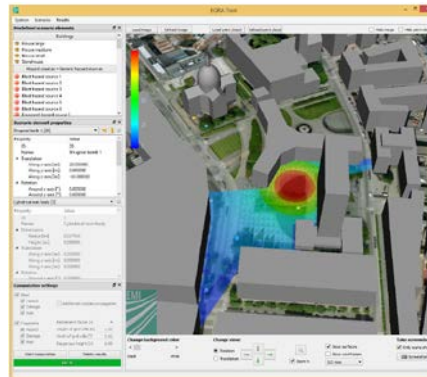


Technologies to detect and prevent new threats like IEDs

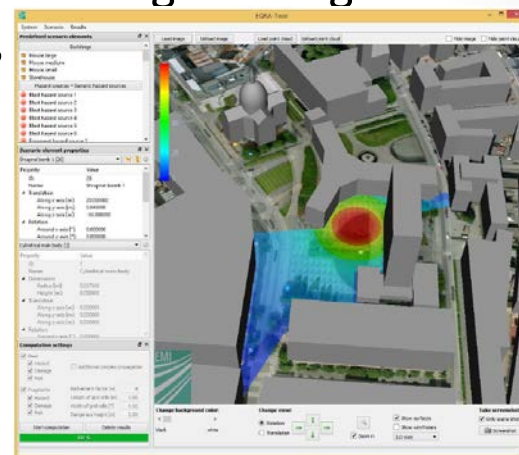
- *Katharina Ross*
- *katharina.ross@emi.fraunhofer.de*
- *Fraunhofer Institute for High-Speed Dynamics, Ernst-Mach-Institut, EMI; Germany*
- *Role: Proposal coordinator or WP leader*

- *Proposal activity: SU-FCT-02-2019: Technologies to enhance the fight against crime and terrorism; Subtopic 1: Trace qualification*



Proposal idea/content

- *The aim of this proposal idea is to detect and simulate the possible damages of new threats like IEDs in order to better support forensic experts*
 - Risk analysis: What could happen? Which IEDs and new threats are relevant (e.g. manipulated extinguisher, etc.)?
 - Forensic simulations: Simulating the scenario that could have been happen based on the traces found at the crime site
 - Design case studies: Representative examples to design strong case studies to evaluate the simulation results
 - *Rapid and reliable (simulation) results for supporting the trace composition*



Project participants

- Proposed coordinator: *Fraunhofer EMI or other*
- Partners / Other participants: not yet
- Looking for partners with the following expertise/ technology/ application field:
 - Forensic experts
 - Experts in IEDs and other new threats
 - First responders like policemen, medical staff, firefighters, ...
 - Companies with training sites for case studies
 - Technology providers with expertise in modelling and simulating new threats

- *Mr. Nikolaos Koutras/CEO*
- *management@aditess.com*
- *ADITESS Advanced Integrated Technology Solutios and Services LTD*
- *Role: WP leader, S/T provider*
- *Proposal activity:*
- *SU-FCT03-2018-2019-2020, Information and data stream management to fight against (cyber)crime and terrorism*

Proposal idea/content

Targeting: SU-FCT03-2018-2019-2020, Information and data stream management to fight against (cyber)crime and terrorism

Services provided:

- Web Platform Designs for Big Data handling, forum or shared platform capabilities (C2 system)

- GIS functionalities

- Open resource metadata management (Radars, E/O sensors, ESM)

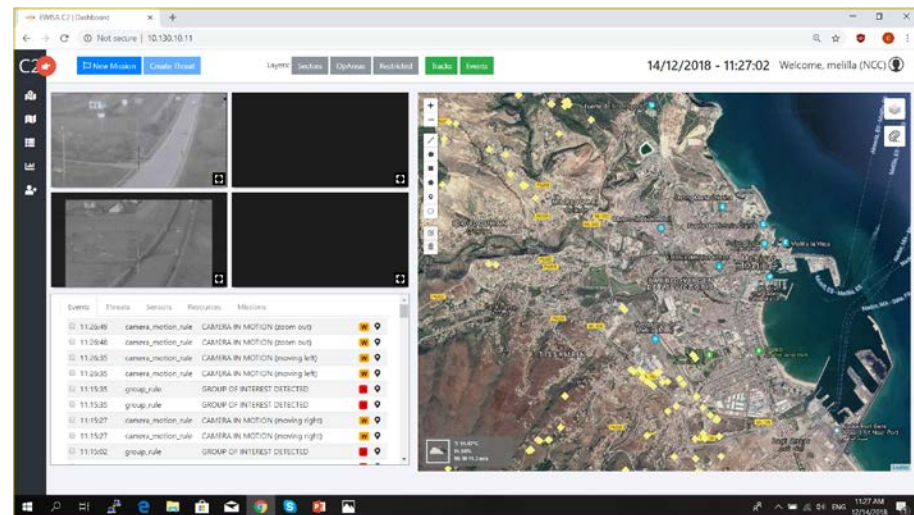
- Real Time Event , Alert Management functions

- Real time sectorial analytics:

all different types of available analytics offered through a dashboard

- Mapping of events on the UI for the user to be able and observe the current Situation

- User Management and the adjustment of access rights: add/remove/modify roles (includes rights to regional information)



ADITESS C2 system

Proposal idea/content

Targeting: SU-FCT03-2018-2019-2020, Information and data stream management to fight against (cyber)crime and terrorism

Services provided:

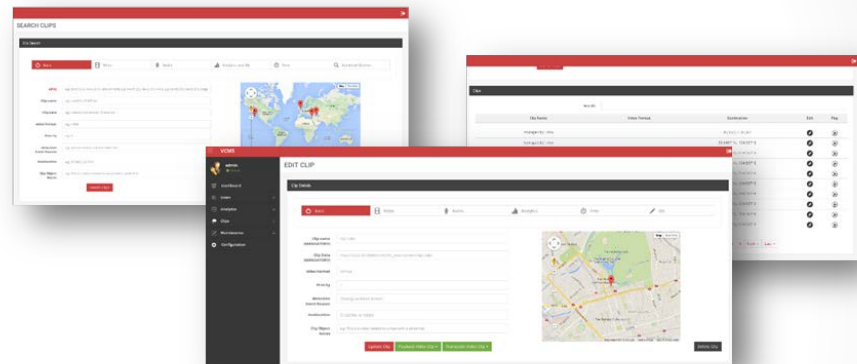
• Content management system

- Efficient Storage
- Fast retrieval
- Management archiving
- Processing of multimedia/heterogeneous content.
- Data aging, data integrity
- Access roles and user privileges
- Authentication, authorization
- User Interface

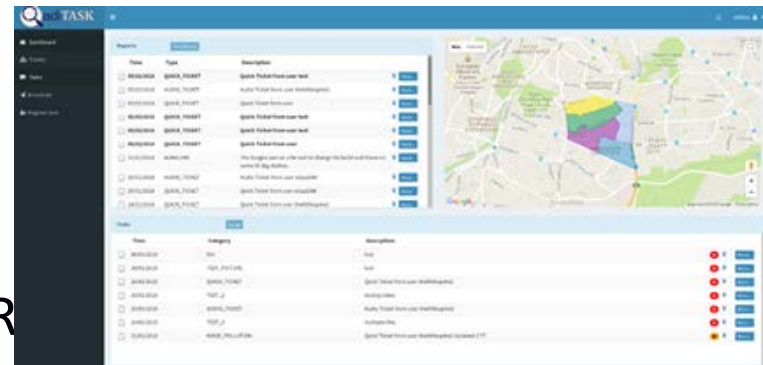
• Incident reporting mechanism

- Real Time Incident reporting mechanism (Events, Alerts)
- Mobile incident management functionalities

• Pilot execution with LEAs (CY, GR,SP,R



ADITESS CMS SYSTEM



ADITESS Incident Reporting system (adiTASK)

Threat Analytics Toolbox

- *Thanasis Sfetsos*
- *ts@ipta.demokritos.gr*
- *NCSR Demokritos*
- *Role: Proposal coordinator*

- *Proposal activity: SU-FCT02-2019, Subtopic : Open*

Proposal idea/content

- *Develop a toolbox for security managers of public spaces – governmental buildings to allow them to easily understand the characteristics of existing and evolving threats*
- *Maximise the potential of open source data and user derived inputs*
- *Focus on users without few capabilities and access to knowledge, lack of personnel*
- *Envisaged results*
 - *Threat analysis at strategic , operational level (real time)*
 - *Adversaries and design basis threat*
 - *Potential Targets*
 - *Adversary Path Analysis*
 - *Real time threat assessment*
 - *Training through augmented reality*

Project participants

- Proposed coordinator: *NCSR Demokritos*
- Partners / Other participants: *Cities, SMEs, RTO, industries*
- Looking for partners with the following expertise/ technology/ application field:
 - *Open Source Intelligence*
 - *Social sciences*
 - *Criminologists*
 - *Law Enforcement Agencies (Local – National Levels)*

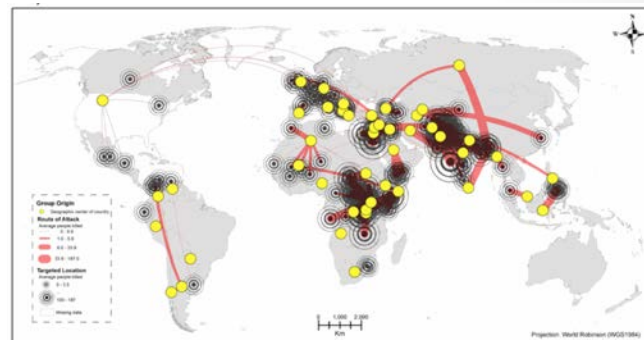
Open source intelligence for EU terror event database, layered assessment and prediction

- Ivo Haering
- haering@emi.fraunhofer.de
- Fraunhofer EMI
- Role: *Proposal coordinator or Technical WP leader*
- Proposal activity: *SU-FCT02-2019, Sub-Topic: Open (Or SU-FCT03-2019)*

Challenges:

- **Combination of data pipelines for data gathering**
- **information layers: real-world data, open net, science, deep web, dark net, media, science, ...**
- **Data analytics for past developments assessment, forensics, status and prediction assessment**

Disclaimer: with the submission of this presentation the consent is given by its author for the organisers to distribute the presentation.

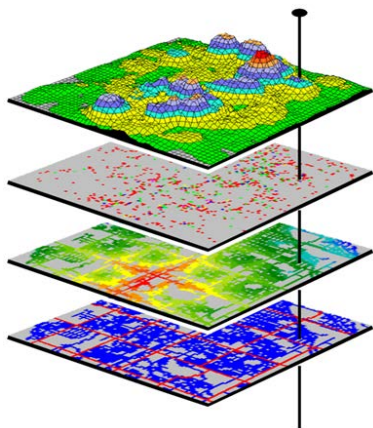
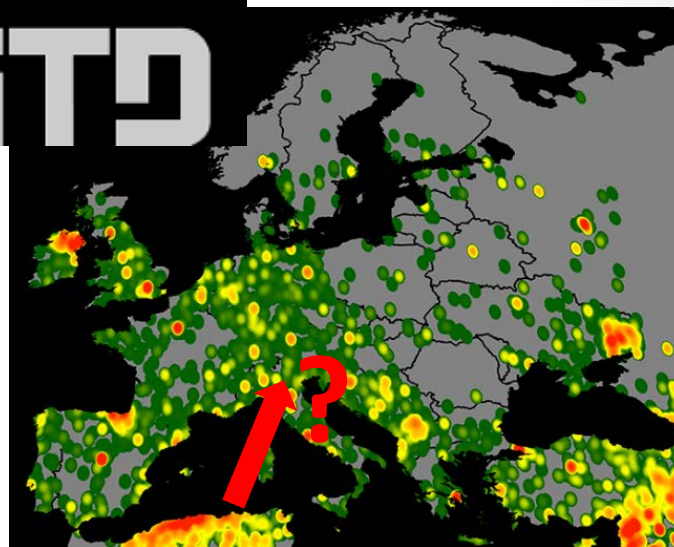


<http://www.terrorismanalysts.com/pt/index.php/pot/article/viewFile/242/html/1651>

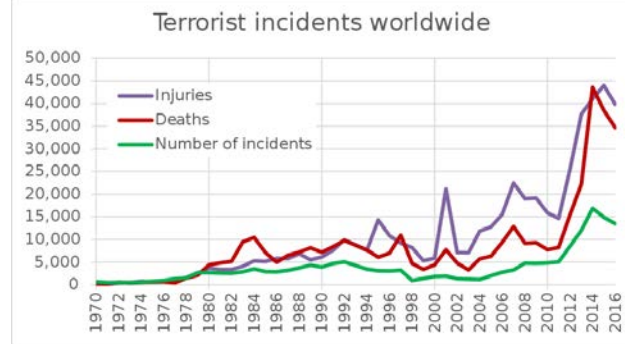
Proposal idea/content/ *innovations: *Cross domain data collection and analysis, EU-US collaboration intended



Information in
www,
social media,
deep web,
dark web,
clear net



Media data
Databases
Spatial, semantic and
temporal data
Open, Academic,
proprietary



Informed source selection

Selected, *Validated, *Data
Analytics tools

Related projects at Fraunhofer EMI: **TED (> 150.000 events) Terror event database and analysis software (TEDAS)**, VITRUV, ENCOUNTER, EDEN, BESECURE, RESILIENS

Contact: haering@emi.fraunhofer.de, Fraunhofer EMI

Project participants

- Proposed alternative coordinator/ End users wanted: RAND Europe, or similar; professional non-governmental open-source large data gathering and analysis company (e.g. IBM?) or OSINT SME
- Other participants: Potentially Freiburg Center for Security and Society for social science and statistics and computational science input
- Looking for partners with the following expertise/ technology/ application field:
 - LEAs
 - Technical partners for trusted information extraction from (open, deep, dark) www, web, social media
 - Partners with contact to GTD Team/ START, University of Maryland, US
 - EU National strategic and research police departments
 - E.g. International Center for Counter Terrorism (ICCT) – The Hague
 - E.g. International Institute for Counter-Terrorism (ICT) - Israel

Augmented intelligence through AI-powered digital investigations

- *Alexandros Bartzas, Ph.D.*
- abartzas@space.gr
- *SPACE Hellas S.A.*
- *Role: Proposal coordinator*



- *Proposal activity: SU-FCT-02-2019 “Technologies to enhance the fight against crime and terrorism”*
 - *Targeting the “Open” sub-topic*

Augmented intelligence through AI-powered digital investigations

Problem

- ... increasing digitisation of society and ever increasing adoption levels is that virtually any type of crime has a digital forensics component, which is a challenge in itself.
- Police officers have multitude of cases to investigate and they don't have the time to go through everything

Impact

- Novel, user-friendly technologies addressing traditional and emerging forms of crime and terrorism
- Improved investigation capabilities
- Improved data gathering, exploitation and exchange → increased information sharing among LEAS

Solution

- AI-powered methods and tools for all aspects of digital investigation
 - Process information including mobile devices/chat apps
 - Employ state of art video/image/text analytics
 - Transcription and translation
 - Face and object recognition
 - Sentiment analysis
 - A/V fingerprinting
 - Automated insight suggestions
 - Explore without boundaries
- ✓ Augmented Intelligence for LEAs



Project participants

- *Proposed coordinator: SPACE Hellas (GR - midcap), large ICT system integrator w/ expertise on data integration, cybersecurity and big data analytics*
 - *eCRIME commercial projects with Hellenic Police and Cyprus Police (cybercrime, OSINT, child abuse, etc.)*
 - *Coordinating 1 H2020 SEC project, participate in 5 H2020 (3 SEC, 2 ICT)*
- *Partners/Other participants:*
 - *WebIQ (NL – SME) experts in OSINT – proven expertise/software combating child abuse and Darknet analysis*
 - *3 SMEs, 2 Research Institutes*
 - *5 Practitioners (TBC)*
- *Looking for partners with the following expertise/technology/application field:*
 - *Network forensics, computational forensics, SNA*
 - *Additional practitioners/end users*

Common Database Project in Trace Materials

- The central police force operates under the Ministry of Internal Affairs in the form of The General Directorate of Security. TNP carry out a wide variety of law enforcement task, in particular provide public order; provide security of persons and properties; protect personnel property and public order; detect, arrest and transfer both offenders and case evidence to the appropriate bodies; perform duties apart from the administrative such as judicial assigned by laws, regulations and government acts; prevent crime as a prerequisite to protect public safety and order as well as the protection of the state and preservation of constitutional order and furthermore, the police force has administrative functions, including preventive, protective and assistant duties.
- The Turkish National Police composed of ,
 - Central Organization (40 departments such as intelligence, counter terrorism, counter narcotics, witness protection, counter cyber-crimes, counter smuggling and organized crime, counter migrant smuggling and human trafficking, public order, police academy, aviation, traffic, international relations, border Gates, Interpol-europol, forensic, special operations and administrative departments)
 - Provincial Organization (81 Directorates of Provincial Police, 751 police directorates of towns affiliated to provinces, 62 border gates police directorates, 1267 police stations in 81 province)
- With its approximately 276000 staff, , TNP is an extremely effective police service which plays an important role in maintaining internal security service nearly %80 of the population in Turkey.
- From 2002 to 2018 TNP concluded 25 IPA Project cost approximately 196 million euros and there are four ongoing IPA Project regarding traffic, forensic, border and drug related issues cost 10 million euros.

Proposal idea/content

- It is important to identify the suspect quickly in the events that will create an outrage in the world.
- In such cases, the evaluation of trace detections in a common database plays an active role in the rapid resolution of events.
- Since local data in most countries' databases (especially in trace materials) is insufficient in transboundary crimes, it is intended to combine these data in a common database.
- It aims to achieve rapid cooperation and fight against crime within the framework of European Union legislation.

Project participants

- Proposed coordinator: **Harika DOĞAN**
 - We require the cooperation of at least five countries of police or forensic medicine units.
 - We are also looking for partners who have the competence to establish a cross-border network and have expertise in developing applications and technology for sharing the trace materials on the public network
-
- Harika DOĞAN
 - harika.dogan@egm.gov.tr
 - Turkish National Police
 - Superintendent
 - Proposal activity: FCT02

Advanced tools for supporting forensic investigations (physical and cyber)

- Marcos Sacristán, marcos.sacristan@treetk.com
- Tree Technology - www.treetk.com (former Treelogic)
 - Spanish **SME**, experts on **Big Data** and **Artificial Intelligence**
 - Team experienced on **30+ EU projects** | **8 EU projects in SEC**

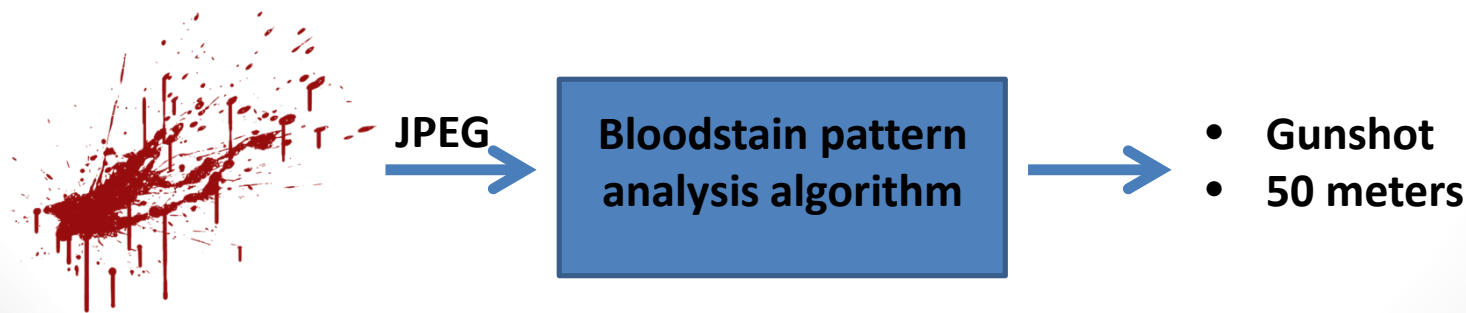
- Role: *WP Leader*

Deep Learning supporting forensics (background: [RAMSES H2020 project](https://ramses2020.eu/) - <https://ramses2020.eu/>)

- Proposal activity: *SU-FCT02-2019, Sub-topic 1: Trace qualification*

Proposal idea/content

- *Advanced tools for supporting forensic investigations (Physical and cyber).*
 - **Deep learning algorithms for investigating old and new criminal behaviour.**
 - **Object recognition** and recommendation system based on previous forensics investigations. Eg. A set of cases with similar objects involved.
 - **Bloodstain pattern analysis** -> Type of weapons, trajectory of a projectile, etc.
 - Detection of **Deepfakes** (Image, Video, Audio). -> E.g Terrorism or Child Sexual Exploitation.
 - Detection of **illicit content** in large volumes of data -> CSEM (Child Sexual Exploitation material)



Project participants

- Proposed Coordinator: TBD
- Partners / Other participants:
 - Tree Technology – expert in Deep Learning supporting forensics
 - LEAs (contacts from multiple projects and proposals)
- Looking for partners with the following expertise/ technology/ application field:
 - **Coordinator?** (TO BE DECIDED)
 - **Forensics / Cyberforensics**
 - **Additional LEAs**
 - **Ethical and legal experts**

FCT-02-2019

- *Natalia Jarmuzek-Troczynska*
- natalia.jarmuzek@ppbw.pl
- *Polish Platform for Homeland Security*
- *Role: Work Package Leader/Partner in WPs*
- *Proposal activity: **SU-FCT02-2019** Technologies to enhance the fight against Crime and terrorism*
- ***Sub-topic 1: Trace qualification***
- *Other topics of interest: SU-FCT01; SU-FCT03, SU-GM01, SU-GM03*

Main information

- *Polish NGO established in 2005*
- *Associates representatives of Polish LEA, universities and experts in different security domains*
- *Cooperates with national and European practitioners in the area of security*
- *Active international activities (e.g. ENLETS network, i-LEAD)*
- *Since 2015 participates in EU/H2020 proposals and projects (as a Partner and Work Package Leader)*
- *More information at: www.ppbw.pl/en*



What we can offer:

- *Effective diagnosis of LEA needs -> end-user requirements, use cases, scenarios*
- *Access to field tests, exercises in operational environment*
- *Access to know-how (data) needed for research*
- *Research in the field of standardization*
- *Communication & Dissemination activities*
- *Legal analysis*
- *Development of training materials and conducting trainings*
- *Contacts to Polish LEAs and LEAs across different EU Member States (potential consortium partners)*
- *WP Leader or Partner in WP*

VANGUARD

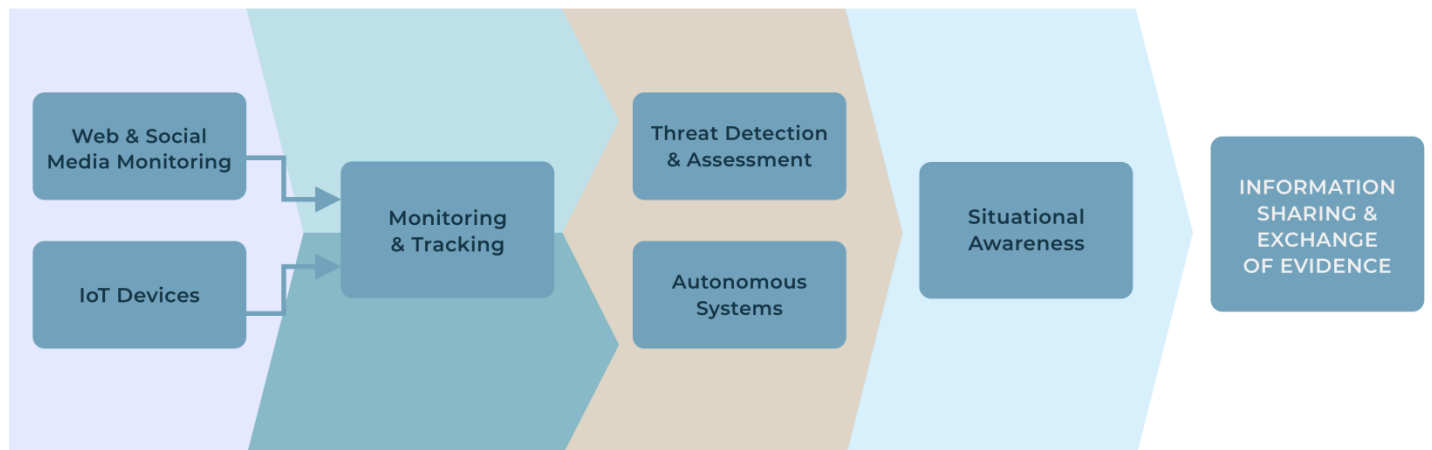
- Dr. Theodora Tsikrika (theodora.tsikrika@iti.gr)
- **CERTH – ITI**
 - Centre for Research and Technology Hellas - Information Technologies Institute
 - Multimedia Knowledge and Social Media Analytics Laboratory (<http://mklab.iti.gr/>)
 - H2020 SEC-12-FCT-12-2017 **CONNEXIONS** (2018-2021) – *Scientific Manager*
 - H2020 SEC-07-FCT-07-2017 **PROPHETS** (2018-2021) – *WP leader*
 - H2020 SEC-FCT-06-2015 **TENSOR** (2016-2019) – *WP leader*
 - H2020 SEC-DRS-01-2015 **beAWARE** (2017-2020) – *Coordinator*
 - H2020 SEC-20-BES-2016 **ROBORDER** (2017-2020) – *Technical Manager*
 - H2020 SU-ICT-03-2018 **ECHO** (2019-2023) – *WP leader*
 - FP7 SEC STREP **HOMER** (2013-2016) – *WP leader*
- **Role:** *Proposal coordinator, Scientific/Technical Manager*
- Proposal activity: **SU-FCT02-Open (RIA): Technologies to enhance the fight against crime and terrorism**

Proposal idea/content

Develop prediction, prevention, operation, and investigation solutions by leveraging the IoT ecosystem, autonomous systems, and advanced targeted technologies, for threat assessment, operational + situational awareness, and information/evidence sharing.

e.g.,

1. Cyber-physical terrorist attacks
2. Organised crime in support of terrorist activities
3. Online (darknet) markets for illicit trade



Project participants

- **Partners:** CERTH (GR), CENTRIC (UK), Motorola Solutions (IL), PSNI (UK), in discussion with several LEAs + companies
- **Looking for partners with the following expertise:**
 - Distributed Ledger Technologies & Blockchain
 - IoT devices & wearables
 - Robotics / Autonomous Systems / Multimodal Sensing
 - Mixed-reality (AR, VR, holographic displays, etc.)
 - 5G connectivity
 - Civil Society Organisations

SU-FCT02-2019, WP leader

- Charidimos Chaintoutis - charidimos.chaintoutis@eulambia.com
- EULAMBIA Advanced Technologies
- WP leader providing “Verifying document validity” technology
- SU-FCT02-2019, «Technologies to enhance the fight against crime and terrorism” - OPEN

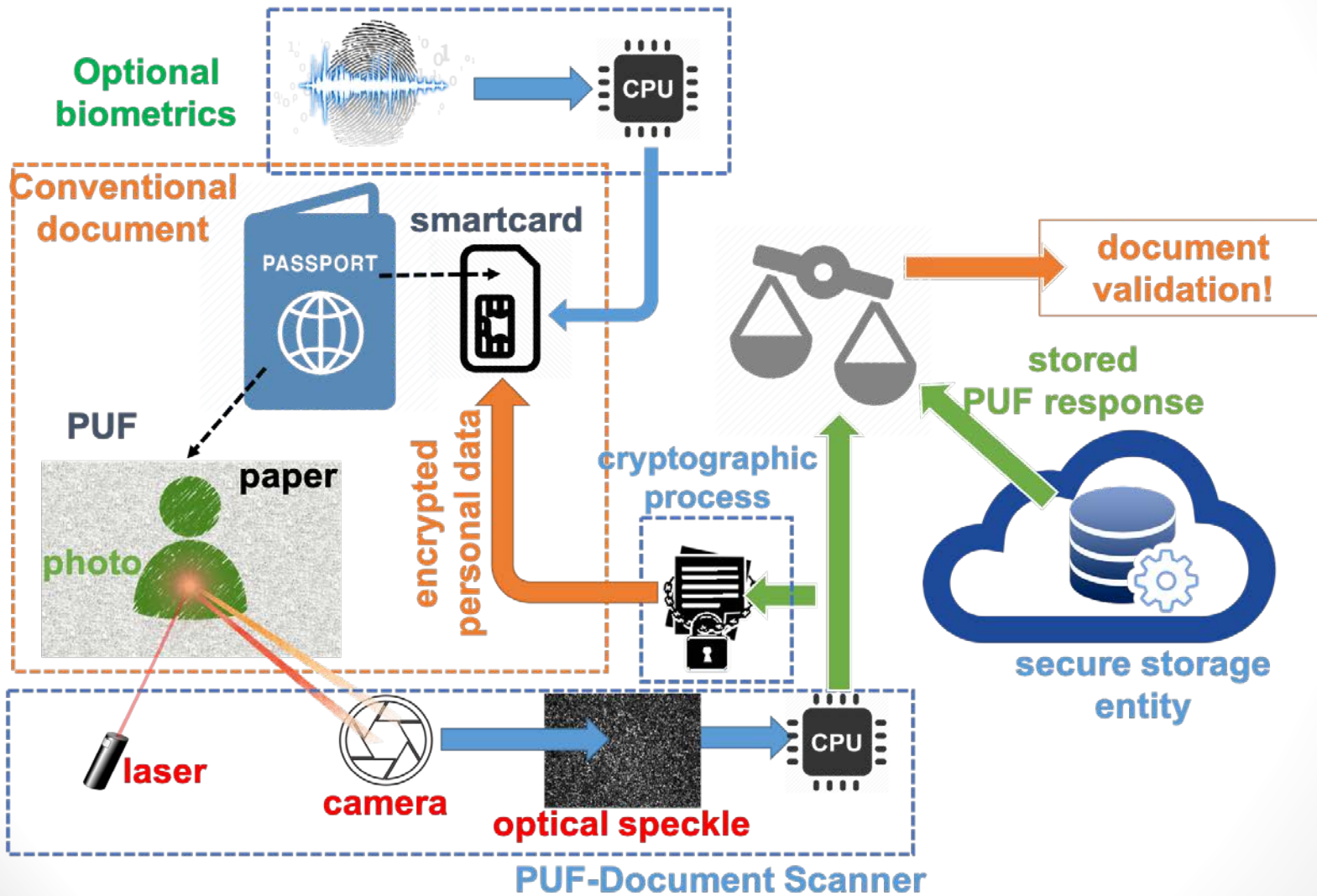
Counterfeit documents → not identifying known criminals.

Conventional document validation → high **false positive-negative probability** and **vulnerable to physical cloning/tampering** techniques.

Optical PUF enabled validation (“Bind the paper to the chip”)

- The **unique physical features** of a paper-based document can be used as a **non-replicable o-PUF** token:
 - Ensures document’s **validity** and **hinders counterfeiting** attempts
 - Can be combined with a photograph’s unique features and/or soft/hard biometrics
 - Passport’s photo cannot be altered or removed
 - Multiple-factor authentication is achieved

Verifying Document Validity



Project participants

- EULAMBIA will be responsible for the o-PUF module
 - *Can also contribute to the biometric integration (especially for fingerprints)*
- Looking for partners with the following expertise:
 - *Hard biometrics acquisition and analysis*
 - *Fingerprints*
 - *Retina*
 - *Iris*
 - *Soft Biometrics acquisition and analysis*
 - *Private/Encrypted Biometrics*
 - *Smart Card / Biometric Passport manufacturers*

Information and data stream management to fight against (cyber)crime and terrorism

- *Manuel Giarruzzo*
- *mg@ips-intelligence.com*
- *IPS S.p.A.*
- *Role: WP leader and S/T provider*

- *Proposal activity: SU-FCT03-2019: Information and data stream management to fight against (cyber)crime and terrorism.*

Manuel Giarruzzo
Senior Project Manager
Email: mg@ips-intelligence.com
Phone: +39 06.92710318

Nicola Marini
Marketing Manager
Email: n.marini@ips-intelligence.com
Phone: +39 06.92710391
Mobile: +39 333.6053139

Proposal idea

Scientific Objective:

- *Predictive analytics on Big Data to identify abnormal patterns and key targets.*

Technical Objective:

- Machine learning, cognitive models, sociological analysis using undercover operations to create alerts on potential radicalization.

Commercial Objective:

- *Software product for LEAs to activate continuous monitoring to prevent real threats (terrorist attacks).*



Project participants

- **Proposed coordinator:** *TBD*
- **Partners / Other participants:**
 - *Data gathering (IPS)*
 - *OSINT experts (1)*
 - *Semantic provider (1)*
 - *LEAs (1)*
 - *Sociological experts (1)*
- **Looking for partners:**
 - *Coordinator (1)*
 - *Psychology experts (1 - Academia)*
 - *LEAs (3+)*
 - *Legal experts (1)*
 - *Sociological experts (1)*
 - *Integrator (1)*

FCT-03-2019

- *Natalia Jarmuzek-Troczynska*
- natalia.jarmuzek@ppbw.pl
- *Polish Platform for Homeland Security*
- *Role: Work Package Leader/Partner in WPs*
- *Proposal activity: **SU-FCT03-2019** Information and data stream management to fight against (cyber)crime and terrorism*

- *Other topics of interest: SU-FCT01; SU-FCT02, SU-GM01, SU-GM03*

Main information

- *Polish NGO established in 2005*
- *Associates representatives of Polish LEA, universities and experts in different security domains*
- *Cooperates with national and European practitioners in the area of security, including cybersecurity*
- *Active international activities (e.g. ENLETS network, i-LEAD)*
- *Since 2015 participates in EU/H2020 proposals and projects (as a Partner and Work Package Leader)*
- *More information at: www.ppbw.pl/en*



What we can offer:

- *Effective diagnosis of LEA needs -> end-user requirements, use cases, scenarios*
- *Access to field tests, exercises in operational environment*
- *Access to know-how (data) needed for research*
- *Research in the social area*
- *Research in the field of standardization*
- *Communication & Dissemination activities*
- *Legal analysis*
- *Development of training materials and conducting trainings*
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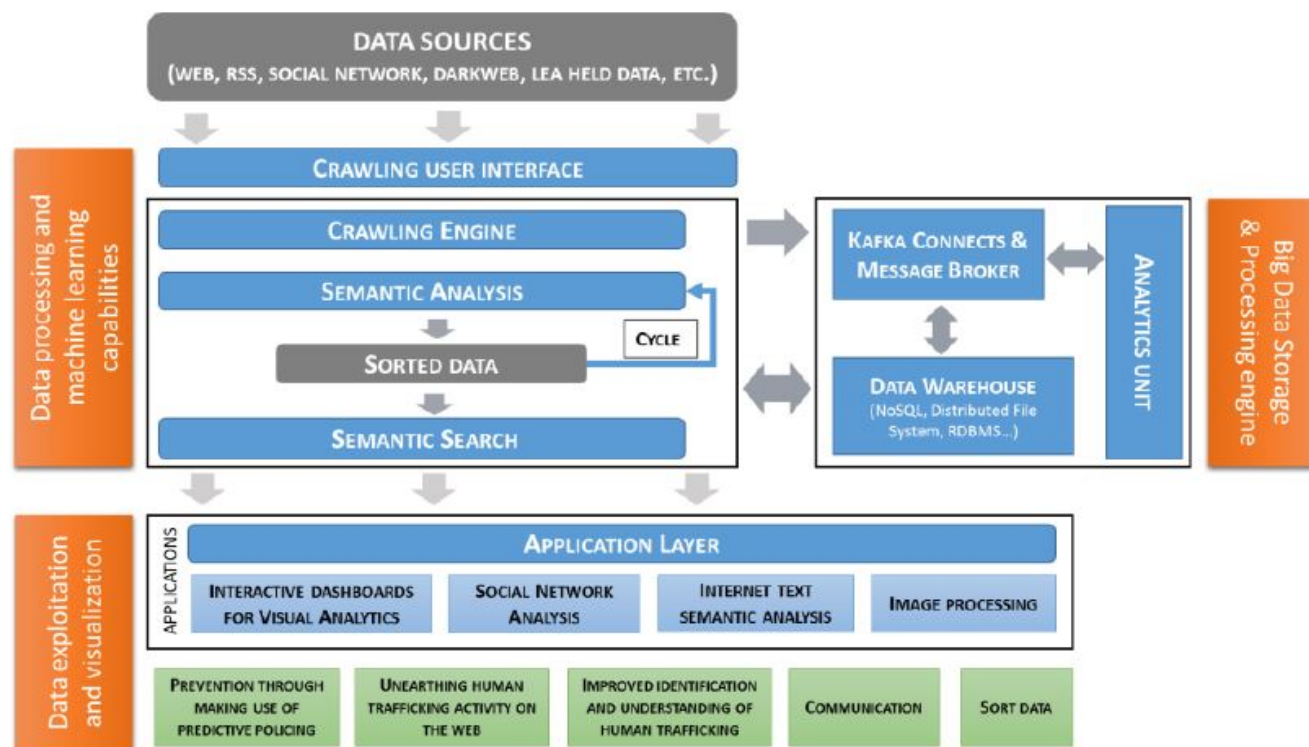
Big data to fight against (cyber)crime and terrorism

- *Tatiana Silva - tatiana.silva@treetk.com; Jaime Medina - jaime.medina@treetk.com*
- *Tree Technology - www.treetk.com (former Treelogic)*
 - *Spanish **SME**, experts on **Big Data** and **Artificial Intelligence***
 - *Team experienced on **30+ EU projects** | **8 EU projects in SEC***
- **Role:** *WP Leader*
Big Data, Machine Learning, Computer Vision
- **Topic:** *SU-FCT03-2019 Information and data stream management to fight against (cyber)crime and terrorism (IA) – 3 LEAs – 24 months*

Proposal idea/content

Create a big data platform to:

- (a) improve the quality of data and convert voluminous and heterogeneous data sets into actionable intelligence.
- (b) gather and analysis of different sources of data: social network, darknet, deepweb
- (c) process of enormous quantities of data, together with improved imaging techniques
- (d) characterise trends in cybercrime and in cybercriminal organizations
- (e) enhance citizens' security against terrorist attacks in places considered as soft targets, including crowded areas



Project participants

- Proposed coordinator: *To be defined*
- **Partners:**
 - *Law Enforcement Agencies*
 - *Big Data, AI, OSINT expertise - Tree Technology*
- Looking for partners with the following expertise:
 - *Coordinator*
 - *Law Enforcement Agencies*
 - *Cybersecurity experts*
 - *Civil society organisations*
 - *Psychologists, sociologists and linguists*
 - *System Integrators*
 - *Privacy and legal issues experts*



- *Stelios C. A. Thomopoulos*
- *scat@iit.demokritos.gr*
- *NCSR Demokritos*
- *Role: WP leader and S/T provider*
- *Proposal activity:*

**Information and data stream management to fight against (cyber)crime and terrorism
SU-FCT03-2018-2019-2020**

Dr. Stelios C.A. Thomopoulos
Head of Integrated Systems Laboratory
Email: scat@iit.demokritos.gr
Phone number: (+30) 210 650 3155
Mobile: (+30) 6944 98669

Proposal idea/content

More accurate methodologies for network traffic flow anomaly detection that could be signaling cyberattacks

Matching of network traffic flow patterns to certain probabilistic distribution functions



More accurate prediction estimators regarding the smoothness of network traffic flow

Normalisation of the adjustment of the sweep-time parameter for change point detection in different counts of events



Minimisation of the prediction error of network traffic flow standardised metrics

ENDTRAFFIC

Detection and analysis platform for countering human trafficking online powered by Artificial Intelligence

- *Dana Tantu*
- *Dana@insiktintelligence.com*
- *Company: Insikt Intelligence*
- *Proposal coordinator*

- Proposal activity: ***SU-FCT01-2019 - Human factors, and social, societal, and organisational aspects to solve issues in fighting against crime and terrorism***
- ***Subtopic: [2018-2019] Open***

ENDTRAFFIC

Detection of exploitation content and users in a highly dynamic big data-driven environment such as social media is highly challenging both on scientific and technical level.

ENDTRAFFIC will:

- *Detect users and content willing to potentially feed vulnerable individuals into exploitative situations*
- *Detect recruitment processes or networks before they become potential threats*
- *Identify risk factors and underlying drivers of exploitation to enable early intervention and prevention*
- *Understand better online exploitation processes and the methods and patterns of traffickers.*

Project participants

- Proposed coordinator: *Insikt Intelligence*
- Partners / Other participants: *Experts in Big Data Analytics, Experts in Data Privacy and Ethics; GDPR, Experts in Natural Language Processing and Data Mining (Insikt), Experts in Big Data Processing*
- Looking for partners with the following expertise/ technology/ application field:
 - *LEAs*
 - *Community groups specializing in human trafficking prevention*
 - *Experts in OSINT tools*
 - *Experts in Open Data*

FCT-01-2019 Human Factors

- *Natalia Jarmuzek-Troczynska*
- natalia.jarmuzek@ppbw.pl
- *Polish Platform for Homeland Security*
- *Role: Work Package Leader/Partner in WPs*
- *Proposal activity: **SU-FCT01-2019** Human Factors, and social, societal, and organisational aspects to solve issues in fighting against crime and terrorism*
- ***Sub-topic 2: Understanding the drivers of cybercriminal, and new methods to prevent, investigate and mitigate cybercriminal behaviour***
- *Other topics of interest: SU-FCT02; SU-FCT03, SU-GM01, SU-GM03*

Main information

- *Polish NGO established in 2005*
- *Associates representatives of Polish LEA, universities and experts in different security domains, including cybersecurity*
- *Cooperates with national and European practitioners in the area of security including cybersecurity sector*
- *Active international activities (e.g. ENLETS network, i-LEAD)*
- *Since 2015 participates in EU/H2020 proposals and projects (as a Partner and Work Package Leader)*
- *More information at: www.ppbw.pl/en*



What we can offer:

- *Effective diagnosis of LEA needs -> end-user requirements, use cases, scenarios*
- *Access to field tests, exercises in operational environment*
- *Access to know-how (data) needed for research*
- *Research in the social area*
- *Research in the field of standardization*
- *Communication & Dissemination activities*
- *Legal analysis*
- *Development of training materials and conducting trainings*
- *Contacts to Polish LEAs and LEAs across different EU Member States (potential consortium partners)*
- *WP Leader or Partner in WP*



- *Stelios C. A. Thomopoulos*
- *scat@iit.demokritos.gr*
- *NCSR Demokritos*
- *Role: WP leader and S/T provider*
- *Proposal activity:*

Human factors, and social, societal, and organisational aspects to solve issues in fighting against crime and terrorism

SU-FCT01-2018-2019-2020

Subtopic 2: Understanding the drivers of cybercriminality, and new methods to prevent, investigate and mitigate cybercriminal behaviour

Dr. Stelios C.A. Thomopoulos
Head of Integrated Systems Laboratory
Email: scat@iit.demokritos.gr
Phone number: (+30) 210 650 3155
Mobile: (+30) 6944 98669

Proposal idea/content

interconnections of
cybercrime with other
crime domains

characteristics of
cybercrime products
and relevant markets

Economic
incentives

careless cybersecurity
behaviour as
motivation to
cybercriminals
provoking
cyberattacks

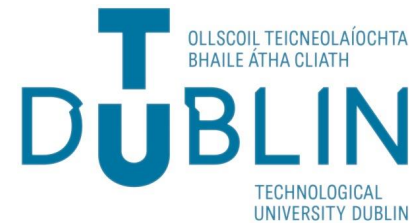
influence of
cybersecurity
defending mechanisms
on cybercriminals'
strategy

Behavioural
incentives

Project participants

- Proposed coordinator: *NCSR*
- Partners / Other participants:
 - *NCSR's expertise on:*
 - ✓ *a) Data Mining and Statistical Analysis Techniques for getting out related to cybercrime insights, from relevant datasets.*
 - ✓ *b) Simulation Methods for modelling and validating cyberattackers' and cyberdefenders' behaviour.*
 - ✓ *c) Theoretical and empirical economic analysis methods for econometric modelling of the factors affecting the economic conditions and behaviour of all the implicated, in the domains of physical crime and cybercrime.*
 - *Looking for partners with the following expertise/ technology/ application field:*
 - ✓ *Informatics Technology*
 - ✓ *Psychology*
 - ✓ *Criminology*
 - ✓ *Neurobiology*
 - ✓ *Law Enforcement Authorities*
 - ✓ *GDPR/Ethics Monitoring Experts*

Capability Presentation



- Dr Matt Bowden
Social Scientist (Criminology / Sociology) Technological
University Dublin, IRELAND
matt.Bowden@dit.ie
- Call interests to be a partner / WP Leader:
 - **SU-Infra02-2019**: Security for smart and safe cities
 - **SU-DRS01-2019-2020**: Human factors, and social, societal, and organisational aspects for disaster-resilient societies
 - **SU-FCT01-2019-2020**: Human factors, and social, societal, and organisational aspects to solve issues in fighting against crime and terrorism

Partner Capability

- Focused end user and practitioner studies using ethnographic methods
- Governance aspects of security
- Philosophical and sociological aspects of individual rights and security (*see Security Scoping Document vision for 2030*)
- Studies of criminological / Sociological nature of security threats
- Research infrastructure of Technological University Dublin



Research Networks / Experience

- TU research and innovation capability in computing, VR, gaming and social sciences
- Access to networks of end users, civil society partners, law enforcement agencies, SMEs, academic partners (Ireland, Australia, US, Europe)
- Research group on crime, justice and security located



SU-FCT01-2018-2019

The Right to a Transboundary Society – Tackling Crime and Terrorism

- *Prof. William Hynes*
- *William.hynes@futureanalytics.ie*
- *Future Analytics Consulting Ltd., Dublin, Ireland.*
- *Role: Work Package Lead*

- *Proposal activity: SU-FCT01-2019: Human factors, and societal, and organisational aspects to solve issues in fighting against crime and terrorism.*
 - *Sub Topic – Developing comprehensive multi-disciplinary and multi-agency approaches to prevent and counter violent radicalisation and terrorism in the EU.*

Practical Responses Cultural Differences – Mitigating Violent Radicalisation

- *The development of methods, tools and technologies to assess the impact of existing multi agency approaches such as the Safety House concept, the Forum approach, information Houses, and the ‘Clearing Structures’ procedures as in Germany.*

FAC can deploy expertise gained from similar previous projects to help develop guidebooks, methods, tools, and evaluation criteria for the improvement of such structures which are often context specific based on localised criteria.

- *Research and analysis of existing practices and tools.*
- *Wide stakeholder consultation regarding the effectiveness of existing research, methods, and related technologies.*
- *Brainstorming and analysis of the potential for combining best practice methods and approach.*
- *Development of pilot methods to measure the impact of new proposals and potential gaps – informed by stakeholder consultation and analysis.*
- *Train the Trainer Workshops.*

Project participants

- Proposed coordinator: *N/A*
- Partners / Other participants:
Future Analytics Consulting – Work Package Lead
- Looking for partners with the following expertise/ technology/ application field:
 - EU wide academic researchers
 - CI owners / operators
 - Urban Security and Cyber Specialists - technologists
 - Relevant departments from local and regional authorities
 - Representatives from key citizen groups

Next Gen Fight Against Trafficking

- *Jean-Christophe Le Toquin, Cyber Data Coalition*
- jc@cyberdatacoalition.eu
- *Cyber Data Coalition*
- Role: *Technology provider*

- Proposal activity: SU-FCT01-2018-2019-2020

- *Topic 1* New methods to prevent, investigate and mitigate trafficking of human beings and child sexual exploitation – and on the protection of victims

Proposal idea

- Improve the collection and analysis of information from open sources online (including dark web) and from real world witnesses (including sex workers) and provide more actionable information to national referral mechanisms and reporting lines.
- Increase dramatically the volume and the quality of the information available to the stakeholders, so they provide enriched reports to law enforcement. Actions against criminals and support to victims can be better targeted and prioritised.
- Technology innovation will be 2 fold : combine technologies to analyse content (visual & text) at large scale, and implement encryption to secure data processing and flow of communication.

Project participants

- We have the interest or have identified :
 - End users : LEAs and reporting lines in Europe and beyond
 - NGOs on child sexual abuse in Europe and beyond
 - Tech SMEs from Cyber Data Coalition and Encryption Europe
 - LEA expert with global expertise on trafficking and child abuse
- Looking for partners with the following expertise:
 - Coordinator with track record in H2020
 - Academia

CRIMINA – Mitigation of cyb**er**criminal behavior through the analysis of human factors associated with criminal law compliance.

- *Prof. Dr. Fernando Miró-Llinares*
- *CRIMINA. Research Center for the Study and Prevention of Crime (Miguel Hernández University, Spain)*
- *Role: Coordinator*
- Proposal activity: **SU-FCT01-2018-2019-2020**: Human factors, and social, societal, and organisational aspects to solve issues in fighting against crime and terrorism - **Sub-topic 2: [2019]** Understanding the drivers of cybercriminality, and new methods to prevent, investigate and mitigate cybercriminal behaviour



Proposal idea/content

SOME KEYS ABOUT THE PROPOSAL

- Aims to identify new methods for the prevention and mitigation of criminal behaviour with special attention to the ***motivations and behaviour of cyber offenders.***
- It will also refer to cybercrime enablers and ***other actors involved in spreading the negative effects of cybercrime***
- It will examine in depth the implications of some of the successful and widely developed ***models of normative compliance.***
- It will particularly focus on ***cyber-dependent crimes*** and also on different forms of cyber fraud.
- It will pay special attention ***to adolescents and young adults.***
- It will integrate new technologies and new cyberspace architectural designs to **make policies and strategies more effective .**



Project participants

- Proposed coordinator: ***CRIMINA. Research Center for the Study and Prevention of Crime (UMH)***
- Partners / Other participants:
 - *Academia (psychological and criminological aspects)*
 - *LEA*
 - *Expert on dissemination of results*
 - *Experts on ethics and legal issues*
- Looking for partners with the following expertise/ technology/ application field:
 - LEAs
 - Technological partners/Software developers
 - IoT analysts
 - Others?

CRIME PREVENTION PROJECT

- *Sibel TOPCU*
- *sibel.topcu@kizilay.org.tr*
- *Turkish Red Crescent*
- *Crime Prevention and Social Inclusion*
SU-FCT01-2018-2019-2020

CRIME PREVENTION PROJECT

- To prevent people who are involved in crime or who are victims of crime to re-commit crimes, to support their adaptation to society and thus to reintegrate them into society.
- Activities to be carried out ; it will contribute to the development of new approach models to minimize crime behavior or to reorient crime, and to contribute to the development of social policy in the long term.
- To help the children in need and their family members in penitentiary institutions and education houses

CRIME PREVENTION PROJECT

- Looking for partners with the following expertise/ technology/ application field:
 - *Crime Prevention*
 - *Minimize Crime Behavior and development of social policy in the long term*
 - *Improvement of crime victims*

Ministry of Interior

Smuggling, Intelligence, Operation and Data Collection Department (KIHBI)



Contact Person: Hasan Ali TAŞLI

- h.ali.tasli@icisleri.gov.tr
- Smuggling, Intelligence, Operation and Data Collection Department / Ministry of Interior
- Expert of Ministry of Interior

Interested Calls:

- Fight against Crime and Terrorism- *all*
- SU-FCT01-2019: Human factors, and social, societal, and organisational aspects to solve issues in fighting against crime and terrorism



Ministry of Interior

Smuggling, Intelligence, Operation and Data Collection Department (KIHBI)



- KIHBI is affiliated to Ministry of Interior.
- KIHBI provides coordination and cooperation among the organizations involved in the fight against smuggling and organized crime.



Turkish
National
Police



Gendarmari
e General
Command



Coast
Guard
Command



Directorate
General of
Customs
Enforcement

KIHBI DUTIES

- Collecting and evaluating all kinds of intelligence about smuggling activities across the State.
- Identifying objectives, tactics and procedures in the fight against smuggling.
- Preparing the Action Plan for Combating Organized Crime.
- Preparing the Action Plan for Combating Improvised Explosive Devices (IED).
- We are working with UNODC (United Nation Office on Drugs and Crime) and Pompidou Group (Council of Europe's drug policy cooperation platform).



Ministry of Interior

Smuggling, Intelligence, Operation and Data Collection Department (KIHBI)

Our Expectations

- *To perform more effective international counter terrorism coordination*
- *To follow new technologies to ensure our information system security*
- *To cooperate with the participants on risk analysis and management*
- *To provide information about our coordination system*
- *To support other participants' projects*
- *Search for ways to reduce the damage caused by organised crimes*

Major Needs

- *Excellence in information processing and evaluation system*
 - *Risk Analysis and Management System*
- *To collaborate with the AR, AI experts in the field*
- *To increase the international cooperation in the fight against Organised Crime and Smuggling.*
- *To work and meet with the participants who work on smuggling, intelligence, organized crime and risk analysis.*

KIHBI is looking for consortia to join as KIHBI and/or to be bridge between to the relevant first responders/practitioners from TURKEY

Project participants

- Proposed coordinator: *NCSR*
- Partners / Other participants:
 - *NCSR's expertise on:*
 - ✓ *a) Data Mining and Statistical Analysis Techniques*
 - ✓ *b) Simulation Methods for modelling and validation of behaviour*
 - *Looking for partners with the following expertise/ technology/ application field:*
 - ✓ *Informatics Technology*
 - ✓ *GDPR/Ethics Monitoring Experts*