

ATM systems engineer

An ATM systems engineer helps turn operational needs into reliable technical systems supporting air traffic management. Work can include requirements, architecture, software integration, verification and ongoing support. This is not a generic office IT role, and it does not give authority to issue air traffic clearances. The verified example concerns software-based airways systems.

Other titles to compare: Airways systems engineer, Operational technology systems engineer. Titles alone do not establish equivalent duties.

What the role does

- Translate needs into traceable technical and performance requirements.
- Contribute to design, integration, verification and system sustainment.
- Produce controlled architecture and system documentation.
- Work with users, suppliers and colleagues across the engineering lifecycle.

Where the work happens

Project teams, engineering offices and controlled test environments; operational support arrangements vary; The example is an ANSP post in Brisbane supporting the National Airways System.

Employer example

Airservices Australia • Australia • Engineering Specialist (IT), job 502884

Closed vacancy historical example • Checked 2026-10-27 [EMP1]

Category	What this employer states
Essential in this source	Relevant engineering, computer science, software engineering or IT degree from an Australian institution or certified equivalent. Systems-engineering lifecycle, software delivery, configuration/quality, documentation and stakeholder-management experience. Australian citizenship or permanent residence and employer background screening.
Desirable in this source	Professional registration such as RPEQ; distributed/realtime systems and information-security controls experience.
Other stated conditions	Advert allows recent graduates with entry-level industry experience. It closed 18 October despite retaining an Apply link.

This specific employer example is not a worldwide entry rule. A closed or undated example is not an invitation to apply.
PREPARE AND VERIFY

Separate requirements from preparation

Queensland, Australia - professional engineering services: BPEQ states registration is required for professional engineering services in or for Queensland, with direct-supervision and prescriptive-standard exceptions. The employer marking RPEQ desirable does not remove that legal framework. [REG3]

Australia - aviation technical scope: CASA Part 171 includes technical competence requirements. Applicability depends on assigned duties, not whether a title contains IT or engineering. [REG1]

Still to verify: Only one specific employer example has been verified. No determination of whether a particular individual or task qualifies for a registration exception is made.

Explore a realistic entry route

- Compare computing and engineering routes against a target job, including equivalence wording. Do not assume any IT certificate replaces the advertised academic qualification, or that a degree by itself establishes competence in operational aviation systems.
- Develop a small software or systems project with requirements, design decisions, controlled versions and test results. The aim is to understand lifecycle reasoning before adding aviation-specific knowledge.
- Investigate graduate and entry-level engineering openings separately from senior architecture posts. This advert explicitly recognises entry-level industry experience, but it still expects evidence of applied engineering practices.
- When evaluating an employer, ask how supervised work, aviation systems familiarisation, safety assurance and professional registration support are organised. Keep course selection separate from promises of employment or operational authorisation.

Build evidence of your skills

- Create a fictional service specification for a classroom scheduling application. Include normal use, failure behaviour, data integrity, access control and a plain-language description of what the system must not do. Keep it clearly non-operational.
- Build a traceability table from requirement to test and result. Include at least one failed test and an honest explanation of the correction; transparent limitations are more credible than presenting every experiment as a success.
- Write a one-page architecture decision comparing two harmless design options. Explain the user need, constraints, testing implications and uncertainty rather than simply listing tools or programming languages.

Prepare for an interview

Reflection prompts only, not questions claimed to be used by an employer.

- Practise explaining verification versus validation using your own project: did you build to the specification, and did the result address the intended need? Do not present this practice as an employer assessment question.
- Prepare a real example of coordinating a change with someone who had a different priority. Ask the employer how technical work is reviewed, which responsibilities are supervised and how operational support interacts with project delivery.

Investigate possible next roles

Potential directions include systems integration, software assurance, architecture, technical project delivery or engineering management. Progress depends on competence and organisational need; these are exploration options, not promised outcomes.

Sources and scope

[\[EMP1\] Airservices Australia Engineering Specialist \(IT\), job 502884](#)

Closed vacancy historical example. Australia. Checked 2026-10-27.

[\[REG1\] Civil Aviation Safety Authority, Australia Part 171 of CASR - Aeronautical telecommunications service and radionavigation service providers](#)

Provider framework includes technician competence. CASA marks this rule area as changing. This overview is not an exhaustive legal eligibility assessment. Checked 2026-10-27.

[\[REG3\] Board of Professional Engineers of Queensland Become a RPEQ](#)

Professional engineering services in or for Queensland; registration and stated exceptions. Whether a particular task is a professional engineering service requires a task-specific assessment; an advertisement preference does not override law. Checked 2026-10-27.

Educational requirements guide, not operational instructions, professional approval or an employment guarantee. Verify current requirements with the relevant authority and employer. Examples are selective, dated and job-specific. Check the complete current vacancy and relevant authority before choosing paid training or assessing eligibility. No personal medical, nationality or immigration assessment is made here. No job guarantee.