

**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.

ENIGMA Provenance Tool - LEA Screen

[Add a new CG](#)

[List of CGs](#)

[Edit CG](#)

[Provenance Analysis and UAI based similar objects](#)

[Remote Sensing Alerts](#)

[Crowd Sourcing hot spot analysis](#)

CG ID: (3B0A298A-9A22-4FB4-AB0D-8D690C6CFE884) Title: test

Registration Date From: Registration Date To: Status:

Details

General

Title: Tanagra Titeux Dancer Type: Figurines

Description: classical figurine

Materials

Material: white marble Material: plâtre à mouler

Places

Type of: Located at

Name: Sint-Jans-Molenbeek, Belgium Latitude: 50,8

Longitude: 4,3 Notes: Located in the museum

Egyptian Statue White	figurines	12/5/2025
830B-485A585EADAE		Pending
(7BDDFE12-1DC6-452F-925F-	Scarab	amulets
		12/5/2025
		Pending

Fig. 3 LEA Input Screen



Real-world example: DOCUMENTING A CULTURAL GOOD

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.

The screenshot shows the ENIGMA Provenance Tool interface for an Archaeologist/Expert. The left sidebar contains navigation links: Assigned jobs, CG presence event analysis, Provenance Analysis and UAI based similar objects, Remote Sensing Alerts, and Crowd Sourcing hot spot analysis. The main area is titled 'Provenance Tool - Archaeologist/Expert' and displays a table of assigned jobs. The table columns are CG ID, Title, Type, Reg. Date, and Status. The status column includes buttons for Pending (orange), Released (green), and a delete icon. The table lists 11 items, with the last one being 'Egyptian Statue White' (Type: figurines, Reg. Date: 12/5/2025, Status: Pending). At the bottom, there are buttons for 'Items per page' (10), '1 - 10 of 11', and navigation arrows.

CG ID	Title	Type	Reg. Date	Status
{9FF285D8-F65C-430E-97F7-541AB5AF5EE4}		other	8/5/2025	Pending
{DC3A0B88-BC7C-4AF2-903C-0DFCA538480F}	test test	other	8/5/2025	Pending
{3B0A29BA-9A22-4FB4-AB00-8D690C6FE8B4}	test test 2	figurines	8/5/2025	Pending
{FEE68F9EC-8857-471A-83AC-C80071D9FC7D}	Akhenaten	figurines	12/5/2025	Pending
{394C70BB-AEBD-4374-B652-3DDE90160FAD}	Tanagra Titeux Dancer	figurines	12/5/2025	Released
{F6AFDEE0-9E63-4D92-92D4-A322D1D2BC60}	Chimu	figurines	12/5/2025	Pending
{25764CDE-9112-4BF2-821C-12F322C98BB3}	Scorpion Man	other	12/5/2025	Pending
{4B716EA-5DF1-4FAF-AFD8-51786C5E56B5}	Cycladic Statue	figurines	12/5/2025	Pending
{7BDDFE12-1DC6-452F-925F-268BD50B5FDB}	Scarab	amulets	12/5/2025	Pending
{12F14E76-A02A-4D2F-B30B-485A585EADAE}	Egyptian Statue White	figurines	12/5/2025	Pending

Fig. 4 Archaeologist/Expert Assigned Jobs



Real-world example: DOCUMENTING A CULTURAL GOOD

The figure shows two screenshots of the ENIGMA Cultural Good Report interface. The left screenshot displays a 'CULTURAL GOOD REPORT' with sections for 'RESOURCES' (List of Documents: ENIGMA_R004.00_Tanagra.docx, ENIGMA_Archaeologist report.docx), '3D MODELS' (No 3D models provided), and 'IMAGES' (Image 1: Tanagra_2.jpeg, Image 2: Tanagra.jpg). The right screenshot shows a 'CULTURAL GOOD REPORT' with an image of a Tanagra figurine (Image 4: Screenshot 2025-05-13 at 12.39.47.png).

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/>