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Information Management Working Group meeting

16-17 May 2023

Item 12

IMWG to take note

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Building the Research and Innovation Pipeline

Update on the implementation of article 33a and the R&I Sandbox environment

1. Aim

On 21-23 March the Europol Management Board adopted the *"Binding document defining the general scope of the research and innovation projects (application of Article 8 of the Management Board Decision further specifying procedures for the processing of information for the purposes listed in Article 18(2) (e) of the Europol Regulation"* (EDOC#1268633v8).

Europol is now focussing on creating the technical environment necessary to enable Europol and the Member States (MS) to process personal data for research and innovation purposes with a view to developing, training and validating AI models and tools.

This note aims to inform the HENU Meeting on the intended approach and status update of the project.

2. Background / Innovation Pipeline

The Europol Work Programme 2023-2025¹ provides for the development of a technical environment for "Europol and MS to develop, train, and validate AI models and tools using operational data." Furthermore, the ICT Work Plan 2023² has reserved [REDACTED] man-days of effort and [REDACTED] for the "Business Stream 5 – Innovation" expressly for work on the Research & Innovation (R&I) technical environment (the "**R&I Sandbox**").

The Europol Innovation Lab intends to build a Research and Innovation Pipeline that makes use of the new technical environment. A multi-stage process is envisaged, where opportunity scanning, pre-selection, and prototyping will allow promising technologies to progress through the stages. Technologies that pass through all relevant compliance and security checking may progress to full operationalisation.

3. Strong expectations

To fulfil all possible Research & Innovation use cases made possible by the introduction of the amended Europol Regulation, a holistic architectural and design approach is

¹ Europol Programming Document 2023-2025, The Hague, 21 October 2022, EDOC#1192222v16.

² Europol ICT Workplan 2023, The Hague, 6 October 2022, EDOC-#1252229v3.

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needed. Even though R&I projects may work on technologies that are not yet ready for production, there can be no compromise on the fundamental tenets of information security, data protection and fundamental rights compliance, and auditability.

This holistic approach may well take time to get right. The agency knows from previous technical innovations (e.g. the New Forensic Environment, PERCI) that our supervisors are also very thorough in examining such innovations.

Conversely, numerous stakeholders, especially in the EU Member States, are keenly interested in Europol's new R&I capabilities. In one meeting, this was described as a "game changer" by a Member State.

Indeed, one of the main problems for the uptake of the results of EU-funded research in the field of internal security (i.e. Horizon Europe) lies with the fact that the results of research projects cannot be developed and validated with operational data. This means that many prototypes with strong potential for internal security agencies are never implemented and adopted in practice by law enforcement agencies (LEAs) because they lack maturity and have not been tested on "real data".

By being able to process personal data for the purpose of developing, training and testing algorithms for the development of tools for LEAs (article 18(2) (e) ER) in an isolated, secure, and fully compliant data processing environment (article 33(a)), Europol will enable the EU Member States to further develop prototypes on operational data and validate the outcome of the research programmes. The Research and Technology Organisations (RTOs) that work with European LEAs in the framework of the Horizon Europe research projects will also indirectly benefit from the Europol Sandbox from their public law enforcement partners. Both RTOs and LEAs will further contribute to the uptake of the European security research efforts thanks to the Europol Sandbox. This is one of the reasons that led the European Commission to propose article 18(2) (e) in the amended Europol Regulation and for the EU legislators to endorse the Commission's proposals.

In Q3 2023, the Europol Innovation Lab will start working with some EU Member States on the creation of pilot projects, during which results [REDACTED] will be used to develop and test the processes and policies created to implement article 18(2) (e) and article 33a.

The Europol R&I Sandbox has also the potential to become the core of the future EU Security Data Space for Innovation (EU SDSI). The EU SDSI is an ambitious project stemming from the European Union Strategy for Data,³ which foresees the creation of EU-wide common and interoperable data spaces in all strategic sectors. In the field of internal security the objectives is to allow internal security actors in the EU to share relevant datasets (excluding personal data and data related to criminal investigations) to contribute to the development of artificial intelligence models⁴. With its strong legal footing and robust safeguards, the Europol R&I Sandbox will fulfil many important basic requirements around which a broader data space ecosystem for internal security practitioners can be built.

4. Approach

The services offered by the Europol Innovation Lab and, more specifically, the potential of the future Europol R&I Sandbox for delivering innovative solutions to the EU LEA community has raised high expectations with Europol's Member States and with policy stakeholders in Brussels

In order to resolve the need for speed with the need for thoroughness, the Europol Innovation Lab proposes a **multi-phase approach** to unlock benefits early without compromising the agency's compliance framework.

³ <https://digital-strategy.ec.europa.eu/en/policies/strategy-data>

⁴ The first report by EY on the EU SDSI is expected by May 2023. See EDOC-#1298809 for more detail.

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Europol is already familiar with the concept of **minimum viable products** (MVP's) and this is exactly what is proposed here. An MVP for the technical infrastructure should aim to **reuse existing technical environments** where possible and **reuse/update existing policies and designs**, thus saving time.

Furthermore, the proposed approach is to focus on a **subset of possible use cases** to begin with, so that value creation may begin sooner.

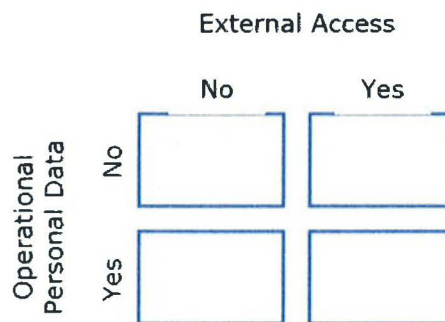
Finally, by commencing work on such an MVP infrastructure, Europol ICT will have time to design and develop a holistic technical infrastructure. It also allows a potential alignment with the EU SDSI, insofar as that proves to be relevant.

5. Use Cases

The MVP technical environments should not aim to satisfy all possible use cases, as that would require more time and delay the realisation of the benefits of R&I Projects under Article 33a.

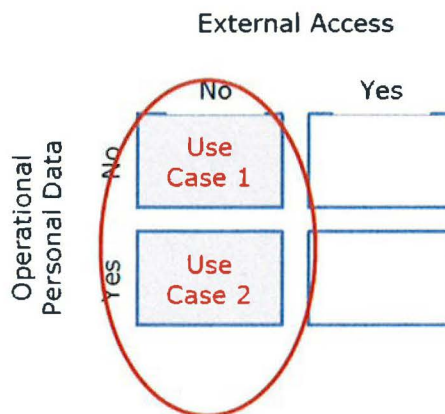
To simplify the approach, use cases can be split along two main axes, whether external access is required (yes/no) and whether operational personal data will be processed (yes/no).

Diagram 1: Use Cases



The MVP approach narrows the focus to include only use cases not requiring external access. Allowing access from outside Europol networks requires additional infrastructure such as security controls or 2-factor authentication, but above all would require additional time to implement.

Diagram 2: subset of use cases



Use Case 1: Using an R&I Sandbox environment without external access and without using personal data.

In this use case, a technical infrastructure is required that allows for the quick and agile use of technology, for example when validating algorithms with synthetic data, assessing software code for suitability, possible software refactoring, or quick prototyping.

Promising new technology can be evaluated and validated in collaboration with Member States' representatives, external companies, or academia, who are not permitted to access personal datasets.

Use Case 2: Using an R&I Sandbox environment without external access but using personal data.

In this use case, tool selection and prototyping may have already happened. Now is the time to validate the new capability against a live, operational dataset containing personal data. The technology can be stress-tested, additional security testing can be performed, and any compliance-driven activities, such as Data Protection Impact Assessment (DPIA) or Fundamental Right Impact Assessment (FRIA) submissions made.

Access would be restricted only to LE personnel with appropriate access rights. (To facilitate close collaboration with MS, the current concept of SNE's may be expanded to include R&I projects).

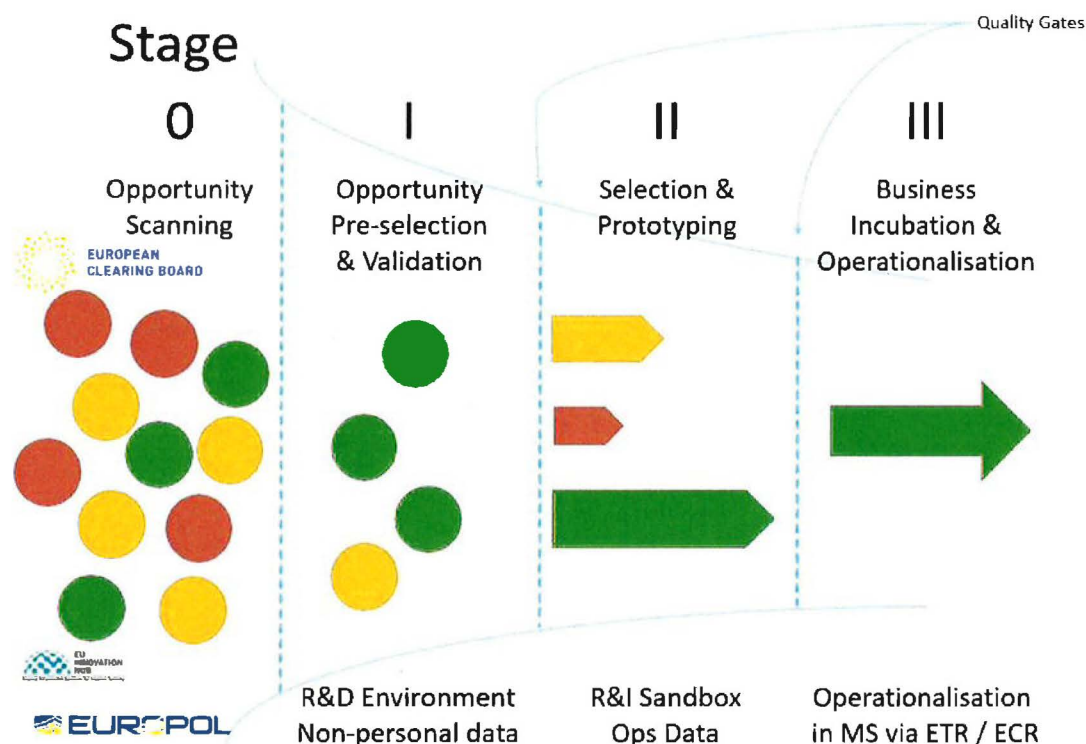
Note that the process description "Support R&I projects processing personal data (Art 33a ER)" allows for the distinction between these two use cases⁵.

6. Building the Research and Innovation Pipeline

Ultimately, the technical infrastructure represents a set of tools that will support the creation of an Innovation Pipeline. This pipeline will take a multi-phase view of scanning for opportunities, pre-selecting and validating such opportunities, prototyping, and operationalisation, see following diagram. The two use cases, mentioned above, can be mapped onto this pipeline.

Diagram 3: multi-phase innovation pipeline

⁵ *Support R&I projects processing personal data (Art.33a ER)_(pr.v.1)*, The Hague, 24 February 2023, EDOC-#1160881v9



7. Implementation Status

The IM Working Group is advised that the project to build the technical environment has kicked off between Europol ICT and the Europol Innovation Lab. The technical work is split into the two uses cases mentioned above.

Europol ICT is working on the precise details; the principles of reuse of existing designs, policies, and environments is intended to reduce delivery time, delivery cost, and complexity.

An Options Analysis by Europol ICT, due by the end of April 2023, will determine the exact technical shape of the R&I Sandbox.

The aim is to deliver a quick win for all interested stakeholders before the end of 2023, with iterative improvements in the years to come.

8. The way forward

- With the overarching aim of "value creation at speed" as a guiding principle, the implementation steps towards a set of Sandbox environments to fulfil the mandate of Art 33a have commenced.
- The IMWG is invited to take note of the desired implementation approach and the breakdown into a subset of use cases that aim to foster the earliest possible benefits realisation.
- The IMWG is invited to note that the Europol Innovation Lab will organise an end-users workshop with the European Clearing Board (EuCB) in June 2023, in order to explore which policies and procedures need to be adopted to concretely implement the R&I Sandbox from the MS perspective. The workshop will also be used to help MS representatives to assess whether they have the right national legal basis to share datasets with Europol for R&I purposes. It is proposed that the outcome of the EuCB workshop will be shared with the HENUs at their meeting in July 2023.

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