Fig. 1 *Titeux Dancer as the CG Case*

CASE STUDY

This example revolves around a plaster cast of the *Titeux dancer*, a figurine discovered on the Athenian Acropolis and dated to around 375–350 BCE (Figs 1-2). Once considered a Tanagra figure, it is now recognized as a Classical Greek sculpture and is housed in the Louvre. Yet the object of the case is a cast of the original, produced by the plaster cast workshop of the Royal Museums of Art and History in Brussels (KMKG) which uses traditional casting techniques for replicas. While a replica, the case assumes law enforcement agencies (LEAs) mistake the item for an original and utilize ENIGMA for further identification.
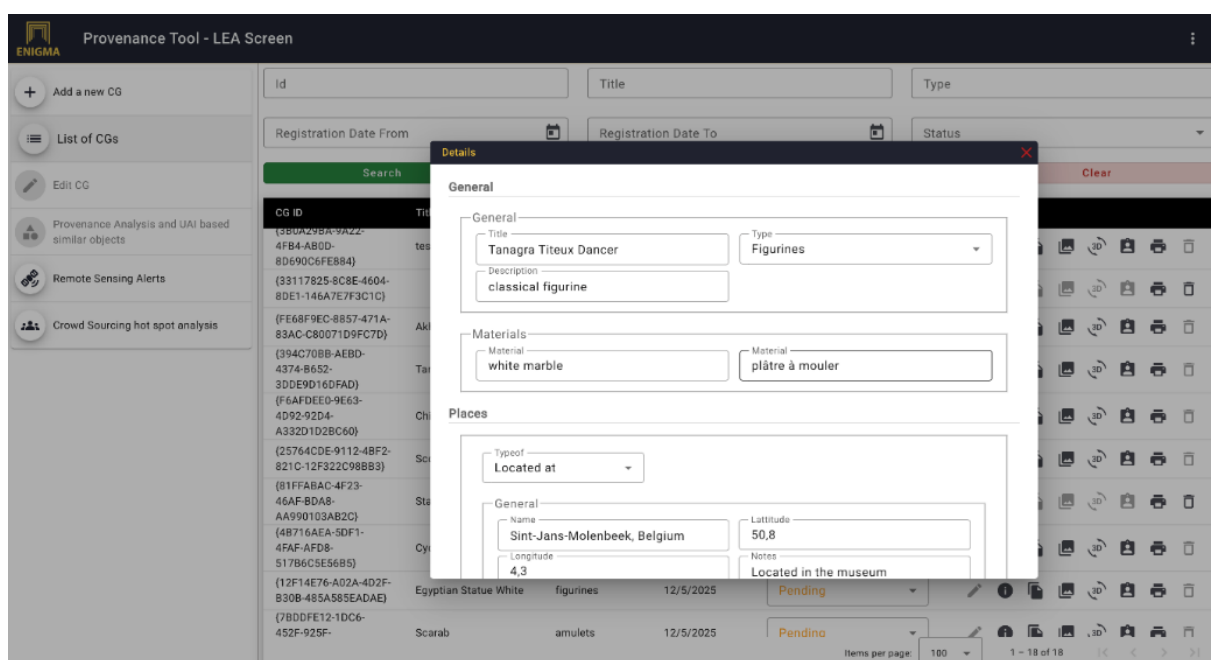
This case simulates a plausible situation: a visitor purchases the plaster cast from the KMKG workshop but lost the receipt. At the airport, border control halts the individual and questions the legitimacy of the item. Lacking documentation and concerned about potential illicit trafficking, the officers initiate an assessment using the ENIGMA platform to determine the object's provenance and authenticity. The situation emphasizes the need for fast, accurate identification mechanisms for cultural goods, particularly when expert insight is not immediately available. ENIGMA's tools, including its Unique Authenticity Identifier (UAI) and provenance tracking system, are tested here for their ability to support secure, transparent workflows under real-world pressure. The case reveals how critical the platform is in enabling coordination between LEAs and cultural heritage professionals.

Fig. 2 *Original Titeux Dancer, Louvre, CA 462.*

WALKTHROUGH

The process begins when the LEA enters the intercepted object's basic details into the ENIGMA platform. These include estimated dimensions, object type, and presumed material composition. Given that the LEA lacks expertise in cultural heritage objects, certain data fields are entered incorrectly—for example, listing the material as "marble" instead of "plaster," and omitting the object's workshop origin. The object's provenance is also marked as unknown, as the owner is unable to provide proof of purchase.
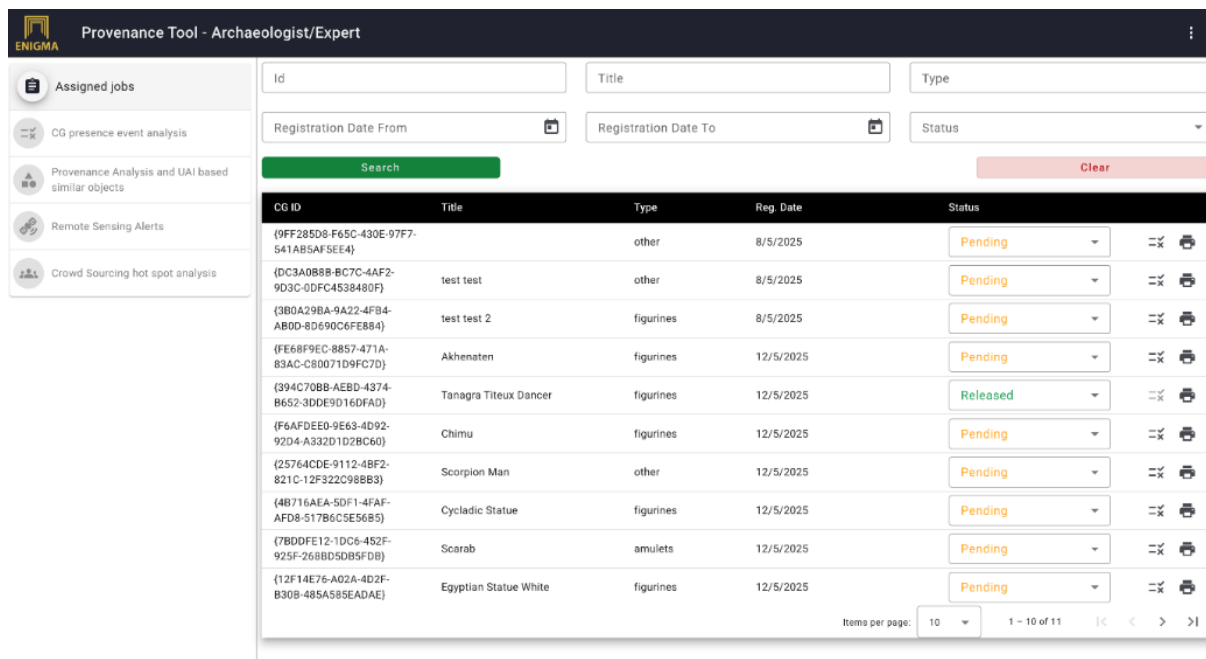

Fig. 3 *LEA Input Screen*

Step 1: LEA Input Phase: The LEA enters basic information about the object into the ENIGMA system, including approximate size, weight, and visual characteristics such as "female dancer" and "ancient Greek." Photographs of the object—front, back, and side views—are uploaded, and the provenance is initially recorded as "unknown – intercepted at airport" (Fig. 3).

Step 2: Expert Review Phase: A CH expert is notified and accesses the ENIGMA record. They examine the object's visual features. The expert identifies the item as a plaster cast of the Tanagra 'Titeux dancer' and updates the record accordingly, enriching it with provenance documentation, and accurate details regarding chronology, materials and style (Fig. 4).
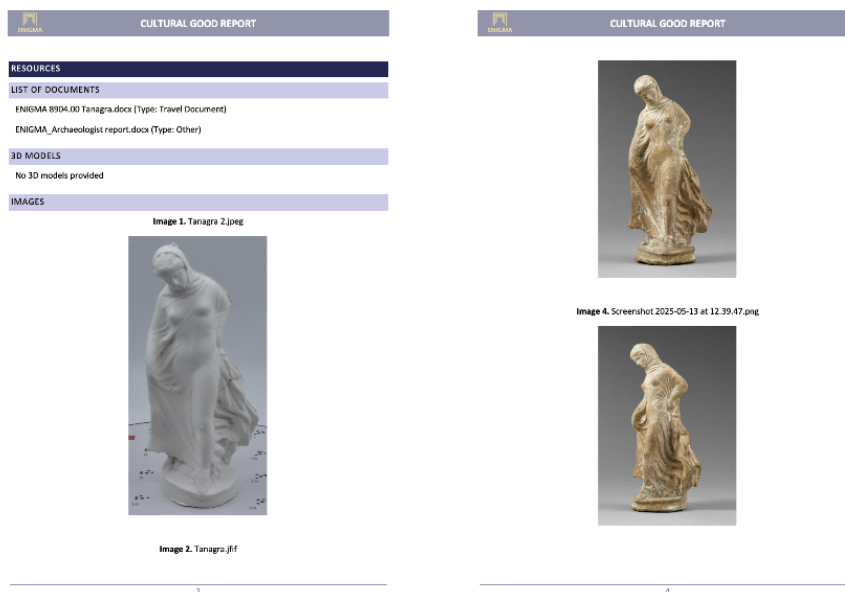
Step 3: Verification and Logging: The expert submits a final confirmation. The ENIGMA system logs all changes, timestamps each update, and clearly attributes inputs to both the LEA and the expert. A detailed report is generated, confirming the object as a modern, legally produced replica (Fig. 5).

Step 4: Outcome Delivery: The object is officially identified as a copy and not a looted artefact. The report is forwarded to border authorities, and the object is returned to its rightful owner.

Fig. 4 *Archaeologist/Expert Assigned Jobs*

Fig. 5 *Excerpts from the ENIGMA Provenance Report*

LESSONS LEARNED

This case demonstrated how ENIGMA supports clear, structured workflows between LEAs and heritage professionals. The platform's reporting and audit functions ensured full traceability, which is essential when navigating legal or ethical concerns regarding cultural goods. However, the scenario also revealed pitfalls of provenance input. As assumed, the LEA input included errors regarding material identification. These suggest that basic training or input assistance tools could enhance the initial data quality.

- **Outcome 1:** Faster verification of object provenance, reducing delays at border control
- **Outcome 2:** Accurate authentication of a cast object, avoiding unnecessary legal escalation
- **Outcome 3:** Demonstrated utility of ENIGMA's UAI system and collaborative documentation

FURTHER RESOURCES

APPLIED ENIGMA TOOLS:
- ENIGMA Provenance Tool
- ENIGMA Scenario Building Engine

RELATED BEST PRACTICES:
- Provenance Tool
- Museology and Object IDs
- Museology and Heritage Vocabularies
- Handling CG Objects fro LEAs

FURTHER ONLINE TRAINING:
https://eu-enigma.eu/training/