



CREST

Fighting Crime and TerrorRism with an IoT-enabled Autonomous Platform based on an Ecosystem of Advanced IntelligEnce, Operations, and InveStigation Technologies

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CREST Overview

- General Information
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- CREST for Fighting Crime & Terrorism
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- Pilot Use Cases (PUCs)
- Work Packages
- Research & Innovation
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- Exploitation & Dissemination
- Impact & Benefits



CREST General Information

Project Coordinator: SERVICIUL DE PROTECTIE SI PAZA (SPP), Romania

Start Date: 01/09/2019

Duration: 36 months

Type of Action: Research & Innovation Action (RIA)

Total Cost: € 6,999,078.75

Consortium: 23 partners (8 LEAs from eight countries, 7 research/academic, 7 industry, 1 civil society)



CREST Consortium

Law Enforcement

- SPP
- PSNI
- BayHFOD
- SPSS
- PJ
- ELAS
- PPA
- BDI

Academic/Research

- SHU
- WAT
- NUIM
- UoA
- UNIVIE
- CERTH
- KEMEA

Industry

- MSIL
- SIVECO
- EVERIS
- COPT
- CLS
- ROB
- INMM

Civil Society

- VSE



CREST for Fighting Crime & Terrorism

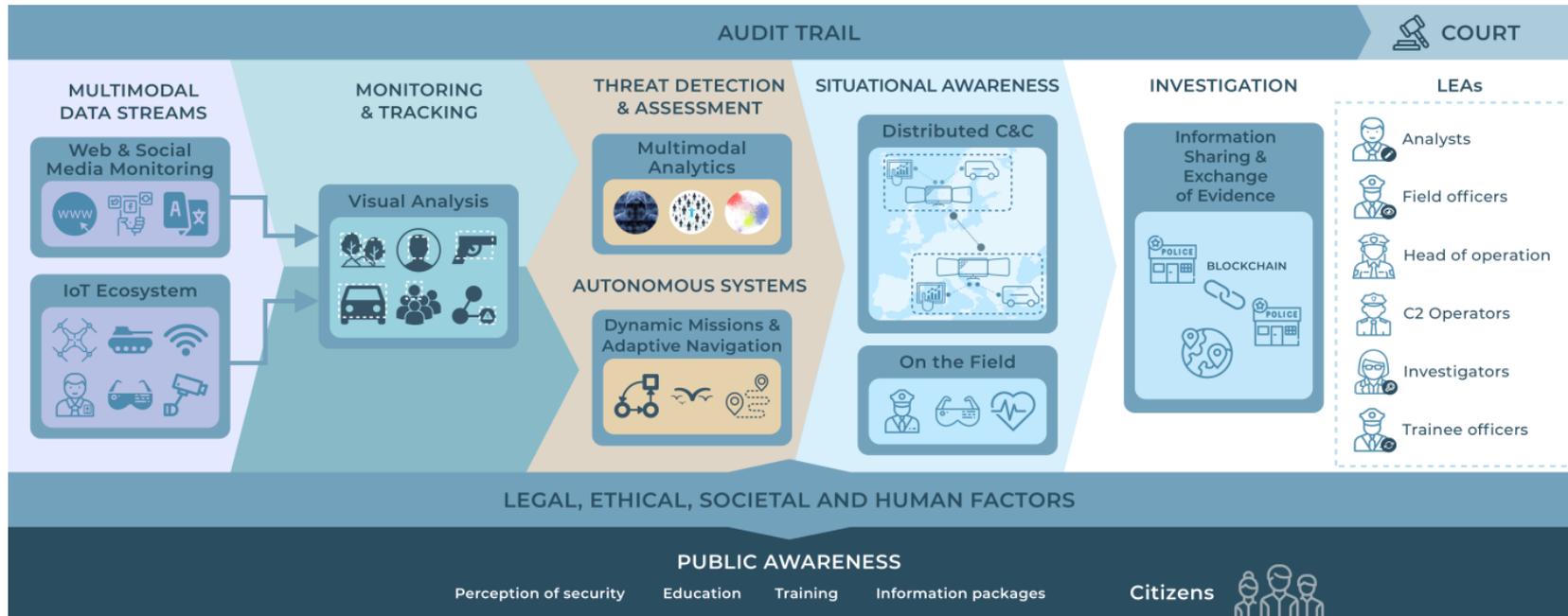
CREST aims to equip LEAs with an IoT-enabled ecosystem of advanced **intelligence, operations, and investigation technologies** for their **fight against crime and terrorism**

CREST main objectives:

- **Stream sensing** and monitoring from IoT-enabled sensors and the Web
- Multimodal information **extraction, representation, analysis, correlation, retrieval, and delivery**
- Distributed **command and control** of law enforcement missions and information sharing
- CREST platform based on ethics and privacy by-design principles, implementing EU legal requirements, whilst being highly customizable to local legislations



CREST Concept - I



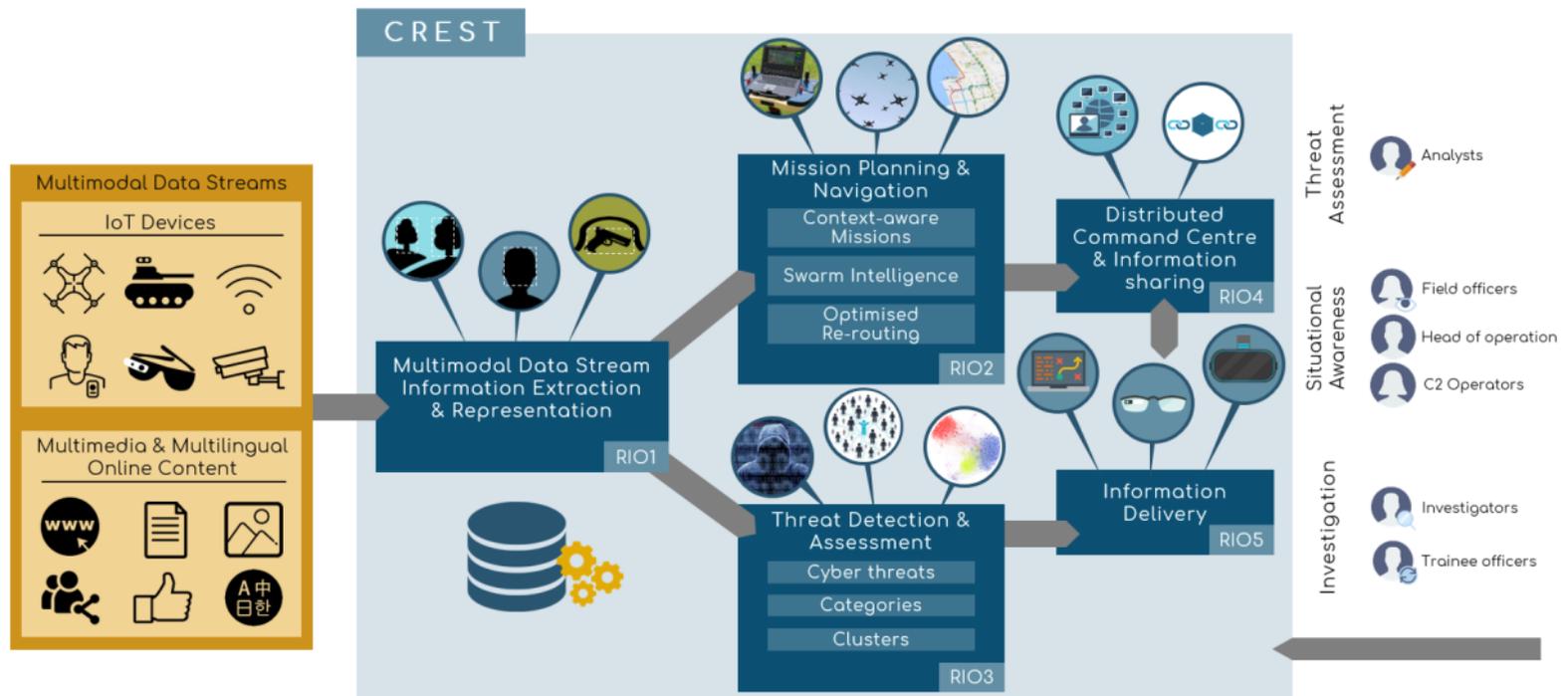
CREST Concept - II

CREST aims to develop and demonstrate an advanced **prediction, prevention, operation and investigation** platform by building upon the concept of multidimensional integration and correlation of heterogeneous multimodal data streams for:

- I. **threat detection assessment**
- II. **dynamic mission planning** and adaptive navigation for improved surveillance based on autonomous systems
- III. distributed **command and control** of law enforcement missions
- IV. **sharing of information** and exchange of digital evidence
- V. **delivery of pertinent information to different stakeholders** in an interactive manner tailored to their needs



CREST Objectives & Activities



CREST Work Packages

No	Title	Lead
1	Project management and coordination	SPP
2	Use cases and requirements	PSNI
3	Human factors and legal and ethical aspects	NUIM
4	Sensing and monitoring	ROB
5	Multimodal analysis, tracking and management	SHU
6	Artificial intelligence for improved mission planning, surveillance and threat assessment	CERTH
7	CREST Distributed command & control and information sharing	MSIL
8	Development and integration of the CREST platform	SIVECO
9	Field demonstrations, evaluation and training	SPP
10	Impact creation activities	KEMEA



CREST Research & Innovation - I

WP4. Sensing and Monitoring

- Web and social media monitoring
- Unmanned vehicle adaptation and sensor integration
- Wearable technology for remote monitoring
- High resolution 3D mapping
- Secure communication for robotic sensors

WP5. Multimodal analysis, tracking and management

- IoT data fusion
- Visual monitoring and tracking
- Concealed object detection
- Multimodal data representation and indexing
- Secure data management and audit trail for digital evidence



CREST Research & Innovation - II

WP6. Artificial intelligence for improved mission planning, surveillance and threat assessment

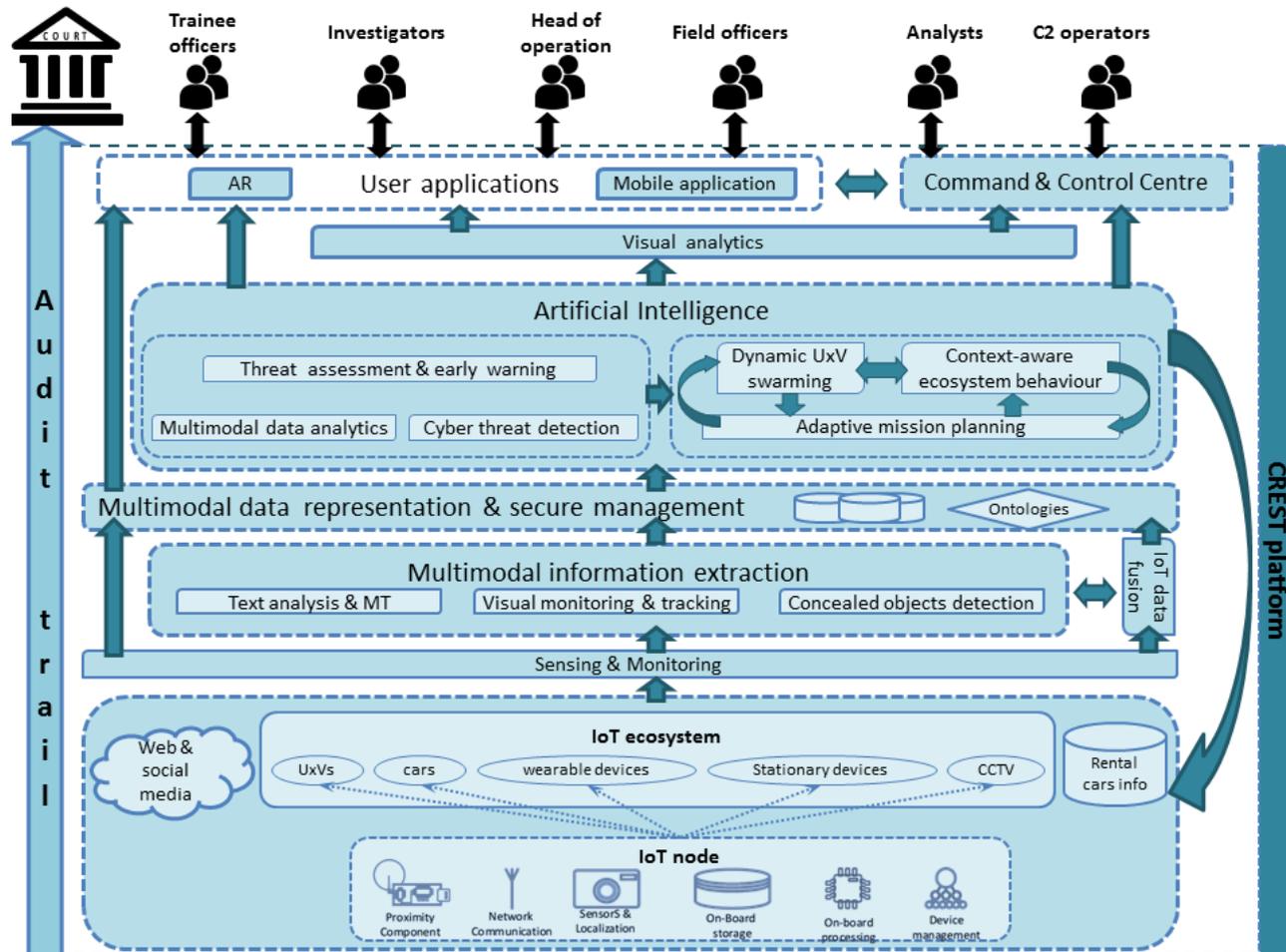
- Adaptive mission planning
- Unmanned vehicle swarming for surveillance coverage
- Ecosystem behavior during emergent situations
- Multimodal data analytics
- Cyber threat detection
- Threat assessment and early warnings

WP7. CREST Distributed command & control and information sharing

- Distributed command center
- Application framework
- Visual Analytics
- Situation awareness
- Mobile application
- Secure information sharing



CREST Platform



CREST Exploitation & Dissemination

Exploitation

- Creation of open-source, limited open-source, and full commercial modules/services
- Modules to be exploited by LEAs, Security agencies, ICT companies, etc.
- Marketing plan to exploit the final modules/services

Dissemination

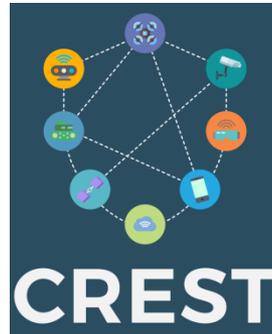
- CREST website and social media accounts
- Three workshops to demonstrate results to local authorities, public administration, and policy-makers
- Information and demonstration activities to showcase CREST solutions to industry and user community
- Presentations at academic and industrial venues
- Final dissemination conference



CREST Impact & Benefits

- Provision of user-friendly technologies and tools, addressing traditional and emerging forms of crime and terrorism
- Improved investigation capabilities (e.g. quality and speed)
- Increased efficiency of the information sharing among LEAs
- Prevention of criminal and terrorist threats
- Improved citizens' perception of safety and security





Thank you

