



# ASD Science, Technology, Innovation & Research Priorities

ASD welcomes collaborative research with academia in support of Australia's national security. ASD's research interests are across the spectrum of contemporary signals intelligence, security, foreign intelligence, cyber security and offensive cyber to meet current and future operational requirements.

ASD's Science Technology, Innovation and Research Priorities focus on physical, radio frequency, optical, data, space and cyber security domains.

| Fundamentals                                 | Opportunities                      | Themes  |  |
|--|------------------------------------|---|--|
| Cryptology & Mathematics                     | Semi-Conductors & Microelectronics | Supply Chain Integrity, Verification & Optimisation                                 | Precision Manufacturing, Material Sciences & Cryogenics          |
| Physical Sciences & Engineering              | High Performance Computing         | Large Power Sources & Batteries   | Mathematics & Post Quantum Cryptography                          |
| Future Computing                             | Networks & Communications          | High Performance Computing  | Quantum Computing & Algorithms                                   |
| Communications Technology                    | Energy                             | Vulnerability Research  | Quantum Sensing, Classical Sensors & Radio Frequency Engineering |
| Cyber Security & Computer Network Operations | Quantum                            | Optics & Photonics  | Signals Analysis   |
| Analysis & Production                        | Artificial Intelligence            | Hardware & Firmware Engineering   | Human-Centric Understanding & Psychological Profiling            |
|  | Deep Sea/Space/Polar               | Operational Technology, such as Secure/ Verified Software & Application Development | Behavioural Analytics  |
|  | Biotechnology                      | AI Algorithms, Architectures & Security   | Communications   |
|  |                                    | Natural Language Processing & Large Language Models                                 | AI Trustworthiness, Adoption & Human-Machine Teaming             |