

Policy Brief



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AI and Emerging Technologies to Combat the Illicit Trade in Cultural Goods

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AI and Emerging Technologies to Combat the Illicit Trade in Cultural Goods

Executive Summary:

Illicit trafficking in cultural goods remains a global concern that threatens the collective memory, history, and identity of communities and civilizations worldwide. From looted antiquities trafficked during armed conflicts to stolen artworks circulating in online marketplaces, this multifaceted problem continues to outpace conventional enforcement mechanisms. The increasing use of digital platforms and social media has created new challenges, enabling traffickers to exploit the speed, reach, and anonymity of online environments. In recent years, however, the strategic deployment of artificial intelligence (AI) and other digital technologies has opened new frontiers in the fight against cultural property crime.

Keywords

cultural goods, cultural property crime, illicit trafficking, new technologies, artificial intelligence

The Challenge: A Fragmented and Evasive Criminal Economy

Illicit trade in cultural goods is characterised by its transnational reach, involvement of high-profit criminal networks, and use of opaque online channels. Law enforcement and cultural heritage authorities often lack the resources and real-time data needed to track objects, identify forgeries, or intercept transactions. Traditional methods such as manual inventory checks, border inspections, and paper-based provenance analysis are increasingly insufficient. Meanwhile, conflict zones and regions remain affected, often with limited access to digital tools and enforcement capabilities.

The Technological Turn

AI and other emerging technologies offer novel capabilities to enhance detection, traceability, and prevention:

a) Machine Learning for Image Recognition: Algorithms trained on museum collections and archaeological databases can help identify looted or stolen items circulating on auction platforms or social media.

b) Blockchain for Provenance Tracking: Distributed ledger technologies can ensure transparent and tamper-proof records of ownership, deterring fraudulent transfers and aiding restitution efforts.

c) Big Data Analytics: Integration of customs data, art market listings, and open-source intelligence allows the identification of trafficking patterns, high-risk routes, and suspicious actors.

d) Natural Language Processing (NLP): NLP tools can screen digital content in multiple languages for red flags related to illicit trade, such as coded terminology or recurring seller profiles.

Public-private partnerships and international cooperation have the potential to accelerate the development of these tools. Ethical standards and inclusive design must also be prioritised to avoid reinforcing existing inequities and to ensure that AI applications respect rights and cultural diversity.

Global Momentum

UNESCO, as the lead UN agency in culture, plays a central role in the fight against illicit trafficking, with a clear mandate under the 1970 Convention on the Means of Prohibiting and Preventing the Illicit Import, Export and Transfer of Ownership of Cultural Property. In response to the novel threats posed by online trafficking, UNESCO is supporting international exchanges to foster dialogue and collaboration among Member States, law enforcement, the judiciary, digital platforms, the art market, civil society, academia, and heritage professionals.

Drawing on good practices and real-world case studies, global efforts should explore:

- Trends, challenges, and the latest data on online illicit trafficking;
- Technology-based solutions such as AI and monitoring tools;
- Ethical and regulatory frameworks for digital platforms;
- Equitable access to digital tools for affected regions;
- Engagement with major tech companies and strengthened cross-sector collaboration;
- Grassroots initiatives to empower youth and communities to protect heritage online.

Global efforts build on key international developments, including:

- The 7th and 8th Meeting of States Parties to the 1970 Convention, which called for increased engagement with technology companies;
- The 2024 G7 Ministerial Declaration on Culture, which highlighted the role of innovation and enhanced cooperation with digital platforms;
- The Salvador da Bahia Declaration of the G20 Ministers of Culture, reaffirming the global commitment to combat cultural property crimes;
- The UN Pact for the Future (2024), which recognised culture as both a legacy to be safeguarded and a driver of peace and sustainable development.

Ethical and Practical Considerations

While technological innovation is vital, its application must respect human rights, avoid over-surveillance, and ensure inclusivity.

Algorithmic bias, lack of local context, and uneven access to digital infrastructure can create enforcement disparities or hinder efforts in vulnerable regions.

Ensuring transparency, accountability, and cultural sensitivity in the design and deployment of AI tools will be essential.

Technology must complement—not replace—strong legal frameworks, professional training, and multilateral cooperation.

Looking ahead

AI and digital technologies are rapidly reshaping the landscape of cultural heritage protection, transforming both the opportunities available to safeguard heritage and the challenges posed by increasingly sophisticated illicit networks. As the trafficking of cultural property adapts to the realities of the digital age—moving across online marketplaces, encrypted platforms, and global social media ecosystems—the tools designed to counter these threats must evolve accordingly.

UNESCO’s leadership remains central in guiding this transition. Through its normative instruments, its global networks—such as UNITWIN/UNESCO Chairs—and its commitment to strengthening international cooperation, UNESCO plays a pivotal role in promoting responsible, effective, and culturally sensitive uses of emerging technologies. The growing global recognition that innovation must be paired with ethical governance has further reinforced the need for coordinated responses, capacity-building, and the sharing of best practices across regions and disciplines.

Looking ahead, strengthening interdisciplinary research that bridges technology, law, archaeology, and cultural policy will be essential. Equally crucial is the encouragement of ethical innovation that aligns with human rights principles and respects the cultural specificities of diverse communities. Ensuring inclusive access to technology—particularly for countries and institutions with limited resources—will help narrow existing digital divides and empower a broader range of actors to participate in the protection of cultural heritage.

Together, these efforts can help shape a resilient, forward-looking framework that harnesses the potential of AI and digital tools to protect cultural heritage in the 21st century and beyond.

Further Reading

- UNESCO. Addressing the Illicit Trafficking of Cultural Property in the Digital Era. <https://www.unesco.org/en/articles/addressing-illicit-trafficking-cultural-property-digital-era>
- UNESCO. Recommendation on the Ethics of Artificial Intelligence (2021). <https://unesdoc.unesco.org/ark:/48223/pf0000381137>
- UNESCO-UNIDROIT Model Provisions on State Ownership of Undiscovered Cultural Objects (2012).
- UN GA “Return or restitution of cultural property to the countries of origin” <https://digitallibrary.un.org/record/3952203?ln=en&v=pdf>
- UN SC resolution S/RES/2347 (2017) [https://docs.un.org/en/S/RES/2347%20\(2017\)](https://docs.un.org/en/S/RES/2347%20(2017))