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Deliverable D5.3

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Reviewers: UPV, CENTRIC

Contributors: ENG, ICCS, CERTH, BPTI, SPH, GTI, VICOM

Abstract: This document is the final deliverable of Work Package 5 (WP5), presenting the fully developed “Risk Assessment, Investigation, and Decision Support Toolset.” It outlines the latest features and improvements made to the tools—ACRA, the Predictive Corruption Analysis Tool, and the FALCON Dashboard—refined through end-user feedback gathered during WP6 pilots. The document highlights their evolution, technical advancements, and readiness for operational deployment. Furthermore, in APPENDIX A, the updates related to the other UIs developed during the FALCON project are presented.

Executive Summary

This deliverable (D5.3) provides the final overview of the anti-corruption tools developed within Work Package 5 (WP5), presenting the consolidated results and updates introduced after Pilot 1 and Pilot 2, as well as the preparatory steps for the final pilot (Pilot 3). The outcomes of Pilot 3 will be reported in Deliverable D6.4, as WP5 formally concludes with the submission of this deliverable. The document highlights how user feedback collected during the pilot phases has directly influenced the evolution of the tools, leading to the implementation of new functionalities and usability improvements aligned with operational requirements.

The deliverable presents an updated and detailed description of the WP5 tools, focusing on architectural refinements, newly implemented features, and deployment solutions adopted following the pilot activities. It also describes the strategies used to deploy the tools in both test and production environments. In particular, the document provides an in-depth analysis of three main tools:

- **Enhanced Corruption Risk Assessment (ACRA) Tool** – Designed for law enforcement agencies (LEAs) and anti-corruption authorities, the ACRA tool supports real-time data analysis and delivers comprehensive corruption risk assessments. This deliverable presents the updates introduced after the pilot phases, highlighting how advanced data analytics have been further refined to strengthen investigators' capabilities in detecting and preventing corruption risks.
- **Predictive Corruption Analysis Tool** – This tool aims to predict potential single-tender cases at the early stages of the tendering procedure. The final version presented in this deliverable incorporates enhancements derived from pilot feedback, improving predictive accuracy, transparency, and usability in public procurement monitoring.
- **FALCON Dashboard and Pattern Identification Tool** – These tools provide investigators with a comprehensive and interactive dashboard to support decision-making in corruption investigations and to identify recurring corruption patterns. This deliverable describes the updates implemented after the pilot phases, improvements to the frontend user interface, and new backend functionalities. Finally, the section presenting the Pattern Identification Tool shows the implemented technique based on machine learning models to support investigative analysis.

For clarity and continuity, the updates, developments, and deployment solutions described in this deliverable are presented as an evolution of the solutions introduced in Deliverable D5.1 and D5.2, allowing a clear comparison between the initial design and the final, pilot-validated implementations.

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The document includes, in addition, two appendices. Appendix A provides updated user interface views of other tools developed within the FALCON project, particularly those from Work Package 4 (WP4). Appendix B presents the text-based procurement analysis developed by GTI, describing the methodology and results of the research conducted during the project. Together, these annexes reinforce the integrated and modular nature of the overall FALCON ecosystem.