

Policy brief

Protection-First FAIR Trafficking Intelligence System

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African migration routes towards the central Mediterranean have become extensive, complex and dangerous, exposing refugees and migrants to deaths, slavery, detention, ransom trafficking, and repeated sale between actors.¹

Intensified crackdowns since 2016 have pushed movement underground. Longer and less visible routes have increased dependence on smugglers and traffickers, especially where safe legal alternatives are absent. Containment policies place people in illegality and vulnerability, while actors who control transport, detention, checkpoints, or armed protection can exploit refugees and migrants with limited accountability.

Current policy failures result in a protection deficit, while dangerous routes remain the only perceived escape for many people and perpetrator networks stay partially hidden. Current policy responses often target movement rather than the actors who profit from the abuse.

Information on these trafficking networks is scarce. Survivor interviews and humanitarian case files contain evidence of perpetrator movements, hotspots, camps, detention-to-trafficking transfers, and repeated resale. Due to sensitivity of the data, the sharing of such data is not a trivial matter. Hence, this evidence remains fragmented, difficult to analyse and data sharing itself creates a significant risk, with human trafficking information being highly sensitive. Poor governance can expose survivors to retaliation, stigma, detention, or return. Consequently, useful intelligence must be separated from unsafe access to raw records.

¹ Van Reisen, M., Mawere M., Smits, K., & Wirtz, M. (eds). *Enslaved Trapped and Trafficked in Digital Black Holes: Human Trafficking Trajectories to Libya*. Bamenda, Cameroon: Langaa RPCIG.

Executive Summary

Central Mediterranean trafficking is both a protection crisis and a networked criminal economy. This brief proposes a protection-first FAIR information system that uses secure ontology-based data, graph analysis, and explainable analytics to identify perpetrator nodes, movements, and hotspots while protecting survivors. The objective is safer pathways, non-return safeguards, survivor support, and accountable action against high-harm traffickers and enabling actors.

Proposed data architecture for human trafficking information

EEPA, in partnership with VODAN-African, the African University Network of FAIR Open Science, has set up a data architecture to structure human trafficking information from (a) researcher data, (b) tips received by sources at key points on the migration routes, (c) grey literature, such as legal case files. This information is structured through a shared ontology covering actor types, locations, routes, coercive practices, detention links, ransom indicators, and known hotspots. In doing so, data becomes Findable, Accessible under well defined conditions, Interoperable, and Reusable (FAIR²) for protection and accountability.

The architecture ensures that the data is secure by keeping it at its point of creation under ownership of the organisation or researcher to whom the data belongs. As such, the data is stored locally and can only be accessed under clear access conditions defined by the data owner. The architecture promotes the sharing of derived insights rather than raw datasets. Once the data is structured, graph methods and explainable machine learning can identify recurring perpetrator nodes, detention transfers, trafficking hubs, and shifts in route risk. Outputs can support early warning, survivor referral, sanctions, and investigations.

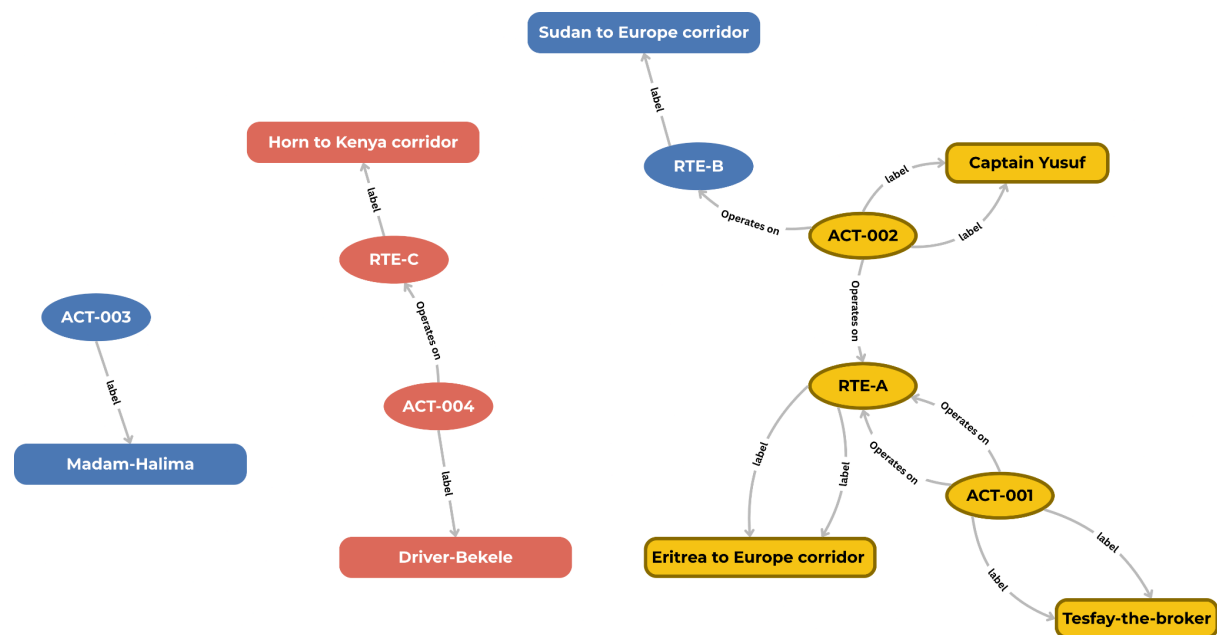


Figure 1. Results from an example query identifying routes and actors operating on these routes from two datasets. This example query was performed on sandbox data and does not contain any real information. The colour coding shows which information came from each dataset, with the yellow shapes representing information that was found in both datasets.

² Wilkinson, M. D., Dumontier, M., Aalbersberg, I. J., Appleton, G., Axton, M., Baak, A., ... & Mons, B. (2016). The FAIR Guiding Principles for scientific data management and stewardship. *Scientific data*, 3(1), 1-9.

Based on our findings from the development of the architecture, we formulate the following recommendations:

For International Policymakers:

- Establish common principles for trafficking-network information governance, anchored in FAIR standards, privacy-by-design, consent, and protection purpose limitation.
- Create a secure data collaboration framework involving UN agencies, NGOs, survivor-support organizations, researchers, law enforcement, and data-protection experts.

For EU policymakers:

- Mandate FAIR-compliant, harmonized data standards for protection and trafficking-risk reporting across Member States, aligned with UNHCR, IOM, ICRC, EUAA, and NGOs.
- Embed federated, FAIR-compliant and privacy-by-design data infrastructures as a binding condition for EU-funded humanitarian and anti-trafficking data systems.
- Fund explainable graph analytics and machine-learning pilots that detect trafficking hubs, repeated transfer patterns, perpetrator movements, and route-risk shifts.
- Use EU funding instruments to support technical deployment and frontline capacity, particularly for NGOs and lower-resourced Member States.
- Establish an independent oversight body to audit data use, investigate breaches, publish findings, and verify that outputs serve protection and accountability.

For NGOs:

- Adopt shared ontology fields for routes, actor types, coercive practices, detention links, ransom demands, forced labour, sexual violence, and hotspots.
- Invest in staff training on FAIR standards, privacy-by-design, trauma-informed interviewing, secure data entry, and consistent coding of trafficking indicators.
- Use network insights to strengthen survivor referrals, early warning, and documentation of high-harm perpetrators, without adding duplicative reporting burdens.

Links:

The applications are documented here: <https://github.com/VODAN-Development>

The applications form the production tools for the local repositories that form the Humanitarian Data Space (HDS). The HDS is available here: <https://www.humanitariandataspace.com/>

The HDS is supported by the Africa Health Data Space: <https://aun.mu.edu.et/ahds/>