

# Digitising Cultural Heritage: Ensuring Quality and Trust through Paradata Certification

## 1. Preserving our Past

Cultural Heritage preserves traditions, identities, and collective memory.

Digitisation allows heritage resources to be documented in both their physical form (2D/3D) and their historical and cultural context, forming a digital network of knowledge known as a **Memory-Twin**.

However, increasing use of digital heritage datasets and AI requires greater attention to data quality, authenticity, process transparency, and trust.

Ensuring reliable documentation is essential for:

- Research and education
- Cultural policy and governance
- Creative and industrial reuse

## 2. The Challenge

Despite the rapid growth of heritage digitisation:

- Data quality standards are inconsistent
- Documentation of digitisation processes is often incomplete
- Provenance and authenticity can be difficult to verify
- Stakeholders need trusted digital heritage datasets

Without proper documentation, digital cultural heritage risks loss of credibility, reuse limitations, and reduced long-term value.

## 3. The Memory Twin Concept

The **#MemoryTwin** methodology links:

- Physical heritage resources
- Digital representation (2D/3D models)
- Contextual knowledge and documentation

Together they create a **trusted digital memory** of cultural heritage artefacts, buildings and sites (Figure 1). This approach integrates:

- Geometry and visual data
- Historical documentation
- Cultural interpretation
- Digitisation process paradata

## 4. What is Paradata?

Paradata records the **process** behind the creation of a digital object (Figure 2). It documents:

- Technologies used
- Acquisition methods
- Processing workflows
- Interpretation decisions
- Contributors and expertise

Paradata ensures **transparency** and enables **quality assessment** and **reproducibility**.

Paradata also supports compliance with key principles:

- **FAIR Data Principles**
- **CARE Principles** for Indigenous Data Governance

## 5. Paradata Certification

The UNESCO Chair proposes a Paradata Gateway to support certification of digital heritage datasets.

Certification would evaluate:

- Documentation completeness
- Data provenance
- Digitisation methodology
- Compliance with ethical and professional standards

Key outcomes:

- Increased dataset credibility
- Improved research reproducibility
- Protection of intellectual property
- Stronger stakeholder accountability



Figure 2: Complexity and Quality Assessment VIGIE 2020/654



**VIGIE 2020/654: Study on Quality in 3D Digitisation of Tangible Cultural Heritage**  
<https://doi.org/10.2759/471776>

## 6. Benefits for Cultural Heritage

Certified datasets will provide:

### For researchers

- Reliable sources for analysis and AI training

### For institutions

- Quality assurance and preservation

### For policymakers

- Trusted evidence for cultural governance

### For society

- Greater access to authentic cultural heritage resources

## 7. Conclusions

Digitisation is transforming Cultural Heritage, but **trust in digital datasets must be ensured**.

Paradata certification can:

- Strengthen quality assurance
- Promote responsible data sharing
- Enhance long-term preservation
- Support open access to trusted heritage resources

Developing international frameworks for **3D heritage documentation and certification** will be key to safeguarding Digital Cultural Heritage for future generations.

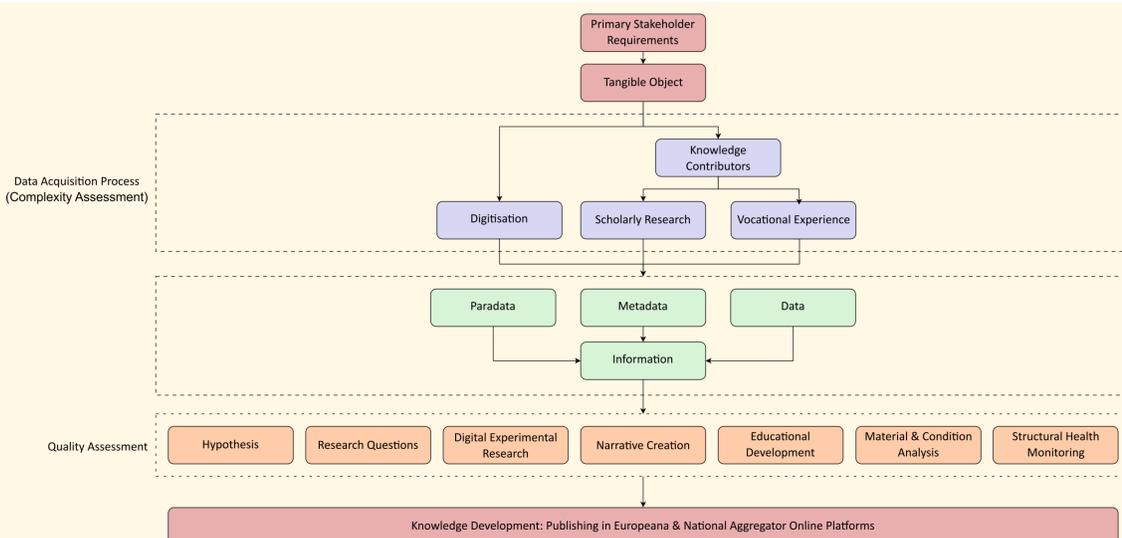


Figure 1: The Memory Twin conceptual framework

