i-LEAD
innovation - law enforcement agency's dialogue

Newsletter
Issue #3 - May 2019

i-LEAD Editorial

Proud !!!

Dear all,

I am preparing my self for tomorrows meeting in Delft where 25 i-lead practitioners will team up to discuss procurement and standardization and my thoughts are drifting away to the start of our project.

Who could ever think that this initiative would be so successful and so recognized on the European level? Who could ever dream that our Practitioners group would have more interest of law enforcement across Europe that we can cover ? Who could ever predict that the corporation in this project is based on friendship and trust, bringing together law enforcement, academia and industry working towards tangible solutions for our operational challenges ?

Our I-Lead project is doing well and answers the needs of the Law enforcement community.

Although it is not always common that a law enforcement agency (Netherlands police) leads a H2020 project it is apparently doable and it paves a path for a permanent cooperation structure beyond the project between all National Law Enforcement Forces.

Key element for our success are the people in the project and those who are participating. Our UK Home Office team (Shaun Mallinson and Zale Johnson) are unbeatable when it comes to arranging and hosting the workshops 5 times a year; sparkling each time again !

The never ending energy of Rashel Talukder and his colleagues of the Polish Platform for Homeland Security is impressive, working on a hard and difficult topic; standards and procurement. The consistency of “Pepe” Jose Lopez of the National Police of Spain who brings together academia (TNO,CEA,L3CE) and industry (EOS) to scan the market for innovative solutions, based on law enforcement scenario’s. Panayiotis Papanikolaou (Kemea) who works hard to disseminate the outcome, success of the project, actively engaging people to connect them with our project.

Jarmo Puustinen, Antti Jeronen and Janne Liljavuori from the Police board of Finland who are working on the repository that will consist out of a file sharing platform that can be accessed by all our partners, members and Practitioners via our just released secure chat app that will connect all members across Europe. This high potential short messaging platform will connect us all in a simple and efficient way, sharing knowledge and needs.

Yes, tomorrow again I will meet inspiring and interesting people working together on an innovative law enforcement pan European law enforcement collaboration.

So…. just one word : PROUD !

Patrick Padding

Project Coordinator

Practitioners Groups Results 2018

This I-LEAD practitioner workshops bring together practitioners working within Law Enforcement Agencies across Europe. Over the duration of the project, 25 workshops will be delivered and be hosted by the project's consortium members. The workshops present a unique opportunity for experts to work as a European and consider and discuss common issues and challenges within their field. The workshops also provide a forum that facilitates open dialogue to identify 'fit for purpose' end user priorities. Furthermore, the bringing together of likeminded individuals from an international arena offers an opportunity for the real time sharing of local solutions to address national issues. The workshops also promote the development of building new working relationships and support those collaborations that already exist.

I-LEAD'S SUCCESS STORY SO FAR

In 2018, I-LEAD was successful in bringing together experts from operational law enforcement from across 21 Member States via their first 5 subject specific practitioner workshops. These facilitated events took place in the UK, the Netherlands, Spain, Romania and Belgium, and provided a conducive environment for participants to collaborate as a community, discuss end-user requirements, and ultimately identify an agreed set of priorities in the following topics:

- Open Source Intelligence (OSINT)
- Mobility for Officers
- People Trafficking
- Intelligence Analysis
- Technologies in DNA

Open Source Intelligence (OSINT)

Within the policing environment Open Source Intelligence (OSINT) is data that is gathered from publicly available sources and used within an intelligence context. In relation to law enforcement and security, this intelligence is utilised in the prediction, prevention, investigation and prosecution of all types of crime, including acts of terrorism. This form of data gathering by Law Enforcement Agencies cross the world has been exploited for decades and sources include; internet, public agencies and the private sector, with one of the major contributors being that of social media. OSINT is not only a strategic enabler for decision and policy makers; increasingly it is being used by criminals to the detriment of law abiding citizens. The rapid development of technology in this area has given rise to a more sophisticated and 'tech savvy' criminal that is able to undertake a wide variety of unlawful criminal activities across borders and jurisdictions. This is a major challenge for LEA's, and one that is growing exponentially. Therefore, it is essential that innovative research is carried out within this discipline so that Police Officers not only maintain the highest standards but additionally, further develop and improve on current capabilities that will enable them to carry out their work successfully.

Priorities of the OSINT Community of Practitioners

Through the work undertaken at the I-LEAD OSINT practitioner workshop, it was found that amongst the fundamental requirements of the OSINT practitioners was a need to have access to tools that can; effectively monitor, gather and analyse data, differentiate between useful and non-useful data and manage large amounts of data sets. Additionally, being able to validate data and understand the correlation between separate pieces of information is extremely important while ensuring against data overload and maintaining control of the gathered intelligence. Presently practitioners are utilising several different tools for different purposes. This technology is either; freely available online, commercially procured and/or developed in-house. Commercial companies all want to sell their products and therefore promote their product as 'the best', yet often, these tools do not adequately fulfill end-user requirements. Furthermore, the practitioners are called upon to 'fine-tune' or update the acquired technology to suit their needs. Another issue is for those tools that are readily available on-line, which are then removed from the market, leave the OSINT practitioner with no adequate replacement capability. Practitioners agree that at present the landscape of OSINT technology needs to be less fragmented and more harmonised and coordinated and the discipline would greatly benefit from technological development in the following areas:

Increased automation capability

Improved interoperability between systems

Enhanced management of information

Advanced methods of monitoring intelligence

Opportunities for Development within OSINT

- Increased automation of capabilities

The OSINT practitioner is still required to input data and search assignments manually, which is labour and time intensive, and the results of this work is highly dependent on the competency of the OSINT officer, e.g. experience, skill, knowledge and ability. As yet there is no artificial intelligence or self-learning computer system that can help with this activity.

- Improved interoperability between systems

Those working within the OSINT discipline need to utilise many types of tooling and software, and have to work between different systems. As there is no link between the systems, open source to open source as well as open source to closed source this is very problematic, especially in the case of open source to closed source, as they have to deal with differences in legislation and jurisdiction.

- Enhanced management of information

Due to the large amount of data generated OSINT would benefit from a developed management information system with a centralised intelligence repository.

- Advanced methods of monitoring intelligence

To have the capability to be able to monitor intelligence in real-time would be of great benefit. An example of this would be the ability to identify early signs of radicalisation or potential new modus operandi which has the potential to prevent criminal activity before it occurs.

Mobility for Officers

Police presence within any community is vital, as it plays a major role in creating partnerships with citizens, preventing crime and building trust. It has been found that fighting crime and bringing criminals to justice can be optimised if everyone takes on the responsibility. Therefore, the mobility of police officers provides reassurance to a community due to the visibility of the officers. This then provides the means for improved interaction with the general public and an effective way to promote a safe and secure society. The mobile police officer does in fact fulfil many of the principles of law enforcement laid down by Sir John Peel in 1829, especially that which is covered by Principle 7. This directs the police to maintain a relationship with the public and whereby the police and the public are one entity in which both are responsible for the welfare and existence of the community. Furthermore, it is seen that the trust built up between themselves and the community will encourage enhanced dialogue and contribute toward the concept of intelligence led policing in fighting organised crime and terrorism. The mobility of officers is therefore extremely vital and any technology that can contribute effectively to this would be extremely beneficial.

Priorities of the Mobility for Officers Community of Practitioners

The I-LEAD practitioner workshop found that LEA's across the EU are strategically signed up to the "concept" of officer mobility however; take up of new technologies, methodologies and processes are often not embarked upon due to expenditure and the inability to evidence tangible cost savings. In reality, change always has a price and there are little or no easily identifiable and calculable monetary advantages in mobilisation.

Practitioners Groups Results 2018

The real driver for this is the obligation of law enforcement to meet the expectations of communities by investing in its business and work force in order to keep citizens safe.

For those working within the officer mobility arena there is a requirements for the harnessing of innovative research and development that not only fulfils end user requirements but is fit for purpose and future proof. Furthermore, any new technology should enhance the interaction between the general public and the officer. It is vital that the technology is accepted by society as it is this that will enable the real and successful 'Front Line Policing' of the future.

Those practitioners across Europe representing the Mobility for Officers Community at the I-LEAD workshop stated that there are three main areas of work which would contribute to the operational work of the mobile Police Officer.

These being:

- The police vehicle
- Drones
- Facial recognition systems

Opportunities for Development for the Mobile Police Officer

- The police vehicle

One of the main priorities put forward by the Mobility for Officers community was that in relation to police vehicles. As the amount of wearable technology for police officers increases the police vehicles themselves become increasingly incompatible with the officer and their operational duties. The physiological effects on the police officer wearing the technology is becoming more apparent due to the cumbersome nature of the various devices and the difficulty of movement when getting into and out of the vehicle. Additionally, the vehicle itself would benefit from the capability to be interoperable with the body worn devices when removed and have dedicated storage space for devices. Body worn technology means that officers are spending more time out of the office environment and more time in their vehicles so there is a great opportunity here for the development of all types of police vehicles, including motorcycles and snow mobiles.

- Drones

Another of the priorities for the mobile officer was the requirement to be able to use drones especially when police helicopters were not available. Drone capability would be very beneficial in firearms operations, patrolling streets, surveillance, crime scenes and accident recording. Additionally, practitioners stated that they could be used in mass operations such as football games, festivals and public order situations.

- Mobile Facial recognition systems

The next generation of facial recognition technology should be that which can be used by the mobile officer on a hand held device. Mobile access to facial recognition technology will allow speedy on the spot identification of persons, and also ensure the safety of the officer and the public if a person is quickly identified as dangerous.

People Trafficking

In the last century, cases of human trafficking were considered an isolated phenomenon. However, in recent years the numbers of such cases have grown exponentially, and in response to this rise, in 2007 the United Nations implemented three new protocols named the Palermo Protocols. These were introduced to supplement the 2000 Convention against Transnational Organised Crime. The investigation of people trafficking by LEA's across Europe has traditionally been conducted using similar technologies to that used in the investigation of transnational organised crime, e.g. border control, documents falsification, maritime surveillance, intelligence (routes and organizations), exchange of information among LEAs, electronic transnational surveillances (video, audio and tracking), or even detection of hidden persons technologies at borders. However, in the investigation of people trafficking, many other special issues have to be considered by police officers such as, the societal and psychological impact and the approach to, and protection of, victims as a way to obtain intelligence and information.

Priorities of the People Trafficking Community of Practitioners

It is recognised that across the EU the present situation with regards people trafficking and related technology is an area that needs to be investigated and developed. Some of these key areas include; exchange of information, intelligence, detection technologies (detection of hidden people in transports), document falsification technologies, cross border surveillances, technologies for identification and technologies helping to avoid victimisation. Therefore, any new and emerging technologies must be fit for purpose to take into account the requirement for the different approaches in tackling these crimes. During the practitioner workshop those working in this field identified three major priorities, these were:

Language translation tool

Management of big data

Data analytical tool

Opportunities for Development within People Trafficking

- Language translation tool

One of the priorities for practitioners working to mitigate the criminal activity of people trafficking was that of a 'real time' translation tool that could help overcome the language barrier between police officers and witnesses, victims and suspects. An improved capability in this area would ensure better efficiency of police resources, as seeking out competent interpreters took time, but money spent on interpretation services was costly. Additionally, practitioners stated that on many occasions they were not convinced that the translators converted the language correctly.

- Management of big data

Practitioners in this field generate large amounts of data and being able to determine and discriminate between useful and non-useful data is difficult and time consuming. The capability to be able to extract information from a data-set and transform it into a logical and understandable form would be of great benefit. The practitioner is aware that the technology is out there however a tailor-made system would definitely be an advantage in fighting the crime of people trafficking.

- Data analytical tool

It was recognised by the practitioners that other sectors such as banking and the retail industry utilised data analytics in a much more intelligent and constructive way. For example, supermarkets are using data-driven science to predict their customers buying/spending habits, which is based on studies of present and past data. It is believed that this type of technology could be adapted to be used in the fight against those criminals working within the people trafficking industry.

Practitioners Groups Results 2018

Intelligence Analysis

Intelligence Analysis (I.A.) is a concept which emerged from within the military and intelligence services field, which was then utilised by law enforcement agencies (LEA's). Early adoption of its use was in the USA in 1981 in which a group of professionals formed the International Association of Law Enforcement Intelligence Analysts, Inc., (IALEIA) and also in the UK.

In the early 1990's the concept of Intelligence-Led Policing (ILP) emerged, with I.A. products being developed that benefitted managers and operative police personnel alike. In less than a decade, areas of expertise arose, such as operational, tactic and strategic assessments. The products (deliverables) of an intelligence analyst received various names: case analysis, comparative case analysis, problem and subject profile, etc. I.A. also gained momentum due to the expansion of the I.T. sector moving from instruments like ANACAPA (visual matrix often designed manually) to dedicated software for processing, analysis and visualization of data. The ability to analyse and visualise intelligence, created an 'information hungry' environment which, for most LEAs, translated into a quest for building applications with the ability to store information. It would not be too far from the truth to say that in the early 2000's the motto for the Intelligence Analyst was, 'one problem one app'. This resulted in LEA's having a number of separate systems for storing data, for example information relating to: theft of cars, theft of documents, theft of jewellery etc. The benefits of technological development in this area would be multi-fold with emphasis on reducing cost, time and effort and improving detection rates, interoperability and information sharing.

Priorities of the Intelligence Analysis Community of Practitioners

Practitioners attending the workshop agreed that a refresh of the discipline and improved communications amongst European analysts would have a wide-reaching crime fighting benefit and would better contribute to the safety and security of all European communities. The lead in this area of work defined their future priority by saying that all Intelligence Analysts should be working towards; "one single aim, all using the same tools and technologies". Presently, LEA's find themselves in an 'island like' situation with numerous data bases, having little perspective of connecting the dots due to: high costs, proprietary data formats, lack of specialised assistance, legal boundaries and poor inter and intra communication between various stakeholders. The Intelligence Analysis practitioner workshop proved extremely productive and those attending fully contributed to putting forward their priorities and underlining their priorities as a single community. These being:

Platform for the exchange of information within and amongst the community

Mobile Platform for real time data sharing – 'actionable information'

European information system

Specific tools for the Intelligence Analyst

Opportunities for Development within the Intelligence Analysis

- Platform for the exchange of information within and amongst the community

A platform to facilitate: exchange good practices, increased awareness of the work of the intelligence analysist, Q & A's between analysts, better understanding of each countries legislation and data sharing protocols, discussion forums, reviews of analytical tools used by LEA's to inform of best tools, (these tools could then be reviewed by Security accreditation). This platform should not be used to house sensitive data.

- Mobile Platform - real time data sharing - 'actionable information'

The concept of a 'real time' sharing of information capability has many benefits to policing. For example; the provision of risk indicators for police officers, i.e. to let them know if they are in a dangerous situation and real time maps to inform police officers of people of interest in their area – with photos; However, the security and connectivity of this type of device must be at the forefront of any development, and to optimize the 'mobile' capability of the device it must also be compatible to the mobile officer's needs and requirements.

- European information system

Another priority of the Intelligence Analyst was that of a European Data Lake (data warehouse) for the upload of all reported crimes from all European countries, and to have the functionality of indexing data for matching information within the system. For this system to work across all Member States there is a need for standardised fields for data input with an agreed structure to what data is appropriate and required for each country. For example; place of birth is important for crime investigation in Poland, whereas this is not so for the UK; and where a National Insurance Number is important in the UK it is the National Identity Card that is used in many other countries. While the progression of this type of technology would change the face of policing across Europe, the practitioner is mindful that to enable this capability he legal and political barriers would have to be examined.

- Specific tools for the Intelligence Analyst [NEXTPG]

There were two priorities that emerged from the workshops relating to intelligence tools, that being; Optical Character Recognition (OCR) solutions to enable the dentification of printed characters using photoelectric devices and computer software; and an application that can capture an image with its attributed metadata, such as, date, time and place. At present this work is carried out manually and is prone to error.

Emerging Technologies in DNA

Since the mid 1980's, DNA profiling has been used by Law Enforcement Agencies across the world to identify crime scene traces to convict the guilty and exonerate the innocent. Yet, despite the success of DNA and its use in genetic identification within the forensics arena, several issues remain, and new challenges continue to emerge. DNA profiling has become a victim of its own success with investigations relying more and more on the technology and hence causing a back log of work. Efficiency and cost effectiveness of systems are aspects that are often raised by those working within the DNA environment, stating that there is still so much more that can be achieved to assist police investigations.

Priorities of the Emerging Technologies Community of Practitioners

During the practitioner workshop all areas of the DNA profiling process were considered and discussed including; laboratory techniques and procedures, crime scene protocols, contamination issues and the integrity of forensic evidence. However, as a community the practitioners decided that their priorities were:

- Rapid DNA – Faster results
- Body Fluids – Automating the stain search
- Phenotyping – Ancestry/age prediction
- I.T. Systems within laboratory

Practitioners Groups Results 2018

Opportunities for Development within DNA Technologies

- Rapid DNA – Faster results

Across Europe there are expectations within the DNA discipline to achieve faster results of DNA profiling and these expectations are increasing all the time with investigations becoming more reliant on DNA evidence. However, it was emphasised by the workshop practitioners that this requirement must be balanced against that of maintaining the integrity of the DNA evidence. At present some LEA's within Europe are testing various types of 'Rapid DNA' systems, where others are not able to fund the technology. Additionally, there is concern that as the chemistry becomes more sensitive Rapid DNA technology used within the field is more prone to contamination, and does not have same amount of assurance as that of laboratory analysis.

- Body Fluids – Automating the stain search

During the workshop it emerged that locating body fluids on items within the laboratory and at the scene was a very time consuming task and that automation of the process would be of great value. Presently this is carried out manually using light sources however automation of the process could be via a type of non-destructive scanner that could pass over the item of interest and give an indication when the body fluid was detected. At the scene a handheld device could be used for full spectral analysis of DNA material and perform a quality check regarding the presence of DNA, this could save time sending a sample to the lab when it isn't necessary.

- Phenotyping – Ancestry/age prediction

Practitioners agreed that having the means to carry out DNA phenotyping analysis would be a great addition to the present 'crime fighting tool box', and a marked step change within the security industry. Having this capability, could potentially steer the direction of an investigation with regards to the age and visible characters of a perpetrator. Additionally, this technology could offer the police assistance in those investigations that involved unidentified human remains. In some European countries phenotyping is used to provide a statistical value to the eye colour of a person. It is not used on a routine basis, but when required physical traits resulting from phenotyping are provided and in some cases an e-fit of a person is created. Most DNA laboratories across Europe are at the same developmental stage and therefore this would be an optimum moment for all to embark on this work together .

- I.T. Systems within the laboratory

Practitioners agreed that all were experiencing a lack of capability from their own I.T. systems within the laboratory. It was pointed out that this was a limiting factor to their work, as those working within the DNA laboratory were scientists and did not have the required I.T. 'know how' to be able to deal with issues when required. It was stated that it should be DNA that drives the technology and not vice-versa as is the case in most laboratories across Europe.

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Poliisin tiedustelujärjestelmä
POTI

Police Intelligence System—POTI

The Finnish police aim to promote safety and security and prevent crime even more effectively than before. To support this work, the police implemented, in stages, the Police Intelligence System, POTI. Implementation started on last December 2018 and it will be available to all police units by the end of 2019.

POTI provides a centralized recording and ERP system for data that can be gathered, stored and processed before initiating the actual criminal investigation. Comprehensive and consistent processing of data will increase the transparency and quality of operations.

Any data recorded in the Police Intelligence System is not related to military intelligence by the Finnish Defence Forces or civilian intelligence by the Finnish Security Intelligence Service (Supo).

With crime becoming increasingly diverse and mobile, the police must revise its operating models accordingly. The POTI system will increase cooperation and the exchange of information between police units and enable the use of data both locally and nationally. In turn, this will make it possible to identify, more efficiently than before, any early signs of series of crime as well as any modus operandi, types of action, quiet signals and phenomena and individuals raising concerns.

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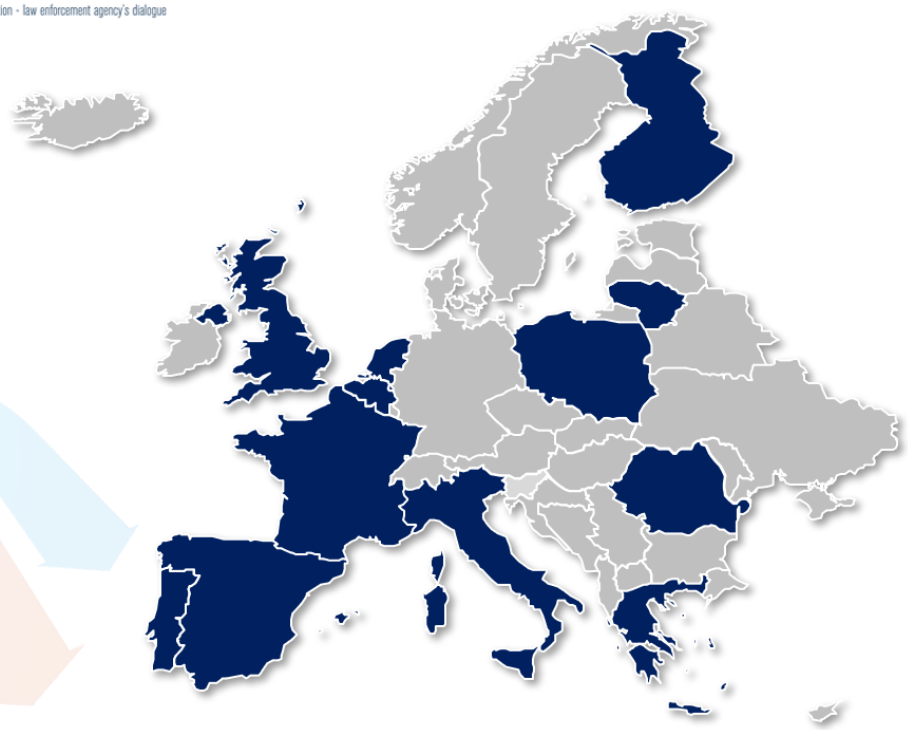
Partners



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YEAR	PRACTITIONER GROUPS and TOPICS				
	Front Line Policing (PG 1) UK	Cross Border (PG 2) Spain	Cybercrime (PG 3) Netherlands	Crime (PG 4) Romania	Forensics (PG 5) Belgium
1	Mobility for officers 20th – 21st February 2018	People trafficking 14th – 15th March 2018	OSINT 17th – 18th January 2018	Intelligence analysis 14th – 15th June 2018	Emerging DNA technologies 20th – 21st September 2018
2	Public order 28th - 30th May 2019	Drugs 8th - 9th May 2019	Financial Inv & Virtual currencies 23rd - 24th January 2019	Digital forensics 26th - 27th June 2019	Digital investigations 10th - 11th September 2019
3	UAV's	Firearms crime	Cyber extortion	Signal Intelligence	Crime Scene Real time
4	Technology in vehicles	Child sexual exploitation	Biometric verification	Surveillance	Future individualisation techniques
5	Police use of firearms	Counterfeit goods	Credit card fraud	Crime prevention	Drug analysis NPS

i-LEAD Events Participation

i-LEAD at SmartResilience / SAYSO Joint Final Conference – Budapest, Hungary

i-LEAD Project successfully participated at the SmartResilience / SAYSO Joint Final Conference, which was held at the Hungarian Academy of Sciences, Institution for Social Sciences, in Budapest from 15 to 17 April 2019. During the 3-days conference, more than 100 participants had the opportunity to learn more about i-LEAD Project objectives and activities. The publication of the i-LEAD 1st year Practitioner Workshop Results booklet attracted the high interest of the conference participants. The latter the i-LEAD representative about several issues regarding the initiative of i-LEAD Project regarding standards implementation, as well as PCP and PPI procedures

i-LEAD at the 13th Meeting of the Community of Users (CoU) on Secure, Safe, Resilient Societies 2019 – Brussels, Belgium

On i-LEAD project successfully participated at the 13th Meeting of the Community of Users (CoU) on Secure, Safe, Resilient Societies which took place 25 – 29 March 2019 at Brussels, BAO Congress Centre in Belgium. More specifically, i-LEAD representatives actively participated at the Thematic 4 “Cyber Issues” sessions on the 28 &29 March in which topics of:

- Law Enforcement needs from digital tools
- Cybersecurity intelligence
- Building a cybersecurity ecosystem to secure Europe's society

i-LEAD through the distribution of the “i-LEAD Practitioner Workshops Report 2018” attracted the high interest of the CoU participants .

i-LEAD project at Security & Policing 2019 - Farnborough, U.K

i-LEAD successfully participated as an exhibitor at Security & Policing 2019 held between 5-7 March 2019 in Farnborough, U.K. i-LEAD showcased its progress within the 1st year of the project’s activities and promoted its strategic goals for the forthcoming period.
Being one of the 301 exhibitors participating at Security & Policing 2019, i-LEAD attracted the interest of more than 200 people that visited the project’s booth. i-LEAD consortium representatives discussed with policy makers, LEA’s representatives, Security industry executives and members of the academia regarding the project outcomes and future activities.

i-LEAD Project participation at Security Research Event 2018 - Brussels, Belgium

The European Commission co-organized with the Austrian Ministry for Transport, Innovation and Technology the Security Research Event (SRE) 2018 exhibition. The exhibition has held during the 5th & 6th of December 2018 at the Square Meeting Centre in Brussels, Belgium.

Among the 800 participants of the SRE2018, i-LEAD’s booth attracted a wide range of security industry stakeholders, members of the academia and policy makers who expressed their high interest in following up with the innovation dialogue that i-LEAD will initiate for the Law Enforcement Agencies in a Pan-European level.

Upcoming Events

26th - 27th June 2019 **Digital Forensics Practitioners Workshop**, Lisbon - Portugal

10th - 11th September 2019 **Digital Investigations Practitioners Workshop**, Paris - France

16th - 20th September 2019 **14th Meeting of the Community of Users on Secure, Safe, Resilient Societies organized by European Commission**, Brussels - Belgium

4st - 5th November 2019 **i-LEAD Industry Days**, Helsinki - Finland

6th - 7th November 2019 **Security Research Event 2019 (SRE 2019) organized by DG Home**, Helsinki - Finland

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i-LEAD is funded by the European Union's Horizon 2020 - Research and Innovation Framework Programme, under grant agreement no 740685