

# CREST

## Project Overview

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George Kalpakis, CERTH-ITI Dec. 16, 2021



CREST has received funding by the European Union's Horizon 2020 – Research and Innovation Framework Programme, under grant agreement no 833464.



# Outline

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- **Overview**
- **Consortium**
- **Fight Crime & Terrorism**
- **Pilot Use Cases (PUCs)**
- **Current Status**
- **Concept**
- **Research & Innovation**
- **Exploitation & Dissemination**
- **Impact & Benefits**

# Overview

## CREST

- Fighting **C**rime and **T**erro**R**ism with an IoT-enabled Autonomous Platform based on an Ecosystem of Advanced **I**ntellig**E**nce, **O**perations, and **I**nve**S**tigation **T**echnologies

## CALL

- H2020 - FCT02 - 2018 Technologies to enhance the fight against crime and terrorism

## START / END DATES

- September 2019 - February 2023

## TYPE OF ACTION

- Research & Innovation Action (RIA)

## TOTAL COST

- € 6,999,078.75

# Consortium

Consortium: 23 Partners

## Academic/Research



## Industry



## LEAs



## Civil Society



# Fight Crime & Terrorism

CREST aims to develop an advanced **prediction, prevention, operation and investigation** platform by integrating **heterogeneous multimodal data streams** for:

1. **threat detection** assessment
2. **dynamic mission planning** and adaptive navigation for improved surveillance based on autonomous systems
3. **distributed command and control** of law enforcement missions
4. **sharing of information** and exchange of digital evidence
5. **delivery of pertinent information** to different stakeholders in an interactive manner tailored to their needs

# Pilot Use Cases

## 1. Protection of Public Figures in Motorcade/Public Event



## 2. Counter Terrorism Security in Crowded Areas

## 3. Cross-Border Fight against Organised Crime



# CREST Status & Next Steps

- Jun – Sep 2021: 1<sup>st</sup> prototype
- Jun 2021: PUC2 pilot evaluation (BayHfoD) ✓
- Jul 2021: PUC1 pilot evaluation (SPP) ✓
- Sep 2021: PUC3 pilot evaluation (MPD) ✓

1<sup>st</sup> iteration

- Apr/May 2022: 2<sup>nd</sup> prototype
- Apr/May 2022: PUC1 pilot evaluation (SPP)
- Apr/May 2022: PUC2 pilot evaluation (BayHfoD)
- Apr/May 2022: PUC3 pilot evaluation (MPD/PJ)

2<sup>nd</sup> iteration

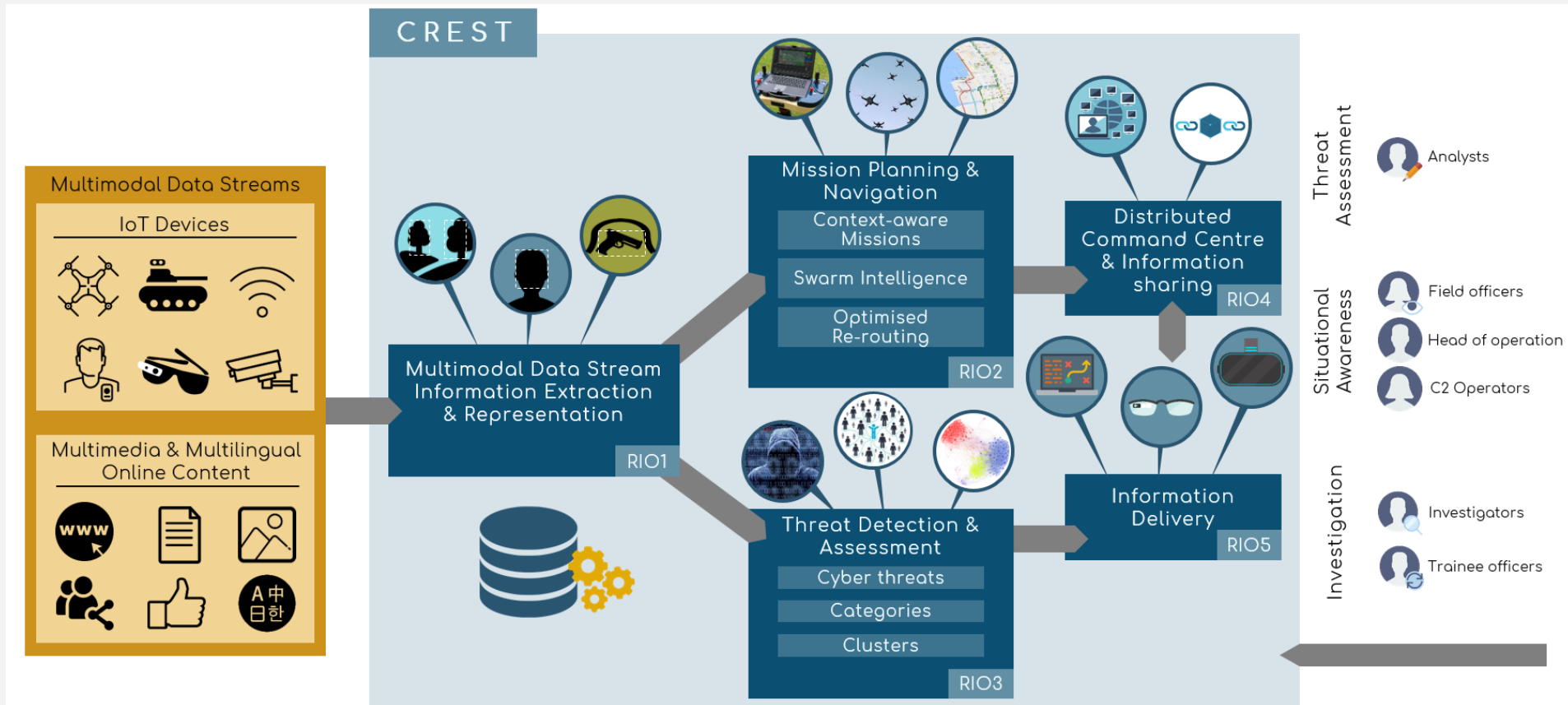
- Jan 2023: Final system
- Jan 2023 : PUC1 pilot evaluation (SPP)
- Jan 2023 : PUC2 pilot evaluation (BayHfoD)
- Jan 2023: PUC3 pilot evaluation (MPD/PJ)

3<sup>rd</sup> iteration

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# Concept





# Research & Innovation - I

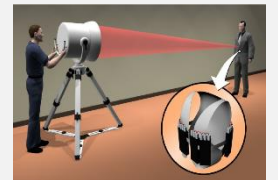
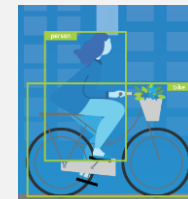
## Sensing and Monitoring

- Web and social media monitoring
- Text Analysis & Machine Translation
- Wearable technology for remote monitoring
- High resolution 3D mapping



## Multimodal analysis, tracking and management

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



# Research & Innovation - II

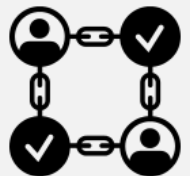
## Artificial intelligence for improved mission planning, surveillance and threat assessment

- Adaptive mission planning
- Unmanned vehicle swarming for surveillance coverage
- Multimodal data analytics
- Threat assessment and early warnings



## CREST Distributed command & control and information sharing

- Distributed command center
- Visual Analytics
- Augmented Reality for situational awareness
- Mobile Application
- Blockchain-enabled secure information sharing



# 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

# Impact & Benefits

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- 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!

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<https://project-crest.eu/>



<https://twitter.com/crestproject>



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