



Private Sector Pathways (PSP) Program

Queensland Museum Challenge Statement

Provenance research tool that enhances identification accuracy of First Nations cultural materials

Challenge Statement

This Private Sector Pathways (PSP) Challenge aims to provide opportunities for innovative Queensland-based organisations to assist the Queensland Museum (QM) to efficiently digitise, analyse and store First Nations cultural heritage material in order to improve processing times. Honouring and embracing our rich and ancient cultural history is a core responsibility for QM, underpinned by Repatriation of Ancestral Remains, Secret Sacred objects and other significant cultural heritage items on behalf of the First Nations communities.

Currently, the Queensland Museum manages a vast collection of cultural materials requiring provenance identification and digitisation. This data originates from a diverse and complex network of knowledge holders at state, national, international and community levels. The manual identification process for these materials is highly labour-intensive and requires extensive stakeholder engagement. This creates a bottleneck that impacts QM's ability to efficiently connect cultural materials with the community while ensuring a high level of accuracy.

To address these issues, QM invites innovative solutions that can support the following general steps:

- 1. Identify and Digitise** First Nations cultural material and information gathered from a wide network of knowledge holders and collection institutions across Queensland.
- 2. Analyse** processed data to identify cultural group, region of origin, object type
- 3. Store** large data sets within a QM integrated platform while maintaining cultural protocols and Queensland Government security standards.

The solution should also consider how digitised First Nations material could be shared with stakeholder groups which may have capacity and capability constraints.

Current tools are not adequately tailored to First Nations materials, particularly for complex items that require specific contribution from local knowledge holders, leading to identification inaccuracies and a labour-intensive identification process that places workload strain on QM employees.

The goal is to provide a cost-effective solution that supports QM archiving and repatriation specialists in delivering contemporary First Nations-led research and streamlines QM operational processes.

If you have innovative solution/s to efficiently digitise, analyse, store and share extensive First Nations cultural material data, regardless if you work in First Nations provenance or not, apply now!





Challenge Owner

The challenge owner is the Queensland Museum, with the Repatriation team primarily located in South Brisbane.

The QM team have partnered with the Innovation Division within the Department of the Environment, Tourism, Science and Innovation, to seek out innovative solutions that will streamline the identification, accuracy and processing of First Nations cultural materials that will in turn lead to accelerated and accurate repatriation to communities.

This collaboration aims to address key Queensland Museum objectives:

- Integrate First Nations cultures, languages, knowledge and histories in everything we do and champion repatriation.
- Strengthen research capacity through partnerships and collaboration with government, industry, academia, and community.
- Support Queensland's distributed collections and significant cultural heritage under the care of local, national and international communities.

Challenge Context

The Current Situation

Queensland Museum is responsible for managing approximately 8 TB of imaging data, which corresponds to only a small proportion of the extensive First Nations Collections it cares for. This includes the **Aboriginal Collection** which has more than 22,000 objects from Queensland, in addition to over 28,000 items from outside of Queensland, and over 12,000 historical photographs. The **Torres Strait Islander Collection** consists of more than 26,000 objects and the **Pacific Collection** holds approximately 25,400 objects, along with 4,200 historical photographs. There is an **Archaeology Collection** which comprises 200,000 artefacts for which majority are associated with Aboriginal or Torres Strait Islander histories. The Museum also holds items under custodial care for the purpose of **repatriation**, ensuring their respectful return to origin communities.

The range of materials in these collections include, but are not limited to:

- **Material Culture & Artefacts:** Stone tools, woven baskets, headdresses, canoes, spears, shields, message sticks, boomerangs, etc.
- **Art & Visual Culture:** Paintings, sculptures, bark paintings, rock engravings, dendroglyphs (carved trees), ghost nets, etc.
- **Oral Histories & Storytelling Materials:** Sound and film recordings, photographs, prints, manuscripts, etc.
- **Documentation:** Mission and settlement records, maps, correspondence, newspapers, museum archives, manuscript and publications, anthropology journals and research materials, etc.
- **Secret Sacred Items:** Objects that are restricted from being viewed or known to the uninitiated and members of the opposite sex.
- **Ancestral Remains & Burial Goods:** First Nations human remains and associated restricted materials related to ceremonial and burial practices.

Accurate provenancing is time-consuming and requires complex stakeholder engagement with varying types of knowledge holders to accurately identify provenance detail such as region, period, material type, Indigenous community of origin. Significant time is spent to interconnect multiple data sources, engaging with a wide range of knowledge holders before validating relevant provenance details that can be appropriately and sensitively shared via QM's programs and initiatives.

Efficient processing of these materials is vital to increasing engagement with First Nations knowledge, meeting the objectives of QM's [First Nations Strategy 2024-28](#), and ultimately facilitating First Nations peoples' right to maintain development and control of their cultural heritage.

Categorisation of cultural materials is currently structured to include primary, secondary, and tertiary terms. Figure 1 below outlines the current identification process within respective stage categories, while depicting future opportunities the solution provider could consider improving provenance data.

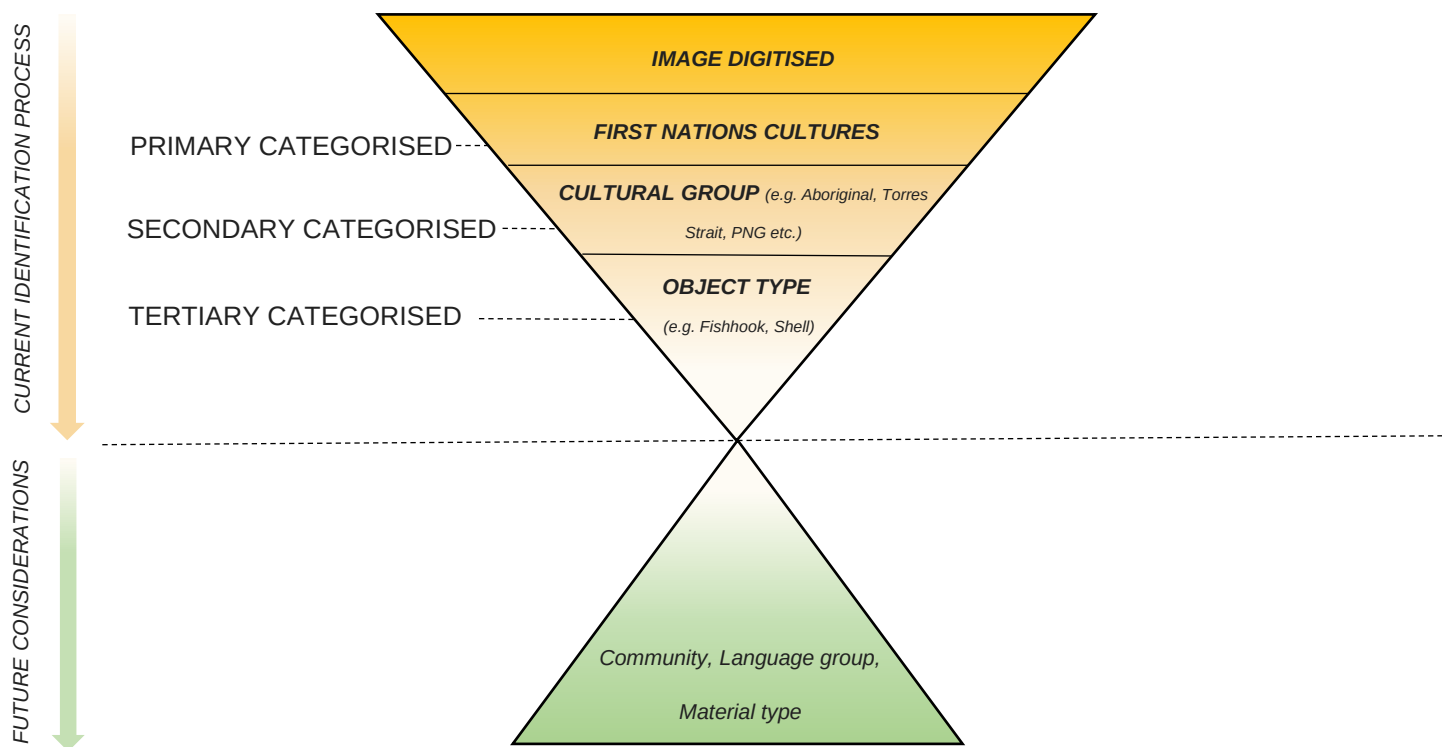


Figure 1 – Categorisation process

The current data management platform is Vernon CMS, which runs on OpenInsight database by Revelation Software. Processing is done on a client-server content management system set up in Azure Virtual Desktop, which can limit processing capacity, resulting in delays and inefficient use of staff time. Collections data is also stored across a Digital Assets Management System (DAMS), official content management system, E-File and physical archives.

Challenge Imperative

Implementing an accurate, adaptable and user-friendly system for the identification, processing and management of First Nations materials and knowledge will significantly enhance cataloguing and provenance management. A streamlined and integrated approach will ensure that cultural materials are documented with precision, preserving provenance details, historical context and community knowledge with integrity and respect.

The solution must seamlessly integrate with existing museum systems while offering flexibility for in-house and external use, allowing both museum teams and First Nations communities to collaborate on record

management. Maintaining clear ownership records and enabling controlled access to data will be essential for ethical and transparent collection stewardship.

By refining data processing workflows and enhancing accessibility, this solution will not only improve operational efficiency but also strengthen relationships between museums and First Nations communities, fostering a more respectful and responsible approach to cultural heritage management.

Intended objectives/outcomes

While not exhaustive, the example imperatives listed below significantly contribute to the success of innovative solutions to address the need to improve data capture and processing time.

Your innovative solution may address one or more of the listed imperatives or incorporate additional considerations based on your expertise.

Imperative	Short Summary
Accurate	Ensure precise and culturally appropriate categorisation, capturing detailed provenance, historical context and community connections. Incorporate machine learning validation and automated data cross-referencing to verify authenticity and prevent misinformation. Maintain high accuracy standards to support ethical museum practices, protect cultural integrity and enhance trust between museums and First Nations communities.
Adaptable	Enable an adaptable and customisable system that accommodates varying levels of community knowledge and permissions while automating repetitive data entry and verification processes. The system must also be scalable (capable of accommodating new artefacts and evolving cultural insights). Incorporate machine learning automation that will assist in linking items to related artefacts, oral histories and repatriation requests, ensuring the system remains efficient and respectful of First Nations knowledge-sharing protocols
Streamline identification, processing & data management	Efficient capture, classification, and management of extensive cataloguing records, ensuring items are accurately documented and easily retrievable. This involves machine learning recognition tools to assist in identifying and grouping related artefacts, while also facilitating secure provenance information. The system will ensure clear version histories, efficient storage and allow permission-based access to maintain data integrity and safeguard sensitive cultural information.
Integrate with existing system	Seamlessly integrate with existing museum cataloguing platforms and existing databases, ensuring interoperability without disrupting established workflows. It should support digital asset management systems and secure cloud-based storage to allow for continuous data updates and collaborative access between museums, researchers, and First Nations communities.
User friendly	An intuitive interface that ensures ease of use for different stakeholders. It should present provenance data in accessible formats such as interactive timelines, geographic mapping, and multimedia annotations. Accessibility considerations must include multilingual support, mobile-friendly design, ease of offline use, and adherence to cultural data governance frameworks to respect community-led knowledge sharing and data sovereignty.

The Stakeholders Involved

Several key stakeholders are essential to the accurate identification and preservation of cultural materials. These stakeholders pave the way for the respectful repatriation of sacred items to their Traditional Owners and help uncover the rich heritage of First Nations communities.

QM Staff: Queensland Museum staff are critical to the process of digitisation, analysis, storage and sharing of culturally significant items. Within QM, three key working groups are pivotal to this process.

- **QM's Repatriation team** is responsible for the care of cultural materials and plays an important role in the provenance process – identifying origin and ownership, ensuring they are respectfully returned to their rightful First Nations Owners. They also facilitate access for First Nations people seeking to visit and pay respect to their Ancestors and cultural heritage. As the primary users of the developed solution, their knowledge and input are essential to ensure that the solution is user-friendly, accurate and enhances the efficiency of the provenance process.
- **QM's IT team** manages the digital infrastructure within QM. The team works to securely manage data, maintain security standards, and is critical to facilitating the integration and continued operation of the provided solution into QM's existing framework.
- **QM's Archives and collections team** is involved in the accurate documentation and storage of cultural materials. The team possesses expansive knowledge on the physical and digital locations as well as all associated information regarding the material in QM's collection.

First Nations Knowledge Holders: As the primary beneficiary, utilising the knowledge of First Nations communities will improve the accuracy of provenance and ensure cultural materials can be repatriated back to the rightful community, family, or language group, while being appropriately shared with the wider community.

Local Collecting Institutions: Local Collecting Institutions such as churches, community groups, universities and researchers, hold collection material and information connected to First Nations communities. This information is often not made readily accessible for First Nations Knowledge Holders.

National GLAM Sector: National galleries, libraries, archives and museums (GLAM) care for cultural knowledge and materials and share this knowledge through exhibitions, research and programming. These institutions work with First Nations communities to present these stories in culturally respectful and appropriate manner.

Challenge Solution

Outcomes Desired

The solution is dedicated to embedding, celebrating and amplifying First Nations voices within QM's work. By fostering meaningful engagement, the solution will support the Museum's commitment to storytelling, cultural preservation, and ensuring First Nations histories, perspectives, and heritage are authentically represented and shared.

As part of the PSP program, the successful applicant will directly pilot their solution in collaboration with QM. Beyond the pilot phase, applicants should consider how their approach can be integrated into the Museum's ongoing efforts, ensuring long term impact and accessibility for First Nations communities and the wider public.

Technical and/or Regulatory Considerations

Data Security and Integration: The solution must ensure data security to prevent data loss or leaks. It should comply with existing data protection regulations and seamlessly integrate with QM's current data management platform, which uses Vernon CMS. The solution provider should also consider Indigenous Cultural and Intellectual Property (ICIP) in its design.

IT Policy Requirements: The solution must adhere to any specific guidelines or protocols related to data privacy and secure storage set out by QLD Government IT [policy requirements](#).

Local Processing Capacity: The solution must address the limitations of local processing capacity.

Design Benefits

Cultural Sensitivity and Respect: The design approach will prioritise the incorporation of First Nations knowledge and perspectives, fostering a system that respects protocols around knowledge sharing and data sovereignty. By engaging with the QM Repatriation team and their key stakeholders, the solution will more accurately reflect the cultural significance of materials and promote knowledge-sharing between the QM and First Nations communities.

Ongoing Cultural Preservation: By embedding First Nations voices within the system and promoting authentic representation, the solution will contribute to the ongoing preservation of cultural heritage. It ensures that the history and significance of First Nations materials are not only maintained but are celebrated and shared with current and future generations.

Collaborative Opportunities: Successful implementation could lead to partnerships beyond QM, creating a framework for collaboration with First Nations communities for cultural organisations, research institutions, and government agencies. This network will amplify the impact of the solution and encourage shared learning and advancements in the management of cultural materials.

Improved Accessibility and User Engagement: An intuitive user interface will ensure that diverse stakeholders, including First Nations communities, museum staff, and researchers, can easily access and engage with the cultural materials, promoting educational opportunities and community involvement.

Commercial Opportunities

Partnerships and Collaboration: Successful implementation within QM could lead to partnerships with other government agencies, research institutions and cultural organisations, creating opportunities for broader management and Repatriation of First Nations cultural materials.

Licensing: There is potential for commercialisation and licensing of the technology. Once proven effective, the solution could be marketed to other organisations and governments facing similar challenges, providing a scalable business model and potential revenue streams for solutions providers, QM and First Nations communities through licensing and service agreements.

Cultural Heritage Tours and Educational Programmes: Digitised data could be leveraged to create First Nations-led virtual tours and interactive experiences. The material and the knowledge gained from the solution could be developed into educational content and programmes for schools, universities and community organisations. These offerings could be monetised for solution providers, experience hosts and First Nations communities through ticket sales, subscriptions or collaborations with tourism/community operators.

How to apply

Applications can be submitted via [here](#) and should include the following:

- A clear description of the solution, including its key features, benefits, and value proposition.
- A roadmap for implementation, including timelines, resources, and milestones.
- A plan for measuring the impact and success of the solution, including metrics and evaluation criteria.
- A budget that outlines the financial requirements for implementing and maintaining the solution.
- A summary of the team's qualifications and experience, including relevant skills and expertise.

Shortlisted applicants will be invited to pitch their solutions to a panel of experts and the successful applicant/s will enter a contract and pilot their solution with the Challenge Owners.

Successful Applicant(s)

The winning proposal(s) will be selected based on its innovation, feasibility, impact, and alignment with the challenge objectives. The successful applicant will receive grant funding of up to \$100,000 (excluding GST) through the Queensland Government initiative, to develop and pilot their proposed solution for up to 6-8 months with Queensland Museum.

Project Duration

The duration of the project is estimated to be up to 6-8 months. If a suitable solution to the challenge is found, project commencement is most likely to start last August/early September 2025.

As part of the assessment process, shortlisted applicants will be notified and invited to a Solution Presentation Day. This will be an opportunity for you to present your proposed solution (either in person or remotely) to the Challenge assessment panel.

Presentations are expected to be up to 20 minutes long, with time afterwards for Q&A. Full details will be provided in due course.

More information

The Queensland Government's [Private Sector Pathways \(PSP\)](#) program aims to solve corporate challenges with solutions generated by proven innovative Queensland small to medium enterprises and scaleups. For more information about the PSP Challenge, contact the Private Sector Partnerships team at partnerships2@des.qld.gov.au.

Further information about Queensland Museum strategies can be found at:

- [Queensland Museum Strategic Plan 2024-28](#)
- [First Nations Strategy 2024-28](#)

Join us in this endeavour to streamline Queensland Museum's ability to efficiently digitise, analyse, store and share First Nations cultural heritage material with the community.