

The RISEN Project

The aim of the RISEN project is to develop a set of real-time, contactless sensors and an Augmented Crime Scene Investigation system for the optimization of trace identification, classification and interpretation on site, capable of creating an interactive 3D model of the crime scene with the position and labelling of traces and the relative results of the on-site analysis.

The RISEN Consortium comprises 20 partners from 12 different European Countries that represent Research Institutes, Law Enforcement Agencies, Universities, Small and Medium Enterprises, and Standardisation Institutes. The management structure of the RISEN project is organized to meet the specific needs and scope of the challenge ahead, ensuring the involvement of all partners in the Consortium's decision-making process, whilst retaining the necessary level of autonomy allowing for fast decisions on operational and technical issues. RISEN's management structure consists of two main management boards, the Coordinator Team and the RISEN Steering Board, both supported by the Ethics Advisory Board, the Security Board and the Stakeholders and Practitioner Advisory Board.



PROJECT COORDINATOR



RISEN Consortium



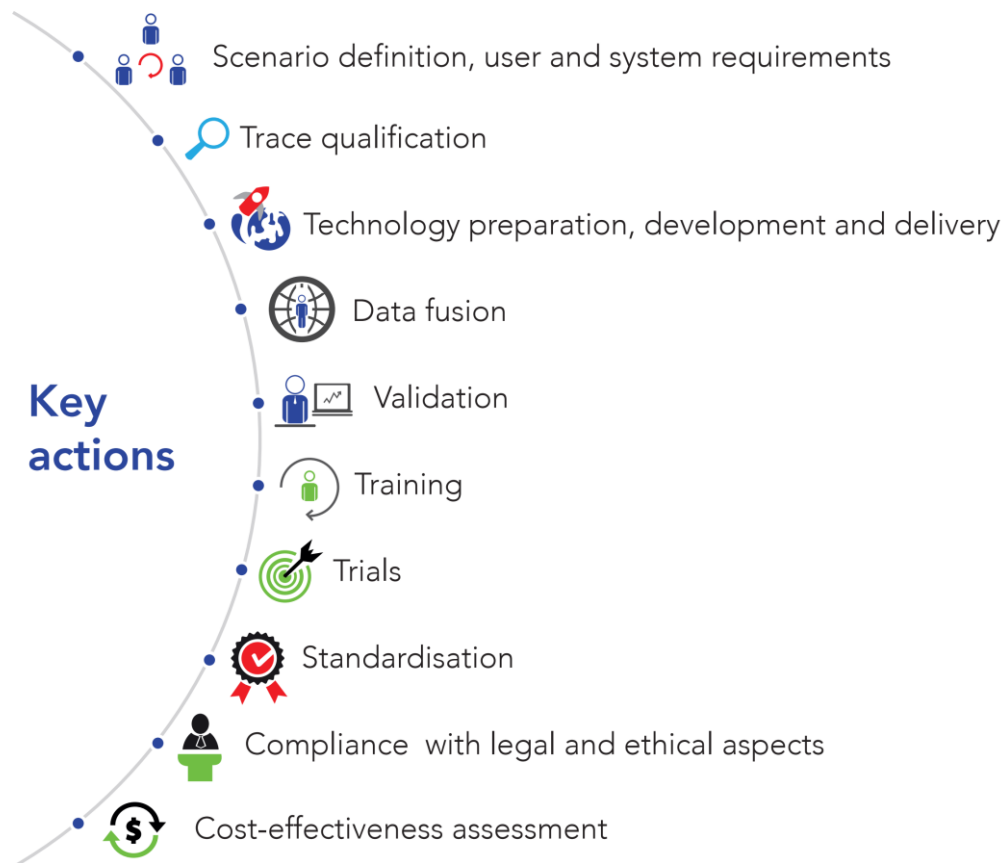
This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 883116.

Since the proposal phase, a close interaction with law enforcement agencies (LEAs) has been a key success factor for RISEN. The insightful dialogue pointed out reduced time and lowered resource spending in forensic laboratories, a digitalized chain of custody to assure data integrity over its lifecycle, and a fast exchange of information among LEAs were three main issues to be addressed by the RISEN project. As the project unfolds throughout 48 months, the project partners and members of the Stakeholder and Practitioners advisory Board will have the opportunity to exchange new ideas and build synergies in RISEN’s three Workshops.

The RISEN project is accomplished through the scientific and technological innovations stemming from 11 work packages. From scenario definition and the elicitation of user and system requirements to the preparation, development and delivery of technology, RISEN envisions the design and implementation of innovative real-time sensors. These should be easily mounted or used at the scene to expedite the collection of trace evidence and optimise its identification, selection and labelling on site, thus meeting pressing user needs concerning the demand for results and time and resource constraints.

In addition, the data acquired in-situ is processed, fused and displayed in a 3D augmented crime scene investigation system, producing an interactive 3D model of the crime scene available at any time for investigative and judicial purposes.

Importantly, RISEN foresees an extensive training, testing and validation trials program that brings technical partners and LEAs together to improve and mature the RISEN System and enhance the EU’s forensic investigation state-of-play. In the process, standardisation and full compliance with existing legal and ethical aspects support the conduct of a thorough cost-effectiveness assessment of the RISEN System, while contributing to reinforce the RISEN’s trustworthiness and acceptance by LEAs across Europe.



RISEN Accomplishments

The RISEN project has been active for six months. The kick-off meeting was held in a digital format on July 1-2, 2020 and successfully brought all major players of the project together to discuss how RISEN will provide a scientifically sound and ethically responsible solution for the challenges of advancing the forensic science and investigation.

Two months later, on September 9-10, 2020, RISEN hosted its first Workshop dedicated to promoting an open debate of the various facets of LEA requirements and expectations with respect to advancing the methods, protocols and tools for forensic investigation *in situ*. The RISEN partners and members of the RISEN Stakeholder and Practitioner advisory Board exchanged their expert opinions, views and perspectives on how innovative sensors and sophisticated information systems would support the optimization of trace collection, identification and classification on site, as well as the investigation work addressing the relative results of the on-site analysis. Moreover, the added values of having an interactive 3D model of the crime scene, presenting the position and labelling of traces, and exploring different avenues of investigation as a support to on-site analyses, were discussed. LEA specialists and forensic investigators also had the opportunity to describe the relevance of having digitally marked and inventoried traces to support the investigative work, assuring data integrity and creating a digital chain of custody for all evidence that is key for judiciary purposes. A set of questionnaires were presented to LEA representatives and a dynamic dialogue emerged as the group reviewed the latest European crime statistics that were of relevance for the RISEN system's development.

Based on the valuable insights and contributions gathered in the first RISEN Workshop, the Consortium partners proceeded with the systematization of key user requirements and the identification of relevant system requirements to inform the building of the RISEN system's design. Overall, the Workshop activities included:

- supporting the understanding the state-of-the-art of forensic trace qualification methods and technologies to analyze, document and record crime scenes;
- supporting the identification of challenges and gaps (technological, training, procedural, standards, safety, legal) affecting the investigative forensic work on-site;
- identifying user requirements for in-situ crime scene investigation;
- harmonizing the forensic activities with novel field-deployable real-time tools within RISEN (short term) and in Europe (best practice manual, long term).

During the first 6 months of its timeframe, the RISEN partners worked to establish a clear picture of the existing state-of-the-art of forensic trace qualification, requirements and gaps, informed by the expertise and the experience of the RISEN LEA partners. A focus was made on chemical and biological traces and reports of both the state-of-the-art analytical capabilities and of crime scene scenarios were produced.

A comprehensive research of existing standards and standardisation activities in the field of forensic analysis and data exchange was also performed during these first 6 months.

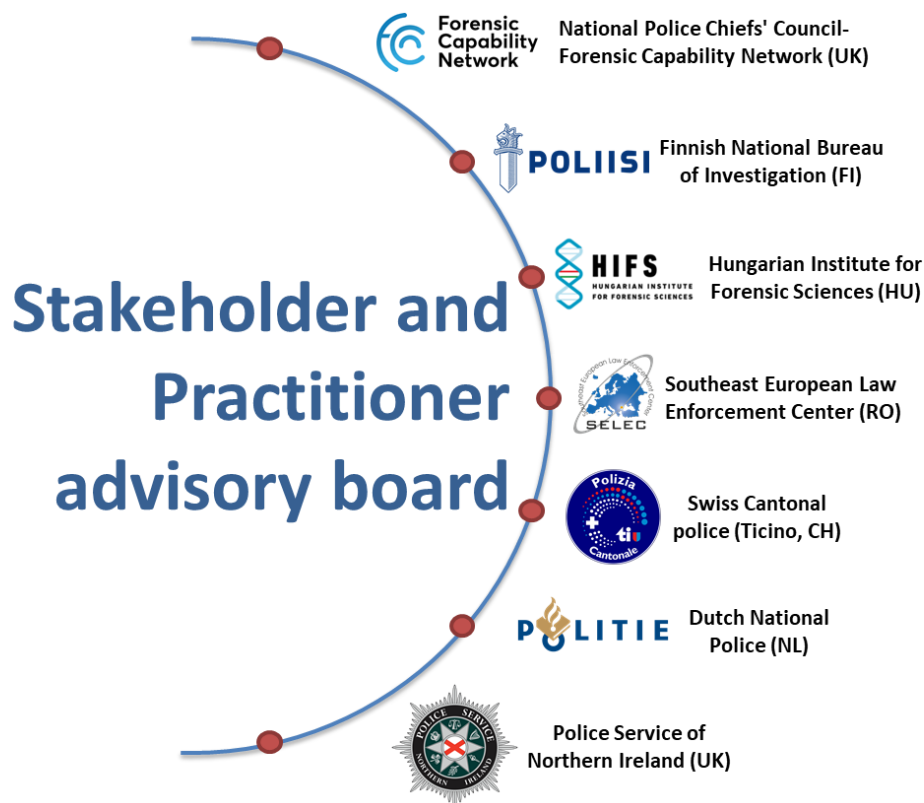
Concerning Ethical, Legal and Societal Aspects (ELSA) the RISEN project recognizes the paramount importance of handling and managing evidence in full conformity with chain of custody principles. Also, RISEN partners acknowledge that the project's success is dependent on a legal and ethical risk assessment of the development and utilization of integrated emerging tools, technologies and procedures, so that the human rights of individuals or categories of individuals are guaranteed and mitigated of ethically undesirable personal and/or social risks. As a result, the first six months of the project were dedicated to the preparation of the RISEN data management plan and to the adequate answer to the ethics requirements placed by the EC. This was done to assure that ethical research standards are met throughout



the project, that relevant ethical, legal and societal aspects within the research activities are identified and that guidelines for practitioners are generated to provide ethical guidance in RISEN.

Lastly, the RISEN partners also dedicated significant effort to the implementation of high-quality dissemination activities, the most visible one being the launching of the official RISEN project's website: <https://www.risen-h2020.eu/>. Moreover, the project's dissemination and exploitation plan was completed and already put into action with the first RISEN Workshop that delivered a sound basis to produce the RISEN user requirements document. This document presents a single statement of user needs and proposes a set of functional and non-functional requirements that will be confirmed by RISEN's LEA partners and key stakeholders and used to further elicit the RISEN system specifications and the RISEN system design.

Notably, the RISEN dissemination activities have been keen on increasing the project's visibility and public awareness, as well as on mobilising key stakeholders and practitioners. In this context, the RISEN Consortium is pleased to announce that the Stakeholder and Practitioner advisory board gathers seven well-known members:



RISEN Dissemination

In parallel to the Consortium's planned dissemination activities, each RISEN partner has responsibilities in presenting the merits of the RISEN project both nationally and internationally.

In this context, KEMEA made a short presentation of the RISEN project and its ambitious activities to the Ministry of Citizen Protection, whereas ENEA presented the RISEN project in the ENEA News, available at <https://www.enea.it/en/news-enea/news/research-innovative-project-to-support-specialists-working-on-the-crime-scene-kicked-off>.

Also, the RISEN project has been presented at several international workshops:

1. *COU Workshops on Forensics: Explosives, Conventional forensics, Digital forensics*

The event "CoU Workshop on Forensics: Explosives, Conventional forensics, Digital forensics" took place virtually on 22 October 2020, from 14.00 to 17.00.



2. *25th International Command and Control Research and Technology Symposium (ICCRTS), 2-13 November 2020*

The RISEN project was the subject of a paper, titled "The RISEN Project – A Novel Concept for Real-time on-site Forensic Trace Qualification" (Manso M., Chirico R., Peltola J., Engström P., Larsson H., Berggren J. *The RISEN Project – A Novel Concept for Real-time on-site Forensic Trace Qualification*, DOI 10.5281/zenodo.4264926), presented at the conference. The conference paper as well as the slides may be downloaded from <https://zenodo.org/record/4264926#.X8pAcbPSKUk>.

Particle has issued the paper and the presentation internally at their website:

<https://particle-summary.pt/wp/2020/11/24/the-risen-project-a-novel-concept-for-real-time-on-site-forensic-trace-qualification/>;

<https://www2.slideshare.net/marcomanso/the-risen-project-a-novel-concept-for-realtime-onsite-forensic-trace-qualification>.



3. *EXERTER Virtual Conference 2020 (Virtually)*

The EXERTER network aims at highlighting innovative methodologies, tools and technologies that will offer solutions to enhance the overall Security of Explosives. The core of the EXERTER network brings together experts coming from Law Enforcement Agencies (LEA) and Military Institutes, Governmental and Civilian Research Institutes, Academia and Standards Organisations.

RISEN was invited and was presented at the EXERTER Conference. During the conference, the terrorist scenario "Attacks on Public Transport" was looked at from different perspectives by stakeholders of the explosive's security community. The presentations of different national and international projects showed possible ways a terrorist attack might be countered, prevented, mitigated or detected.



FACTS AND FIGURES

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The RISEN Project is a collaboration between:

