RITHMS Digital Platform.

How Social Network Analysis Can Be Leveraged To Fight High-Risk Criminal Networks Trafficking in Cultural Goods

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RITHMS DIGITAL PLATFORM features

- Interoperable
- Multifunctional (with multiple analysis and query tools available)
- Deployed only at segregated Law Enforcement Agencies (LEAs) premises
- Powered by **Social Network Analysis** (**SNA**: a method of mapping, studying, and visualising relationships among entities)
- Capable of **identifying, evaluating, and analysing relations and connections** between criminal and non-criminal actors involved in the trafficking of cultural goods
- Capable of integrating LEAs restricted data with the collected **Open Source Intelligence** (**OSINT**) data (i.e., websites, social media, repositories)
- Capable of providing LEAs with **enhanced intelligence on criminal networks** to steer the investigations

OPERATIONAL SCENARIO 1
LOOTED OBJECT with SUSPICIOUS PROVENANCE

- Officers check out antiquities on auction/sale (art fair, gallery, auction house)
- O. identify an archaeological object with incomplete *provenance*, no import/export documentation, just accompanied by an expert declaration of authenticity
- O. input acquired data into the Platform and start running multiple scrapers
- RITHMS highlights the networks of:

1. **the auction house/seller's connections** (previous sellers, buyers, conferrers, usual experts): e.g., the expert authenticating the item stands out as the authenticator of several items recently seized as looted; a usual seller stands out for previous indictments for illicit importation
2. **previous movements of the item** (previous sellers, buyers, collectors, auctions, art galleries): e.g., a missing link to a suspicious collector emerges

- O. enhance their investigation following the new leads

OPERATIONAL SCENARIO 2
ART THEFT

- A painting is stolen from a museum at night
- CCTV footage reveals two individuals and one of them is identified based on records of previous criminal activities
- Officers input the name and selected data from previous investigations into the Platform
- RITHMS highlights the **network of multiple criminal connections** revolving around the thief
- Interrogations and traditional investigative procedures lead to the arrest of an intermediary who has facilitated the fencing of the painting
- This name as well is input into the Platform
- RITHMS highlights the **network of relations connecting the two individuals, suggesting additional persons of interest to interrogate and potential routes for the stolen painting**
- O. enhance their investigation following the new leads

OPERATIONAL SCENARIO 3
CRIMINAL NETWORK EXPANSION PREDICTION

- Officers input data concerning a set of previous investigations revolving around an identified criminal network
- O. start running multiple scrapers
- RITHMS highlights the criminal network's current status, including suggested missing links
- Thanks to the **Link-Prediction function,** running dedicated algorithms based on statistics, **the potential evolution (expansion) of the criminal network emerges through the prediction of additional relations**
- The Link-Prediction function will be tailored in accordance with specific requirements of the LEA users

RITHMS
Research, Intelligence and Technology for Heritage and Market Security

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