CounteR

Editorial

Dear Readers,

The **CounteR Project's** team proudly presents the second issue of our Newsletter, targeted to a diverse audience, interested in detecting and preventing radicalisation, violent extremism, and citizen protection.

Issue #2 focuses on the successful completion of CounteR's first major project milestone – the system specifications and architecture – and Joaquín Luzón from **INSIKT Intelligence** talks about the work done in our Special Interview section.

We also launch the presentations of CounteR's sister projects – starting with **CREST** this month. Issue #2 sheds light on what our consortium partners have done for promoting CounteR to stakeholders across Europe.

We look forward to receiving your feedback and reactions, as well as suggestions for the content of issue #3.

Sign up to our Newsletter through **CounteR's homepage**, or drop us an email.

Enjoy reading and Happy Easter to all those who celebrate!

SPECIAL INTERVIEW

Joaquín Luzón, INSIKT Intelligence: CounteR's milestone of system specifications and architecture has been successfully achieved

"It is the process of translating the project's initial on-paper guidelines into explicit action items that respond to the specific needs of the partner Law Enforcement Agencies and Internet Service Providers"

The CounteR project is designed across ten work packages (WPs), and a specific consortium member is the lead for each WP. Find out more about the WPs here. Newsletter Issue #2's special interview presents the Leader of Work Package 1 – System Specifications & Architecture, Mr. Joaquín Luzón from INSIKT Intelligence, who talks about the work completed for achieving CounteR's first major milestone.

Why is the completion of the requirements phase considered a milestone?

Simply put, the requirements-gathering phase is one of the most crucial steps for the development of the project as a whole and, at the same time, one of the hardest to achieve – it is the process of translating the project's initial on-paper guidelines into explicit action items that respond to the specific needs of the partner Law Enforcement Agencies and Internet Service Providers.

Attaining this milestone is the result of a substantial amount of multilateral work and coordination conducted over an extended period of time with the contribution of of virtually all partners, partners, since the technical, legal and commercial requirements are also established during this period. **(continues on p. 3)**

ISSUE #2 HIGHLIGHTS

Chris Georgiev, Imagga Technologies Ltd.: **"The early detection of problematic online content might be one of the most important priorities for safeguarding Europe and its democratic societies",** p. 5

Presenting CounteR's sister project CREST: Fighting Crime and Terrorism with an IoT-enabled Autonomous Platform, p. 7

CounteR Partners' Updates

Mrs. **Barbara Lucini** from the **Catholic University of Sacred Heart in Milan/Italy,** who is CounteR's WP2 Deputy Leader, published a paper on the preliminary findings of D2.1 and D2.2 regarding the TRA-I analysis. Entitled *TRA-I and radicalisation processes: current considerations and future perspectives,* the paper was **published** as part of the *ReaCT2020* report on the *Start Insigh*t website: strategic analysis and research team.

The **Latvian State Police** disseminated and shared information about the CounteR project with their colleagues through the **"Prevent" platform,** which assembles all the institutions involved in the prevention of radicalisation, including individual radicalisation cases. In addition, project deliverables were disseminated among the State Police College, the Prison administration, and Latvia's State Security Service.

The Latvian State Police also publicised the CounteR Newsletter's Issue #1 and information about the project on the Police's **homepage.**

Between November 2021 and March 2022, the Ministério da Justiça (PJ) – Portugal presented CounteR as part of their portfolio of H2020-funded projects to more than 400 stakeholders from diverse specialised audiences at three thematic events and workshops, including CONNECTIONx, CREST, and STARLIGHT as well as at the Leading Innovation in the LEA of the 21st Century conference.

Printed CounteR brochures were made available for the participants in most of these events, which included LEAs, RTOs, academic and industrial security-focused entities. Within PJ's website, a dedicated sub-page for CounteR was created with relevant information about the project in Portuguese. In March, PJ presented CounteR in greater detail to the Europol Innovation Lab (EIL) during a workshop.

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SPECIAL INTERVIEW

Joaquín Luzón, INSIKT Intelligence: CounteR's milestone of system specifications and architecture has been successfully achieved

(from p. 1) Besides setting this initial blueprint, the requirements phase also sets the bar and specific expectations against which the success of the project will be measured, and outlines how the work will be carried out.
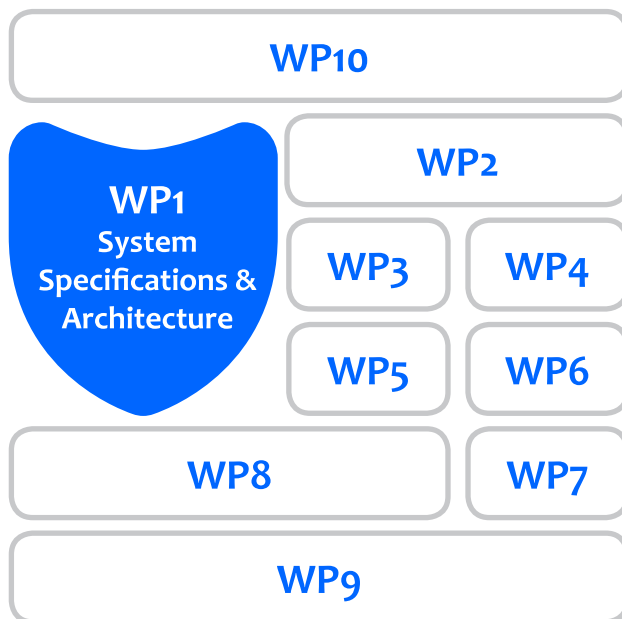
As an end user, when asked "what do you need to make your fight against extremism more efficient?", a very natural answer would be "considering the stakes, give me everything". If everything is not an option (unfortunately), what is the process to determine what requirements/user needs will be prioritised for the development of the prototype?

It is indeed a very tricky exercise and a balancing act. We leverage every single technology and resource available and try to include as many features as possible to fulfil user needs in the most comprehensive way achievable. However, we need to do this within the parameters set in the Grant Agreement (namely scope, time, and resources) and the viability assessment performed by the technical partners, without forgetting about privacy and other legal tenets. The prioritisation of the requirements has been done

following a *MoSCoW approach (i.e. Must, Should, Could, Won't have)*. At this moment of the project, CounteR is committed to developing the "MUST have" requirements; the "SHOULD have" ones will be systematically revisited during the project's lifetime to see if their inclusion is in any way feasible; while the "COULD" ones can represent a very advanced list of additional capabilities to be built in future additional projects or operational settings.

What profiles play a bigger role in this process?

End users, end users, end users, end users, end users! Even though other types of requirements are also established in this initial phase (commercial, legal and technical), the lion's share of the requirements setting revolves around LEA's and ISP's needs – the project's overall goal is to develop a prototype of a tool, specifically tailored to their needs. Additional roles are also required to make the process more efficient: Project/Product Managers, who help design and implement a proper plan for the correct specification gathering; coordinators, who ensure the most productive approach is being followed and that User Requirements are aligned with the DoA/GA, and finally technical partners, who validate and assess the requirements' technical feasibility.

What were the main challenges encountered during this process?

Firstly, the LEAs and ISPs participating in the projects come from different countries and have very different expectations and needs. They understandably are very busy organisations, therefore the requirements gathering has to be as effective as possible. The solution we found to this obstacle was putting in place an iterative process to progress in an incremental way, each iteration building off the advances of the previous one. Another challenge has to do with how different in nature the types of requirements are. While all of them are important, the constraints inherent to each gathering process are heterogene-

ous: when it comes to the legal requirements, for instance, the sources determining the limitations and compliance obligations are the national and international bodies of law regulating these aspects, i.e., an external framework the consortium has to comply with. On the other hand, when agreeing on the user requirements, the challenge remains purely intra-consortium and require achieving consensus between a large number of participants. There are also differences when it comes to the possibility of revisiting these requirements further down the line of the project timeline: the initial commercial requirements, for example, can (and should!) be revisited with updated market data when the exploitation and commercialisation phases start, whereas the legal requirements set a much more unyielding foundation to be observed. This sliding scale of "definitiveness" represents an added layer of variation that needs to


be kept in mind when compiling the different kinds of requirements.

So, how was consensus finally achieved amongst so many partners?

Well, let me tell you – it has not been easy! We conducted a series of meetings and workshops, some of them with all the LEA partners, others were bilateral between the project coordination, technical partners, and the end users. We complemented the interactive meetings with asynchronous work and questionnaires, and put in place several reviews and pit stops along the way. This process required a high level of involvement and active discussions amongst all consortium partners. In that regard, we are very satisfied with the final outcome of this phase.

Finally, how do you plan to track the progress of the specifications being accomplished? Are you planning to review the requirements prioritisation anytime in the project?

The project has a number of built-in mechanisms to monitor the pace at which these specifications are being developed and attained, and ascertain whether additional requirements can be finally incorporated to the roadmap, or if any course correction is needed. The best way to make sure the project as a whole is a success is, once again, to iterate and plan a number of checkpoints along the way. To make sure this process is conducted in a structured manner, a series of deliverables to come will concentrate on this prioritisation monitoring, analysis and review. In fact, one of the main objectives of *WP8 – Training, Knowledge Empowerment and Pilots*, is to ensure the correct validation of the solution. This would imply conducting a thorough assessment of how the project specifications have been met.
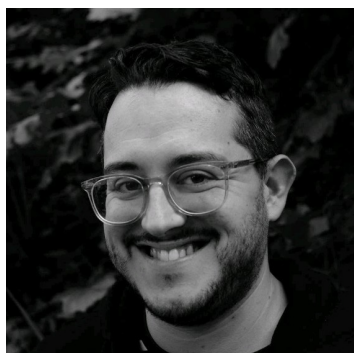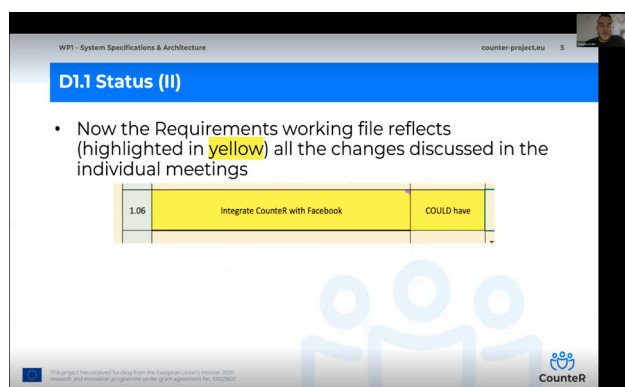
Joaquín Luzón is a telecommunications engineer with multidisciplinary experience in project management, particularly in the fields of Technical Innovation, Research and Development, among others.

Joaquín has coordinated projects under a number of national and international research instruments, such as the European Commission (H2020), MINECO, MINETUR and the Centre for the Development of Industrial Technology of Spain (CDTI).

IN FOCUS: The Counter Project Consortium Members

The CounteR Consortium brings together 19 organisations, representing world-class European entities, with substantial subject-matter expertise in scientific, industrial, and practitioner domains. In each issue, in its section IN FOCUS, the CounteR's Newsletter will dedicate space to present a particular Consortium member. Issue #2 features Imagga Technologies Ltd., Bulgaria.

imagga

Imagga Technologies Ltd., Bulgaria – one of CounteR's key commercial and technical partners, is a leading provider of deep learning-based technology for automated image and video recognition, tagging, and moderation. Imagga has launched Face Recognition API, Content Moderation Platform, Visual Search Solution, and ML Model Customisation Service. In 2016, IDC named Imagga as one of the innovators on the worldwide image analytics market.

Chris Georgiev, Head of Business Development – Asia-Pacific: "The early detection of problematic online content might be one of the most important priorities for safeguarding Europe and its democratic societies"

How would you present your entity's profile and scope of operations to the Newsletter's readers?

Imagga is a pioneer and a global innovator in the image recognition as a service space. The company has been offering its cloud API since 2014 and its on-premise solution since 2015. The technologies behind these products have been in active development since 2012. The company is operating out of
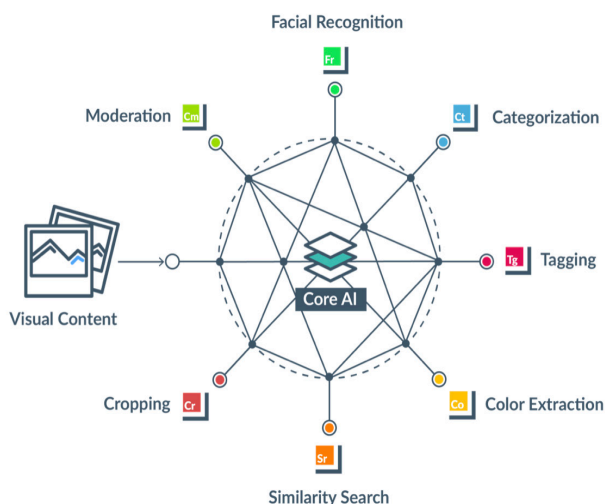
Sofia, Bulgaria and Seoul, South Korea and has sales agents in the US and UK. We are currently a team of 13 experts with diversified backgrounds in software architecture and development, machine learning, AI, marketing, finance, and product management. The image recognition and computer vision AI technologies we have developed over the years, which are already actively used by our customers around the world in various industries and applications, give us the confidence that we can solve this problem in a fully or semi-automated way much better than any other company in the world can.

Tell us about your entity's mission, history, and general achievements?

As a leading global provider of AI deep learning-based technologies for automated image and video recognition, classification and tagging, Imagga has dedicated time, energy, and mind space to its mission – to provide the most powerful and precise set of technologies that enable businesses to derive value out of the image content they manage and provide the best and safest possible experience to their users. Our content recognition solutions are currently used by over 22,000 developers and 250 businesses worldwide and has received multiple worldwide awards.

What is your experience with, or participation in other projects?

Imagga is taking part in a high-impact project, run by a consortium of 30 renowned academia, research, and enterprise organizations: the AI4Media project aspires to widen the network of researchers across Europe and beyond, to foster the development and adoption of AI technologies for media solutions. AI-4Media, same as CounteR, is a H2020 project. It focuses on delivering the next generation of core AI advances to help media meet the constantly grow-

ing requirements but also comply with the core EU values of trustworthiness and ethical engagement. Through the AI4Media project, Imagga will create a solution that can automatically (re-) organise photo and video content, typically used by media companies.

CounteR's key task is to develop an early-warning tool to be used in the prevention of radicalisation and violent extremism: in your perspective, how will this contribute to a safer Europe?

The radicalization is one of the major challenges online of societies in Europe and beyond. Radicalisation is the process where an individual adopts extreme social, religious or political ideals and tries to infiltrate his views online targeting people in vulnerable situations, such as unmet psychological needs for belonging or status, a mental illness. Terrorist groups that use social media for radicalisation have mastered their tools – it is getting harder to detect such efforts due to the complexity and mass spread of such problematic content. Being able to early detect

and flag problematic content might be one of the most important tasks of safeguarding Europe and its democratic societies. A combined effort in adopting anti-radicalisation polices, technologies, and tools is becoming super important in the fight to counter violent extremism online.

From your experience, how can risks for radicalisation at the community level be detected and prevented?

The vast amount of user-generated content makes the task of real-time detection of propaganda and radicalisation material crucial in safeguarding people online. Robustness of the detection methods is required – different media sources need to be analysed and cross-referred as sometimes a combination of image and text can represent a radical messaging even though each media type by itself might not have that particular message. Reading the radicalisation signals on time and automating this process using artificial intelligence will be a major factor in fighting bad actors online.

Chris Georgiev is the Head of Business Development – Asia-Pacific at Imagga. He is the fire-starter of the biggest start-up events in Bulgaria. Mr. Georgiev also established AI networking events in Seoul, South Korea.

Georgi Kostadinov, Head of Artificial Intelligence (AI): "CounteR is not just a research project – it is a tool to be used in real life for understanding and combating radicalisation online"

What is Imagga's role in CounteR?

Imagga is contributing with the development of instruments and deep learning algorithms for analysis of images, used for automatic detection of radicalisation and extremist content. We are leveraging Imagga's image recognition expertise and proprietary technology to build robust mechanisms for detecting problematic content. This includes detecting specific keywords, a scene in an image or action in a video that might be related or incline to radicalisation.

Would you share some updates on the work's progress?

We have started the efforts to collecting training data for the development of AI algorithms. The input data is crucial for any deep learning model, and having access to sensitive and very specific data via some of the project partners is the only way to tackle the complexity of the task and ensure the image recognition technology will be able to detect and flag problematic content. We are also actively working on Work Package 3 *(see Newletter's front page for more info on work packages)* and more specifically for Instagram Data Collector. Internally, we are making efforts to specify Imagga's content moderation technology for radicalised content.

What results do you anticipate for Imagga from its participation in CounteR?

The most important outcome of our participation in the project is to further develop Imagga's content moderation technology to better detect radicalised content. All participants in the project come with their specific knowledge and industry experience needed for building a complex and multi-disciplinary project such as CounteR. Another benefit is the direct access to LEAs, who are the end-users of the CounteR technology.

What themes would you be interested in discussing with industry stakeholders through CounteR's Cluster Group?

Some of the themes that would be of great interest to Imagga are: how to better understand what radicalised content is; what are the triggers for radicalisation and how they can be detected; how to improve the effectiveness of early detection and prevent such content from becoming viral; and finally what efforts and methods other research groups and businesses are using to effectively detect problematic content related to radicalisation.

How can CounteR ensure that its research will meet the needs of the end-users?

One of the best ways is to include LEAs and end-users in the process of drafting and developing the actual product. Doing expert interviews, learning from the LEAs' field expertise and implementing that knowledge will ensure that CounteR is not just a research project, but a tool to be used in real life for understanding and combating radicalisation online. The technical requirements should be in line with what LEAs have in mind and need to effectively fight radicalisation.

Georgi Kostadinov *is Head of Artificial Intelligence (AI) at Imagga Technologies Ltd./ Bulgaria. He has been recognised by Forbes Bulgaria in 2020 as one of the 30 people under the age of 30 for achievements in the areas of computer science and innovation. Mr. Kostadinov has architected and implemented the largest commercial plant recognition model with 100K+ categories, 150M sample images, and 97% top-5 accuracy.*

CounteR's sister project

Our Newsletter's Issue #2 has the pleasure to present one of CounteR's sister projects, funded through the European Union's Horizon 2020 research and innovation programme: CREST.

CREST's full name is: *Fighting Crime and TerroRism with an IoT-enabled Autonomous Platform based on an Ecosystem of Advanced IntelligEnce, Operations, and InveStigation Technologies.*

CREST's overall objective is to improve the effectiveness and efficiency of LEAs intelligence, operation, and investigation capabilities, through the automated detection, identification, assessment, fusion, and correlation of evidence acquired from heterogeneous multimodal data streams. Such data streams include but are not limited to Surface/Deep/Dark Web and social media sources and interactions, IoT-enabled devices (including wearable sensors), surveillance cameras (static, wearable, or mounted on UxVs), and seized devices and hard disks.

CREST will achieve this objective by developing an innovative prediction, prevention, operation, and investigation platform that will build upon the concept of multidimensional integration and correlation of heterogeneous multimodal data streams and delivery of pertinent information to different stakeholders in an interactive manner tailored to their needs.

The developed platform will allow for:

• Crime and terrorism prediction and prevention through the generation of automatic early warning alerts based on the assessment of threats detected using targeted monitoring, tracking, and analytics technologies;

• Improved operational capabilities enabled by an IoT ecosystem that will facilitate adaptive and dynamic mission planning and navigation based on autonomous systems for better surveillance and distributed planning and management for supporting distributed operational command and control;

• Improved situational awareness through advanced visual analytics, mobile applications, and projections in interactive augmented reality environments; and

• Enhanced investigation capabilities by increasing the confidence and trustworthiness of information sharing and digital evidence exchange based on block chain technologies.

CounteR Consortium

ASSIST Software SRL, Romania

ETICAS Research and Consulting, Spain

INSIKT Intelligence, Spain

Elliniki Etairia Tilepoikinonion kai Tilematikon Efarmogon A.E.-Forthnet S.A., Greece

Imagga Technologies LtD., Bulgaria

Ministério da Justiça, Portugal

ICON Studios Ltd., Malta

Consorzio Interuniversitario Nazionale per l'Informatica, Italy

Hochschule für den öffentlichen Dienst in Bayern, Germany

Institut national de Recherche en Informatique et Automatique, France

State Police Latvia, Latvia

Eötvös Loránd University, Hungary

Università Cattolica del Sacro Cuore Academia, Italy

Serviciul de Protectie si Paza, Romania

Malta Information Technology Law Association, Malta

European Institute Foundation, Bulgaria

National Police General Directorate at the Ministry of Interior of the Republic of Bulgaria

Association les Militants du Savoir, France

Ministère de l'intérieur/ direction générale de la sécurité intérieure, France

Stay Tuned to Newsletter's Issue #3!

Coming up are exclusive updates about social and psychological factors for radicalisation and about CounteR Platform's user requirements from CounteR's first public webinar, which will convene various audiences interested in our project's domains and work packages, as well as representatives of CounteR's sister projects from EC's H-2020 Programme.

The webinar comes as a follow-up to CounteR's LinkedIn Cluster Group, launched in 2021 for interaction with industry and commercial actors, end-users, suppliers, service-providers, CSOs, similar projects, academia, and institutions. All readers of the Newsletter are most welcome to join the CounteR Cluster and suggest topics for our next webinars.

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