Studies on radicalisation prevention and new investigative models to counter terrorism

Best practices emerging from the EU funded project
JP-COOPS - Judicial and Police Cooperation Preventing Radicalization Towards Terrorism

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Introduction

In this short publication we are glad to disseminate the results of the event "JUDICIAL AND PO-LICE COOPERATION: BEST PRACTICES", held in Venice on the 22nd and 23rd September organized under the auspices of the EU funded projects JPCOOPS, SAT LAWS, UNCHAINED, FAIRNESS, PROPHETS, PRE-TRIAD, R4JUST and PRE RIGHTS.

More specifically, the panel 2 on judicial cooperation, was inspired by research and training activities conducted under the project JPCOOPS and was orchestrated by a network of Prosecutors and District Anti-Mafia Directorates active across several Italian regions, that joined forces thanks to the project supported by the DG JUSTICE.

As one of the organizers of the event, we are proud to have seen the quality of results achieved and believe this event has provided an important opportunity for the exchange of information and opinions among all the speakers and participants. Furthermore, after months of travel restrictions, we are particularly glad to have brought so many practitioners and experts together in person. We believe that, while we have learned a great deal about cooperation and exchange during the pandemic, no virtual meeting could have achieved the same level of information, exchange of ideas and cause for reflection. We hope that this was the first of many more in-person events to come.

THE JPCOOPS TOOLKIT:
A PROMISING EU BEST PRACTICE

Judicial and Security Cooperation from a grassroots approach.

This chapter describes a good practice of preventive and investigative activities carried out in Italy and which has the potential to be adapted and disseminated throughout Europe as a Best Practice.

POLY-CRIME AND JURISDICTION

As we know, 'serious crime' phenomena are always preceded or made evident by the so-called 'spy crimes', that is, by apparently minor crimes and risky behaviors behind which, however, complex forms of crime are hidden. By way of example, one can cite the case of fraud on funds and public subsidies, the so-called 'citizenship income', which, once analysed in depth through appropriate investigative analyses, can reveal forms of organised crime or terrorist financing, as highlighted by numerous European investigations. Such phenomena are present for criminal events related to the exploitation of prostitution in connection with human trafficking or other numerous financial, environmental or drug trafficking crimes, behind which mafia organisations and serious associative crimes can be concealed. The same dynamic characterized the link between radicalization and terrorism, at the core of the JPCOOPS projects.

Any attempt at greater inter-institutional coordination, however, must take into account that the judicial system of many Member States provides for different jurisdictions, competences and powers on the basis of criminal qualifications or the age of suspects. There are therefore situations where an investigation for a particular crime, such as the exploitation of prostitution or a fraud on public funds, is the responsibility of an ordinary prosecutor in a territorial court for certain aspects of criminal dynamics, while the most serious underlying crime, organised crime or terrorism, which may emerge during investigations, becomes the competence of another district or central authority, with its own different investigative bodies. Even more complex are the cases where minors are involved in the different types of crime, so there are substantially different rules and procedures from that of adult justice, such as probation measures, trial proceedings, even for 'serious crime' offences.

DATA AND CYBERCRIME

A second element that tends to fragment the actions of prevention, investigation and judgment is given by the increasing relevance of digital data in criminal investigations and analyses, linked to the evidence that the different LEAs of the different prosecutors, competent for types of investigation of related crimes, do not always have common homogeneous investigative tools and the same databases. This is all the more complex when crimes are transnational in nature and this requires the use of judicial and police cooperation instruments across multiple jurisdictions, with access to international databases.

Access to social media, deep and dark web, databases, interception and capture systems (trojan horses) and the need to decrypt complex digital protection systems used by individuals and criminal groups is now part of the everyday life of every investigator and prosecutor. Unfortunately, however, in addition to the problem of competences and jurisdictions, the various prosecutors and police forces do not always have sufficient and common staff and equipment to carry out the necessary analyses and investigations. Moreover, these are equip-

ment and personnel that require constant updating and therefore continuous investments, which are subject to complex authorization practices, strongly bureaucratic, by general prosecutors or the Ministries of Justice, often with objective shortages of funds.

In this sense, the experience of the the Triveneto Region, Autonomous Province of Trento and Bolzano and cooperation between prosecutors, multiagency LEAs and private NGOs from different regional authorities, represents a model of good practice that could be replicated on a European basis, in order to streamline bureaucratic complexity.

Moreover, at Member State level, there are several models, which are not always compatible with each other, for the acquisition of highly qualified technological tools and technical resources. In some countries such as Italy, for example, the hire and service provided by private individuals is used, with costs fictitiously borne by the costs of justice but in reality borne by the chapters of the ministerial budget. In other countries, however, the entire technology chain is managed by the public sector, through direct acquisitions and the use of its own staff, to prevent extremely sensitive data from being accessible to private companies. The fragmentation of investigative models and solutions is all the greater in federal-based countries, such as Germany, or in those where highly specialised police forces exist, such as Italy, whose collaboration requires complex coordination mechanisms.

The result is that often the same survey system can have completely different costs from country to country, with significant expenditures of public resources and an uneven distribution across the territory and in different jurisdictions.

Therefore, the technological fragmentation, of data bases and training models, as well as of attributions, is another element that contributes to making slow and often inefficient as well as very expensive, the work of prevention and investigation carried out by the various prosecutors.

THE TRIVENETO MODEL

Thanks to JPCOOPS, the authorities in Triveneto are experimenting with a model of cooperation, defined as the 'Diffused Forensic Workshop' which can be considered a single European good practice to help harmonise investigation and prevention systems while respecting different competences and jurisdictions as well as ordinary principles.

This good practice validated on the ground through European projects under the direction of the Agenfor International Foundation is based on the following pillars:

(1) COPERATION ACROSS JURISDICTION THROUGH JPCOOPS

The district prosecutors in 3 different Italian regions (Veneto, Trentino-Alto Adige and Friuli-Venezia Giulia), the Court of Juveniles of Trento and Bologna and the Ordinary Prosecutor's Office at the Court of Padua have defined models of common cooperation on specific cases of crime within their competence by activating a direct interlocution with the European Commission through JPCOOPS on matters of great importance for judicial cooperation. This responds to the need to deal with phenomena of 'poly-crime' organically. In addition, the Public Prosecutor's Offices have accredited themselves in the EU ECAS system and have launched joint Community design activities, planning in the various projects the use of investigative resources and training tools in a joint way, as well as the definition of new advanced investigative models.

Within the JPCOOPS project, funded by the EC, the development of a 'Toolkit' has been done in the first half of 2021, which also defines models of good investigative practices with the use of advanced investigative tools, as well as through the integration of different types of crime into Poly-crime investigations, which invest different jurisdictions (ordinary and district prosecutor's office).

Finally, an experiment is underway to equip the Spanish, Greek and German police with the same software and procedural models, expanding at European level the best practices of the 'Diffused Forensic Laboratory', even in the context of different criminal systems and procedures.

This strategy can be a 'grassroots' model for achieving forms of European harmonisation in judicial and police cooperation without passing through regulatory or legislative changes.

(2) TECHNOLOGICAL COOPERATION AND PUBLIC-PRIVATE PARTNERSHIP

Secondly, the public-private cooperation between the Agenfor International Foundation and various prosecutors' offices, the Ministry of Justice and the police has proved crucial in addressing technological deficiencies and investigative fragmentation. In fact, thanks to the European project JPCOOPS, coordinated by the University of Malta and fairness, in parallel to UNCHAINED, led by the Procura di Padova, and following JSAFE and SAT LAW, coordinated by the Ministry of Justice, have been acquired a series of software licenses and technological and investigative tools that are managed in a coordinated way between the various prosecutors and allow the creation and testing of preventive models and collaborative investigation, beyond the different jurisdictions and competences.

Thanks to a strategic planning logic, coordinated and directed, in fact, Agenfor has made available to the various prosecutors a series of technological investigative systems manageable in a collaborative way, while respecting the secrecy of data and investigations, as well as the different skills: 1 XRY system (MSAB) and a UFED (Cellebrite) system for forensic extractions; 13 Licenses for use of the Phonelog software product (SecurCube) for telephone analysis; 2 software licenses of the BTS Tracker tool, the Android app for the management of the same and an account on btstracker.com; 2 software licenses of the Securcube downloader for the acquisition of email messages through IMAP and 5 licenses of the CIT platform, the most advanced European investigation system for the analysis of entities, events and correlation of data, with a particular focus on the investigative model defined 'follow the money' and, finally, a professional drone system with a quadcopter (ITALDRONE) equipped with payloads for digital surveillance, manageable in a joint form by penitentiary police personnel and Agenfor staff, all accredited by ENAC for flight qualification. JPCOOPS completed this framework with specific training modules to streamline knowledge and competences across all jurisdictions.

The first 'Laboratorio Forense Diffuso' created in the Triveneto is therefore of extraordinary national importance because it operates on a vast territory that brings together legal agencies of primary importance covering a population of about 7,200,000 inhabitants and which represents one of the largest economic centers in Europe.

(3) CREATION OF NEW PG SERVICES AND A SHARED CULTURE OF INQUIRY THROUGH TRAINING

In addition to the technological aspects, therefore, it was necessary to widen the audience of experts able to use the survey equipment in a flexible way, based on the needs and the amount of investigations existing at each prosecutor's office.

Therefore, the question has arisen of how to spread a shared culture of judicial and police cooperation between subjects with different compe-

tences and ordinamental roles.

To this end, an agreement was reached with the Local Police of Venice, one of the most dynamic 'municipal' bodies in Italy, to make available within the 'Diffused Forensic Laboratory' also their analysis laboratory on false documents, one of the most advanced in Italy and with access to the European I-Fado system, the dog group and, finally, a Mercure license for the analysis of telephone traffic.

It was necessary to study a legal solution so that the local police corps of Venice, for which no specific section of PG is foreseen, could cooperate with the PG in the Procurement Offices, especially where 'spy crimes' indicators of polycriminality phenomena were related to environmental crimes, drugs and other typical of the competences of the Local Police.

This was made possible through the establishment of 'judicial police services', as governed by Article 12 of the Rules of Implementation, Coordination and Transitional Rules of the Code of Criminal Procedure. This provision defines as "judicial police services" all those offices and units to which the respective administrations or bodies provided for by law are entrusted with the task of carrying out as a matter of priority the functions referred to in Article 55 of the Code. As regards the Local Police of Venice, pursuant to Article 4(3) of the Special Regulations of the Local Police Corps, the Commander-General has, pursuant to Article 12(1) of the Rules for the Implementation of the Code of Criminal Procedure, identified the offices and units that constitute the judicial police service, namely the Document Analysis Laboratory Core, the Operating Unit (which processes investigations into telephone records) in its entirety and the Dogphile Nucleus. In this way, the 'services' of the local police can assist, in various forms, the sections of the PG provided for in Article 56 of the Criminal Procedure Code (JPC Services and Chambers) and Article 5 of the Rules of Implementation, Coordination and Transitional Procedure of the Code of Criminal Procedure, composed of officers and judicial police officers of the State Police, the Carabinieri's weapon and the corps of the Financial Guard.

It has therefore defined itself as a "convention" of the Local Police with the District Prosecutor's Office of the Republic of Venice and with the Ordinary Prosecutor's Office at the Court of Padua, to give life to the "Judicial Police Service" to support the joints of judicial and scientific police indicated by the Commander General of the Local Police, keeping the investigative dimension of the Local Police outside the sections (this dimension that does not belong to them) but raising the excellences to rank of service.

This model has been expanded through the project JPCOOPS involving other judiciary agencies in form of a NATIONAL NETWORK through MoUs and new project activities.

This model can represent an element of strong innovation for the benefit of Italian and European judicial systems, if extended to member states.

In this context, the Agenfor International Foundation has donated to the Local Police of Venice an additional component of the Diffused Forensic Laboratory by instituting a training room equipped with 5 Virtual Reality stations for multi-platform training, able to integrate online training activities with the 'Hermes' platform of the Ministry of Justice (developed at the time by Agenfor with the projects 'DERAD' and 'TRAINING AID') and with the classrooms of the Local Police at the 'Tronchetto' in Venice.

The use of Virtual Reality tools, designed and developed specifically to develop joint skills between justice and police practitioners, represents another innovation of considerable value at national and European level.

This training system, one of the most advanced in Europe, has been made available to all the Procurement Offices, which in addition to laboratories and equipment can thus also benefit from the logistic infrastructure of the Island of San Servolo.

Thus, joint training programmes between all prosecutors and sections as well as PG's services, together with the prosecutors' staff, allow the creation of a shared culture on investigations and the use of advanced forensic analysis tools and the strengthening of European design according to the real needs of judicial actors.

The trial carried out in Triveneto, which will continue for two years, aims to offer a model of Good Practices validated in a real environment so that judicial and police cooperation can achieve greater results by maximising resources, developing cooperation between different police forces and justice agencies, strengthening public-private cooperation in a technical and forensic perspective, and generating models of harmonisation from below.

In future European designs addressed to REA, DG Home, DG Justice, DG Near, OLAF, Europol and EUROJUST, we will seek to expand this model on a European scale.

JUDICIAL AND POLICE COOPERATION: BEST PRACTICES

BOOKLET
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JP-COOPS · UNCHAINED · SAT-LAW · FAIRNESS

PROPHETS · PRETRIAD · JUST · PRE-RIGHTS

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Judicial and Police Cooperation: Best Practices

The event was organised by Agenfor International in collaboration with the Italian Ministry of Justice, who together welcomed several of their partners from European projects on judicial and police cooperation. The discussions were further enriched by the presence of private technology providers with their cutting-edge expertise in the security field. They provided both a crucial technical perspective to the topics addressed in the conferences and roundtables, and gave the participants the chance to learn about the latest technological developments in the sector.

Three panels were organised, each with its respective sectoral focus and hosting high level speakers. The summaries below offer a brief desciption of the panel topics.

New Investigative Models for Trafficking in Human Beings (THB) in the Framework of Public-Private Cooperation

THB is a serious crime that abuses individuals' fundamental rights and dignity. As criminal networks move across borders, the responsibility for investigating and prosecuting crimes falls upon each of the Member States crossed, each according to their respective jurisdiction. Cross-border cases of trafficking in human beings are difficult to investigate as they require resources, coordination, and good communication between relevant actors.

Navigating the Complexities of Judicial Cooperation Instruments

Legal cases such as 'Enchrochat' and 'Sky ECC' pose several legal and doctrinal questions, with a view to developing the jurisprudence of national and European Courts in relation to Special Investigative Techniques, EU judicial cooperation, transfer of evidence, and data protection and privacy in the digital era. Moreover, prosecutors often have to use multiple instruments at the same time or in sequence within the same transnational investigation, even if these are not always congruent. This Panel offers an understanding on the complex relationship between technological evolutions and the law in a fragmented Europe and how judicial training could contribute to fostering a common judicial culture.

Threats from East and South: Smuggling of Commodities and Polycrime

Oil and gas smuggling are part of a complex polycrime phenomenon associated with terrorism, illegal trafficking of weapons, financial crime, corruption, cybercrime and THB. This panel explores the interlinkages of these transnational phenomena against the backdrop of fragmented judiciary and investigative systems and how cooperation between different regional and European judiciary agencies, tech providers, and European District Prosecutors could contribute to more effective prosecution procedures.

OUR SPEAKERS

COM. MARCO AGOSTINI
Commander of the Venetian Police

SILVIA GOLIN
Prosecutor Office of Padova

ANTONIO DE NICOLO
District Prosecutor Trieste

ANTONINO CAPPELLERI
Prosecutor of Padova

CRISTINA CHECCHINATO
Criminal Intelligence Analyst, Europol

TAMARA PAHOR
Deputy Head of the Prosecutor Office Capodistria, Slovenia

MAURO MANOLO BELMONTE
MBS Engineering

NAVIGATING THE COMPLEXITIES OF JUDICIAL COOPERATION INSTRUMENTS

FRANCESCO PAOLO SISTO
Sottosegretario di Stato - Italian Ministry of Justice

ACHILLE CAMPAGNA
Lawyer, San Marino

PIETRO SUCHAN
Former Prosecutor, Lucca

PAOLA DE FRANCESCHI
Court of Appeal of Venezia

ANZE ERBEZNIK
Prof. of Criminal Law, European Law Faculty, Slovenia

LUC FERRAND
Judge, EuroPro Foundation, France

FABRIZIA BEMER
Public Prosecutor's Office of Florence

MARIE O'LEARY
Office of Public Counsel for the Defence, International Criminal Court

BORJA JIMÉNEZ MUÑOZ
Spanish General Prosecution Office

GENERAL GIOVANNI PIETRO BARBANO
Director of the CoESPU, Italy

THREATS FROM EAST AND SOUTH: SMUGGLING OF COMMODITIES AND POLYCRIME

SERGIO NAZZARO
Spokesperson for the President of the Anti-Mafia Parliamentary Commission

COL. CC PAOLO STORONI
Head of the Anti-mafia Investigation Directorate (DIA) of Triveneto

COL. MASSIMILIANO DI LUCIA
Head of the "Economic Protection & Security" Office, III reparto, Guardia di Finanza

DIMITRIS NOMIKOS
Public Prosecutor, Greece

YOUNES NANIS
Analyst & Field Coordinator, Global Initiative

ANNA SERGI
Criminologist, University of Essex.

MICHELE AMEDEO
DG Near

NICOLA MARINI
IPS

ELENA DONAZZAN
Counsilor for Education and Training Veneto Region

PANEL 1 - OUTCOMES

MAIN OUTCOMES - NEW INVESTIGATIVE MODELS FOR THB IN THE FRAMEWORK OF PUBLIC-PRIVATE COOPERATION

New Models for Investigating Human Trafficking in the Context of Public-Private Cooperation

The phenomenon of THB thrives as a low risk, high profit crime that weaves in and out of the legal economy, often undetected. Where cases do enter the criminal justice system, they often lead to prosecutions for less serious crimes, such as the procurement of prostitution or fraud, which only capture one element of the trafficking chain. Not only does this lead to a disproportionately low penalty for criminals involved, but it also limits the scope of action taken by the investigating judiciary, preventing the identification of the full criminal network involved and the potentially transnational scale of the crime.

International Cooperation

The channels of international cooperation work and are successful within the EU, but to a large extent, human trafficking starts outside of European borders. Therefore, it is crucial to reach relevant actors in third countries in order to rot the trafficking chain from its very roots in the source country through to the country of exploitation.

Judicial Cooperation Bodies

On the international scene, in addition to Europol, which is dedicated to police cooperation, Frontex should be mentioned in relation to the control of external borders, EASO in Malta for asylum practices on European territory, INTERPOL, Schengen SIRENE, and Eurojust, by which the

fundamental principle of ne bis in idem is respected.

The Evolution of the Classic Exploitation System and New Forms of Trafficking in Human Beings

A progressive refinement of the classic exploitation system can be observed across the globe today, whereby, in addition to classical links to organised migration, a less structured "do-it-yourself" form of trafficking is emerging.

Until ten years ago, criminal organisations held a clear monopoly of the trafficking business. Today, the traditional methods of coercion used in transport and recruitment of victims is increasingly replaced by strategies of "flattery" or promises of economic opportunity and a better standard of living, which are now used to convince socially and mentally vulnerable people to reach the European Union. The pandemic has also brought new forms of more refined exploitation, not least thanks to the use of the web, which has radically changed irregular immigration and trafficking. The internet has offered criminals anonymity, facilitated flows of money untraceable through traditional investigations, and created an environment for new and abhorrent forms of THB, including child sexual exploitation and underground forms of surrogacy.

This migration of many elements of the trafficking chain to the online sphere is accompanied by the challenge of handling large amounts of (often contentious) data.

MAIN OUTCOMES - NEW INVESTIGATIVE MODELS FOR THB IN THE FRAMEWORK OF PUBLIC-PRIVATE COOPERATION

A Slovenian Perspective

In Slovenia, the offence of illegal border crossings is provided for in Article 308 of the Criminal Code. The most common form of illegal crossing is by car, which often endangers the lives of irregular immigrants, transported in large numbers in transport vehicles inadequately ventilated and not designed for the movement of people. The accusations are mainly based on statements made by irregular immigrants who, unlike in Italy, are heard without a lawyer, only as witnesses. Most suspects are foreigners and have a regular status in the European Union; most of them plead guilty, unlike the Italian case studies, and sign the plea bargain with a reduced sentence of one third, meaning a regular criminal trial is only rarely initiated. The success of investigations is associated with the prior implementation of covert investigative measures (interceptions, surveillance). Notably, the pandemic has changed the modalities of interrogation: the suspect is heard in presence, with his lawyer, while the victims are heard via videoconference from the accommodation centre where they are hosted. Police use classic methods of investigation, as opposed to new technology-led approaches, with the exception of drones used to control the state border.

It is also recognised in Slovenia that, in the case of cross-border crimes, it is crucial to strengthen international cooperation and, in particular, Joint Investigation Teams, which are considered an instrument that should be used more extensively.

Training Needs

The difficulty that institutional actors have in keeping up with the above-mentioned innovations highlights the importance of the role of training for Judicial Police, the Prosecutors' Substitutes and the judiciary, which makes it possible to conduct investigations effectively through the acquisition of knowledge, tools, and specialised skills. It is necessary to educate these actors about new social, investigative and economic phenomena, transferring tools designed for typical investigations (into drug or weapon trafficking) to the human trafficking sector at EU level, as well as building on innovative national initiatives.

The whole counter-trafficking chain also needs more expertise on the use of judicial cooperation instruments, on the special investigative techniques used for Eurocrimes, and on the different national criminal procedures through training initiatives that are extended to professionals who are currently excluded from them.

Finally, the international diaspora on European territory helps to create further possibilities of intervention, through their knowledge of and sensitivity towards ethnic phenomena.

PANEL 2 - OUTCOMES

MAIN OUTCOMES - NAVIGATING THE COMPLEXITIES OF JUDICIAL COOPERATION INSTRUMENTS

JUDICIAL COOPERATION

It is important not to neglect the different situations which, especially in international matters, make the relationship among institutions and States more sensitive, and to ensure that this complexity merges into a smart aggregation of different needs on the basis of generally accepted principles.

Judicial cooperation through designated instruments for cooperation, is possible only if the fundamental rights of each State's nationals are respected.

The fundamental rights set out in the Constitutional Charter of Italy (and Article 6 of the European Convention on Human Rights) provide an indispensable pillar so that the instruments used, be they substantive or procedural, precautionary or preventive, probative or decision-making, can be combined and commonly grounded in one single focus: respect for fundamental rights. Such rights include the presumption innocence, the reasonable duration of a trial and a penalty that not only has a function for retribution, but also and above all for re-education as stated in Article 27 of the Italian Constitution.

Directive 2014/41/EU, in the field of judicial investigations, offers a response to refine cooperation from an investigative perspective. Reform of the Italian Minister of Justice Marta Cartabia.

Today, with this reform, Italy finds itself perfectly positioned to enter dialogue on these fields while remaining consistet with the fundamental principles that are paramount to such discussion. Judicial cooperation is not only a matter that exists among different States and countries, and among States and international bodies, - like the International Criminal Court, or other Courts, that have jurisdiction over core international crimes (e.g. war crimes, crimes against humanity, genocide). This raises the question, of what is the common basis shared by all forms of judicial cooperation; Judicial cooperation aims at ensuring that different jurisdictions work together.

European Investigation Order (EIO)

Before the EIO, the system of judicial cooperation was regulated by the European Convention on criminal matters (Strasbourg, 1959), which allowed direct contact among judicial authorities only through direct communication among Ministries of Justice. From 2000 onwards, the Brusells Convention fostered the introduction of the EIO which was accomplished with the Directive 2014/41/UE: It allowed the pre-existing bilateral agreements to remain valid, but at the same time it introduced a new instrument, which remains a milestone in the judicial cooperation. The instruments of the European Union do not derogate from these earlier instruments, but rather work together depending on cultured, legal frameworkd, and conventions, which can be applied to the different cases. The EIO allows a direct communication from judge to judge and from prosecutor to prosecutor in the field of criminal matters and with a pre-determined list of offences. In this way it speeds up justice and the criminal proceedings.

In the case of the EIO it is possible to communicate from judge to judge and from prosecutor to prosecutor, in a manner that is, despite the obstacles to its application, much more efficient that before, or at least try to adapt each other on a common ground based on the common values mentioned before. The EIO can be used as link between legislations and to look for greater collaboration. It introduced a more balanced approach, for example for fundamental rights in Article 11, with the definition or limitation of the concept of judicial authority. To this end, there is the need and also the request to implement more in-depth training activities on this tool and its possible applications. Also, modern technologies can be useful in the judicial field, as they allow better communication among judicial authorities and advance means for Police Forces to combat crime. These modern technologies also pose a very significant question about fundamental rights in democracy, as certain technological tools can seriously endanger the respect of said fundamental rights. The European Commission has moved away from the use of a single instrument of judicial cooperation, and has again introduced a number of instruments: one of these proposed tools is electronic testing.

ISSUES REGARDING EIO
In the concrete judicial pratice, difficulties arose concerning the legal possibility to authorise in the concerned

Member States, phone or computer interceptions and bugging in the frame of cross border criminal investigations, using - especially in the Italian legal system - the so calledTrojan - Horse. In this regard, the differencies in the data retention for each Member States represents a real problem of useful execution of an EIO

TRAINING & EDUCATION
Training and education are two fundamental aspects when it comes to judicial cooperation. It is important to create a culture of empathy against the internal and local approach in order to overcome the narrow national perspective. It is important to use technology, avoid relying on the will of the individual, create a collaboration network, create the prosecution services in the various courts, engage people able to actively support international cooperation, create contact points on a permanent basis, and ensure commitment and the involvement of the relevant institutions.

I do believe that the training of personnel in the use of instruments for trans-national judicial cooperation poses several challenges, because it raises the need to superimpose international standards and procedures over national practices that, in some cases, need to be appropriately adapted to respect the rule of law. [...] in order to meet such demands, policing must be entrusted to law enforcement agencies that, operating within a legal framework based on the rule of law, are representative of, responsive to, and accountable to the community they serve. (Gen. Barbano, CoESPU).

EUROPEAN ARREST WARRANT (EAW)
The Courts of Appeal in Italy are the competent judges to recognize and execute the European Arrest Warrant (EAW) coming from the judicial authorities of other Member States. Recently, in February 2021, the fundamental law that transposed Framework Decision 584/2002, Law 69/2005 was modified to make it more consistent with the provisions of the Framework Decision. In summary, this law has shortened the times for decision and delivery (fundamental in application of the principle of mutual recognition of judicial decisions) and, in homage to this principle which is a cornerstone of judicial cooperation in criminal matters, has simplified and eliminated a series of reasons for refusal that were provided for by our old law and reduced them to a few essential mandatory reasons and optional reasons that are the same as those provided for by the Framework Decision.

PROPORTIONALITY PRINCIPLE
The principle of proportionality is enshrined in art. 5 of the Text of the Treaty of the European Union and art. n. 7 of Framework Decision 584. In Italy this principle is not expressly stated but it is very meaningful because it inspires the adoption of the precautionary measures of the Criminal Procedure Code (art. 272 onwards) governing real precautionary measures.

ISSUES CONCERNING THE EAW
The new law has modified the previous law in the case of the optional reason for refusal that occurs when the recipient is of Italian nationality or is a foreign person residing legally and effectively on Italian soil for at least 5 years. The Framework Decision does not have this limit, which was considered by the legislator as an indispensable criterion for the purposes of the resocialization of the person, rehabilitation during and after detention and therefore ensuring that he remains where he has family, friendships, if actually present in Italy for 5 years.
Another important issue is tho one on the conditions of detention and the risk of inhumane and degrading treatment. The 2016 ruling, known as ARANYOSI-CALDARARU of the Court of Justice of the European Union, paved the way for a series of similat judgments and rulings of the same Court. Also we should consider the problem of the independence of the Judiciary issuing the European Arrest Warrant: this problem has touched our Court with a sentence of the Supreme Court which annulled the surrender decision because the European Arrest Warrant came from the Polish judicial authorities. Poland since 2000 underwent some legislative changes that have been deemed detrimental to the independence of the judiciary from the political power. The Court of Cassation decided that a request for information had to be made to reach a personalized analysis to exclude that the person is exposed to the risk of an unfair process pursuant to art. 6 of the ECHR.

PANEL 3 - OUTCOMES

MAIN OUTCOMES - THREATS FROM EAST AND SOUTH: SMUGGLING OF COMMODITIES AND POLYCRIME

The smuggling of oil, gas, hydrocarbons and raw materials is part of a complex phenomenon of polycrime associated with terrorism, illicit arms trafficking, financial crimes, corruption, cybercrime and human trafficking. The interlinkages between these transnational phenomena have been explored in the context of fragmented judicial and investigative systems, and how cooperation between different judicial, regional and European agencies, including technology providers, could contribute to more effective judicial proceedings. In turn, this should support the countering of smuggling that sees the evasion of billions of euros in excise duty and VAT each year, constituting a crime against the financial interests of the European Union (PIF crimes, as per Directive (EU) 2017/1271).

Links Between Organised Crime and Commodity Trafficking

The criminal sector's centre of gravity and the interests of criminal organisations are shifting. This is because organised crime is fluid and its operators effective entrepreneurial actors, unlike the State, which is characterised by rigid rules and divisions. Organised crime is not subject to such a system and instantly seizes market opportunities and fills the gaps left by other actors, including the State itself. In recent years, organised crime is increasingly interested in investing in the oil products sector. A number of stringent regulations have been introduced to address the infiltration of organised crime in the sector.

Until 2017, the key problem related to excise duty and VAT, but today, the problem concerns the VAT through regulations that allow payment over a longer period. This is implemented by companies, created ad hoc to manage import and distribution chains on the territory with carousel fraud. Such copmanies are designed to be born, operate, make money, and finally disappear when the tax control system intervenes. Organised criminals boast a 30 % share in this market. This type of crime represents a niche sector and requires an in-depth knowledge of the technical legislation, mainly pursued by the Guardia di Finanza and to a lesser extent by Carabinieri and the State Police. All police forces must work in synergy to ensure timely intervention.

The Greek Perspective

The protection of the financial interests of the EU is a crucial duty for all of the MS. Only united we win. Gas and oil smuggling cause enormous damage to the EU budget. The rules of the single market and the existence of the EU are at risk due to organised financial crime. More effective measures are needed to combat smuggling, namely to: strengthen mutual trust between Member States; develop cooperation in the EU and internationally; and take measures to prevent corruption. New technologies should be used for investigation, border control, and location of ships carrying illegal goods, while specialised training for police personnel should be encouraged.

Follow the Money Approach

Inspections in the field of energy products traditionally fall under the responsibility of the Guardia di Finanza. The observation point as a police body is related to that of the Judicial Authority and with the representation of the European Public Prosecutor's Office in Italy. The fraudulent phenomenon of smuggling affects one of the EU's main taxes (VAT) and therefore, its evasion is detrimental to the EU at large. The projection of these illicit phenomena is international and goes beyond the borders of the EU, therefore it is essential to activate judicial cooperation that has a relevant weight in the functions of the European Public Prosecutor (EPPO). At EU level, great progress has been made in terms of judicial, police and administrative cooperation between tax agencies involved in the sector. The sensitivity on this issue has led to the establishment of its own dedicated management unit at the General Command of the Guardia di Finanza, responsible for coordinating hundreds of investigations into energy products with numerous judicial authorities involved, in support of the investigative activities that today many prosecutors have responsibility for.

The new Profile of the 'NDRANGHETA — Operation Petrol.Mafie

At the request of the Italian authorities (Procura di Reggio Calabria), Eurojust ensured the coordination of cross-border investigations into mass fraud with fuel taxes worth around EUR 1 billion.

The Agency allowed the freezing of bank accounts in Bulgaria, Croatia, Germany, Hungary, Malta and Romania. It also ensured, the seizure of the assets of the companies and the administrative closure of the undertakings used for fraud. In a large-scale operation, 56 suspects were arrested in Italy, with an additional 15 placed in pre-trial detention and approximately 600 million euros of property was seized. More than 1000 officers of the Italian Guardia di Finanza, Carabinieri and military personnel were deployed in the course of an action to combat two organised mafia-type criminal groups in Naples and Reggio Calabria, who managed the fraud. Oganised crime groups, under the leadership of capable brokers in the financial sector, had set up a number of shell companies to avoid paying fuel trade taxes to the Italian authorities.

Through a complex system of false invoices by the various companies involved, criminal networks pretended to trade in fuel, even with companies abroad. This allowed authors to avoid paying 946.5 million euros in taxes in Italy. The final proceeds from criminal activities were partially transferred to foreign bank accounts.

At the analysis level, difficulties emerged in understanding the added value of mafia involvement, the profitability of oil/fuel and fraud capacity, the amplification of profit through the cross-border engagement, the re-use of profits from one illegal activity to finance another and, finally, the difficulty in quantifying the damage to competition compared to the territorial one.
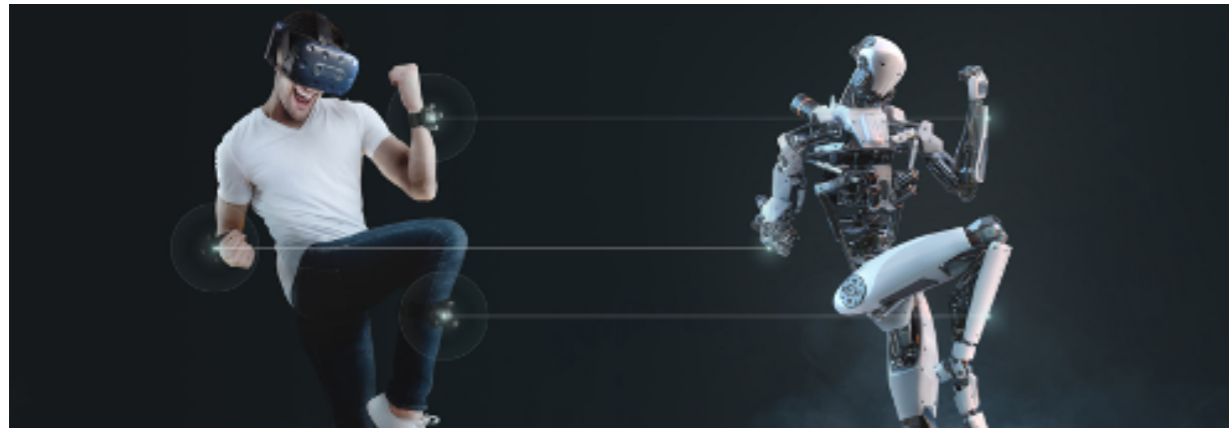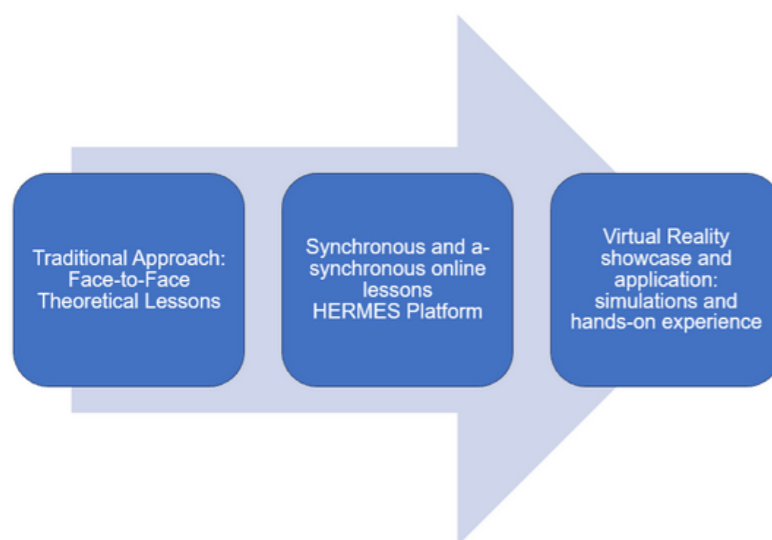
REXTECH
VIRTUAL REALITY

REXTEC produces and delivers training programs in Virtual Reality for public and private organizations in the security and defense sector. The programs allow a fully interactive virtual experience where users are able to communicate and interact within common virtual environments in deeply connected and human-based surroundings thanks to the Multi-Player Virtual Environment, combined with Serious Gaming solutions.

Hence, the training developed with the use of VR increases the focus and the capacity of trainees by enhancing their engagement and, at the same time, increasing their enjoyment of the learning process.

B-LEARNING
A comprehensive learning process

OPEN SOURCE INTELLIGENCE & MARITIME INTELLIGENCE

IIPS is the global provider of Cyber Intelligence technology and solutions for Governments, Intelligence departments and LEAs. The company is based in Italy and is specialized in designing products for Open Source Intelligence, Lawful Interception, Internet Monitoring, Electronic Surveillance and Maritime Intelligence.

IPS solutions are specifically conceived for authorities that need to intercept, collect and deep analyse heterogeneous data such as phone calls, internet traffic, social media contents, data coming from Electronic Surveillance devices and third parts databases, but also for Telco Operators that need to satisfy all the Lawful Interception needs according to the ETSI standards.

The IPS systems are used today in around 30 countries in the world from hundreds of clients.

IPS is pleased to work every day with:

- Law Enforcement Agencies that need to monitor, intercept and perform deep intelligence analysis of a wide and heterogeneous types of data from different networks
- Intelligence Departments that need to analyse a large amount of data in order to extract useful information to fight the crime
- Telco Operators (Access Providers, Internet Service Providers, Telephone Companies) that need to endow of Lawful Interception capabilities in respect to the national laws.
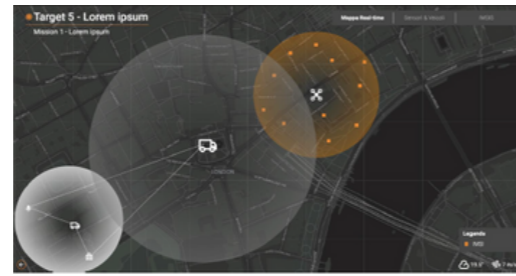
COMPLETE SOLUTIONS FOR DIGITAL FORENSICS

MSAB is the global leader in forensic technology for mobile device examination, with offices in Europe and in the USA, as well as a network of distributors across the globe. The company has been involved with mobile communications since 1984 and now has a singular focus on the forensic recovery of data from mobile devices.

Our XRY software has been used by investigators to quickly and effectively retrieve information, such as pictures, SMS, call history, contact lists and application data since 2003.

XRY is used by Police, Law Enforcement, Military, Government Intelligence Agencies and Forensic Laboratories in over 100 countries worldwide to investigate crime, gather intelligence, investigate fraud and fight corruption. MSAB's sole focus is a quality forensic solution that creates secure and trusted results for end users. The core business today produces a world class product called XRY which has the capability to recover data from mobile devices; smart-phones, mobile phones, 3G modems, GPS, drones and tablet devices. Building on that foundation we have released XAMN to provide smartphone and data analytics to our customer base.

TECHNOLOGIES

ELECTRONIC MONITORING INNOVATION, FOR A SAFER SOCIETY

For nearly three decades, Attenti has been committed to keeping our clients, partners and the people who trust in them on safe ground. Our innovative **electronic monitoring solutions** make a tangible difference to people's lives. To law enforcement officers out in the field. To communities tasked with reintegrating participants back into civilian life. To public authorities entrusted with making efficient use of taxpayer money.

Attenti's mission is to create positive social impact. We do this in multiple ways. By providing "safety-nets" for people at risk, **breaking the cycle of recidivism and helping people overcome alcohol abuse.** Our company is guided by a code of principles based on integrity, transparency and a relentless quest to serve society. We have been around long enough to know that our customers trust us with highly sensitive issues. We are well-known for our professional, honest and devoted employees, and for saying what we mean and meaning what we say. Our job is to give our customers a clear sense of security and the confidence to efficiently and effectively achieve their goals. We never lose sight of this. Making a positive impact on people, communities and society is what we do. **Thanks to Attenti's Impact Approach we're taking steps to quantify these results so we can measure communities secured, recidivism reduced and public capital saved.**

DIGITAL FORENSICS SOLUTIONS

MBS develops CIT, the in-house developed software, which analyzes telephone traffic, acquiring and processing all the information of interest coming from open and closed database, such as phone records, as well as from closed ministerial data banks containing data related to vehicles, buildings, corporate assets, tax data or financial data.
CIT is the only analysis system capable of cross-referencing both the telephone data that emerged from the survey (such as phones, telephone numbers, IMEI, etc) and any other document containing data of interest in investigative activities (taken from closed database).
It uses Artificial Intelligence algorithms and applies advanced analysis techniques to validate tabulated analysis even in the presence of Spoofing Call.
CIT has also a Bank analyses that allows the user to directly import the files provided by the financial institutions and to extract the information regarding loans, mortgages, account statements of the concerned person. It provides the operator with the possibility to identify all suspicious financial transactions in a simple and immediate manner.
Without the constant help of information systems like CIT, it would be almost impossible to analyze simultaneously all the generated and acquired informations during an investigative activity, characterized by the daily acquisition of a great deal of data.

TECHNOLOGIES
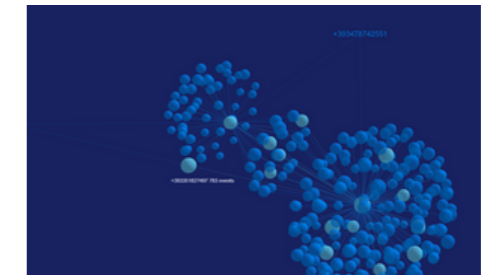
INTERCEPTION SOLUTIONS

Founded in 1996, AREA has always been oriented towards the development of technological solutions, and over the years it has never abandoned its attitude strongly oriented towards progress and innovation. Soon after the foundation, AREA encounters the specific and delicate needs of technical support to investigations, which will influence the company's development, indicating the need for confidentiality and security as the foundations of its expansion, alongside the attention to technological evolution. AREA's attitude is strongly oriented towards development and innovation. Over the years has evolved by supporting our developers with collaborations with the excellence of Research and Universities. The certifications obtained and the active participations testify AREA's history of quality, commitment, and guarantee continuous growth. Attention, confidentiality, care, and technological evolution are not, however, enough to guarantee the best level of quality and transparency, on which to build the rapport of lasting collaboration, that distinguishes our relationship with the users of our solutions. • ISO 9001 Certified Quality Management System. Certified sites: Headquarter, Roma • ISO 14001 Certified Environment Management System. Certified sites: Headquarter • ISO/IEC 27001 Information Security Management Certified System. Certified sites: Headquarter • ISO 45001 Certified system for the management of health and safety at work. Certified sites: All • Yearly Certification of the Financial Statements

DIGITAL FORENSICS ANALYTICS

Starting from the analysis of phone records (CDR Analysis), for which Phonelog is the tool used globally by multiple law enforcement agencies, SecurCube has been adding new technology to support digital forensic investigators. Analysis of the real coverage of telephone cells; correlation of user records, IMEI, IMSI, Cell, Car license plates and forensic extractions, forensic acquisition of content from the cloud such as emails and locations stored in Google timeline, management of forensic cases (not only digital forensics) and automations for the filling of the final investigative reports: these are the different areas on which SecurCube forensic engineers are constantly working. Using 3D maps, artificial intelligence, browser access to applications, the management of forensic investigations is made more effective and efficient. The investigator therefore has access to video export of user movements, creation of documentation in various formats such as word, pdf, excel, image, ibm i2; the result of the analyzes is therefore made understandable even to personnel who are not necessarily technical, but who must in any case understand the results obtained, in an immediate, simple and precise form. Helping investigators in saving time and avoiding errors in conducting digital forensics investigations is the company goal. www.securcube.net

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KEEP IN TOUCH

Operation Luxor: When Security Becomes Islamophobia

By Sergio Bianchi

In November 2020, the then Kurz-led government of ÖVP in Vienna set up Operation Luxor, apparently aiming to counter 'Islamic terrorism'. In practice, it was a massive police raid that led to the search of 70 houses in several regions, all belonging to representatives of the Austrian Muslim minority. The raids, supervised directly by Interior Minister Karl Nehammer, mobilized 930 officials, including police officers and special unit agents (WEGA, Cobra, Air Police, observation units, explosives units, and sniffer dogs). Operation Luxor led to the arrest of 30 Muslim activists and academics based on extremely serious allegations, accused of "establishing a terrorist organization, financial support for terrorism, organized crime formation and money laundering". In the following 12 months, nine of the raids have been judged unlawful and unjustified. According to the spokeswoman of the Graz Higher Regional Court, Elisabeth Dieber, the Court accepted the complaints filed by nine people, whose homes were searched by the police two years ago on the grounds that they provided financial support to terrorism and were associated with terrorist organizations. Furthermore, she added, the raids were not lawful due to the disproportionate amount of force deployed by the police. Even more significant, the court also considered the Prosecution statement concerning the membership to the Palestinian Islamic Resistance Movement, Hamas, and the Muslim Brotherhood of the people affected: "however, it was judged that the Brotherhood is not considered to be a terrorist organization in Austria".

THE CAGE AND ACT-P REPORT

The international press and authoritative reports from civil society organizations accused the Austrian government of the time, of racism and far-right tendencies, and of trying to export the 'Austria model' as a European counter-terrorism strategy.

Two years later, in the Report "Operation Luxor: revealing the myths behind the biggest raids of the Austrian police in peacetime", CAGE and ACT-P (Assisting Children Traumatized by Police) reveal how 'Operation Luxor' was a purely illegal and ideological targeting of Austrian Muslims by the Austrian government, driven by the interests of radical far-right groups close to the most extremist wing of the ÖVP. The work offers an exclusive insight into the impact of Operation Luxor and the political consequences of this operation. The Report discloses:

· The violations of Operation Luxor.

· It documents, for the first time, the testimonies of those, the victims, who were targeted in Operation Luxor, capturing in detail the violations suffered.

· Details of how the Austrian government attempted to divert attention from a series of corruption scandals by repressing Muslims.

THE ROLE OF RADICAL THINK-TANKS

The Report and the international press cast a sinister light on other aspects of Operation Luxor. They detail the dark nexus of Islamophobia that provides material assistance to the Austrian state in targeting Muslims. In addition, the report explains the role played by some radically inspired academics in the development of these illegal and abusive actions.

There are some anomalies in the arrest orders put in place by the judiciary under political

pressure. Among these is the involvement, before launching the raids, of alleged "experts" who happened to have far-right views; namely, Lorenzo Vidino, "expert witness" of the State Prosecutor in the ideological reasoning, who was referenced 35 times in the Luxor arrest warrants. Vidino is widely-known for supporting "conspiracy theories about the Muslim Brotherhood in Europe and the United States" alongside disseminating dangerous theories in several countries – above all, Switzerland, and Italy. He is a fierce advocate of the far-right conspiracy Great Replacement, whereby, the supposed massive migration of mostly Muslims, will lead to the replacement of white people in the Global North. In 2005, the "expert" was interviewed by FrontPage magazine – the far-right publication of anti-Muslim, anti-immigrant, and anti-black activist David Horowitz – on the supposed "the end of Europe". Vidino, without any scientific-technical basis, claimed "Europe as we knew it thirty years ago is long gone" due to the predominant presence of Muslims in Europe, clearly with the aim to polarise society in anti-immigrant and anti-Muslim function. This was one of the experts consulted before launching Operation Luxor.

In addition to personal roles, from the analysis of the CAGE Report emerges an extreme right network composed of foundations and NGOs that have proven to penetrate the members of the states and influence their choices through tools of pseudo-cultural production towards forms of the radicalism of state.

Among these, the Report mentions the European Foundation for Democracy (EFD), an "anti-Muslim" think-tank based in Brussels, listed alongside the neoconservative think-tank Henry Jackson Society in Sarah Marusek's study of transatlantic Islamophobic networks and funding. Another institution highlighted in the "Operation Luxor" Report is Austria's Documentation Centre for Political Islam, developed to tackle "Political Islam", as stated by the Integration Minister Susanne Raab, actually resulting in the establishment of a hostile environment for Muslims in the State – and has received EUR 0.5 million of public money in order to achieve its tasks. The Documentation Centre, for instance, introduced the Islam Map, openly mapping names and addresses of Islamic associations and organizations, mosques, and even shops in Austria – "enabling Islamophobic attacks by the Austrian far-right", especially from Die Identitären group.

NO RESPECT FOR THE VICTIMS SO FAR

Despite the seriousness of the situation, to date, no consideration is given by Austrian public bodies to the victims of Operation Luxor. Journalists and NGOs urged the need for acknowledging the disproportionate use of force against those individuals treated as terrorists. A necessity that no one seems to want to answer.

Due to the excessive and unreasonable force deployed, physical and mental health issues are at stake, still unanswered. Especially concerning children: according to ACT-P, 62 children were involved and affected by the raids, and suffered psychological trauma and signs of PTSD. Together with the physical and psychological trauma, the victims had to bear the financial the consequence of Operation Luxor: the bank account of the suspects were frozen, money and assets were confiscated, and – as stated in the Report – in some cases, even children's devices. Nura Al-Izzedin, Austrian researcher and organizer of ACT-P, said: "During the production of our Report, I conducted interviews with several survivors of Operation Luxor. Witness testimony was devastating. A year after the raids, people still find a difficult and deeply emotional moment to talk about their experiences. They have seen the dark side of Austria and see it as a reminiscence of a dictatorship.

Operation Luxor will forever be a stain on the history of Austria. The figures who have authorized and conducted this illegal operation of state-sponsored terror against innocent Muslims must be held accountable, as would any other citizen. This report is the first step in that process of responsibility."

New Technological Solutions for Crime Prevention and Investigation in Prison

By Agenfor Tech Team

As the JPCOOPS research highlighted, today, we are witnessing a continuous and **exponential development** of digital technologies that has affected the way crimes are committed as well as investigated (Mijatović, 2019). As is the case with many other contexts, prisons have been influenced by such advancements – especially for what concerns the increased difficulty in controlling inmates' illegal actions and illegal communication with the outside world, as well as in relation to the technologies to prevent inmates from committing additional crimes. There is a need for an urgent update, partly already underway, of the methods used in prison facilities, both from a preventive and an investigative point of view.

The following article reflects on the change that digital and communication technologies can and have brought to the **security** and **prevention sectors**, specifically examining three innovative techniques currently used in prison: Open Source Intelligence tools (OSINT) to collect and analyse data; wiretapping microphones; and drones and counter drone systems.

Digital forensics

Considering the vast amount of data circulating in prisons and the consequent difficulty for operators to monitor them clearly and comprehensively, the **support** that technologies can provide in this regard – e.g., data mining for preventive security measures generated by mobile data forensics in investigations – is a real asset for the expansion of intelligence analysis. As an example, only through an analysis of the telephones illegally owned by the inmates, officers can detect existing criminal networks, criminals' connections, hierarchies between suspects, group dynamics and movements (Agenfor International, 2020).

Telephones introduced illegally in prisons and used by inmates are, in fact, common and valuable sources of data. As it might be the case for inmates convicted of organised crime or terror-related crimes, phones in possession of this kind of inmates can be exploited by Law Enforcement Agencies (LEAs) for the **analysis** and **monitoring** of criminal chains between different detainees, family, or kinship networks. Indeed, "artificial intelligence and big data analytics, combining the aforementioned **OSINT and Human Intelligence** (**HUMINT**) can help better filter and prioritise mass data on suspects and share and compare data with other police forces, intelligence agencies and courts for more accurate prediction techniques" (Agenfor International, 2020).

As the CEO and CO-founder of SecurCube Nicola Chemello (2020) explains, if a phone exchanges traffic via a cellular network, there is a log that allows investigators to trace a series of information, such as the geographical trace of the call, the International Mobile Subscriber Identity (MSI) – number that uniquely identifies each mobile phone user, and the International Mobile Equipment Identity (IMEI) – a code that uniquely identifies each mobile terminal, thus allowing the owner of the phone to be **instantly traced**. These records are **unchangeable** and are a source of fundamental importance for preventive and investigative purposes for LEAs, making a range of related information available to them that can be used for investigative purposes.

Legal interception of family conversations in a prison environment

Another prison scenario that could benefit from technology refers to legal interception of family conversations. In this sense, as Sasha Bianchi (2020), Sales Manager of the private enterprise AREA, states: a **fixed pattern** must be followed in order to conclude the investigation effectively, which mainly consists in sending the wiretapping in real time to the Public Prosecutor's Office, watching the interviews from the headquarters of the judicial police and finally drafting the transcripts, which are, in the Italian context, always to be delivered to the Public Prosecutor's Office.

The microphones are installed inside the tables in the room where the meeting takes place, so that they are not visible at all, and help by cameras fixed inside the room, it is possible to **intercept live** any kind of conversation, which as already mentioned, in addition to being seen by the judicial police, is sent live to the Public Prosecutor's Office, via a wireless link. At the end of the interview, the judicial police officers take care of transcribing in full the conversations observed, so that the document can then be handed over to the Public Prosecutor's Office.

Drones and counter-drone solutions

Finally, the use of Unmanned Aerial Systems (UAS) – also known as drones – and related counter-drones technologies be analysed. Drones are a widely used tool in prisons for making **illegal deliveries**, such as drugs or money, as well as for planning escapes or collecting data on inmates. Such tools are generally "small and difficult to detect by conventional surveillance means, as they do not follow traditionally examined trajectories" and it is often the case that "payloads carried by UAS devices in the prison system have been made to look like permitted objects" (Russo, 2020).

In the event that one of these tools is seized and consequently the **data** are **extracted**, such devices can provide a significant source of information for LEAs. In this regard, the use of **counter-drone systems**, which are useful tools for detecting, tracking, identifying and intercepting drones, is crucial.

Counter-drones technologies and the use of cooperative drones by LEAs are an important **deterrent to crime** and are much more effective than the so-called 'passive' methods of law enforcement, i.e. walls and nets, which are easy to circumvent, unlike the new UAV surveillance methods. According to Stefano Russo (2020), Chief Software Engineer at Italdron, counter-drone technologies cooperative drones used by LEAs have a very **low acoustic footprint** and are able to intercept any illegal air transport. These instruments are currently used mainly to detect events such as accidents, parades and car traffic (their use has recently been implemented for surveillance purposes at the Shopping Mall in Arese, Milan) but their gradual introduction into prisons would bring countless benefits.

Additional positive aspects of such technologies include the fact that they are controlled from a control room, through which the UAV camera can be viewed and controlled in **real time**, locating and tracking the threat on the ground in seconds. Also, UAV data can be accessed from anywhere, with no need for special infrastructure, only 4g/5g coverage. "Thanks to real-time video processing on a powerful on-board computer, threats can be detected and tracked automatically. Once detected, threats can be precisely geolocated and the detection can be used to trigger alerts", states Russo (2020).

Conclusion

Innovative technologies are beneficial for security and especially for high-risk contexts such as the prison environment – their application should therefore be upscaled significantly. While this article has mainly focused on the securitisation of prisons, it is worth noting that within that same environment, technology can and should also be used for educational and rehabilitation purposes. As society changes, the penitentiary system should change in parallel, introducing different ways of communicating or interacting and preparing inmates for the digital world they will later be re-integrated into.

A general overview of the Italian PVE/CVE strategy

By Nicoletta Gallori

To combat terrorism and radicalization, a complex, **information-based prevention** activity has been put in place, aimed at preventing threats to democratic institutions. Prevention activities were taken more forcefully in the aftermath of the 11 September 2001 attacks in the USA (Ministero degli Affari Esteri e della Cooperazione Internazionale, 2018). The project JP-COOPS, supported by the DG Justice, tracked back the Italian approach and describes it as a best practice combining prevention and investigation.

In **Italy**, the phenomenon began around the end of the 60s, after the "years of lead", as the media termed the period. Alongside terrorism of a political nature, in the context of the Cold War along with the strategy of tension, it is important to also consider terrorism imputable to organised crime; the mafia-like, of the Camorra matrix and of other matrix, which has bloodied Italy, through the work of organisations such as Cosa Nostra, Camorra, 'Ndrangheta and Sacra Corona Unita (Migration and Home Affairs, 2018).

In addition to the internal disputes, the policies on the subject, which are overseen by the Ministry of the Interior and the intelligence service in Italy, also provide common strategies at the European Union and international level. With Italian **Law 438/2001** urgent measures were adopted for the prevention and combating of crimes committed for purposes of international terrorism and the new criminal case of association for international terrorism was introduced (article 270 bis of the Italian Penal Code). Law enforcement policies also aim to hit the so-called financial terrorism. A special Financial Security Committee has, since 2001, been working in the Ministry of Economy and Finance, with the aim, among other aspects, to prevent infiltration of the Italian financial system by terrorist organisations (Ministero degli Affari Esteri e della Cooperazione Internazionale, 2007).

The **EU-wide prevention strategy** includes the Action Plan against terrorism, which contains a wide range of measures to be taken in various crucial areas of the fight against terrorism (judicial and police cooperation; transport security; border control and document security; the fight against financing, political dialogue and external relations; defence against biological-chemical-radiological-nuclear attacks etc). The European Union has also adopted a Directive for the granting of compensation to victims of criminal acts, which also covers cases of victims of terrorism. In Italy, for the victims of terrorist acts, benefits of an economic nature are also set out, pursuant to the law of August 3, 2004, n.206.

Another prevention front is the security of documents: there are numerous States, including Italy, which have decided to introduce biometric data on passports and other travel documents, to prevent possible counterfeiting. In the EU new technologies are applied to travel documents, to establish common lines and standards (Council of Europe, 2008).

Lastly, on May 6, 2004, the procedures, and organisational and operational guidelines of the **Italian National Plan** for the management of terrorism events and the methods of oper-

ation of the Crisis Unit, were issued. For the implementation of this plan, in order to ensure the completeness of the information circuit and the assessment of the terrorist threat, as well as to manage the emergency to ensure the protection of public order and security, the Ministry of the Interior avails itself of the Crisis Unit and the Strategic Counter-Terrorism Analysis Committee – C.A.S.A (Mediterranean Affairs, 2017).

Balancing security with fundamental rights

The Italian approach can be seen to combine **three parallel elements**: 1) **security**, 2) **rehabilitation**, and 3) **rule of law** (represented by surveillance judges and courts).

Respect for the different duties, responsibilities and functions of the penitentiary police (or national police and Carabinieri and Guardia di Finanza), as well as the rehabilitation bodies (educators, psychologists, experts, civil society in general) under the supervision of surveillance judges, grants an appropriate level of independency, equality, proportionality, and complementarity to counter radicalisation policies. To the greatest extent possible, this limits administrative decisions on matters concerning the rights of inmates and their equality before the law, regardless of the religion, faith, or ideology they profess.

There are three types of information resulting from prison observation: the effectiveness of security prevention depends on cooperation between the intelligence agencies and police forces; the effectiveness of investigations (including judiciary preventive measures) depends on cooperation between judges and judiciary police; and the effectiveness of rehabilitation and social integration depends primarily on cooperation between the prison staff and the private cooperatives and NGOs working within and outside the prisons.

Security Information

Preventive Security (which is specific branch of prevention at large) is the result of the professional activities of police forces and Intelligence. At the top of the information flows that characterise security prevention is the **Committee of Counter Terrorism Strategic Analysis (C.A.S.A)**, which was established in 2004 by a Decree from the Ministry of Interior as part of the National Plan to Counter Terrorism, within the framework of the Crisis Unit (Decree 83/2002). The C.A.S.A is a permanent Committee, which brings together all four law enforcement agencies (LEAs) and the intelligence services (in particular DIS, departments of internal-AISI and external security-AISE) under the premises of the Central Office of Preventive Police (Ministry of Interior). C.A.S.A meets weekly to assess information on the internal and international terrorist threat to activate the necessary prevention and counter measures.

The Department of Penitentiary Administration, using the **Central Investigation Unit (C.I.U – NIC)** for the collection of information, also deals with activities related to the risk of violent radicalisation in prison and, like all other police forces, contributes to composing complex informative puzzles from a security point of view. The Penitentiary Police, which is a civil police force of military tradition, provides data concerning intramural life and the detained person's contact with outside; this information comes from the Directions of Prison Institutes and is obtained through observation of the inmates. Therefore, it is qualitative security information, which is not part of the prisoner's file and therefore not accessible to their lawyers or the detainees themselves. This data cannot be exchanged with other public or private bodies unless a judiciary measure is taken by a judge to authorise it.

The **data analysis** produces a specific individual risk assessment based on three levels of classification: **1. High** – Monitoring; **2. Medium** – Attentioning (*Attenzionamento*); **3. Low** – Reporting. The analysis conducted by the *NIC* on the radical and terrorist subjects is then

channelled to the *CASA*, if appropriate.

Information and output from central analysis (by the C.I.U. or C.A.S.A*)* does not flow back to the local level, unless there is a request for closer monitoring or for the application of specific surveillance measures.

All penitentiary staff have a duty to provide information concerning radical phenomena (non-forensic and non-judiciary data) from the prisons to the prison director, who will convey the information to the competent central offices. The leadership in the area of security information depends upon police and intelligence services (Ministero dell'Interno, 2017).

Judiciary Information

Conversely, **information** concerning **potential crimes** (forensic and judiciary information that form the basis for investigations) are transmitted by the judiciary police department of the penitentiary police to the competent judiciary authorities. This information may provide inputs for investigations, an activity which is well regulated by the Italian law, with several guarantees for the suspects. When security information concerns Third Country Nationals representing a threat to national security, administrative procedures under the jurisdiction of the Italian Ministry of Interior are usually applied (expulsion), while security information concerning EU citizens requires the intervention of judiciary authorities.

Behavioural Information

Behavioural information framed within **multi-agency analysis**, resulting from **multidisciplinary observations**, informs the individual rehabilitation programmes and measures its advancement. This information is accessible to several parties, including the civil staff, director, prison police, prisoners, and the surveillance judges, and is the object of different coordinated multi-agency activities aimed at implementing the individual rehabilitation programmes. The leadership of these actions lies in the hand of the surveillance judges and prison staff.

The flow of behavioural, non-forensic and non-judiciary information with security relevance is kept separate from the treatment element: the two elements are complementary but do not influence each other as all prisoners are equal in front of the law and have the right to access the same services. In line with the L.354/75, only surveillance judges can approve and modify rehabilitation programmes, not LEAs or intelligence services. To this end, data from monitoring is only gathered, used, and shared with a preventive aim, from the security perspective. The monitoring does not only cover critical events, but also the inmate's daily routine, including fixed and codified procedures.

The key to the system is the correct understanding of the interaction between different pieces of information, that arrive from the multiple information flows, within the framework of the Italian constitutional architecture. It is also crucial to **balance fundamental rights** with security through respecting different roles and competences. The overarching framework is represented by the **rule of the law** and the equality of all citizens in front of the law. All citizens, including detainees and prisoners, have the right to a just process.

Knowledge transfer through training activities for P/CVE first-line practitioners

By Nicoletta Gallori

One of the main pillars in the search to **innovate** and **create new knowledge** is the development of the human resources through training courses. In the past, training courses have been classified as one of the most popular knowledge transfer methods (Brennenraedts, Bekkers, & Verspagen, 2006). Even though **knowledge transfer** is an extremely popular topic and has been studied, some gaps must still be filled in order to fully understand knowledge transfer and how the influencing factors affect its results (Zhao & Anand, 2009). Specifically, through **training courses**, the knowledge transfer has now become a common activity in the planning and operations of all organisations and institutions, and something in which they have also invested a great deal of money (Perez-Soltero et al., 2019). Organisations and institutions have reached a consensus on the fact that the **human resources** play a vital role in their success. They invest huge amounts of money in training staff in the hope of improving their operational indicators (Raji & Khan, 2016). Training courses are expensive for organisations in terms of time and money. However, most of them simply calculate the impact and return of their investment by evaluating learning, without considering performance, even if the intention of a training programme is the improvement of organisational performance and not only the individual acquisition of knowledge (Griffin, 2012).

Over the past few years P/CVE training and materials have been increasing significantly, due to a higher awareness from European and national institutions, as well as stronger public opinion, concerning the importance of implementing a prevention strategy to tackle radicalism and terrorism. However, **progress** across Europe is **not uniform**, since some countries have suffered more from terrorist attacks while others, especially in Eastern Europe, barely experienced the threat. The difference in legislation between the European countries in terms of preventive measures, but also criminal law, determines a varying scenario in terms of tools and opportunities in P/CVE. As emerged from the project JPCOOPS, responses to radicalisation vary from country to country, depending on the national legislative framework, the diverse preventive practices and the different ways of implementing national and European laws and regulations, as part of the mandates of the agencies involved. In addition, it is important to design courses for a wide variety of practitioners, including welfare and educational agencies, ministries of justice, ministries of the interior, as well as the private sector, according to the methodological framework of the European Security Agenda. For this reason, courses designed to be implemented on a European scale in the field of P/CVE require a **flexible and up-scalable methodological model**, capable of responding to all the different needs of users and the different jurisdictions.

The Council of the European Union last year approved the new 'Strategies on preventing and combating radicalisation in prisons and on the management of violent terrorists and extremists after release', according to which the top priority on the Council's agenda is the fight against terrorism and radicalisation (General Secretariat of the Council, 2019). A threat that poses continuous challenges and aims to achieve a multi-agency, public-private approach at European level and in cross-border regions. The counter-terrorism threat assessment has highlighted the urgent need to identify **effective enforcement measures** and reintegration projects in the light of the fact that many violent extremist detainees or those accused of terrorism will be released in the next two years. The conclusions of the European Council, where the Ministers of Justice of the 28 Member States sit, identified the P/CVE initiatives with the most impact, and therefore considered 'good practice', in various areas, including training.

The main lesson learned relate to the **difficulties of combining** the national competences on security and radicalisation with the obligation to comply with the implementation of the EU Decisions within the framework of a juridical area focused on prevention. The lack of a clear and shared definition of radicalisation, accompanied by a European legislative vacuum on 'prevention', have made it extremely difficult to provide a comprehensive solution valid for all Member States.

Agenfor International has developed significant experience in knowledge transfer/training activities targeting first-line practitioners in the field of P/CVE. The courses implemented over the years, in collaboration with the Italian Ministry of Justice (IT-MoJ), have aimed at preventing the escalation of radicalisation in the prison environment and have helped prisoners and probationers, who are often exposed to jihadist recruitment or self-radicalisation, to overcome the different problems and push factors usually exploited by recruiters, aspects that the JPCOOPS project aimed to address.

Another important objective was the formalisation of an inter-agency group, for cross-sectoral practitioners specialised in dealing with radicalised detainees. The specific project actions were directed to create original content for the training of 55 European trainers using e-learning modalities on the phenomenon of radicalisation and to organise cascade training activities in 26 countries. The course consisted of several modules: radicalisation in prison, evolution of prevention in Europe, evolution of policing models, juridical tools for disengagement, and exit strategies. For implementing the courses, a new European online e-learning platform was launched – HERMES – was launched in collaboration with the Czech Technical University of Prague – CVUT, one of the partners involved in different EU-projects and collaborating with Agenfor International. The platform not only contains the content of the Training of the Trainers (ToT), but also the content of each of the associated national courses in Europe. The training was delivered through classroom lessons and online courses. Much of the training was **tailored** for prison and probation service personnel. This material is **currently available** on the HERMES platform both in English and in the national languages of the practitioners trained. Well-established and prestigious forums such as RAN were involved in the dissemination of the training opportunities offered by EU-funded project.

The HERMES platform has already been adopted in the project J-SAFE (co-funded by DG Justice), guaranteeing the sustained use of the platform into 2021 and beyond. Moreover, HERMES has recently been updated and the improved site tested within the framework of the EU-funded project JP-COOPS (DG Justice). Similarly, the training activities implemented within the H2020 project MINDb4ACT were hosted by the platform. Today, HERMES has about **3,000 users** from across 26 countries. This online solution was built around the centrality of the trainer and the specific course: each trainer (or each Member State) has the possibility to customise its own training course, in line with the national plan on radicalisation and framed within the national legislation, who can refer to a common database of e-content (videos, real-life cases, best practices, legislation). Up-scalability, flexibility and centrality of the trainer are the key factors that allow HERMES to offer a practical learning solution.

The second key lesson learned relates to the **data management**: how to consider data produced from the observation of radical dynamics, who can manage it, and to what extent this information impacts on the rehabilitation programmes. In order to address all these issues in a comprehensive way, Agenfor International fixed a strategic framework common to all courses: 1) compliance with the EU framework (mainly EU Decisions and Directives, but also ECJ and ECHR rulings) and 2) complementarity between judicial and police activities. Based upon these fundamental principles, a **free space** for each trainer to **adapt** the practices to their national legislations was created.

The security of the established order of the Member States requires the development of a **single front**, which also moves from a homogeneous basic formation, in contrast to the concrete danger arising from the tragic consequences that violent radicalism can generate. With the DERAD project, for the first time in the history of the European Institutions, the Council of the EU finally recognises that the Department of the Italian Penitentiary Administration (with the fundamental support of Agenfor International) has a leading role in the project of legislative and training **homogenisation**.

Technological and **digital innovation** has also facilitated the creation of online platforms and databases able to collect useful information for the training and teaching material as well as to evaluate the results. In addition, the development of solutions involving the use of new technologies, such as the virtual and augmented reality, to serve security improves the trainees performances and their involvement in training, According to Agenfor's experience, this techniques seem to be particularly effective in the context of **prisons**, Being this a critical venue, through the re-creation of scenarios (e.g. riots, assaults, escapes, murders, and suicides) and real-environments (e.g. cells, courtyard, infirmary), the prison staff is able to achieve a high level of situational awareness by rehearsing the need to plan, according to the established procedures, the required interventions in order to deal with potential critical issues, thus avoiding the risk of ineffective action that can result from emergency contexts and the resulting emotional pressure.

Beyond the benefits of cost and time saving, virtual and augmented reality allow an assimilation of information that clearly exceeds regular training experiences. Furthermore, these solutions create new opportunities for working group collaboration, innovating collective planning activities, and, for example, turning a training room into an interactive three-dimensional map on which to study and analyse situations. It is also possible to engage other personnel from different professional fields, who seek enhanced decision-making skills or specific abilities to act in stressful conditions. All in all, the virtual and augmented reality can contribute to a better management of preventive actions, enhancing practitioners' potential to detect risk indicators.

Adopting Virtual Reality: Can we all benefit from superpowers?

By Zvi Tabul Levi

In the last decade, we have witnessed an exponential growth in the use and development of virtual reality (VR). In the next decade, according to Rosenblum's forecast (2000), we will witness changes in the VR ecosystem and increasing the use of media that will drastically affect all spheres of our lives (Muikku & Kalli 2017). For this reason the project JPCOOPS tested several immersive solutions aimed at developing VR-based courses in the framework of training blended solutions. This report summarizes the results of these pilot tests and studies.

For many years VR was studied and various predictions were made about the many ways in which it influences users and their environments. The medium has now found a place of honour alongside influential media such as telephones, the Internet, and televisions and has now been given a significant boost in the digital world.

By Krueger's (1991) definition, the uniqueness of the VR medium is that it is a collection of many technologies in one medium that includes a computer, head-mounted display (HMD), headphones, motion sensors, and space detection cameras, among other components. Eventually, companies in the market will compete for the term **immersion** which will come hand-in-hand with the user's sense of telepresence within the digital environment. It is the sense of **sustainability** in the virtual environment that will lead the authors in this article and will allow the authors to explain the phenomena of the adoption of technology and its positive effects in the learning environment (Flower, 2015).

In this article, the authors focus on the security field and the use of VR to train Law Enforcement Agencies (LEA) and other organisations. It specifically suggests empirical research based on real cases of VR implementation in the field to confirm the benefits for companies and organisations in adopting VR technology to streamline processes and gain more value from the training processes. The purpose of this report, VR is defined such as an environment that isolates the user from the real world, influencing their emotions through tools such as graphics, motions, sounds, among others.

As Martín-Gutiérrez, Mora, Añorbe-Díaz, & González-Marrero (2017, p. 473) define it, it is a "whole simulated reality, which is built with computer systems by using digital formats. Building and visualizing this alternative reality requires hardware and software powerful enough to create a realistic immersive experience".

Beyond this, VR can offer unique effects that include the use of methods borrowed from other research disciplines, like psychology, to influence and direct the user. Accessories can be an emotional upgrade to the user experience. In the VR world, such accessories tend to be called **haptics** and offer a variety of sensations such as smell, touch, vibration, and even sensory limitations such as movement limitations. In the field of VR, we can find a wide range of viewing devices, from smartphone-based devices to high-quality computer-based devices.

In this article, the authors do not discuss the differences between the devices, but rather the use of the medium as a learning tool, explaining the innovative advantages of it, due to its active immersion solutions. Lastly, the VR training solutions will be compared with "traditional" training solutions in order to examine the advantages and disadvantages VR passive and active immersive solutions have.

VR passive and active immersive solutions

Since innovative technologies such as VR have seen rapid growth in recent years, there is sometimes confusion in the common understanding of the differences between passive and active VR experiences, as well as in their use.

When talking about active VR the users are fully immersed within the computer-generated reality and they are therefore considered active users within the created environments. In fact, as soon as the users put on the headset, they sense (or their brain believes) things as if they were real: they can touch and grasp virtual objects, they can move around newly built environments, they can interact with each other at a distance by talking or passing objects to each other, and thus, they have the feeling of being in the same shared space, even if they are not. This is one of the most promising advantages of VR, and it is also an extremely important element for the **improvement** of training methods. In particular, the active role of the user allows the participant to **engage** in those learning environments as **operative participants**, allowing the development of exploration-based learning paradigms (James, Humphrey, Vilis, Corrie, Baddour & Goodale, 2002).

For the end-users (who, in the field of security, can be LEAs, companies, or private and public entities), it has become extremely important to **re-create** a realistic version of critical and dangerous **scenarios**, in order to test the safety of the real environment they are simulating and their staff and at the same time to test the preparedness of the employers and their compliance to different protocols – consider, for example, prison riots, bank robberies, a fire explosion in a workplace or work safety in a hazardous area (Kang, Wright, Qin & Zhao, 2005).

Experiential learning in these kind of situations is the most effective way to learn how to **readily react** to critical situations, giving the opportunity to analyse the reactions, the mistakes, and the strengths and weaknesses of the system (Dorozhkin, Vance, Rehn & Lemessi, 2012). At the same time users can actively experiment with the risks related to the critical situations in order to be more prepared and ready to prevent potential crises.

Studies show that experiential learning in which students expressed an interest in participating raised the level of commitment to learning. They also became active learners in VR which inevitably raised the effectiveness of learning (Martín-Gutiérrez et-al 2017). While passive learners are only expected to absorb data from the river of information, active learners need to collect and digest the data on the process before they are allowed tocontinue to the next piece of information and avoid being flooded with information.

Another method for carrying out training using innovative technologies, different from the active use of VR, is the use of passive immersive reality. This methodology of using VR passively is accomplished through **360° content**, which re-creates a given environment. The passive observers, who use the passive VR, are able to enter the virtual environments,

see objects and people, listen to sounds and conversations, but they are not able to actively interact with the surroundings or affect the scene. They can passively watch, analyse, and observe things happening in the virtual world, but there is no interaction with other participants (Jang,Vitale, Jyung & Black, 2017). An important aspect of this is that an immersive solution has the potential to **create experiences** outside of one's own perspectives and to create empathy among the people who are watching and listening. In fact, the idea of placing an individual into another person's environment means also removing them in a certain way from themselves, making the **empathy effect** much more effective (Bujić, Salminen, Macey & Hamari, 2020).

Why is now the right time for VR in training and education?

The VR market is expected to grow by an average of 28% per year over the next 5 years (2020-2025). While in 2020 is estimated to be worth approximately $6.1 billion and is expected to reach around $21 billion in 2025. According to Markets & Markets (n.d.), the impact of **COVID-19** has created a **significant demand** for VR solutions in the medical field, as well as solutions in the social and educational field.

Similarly, Fortune Business Insights (2020) indicates a **significant increase** in the adoption of technology as a solution for meetings and exhibitions and, of course, the expectation of an immersive solution for lectures and distance learning.

In a competitive environment joined by most of the major technology companies, this **stable market growth** can be expected with a competitive supply that will increase the rate of adoption in organisations and households. Among the big companies that have joined the race in the last decade there are Facebook, Sony, Samsung, Google, and Lenovo. All of these companies invest most of their budget in hardware development, although most of the market share is actually in the content (ITprotaday,2019).

According to Goldman Sachs's data (2016, 7), the market share of education alone is around $1 billion but does not include data on training in medicine ($5.1 billion), engineering ($4.7 billion), military ($1.4 billion), and other sectors that use training in VR. Why then is this the right time to embrace the medium and assimilate it into companies and organisations?

Firstly, VR training and simulations had been used to improve surgical skills even before the pandemic as a result of a **shortage** of physical operating rooms, time and budget. considerations, and concerns for patient safety. Furthermore the pandemic is accelerating the use of VR because it can offer the best solution for the aforementioned limitations (Kogan et al, 2020).

Amitabh (2020) explains that the COVID-19 set new rules and **changed** the learning methodology and standards. He added that students reported that distance learning and new technologies that accelerated their penetration to the market are effective in fitting the actual needs of the 21st century way of learning. It is then no surprise that COVID-19 is heavily contributing to that demand for VR and Artificial Intelligence (AI), alongside many other new technologies.

In addition, VR is **affordable** and **easy to use**. On the one hand, the price of the hardware has dropped significantly and now purchasing basic VR glasses stands at the same price and even lower than that of a home game console. On the other hand, giant tech companies have made an effort to make the product accessible to the home user, so setup and use is simple and does not require advanced technological knowledge.

Furthermore, it gets **media attention**. Since the Oculus Goggles Kickstarter project in 2012, VR has received extremely positive media attention, which has encouraged many organisations and end-users to try and purchase the technology. By 2018 the number of VR users was already estimated at 171 million (Shanhong, 2019).

Also, it is an **immersive technology**. Many technology companies have emerged in the last

decade and encouraged the purchasing of accessories for VR glasses. These companies have created accessories that have enhanced the potential of VR, further heightening the level of immersion. This has greatly contributed to increasing use of the medium.

Last but not least, it provides **endless possibilities**. In the last decades, it has been registered a process of optimisation of these technologies, which has led to its beneficial application in training activities, while also contributing to saving financial resources and strengthening the market. The content is extremely valuable and can offer a world of endless possible training solutions.

Advantages of VR in training and education

There are **four reasons** why VR is beneficial for training and education purposes. Firstly, it enhances the **performance** and the **focus**. In Oculus (2019), Connect Isabel Tewes presented an experiment, involving two participants, asking them to perform the exact same task (performing the same medical surgery). The first participant was trained to perform the task with traditional manual guides and use of VR simulation, while the second one was instructed with traditional manual guides only. The virtually-guided participant took 50% less time to perform the task and, crucially, did not require the assistance of a professional, while the traditionally-trained participant frequently required assistance, and performed the task with lower results than the first participant. In the same presentation, Tewes (Oculus,2019) demonstrates how VR can enhance learning and collaboration, explaining how performing a collaborative activity within virtual reality centralises most activity in the shared space without distractions. Tewes described car designers who were able to complete an assigned task in 20 hours of activity, which would otherwise usually take many months.

Secondly, with VR **mistakes become opportunities**. Making mistakes can be a fear of any trainee but VR allows each trainee to attempt tasks and fail and, by doing so, to explore different ways of solving a problem without having to overcome the consequences as in the physical world. In the digital world, it is possible to make mistakes that otherwise may cost injury, damage, and even death in the real world (Wang et al,2018). This way of learning offers relief for the trainees and strengthens their creative side. At the same time, the use of VR is a strength for the trainees as they feel committed to reality, and as such, they make decisions in real-time, which makes them experience the situation as if it were real (Kahn et-al 2018).

Furthermore, it allows a **customisable experience**. Among the advantages that VR brings to trainees, Masie (2017) emphasises the ability to personalise the learning experience – in VR the trainee controls and changes the environment from their own perspective. This allows the trainee to choose the speed with which he or she acquires the knowledge and adapts to course to his or her own preferences and needs.

Indusgeeks (2019), who specialises in game-based training, explains that a gamification is a **key training tool**, while from an employer perspective, VR training is praised for saving a significant amount of money per employee, saving time, and streamlining the organisation. Undoubtedly, VR training brings real value as an educational tool and offers a comprehensive solution for the entire training chain. In the learning process, the organisation has lower costs both in terms of infrastructure and in the cost of training time, as well as requiring fewer staff members to implement and support it. The trainers are free to assess and facilitate the actual training process since the process is run automatically in VR and thus the trainee can lead himself with the help of guidance in the virtual world. The quality and efficiency of the process improves the trainee's level of enjoyment and shortens the learning time, enabling more information to be transferred in a shorter time. Crucially, these benefits raise client satisfaction with the whole process and offers a more accurate and often faster service.

Finally, it allows to **extract beneficial data**. One of the greatest advantages of VR is that be-

yond qualitative analysis we can use plenty of tools to produce reliable and numerical information. Tools such as eye-tracking, biofeedback accessories for measuring sweating, blood pressure, and heart rate, and even EEG (Electroencephalography) devices provide data that can be extracted from the process and create feedback to improve the products. Eye-tracking systems make it possible to objectively examine game times and sources of fear in VR (Reichenberger, 2020).

Further research offers methods of handling and adjusting content according to the biofeedback provided by the user and thus the content changes automatically and repeatedly. It is possible to determine a range in which the content changes according to the operator's decision and thus also makes the situation in the learning process more difficult or easier (Donga et al 2020).

In conclusion, these capabilities are endless and, in many respects, grant users certain super-powers. Using the data, we can even control the level of immersion of the participants and influence their performance while monitoring objective metrics and changing content in order to influence these metrics. We can also allowplayers certain abilities in the experience if they succeed to control their physiological metrics. These are interactions that cannot be controlled in most of the existing media which places virtual reality as a unique medium with the highest monitoring and control capabilities (Houzangbe et al,2020).

The exploitation of VR in security

The advantages of VR are slowing entering into the field of security, opening **new frontiers** for the Law and Enforcement agencies (LEAs) in approaching threats and risks, but also supporting prison administrations, civil society and security-related experts in dealing with phenomena such as rehabilitation programs, forensic extractions, or violent extremism.

As previously mentioned in this article, VR is majorly effective when used as alternative for situations which may be considered **dangerous** or critical or even impossible, in the real life (Strickland, 2010). If we think about fire emergency trainings done in a "traditional" way, compared to those done using of VR, we suddenly understand the huge impact this innovation technology may have. In fact, traditional trainings do not consider that people react very differently if under stress or facing dangerous and unstable situations. VR trainings, on the other side, let the user train in a real-situation environment, where trainees are able to sense fear, fire, and disorder, and therefore, they react as they would react in a real situation of emergency (Macedonia,2002). while avoiding the complications, the costs, and the danger linked to a real simulation.

From one side, the virtual simulation allows the trainer to understand what to avoid and how to better address the **risks** related to the specific crisis and, on the other side, it allows the trainees to deeply understand their reaction and the "dos" and "don'ts", in order to be more prepared in case of real emergency. Similarly, it is possible to re-create riots in virtual environments, for example, which can be used by LEAs to better address their reactions in conflict situations of social unrest. Again, a virtual simulation of a riot lets the agent sense the dangers around him/her and therefore, to train on how to immediately and correctly respond to it.

One of the major benefits of such training was the increased user **involvement**, thanks to the aid of tools such as motion detectors, virtual reality, controllers, and interactive multiplayer platforms (Baur, Schättin, de Bruin, Riener, Duarte, & Wolf, 2018).

It should be additionally considered that, sometimes, trainings in the field are not possible due to the high risks associated to them. The recreation of the scenario through a virtual simulation supports LEAs in familiarising themselves with hostile environments, without putting themselves in danger. The use of VR in the security sector should be seen as highly beneficial, but it is still in an initial phase and empirical research must be further developed in order to see the results. The security world is moving in this direction and it is upgrading and adapting its technologies in order to be competitive and ready to a new horizon.

Conclusion

VR has existed as a medium for many years, but in the last decade, it has been slowly entering a wider range of areas of life and improving a range of processes in diverse types of organisations and learning methods. In order to get the most out of the technology, we must first know its capabilities and examine its implementation in the best way within a given sector or organisation in order to maintain the chain of success: value for the organisation – easing the training process – satisfied trainees – satisfied customers – successful organisation.

Through this article, there have been examined many values that are reflected in the training process with different methods to influence and shape the trainee in the process. Both objective and subjective measurement abilities have been analyse, capable to form the basis for improving the training process. Also, it has been demonstrated that saw that we can mix multiple values and create multiplayer VR experiences for a learning process that could shorten unnecessarily long training times and even bridge the distance and accessibility gaps created due to the COVID-19 virus, which have accelerated the implementation of virtual reality training into companies and organisations.

Based on this article, the authors will present further concrete research based on security forces training and improving the efficiency and effectiveness of the learning process.

Studies on radicalisation prevention and new
investigative models to counter terrorism
Best practices emerging from the EU funded project
JP-COOPS - Judicial and Police Cooperation Preventing
Radicalization Towards Terrorism