

REMOTE DATA TECHNOLOGIES CAPABILITY STATEMENT

ASSURING DIGITAL SUCCESS IN OFF-GRID, HIGH-IMPACT ENVIRONMENTS

ASSURING DIGITAL SUCCESS SINCE 1997





KJR specialises in leveraging cutting-edge technologies, such as drones, artificial intelligence (AI), machine learning (ML), and data analytics, to provide innovative, efficient, and precise solutions for environmental management, industry operations, and cultural preservation through its Remote Data Technologies service.

FUTURE IMPACT OF REMOTE DATA CAPTURE

Remote and rugged environments, from disaster zones to cultural heritage sites, demand agile, intelligent technologies that deliver critical insights without relying on traditional infrastructure. KJR's Remote Data Technologies division transforms isolated and off-grid locations into data-rich environments through autonomous drones, AI, and edge computing.



Remote surveillance and asset inspection without human risk



Real-time intelligence

for emergency response, defence, and environmental monitoring



Data capture

in bandwidth-constrained, disconnected, or harsh terrain



AI-enhanced decision-making in the field

KJR's Remote Data Technologies are redefining what's possible in the most challenging environments, delivering real-time insights through drones, edge AI, and off-grid connectivity. We're helping customers make smarter, faster decisions where traditional systems can't reach, whether it's disaster zones, remote communities, or rugged industrial sites.



OUR CAPABILITY

We integrate aerial platforms with advanced data processing to deliver an end-to-end solution:





AUTONOMOUS DRONE SYSTEMS

• Fully automated drone deployments with Drone Dock or mobile trailer systems powered by solar and satellite connectivity.

EDGE AI & COMPUTER VISION

• Al models trained to detect and classify animals, objects, or anomalies in real time at the edge.



DATA MANAGEMENT & INTEGRATION

• Secure, encrypted storage and synchronisation into enterprise cloud systems when connectivity permits.



AI & COMPLIANCE ASSURANCE

• Application of AI safety, testing and ethical assurance principles to ensure data use aligns with government and defence standards.

KJR's remote data expertise has supported:

- Infrastructure Operators: Drones used for aerial surveillance, security monitoring, infrastructure inspections, piloting and navigation assistance
- Defence Collaboration: Trusted Autonomous Systems partnership in remote mission
 planning
- Feral-AI: Monitoring invasive species such as pigs, horses, rabbits and wallabies in sensitive ecosystems
- Disaster Recovery: Supporting flood response in Far North Queensland with Goondoi Rangers
- Cultural Conservation: Drone-based AI to locate and document Indigenous rock art



INDUSTRY EXPERIENCE

AINING, CONSTRUCTION & MARITIME PORTS Technology is revolutionising the Mining, Construction and Maritime Ports industries by driving advancements that enhance efficiency, safety, sustainability, and profitability.

Transformations include the increasing adoption of technologies such as robotics, digital twins, wearable devices, IoT sensors, and drone technologies.

Drones are increasingly being used for aerial surveillance, security monitoring, infrastructure inspections, piloting and navigation assistance. In collaboration with key partners, KJR is leveraging drone technologies to capture and analyse essential data on such wide-ranging projects for customers across these industries.

By embracing such technological innovations, these industries can overcome current challenges, optimise operations, and achieve greater levels of productivity and environmental stewardship.

Contact Us

Increasing military conflict on the world stage has seen a significant increase in research and development funding in the defence sector as countries scramble for advantage. The future of national security and defence will increasingly be focused on the information domain.

KJR has a deep history working in the Australian defence sector. Combined with our expertise in the fields of data management, governance and assurance, **our proven** success integrating AI with autonomous systems positions KJR as a key partner for companies aiming for strategic advantage in the defence domain.

Case studies

NV1 & NV2 Clearance

DEFENCE

FERAL-AI

Feral-AI, developed by KJR, is an autonomous AI-driven solution designed to monitor, detect, and record animal activity in real-time using remote, edge-based drone and sensor systems. Built for rugged terrain and off-grid environments, Feral-AI enables landholders, ranger groups, and government bodies to make informed, data-backed decisions for managing native and invasive species.

During the Innisfail floods in Far North Queensland in early 2025, KJR deployed an innovative, off-grid drone technology solution in collaboration with the Goondoi Rangers to assess flood damage and support emergency response efforts. The system integrated an autonomous drone dock powered by a solar-powered, trailer-mounted platform and Starlink satellite connectivity, enabling continuous operation even as floodwaters submerged the trailer's wheels. It captured real-time aerial imagery, monitored rising water levels, inspected damaged infrastructure, and identified hazards such as debris in waterways.

This solution provided immediate situational awareness to both on-site teams and remote stakeholders. Its resilience and self-sufficiency highlight its value as a reliable disaster management tool.

Looking ahead, this technology can be integrated into emergency preparedness frameworks for other flood-prone regions. Its rapid deployment, autonomous data collection, and AI-enhanced analysis capabilities offer a powerful tool for disaster response agencies, councils, and community organisations aiming to build local resilience and improve disaster readiness.

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KJR's involvement in the Marine Debris Taskforce focuses on delivering advanced, Aldriven remote data solutions to support environmental monitoring and protection efforts along Australia's coastline. Working with stakeholders including Indigenous ranger groups and environmental agencies, KJR has deployed drone technology integrated with edge-based Al models to detect, classify, and map marine debris in hard-to-reach coastal and island regions.

Using solar-powered, trailer-mounted drone systems with Starlink connectivity, KJR enables real-time data capture in off-grid environments. The AI models—trained to identify different types of debris—allow rapid assessment of pollution sources and accumulation zones, supporting targeted clean-up strategies and long-term ecological management.

KJR's work not only reduces the need for manual field surveys but enhances the accuracy and efficiency of marine debris reporting. It also empowers local ranger groups through training, co-design, and culturally aligned deployment, ensuring knowledge transfer and community ownership of the technology. Through this initiative, KJR demonstrates how trusted AI and remote data platforms can meaningfully support environmental stewardship and coastal resilience.

INDUSTRY EXPERIENCE

KJR is supporting the preservation of Indigenous cultural heritage through advanced drone and AI technologies as part of cultural site mapping initiatives in remote Australia. In partnership with Traditional Custodian groups such as the Goondoi Rangers, KJR has co-designed and deployed autonomous drone systems equipped with AI-enabled image analysis to locate, capture, and document significant cultural sites—including ancient rock art—across rugged, inaccessible landscapes.

Using solar-powered, trailer-based drone infrastructure with satellite internet connectivity, the system operates independently in off-grid environments. AI models process captured imagery in real time to identify patterns and markers that indicate the presence of cultural features, significantly reducing the need for manual search over vast and challenging terrain.

This work enables Indigenous ranger groups to conduct heritage surveys more safely, efficiently, and accurately, while also maintaining control over how cultural knowledge is gathered and shared. KJR's culturally respectful approach includes training, knowledge sharing, and ongoing collaboration, ensuring the technology empowers local communities. By blending frontier technology with cultural preservation, KJR is helping to safeguard Indigenous heritage for future generations while reinforcing sovereignty over Country.

WHY KJR?

With 27+ years of software and AI assurance leadership, KJR's Remote Data Technologies unite automation, AI, and trusted governance. Our systems are resilient, modular, and built for Australia's most demanding environments.

- Custom integration with AI pipelines
- · On-the-ground training and capability uplift
- · Fully auditable data streams
- · Deep partnerships with First Nations organisations and defence-aligned initiatives

Our future will see the convergence of emerging technologies that are set to transform industries and the workforce. Such convergence will create new opportunities and challenges, necessitating a focus on continuous learning, adaptability, and innovation.



STAKEHOLDER BENEFITS





Government Agencies & Infrastructure Operators

- Conducts asset inspections (roads, utilities, etc.) remotely and safely
- Reduces maintenance costs and improves risk forecasting
- Integrates with cloud platforms for data sharing and compliance

Defence & National Security Agencies

- Enables real-time situational awareness in remote or denied environments
- Supports surveillance, ISR, and perimeter monitoring without risk to personnel
- Enhances decision-making through AI-classified data at the edge

Emergency & Disaster Response Agencies

- Rapid deployment of drones for flood, fire, or cyclone assessment
- · Live data improves coordination and speeds up recovery
- Operates off-grid when conventional comms and power are down





Environmental & Biosecurity Authorities

- Tracks movement and impact of feral animals or invasive species
- Supports ecosystem management and conservation
 efforts
- Reduces need for costly, labour-intensive ground surveys

Cultural Heritage & Indigenous Land Managers

- Digitally maps rock art, sacred sites, and country with respect and accuracy
- Builds local capability through training and co-design
- Protects sites from environmental and human threats
 using aerial surveillance



ABOUT US



TECH EXPERTS

27+ years of experience in data assurance, software testing, and AI innovation.

REMOTE DATA TECHNOLOGIES

- Division of KJR
- Intelligence Surveillance Reconnaissance (ISR)
- Drone Platform Integration
- · Data and AI processing
- Remote operations solutions
- Proven deployment in:
 - Queensland flood recovery operations
 - Marine debris and ocean health monitoring
 - Cultural heritage documentation with Indigenous ranger groups

MORE THAN 120 TEAM MEMBERS ACROSS FOUR OFFICES

Brisbane Gold Coast

Canberra Melbourne

1997

Recognised leader in Trusted AI, aligned with ISO 42001 and ethical AI frameworks.

AUSTRALIAN

Sovereign, Australian-owned capability with deep industry and community partnerships. Defence and Security Cleared (30+ NV1, NV2, PV)





OUR HISTORY

With Y2K approaching, demand was high for technology and software testing. K.J. Ross and Associates was established in a garage on the Gold Coast by Kelvin J. Ross in 1997.

KJR has now grown to approximately 120 staff across four offices nationally. We're proud to say we have multiple staff whom have been with us for decades, and many long-term customers we continue to work with today.





- INNOVATION

Dedicated to improving the world through tech we work with diverse communities to explore technological solutions to their unique challenges utilising emerging technology.

KJR is a founding member of the following initiatives:

- Indigenous Australian Datathon
 - Queensland AI Hub •
 - Young Women Leaders in AI •

and many more!



- COMMUNITY & TECH

At KJR we are very conscious of the impact we have on all aspects of society, including economic, social and environmental and have dedicated our efforts to improving the world through implementation of various community and innovative technology projects.

We work on the following projects with Indigenous Communities:

- Rock Art Data Capture using Drone & AI
- Marine Debris Task Force
- Jarramali Cultural Tech Tours

and many more!





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