Pitches Presented at the CL3 Info Day 13/06/2024

WSB University
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Athens University of Economics and Business
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Yildiz Technical University
Ambis University
VSB-Technical University of Ostrava
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Dr. Michele Lo Giudice
James Bezamat
Pambos Pantziaros
Prof. Sedat BALLIKAYA
Iordanis Koutsopoulos
Carmen Rodriguez Cobas
Prof.Dr. Bulent Bayram
Irena Tušer
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Antonio Menendez



SEREN5 Pitch Presentation

Cooperation proposal for HORIZON-CL3-2024-BM-01-04



prof. Paulina Polko Akademia WSB – WSB University, Poland



WSB University

Akademia WSB – WSB University (HEI) (PIC 949671032)



Paulina Polko

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Ewelina Widerska

International Project Manager

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Country: Poland

KEY WORDS:

public security, safety, migration, border management, border control, border guard









WSB University

Role in the Proposal: **Partner – work package leader** with the assurance of involvement as a full-budget partner ie. Polish Police, Border Guard, National Guard (Territorial Defence Forces), or other public special entities required by the proposal leader.

WSB University conducts internationally recognized research in public security, cross-border cooperation, and minority issues, particularly Ukrainian refugees in Poland. WSB University runs:

- Center for Cross-Border Security Studies,
- Center for Research Methodology in Security Sciences,
- Center for Research and Education of Uniformed Services,
- Center for Research Methodology in Security Sciences,
- Research Institute on Territorial and Inter-Organizational Cooperation,
- Institute for Sustainable Development and International Cooperation,
- Artificial Intelligence Research Institute.







WSB University

List the Destination/s and topic/s that are of your interest:

HORIZON-CL3-2024-BM-01-04: Integrated risk-based border control that mitigates public security risk, reduces false positives and strengthens privacy

Why POLAND as a partner?

Poland experienced an unprecedented situation in 2022 when more than 3 million people crossed its border in a month. This is a unique experience that no other European Union country has experienced on this scale in the 21st century. The key challenge was maintaining border capacity and providing humanitarian assistance in the ongoing COVID-19 pandemic.

The analysis of the 2022 situation, a real-world scenario that our university successfully navigated, should serve as a valuable resource for preparing guidelines for potential similar situations not only on the Polish section of the Union's external border but also on its other sections, wherever it may experience a sudden, massive, difficult-to-predict increase in the influx of migrants or war refugees.



Akademia WSB Dąbrowa Górnicza, Kraków, Cieszyn, Żywiec, Olkusz, Gliwice, Tychy

\$5)

WSB University

What it is the problem/s you seek to address?

Building resilience of the integrated risk-based border control systems to multiple threats and challenges on different UE external borders (Schengen-zone).

Use the expertise and skills gained in projects:

ProSPeReS - Protection System for large gatherings of People in Religious Sites, ISF - POLICE https://prosperes.eu/

Development of an innovative stationary system for detecting trace amounts of explosives (grant from: Polish Program for National Defense and Security)

https://www.gov.pl/web/ncbr/opracowanie-innowacyjnego-stacjonarnego-systemu-do-wykrywania-sladowych-ilosci-materialow-wybuchowych

CA22106 - Migrant Disaster Victim Identification (MDVI), COST ACTION

https://www.cost.eu/actions/CA22106/



Akademia WSB

Dąbrowa Górnicza, Kraków, Cieszyn, Żywiec, Olkusz, Gliwice, Tychy

WSB University

Experience in EU R&I projects or other:



https://prosperes.eu/

Countries required for the project:

- 1. Eastern EU border: Poland, Lithuania
- 2. South EU border: Italy, Grece, Spain
- 3. North EU border: Finland, Norway (Schengen-zone)









https://www.insituproject.eu/



Akademia WSB

Dąbrowa Górnicza, Kraków, Cieszyn, Żywiec, Olkusz, Gliwice, Tychy

WSB University



WSB EXPERTS TEAM

Paulina POLKO, Prof. (ppolko@wsb.edu.pl) – Leader of the WSB Scientific Team

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Joanna KUROWSKA-PYSZ, Prof. (jkurowska@wsb.edu.pl)

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KEY WORDS:

public security, safety, migration, border management, border control, border guard



SEREN5 Pitch Presentation



ART NOT GENUINE CANNOT BE ART

Detection and tracking of illegal and trafficked goods

Prof. Giosuè Caliano Dr. Michele Lo Giudice

Roma Tre University





Dept. of Civil, Computer Science and Aeronautical Technologies Engineering Dept. of Mathematics and Physics

Type of organization: Academic and educational organization (Public university)

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Mobile: +39 3470031884

Country: Italy

Keywords:

AI, Electronic, Acoustic, Optic, Ultrasound, Non-Destructive Testing



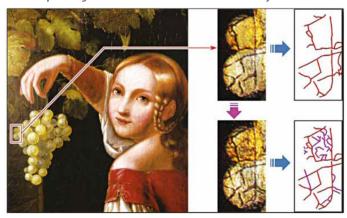






Dept. of Civil, Computer Science and Aeronautical Technologies Engineering Dept. of Mathematics and Physics

Destination and topic of our interest:
HORIZON-CL3-2024-BM-01-05:
Detection and tracking of illegal and trafficked goods



Project Idea: The idea is an "acoustic signature" and an "optical signature" of a cultural heritage good. We can define some "features" extrapolated from the acoustic/optics response of the object (called PUF, Physical Unclonable Function). The "signatures" defined in this way will represent the "electronic passport" of the object. In figure, an example of PUF: the "craquelure pattern".







Dept. of Civil, Computer Science and Aeronautical Technologies Engineering Dept. of Mathematics and Physics

Role in the Proposal: Partner

We are seeking a coordinator for a potential project that fits within this call, who can oversee our research in a consortium of partners developing innovative techniques to combat illegal markets of artworks.

What it is the problem to address?

Unique identification systems, i.e., methodologies capable of making artworks non-cloneable, are of enormous importance. Referring to the circulation of artworks, certainty about the provenance of the good and its authenticity are fundamental information from the point of view of cultural and economic evaluation.







Dept. of Civil, Computer Science and Aeronautical Technologies Engineering Dept. of Mathematics and Physics

Our expertise/skills to solve the problem.

We have expertise in <u>acoustics</u>, <u>optics</u>, and <u>neural systems</u> applied to feature extraction from art assets, and some of us have been working in this area for years (PICUS project, <u>www.picusproject.eu</u>).

Our experience in EU R&I projects: Many of us have participated in various European projects in the fields of electronics, applied optics, energy and technologies applied to advanced medical diagnostics:

FP6 MUSTWIN, Eurostars Saphari, FP7-ENIAC-JU DENECOR, ...







Dept. of Civil, Computer Science and Aeronautical Technologies Engineering Dept. of Mathematics and Physics

The team:

The group, consisting of 5 senior researchers, provides its expertise in these areas to enable the design and development of highly specialized techniques, supported by artificial intelligence algorithms useful in the selective extraction of the unique features that can characterize an artistic artifact.



G. Caliano



G. Schirripa



M. Lo Giudice



F. Mariani



A. Salvini









Dept. of Civil, Computer Science and Aeronautical Technologies Engineering Dept. of Mathematics and Physics

Conclusion and Key Take Aways Messages

As has already been done with human Biometry, it is necessary to define a new concept named **Hylemetry** (from the Greek "hyle" inanimate matter, as opposed to "bios" living matter) to develop a kind of "object passport".

The concept can be extended to all those goods that are subject to forgery (fashion, drugs, electronics, avionic and mechanical parts, etc.).



SEREN5 Pitch Presentation





Digital network cyber resilience by design

James BEZAMAT CetraC



CetraC is a French R&T SME

Contact Details James Bezamat james@cetrac.io +33 (0)6 86 98 86 95 France



A disruptive hardware approach serving the cyber resilience of digital networks



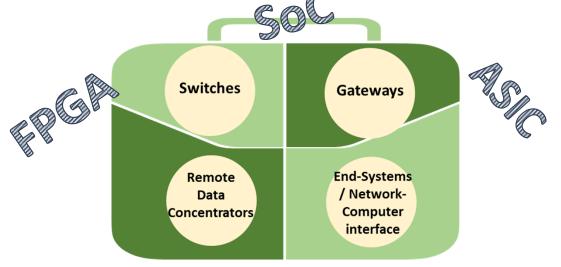


Proposed role: WP technical leader



We offer to consortium our expertise in digital networks systems and skills in Hardware design and IP integration with respect to sgfe and certifiable development

processes.







Project Idea



Destination of interest: CL3-IC (Increased Cybersecurity 2024)

• HORIZON-CL3-2024-CS-01-01: Approaches and tools for security in software and hardware development and assessment)

To improve the security and resilience of critical communication systems through the deployment of an innovative, reliable and cyber resilient solution by design and certifiable by its development process.

To foster the security of AI services through a deterministic solution, capable of detecting and processing anomalies in a reliable and safe manner



Problems to address





Digital networks requests more and more performances (<u>real time</u>, <u>workload</u>) in order to increase the infrastructure capabilities.

Sustainability of existing solution may be questioned (<u>cost</u>, <u>power consumption</u>) in conjunction with security needs (resilience of software-based solutions, structured design process)

CetraC technology to solve the problem.

CetraC hardware IP library can be used to build secure commutation solution in any application that request digital networks high performances, resilient by design and frugality properties. (e.g. digital diode, multi sources switch, pseudo real time)

Taking in charge the network, our IP solution lets the other resource focusing on application purpose (e.g. AI based anomaly detection, data inspection, cryptography)







CetraC R&I experience

CetraC solution is embedded in several industrial applications (aerospace, automotive, defence, ground and naval).

CetraC continuously improves its research and innovative skills through effective participation to collaborative projects (French and EU)







Our engineers are available for any discussion related to presented subjects.

Don't hesitate to contact me:

James Bezamat james@cetrac.io +33 (0)6 86 98 86 95 France





SEcuring the Manufacturing SuPply LinE & Resources across Europe - SEMPEREU

Pambos Pantziaros

Vernian RTI (www.vernian.eu)



Vernian RTI (<u>www.vernian.eu</u>) Confident, Competent, Committed



Type of company: SME

Contact Details

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Mobile: + 357 99 510 487

• Country: Based in Cyprus with a European view

Our Experience:

 ICT, Information/Cyber security, IT Governance, Technology Strategy, Technology design, Ethics & Corporate Social Responsibility, Quality & standards, Project Management





Vernian RTI (<u>www.vernian.eu</u>) Confident, Competent, Committed



- Our role in the Proposal:
 - Coordinator (can discuss being a partner in the right consortium setup)
- Main profiles of partners sought:
 - Research & Academia: Cybersecurity & AI experts in, contributing state of the art research and innovation.
 - <u>Industry:</u> Smart manufacturing partners able to provide real-world cases and integrate outcomes.
 - <u>Technology Providers:</u> Cybersecurity & AI specialists, able to develop/design technological components.
 - SMEs & Start-ups: Innovative companies contributing novel ideas and agile technologies.
 - End-Users: Manufacturers/organisations able to test and validate solutions.



Vernian RTI (<u>www.vernian.eu</u>)

Confident, Competent, Committed



- Approaches & tools for security in software and hardware development and assessment - HORIZON-CL3-2024-CS-01-01
- Deadline: 20 November 2024

Project Idea:

- SEMPEREU SEcuring the Manufacturing SuPply LinE & Resources across Europe
- We will address the cyber-security risk landscape in smart manufacturing.
- Our main ambition:
 - to develop an automated risk management assessment and monitoring dashboard, applicable across the EU manufacturing supply chain for ICT systems.







Vernian RTI (<u>www.vernian.eu</u>)



Confident, Competent, Committed

- The problem we seek to address?
 - The evolution to Industry 4.0 and the link between digitalization and manufacturing, highlights the need for cybersecurity across smart manufacturing,
 - The existing approach, Third Party Risk Management (TPRM), must be aligned with the complex smart manufacturing ecosystem,
 - SEMPEREU will drive the transition from traditional frameworks to a holistic Alenabled, dynamic risk management and cybersecurity ecosystem.
- Expertise/skills we own to solve the problem.
 - Cybersecurity,
 - Risk management,
 - Technology design,
 - Project management.





Vernian RTI (<u>www.vernian.eu</u>) Confident, Competent, Committed



Experience in EU R&I projects or other

 We have experience from Vernian's participation in the Digital Europe and Erasmus (Strategic Partnerships) projects we are implementing,

Team experience

- Cybersecurity,
- Technology design,
- Quality systems,
- Project management,
- Proposal writing,





Vernian RTI (<u>www.vernian.eu</u>)

Confident, Competent, Committed



- Thank you for attending
- Contact us at:
 - info@vernian.eu if you are interested





SEREN5 Pitch Presentation

Developing a wearable product for health monitoring that can produce its own energy and complies with the secure communication protocol

Sedat BALLIKAYA

Istanbul University-Cerrahpaşa/
DEMSAY Electronic Co. / Medron Tech. Inc.



Type of company/organisation: Public University and Private Company Contact Details

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Country: Turkiye

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Telephone/Mobile:0090 5354670044

Country: Turkiye

Energy harvesting, embedded system, IoT, Medical Electronics





Role in the Proposal: A) Coordinator or B) Partner, We would like to be a part of any concertium of discuss our project idea and find coordinator and partners for our project idea.

- A) In the case of Coordinator,
- B) In the case of Partner, Our research group have long term experience on energy harvesting system such as thermoelectric for IoT applications, embedded system for medical electronic and personal tracking systems.





List the Destination/s and topic/s that are of your interest: HORIZON-CL3-2024-CS-01-01 (Approaches and tools for security in software and hardware development and assessment)

Outline your Project Idea: A product that is wearable, remote trackable and can provide secure data transfer in accordance with the secure architecture will be developed for use in healthcare applications. A wearable product will be designed that can produce its own energy by using body heat with the thermoelectric module technology on it and includes sensors that can measure body functions (heart, pulse, oxygen rate in the blood). The most important difference of the product from similar technologies is that it can produce its own energy and transmits the data wirelessly and securely to the mobile application on the patient's phone and then to the doctor and central monitoring system with Bluetooth low energy communication technology.





What it is the problem/s you seek to address?

Development of a wearable anti-static textile product and electrodes capable of real-time heart rate monitoring, creation of a suitable protocol for secure communication, design of embedded systems and electronic boards for remote data transmission analysis, development of a mobile application, and integration of an energy harvester unit into the system to supply the necessary power using body heat

What is the research/technology/expertise/skills you own to solve the problem.

Embedded systems and electronic boards for remote data transmission analysis, development of a mobile application, and integration of an energy harvester (thermoelectric) unit into the system to supply the necessary power using body heat





Outline any experience in EU R&I projects or other.

Application of several EU-Horozion project

Project Call: H2020-LC-SC3-2018-2019-2020 (BUILDING A LOW-CARBON, CLIMATE RESILIENT FUTURE: SECURE, CLEAN AND EFFICIENT ENERGY)

Consortium name: SEGen

Project title: Paint Energy Technology through Micro-Wave Sintering of Nanoparticles

Proje Call: H2020-LCE-2016-2017 (COMPETITIVE LOW-CARBON ENERGYY)

Consortium name: SOLARGREEN

Project title: Energy Harvesting solutions for the use of solar heat in industrial processes via Solar and thermal hybrid Thermo-Electric Generators

Project Call: H2020-IND-CE-2016-17 (INDUSTRY 2020 IN THE CIRCULAR ECONOMY)

Consortium name: : 3D MICROGEN

Project title: 3D PRINTING MICROGENERATORS OF ADVANCE FUNCTIONAL MATERIALS

Project Call: H2020-LC-SC3-2018-RES-TwoStages (INDUSTRY 2020 IN THE CIRCULAR ECONOMY)

Consortium name: REvERSAL

Project title: Hybrid Renewable Integrated System for Bulding Scale.

Discuss the Team, any key player that will be working on the project





Conclusion and Key Take Aways Messages, if any...

We have expertise in embedded systems, micro and macro energy harvesting (thermoelectric) systems, IoT communication protocols (WiFi, BLE, LoRa, MQTT, etc.), medical electronic and image processing software. We would be happy to discuss collaboration opportunities with anyone interested in these areas.







Modern AI tools for Cognizant and Trustworthy Security Services

Iordanis Koutsopoulos Athens University of Economics and Business email: jordan@aueb.gr





Type of organization: Public (University)

Contact Details

Email: jordan@aueb.gr

Telephone: +30 210 8203933

Country: Greece

- Group: ~ 15 members, Dept. of Informatics @AUEB, Greece
- **Expertise**: AI tools/software; Responsible AI; Data analytics; Network Security and Forensics; IoT and Wireless:
- Role in proposal: Partner, but with <u>leading</u> role (lead WP/Task, be in core team of proposal writing)







Interested in topics:

- HORIZON-CL3-2024-CS-01-01: Approaches and tools for security in software and hardware development and assessment
- HORIZON-CL3-2024-INFRA-01-03: Advanced Real-time data analysis used for infrastructure resilience
- HORIZON-CL3-2024-CS-01-02: Post quantum Cryptography
- HORIZON-CL3-2024-FCT-01-01: Mitigating new threats and adapting investigation strategies in the era of IoT

Aim: Contribute expertise on Modern AI tools, Software development, Security & Forensics, Data analytics







Vision: Responsible AI tools to reap full AI power for <u>Cognizant and Trustworthy Security Services</u> and <u>Software</u> <u>Security Tasks & Services</u>: Vulnerability detection, Fault prediction, Monitoring, Anomaly detection, system health checks

...has as pre-requisites

- Explainability for AI outcomes
- Continuality for AI model & decision adaptation: e.g. tracking
- **Privacy-awareness**: data collection and fusion from dispersed sources
- Energy efficiency
- Accuracy, despite scarce data

...and will be achieved ONLY through novel AI tools

- Generative AI
- Digital Twins and Large Language Model (LLM) integration
- Explainable AI (neuro-symbolics, differentiable trees, ...)
- Continual Learning, Federated Learning, Energy-prudent Al
- Self-supervised Learning, Transfer Learning







...and how about Quantum and Post-quantum Cryptography (PQC)?

- **Vision**: a **perfectly secure** network → foundation for any quantum application
- Advanced AI tools to: build better quantum-resistant cryptographic algorithms, simulate quantum attacks, auto-generate algorithms, detect threats, optimize energy consumption,...

Our Experience with EU projects

- <u>Several EU/national Projects in various Verticals</u>: Energy, Health, Security & Forensics, Wireless Networks, IoT & edge, Agriculture
- **Coordinator** of PRE-ACT EU project: https://preact-horizoneurope.eu/ (Prediction of Radiotherapy side effects using XAI)
- Participant in large EU Defence project; main role in Cybersecurity and Forensics (full-fledged network server & node architecture, log collection/analysis,...)





Conclusion and Key Take Away Messages

- Exciting times for AI, ripe time to leverage full power of AI
- ... to build Cognizant and Trustworthy Security services and Software
- ...and also in PQC
- Seek to join consortia under formation to join forces on topics above
- Contribute ideas
- Very actively help in proposal writing

Thank you!

Iordanis Koutsopoulos: jordan@aueb.gr





MERLIN: iMproving the protEction of cRitical INfrastructures across Europe

Carmen Rodriguez Cobas GRADIANT





Type of company/organisation: RTO Center

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Telephone/Mobile: (+34) 986 120 430 | Ext. 229

Country: Spain

Cybersecurity, AI, Drones, Quantics, Videoanalytics





Company/Organisation Logo Tag Line of Company/Organisation

Role in the Proposal: B) Partner / WP Leader, S/T provider if any highlight any important partner or alliance, such as Police Force, Customs, First Responders or any other Security practitioner

B) In the case of Partner, include any value that your organisation can bring to the consortia.





Company/Organisation Logo

Tag Line of Company/Organisation

List the Destination/s and topic/s that are of your interest:

HORIZON-CL3-2024-INFRA-01-01 HORIZON-CL3-2024-CS-01-01

Outline your Project Idea:

System for increase the resilience to cyber and physical threats on European critical infrastructures.





Company/Organisation Logo Tag Line of Company/Organisation

What it is the problem/s you seek to address?

It will cover the risk assessment, monitoring, prevention, detection and mitigation of these threats.

What is the research/technology/expertise/skills you own to solve the problem.

The cyber protection of the CI will be enabled throught:

- A cyber-deception solution based on **honeypots** and supported by advanced AI algorithms, that allows to characterize and predict cyber attacks
- Advanced anomaly detection techniques

Other prevention and mitigation strategies (TBD) The proposal will also consider the **physical protection** of the CI, taking into account natural hazards, accidents, terrorism, among others

The proposal could take into account data from the CI, as well as other additional data such as the weather forecast, market predictions...





Company/Organisation Logo

Tag Line of Company/Organisation

Outline any experience in EU R&I projects or other.

We have experience in EU projects as coordinators and partners. We've worked in more than 20 projects in the past 10 years. We are currently coordinating 5.

Discuss the Team, any key player that will be working on the project

- Existing consortium:
 - Proposed coordinator: TBD
 - Partners / Other participants:
 - Gradiant (Spain): cyber protection (honeypots and anomaly detection)





Company/Organisation Logo Tag Line of Company/Organisation

Conclusion and Key Take Aways Messages, if any...

- Looking for partners with the following expertise/ technology/ application field:
 - 2 critical infrastructure operators
 - 2 civil protection authorities
 - Partners for the physical protection of the critical infrastructure
 - Partners for the cyber protection of critical infrastructure focused on:
 - Prevention
 - Response
 - Others:
 - ICS/SCADA honeypots developers







Disaster-Resilient Society 2024

Bülent Bayram Yildiz Technical University Istanbul-Türkiye

bayram@yildiz.edu.tr





Type of company/organisation: Research Institution

Contact Details

Prof.Dr. Bülent Bayram

Email:bayram@yildiz.edu.tr

Telephone/Mobile:+905327423759

Country:Türkiye

Image processing, artificial intelligence, remote sensing, UAV, forest fire







Yildiz Technical University is one of the seven public universities situated in istanbul and the 3rd oldest university of Turkey with its history dating back to 1911.

Our university has 11 faculties, 2 institutes, 25 research centers.













Description of the Organization – YTU Projects

- 5 Horizon Europe Projects
- 3 ERA-NET Projects
- 1 IPA Project
- 10 Erasmus Projects
- 10 Biliteral Projects
- 1 Multi-Cooperation Project
- 77 and 73 total number of submissions in 2021 and 2022, respectively.







Establishing a simultaneous, integrated and holistic decision support system for decision makers and fire response teams to manage a synchronized fire management process.

Our Team's Expertise.

Remote Sensing



Image Processing



Deep Learning



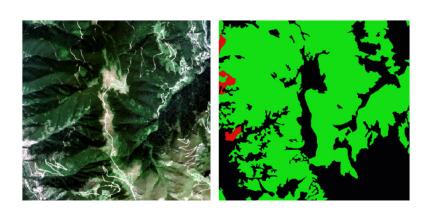






Our Team's other Research Fields

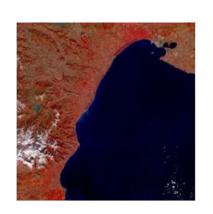
Environmental Monitoring



Benthic Habitat Mapping



Coastal Monitoring





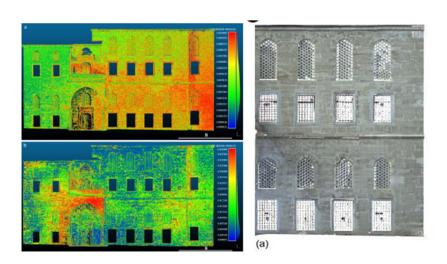




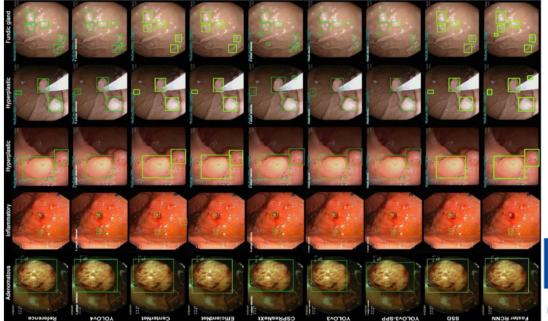


Our Team's other Research Fields

Cultural Heritage



Medical Image Processing





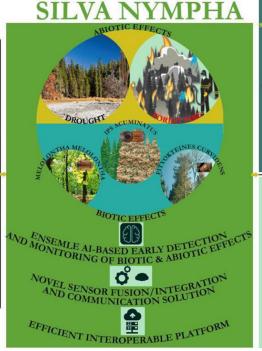


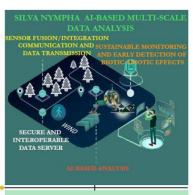


Some on-going projects

Silva Nympha: Turkey-Poland Bilateral Project - a novel approach for sustainable and multi-functional use and management of forests.









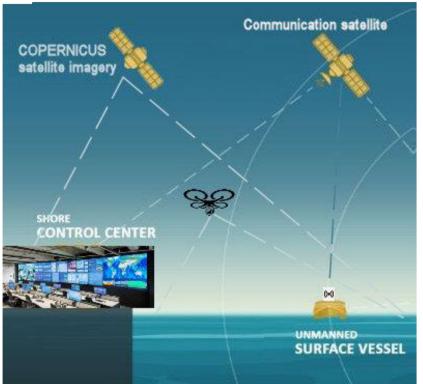






Some on-going projects

SMARTPOL: MarTERA ERA-NET Cofund Project - aims to monitor marine pollution using multi-sensor data and AI-based solutions tailored to novel system integration & communication solutions.









Some on-going projects

Sustainable Damage Detection and Monitoring System for Cultural Heritage using Artificial Intelligence









List the Destination that are of my interest: HORIZON-CL3-2024-DRS-01-02: Open Topic Disaster-Resilient Society 2024

Outline your Project Idea aims:

- to contribute to the goal of a livable world in harmony with nature by integrating human creativity with technology.
- to design, develop, and demonstrate a modular, flexible, and scalable architecture that will provide key stakeholders with relevant tools to process the available data and improve the preparedness of societies for fire management more effectively.
- to provide risk detection, monitoring & management services with the integration of a wide variety of advanced satellite & ground-based sensors, and state-of-the-art technologies.
- to propose a more holistic fire management approach that integrates environmental, climate, health, safety, security, cultural, and socio-economic aspects with a strong focus on citizens' engagement.
- to produce AI-based data for wildfire management from satellite, UAV and IoT sensor data for creation of high spatial and temporal resolution and simulations as well as fire risk modelling.







Consortium - profile of known partners

No	Partner Name	Туре	Country	Role in the Project
01	Yildiz Technical University	RTO	TR	Coordinator
02	Havelsan	SME	TR	Technical Coordinator
03	Technical University of Crete	RTO	GR	Stakeholder Engagement, Upscaling and Replication
04	ITCL	RTO	ES	Simuation, AR/VR solutions
<i>05</i>	BSS	SME	LV	Al-based solutions
<i>06</i>	General Directory of Forestry	GO	TR	Pilot demonstration







Consortium – required partners

No	Partner Name	Туре	Country	Role in the Project
01	Wearable Technologies	RTO	EU/Associated	TBD
02	Communication & System Integration	SME	EU/Associated	TBD
03	Policy Expert	RTO	EU/Associated	TBD
04	Robotics Expert	RTO/SME	EU/Associated	TBD
<i>05</i>	Dissemination expert	SME	EU/Associated	TBD
06	Public Body/Pilot Demonstration	GO	EU/Associated	TBD







Thank you for your attention



SEREN5 Pitch Presentation

Civil protection of the elderly (seniors) in the context of contemporary modern threats



AMBIS University, Prague, Czech Republic



Ambis. AMBIS University, Prague, Czech Republic

Type of company/organisation: Research Institution



Contact Details: Irena Tušer, Ph.D.,

Associate Professor

Department of Security Management

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Telephone/Mobile: +420 608 950 284

Country/City: Czech Republic, Prague

KEYWORDS of Activities and Expertise

Elderly/seniors; First response; Disaster healthcare sector; Disaster communication; Integrated rescue system; Emergency preparedness; Modern threats; Security/safety; Vulnerable population groups.









Our Role in the Proposal: **PARTNER**

Our cooperation and collaboration brings to the consortium:

- **1. Expertise in Facilities** for the elderly, in disaster healthcare and disaster communication, first respone, emergency and integrated rescue system;
- **2. Network of Contacts** within social services for elderly, in the Integrated Rescue System and among emergency preparedness experts;
- 3. Research Capabilities;
- 4. Dissemination of Results.

Outline any experience in EU R&I projects or other.

Since 2018 over 13 projects for Central European countries and other projects aimed at education, economic aspects, cyberbullying, emergency preparedness of homes for the elderly and emergency medical services, global threats and internal security.







Destination and topic of our interest:

HORIZON-CL3-2024-DRS-01-02: Open Topic

Research and Innovation Actions

Project Idea: Develop and implement innovative strategies and tools for protecting elderly individuals from contemporary modern threats.

Key Activities:

- 1. Development of Training Programs;
- 2. Technological Solutions;
- 3. Community Collaboration;
- 4. Other additional challenges for the protection of vulnerable populations.









What it is the problem you seek to address?

The elderly are often the most vulnerable population group in the context of contemporary threats as natural disaster, climate change, global pandemics, cyber threats, technological threats, depleting resources, economic threats etc.

- ➤ Lack of Community Preparedness
- Limited Access to Help

What is the research/technology/expertise/skills you own to solve the problem.

We focus on effective methods of emergency preparedness and training/education, disaster communication and rescue systems (first respon).





Conclusion and Key Take Aways Messages.

Key Messages:

- > Senior Safety is a Priority: We focus on protecting one of the most vulnerable population groups in society.
- ➤ Innovative Approaches: We utilize the latest technologies, multidisciplinary approaches and creativity to address problems.
- ➤ Collaboration and Community Support: Collaboration with communities and other partners is crucial to achieving common goals.

Insert any KEYWORDS in relation to your Activities and Expertise

Vulnerable populations; Education/training, Emergency preparedness; Disaster communication; Disaster healthcare sector; Integrated rescue system;



SEREN5 Pitch Presentation

Effective interaction of National institutions and the population in disaster preparation and resolution



Wartin Trčka
VSB-Technical University of Ostrava,
Faculty of Safety Engineering



VSB-Technical University of Ostrava, Faculty of Safety Engineering

Type of company/organisation: Research and Educational institution

Contact Details

Email: martin.trcka@vsb.cz

Telephone/Mobile: +420 597 322 925

Country: Czech Republic

KEYWORDS: civil protection; disasters and immigration;





VSB-Technical University of Ostrava, Faculty of Safety Engineering

Role in the Proposal: Partner

Important partners: Environment, Climate change prediction, AI specialsts, End users,

First responders, National authorities

Benefit to the consortium:

- fire protection, civil protection, emergency and civil protection, population protection, prevention of major accidents, protection of critical infrastructure, fire tactics, training of first responders, training of crisis management teams, simulation methods (VR)
- Laboratories and simulation workplaces





VSB-Technical University of Ostrava, Faculty of Safety Engineering

List the Destination/s and topic/s that are of your interest:

HORIZON-CL3-2024-DRS-01-02; HORIZON-CL3-2024-DRS-01-03

Project Idea

Database information 1 - focused on the climate change of the affected territory

Al 1 platform - using database 1 for transmission to the target community

must respect the current information potential of the population according to the specific landscape's approach to global climatic changes

must respect the requirements for the population from the corresponding state authorities in the event of a disaster

Database information 2 - comprehensive legal and normative information for authorities cooperating in preparing for disasters in the framework of international cooperation in managing disasters Al 2 platform using the above database

evaluate procedures to respect the legal and normative requirements of countries propose procedures that respect the legal and normative requirements of countries Emergence of VR scenarios

Al 1 – Al 2 cooperation will be important





VSB-Technical University of Ostrava, Faculty of Safety Engineering

Experience in EU R&I project.

- Building Competence in Risk Management of Future HSE Professionals, 2018-1-CZ01-KA203-048141
- Skilled to be a Fire Expert, 2020-1-SI01-KA202-076025

Current HE Projects:

- Team UP, Holistic capability and technology evaluation and co-creation framework for upskilled first responders and enhanced CBRN-E response, 101121167, 2024 2026
- NATURE-DEMO / Nature-Based Solutions for Demonstrating Climate-Resilient Critical, 101157448, 2024 - 2026





VSB-Technical University of Ostrava, Faculty of Safety

Expected results

adequate resilience and preparedness of the population

Especially the involvement of immigrant communities

adequate preparedness of crisis management and first responders

Across the involved countries

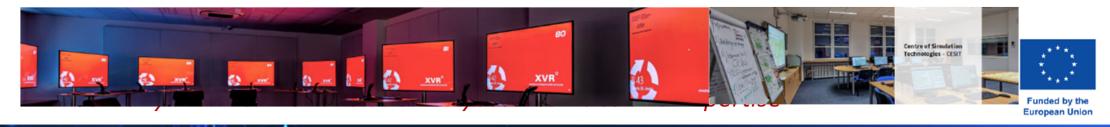
It is important to respect the legal requirements of the participating countries Disaster VR scenarios for the training of crisis managers and responders

Centre of Simulation Technologies – CESIT

SIMPROKIM - Crisis Management Simulator

XVR - simulator for professionals dealing with security and

protection https://www.youtube.com/watch?v=E4s6O0D4xYQ



SEREN5 Pitch Presentation

IBATECH's EU collaborative opportunities in Horizon Europe Cluster 3



Antonio Menéndez | R&D Director







Your CBRN-E partner in Horizon Europe

Type of company/organisation: SME

Contact Details

Email: amenendez@ibaconsultores.es

Mobile: +34 628 28 11 31

Country: Spain





Antonio Menéndez Moreno
R&D Director | MSc Civil Eng. | PMP | +13 years in strategy,
management and technical-financial planning in R&D&i







Spanish multi-disciplinary engineering SME | CBRN sector | + 15 years' expertise and knowhow



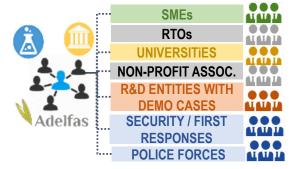




Expected roles: Your CBRN-E partner in Horizon Europe

A) In the case of Coordinator,

- **Partnerships**. Non-profit associations, Security practitioners, Police Forces or First Responders in emergency scenarios both Spanish and Associated Countries authorities.
- **Expected new partners**. SMEs, RTOs or Universities (e.g. Al communication, devices for disaster management), partners which provide other EU demo cases.
- B) In the case of Partner, demo cases approach:
- **B&C decontamination via cold plasma**: multi-scale assessment (TRL 4-7)
- CBRN systems: R&D and integration solutions
- CBRN mobile labs, with key stakeholders











Your CBRN-E partner in Horizon Europe

Selected topic/s:

For Coordination:

- HORIZON-CL3-2024-DRS-01-01 Prevention, detection, response and mitigation of CBR threats to agricultural production, feed and food processing, distribution and consumption
- HORIZON-CL3-2024-**SSRI-01-02** Accelerating uptake through open proposals for advanced SME innovation

For Partnership:

- HORIZON-CL3-2024-**DRS-01-02** Open Topic
- HORIZON-CL3-2024-**DRS-01-04** Hi-tech capacities for crisis response and recovery after a natural-technological (NaTech) disaster
- HORIZON-CL3-2024-FCT-01-07 CBRN-E detection capacities in small architecture

Outline Project Idea:

CBRN mitigation across value chain / Al communication / Demo cases via mobile labs Tech assessment of different threat scenarios (e.g. air, soil, food)



Multi scale implementation solutions and protocols



360 vision - CBRN prevention



Management and assessment of CBRN incidents



CBRN integration



B&C decontamination: cold plasma



CBRN applications

MOBILE BIOLOGICAL LABORATORY









Your CBRN-E partner in Horizon Europe

EU and Spanish R&D Projects	Customer
ESCUDO CBRN - CBRN communication and detection system	GOBIERNO MINISTERIO DE DEFENSA
ASTROLABIO. Laser excitation-induced fluorescence multispectral for biological detection	DE ESPAÑA DE DEFENSA
QUIXOTE (Quick Xor Technology for B&C cold plasma decontamination)	EUROPEAN DEFENCE AGENCY
ROCSAFE - Remotely operated CBRNe scene assessment forensic examination	Emono
NAIADES - A holistic water ecosystem for digitization of urban water sector	HORIZ N 2020
QUIXOTE II (Quick xor Technology for B&C cold plasma decontamination)	GOBIERNO MINISTERIO DE DEFENSA
SOBID (Stand off biological detection)	Fraunhofer
MASC — CBRN — Methodology for assessing States Capcity for Countering the Hostile Misuse of CBRN knowledge and material.	HORIZ N 2020





Your CBRN-E partner in Horizon Europe

Join us in this challenging adventure!



R&D Expertise in EU-funded projects









Engagement of public authorities as key end users

Potential replication in

associated countries



CBRN knowhow



Multipurpose application of CBRN from security to health, pharma or food industries









THANK YOU FOR YOUR TIME AND ATTENTION!





amenendez@ibaconsultores.es



+34 628 28 11 31





Antonio Menéndez Moreno
R&D Director | MSc Civil Eng. | PMP | +13 years in strategy,
management and technical-financial planning in R&D&i



Pitches Presented at the CL3 Info Day 13/06/2024

European Forensic Institute

Platform Poland

Imagga Technologies

Turkish Gendarmerie Genaral Command

Madrid Police

University of Porto

CertiLab

Zanazi & Partners

Sigoria

VSB - Technical University of Ostrava SACC by EJC

Michelle Yew

Elisabeth Duda

Nikola Krastev

First Lieutenat Nahit Mehmet ÇER

Clara Perez

Rui Sousa Silva

Prof Zdenek Lokaj

Maria Ustenko

Sebastian Kawczyński Phd.

Jan Hora

Elie Kagan



SEREN5 Pitch Presentation

A specialist educational partner for your FCT projects

Michelle Yew European Forensic Institute







Type of company/organisation:

Higher Education Institution (MFHEA License number 2018-014)

Contact Details

Email: m.yew@eufor.eu

Telephone/Mobile: +356 2741 5138/ +356 7706 2329

Country: Malta







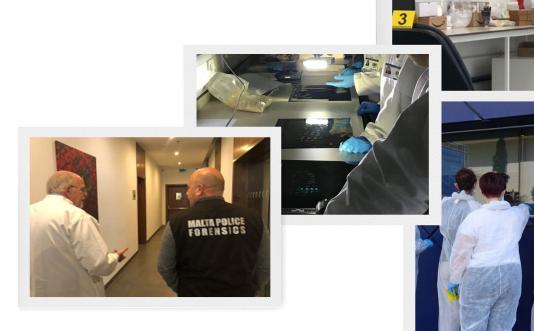
ABOUT US Partner Organisation

- Founded in 2018 in Malta
- Fully accredited Higher Education Institution by the Malta Further and Higher Education Authority (MFHEA).
- Specialist programmes in criminology, crime analysis, forensic and investigative sciences.
- Blended learning with professionals and experts as lecturers.





OUR FACILITIES









CENTRES OF

EXCELLENCE



Corporate
Governance
and Financial
Crime



Cyber Security,
Digital Forensics
and Crime
Analysis



Forensic
Science
and
Engineering



Criminology and Investigative Psychology









List of topics that are of our interest:

HORIZON-CL3-2024-FCT-01-01: Mitigating new threats and adapting investigation strategies in

the era of Internet of Things

HORIZON-CL3-2024-FCT-01-02: Open Topic

HORIZON-CL3-2024-FCT-01-03: Lawful evidence collection in online child sexual abuse

investigations, including undercover

HORIZON-CL3-2024-FCT-01-04: Radicalisation and gender

HORIZON-CL3-2024-FCT-01-05: Combating hate speech online and offline

HORIZON-CL3-2024-FCT-01-06: Open Topic

HORIZON-CL3-2024-FCT-01-08: Tracing of cryptocurrencies transactions related to criminal

purposes





How we can contribute to your project



Education and Training

Customized training curricular and/or accredited programmes to ensure project sustainability.

Research and Demonstration

Expert-led and student assisted for fact-finding and data crunching.

Testing and Validation

Educational laboratory for forensic sciences (light sources, forgery and fakes, digital forensics etc).



SEREN5 Pitch Presentation

We connect, we manage, we train - we care!





Elizabeth Duda elizabeth.duda@ppbw.pl





We are a Non-Profit - END USER ORGANISATION - uniting law enforcement, universities, research institutions and industry



37

projects



20

organised national and international conferences



27380

trained individuals



40

team members



19

years of experience







COORDINATOR in H2020 and Horizon Europe Check out our flagship projects:



Work package leader and task leader in European programmes: HORIZON, ISF, JUST, DIGITAL, ERASMUS, EDF





THEMATIC AREAS



Practitioners' Networks



Preventing Radicalisation



Child Protection



Countering Cybercrime



Cybersecurity



Digital Forensics



Public Spaces



Pre-Commercial Procurement



Strategic Security







Destination: The Horizon Europe "Civil Security for Society" calls

Focus on: Fighting Crime and Terrorism 2024

Special interest in: HORIZON-CL3-2024-FCT-01-05:

Combating hate speech online and offline







HORIZON-CL3-2024-FCT-01-05: Combating hate speech online and offline

PPHS' contribution:

- Community building;
- Identification of practitioners needs, gaps and requirements;
- Field tests and evaluation;
- Training;
- Legal analysis;
- Communication, dissemination and exploitation
- Access to the practitioners networks in Europe;

Funde Europe

Relevant experience in: EU-HYBNET, INDEED, I-LEAD, EU-CIP or IN2PREV

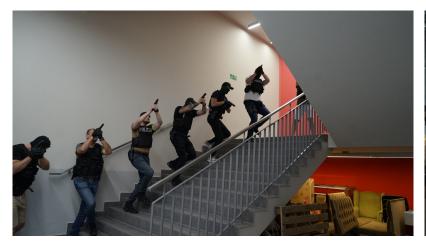




END USER ORGANISATION



Secretariat and support to the European Network of Law Enforcement Technology Services (ENLETS).











LOOKING FOR RELIABLE PARTNER IN CLUSTER 3 CALLS? LET'S TALK ABOUT IT!



E-mail: elizabeth.duda@ppbw.pl POZNAN, POLAND



SEREN5 Pitch Presentation



Advanced Al Image Recognition for Civil Security



Nikola Krastev Imagga Technologies





Advanced AI Image Recognition for Civil Security

Type of company/organisation: SME

Contact Details

Email: nikola.krastev@imagga.com

Telephone/Mobile:+359-885-188 060

Country: Bulgaria

Keywords: AI, image recognition, computer vision, neural networks, algorithms for data collection, cleaning and annotation, stable diffusion, LORA, generating datasets, domain-specific datasets.







Role in the Proposal: Partner

- Capacity and skill set: Imagga is a knowledge driven company with 15 employees possessing skills and knowledge in three different domains: AI, SaaS software, and Image recognition. 70% of our staff are deeply technical, consisting of software engineers, data scientists, and AI engineers.
- Efficiency and Cost effectiveness: With a competitive person/month rate we are capable of delivering more results within the budget frame.
- Image recognition expertise: With more than 10 years experience and by partnering with top recognized industry players Imagga has gained extensive expertise and valuable insights in Image Recognition
 across
 different
 segments.
- Part of widening countries: As a part of the widening countries Imagga can help maximize the impact of the project and promote inclusiveness.







Destinations:

As a technology provider Imagga is capable of delivering solutions for a wide range of topics including:

- Fighting Crime and Terrorism
- Border Management
- Resilient Infrastructure
- Increased Cybersecurity
- Disaster-Resilient Society
- Support to Security Research and Innovation







Destination Focus:

Destination - Better protect the EU and its citizens against Crime and Terrorism

- Automatic detection of inappropriate content machine learning (ML) models for detecting adult and abusive content, violence, weapons, drugs and alcohol abuse, deepfakes and AI generated content detection.
- Automatic detection of radicalised content ML models for detecting infamous people, infamous symbols, clustering and semantic correlation of content for detection of radicalised groups.
- Experience in feedback loop and active learning mechanisms gathering and incorporating user feedback within ML models for continuous improvement.
- Experience in working with data related to crime and terrorism automated tools for data gathering and filtering, pseudo anonymization tools, generation of synthetic data for enriching real-world datasets.







Topics of Interest:

- HORIZON-CL3-2024-FCT-01-03: Lawful evidence collection in online child sexual abuse investigations, including undercover
- HORIZON-CL3-2024-FCT-01-04: Radicalisation and gender
- HORIZON-CL3-2024-FCT-01-05: Combating hate speech online and offline
- HORIZON-CL3-2024-BM-01-05: Detection and tracking of illegal and trafficked goods







Research, Technology, Expertise, Skills

- **Developing computer vision AI pipelines for specific use-cases** development of convolutional neural networks, fine-tuning for domain-specific cases, evaluation and continuous improvement
- Semi- and fully-automated algorithms for data collection, cleaning, and annotation
- Expertise in using generative AI such as stable diffusion and LORA models for generating new and domain-specific datasets
- Over 10 years of experience in deploying ML models at scale on different Cloud infrastructures AWS, GCP, Azure
- Deploying AI models on the edge mobile and IoT devices
- Use of ethical and trustworthy AI principles when developing new AI products







Experience in EU R&I projects



AI4Media

A European Excellence Centre for Media, Society and Democracy- H2020-ICT-2018-20



CounteR

Privacy-First Situational
Awareness Platform for
Violent Terrorism and Crime
Prediction, Counter
Radicalisation and Citizen
Protection - SU-FCT02-2018-



Seal of Excellence by EIC for our project "AI for efficient visual content MODeration at scale" which was subsequently funded by the NextGenerationEU.



2019-2020

SEREN5 Pitch Presentation



Secure Societies 2024: Horizon Europe Cluster 3 Info-day and Brokerage Event

First Lieutenat Nahit Mehmet ÇERİ
Turkish Gendarmerie Genaral
Command



Type of company/organisation: Public



Email: m.ceri@jandarma.gov.tr

Telephone/Mobile:+90 312 356 3268 / +90505 216 3252

Country: Türkiye

Law Enforcement Agency











The Gendarmerie of the Turkish Republic

- * is an armed general law enforcement organization which
- * maintains safety and public order and executes the duties ascribed to it by other laws and Presidential Decrees.



Title of Call as 'FCT03 Enhanced prevention, detection and deterrence of social

issues related to various forms of crime'



- Department of Counter-Smuggling and Organized Crimes of the Gendarmerie General Command continues to fight against smuggling, financial crimes, narcotic crimes and money laundering.
- The latest developments regarding information systems, technical/ optical /electronical devices and equipments are followed.
- More than (2.000) expert personnel are on duty.
- Proposal: Contribution can be made to the projects through high capacity for crime investigation and detection, specialized units, expert personnel.
- Participation in EU funded Project activities on the subject has been ensured.

Funded by the

European Union

- Role: Project partner, End user.
- Interested Calls: FCT-01-04, FCT-01-05, FCT-01-06.

Title of Call as "FCT-04 Increased security of citizens against terrorism,

including in public spaces'





- Evidences collected from the crime scenes are examined and analyzed at the forensic laboratories which have been established in order to enlighten forensic events by means of scientific methods.
- The Gendarmerie General Command has been a member of the "European Network of Forensic Science Institutes" since 1998.
- **Proposal**: Contribution can be made to the projects through competent forensic laboratories, expert personnel,
- Participation in EU funded Project activities on the subject has been ensured.
- Role: Project partner, End user.
- Interested Calls: FCT-01-07





- Modern technological equipment are used during the fight against digital crimes and cyber attacks,
- Almost (2.000) expert personnel are on duty in the fight against digital crimes.
- Proposal: Contribution can be made to the projects through high capacity for crime investigation and detection, specialized units and expert personnel.
- Participation in EU funded Project activities on the subject has been ensured.
- Role: Project partner, End user.
- Interested Calls: FCT-01-08



Title of call as "INFRA-02 Resilient and Safe Urban Areas and Smart Cities"







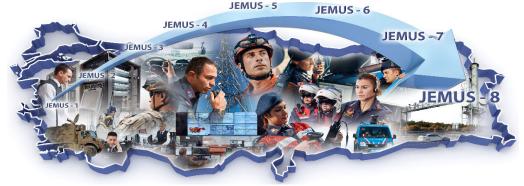
- Manned and unmanned aerial vehicles are used in search and rescue activities.
- Search and rescue activities in accidents and natural disasters such as earthquakes, avalanches, floods, forest fires, floods and landslides are carried out by specialised personnel.
- There are specialized underwater search and rescue teams.
- **Proposal**: Contribution can be made to the projects through competence in search and rescue activities, special units and expert personnel.
- Participation in EU funded Project activities on the subject has been ensured.

• Role: Project partner, End user.

Interested Calls: INFRA 01-02

Title of call as 'CS-01 System Security and Security Lifetime Management, Safe

Platforms, Digital Infrastractures"







- Databases and Wide Area Networks (WAN) under the responsibility of the Gendarmerie General Command are operated.
- Türkiye's first and largest public security communication project (JEMUS) was developed by the Gendarmerie General Command.
- The Gendarmerie Virtual Station (JANSAK) Project is being carried out by the Gendarmerie General Command in order to accelerate digital transformation in public order services, to ensure easy access of citizens to the Gendarmerie stations, to increase service quality through digital platforms and to provide service to citizens from wherever they are.
- Cybersecurity policies are determined in line with technology.



Specialized and well-equipped personnel are on duty. European Union

Title of Call as ''CS-01 System Security and Security Lifetime Management,

Safe Platforms, Digital Infrastructures"









- The Artificial Intelligence Supported Gendarmerie Urban Security Management System (KGYS) Project is being carried out in order to increase the effectiveness of the security and public order services of the Gendarmerie General Command.
- By taking into account the current scientific and technological developments, the KAHIN project has been initiated in order to carry out judicial and administrative duties more effectively and efficiently, to prevent crime and to reveal the crimes that have occurred in a shorter time.
- Proposal: Contribution can be made to the projects through technological competence and expert personnel,
- Participation in EU funded Project activities on the subject has been ensured.

European Union

• Role: Project partner, End user.

Interested Calls: CS-01-01



Madrid police as end user in EU projects



Clara Pérez Madrid Police





Madrid Police

(Public body)
Madrid, Spain
Telf. +34 914801761

dri.pm@madrid.es

First responder, emergency service, community policing, UAV technologies, artificial intelligence (AI), Traffic accidents investigation, domestic and gender-based violence victim support, CCTV technologies, crowd protection, environment protection...









ROLE IN PROPOSAL: Partner, as end user.

OUR VALUE: Largest local police in Spain, +6000 police officers.

Diverse competences in public safety and citizen coexistence.

Use case/pilot provider



European Projects specialized unit +25 granted projects







TOPICS OF INTEREST HORIZON EUROPE 2024 CALL

- FCT FIGHTING CRIME AND TERRORISM: 02, 04, 05, 06 & 07
- INFRA RESILIENT INFRASTRUCTURE: 01, 02 & 03
- DRS DISASTER-RESILIENT SOCIETY: 02 & 04





IMPACT EXPECTED: ENSURING LOCAL POLICE FORCES AS KEY PARTNERS IN SHAPING THE FUTURE OF CITIES, WITH...

- ✓ Street patrols
- ✓ Proximity & community policing
- ✓ Urban & road analysis
- ✓ Air support (UAV)
- ✓ CBRN-E & Environment protection
- ✓ Traffic accidents investigation
- ✓ Court assistance
- √ K9 and mounted police
- √ Gender based violence and domestic abuse
- ✓ Public order
- √ Hate crimes and diversity management unit
- ✓ Central station and CCTV
- ✓ Security and emergencies training center























MINDb4ACT

LOOKING FORWARD TO MORE!





SA TALADDIN











































READY FOR INNOVATIVE AND USEFUL PROPOSALS dri.pm@madrid.es





SEREN5 Pitch Presentation

The potential of linguistic analysis in the fight against cybercrime

Rui Sousa-Silva Centre for Linguistics of the University of Porto







Type of company/organisation: Public Research Unit – Part of the Portuguese R&D network

Contact Details

Email: rssilva@letras.up.pt

Telephone/Mobile: +914 001 544

Country: Portugal

#linguistics #forensic-linguistics #translation #cybercrime







Role in the Proposal: Build a network for successfully fighting against cybercriminal activities.

As Coordinator, new pan-European project placing language at the centre.

As Partner, bring added value to the consortium – by providing expertise in a core aspect that is usually neglected: Language.

The principle of Idiolect.







List the Destination/s and topic/s that are of your interest:

- HORIZON-CL3-2024-FCT-01-01: Mitigating new threats and adapting investigation strategies in the era of Internet of Things
- HORIZON-CL3-2024-FCT-01-03: Lawful evidence collection in online child sexual abuse investigations, including undercover
- HORIZON-CL3-2024-FCT-01-04: Radicalisation and gender
- HORIZON-CL3-2024-FCT-01-05: Combating hate speech online and offline
- HORIZON-CL3-2024-BM-01-05: Detection and tracking of illegal and trafficked goods

Outline your Project Idea: The potential of language in the fight against (cyber)crime







Problem to be addressed:

- (Cyber)crime is on the rise
- Encouraged by new technology including genAl
- Increasingly pervasive & transborder

Contribution to solve the problem:

- Use of linguistic analysis like a fingerprint
- Establish sociolinguistic profiles
- Dismantle criminal networks







Experience in EU R&I projects or other:

- PI, CLUP Centre for Linguistics of the University of Porto
- CA LITHME Language in the Human-Machine Era, WG1 Chair
- Partner MSCA DN

Team & key players – Multidisciplinary team of:

- R&D organisations.
- Law enforcement agencies & legal practitioners.
- Security companies & organisations.
- Tech companies & organisations.





Language plays a core role in the fight against cybercrime and organised crime networks.

#forensic-linguistics #cybercrime #organised-crime

This research is supported by national funds by FCT – Fundação para a Ciência e a Tecnologia, I.P., project

UIDB/00022/2020 & UIDP/00022/2020 - DOI: 10.54499/UIDB/00022/2020.







Utilization of modern technologies and tools in Urban Security Assoc Prof 7 denek

Assoc. Prof. Zdenek Lokaj, Ph.D. CertiLab, CTU in Prague



Type of company/organisation: Research Institution

Contact Details

Email: zdenek.lokaj@cvut.cz

Telephone/Mobile: +420 722 650 990

Country: Czech Republic

Security solutions, C-ITS, AI/ML, IT, OT, Forensic analysis





Role in the Proposal: Partner

Skills and capabilities:

- Development of new tools for security forces to ensure effective intervention during crisis situations (e.g., C-ITS, communication technologies, AI, ML),
- forensic analysis providing legally relevant evidence during investigations involving modern technologies (e.g., accidents involving semi/autonomous vehicles or other means of transportation).
- Experience with cyber security in Transportation systems combining traditional IT with industrial OT.





List the Destination/s and topic/s that are of your interest:

HORIZON-CL3-2024-INFRA-01-03 HORIZON-CL3-2024-FCT-01

Outline your Project Idea:

 Development of new forensic and intervention tools based on moder technologies and systems which will be effectively usable to interevent in crisis situations or collection reliable evidence.





What it is the problem/s you seek to address?

Lack of effective tools and systems based on modern technologies (e.g. C-ITS, 5G, AI/ML) for intervention crisis situations and forensic analysis to collect reliable evidence e.g. in semi/autonomous vehicles, transportation systems, etc.

What is the research/technology/expertise/skills you own to solve the problem.

 Security systems development (e.g. C-ITS), AI/ML application, cybersecurity in IT and OT systems, Evaluation and testing of large security solutions mainly in Transportation segment





Outline any experience in EU R&I projects or other.

- C-ROADS Czech Republic, part of C-ROADS Platform, funded by CEF
- ELORYKS, project for Czech Police funded by Ministry of Interior
- SIFCO, project in co-operation with Frauhofer instituce IVI, funded by TACR

Discuss the Team, any key player that will be working on the project

- Assoc. Prof. Zdenek Lokaj, Ph.D., LL.M.
- Prof. Tomas Zelinka
- Dr. Martin Srotyr
- Dr. Miroslav Vanis





Conclusion and Key Take Aways Messages, if any...

We are member of the oldest technical university in Central Europe – Czech Technical University in Prague with experienced team. We have cooperation with research centres and commercial companies in the Czech Republic, Slovakia Germany, Taiwan, Vietnam and South Korea.

Who will be our new research partner? ©. Maybe you!!



SEREN5 Pitch Presentation

Zanasi & Partners overview and the ARCHER proposal (INFRA-01-03)





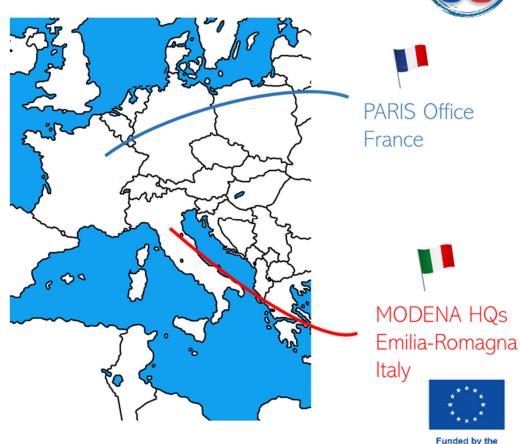


European Union

Zanasi & Partners Security Research and Advisory

Italian SME with:

- 30+ Security projects (Horizon, ISFP)
- 6 Defence projects (PADR, EDIDP, EDF)
- Prestigious clients in Europe & MENA
 (ENISA, ESA, FRONTEX, JRC, EDA, GEDI,
 Siemens, INSTEX, Algeri port, ...).





List of topics of our interest for Horizon Europe 2024

- FCT-01-03
- FCT-01-04

- <u>BM-01-02</u>
- BM-01-03
- BM-01-04
- <u>BM-01-05</u>

- INFRA-01-02
- INFRA-01-03
- DRS-01-01
- DRS-01-04
- DRS-01-05





List of topics of our interest for Horizon Europe 2024

- FCT-01-03
- FCT-01-04

- <u>BM-01-02</u>
- BM-01-03
- BM-01-04
- <u>BM-01-05</u>

- INFRA-01-02
- <u>INFRA-01-03</u>



- DRS-01-01
- DRS-01-04
- DRS-01-05







(AI Real-time deteCtion of pHysical/cybEr Risks)

HORIZON-CL3-2024-INFRA-01-03

Outline the Project Idea:

Develop an **AI tool** for real-time monitoring of **infrastructures** and **smart cities** through a **multi-domain** (transports, health, energy, etc.) integrated modelling of **cyber & physical risks**

Role of Z&P in the proposal:

Scientific Coordinator





ARCHER

(AI Real-time deteCtion of pHysical/cybEr Risks)

HORIZON-CL3-2024-INFRA-01-03

The expertise we own to solve the problem:

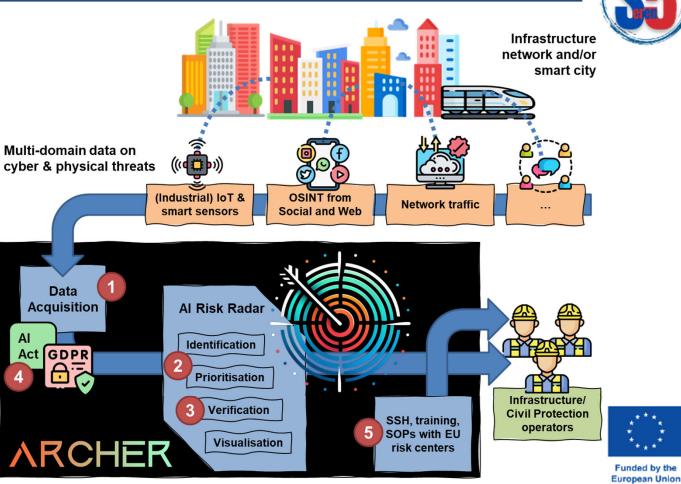
- Big Data Analysis (30+ years in AI/ML),
- 2. Physical & cyber risk assessment,
- 3. Source reliability & fake news detection,
- 4. Ethical & legal of AI for security,
- 5. Security Research (30+ projects in Security/Defence, end users involvement).





(AI Real-time deteCtion of pHysical/cybEr Risks)

HORIZON-CL3-2024-INFRA-01-03







(AI Real-time deteCtion of pHysical/cybEr Risks)

HORIZON-CL3-2024-INFRA-01-03

The ARCHER's Team:

- Zanasi & Partners (Scientific Coordinator)
- Other 7 partners from NL, IT, GR, FR, SL

We are looking for:

- 1. Infrastructures operators/owners,
- 2. Civil protection authorities,
- 3. Real-time analysis experts.





Our contacts details

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Zanasi-&-partners



zanasiandpartners



@Zanasi_and_P



SEREN5 Pitch Presentation

Sigoria - our mission and projects





Sebastian Kawczyński Phd. MBA Sigoria Security Solutions Ltd.





Type of company/organisation: Private

Contact Details

Email: skawczynski@sigoria.eu

Telephone/Mobile: +48 660 724 261

Country: Poland

KEYWORDS: AI, Machine Learning, IT solutions, CBRN, NLP







Role in the Proposal: Partner

We are experienced in the development of IT solutions to be used by the public sector, including systems concept creation and its requirements. Our scope of interest involves also support systems and procedures for the public bodies. We are able also to find and initiate cooperation with project partners from Poland and Romania (eg. LEA's, Universities, Scientific Institutes, Hospitals).

We are looking for partners to join consortia in Horizon Europe projects.







The destinations and topics that are of our interest:

HORIZON-CL3-2024-FCT-01-02: Open Topic

HORIZON-CL3-2024-FCT-01-07: CBRN-E detection capacities in small architecture

HORIZON-CL3-2024-INFRA-01-03: Advanced real-time data analysis used for infrastructure resilience

HORIZON-CL3-2024-DRS-01-01: Prevention, detection, response and mitigation of chemical, biological and radiological threats to agricultural production, feed and food processing, distribution and consumption

HORIZON-CL3-2024-BM-01-01: Open Topic

HORIZON-CL3-2024-DRS-01-02: Open Topic



HORIZON-CL3-2024-SSRI-01-02: Accelerating uptake through open proposals for advanced SME innovation





What are the problems we seek to address?

We aim to address several critical issues utilizing AI, machine learning, and natural language processing technologies:

- enhancing data security and fraud prevention (fake images/voice detection),
- improving infrastructure security and ensuring the safety of EU citizens during mass events and in crowded areas,
- safeguarding citizens (also minors) online by detecting and preventing harmful content and interactions,
- developing technology that accelerates the response times of security services to enhance public safety and crime prevention,
- providing easy access to medical assistance through dedicated applications to improve healthcare outcomes and ensure timely help for those in need.







What value can we bring to the consortia?

We are specialized in IT solutions based on AI, in the security field and to be used by the public sector, including systems concept creation and its requirements. The main points of our interest are AI solutions based on natural Language Processing and image recognition. We are involved in many projects in Poland, of healthcare especially those related to the ΑI in the use system. Our experts were involved in IT projects based on AI, in the fields of:

- MedTech
- FinTech
- EdTech

Security







Our experience in EU R&I projects:

We are able to find and initiate cooperation with project partners from Poland and Romania (eg. LEA's, public security services responsible for public safety issues, Scientific Institutes, Hospitals).

Currently we are the member of international consortiums in the projects:

- ICAREWOUNDS: Intelligence and integration of care for smarter chronic wounds management" a project financed from THCS funds (started 01.05.2024)
- HOTHREAT CBRNe protection measures for hotels and conference centres (started 01.07.2023)







Our team and partners:

- IT developers with experience in AI, machine learning and NLP
- Business Unit with a big scope of contacts and potential business partners
- LEAs in Poland and Romania
- Academia, Hospitals, SMEs and other public institutions





Contact Us:



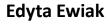


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www.sigoria.eu

SEREN5 Pitch Presentation

Research on Civil-Military interface:

- Innovative Fire Management Strategies for Protecting High-Value Natural Sites
- Technical gases at the military-civilian interface in emergency and semi-emergency release

Jan Hora

VSB-Technical University of Ostrava Faculty of Safety Engineering

VSB TECHNICAL | | UNIVERSITY OF OSTRAVA

Type of company/organisation: University

Contact Details

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- 1. CONTROLLED BURNING, FUEL MANAGEMENT, UNEXPLODED ORDNANCE (UXO), UAV-UGV, REMOTE SENSING, FIRE MODEL
- 2. HIGH-PRESSURE HYDROGEN, LNG, STORAGE, GAS EXPLOSION, GAS LEAKAGE, ACCIDENTAL RELEASE, PROJECTILE IMPACT





VSB TECHNICAL | | UNIVERSITY OF OSTRAVA



Role in the Proposal: Partner

- 1. Expertise: Faculty of Safety Engineering at VSB-TU Ostrava specializes in safety technology and risk management, with staff and students connected to practical experience.
- 2. Research Excellence: The research ensures safety across domains, advancing safety engineering and risk management, with strong cooperation within safety and rescue services.
- 3. Facilities: Access to large laboratories and real-scale test environment enhances research capabilities, particularly for safety initiatives such as industrial safety, combustion dynamics, information technology, operational research.
- 4. Scope: Expertise covers various safety areas, valuable for safety initiatives.





VSB TECHNICAL UNIVERSITY OF OSTRAVA



Proposal activity:

HORIZON-CL3-2024-DRS-01-02: Open Topic

HORIZON-CL3-2024-INFRA-01-01: Open Topic

HORIZON-CL3-2024-INFRA-01-03: Advanced real-time data analysis used for infrastructure resilience

Project Idea:

Disaster-Resilient-Society and Resilient Infrastructure

Developing a methodology for controlled burning as a fuel management tool in areas with unexploded ordnance (UXO).

Threats related to technical gases at the military-civilian interface in emergency and semiemergency release.









Addressed problem:

- 1. Urban energy challenges needs with hydrogen and LNG playing a key role. Armed conflicts highlight the overlap of military activities and industrial risks, demanding better resilience. Through relatively simple methods expensive technologies can be destroyed. The project aims to understand technical gases' behavior during accidents. The explosion parameters of high-pressure hydrogen and LNG storage facilities, as well as leakage parameters, are not sufficiently known, increasing the need for thorough examination of these risks.
- 2. The project develops fire management practices for conservation in areas where military and civilian interests overlap, crucial for protecting environmentally valuable sites affected by past military activities. Despite challenges like unexploded ordnance, it involves lab testing, UAV and UGV surveying, modeling, and large-scale experiments, requiring suitable partners and testing areas.

We offer:

Providing know-how for preparation and implementation. Utilizing laboratory equipment and experience with large-scale experiments. Collaboration with end users in the safety and industrial sectors.





VSB TECHNICAL | | UNIVERSITY OF OSTRAVA



Current HE Projects:

Team UP: Holistic capability and technology evaluation and co-creation framework for upskilled first responders and enhanced CBRN-E response (101121167), 2024 – 2026

NATURE-DEMO: Nature-Based Solutions for Demonstrating Climate-Resilient Critical Infrastructure (101157448), 2024 – 2026

European Network on Extreme Fire Behavior (CA22164), 2023 -2027

The team includes researchers from universities and research institutes, state institutions, and SMEs in the field safety, energy and nature preservation. The country is not a limiting factor. Team composition:

- 1. Project designer, economist, statistician, programmer, expert in visualization methods, imaging and data converting, UAV and UGV expert, mathematical modelling expert, botanist, zoologist, forest fire dynamics expert, ammunitions expert, operational research tactics and logistics expert.
- 2. Project designer, economist, statistician, programmer, expert in visualization methods, imaging and data converting, UAV and UGV expert, mathematical modelling expert, terminal ballistics expert,, munitions expert, ballistics expert, defect detection and materials engineering expert, mechanical engineering expert, fluid dynamics expert, accident gas behavior expert, operational research tactics and logistics expert.









Conclusion:

- 1. The research project responds to current security challenges, which includes: Ensuring environmental security, focusing on problems arising from key environmental processes and resource constraints. Predicting and preventing natural disasters through the development of new methods and technologies. Addressing the environmental impacts of military activities.
- 2. Through we aim to gain comprehensive insights into technical gas behavior during emergencies. By understanding factors influencing gas leakage and deflagration, we can develop effective risk mitigation strategies, enhance emergency response protocols, and safeguard energy infrastructure and public safety. This research is crucial to address evolving challenges at the military-civilian interface. Its outputs will not only advance technical gas incident research but also inform policymaking, operational planning, and emergency response, fortifying energy infrastructure resilience and community safety.

Key words:

- 1. CONTROLLED BURNING, FUEL MANAGEMENT, UNEXPLODED ORDNANCE (UXO), UAV-UGV, REMOTE SENSING, FIRE MODEL
- 2. HIGH-PRESSURE HYDROGEN, LNG, STORAGE, GAS EXPLOSION, GAS LEAKAGE, ACCIDENTAL RELEASE, PROJECTILE IMPACT



SEREN5 Pitch Presentation



Security and Crisis Centre by the European Jewish Congress

Elie Kagan SACC by EJC





Type of company/organisation: non-profit organisation, civil society

Contact Details

Email: e.kagan@sacc-ejc.org; sacc@sacc-ejc.org

Country: Belgium

- Protection of public spaces, places of worship
- Training, capacity building, resilience: leaders & worshippers
- Implementation of technological solutions
- Cooperation with law enforcement







Role in the Proposal: B) Partner as Security practitioner

B) In the case of Partner

- Experienced partner (ISF-PROTECT, CERV)
- European-scale organisation
- First-hand practitioner hate crimes







List the Destination/s and topic/s that are of your interest:

Combating hate speech online and offline Fighting Crime and Terrorism 2024 (HORIZON-CL3-2024-FCT-01)

Outline your Project Idea: open to discussion







What it is the problem/s you seek to address?

- Hatred online and onsite lead to an increased threat, feeling of insecurity, polarization.
- Online users are not accountable for their hate speeches
- Major and alternative platforms are not combatting hate speech (freedom of speech)

What is the research/technology/expertise/skills you own to solve the problem.

- Data collection of antisemitic incidents
- Security trustees in EU countries







Outline any experience in EU R&I projects or other.

- SASCE ISF-Protect 2020 Coordinator
- BADRI CERV-2023 Partner
- Emergency Tablets : smart panic button

Discuss the Team, any key player that will be working on the project

Dedicated expert(s) will depend on the project







Conclusion and Key Take Aways Messages, if any...

CONTACT US sacc@sacc-ejc.org



Pitches Received but not Presented at the CL3 Info Day 13/06/2024

University of Iğdır Valencia Police OpenNebula Sümeyra YAKAR Ivan L. Martinez Dr. Alberto Marti





The Influence of Extreme Religious Movements over European Societies

Sümeyra YAKAR University of Iğdır







Type of company/organisation: Public University (University of Iğdır and Recep

Tayyip Erdoğan University)

Contact Details

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Country: Türkiye

Keywords: Religious Movements, Muslim Minorities, Terror Organisations,

Women Studies









Role in the Proposal: B) Partner;

Our project focuses on the extreme religious movements and the dissemination of their information & interpretation in Europe. We are looking for coordinators that needs information regarding the religious understanding and custom in the MENA region. The possible partners can be Police force or other Security practitioners

B) In the Case of Partner, our organisation is considered inside the scope of research institutions. Thus, the main contribution of our universities will centre around providing analytical data, pragmatical experiences and regional information.









List the Destination/s and topic/s that are of your interest: HORIZON-CL3-2024-FCT-01-04 - Radicalisation and Gender

The first part of the project will focus on;

- Categorisation of extra religious movements
 - Supporting radicalized interpretations including gender issues
 - Supporting isolation of religious minorities from the societies

The second part of the project will focus on;

- The influence of these movements in the European countries
 - Their propaganda methods and communication systems
 - Financial supporters of the movements









The project will provide solutions;

- To draw a map of extra religious movements in the European countries
- To figure out their communication methods
- To create awareness in national and international levels
- To minimalize unstable conditions of women
- To increase the integration of religious minorities into their communities

What is the research/technology/expertise/skills you own to solve the problem.

- Analytical thinking and data collecting
- Communication with different languages, (Turkish, English, Arabic, Persian)
- Conducting area research in different countries









Outline any experience in EU R&I projects or other.

Discuss the Team, any key player that will be working on the project

- Sümeyra Yakar (Associate Professor of Islamic and Middle Eastern Studies)
- Emine Enise Yakar (Associate Professor of Islamic and Middle Eastern Studies)
- Betül Yakar (Legal Consultant)









The Project will help;

- To minimalize the marginalization of religious movements
- To know internal motives of these ideological movements
- To provide preventive measures against the harmful activities
- To produce counter arguments that protect the social security
- To control the activities of radical movements.
- To appease the social isolation of women

KEYWORDS

Religious Movements, Muslim Minorities, Terror Organisations, Women Studies





Iván L. Martínez

Project Manager at the Innovation & Project Management Division of PLV



Type of company/organisation: Law Enforcement Agency

Contact Details

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Telephone/Mobile: +34 962085469 | | +34 655 469 672

Country: **Spain**

Role: End user & partner

• Background: +30 European Projects since 2005, success stories.

 Decades of experience in Community Policing, combating radicalisation, and addressing Domestic Violence with a specific taskforce working exclusively on these issues (GAMA Unit).





Role in the Proposal: Partner, end-user role, with options of being WP leader and/or task leader. Expertise in bed testing, training, dissemination activities. Strong links with LEAs around EU.

Combating radicalization: PLV Innovation & projects division's coordinator, José L. Diego, is an Expert Member of the Radicalisation Awareness Network (RAN). Participation in related projects like TAKEDOWN and TAHCLE addressing radicalization and hate crimes.





Destination and topic of our interest:

HORIZON-CL3-2024-FCT-01-04: Radicalisation and gender

- Gender-related Initiatives: In addition to IMPROVE project, participation in past projects such as HASP, WOMPOWER, PVF!, ICEBERG, and HERA (as project Coordinator).
- Vast experience in Community Policing projects such as SELPE, SAFELAND, and INSPEC2T. More recently, KOBAN project in FCT-01-03, starting in September 2024. Keynote Speakers at CERIS Workshop on Community Policing.
- PLV corporate video for the Horizon programme







PLV DISSEMINATION ACTIVITIES EVENTS HOSTING

(Link in pictures)







(DARLENE project)





International Summit on Pandemics
Management (STAMINA Final Conference)





What is the research/technology/expertise you own to solve the problem.

- Specialised and ad hoc unit (Innovation & Project Management Division)
- Municipality as a smart city
- Clustering & networking with paneuropean organisations



Outline any experience in EU R&I projects or other.

- Participation in more than 30 EU projects, with different roles
- Specialised end user

PLV DISSEMINATION ACTIVITIES

CONFERENCES

(Link in pictures)



Cybertech Conference New York



CERIS FCT event Brussels



World Police Summit



European Police Congress Berlin CEPOL R&S Conference Lithuania

Other past events

Milipol, PSC Europe, SICUR, FEINDEF, SRE event, Europol's European Police Chiefs Convention (EPCC), ENISA Conference, SMI2G, etc.

PLV's social media presence

Our department frequently uses PLV's corporate (+60,000 followers) to disseminate information and news about the projects in which we participate.





A guarantee of success and implication.

Commitment, involvement and 100% dedication.

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SEREN5 Pitch Presentation



A Brief Introduction to OpenNebula —Europe's Cloud & Edge Computing Platform

Dr Alberto P. Martí

VP of Open Source Innovation @ OpenNebula Systems Chair of the Industry Facilitation Group @ IPCEI Cloud





OpenNebula Systems

The European Open Source Company behind OpenNebula

SUMMARY

Type of organisation: Private company (SME) > EU open source technology provider.

Country: Spain > Madrid

Role in the proposal: Partner

Keywords: Cloud & Edge Computing; AI-enabled Orchestration, Confidential Computing.

Main value: Alignment with the IPCEI Cloud through the integration with OpenNebula.

Relevant CL3 topics: All projects requiring the use of a sovereign cloud-edge platform.

Relevant experience: Core developers of the OpenNebula software; Unique combination

of top R&D skills; Long experience in EU projects; Coordinators of HE project COGNIT.

Email: innovation@opennebula.io

More details: OpenNebula.io/innovation







OpenNebula Systems

The European Open Source Company behind OpenNebula



- HQ in Madrid (Spain), with offices in Brussels (BE), Brno (CZ) & USA.
- The only European open source laaS solution, born in 2008.
- A success story emerged from EU innovation programs.
- Chairing the Cloud/Edge WG of the EU Cloud Alliance.
- Chairing the new €3B IPCEI Cloud.











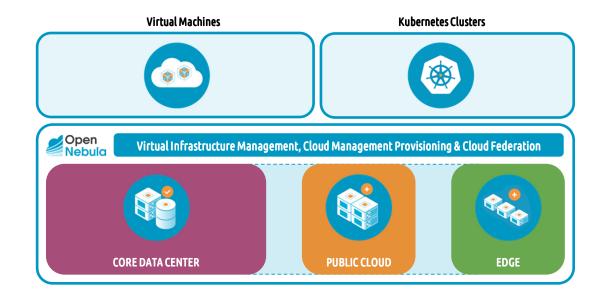




What is OpenNebula?

The Only European Open Source Cloud & Edge Computing Platform

Building a Vendor-Neutral Abstraction Layer to Ensure Workload Portability and Repatriation



- ✓ Multi-Tenancy
- √ Self-Service
- √ High Availability
- √ Federation
- ✓ Multi-Tier Apps
- **√** Elasticity
- ✓ Automation
- ✓ Multi-Cloud
- √ VMs + Kubernetes







What is OpenNebula?

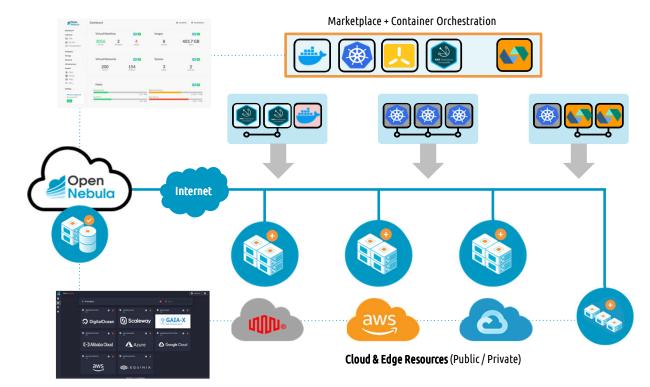
The Only European Open Source Cloud & Edge Computing Platform

- 3 Any Application

 VMs, multi-VM services,

 containers, and K8s clusters

 on a shared environment
- 2 Uniform Management
 Homogeneous layer for
 user and workload
 management and
 operation
- 1 Any Infrastructure
 Automatic provision of resources from cloud & edge providers









innovation@opennebula.io

Experts in Delivering Real Impact through Open Source Innovation

OpenNebula.io/innovation





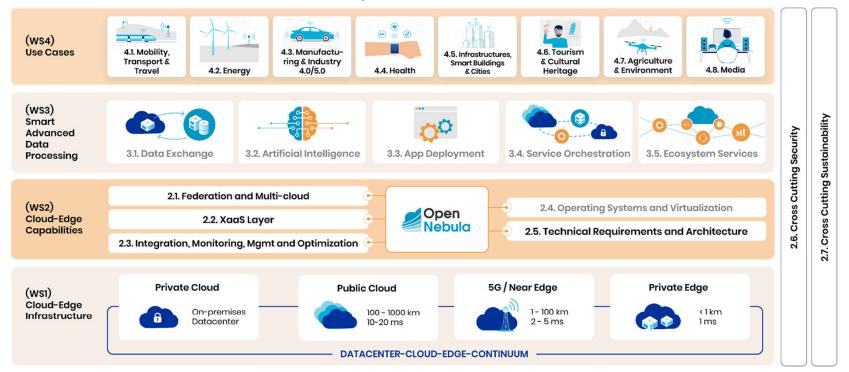






OpenNebula will be a Core Component of Europe's Sovereign Edge Cloud

ipcei-cis.eu









OpenNebula for CL3 Projects

Let's Strengthen Together the EU's Technological Sovereignty in Strategic Sectors! 🚀



"Strategic autonomy is not a question of isolating ourselves and trying to produce everything in Europe, but of giving ourselves the means to discuss from a position of strength with our foreign partners".

Josep Borrell

Quo Vadis Europa? (29/08/2022)

"When it comes to digital, Europe's resilience will depend on our ability to develop the next generation of cloud and edge capacities and invest massively in developing European alternatives to reduce our current dependencies".



A European Sovereignty Fund for an industry "Made in Europe" (15/09/2022)





