

## PAMLA

PAMLA will leverage HPC processing and Machine Learning to develop improved Anti-Money Laundering (AML) controls,



### Inspiration

PAMLA will leverage HPC processing to develop improved Anti-Money Laundering (AML) controls, aiming to increase their efficiency and reduce the current 95% rate of false positives. This high rate results in excessive time and money spent on investigating legitimate cases, often leading to overlooked suspicious activities due to time constraints when using traditional AML software.

Mopso already has developed its own solution for continuous monitoring (Brain) that implements basic network analysis reducing this rate to 55% in best case scenario, with PAMLA we would like to make this result also in the general case scenario and trying to do even better.

The importance of AML is reflected by the EU's AML directives (AMLD6 was implemented in 2021), and the upcoming creation of an EU AML authority. To achieve this goal, PAMLA is leveraging Mopso's experience in the domain of money laundering, knowledge graphs, and processing of real networks of financial data, along with LIST's experience in HPC Computing, visual analytics of multilayer networks, and Machine Learning.

### Innovation

We are developing techniques for identifying specific crime-related traits in the topology of the network and associated attributes. PAMLA will:

- identify and characterise clusters, identifying network motifs and other characteristics that map to established crime patterns, to support authorities enforcing the EU's AML directives.
- leverage the power of HPC processing to deal not only with the scale of the data, but more importantly, with its complexity, and the intensive processing required for graph matching and other network focused algorithms for identifying risk related structures and entities. HPC performances will allow PAMLA to explore the wide range of metrics and centralities available.
- develop Machine Learning based approaches to network processing on HPC infrastructure that will support the fast identification of entities or structures of interest and of new, previously unknown, patterns related to a high risk of money laundering.

### Impact

PAMLA will demonstrate how the use of HPC infrastructure can not only accelerate existing graph analytic approaches to AML, as provided by Mopso's state of the art software, but furthermore enable new techniques to be applied to quantify AML risk, that would otherwise be infeasible due to the lack of processing power. To support this goal, we will develop new software modules, fully leveraging the HPC processing power that is the foundation on which PAMLA is built, and we will also create new visualization approaches to help a domain expert understand and interact with the results. In the final stages of the project, the most effective approaches will be integrated as part of Mopso's platform to improve the AML services offered to their customers.

### Partenaires

Mopso

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