

BRIEFING PAPER OF CURATOR WORKSHOP

ENIGMA PROJECT

PLACE

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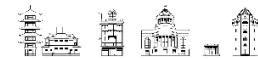
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WORKSHOP OVERVIEW

The ENIGMA Curator Workshop brought together experts from curators and museum experts, and ENIGMA project partners to address challenges related to combating illicit trafficking in cultural heritage. The workshop aimed to present ENIGMA's innovative tools, gather feedback, and refine their functionalities to align with operational requirements and enhance user experience.

WORKSHOP OBJECTIVES

- Present the tools developed under ENIGMA, including the Unique Authenticity Identifier (UAI), Provenance Research Tool, Earth Observation Toolkit, Scenario Building Engine, 3D CG Reconstruction Tool, and the ENIGMA platform.
- Identify operational challenges and opportunities for tool integration in curatorial and museum practices.
- Prioritize tools based on feedback from participants and address technical, legal, and interoperability concerns.

PARTICIPANTS

The workshop brought together representatives from diverse organizations, aiming for cultural heritage institutions, curators, museum experts, and project partners from various countries. Participants included representatives from cultural heritage, freelancers, museums, universities and legal and governmental organizations, ensuring a multidisciplinary approach to the discussions. The workshop featured representatives from:

- **Countries Represented:**

Albania, Australia, Belgium, Bosnia & Herzegovina, Bulgaria, Colombia, Cyprus, Egypt, France, Georgia, Germany, Greece, Hungary, India, Iran, Italy, Japan, Lebanon, Malta, Morocco, North Macedonia, Qatar, Spain, Turkey, United Kingdom, USA, Zimbabwe

KEY HIGHLIGHTS

Participants provided structured feedback on the tools, rating them on usefulness, and operational enhancement. The UAI emerged as the highest-rated tool, closely followed by the Provenance Research tool. Participants also provided suggestions for enhanced user interfaces and the need for clear and user-friendly tools.

I. TOOL PRESENTATIONS

Detailed presentations highlighted the functionality and application of six ENIGMA tools: the Unique Authenticity Identifier (UAI), Provenance Research Tool, Earth Observation Toolkit, Scenario Building Engine, 3D CG Reconstruction Tool, and the overarching ENIGMA platform. Each tool was showcased with its potential impact for curators and museum experts on improving cultural heritage management and combating illicit trafficking. Below are the highlights and key components of each tool, as presented:

- **Unique Authenticity Identifier (UAI):** A "DNA" for cultural goods, enabling structured documentation and enhanced traceability.
- **Provenance Research Tool:** Aids in cross-border investigations with similarity checks, remote sensing, and crowd-sourced data.

- **Scenario Building Engine:** Models workflows for investigations, enhancing decision-making and efficiency.
- **Earth Observation Toolkit:** Monitors and identifies at-risk areas using GIS integration with satellite data.
- **3D CG Reconstruction Tool:** Reconstructs fragmented cultural artifacts, providing critical insights for LEAs.
- **ENIGMA Platform:** Integrates the tools into a unified system for operational efficiency.

II. FEEDBACK SUMMARY

- **Highest Rated Tools:** UAI (4.5 average rating) and Provenance Research Tool (4.2 average rating).
- **Suggestions for Improvement:**
 - Enhanced interconnectivity with existing databases.
 - User-friendly interfaces and additional training materials.

KEY STATISTICS

The tools were prioritized based on feedback, with the UAI and provenance research tool ranked as the most critical for operational needs. Participants emphasized the importance of uncomplicated interfaces and user-friendly tools to maximize their effectiveness for real-

world museum and curatorial scenarios. Feedback on the tools was collected via a structured scoring system (1–5 scale).

I. TOOL RATINGS

- **UAI:** Usefulness (4.0), Operational Enhancement (5.0).
- **Provenance Research Tool:** Usefulness (4.3), Operational Enhancement (4.0).
- **Earth Observation Toolkit:** Usefulness (4.3), Operational Enhancement (3.3).
- **Scenario Building Engine:** Usefulness (3.3), Operational Enhancement (3.3).
- **3D CG Reconstruction Tool:** Usefulness (4.0), Operational Enhancement (4.0).

The following bar chart represents the average ratings of ENIGMA tools, for comparing how participants rated the usefulness and operational enhancement of each tool. The visualization is a bar chart showing the average ratings for each tool across the two categories.

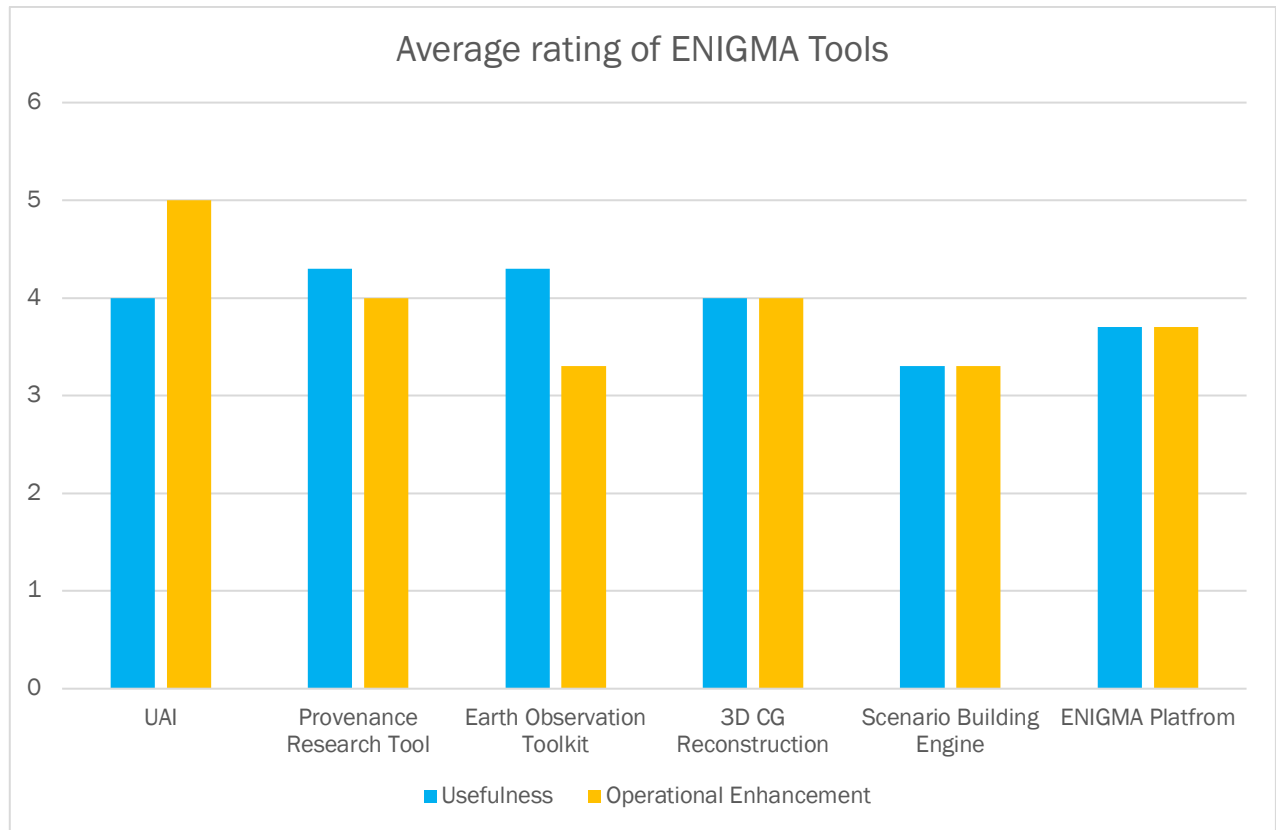


Figure 1. Bar Chart of Tool rating: average rating of ENIGMA tools

II. TOOL PRIORITIZATION

- **Top Priority:** UAI
- **Secondary Priority:** 3D CG Reconstruction Tool and Earth Observation Toolkit.

The following pie chart represents the Tool Prioritization, highlighting which tools were ranked as the highest priority by participants. This visualization is a pie chart showing the percentage of participants prioritizing each tool.

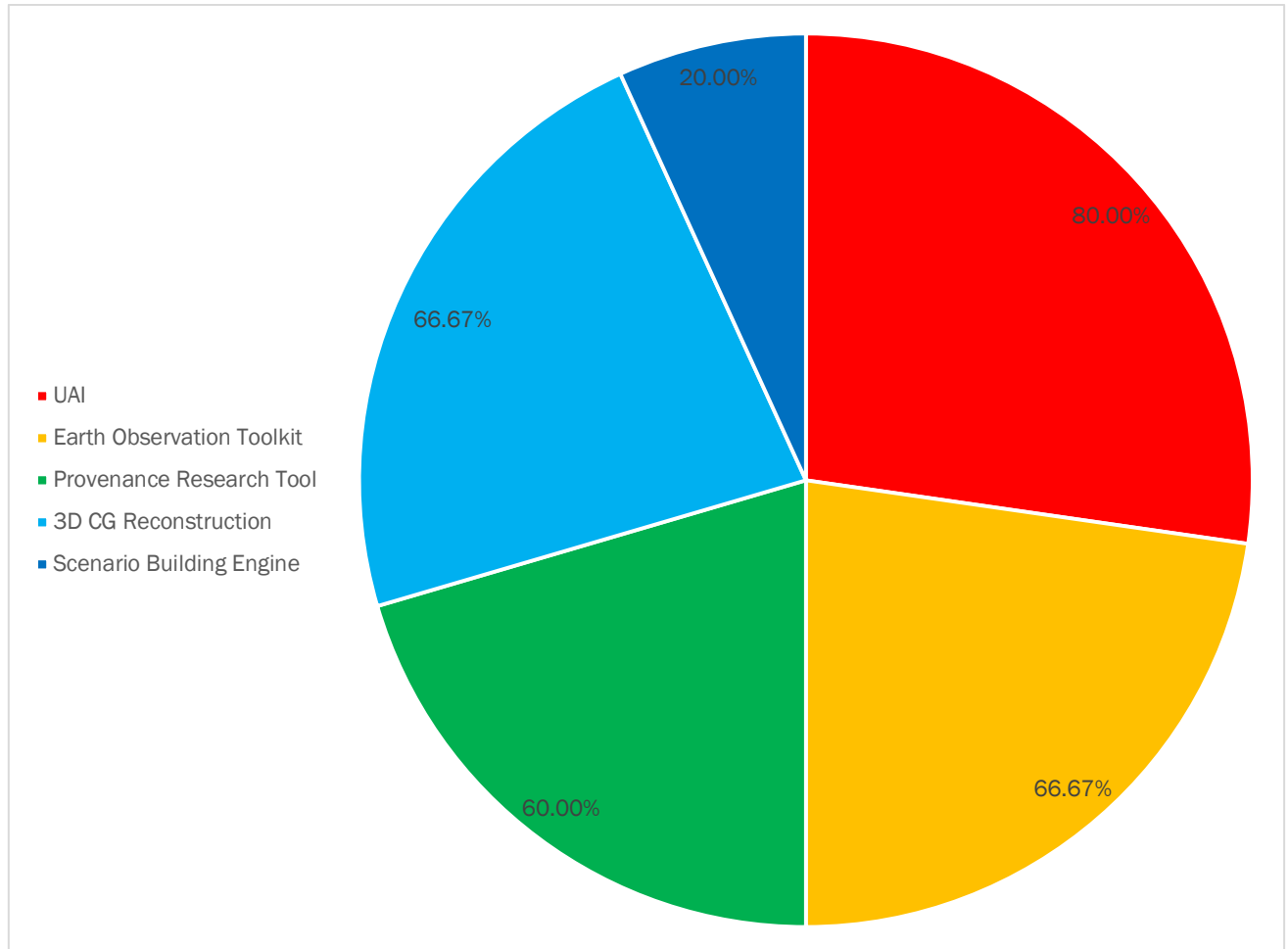


Figure 2. ENIGMA's Tool prioritization by participants

ACTION POINTS

The curator workshop allowed to collate stakeholder feedback and present the discussions and allowed to identify action points for enhancing the impact and usability of the ENIGMA platform and tools. The museum experts and curators discussions stressed the need for user-friendly tools, enhanced training materials, and address legal challenges of the system pertaining to anonymity and privacy of experts.

- **Tool Refinement**
 - Develop intuitive interfaces and database compatibility.
- **Follow-up Engagement and Training**
 - Develop user-based training sessions that test and illustrate the application of the tools.
- **Collaboration and Data Sharing**
 - Explore the synergies and options for aligning ENIGMA tools into complementary tools.
 - Address legal challenges associated with interoperability by ensuring anonymity of museum experts and curators.

CONCLUSION

The curator workshop successfully provided a platform for valuable discussions and actionable insights. Feedback from museum experts and curators will guide the ENIGMA project's future development, ensuring the tools meet real-world requirements and enhance the protection of cultural heritage.