.
* Provide instruction on activities pertaining to the immediate work area and responsibilities, as required.
* Adhere to the spirit and practice of CSIRO’s Values, Health, Safety and Environment plans and policies, Diversity initiatives and Zero Harm goals.
* Other duties as directed.

## **Selection Criteria**

#### Essential

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

1. Relevant Bachelor’s degree or equivalent relevant work experience in electronic, control, mechatronic or software engineering.
2. Strong proficiency in C/C++ software development and validation.
3. Proficiency with Windows and Linux development environments.
4. Experience designing and developing software in a collaborative environment.
5. Familiarity with software version control and documentation.
6. Familiarity using modern sensors and devices, e.g., laser, vision, inertial, radar.
7. Ability to work effectively as part of a multi-disciplinary team and carry out tasks under general direction from researchers.
8. Ability and willingness to contribute novel ideas and approaches in support of research work.

## **Desirable**

1. Development with development platforms such as Visual Studio, Unity3D and Qt.
2. Software development experience for the mining industry.
3. PCB design and development experience.
4. Experience with control, automation or robotic operating system (ROS) development.
5. Experience with data research platforms such as MATLAB, OpenCV, PCL or TensorFlow.
6. Experience designing and/or applying machine learning (ML) techniques.
7. Experience with relational databases such as MySQL, SQLite and Maria.
8. Experience with web technologies such as HTML, XML, CSS, PHP and JavaScript.

## **Required Competencies**

* **Teamwork and Collaboration:** Proactively seeks and considers the ideas and opinions of others from within and outside the team to help form decisions, plans or actions.
* **Influence and Communication:** Puts forward ideas by presenting factual information supported by data, definitions, examples, illustrations or other aids, which will assist in conveying meaning.
* **Resource Management/Leadership:** Provides instruction and assists other staff to complete allocated tasks and activities.
* **Judgement and Problem Solving:** Identifies and considers the implications of a range of available alternatives in order to select the most appropriate response to problems of a familiar or recurring nature.
* **Independence:** Recognise and makes immediate changes to improve performance (faster, better, lower cost, more efficiently, better quality, improved client satisfaction).
* **Adaptability:**Willingness to change ideas or perceptions based on new information, contrary evidence or other people's points of view. Prepared to try out different approaches.

Special Requirements

Appointment to this role may be subject to conditions including provision of a national police check as well as other security/medical/character clearance requirements.

* The successful candidate 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.

## **About CSIRO**

We solve the greatest challenges through innovative science and technology. Visit [CSIRO Online](http://www.csiro.au/) and [Mining and Resources](https://www.csiro.au/en/work-with-us/industries/mining-resources) 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