## INSPECTr Project

Intelligence Network & Secure Platform for Evidence Correlation and Transfer

## Quarterly Newsletter: First Edition

*Edition: March 2021*

Dear Colleagues,

Welcome to the first edition of the INSPECTr newsletter for LEAs, stakeholders and all parties interested in the INSPECTr project.

In this first publication we aim to set the INSPECTr project in context, provide more information about the INSPECTr project as a whole, introduce our consortium partners, describe the project's aims, key milestones, and technical aspirations, and also provide updates to our latest events and publications.

We welcome communications from our readers and if you wish to contact us or subscribe to our Newsletter you can e-mail us directly at inspectr@ucd.ie.   Information and updates can also be found on our project website https://inspectr-project.eu/.

### INSPECTr Project Funding Summary

- INSPECTr (Intelligence Network & Secure Platform for Evidence Correlation and Transfer) is a collaborative research and innovation project under the topic SU-FCT02-2018-2019-2020 – Technologies to enhance the fight against crime and terrorism.
- The project is funded by the EC with €6,997,910.00 under Grant Agreement Number No. 833276, and officially commenced on 1st September 2019 with a duration of 42 months.

## INSPECTr Principal Objectives

The INSPECTr Project's principal objective will be to develop a shared intelligence platform and a novel process for gathering, analysing, prioritising, and presenting key data to help in the prediction, detection, and management of crime in support of multiple agencies at local, national, and international level. This data will originate from the outputs of free and commercial digital forensic tools complemented by online resource gathering. The final developed platform will be freely available to all Law Enforcement Agencies (LEAs).

## INSPECTr Project Consortium

The Project Coordinator is the Centre for Cybersecurity and Cybercrime (CCI), University College Dublin, Ireland.  CCI has worked for over twenty years supporting government and law enforcement in the fight against cyber and cyber-enabled crime through a range of capacity building solutions including training, education, forensic tool development and targeted research. Through this work CCI has developed strong and well-established collaborative relationships.

There are 18 project partners within the Consortium supporting the project from a multidisciplinary background of Law Enforcement, Academic Institutions, and Technical SMEs.

## Consortium Partners by Company/Institution

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| AGS Ireland | BFP Belgium | CNR Italy | EBOS Cyprus | EPBG Estonia | GN France |
| IGPR Romania | ILS Belgium | LSP Latvia | MoJN Netherlands | PHS Norway | PSNI N. Ireland |
| RUG Netherlands | SIREN Ireland | TRILATERAL UK | UCD Ireland | UNIL Switzerland | VLTN Belgium |

More can be found about our partners at https://inspectr-project.eu/

With the exponential growth of legitimate on-line commercial and social activity, there is an ever-growing group of actors who are leveraging the internet and its technologies to commit illegal acts. Cybercrime and cyber-dependent crimes[1] are borderless activities. Furthermore, the types of crimes being perpetrated are diverse.

The annual Europol EC3 Internet Organised Crime Threat Assessment (IOCTA)[2] describes a range of activities undertaken by organised crime gangs, which includes extortion, child sexual exploitation, trade in illicit goods, politically motivated attacks, attacks against critical infrastructure and cyber terrorism.

The use of telecommunications' technologies providing secure and anonymous access across a range of devices by criminals is increasing the level of complexity for digital investigators. This environment of superfast communications, massive amounts of data and access via multiple devices with increasingly sophisticated anonymisation/encryption technologies means the challenge of acquiring and analysing digital evidence becomes increasingly difficult.

## Introduction to the Features of the INSPECTr Platform

The INSPECTr project will enable LEAs to deal with increasingly difficult challenges by providing a platform with numerous features for investigating cybercrime. The outputs of traditional digital forensic tools will be ingested and complimented with bespoke open source forensic, triage and intelligence gathering solutions that are integrated to a local LEA node. Chain of custody and evidential integrity will be maintained using a blockchain ledger and services which have been designed to enhance existing LEA practices.



The outputs from external and internal tools will be homogenised, to facilitate big data analytics capabilities. INSPECTr will provide intuitive interface for accessing binary data and providing fast and contextual queries across indexed data and knowledge graphs. This will be enhanced through customisable dashboards and widgets in an open source case management system.

Advanced features will provide further assistance to ease the workload of LEA investigators and analysts. On demand web site preservation will facilitate clear web and darknet investigations. Artificial intelligence and machine learning applications will reduce the workload of investigators, through semi-automated image and natural language processing and cross-correlation of evidential data sources. Proactive police strategies will also be facilitated through various approaches to criminal network detection, short-term and long-term crime forecasting. INSPECTr's machine learning framework will ensure that these features can be retrained for regional requirements when necessary.

Perhaps one of the more ambitious elements of the project offerings is the ability for knowledge discovery between INSPECTr nodes. Using a publish/subscribe model, that is akin to trusted group sharing in malware information sharing platforms, an investigation team can choose to share certain evidential findings with other nodes under strict legislative and human controls. This will facilitate

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[1] Europol IOCTA 2017 - Cyber-dependent crime can be defined as any crime that can only be committed using computers, computer networks or other forms of information communication technology (ICT).
[2] Search | Europol (europa.eu)

intra- and inter-jurisdictional correlation of evidence, allowing investigators to discover linked cases with other investigations. INSPECTr will also facilitate the transfer of evidence between nodes, subsequent to the establishment of standard legal agreements, thereby advancing the potential for multilateral assistance and joint investigations.

## INSPECTr Project – Involvement with the LEA Community

LEA involvement and insight is absolutely key to the development of the INSPECTr platform throughout the platform's development, testing, and future adoption. The INSPECTr platform will be built with the active participation of a broad and inclusive pan-European LEA community from the outset and throughout the entire project, including the definition of requirements, feedback and involvement on research and development tasks and the demonstrable use of the outputs.

### Living labs Introduction

A network of LEA Living Labs is being set up both organisationally and technically to specify requirements, experiment with and test the project outputs, and create the nucleus for the sustainable use of the INSPECTr platform by LEAs throughout Europe.  Each LEA Living Lab will provide an experimentation and a test-bench environment primarily and initially with mocked evidence from scenarios created by LEA partners to test the requirements, accuracy, and user acceptance of the platform.

### Living Labs Baseline Measurement and KPIs

An early milestone in the project was to define the common processes and baseline resources in LEA Living Labs to experiment towards producing a detailed requirements pipeline. This required comprehensively detailing the LEAs coordination and experimentation environment, each of the investigative tools used, and an in-depth analysis of a 3-stage questionnaire process completed with the support of our LEA partners. All of the efforts throughout this task were geared towards establishing a solid collaborative environment for LEAs, where based on their experimentation and feedback, enabled the technical partners to extract the initial requirements and specifications for the forthcoming INSPECTr platform, which was being developed in parallel within the other relevant work packages.  This process provided invaluable knowledge to inform the Consortium of what is expected of the INSPECTr platform, in regard to its performance and functionalities that are most relevant to LEAs' investigative workflow.

### Legal Framework of INSPECTr and the law enforcement context

The INSPECTr project aims to develop a shared intelligent platform and novel process for gathering, analysing, prioritising, and presenting key data to help in the prediction, detection, and management of crime support of LEAs at local, national, and international level.  The understanding and assessment of the legal framework relating to international and national law enforcement powers and evidence requirements is therefore a key component in the development of the Living Labs.

### Promotion of ethics- and privacy-by-design in the law enforcement context

The INSPECTr project seeks to increase the security of the EU, while complying with the tenets of Responsible Research and Innovation and national and European research ethics requirements in a manner that respects and preserves civil liberties.  INSPECTr will adhere, in strict compliance, with the relevant ethical and legal guidelines, provisions, procedures and protocols that have been identified

by the European Commission, Ethics Manager and project partners, including privacy-awareness and legal compliance of the research and development activities.

This process includes identification of ethical, social, and legal requirements in a manner that can inform the design process. Furthermore, privacy and data protection requirements from applicable legal frameworks are embedded in the technical solution from the of the project and adhere to principles such as necessity, proportionality and legality of personal data gathering and processing.

The practical steps we are taking to embed the above approach are:

- Privacy-by-design and ethics-by-design support for the design of digital forensics platforms.
- Legal, societal, and ethical impact assessment of INSPECTr tools in practice.
- Engaging widely with stakeholders (Living labs members, legal and ethical experts, NGOs, researchers, developers, policymakers) to identify and dialogue around areas of concern.

More information describing how research and data processing is conducted within the INSPECTr project can be found in our research privacy statement on the project's website at https://inspectr-project.eu/privacy.html#research_data

*Living Lab Milestone - Demonstration of the first Living Lab "Phase 1" (INSPECTr Key Milestone 2)*

Phase 1 of the Living Labs will be rolled out to our LEA stakeholders at our Project General Assembly taking place on Thursday 15th and Friday 16th April 2021.  At this meeting, the LEA Stakeholders will be able to observe the Phase 1 demonstration of the INSPECTr Living Lab and provide further valuable feedback and insights prior to the project moving to Phase 2.

It is an exciting and pivotal time for the project, and we look forwarding to being able to provide an update of this Phase 1 demonstration and further developments of the INSPECTr platform in future newsletters.

INSPECTr Project Key Milestones



| 1 | Detailed project plan (including KPIs for each 6-month project period) documented and approved. | Month 1 |
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| 2 | Proof of Concept (PoC) prototypes of the main Platform components (M18).<br>• PoC prototypes evaluated by the project management team.<br>• Reviewed and endorsed by the LEA Steering Group. | Month 18 |
| 3 | Initial INSPECTr Platform installed in network of LEA Living Labs Set-up<br>• First version of INSPECTr Platform components<br>• Platform deployed in all LEAs<br>• Configuration of LL Scenarios and Use Cases and integration with information sources<br>• Measurements and feedback system completed on the system<br>• Living Lab phase 1 operation initiated | Month 23 |

| 4 | Second phase testing in Living Labs initiated (M33). <br> • Second version of INSPECTr Platform completed (WP2-5), addressing feedback from LLs testing phase 1 <br> • Experiment plans updated. <br> • integration with information sources for LLs Testing phase 2 ready | Month 33 |
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| 5 | Reference Framework for Standardization of Evidence Representation and Exchange. <br> • Reference Framework for Standardization of Evidence Representation and Exchange – Version1 | Month 33 |
| 6 | Action Plan Initiated. <br> • Training needs analysis completed and e-training environment set-up <br> • Dissemination Plan / Communication Program for early adoption activated <br> • Extended participation in LLs available | Month 37 |

## Events to Date

Due to the ongoing COVID-19 pandemic, physical gatherings of the INSPECTr consortium have taken place as virtual meetings using online technology since March 2020. This has been an extremely successful methodology in managing the project's development in a time where flexibility and adaptation have been a necessity.

*INSPECTr Kick-Off Meeting 18th – 20th September 2019*

The Kick-off meeting was held in UCD, Belfield, Dublin 4, Ireland between 18th - 20th September 2019. This meeting allowed for partner and Project Officer introductions and for setting out the parameters of the project in terms of project administration, ethics, establishment of Steering Boards, and overviews of the nine work packages culminating in an estimated one-year work plan.

**Consortium Team Picture at the Kick-Off Meeting held in UCD, Belfield, Dublin 4, Ireland in September 2019.**

*INSPECTr Technical Meeting 11th- 12th December 2019*

This first technical meeting was held in UCD, Belfield, Dublin 4, Ireland between 11th-12th December 2019 and was organised to discuss the architecture design and development of INSPECTr.

*INSPECTr Technical Meeting March 10th – 12th March 2020*

The second technical meeting was held in UCD, Belfield, Dublin 4, Ireland between 10th-12th March 2020 and was organised to review server specifications, sign off on project architecture, establish the project roadmap, define roles and responsibilities and review early-stage available demos.

This meeting concluded our physical meeting activity and due to COVID-19 the project moved online with the following structure being observed as a minimum with additional meetings to be convened as needed to ensure the continued success of the project:

- **Consortium Project meetings** for progress reports convened monthly on the 1st Tuesday of each calendar month.
- **Consortium Technical meetings** convened weekly for in-depth technical discussions and demonstrations of work in development.
- **Law Enforcement Steering Group** (LSG) meetings to be held as needed, and from October 2020 taking place on the 1st Wednesday of each calendar month.
- **Ethics monthly meetings** for work package leaders hosted by the INSPECTr Ethics partner. This meeting is held to reinforce the project's Ethics-by-Design approach and allow time for deeper consideration exploration of ethical issues that arise.

*INSPECTr Consortium Attendance at Conferences and Workshops*

The Consortium takes an active interest in related conferences and workshops being held across the EU and have been in attendance. A full list of the workshops and conferences attended to date can be found on our website at https://inspectr-project.eu/project_updates.html#conferences

*INSPECTr Internal Workshops*

In January 2021 Ethics workshops were hosted by our Ethics lead in the project on the important subjects of Ethical Integration and Online Data and Ethical AI. A third workshop is to follow on the subject of AI and Gender.

Blogs of the above INSPECTr Ethics workshops can be found on our website https://inspectr-project.eu/news.html#blogs

## Forthcoming Events

*INSPECTr Project General Assembly*

The INSPECTr Project General Assembly (PGA) will be held on Thursday April 15th and Friday April 16th, 2021. At this, our first PGA, there will be a review of the technical progress made to date by the project as a whole, presentations from individual work package reports and a Living Lab demonstration together with a review of the three INSPECTr Use Cases developed collaboratively within the Consortium by our LEA, Technical, Ethical and Legal partners.

*Webinars, Trainings and Conferences for INSPECTr dissemination*:

We are currently in the process of communicating with European Agencies to explore the co-hosting of INSPECTr webinars and trainings and also presenting at conferences in order to disseminate

information about INSPECT both within Europe and beyond the borders of the EU.  We will be pleased to provide further information on the development of these activities in future newsletters.

## Closing

We acknowledge and recognise the substantial support from the EC over recent years helping to propel and accelerate many aspects of the LEAs' remit in difficult and complex technological contexts. Our aim in INSPECTr is to leverage existing tools and technologies from EC supported projects while addressing important aspects of new innovation and research excellence.

We look forward to reporting further on our developing activities in our next newsletter.

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Our mailing address is: inspectr@ucd.ie