| Title: | | Document Version: |
|---|---|---|
| D7.2 Dissemination and communication plan, strategy and activities M12 | | 1.0 |

| Project Number: | Project Acronym: | Project Title: |
|---|---|---|
| H2020-740466 | LETSCROWD | Law Enforcement agencies human factor methods and Toolkit for the Security and protection of CROWDs in mass gatherings |

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| M12 (04/2018) | M13 (05/2018) | R-PU |

*Type:    P: Prototype; R:  Report; D: Demonstrator; O: Other.

**Security Class:    PU: Public; PP: Restricted to other programme participants (including the Commission); RE: Restricted to a group defined by the consortium (including the Commission); CO: Confidential, only for members of the consortium (including the Commission).

| Responsible: | Organisation: | Contributing WP: |
|---|---|---|
| Fabio Roli | UNICA | WP7 |

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| Davide Ariu (UNICA) |
| Giorgio Fumera (UNICA) |

**Abstract:**

LETSCROWD devotes Work Package 7 to high-impact dissemination and exploitation activities. This document presents the preliminary planning of activities to be undertaken by the consortium towards the effective dissemination and communication of key LETSROWD results. This work includes the coordination of all actions and initiatives undertaken by the partners in order to maximise the visibility of LETSCROWD scientific accomplishments, targeting the scientific community, the general public and the relevant Law Enforcement Agencies (LEAs). It also includes a short report of dissemination activities under organisation or already performed.

**Keywords:**

Dissemination, Communication, Work Package 7, Digital presence, Dissemination Plan, Dissemination Report

http://letscrowd.eu/

**Revision History**

| Revision | Date | Description | Author (Organisation) |
|---|---|---|---|
| 0.1 | 14.04.2018 | Creation | Matteo Mauri (UNICA) |
| 0.2 | 27.04.2018 | Revision | Matteo Mauri (UNICA), Fabio Roli (UNICA), Davide Ariu (UNICA), Giorgio Fumera (UNICA) |
| 0.3 to 0.6 | 04.05.2018 | Revision | Matteo Mauri (UNICA) |
| 0.7 | 06.05.2018 | Integration of partners contribution | Matteo Mauri (UNICA), All partners |
| 0.8 | 07.05.2018 | UC review | Arturo Cuesta (UC) |
| 0.9 | 09.05.2018 | EENA review | Alexis Gizikis (EENA) |
| 1.0 | 10.05.2018 | Final | Matteo Mauri (UNICA) |

## Copyright Statement

# letsCROWD

Law Enforcement agencies human factor methods and Toolkit
for the Security and protection of CROWDs in mass gatherings

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# 1 EXECUTIVE SUMMARY

## 1.1 PURPOSE OF THE DOCUMENT

This document reports on the **dissemination activities carried out in the first 12 months** of the project.

According to the European Commission, "*dissemination is a planned process of providing information on the quality, relevance and effectiveness of the results of programs and initiatives to key actors. It occurs when the results of programs and initiatives become available*" (1).

This document provides a comprehensive description of dissemination and communication activities conducted by the consortium, on par with the dissemination strategy described within **D7.1 "Dissemination and communication plan and strategy"** (2). It also **provides an update** on the plan foreseen for the **project's next 12 months of activities** presenting a timeline of the planned activities for the next year.

Dissemination constitutes a decisive factor for the successful exploitation of the key LETSCROWD results, having as its major objective to raise awareness of the activities performed during the project's lifetime and beyond. Dissemination activities are directed to showcasing LETSCROWD project results utilizing all available communication channels. These activities target:

• (A) **Government and LEAs**. In particular, those government institutions directly involved in security issues, as law enforcement agencies, judicial authority and administrative offices. These institutions may be at different levels: local, national, and international. A specific task is dedicated to **LEAs training and involvement** (T7.2).

• (B) **Private and public companies**, involved in adopting or creating novel solutions for i) crowd modelling, monitoring and protection, ii) behaviour prediction based on human factor studies and on semantic analysis of text found in social networks and web, iii) citizens' security, iv) ambient intelligence and video-surveillance. A specific task is dedicated to this purpose and **to this set of stakeholders** (T7.3).

• (C) **Crowd (Citizens)**. Due to the large echo of sad episodes that interested the failure of crowd's protection during mass gatherings, this project is ensuring a proper communication of the project's objectives to the general public, raising awareness around this theme. The consortium properly appoints the EU funding during each communication and dissemination activity. LETSCROWD reaches this audience through **events** or project's official **digital channels**, ensuring an adequate media coverage, writing **blog posts** regarding the proposed approach, and highlighting news regarding mass gatherings in its official social channels.

• (D) **Research community**. In particular, those public and private institutions involved in i) research against crime and cybercrime, terrorism and cyberterrorism ii) crowd management, human factor and resilient societies iii) pattern recognition, real-time people tracking and detection, text analysis based on semantics, image processing. This audience is targeted through **scientific publications** and with the participation to conferences and workshops, summer schools and other scientific events. **The consortium itself organised a workshop at M5 and is planning to organize other two workshops/networking events** to which, researchers, companies, government bodies, decision makers, (in general all the relevant stakeholders) will be invited.

According to the declared targets (named as A, B, C, D in the previous rows), the project dissemination is divided in four main blocks following an ideal LETSCROWD's "ABCD" strategy, as represented in the figure shown in the following page. The blocks are sometimes extremely related to each other so they represent an ideal separation of activities.

The ABCD strategy is better described in the deliverable **D7.1 "Dissemination and communication plan and strategy"**, delivered in September 2017 (Month 5).
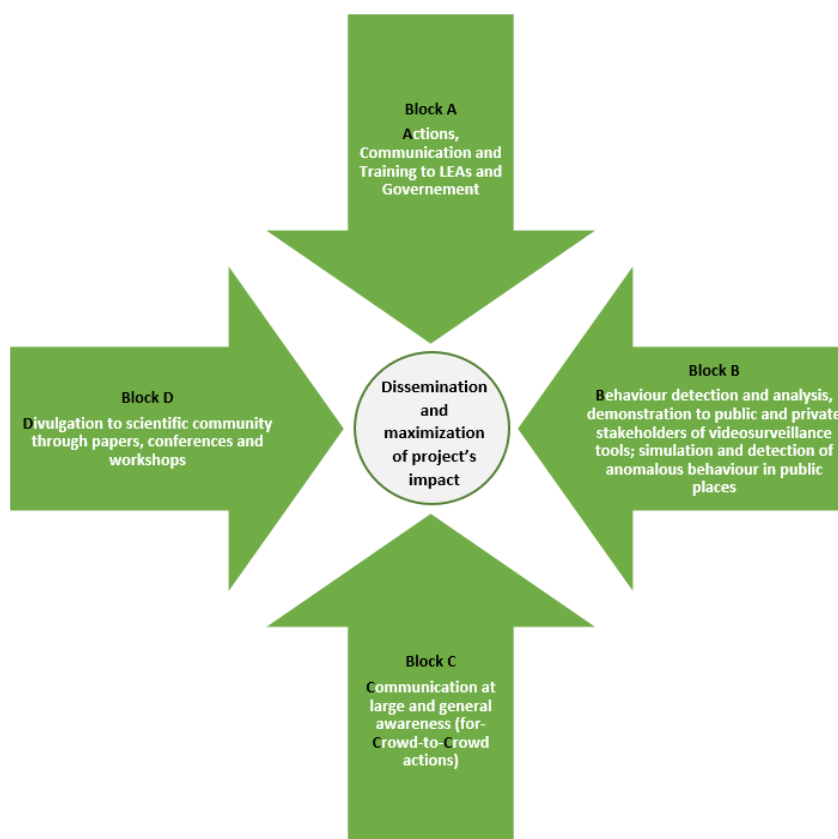
**FIGURE 1 – ABCD Strategy**

## 1.2 STRUCTURE OF THE DOCUMENT

This document is structured as follows:

- **Chapter 1** provides an introduction to the context of dissemination and communication activities and states the purpose of this document.

- **Chapter 2** describes the project graphical identity and the dissemination material produced (Flyers, templates, posters).

- **Chapter 3** focuses on the LETSCROWD digital presence, through the update of the project Website and Social Networking accounts and reports on the website analytics.

- **Chapter 4** reports on the LETSCROWD scientific publications.

- **Chapter 5** focuses on the LETSCROWD publications dedicated to a general public and to the media coverage obtained in the first year of project.

- **Chapter 6** gives an overview of the conferences and workshops that have been considered as dissemination targets by the LETSCROWD partners, providing pictures and information about the participation to these events.

- **Chapter 7** reports on other dissemination activities (project newsletter, joint webinars)

- **Chapter 8** presents a conclusion of the document, introduces the next documents dedicated to the dissemination plan, strategy and report, and provides a **first timeline of the planned activities for the next 12 months**.

The document also includes **six ANNEXES** dedicated to the dissemination material already produced.

## 2 PROJECT IDENTITY AND DISSEMINATION MATERIAL

During the first year of project activities a graphical identity was established in order to standardize all the internal and external communication around the project and a set of dissemination material has been produced: it includes a logo, standard templates for deliverables and presentations, two prototypes of flyers and a poster. This material has been printed, utilized or distributed during events, exhibitions and fairs (see chapter 6 "**EVENTS**").

### 2.1.1 Official project logo

The official **project's logo** was created by partner **ETRA** following the idea and the graphical concept of crowd protection and monitoring, as explained in the following table.

| Dissemination material | Activity Type |
|---|---|
| The first logo release was mainly centered on the *monitoring* concept, giving the idea of people doing daily activities in freedom and in open spaces, as shown in the picture below. | Logo creation |



Block C
Communication at large and general awareness (for-Crowd-to-crowd actions)



FIGURE 2 – First logo proposal
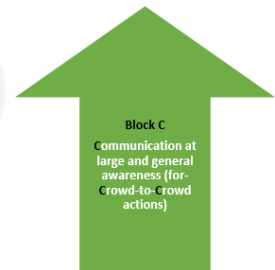
The logo's concept was then reviewed. The consortium chose to represent LETSCROWD in a stylized way, opting mainly for the idea of *protection*: people is represented as a set of spheres protected inside and around the "O" letter. The following picture shows the current project's logo.



FIGURE 3 – Official project logo

TABLE 1 – LETSCROWD logo

## 2.1.2  Standard templates for deliverables and presentations

Starting from the logo graphical traits, standard templates for official LETCROWD's presentations and documents have been released to the whole consortium and are shown in the table below.

| Dissemination material | Activity Type |
|---|---|

Templates creation
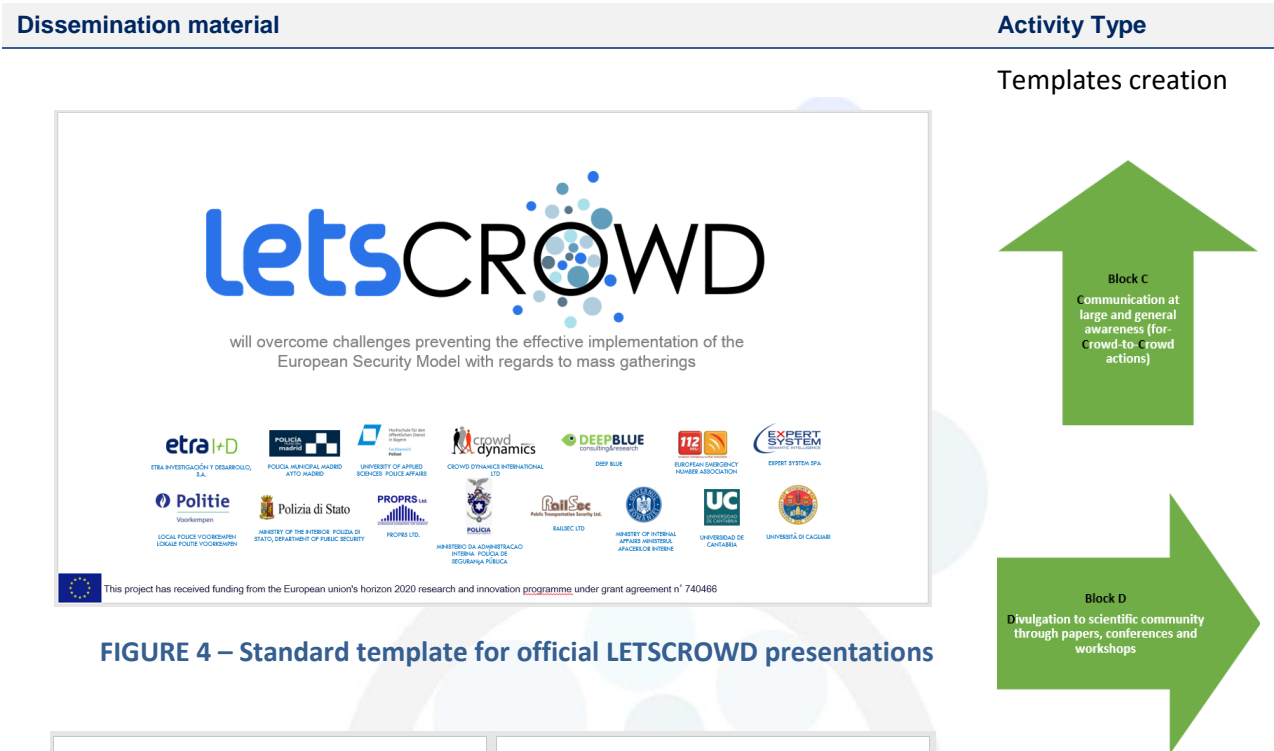


FIGURE 4 – Standard template for official LETSCROWD presentations



FIGURE 5 – Standard template for official LETSCROWD deliverables

TABLE 2 – LETSCROWD templates

### 2.1.3 Project flyer

The consortium released two versions of project brochure/flyer that have been be utilized, printed and distributed during several events (see chapter 6 "**EVENTS**"). These documents have been released in English language and they will be translated and distributed by the partners in other languages (e.g. if it is required by an event chosen for the dissemination of project results). The preview of these documents are available below, the full version are available as attached files in the "**ANNEX A: PROJECT FLYERS AND POSTER**".

| Dissemination material | Activity Type |
|---|---|
|  FIGURE 6 – LETSCROWD flyer version 1. A4 format | Flyers creation  **Block C** Communication at large and general awareness (for-Crowd-to-crowd actions) **Block B** Behaviour detection and analysis, demonstration to public and private stakeholders of videosurveillance tools; simulation and detection of anomalous behaviour in public places |
|  FIGURE 7 – LETSCROWD flyer version 2. A5 format, front and back. | |

**TABLE 3 – LETSCROWD flyers**

### 2.1.1 Project poster

The consortium released a project official poster that was utilized, printed and distributed during several events (see chapter 6 "**EVENTS**"). The preview of the poster is available below, the full version is available as attached file in the "**ANNEX A: PROJECT FLYERS AND POSTER**".

| Dissemination material | Activity Type |
|---|---|
|  | Poster creation |
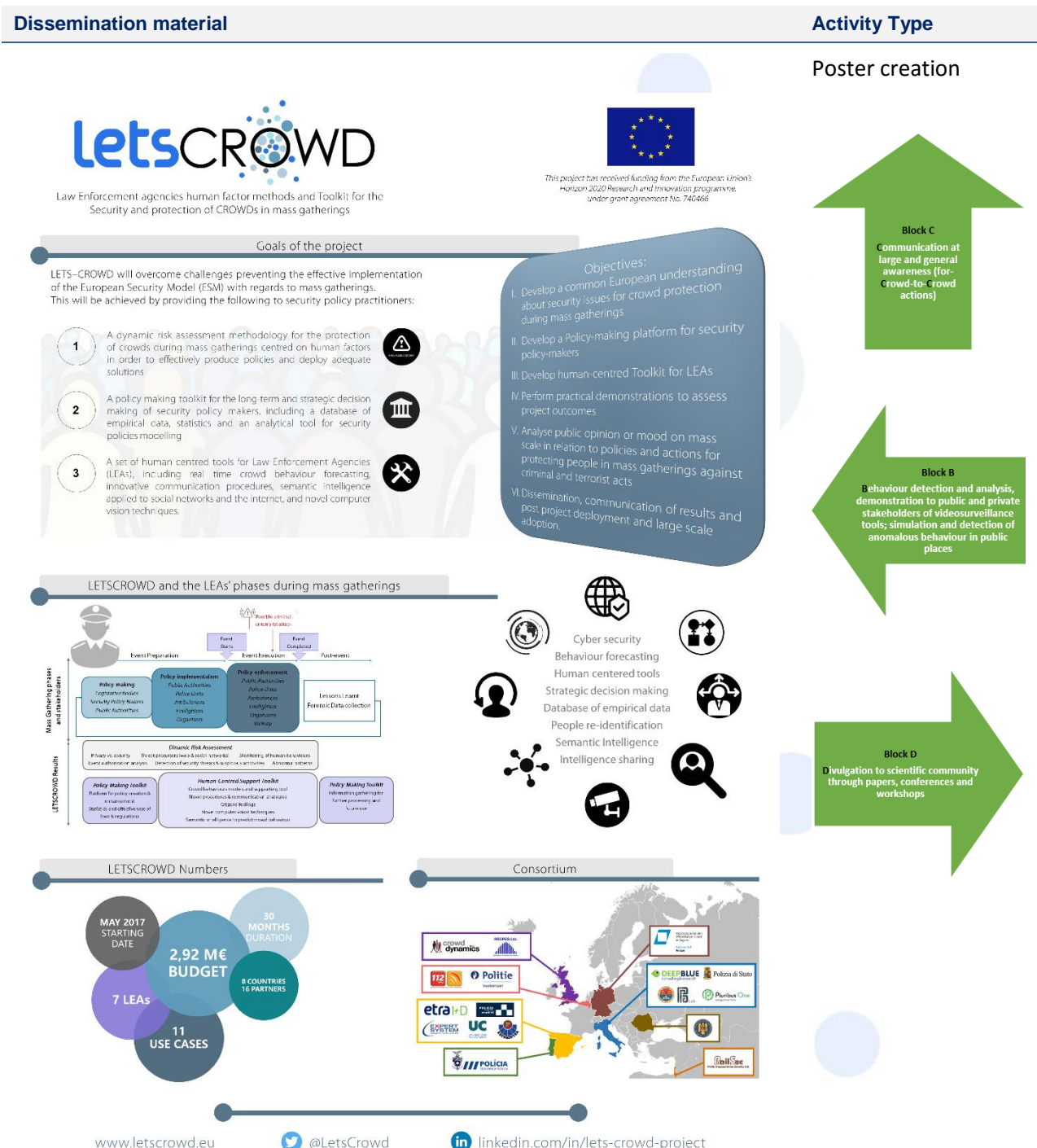
**FIGURE 8 – LETSCROWD poster**

**TABLE 4 – LETSCROWD poster**

# 3 DIGITAL PRESENCE

This chapter **details actions related to maintaining a continuous online presence** for the project, and **reports on the feedback from the online users in these first year of activities**, providing an overview of the website analytics obtained using **Piwik**, **an open source analytics platform**, in order to measure its impact and effectiveness. This allows the consortium to record information such as the number of visitors and sessions within a selected date range, the geographic distribution of visitors and the popularity of various links and sections, helping LETSCROWD to improve its website and learn more about its visitors' experience.

### 3.1.1 Project website and social networking accounts

The online presence of the LETSCROWD project has been defined at month 3 and has been better detailed in the deliverable **D7.1 Dissemination and communication plan and strategy M5**. The following table summarizes the online tools at M12 (April 2018). The presence of the project on **Youtube** will be activated by April 2019: the consortium will publish screencast videos showing the functioning of practical demonstrators produced within the first two years of project.

| Dissemination tool/channel | Activity Type |
|---|---|
| The project website is available at: http://letscrowd.eu<br><br>Within the first 12 months, the design and the content of the **website** have been constantly updated with information about the **project and its goals**; **articles focusing on the LETSCROWD components and aspects**; information about the project consortium; **publications and material produced during the project**; details on **events** organized during the project; **public documents**; **press releases** and **media coverage**.<br><br>The website plays several roles, such as facilitating the exchange of information within the consortium as well as with the **public in general**. It also facilitates **contacts with other researchers, companies, public bodies, agencies and all potential stakeholders**, aiming to create an informal international network. | Website release and update |



**FIGURE 9 – Homepage of the project website**

Public audience is involved through **Social Networks**. To complement the online presence of the project, **a Twitter profile has been created** and weekly updated to push short announcements to the community of the project and relevant news about the mass gatherings events and about the project news and appointments. The latest Tweets are also **embedded on the homepage of the project's website**.

The **Twitter** account is available at the url https://twitter.com/LetsCrowd. It counts **49 followers** and **58 Tweets** at the moment.

Twitter account



**FIGURE 10 – LETSCROWD Twitter profile**
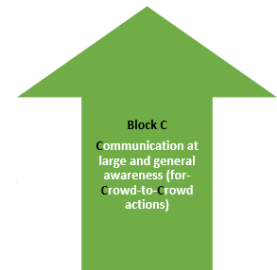
The LETSCROWD presence on **Linkedin** has been ensured to reach general public as well as potential stakeholders interested in the LETSCROWD themes. In fact it has been crucial to establish a **connection with another running EU project: MEDI@4SEC (http://media4sec.eu)**, funded to show how social media can enhance public security.

The **Linkedin** account is available at https://www.linkedin.com/in/lets-crowd-project. It counts **45 followers** and **38 posts** at the moment.
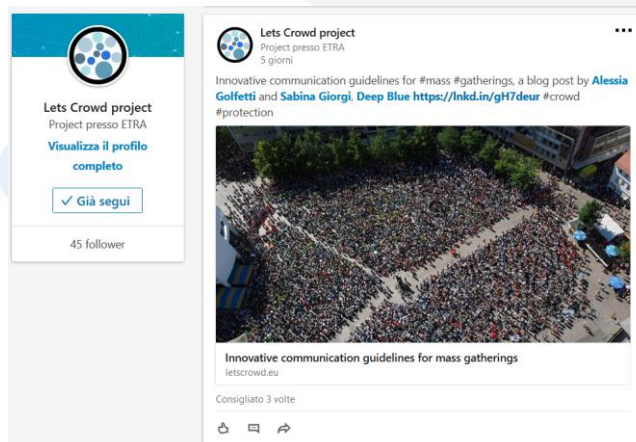
Linkedin account



**FIGURE 11 – LETSCROWD Linkedin profile**
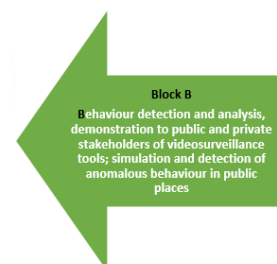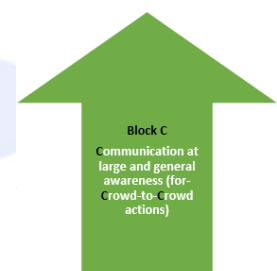
**TABLE 5 – LETSCROWD digital presence**

### 3.1.1 Website traffic analytics

The project website and its visitors' experience are constantly monitored with **Piwik**, **an open source analytics platform**.

The sessions to the LETSCROWD website (**from June 2017**, month when the website was released, **to April 30th 2018**) can be seen in the next figures.

The website collected more than **2700 page views** from **46 countries and 221 cities** in the world. The most visited pages include the static contents (**Home, about, contact**) and the dynamic ones (**news, articles** on LETSCROWD topics or **events**). Among the top 10 visited pages it is possible to find also the pages dedicated to the **scientific papers** and to the **publications and presentations**. It means that the website is reaching the goal to **target also the scientific community**.

As figure 12 clearly shows, the websites visits grow after the publication of blog posts and articles (e.g. "**Ertzaintza and LETSCROWD at "Police and Society: New security challenges International Seminar, Madrid**" (https://letscrowd.eu/police-and-society), published on October 23, 2017; and "**Intelligent video surveillance for the security of mass gathering events**", published on January 8, 2018).
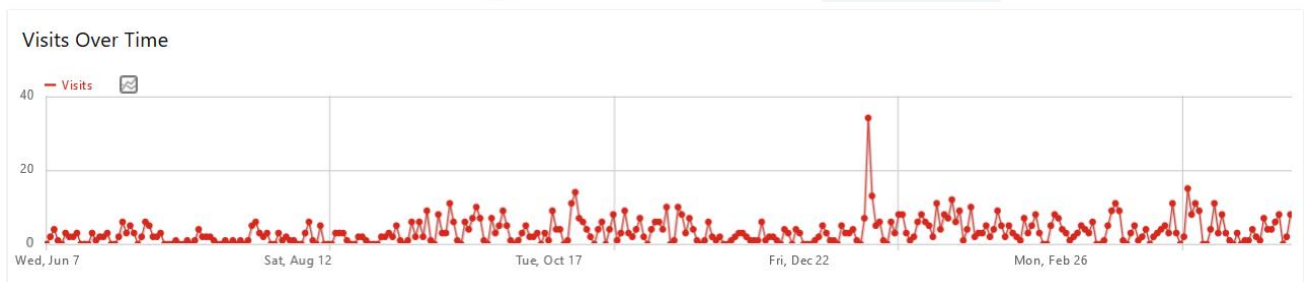


**FIGURE 12 – Sessions to the LETSCROWD website**



**3 min 6s** average visit duration

**48%** visits have bounced (left the website after one page)

**2.9** actions (page views, downloads, outlinks and internal site searches) per visit

**2.32s** average generation time

**2,709** pageviews, **2,013** unique pageviews

**5** total searches on your website, **5** unique keywords

**75** downloads, **68** unique downloads

**398** outlinks, **336** unique outlinks

**93** max actions in one visit
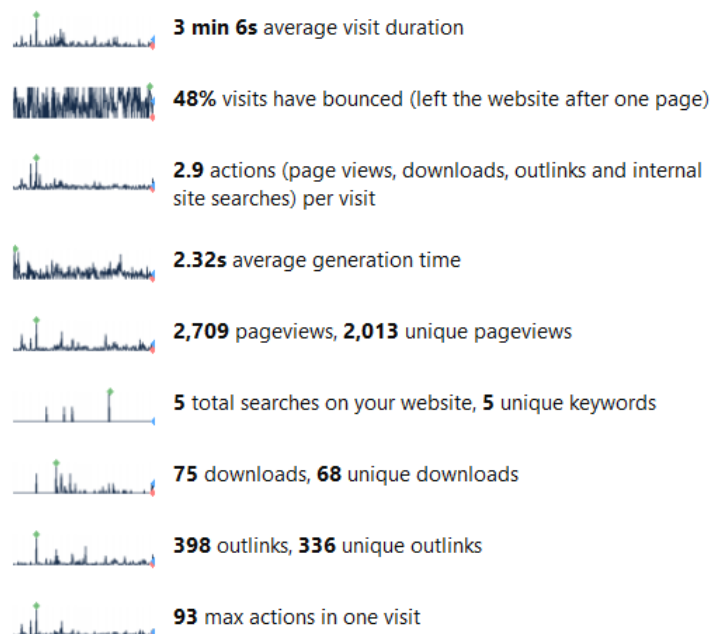
**FIGURE 13 – Visits overview**
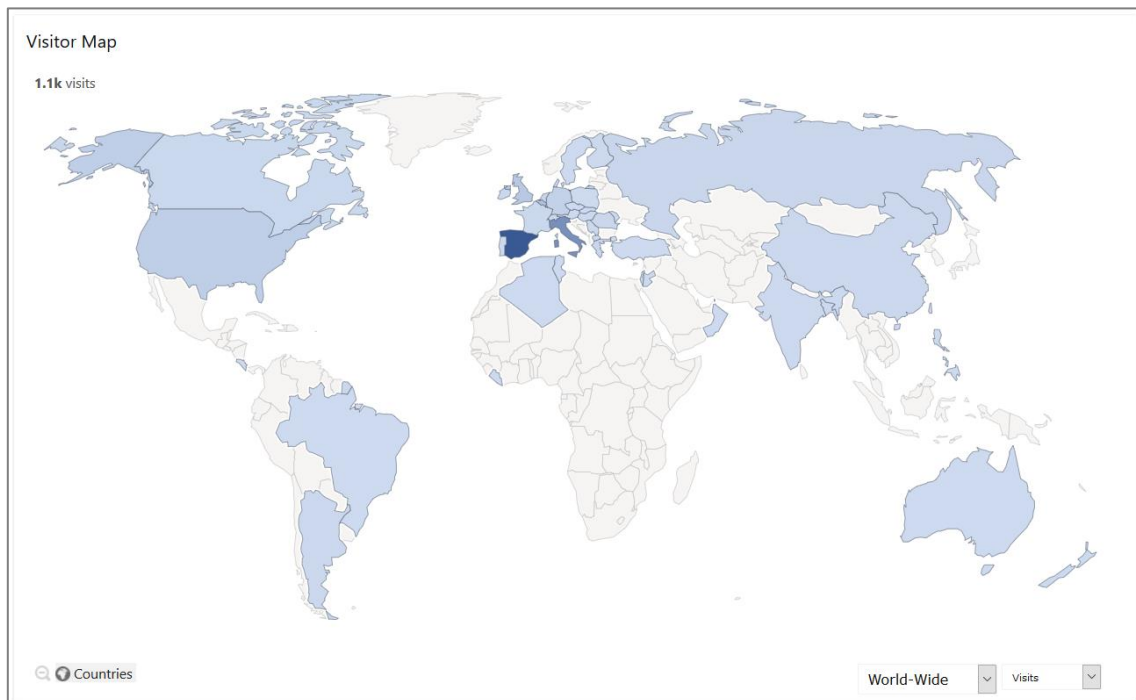
**FIGURE 14 – Geographical location of website visitors**

| COUNTRY | | | ▼ VISITS | |
|---|---|---|---|---|
| 🇪🇸 Spain | | | 42.7% | 465 |
| 🇮🇹 Italy | | | 24% | 261 |
| 🇧🇪 Belgium | | | 7.6% | 83 |
| 🇬🇧 United Kingdom | | | 5.4% | 59 |
| 🇺🇸 United States | | | 3.5% | 38 |
| 🇩🇪 Germany | | | 2.7% | 29 |
| 🇳🇱 Netherlands | | | 1.5% | 16 |
| 🇬🇷 Greece | | | 1.3% | 14 |
| 🇷🇺 Russia | | | 1.3% | 14 |
| 🇷🇴 Romania | | | 0.9% | 10 |

**FIGURE 15 – Geographical location of website visitors – top 10 countries**

| PAGE TITLE | PAGEVIEWS | ▼ UNIQUE PAGEVIEWS | BOUNCE RATE | AVG. TIME ON PAGE | EXIT RATE | AVG. GENERATION TIME |
|---|---|---|---|---|---|---|
| LETSCROWD – Law Enforcement agencies human factor methods and Toolkit for the Security and p… | 1,186 | 844 | 43% | 00:01:10 | 70% | 2.87s |
| About – LETSCROWD | 330 | 263 | 40% | 00:01:25 | 53% | 2.07s |
| Events – LETSCROWD | 141 | 112 | 67% | 00:00:59 | 21% | 1.52s |
| News – LETSCROWD | 142 | 96 | 38% | 00:01:14 | 22% | 1.46s |
| Intelligent video surveillance for the security of mass gathering events – LETSCROWD | 75 | 67 | 80% | 00:01:45 | 73% | 2.68s |
| Contact – LETSCROWD | 82 | 65 | 0% | 00:00:39 | 43% | 1.55s |
| Publications and presentations – LETSCROWD | 102 | 63 | 60% | 00:01:54 | 35% | 1.81s |
| Ertzaintza and LETSCROWD at "Police and Society: New security challenges" International Seminar, … | 51 | 45 | 83% | 00:01:42 | 60% | 1.73s |
| Newsletters – LETSCROWD | 53 | 43 | 0% | 00:00:29 | 9% | 1.42s |
| Peer Reviewed Scientific Papers – LETSCROWD | 62 | 40 | 80% | 00:01:31 | 23% | 2.08s |

**FIGURE 16 – Most visited pages - top 15**

The next chapter focuses mainly on the scientific publications published by the LETSCROWD consortium in this first year, which are hosted and made available also through the official project's website.

# 4 REPORT ON SCIENTIFIC PUBLICATIONS OF THE FIRST YEAR

As stated in the "**D7.1 Dissemination and communication plan and strategy**", a set of activities is dedicated to support the publication of scientific articles, in the form of Conference Proceedings and in international, peer-reviewed journals. Here follows a list of papers published in the first year of the project.

| | Title - Authors - Abstract | Activity Type |
|---|---|---|
| [PDF] | B. Lavi, G. Fumera, F. Roli, <br><br> **"A Multi-Stage Ranking Approach for Fast Person Re-Identification"**, IET Computer Vision, 2018. <br><br> **Abstract**: <br> One of the goals of person re-identification systems is to support video-surveillance operators and forensic investigators to find an individual of interest in videos acquired by a network of non-overlapping cameras. This is attained by sorting images of previously observed individuals for decreasing values of their similarity with a given probe individual. Existing appearance descriptors, together with their similarity measures, are mostly aimed at improving ranking quality. The authors address instead the issue of processing time, which is also relevant in practical applications involving interaction with human operators. They show how a trade-off between processing time and ranking quality, *for any given descriptor*, can be achieved through a multi-stage ranking approach inspired by multi-stage classification approaches, which they adapt to the re-identification ranking task. The authors analytically model the processing time of multi-stage system and discuss the corresponding accuracy, and derive from these results practical design guidelines. They then empirically evaluate their approach on three benchmark data sets and four state-of-the-art descriptors. <br><br> **Journal page dedicated to the publication**: <br> http://digital-library.theiet.org/content/journals/10.1049/iet-cvi.2017.0240 | Journal Article <br><br> Block D <br> Divulgation to scientific community through papers, conferences and workshops |
| [PDF] | R. Soleymani, E. Granger, G. Fumera, <br><br> **"Progressive Boosting for Class Imbalance and Its Application to Face Re-Identification"**, Expert Systems With Applications, 2018. <br><br> **Abstract**: <br> In practice, pattern recognition applications often suffer from imbalanced data distributions between classes, which may vary during operations w.r.t. the design data. For instance, in many video surveillance applications, e.g., face re-identification, the face individuals must be recognized over a distributed network of video cameras. An important | Journal Article <br><br> Block D <br> Divulgation to scientific community through papers, conferences and workshops |

challenge in such applications is class imbalance since the number of faces captured from an individual of interest is greatly outnumbered by those of others. Two-class classification systems designed using imbalanced data tend to recognize the majority (negative) class better, while the class of interest (positive class) often has the smaller number of samples. Several data-level techniques have been proposed to alleviate this issue, where classifier ensembles are designed with balanced data subsets by up-sampling positive samples or under-sampling negative samples. However, some informative samples may be neglected by random under-sampling and adding synthetic positive samples through up-sampling adds to training complexity. In this paper, a new ensemble learning algorithm called Progressive Boosting (PBoost) is proposed that progressively inserts uncorrelated groups of samples into a Boosting procedure to avoid loosing information while generating a diverse pool of classifiers. In many real-world recognition problems, the samples may be regrouped using some application-based contextual information. For example, in face re-identification applications, facial regions of a same person appearing in a camera field of view may be regrouped based on their trajectories found by face tracker. From one iteration to the next, the PBoost algorithm accumulates these uncorrelated groups of samples into a set that grows gradually in size and imbalance. Base classifiers are trained on samples selected from this set and validated on the whole set. Consequently, PBoost is more robust when the operational data may have unknown and variable levels of skew. In addition, the computation complexity of PBoost is lower than Boosting ensembles in literature that use under-sampling for learning from imbalanced data because not all of the base classifiers are validated on all negative samples. The new loss factor used in PBoost avoids biasing performance towards the negative class. Using this loss factor, the weight update of samples and classifier contribution in final predictions are set according to the ability of classifiers to recognize both classes. The proposed approach was validated and compared using synthetic data and videos from the Faces In Action, and COX dataset that emulate face re-identification applications. Results show that PBoost outperforms state of the art techniques in terms of both accuracy and complexity over different levels of imbalance and overlap between classes.

**Journal page dedicated to the publication**: https://www.journals.elsevier.com/expert-systems-with-applications

[PDF]

G. Ortiz, D. Alvear, S. Cáceres,

**"Metodología y herramientas centradas en el factor humano para una mayor seguridad y protección ciudadana en eventos masificados"** (Law Enforcement agencies human factor methods and Toolkit for the Security and protection of CROWDs in mass gatherings)", V Congreso Nacional de I+D en Defensa y Seguridad, Toledo, Spain, November 2017

Conference proceedings

Block D
Divulgation to scientific community through papers, conferences and workshops

**Abstract**:

De forma paulatina, el número de actos terroristas perpetrados en eventos o lugares de gran afluencia de personas se ha visto incrementado, lo que supone una creciente amenaza a la sociedad, tal y como ha sucedido en los atentados de Manchester, Londres, París y recientemente en Las Ramblas en Barcelona.

LETSCROWD es un proyecto de investigación que aglutina las capacidades de fuerzas de seguridad, empresas y academia a nivel europeo, con el propósito de mejorar la seguridad en eventos de masiva concurrencia desde un enfoque global; desde (i) el inicio, en las etapa s de preparación y autorización de los eventos, facilitando nuevas metodologías de evaluación de riesgos y protocolos de actuación, (ii) durante el evento con herramientas de simulación computacional o inteligencia semántica aplicada a redes sociales que permitan una gestión adecuada del mismo en caso de ocurrir una emergencia, y en la última etapa, (iii) después del evento, donde herramientas de informática forense junto a nuevas técnicas de tratamiento de imágenes permitirá dar el máximo aprovechamiento a las lecciones aprendidas, sirviendo para la elaboración y mejora de legislación y procedimientos de cara a aumentar la seguridad de eventos futuros. Finalmente, una serie de demostraciones prácticas validaran el impacto de los resultados alcanzados en el proyecto**.**

El potencial de LETSCROWD se basa en intensa cooperación transnacional con un sólido consorcio transversal que aúna entidades de 8 países, entre las que se encuentran empresas, universidades, servicios de emergencias y fuerzas y cuerpos de seguridad. Con estas novedosas herramientas y metodologías se pretende apoyar la implementación del Modelo de Seguridad Europeo con el fin de alcanzar los mayores niveles de seguridad posible respetando los derechos y privacidad de los ciudadanos europeos.

A. Cuesta, K. Rodríguez, O. Abreu, D. Alvea,

**"Taking into account groups for evacuation analysis"**, International Conference on Research and Advanced Technology in Fire Safety, Santander, Spain, October 2017

**PDF**

Conference proceedings

**Abstract**:

Previous research has provided useful information to qualitatively interpret fundaments of social influence during evacuation. However, this performance needs to be quantified that it can be understood and considered in life safety calculations. We apply a quantitative method for assessing the behavioural cohesion among evacuees i.e. whether individuals respond and move together, as a group.

Three evacuation scenarios are analysed:

1) a multimodal station,

2) a sports centre and

3) a library.

Results suggested that proximity (visual/verbal contact) could be an important factor but not decisive in the formation of evacuation groups. Social ties and whether occupants share a target and/or an activity before the alarm are also deemed to be important factors. Overall, these results indicate that the proposed method can be used as a priori assessment to determine the presence of evacuation groups in fire safety engineering analyses.

Block D
Divulgation to scientific community through papers, conferences and workshops

**TABLE 6 – LETSCROWD publications of the first year**

Next chapter focuses on the publications mostly dedicated to a general public.

# 5    PRESS RELEASES AND MEDIA COVERAGE

General public has been targeted through press releases and though the publication of articles on magazines and (on-and-offline) newspapers, **in order to raise public awareness** on the project's issues.

The following table reports on the **media coverage** obtained by the consortium during the first 12 months of activities (including articles, press releases, blog posts, webpages on the partners).

All the following activities were mainly performed to target a general audience, so they can be included in the "Block C" of the LETSCROWD strategy. The first article in this list instead is a clear action for the LEAs ("Block A").

Block C
Communication at large and general awareness (for-Crowd-to-Crowd actions)

| Title/Link | Type/Source | Language |
|---|---|---|
| Protagonisti anonimi <br> POLIZIAMODERNA | OFFLINE MAGAZINE <br> Polizia Moderna, official magazine of the Italian Police <br> (to be published in the May Issue 2018, <br> Available in **ANNEX B**) | Italian |
| Videosorveglianza per eventi di massa, come funziona il progetto europeo LETSCROWD <br> Agenda Digitale.eu | WEB NESWPAPER <br> Agendadigitale.eu | Italian |
| El laboratorio de I+D de Expert System desarrolla Gresladix, un proyecto financiado por el CDTI <br> NCYT Amazings Noticias de la Ciencia y la Tecnología Divulgando la Ciencia por Internet desde 1997 | WEB NESWPAPER <br> noticiasdelaciencia.com | Spanish |
| La inteligencia cognitiva para combatir el terrorismo en grandes eventos <br> vrebatProducciones Somos la creación, en su máxima expresión... | BLOG <br> vrebat.eu | Spanish |
| La inteligencia cognitiva para combatir el terrorismo en grandes eventos <br> NCYT Amazings Noticias de la Ciencia y la Tecnología Divulgando la Ciencia por Internet desde 1997 | WEB NESWPAPER <br> noticiasdelaciencia.com | Spanish |
| PSICOLOGÍA - La inteligencia cognitiva para combatir el terrorismo en grandes eventos <br> Norberto de Buenos Aires | BLOG <br> norbertodebuenosaires.blogspot.it | Spanish |

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|---|---|---|
| SICUR 2018 | BLOG<br>http://gidaigroup.blogspot.it | Spanish |
| Foro SICUR: jornadas de interés | WEB MAGAZINE<br>seguritecnia.es | Spanish |
| Participación de GIDAI en el DESEI+D 2017 | BLOG<br>http://gidaigroup.blogspot.it | Spanish |
| FORO SICUR 2018 plataforma de análisis y debate de la seguridad integral | WEBSITE<br>ifema.es | Spanish |
| Foro Sicur 2018 ofrecerá un entorno para el análisis y el debate sobre seguridad | WEB MAGAZINE<br>digitalsecuritymagazine.com | Spanish |
| FORO SICUR 2018 plataforma de análisis y debate de la seguridad integral | BLOG<br>ergonomiayprevencionlaboral canarias.blogspot.it | Spanish |
| Reunión de seguimiento del proyecto LETSCROWD | BLOG<br>http://gidaigroup.blogspot.it | Spanish |
| Lets-crowd: Law Enforcement Agencies Human Factor Methods And Toolkit For The Security And Protection Of Crowds In Mass Gatherings, Spain | BLOG<br>tendersinfo.com | English |

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| Law Enforcement agencies human factor methods and Toolkit for the Security and protection of CROWDs in mass gatherings  | BLOG<br>fabiodisconzi.com | English |
| Programa Lets Crowd: Expert System aplica la inteligencia cognitiva para combatir el terrorismo en grandes eventos  | WEB NESWPAPER<br>www.itpymes.es | Spanish |
| Law Enforcement agencies human factor methods and Toolkit for the Security and protection of CROWDs in mass gatherings  | RESEARCH DATABASE<br>researchgate.net | English |
| Reunión del proyecto LetsCrowd  | BLOG<br>http://gidaigroup.blogspot.it | Spanish |
| **Presentation of LETSCROWD Project at the International Seminar held by Fundació Bosch i Gimpera and the Universitat de Barcelona.**<br><br>**Presentación del proyecto LETSCROWD en el Seminario Internacional organizado por la Fundació Bosch i Gimpera y la Universitat de Barcelona.** | PRESS RELEASE by<br>ERTZAINTZA<br><br>Available in **ANNEX C** | English<br>Spanish |
| LETSCROWD, proyecto para mejorar la protección frente a acciones criminales  | VIDEO<br>UNIversidadCANtabria youtube channel | Spanish |
| RadioInterview Spain-Radio Nacional Espana – RNE  | AUDIO INTERVIEW<br>Radio Nacional Espana – RNE | Spanish |

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|---|---|---|
| RadioInterview Spain-CadenaSER | AUDIO INTERVIEW CadenaSER | Spanish |
| El proyecto 'Let`s Crowd' desarrolla tecnologías para la seguridad ciudadana en eventos masivos | WEB NESWPAPER esmartcity.es | Spanish |
| Más seguridad en eventos masivos | OFFLINE MAGAZINE El DiarioMontañés Suplemento | Spanish |
| La UC participa en un proyecto de seguridad antiterrorista | OFFLINE MAGAZINE El DiarioMontañés Suplemento | Spanish |
| UC, socio de un proyecto europeo para mejorar la protección de personas en eventos masivos frente al terrorismo | WEB NESWPAPER lainformacion.com | Spanish |
| La UC, socio de un proyecto europeo para mejorar la protección de personas en eventos masivos frente al terrorismo | UC PRESS OFFICE web.unican.es | Spanish |
| UC, socio de un proyecto europeo para mejorar la protección de personas en eventos masivos frente al terrorismo | WEB NESWPAPER 20minutos.es | Spanish |
| UC, socio de un proyecto europeo para mejorar la protección de personas en eventos masivos frente al terrorismo | WEB NESWPAPER eldiario.es | Spanish |

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| Programa Lets Crowd: Expert System aplica la inteligencia cognitiva para combatir el terrorismo en grandes eventos | WEB NESWPAPER itseguridad.es | Spanish |
| Programa LETSCROWD: Expert System aplica la inteligencia cognitiva para combatir el terrorismo en grandes eventos | WEB NESWPAPER eldiario.es | Spanish |
| UC, socio de un proyecto europeo para mejorar la protección de personas en eventos masivos frente al terrorismo | WEB NESWPAPER lavanguardia.com | Spanish |
| Kick off Meeting Proyecto LETSCROWD – H2020 Security | BLOG http://gidaigroup.blogspot.it | Spanish |
| Ricercatori a caccia di terroristi (grazie alla tecnologia), l'Università di Cagliari in prima fila | WEB NESWPAPER unionesarda.it | Italian |
| Ateneo di Cagliari in prima linea nella lotta al terrorismo | WEB NESWPAPER Ilsole24ore.com | Italian |
| Terrorismo, il PraLab nel progetto europeo volto a proteggere luoghi e persone | UNICA PRESS OFFICE unica.it | Italian |
| Terrorismo: esperti dell'ateneo nel progetto triennale europeo | UNICA PRESS OFFICE unica.it | Italian |
| Terrorismo, il PraLab nel progetto europeo volto a proteggere luoghi e persone | WEB NESWPAPER OndeCorte.it | Italian |

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| [Lotta al terrorismo, progetto europeo milionario. In prima linea specialisti dell'Università di Cagliari](...)  | WEB NESWPAPER SardegnaOggi.it | Italian |
| [Oggi e domani, a Valencia, la sede dell'Etra Investigación y Desarrollo ospita il meeting di avvio del progetto Europeo LETSCROWD](...)  | WEB NESWPAPER laprovinciadelsulcisiglesiente. com | Italian |
| **16 European partners funded with 3 million euros to drive the challenging European project LETSCROWD, aimed at monitoring and protecting people during mass gatherings.** UNICA prepared an official starting press release, distributed to the Italian press by UNICA itself. An English version of the press release has been provided to the partners for them to release to the relevant press agencies in their respective countries. | PRESS RELEASE by UNICA Available in **ANNEX D** | English Italian |
| [LETSCROWD – Law Enforcement agencies human factor methods and Toolkit for the Security and protection of CROWDs in mass gatherings](...)  | ETRA OFFICIAL WEBSITE http://www.grupoetra.com | |
| [Expert System Iberia aporta la inteligencia cognitiva para combatir el terrorismo en grandes eventos](...)  | EXPERT SYSTEM OFFICIAL WEBSITE | Spanish |
| [LETSCROWD EU Project](...)  | PRA LAB OFFICIAL WEBSITE http://pralab.diee.unica.it/en | English Italian |
| [LETSCROWD](...)  | PLURIBUS ONE OFFICIAL WEBSITE https://www.pluribus-one.it | English |
| [LETSCROWD](...)  | EENA ONE OFFICIAL WEBSITE http://www.eena.org | English |

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| LETSCROWD and LETSCROWD | | AYUNTAMIENTO DE MADRID | Spanish |
| LETSCROWD | | PROPRS OFFICIAL WEBSITE proprs.com | English |

**TABLE 7 – Media coverage of the project during the first 12 months**

# 6 EVENTS

As stated in chapter 1, a relevant part of LETSCROWD dissemination activities is dedicated to the presentations at meetings and workshops, in order to involve researchers, companies, government bodies, decision makers and stakeholders and make them aware on the project objectives and results. The following table summarizes the events that have been considered dissemination targets by the consortium during the first 12 months of activities. Forthcoming events considered among the dissemination opportunities are listed in Chapter 8 "**(OPEN) CONCLUSIONS: A TIMELINE FOR THE NEXT 12 MONTHS**".

| Event | Type/Number of attendees Date/Place |
|---|---|
| **OpenDays 4 OpenMinds**<br><br>OpenDays 4 OpenMinds is an annual event organized by the University of Cagliari to present its activities to high school students and bachelor students. During the 2018 edition the **University of Cagliari presented the LETSCROWD** objectives and distributed project's flyers.<br> | Exhibition for students and general public<br>April 19, 2018<br>Cagliari, Italy<br>Attendees: about 500<br>Website: http://sites.unica.it/opendays4openminds/<br>Related documents: /<br> |

**Security Summit Milano 2018**



SECURITY SUMMIT

Security Summit Milano 2018
13-14-15 Marzo
AtaHotel Expo Fiera - Pero - Milano

Exhibition for ICT companies and researchers

March 13-14-15, 2018

Milan, Italy

Attendees: about 1200

Website: https://www.securitysummit.it/event/Milano-2018

Related documents: /

Security summit is an event dedicated to security information and information systems, which registered an amazing success during last years' editions thanks to in depth examinations on the most important technologies for ICT security and high value contents. Security Summit - Milano was organized by CLUSIT, The Italian Association for Information Security and Astrea.

During the summit, **UNICA/Pluribus One presented LETSCROWD**.



**Block B**
Behaviour detection and analysis, demonstration to public and private stakeholders of videosurveillance tools; simulation and detection of anomalous behaviour in public places

**Block D**
Divulgation to scientific community through papers, conferences and workshops

![letsCROWD logo] **Law Enforcement agencies human factor methods and Toolkit for the Security and protection of CROWDs in mass gatherings**

**Sicur 2018 – International Security, Safety and Fire Exhibition**



20-23 Feb. 2018

**INTERNATIONAL SECURITY, SAFETY AND FIRE EXHIBITION**

Four partners of the LETSCROWD consortium participated to this exhibition, meeting point for all agents related to Security from a broad point of view: ETRA, University of Cantabria, Policia Municipal De Madrid, Ertzaintza.

In particular, ETRA, as coordinator of the project, gave a presentation of the project, within the talk given by the Municipal Police of Madrid about their participation in European Projects "**EL trabajo de la Policía Municipal de Madrid en Proyectos Europeos (H2020). Proyecto LASIE y LETSCROWD**", February 20, 10:30 - 11:30, AUDITORIO AZUL (Pab. 10).

LETSCROWD was also presented through a poster.

Exhibition for LEAs and ICT companies

February 20-23, 2018

Madrid, Spain

Attendees: more than 40000; 1332 Companies; 576 exhibitors

Website:

http://www.ifema.es/sicur 06/

Related documents:
-Talk Agenda
-Full Agenda
-Media coverage (see Chapter 5)



**Block A**
**A**ctions, Communication and Training to LEAs and Governement

**Block B**
**B**ehaviour detection and analysis, demonstration to public and private stakeholders of videosurveillance tools; simulation and detection of anomalous behaviour in public places
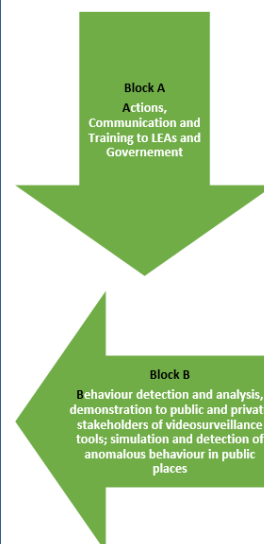
**DESEi + d 2017 - V National Congress for R&D in Defence and Security**



Organized by the General Subdirectorate for Planning, Technology and Innovation of the General Directorate of Armament and Material belonging to the Ministry of Defense, ISDEFE (System Engineering for the Defense of Spain) and the General Directorate of Recruitment and Military Education next to the University Centers of Defense, in this its fifth edition this event has been consolidated as a forum and a meeting point for all the agents related to R&D in the field of Defense and Security, as well as R&D developed in the civil field that may be applicable in the sector or as it is usually called "Dual Technology".

**ETRA** and **University of Cantabria** presented LESCROWD giving a talk and submitting a paper: "Metodología y herramientas centradas en el factor humano para una mayor seguridad y protección ciudadana en eventos masificados" (Law Enforcement agencies human factor methods and Toolkit for the Security and protection of CROWDs in mass gatherings)".

Scientific Workshop for researchers, industrial stakeholders

November 22 - 24, 2017

Toledo, Spain

Attendees: about 80

Related documents:

-Publication: G. Ortiz, D. Alvear, S. Cáceres, "Metodología y herramientas centradas en el factor humano para una mayor seguridad y protección ciudadana en eventos masificados" (see chapter 4)

-Media coverage (see Chapter 5)



Block D
**D**ivulgation to scientific community through papers, conferences and workshops

Block B
**B**ehaviour detection and analysis, demonstration to public and private stakeholders of videosurveillance tools; simulation and detection of anomalous behaviour in public places
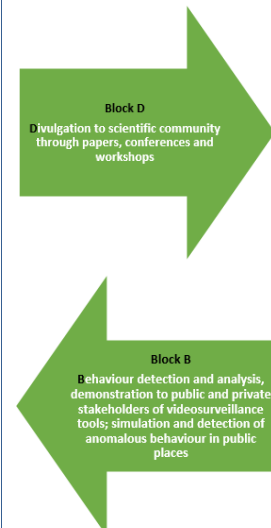
**MILIPOL Paris 2017 – Worldwide Exhibition of internal State security**

20th worldwide
exhibition of internal
State security

21-24 November 2017

Milipol Paris is the leading event dedicated to homeland security. In 2017, the event attracted no fewer than 1,005 exhibitors from 53 countries, 29,939 visitors from 151 countries and 161 official delegations from 77 countries.

The event is organised under the auspices of the French Ministry of Interior in partnership with several governmental bodies.

For many decades Milipol Paris has enjoyed a worldwide status as the leading event dedicated to the security profession. It provides the perfect forum for presenting the latest technological innovations in the area, effectively meeting the needs of the sector as a whole and also addressing current threats and dangers.

Milipol Paris owes its reputation to the consummate professionalism of its participants, its firmly international set-up (66% of exhibitors and 45% of visitors come from abroad), as well as to the quality and amount of innovative solutions on display. The event covers all areas of homeland security: **Data protection**, Information and Communication systems, Economic and Industrial Intelligence, Systems integration, **Risk analysis and management**, CBRN, Civil defence, Forensic science services, **Law enforcement**, **Anti-terrorism** – Special Forces, Protection of industrial and sensitive sites – **Perimeter security**, Fight against organised crime, **Security of public places** – Urban security, Transport security, Port and airport security – Border control, Road safety, Security of financial systems, Prison security, Oil and gas sector, the **Fight against Cyberthreats and Cybercrime**, Private Security.

**Ertzaintza** participated to this event presenting **LESTCROWD**.
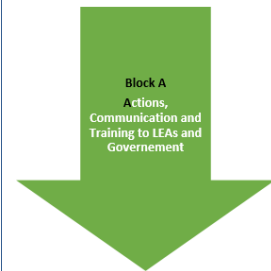
Exhibition for LEAs and ICT companies

November 21-24, 2017

Paris, France

Attendees: 1005 Exhibitors, almost 30000 visitors

Website:
https://en.milipol.com/

Block A
Actions, Communication and Training to LEAs and Governement

**International Seminar *Police and Society: New security challenges***

On Sunday 15th October 2017, the International Seminar organized by the **Fundació Bosch i Gimpera and the Universitat de Barcelona** took place in Madrid with the title **Police and Society: New security challenges**.

**Auditorium of Hotel Melía Castilla**. The seminar participants were, among others, 300 students of the Investigation Police of Chile, accompanied by their instructors and officials, who have already completed their three-year training program and who are on a study tour in Europe before joining the service.

The Directorate and responsible of the inauguration of the seminar was Dr. Manuel Martín, from the University of Barcelona. In the chapter "Today's Resources in Research", Dr. Diego Torrente, Professor of the University of Barcelona, presented the paper "Security Challenges and Social Networks", pointing out how factors as globalization and technologies have transformed the demands of security, threats and opportunities.

Dr. Isturitz made a sketchy review of the different technologies available for the police and security services in his presentation "Technological resources of the current police" with a special emphasis on the integration of systems.

In the **"Risks and Security" chapter, Commissioner Ertzaintza, Iosu Alonso, gave a presentation on "Risk analysis in large events"**, the evolution of the methods used and the current trends in Europe regarding the analysis of risks in events with large gathering of people. In this context, and in relation to Social Networks, semantic web, Big Data and analysis of video images, the **LETSCROWD project was presented**, in which Ertzaintza participate as partner of a consortium of 16 partners integrated also by 6 other European LEAs (Law Enforcement Agencies).

The last speaker was Mr. Joaquím Fernández, from the School of Public Administration of Catalonia, who dealt with the "Current Security Perspectives", showing the diversity of approaches and the relativity of the concept of security.

The moderator of the seminar was the criminologist Mrs. Isabél Loinaz, finishing it with the delivery of diplomas to the assistants. Finally, the closing ceremony was held by the Chief of the Police Delegation PDI of Chile.

Seminar for LEAs

October 15, 2017

Madrid, Spain

Attendees: 300 students of the Investigation Police of Chile, accompanied by their instructors and officials

Related documents:

-Press release, ANNEX C

**Block A**
**A**ctions, Communication and Training to LEAs and Governement

**Block B**
**B**ehaviour detection and analysis, demonstration to public and private stakeholders of videosurveillance tools; simulation and detection of anomalous behaviour in public places
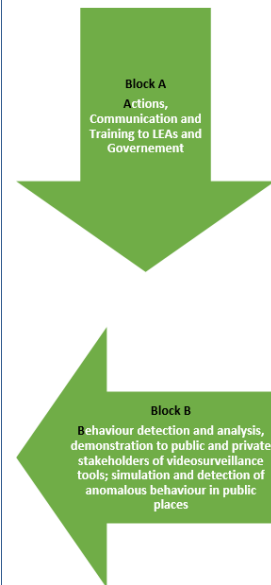
**SINNOVA 2017**



SINNOVA is the most important Sardinian exhibition dedicated to innovation, organized every year in Cagliari (Italy). More than 150 exhibitors, among innovative ICT companies, universities, investors, present their products and the results of their research activities.

**UNICA and Pluribus One**, partners of the LETSCROWD project, presented their activities on cyber security and **the goals of the LETSCROWD project**.
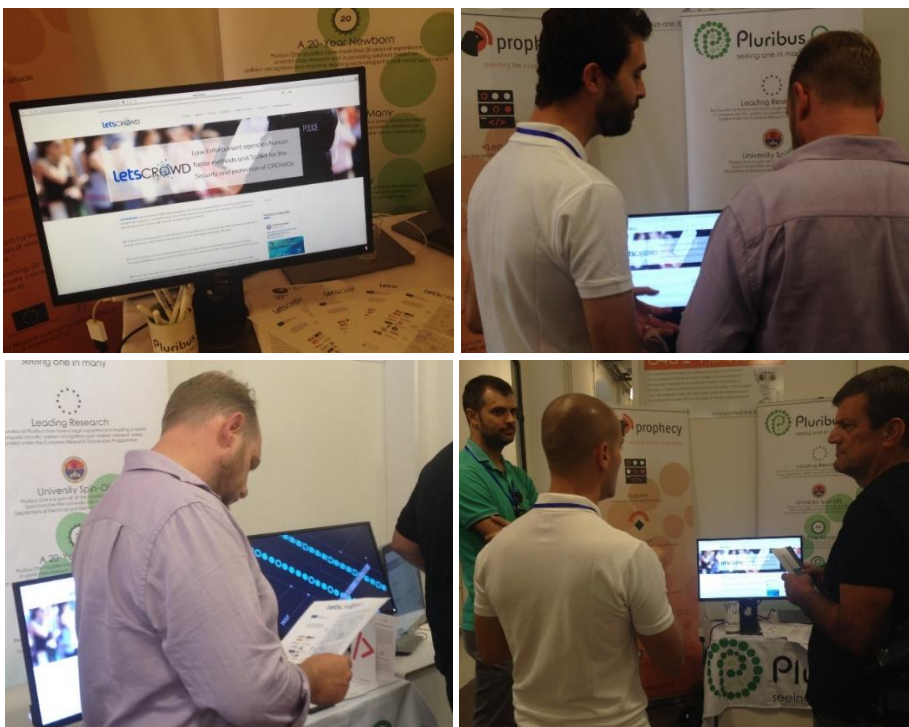


Full gallery available in the LETCROWD Official website:

https://letscrowd.eu/sinnova2017

Exhibition for ICT companies and general public

September 5-6-7, 2017

Cagliari, Italy

Attendees: about 4000; 150 exhibitors

Website: http://www.sardegnaricerche.it/sinnova

Related documents: /



**Block B**
**B**ehaviour detection and analysis, demonstration to public and private stakeholders of videosurveillance tools; simulation and detection of anomalous behaviour in public places

**Block C**
**C**ommunication at large and general awareness (for-**C**rowd-to-**C**rowd actions)
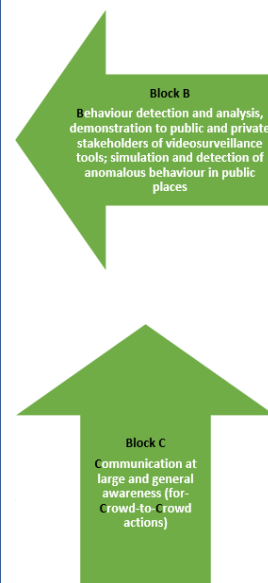
**Cybertech Europe**



Since 2014, Cybertech has served as the global meeting place for exchanging ideas, networking and business-to-business opportunities for players across the field of Cybersecurity, with large-scale and boutique events across the world.

**Pluribus One**, partner of the LETSCROWD project, has been a start-up Exhibitor at Cybertech Europe (Italy, Rome, September 26-27) and has presented its activities on cyber security and **the goals of the project**.

Cybertech Europe 2017 counted almost 10000 visitors and 90 invited speakers (among LEAs, security experts, policy makers, **including the Italian Ministry of Defence**) bringing together more than **130 organizations** among sponsors, partners, exhibitors, leading multi-national corporates, SMB's, start-ups, private and corporate investors, venture capital firms, experts, and clients.

Cybertech Europe was a chance to meet technology company executives, start-ups, government officials and contractors, investors, leading academics and legal, media and marketing professionals changing the global cyber landscape. High-profile speakers and panelists focused on the global cyber threat, and strategies and solutions for diverse challenges in sectors including finance, transportation, utilities, defense, and government to protect operations, infrastructure and people.
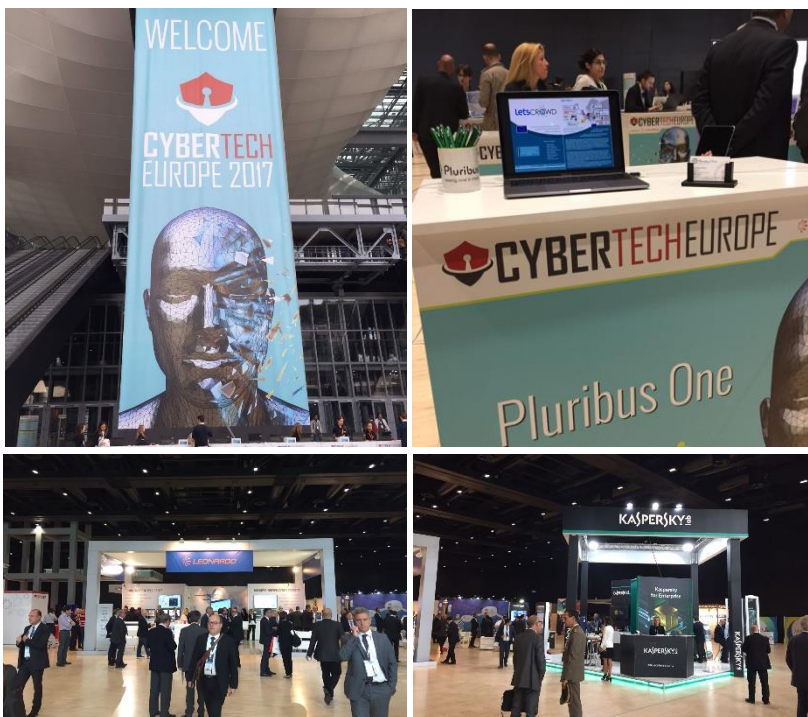


Full gallery available in the LETCROWD Official website:
https://letscrowd.eu/cybertech2017/

Exhibition for researchers, LEAs, policy makers and ICT companies

September 26 and 27, 2017

Rome, Italy

Attendees: almost 10000

Website:

http://italy.cybertechconference.com/

Related documents: /



**Block B**
Behaviour detection and analysis, demonstration to public and private stakeholders of videosurveillance tools; simulation and detection of anomalous behaviour in public places



**Block A**
Actions, Communication and Training to LEAs and Governement
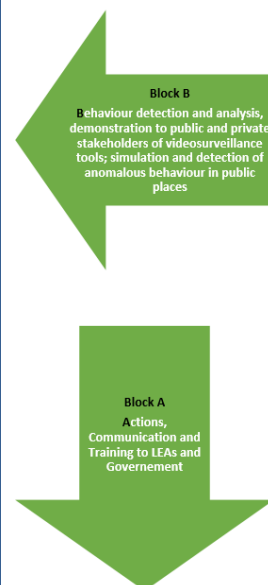
**LETSCROWD first workshop within**

**IMPACT Final Event – Managing socio-cultural factors during emergencies in public transport systems.**



The final event of the IMPACT EU Funded Project brought together experts, researchers, practitioners, and relevant stakeholders in the different transport domains such as service providers, first responders, law enforcement, national and international regulators, in order to:

1. create a wider community around the theme of multicultural and social factors in emergency management in transport domains;
2. present, validate and discuss the final results achieved by the project;
3. exchange best practices and generalise findings with other research Projects and to other domains.

Keynote speakers provided the impetus for a discussion on current research trends in socio-cultural aspects relevant for ensuring safety and security in modern transport hubs.

IMPACT final event hosted a panel session (**Panel discussion on Signals to listen when dealing with mass gathering events** & Round Table) dedicated to the **LETSCROWD** Project. **Santiago Caceres Elvira**, Project Coordinator, keynote speaker, presented the project objectives.



Full gallery available in the LETCROWD Official website:

https://letscrowd.eu/impact/

Scientific Workshop for researchers and industrial stakeholders

September 21 and 22, 2017

Rome, Italy

Attendees: about 90

Website:

http://www.impact-csa.eu/events-news/impact-fina l-event/

Related documents:

-Santiago Caceres' presentation at IMPACT Final Event. (ANNEX E)

**Block D**
**D**ivulgation to scientific community through papers, conferences and workshops

**Block B**
**B**ehaviour detection and analysis, demonstration to public and private stakeholders of videosurveillance tools; simulation and detection of anomalous behaviour in public places

**Block A**
**A**ctions, Communication and Training to LEAs and Goverement
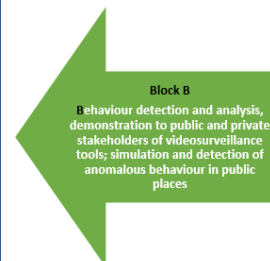
**HHMC 2017 – Workshop on Hybrid Human-Machine Computing** (From Human Computation to Social Computing and Beyond).



**HHMC 2017** was a 2-day workshop, organized 1) to bring researchers working in different disciplines but with common research interests on HHMC together for exchanging research ideas, and 2) to promote interdisciplinary collaborations and experience sharing between different subjects.

**LETSCROWD was among the sponsors of this workshop** (as can be seen in the website's homepage screenshot below).



Scientific Workshop for researchers

September 20 and 21, 2017

University of Surrey, Guildford, UK

Attendees: /

Website:

http://hhmc2017.commando-humans.net/index.php

Related documents: /



Block D
Divulgation to scientific community through papers, conferences and workshops

**Unica & Imprese**

| | |
|---|---|
| | Exhibition for researchers and ICT companies |
| | May 31, 2017 |
| | Cagliari, Italy |
| | Attendees: About 500 |
| | Website: |
| | http://www.unica.it/pub/7/show.jsp?id=35350&iso=24&is=7 |
| | Related documents: / |

Giorgio Fumera and Matteo Mauri (UNICA) presented LETSCROWD and a prototype of a person re-identification tool at Unica & Imprese, Sardinian Exhibition dedicated to innovation. It is a meeting point between the University of Cagliari and the private companies, organized every year in Cagliari. Innovative ICT Companies and Universities present their products and the results of their research activities.

**Block B**
Behaviour detection and analysis, demonstration to public and private stakeholders of videosurveillance tools; simulation and detection of anomalous behaviour in public places

Full gallery available in the LETCROWD Official website:

https://letscrowd.eu/unicaimprese/

**TABLE 8 – Dissemination events table**

# 7  OTHER DISSEMINATION ACTIVITIES

## 7.1  Joint webinar with the DOGANA H2020 project

The "**Block B**" **of the dissemination strategy** (as we have defined it in the Chapter 1) comprises activities and demonstrations dedicated at involving new partners. It includes activities related to communications, cooperation and on-going exchanges with related research efforts, including **liaisons with EU-funded research projects** and networks of excellence, as well as research initiatives going beyond European boundaries.

LETS-CROWD operates in a competitive and fast-paced field with several players working on similar problems, and hence will benefit from adoption of standards to generate economy of scale and agreement on implementations. The task **7.3** (**Liaison, standardization and regulation activities (including management of the International Cooperation Board**) is partially dedicated to these activities (it includes the organisation of Workshops, relevant also for "Block D").

Taking advantage of the project's consortium existing network, LESCROWD organised a joint webinar with the running European H2020 project DOGANA (https://www.dogana-project.eu) funded to develop a framework that delivers an "aDvanced sOcial enGineering And vulNerability Assessment". The underlying concept of DOGANA is that Social 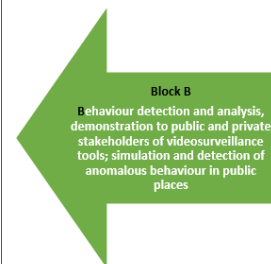Driven Vulnerabilities Assessments (SDVAs), when regularly performed with the help of an efficient framework, help deploy effective mitigation strategies and lead to reducing the risk created by modern Social Engineering 2.0 attack techniques. Two relevant features of the proposed DOGANA framework are:

- The presence of the "awareness" component within the framework as the cornerstone of the mitigation activities;

- The **legal compliance** by design of the whole framework, ensured in all the steps of the project (**Information gathering**, risk evaluation, risk mitigation).

This last point (legal compliance in information gathering) **is the contact point between LETSCROWD and DOGANA**, since it represents a crucial component for both projects.

For this reason, a joint webinar with the **DOGANA legal team** and with its key personnel was organised and hosted by ETRA's through its Webex Platform on **March 9th 2018** at 11:00 a.m.

In the DOGANA project, **webcrawling** is used as part of 'Information Gathering and Analysis Services' (IGAS), which gathers information on targets. More specifically, the main purpose of the crawling actions is to retrieve the majority of **publicly available information about a specific target on his/her profile of a social network (e.g., Facebook, Twitter, etc.)**, and services such as WHOIS. The information is further used for creating and deploying hooks, i.e. fake phishing attacks for the purpose of SDVA's (socially driven vulnerability assessments). SDVA's are the core of DOGANA activities, and test how likely the project partners' employees are to fall for such phishing attacks. The main actors in the action are:

- The pentester (penetration tester), who evaluates security by deploying phishing attacks
- The target, the employee of an end-user
- The webcrawler, which gathers information
- The profiler, who assess the psychological profile of the target and ascribes the most appropriate type of hook

The crawler gathers different types of data in several stages. The resulting data can be personal data, non-personal data, sensitive personal data, professional information, private information, directly identifiable information. They bring **different legal and ethical considerations**, and they do not necessarily all have the same legal regime.

Personal data and sensitive personal data both fall under the **EU data protection framework**. This is currently the Directive 95/46/EC. From May 25 the GDPR, General Data Protection Regulation, will apply. GDPR brings new rules and principles, but the premise remains the same: using personal data, even if it is already publically available, falls under its scope. **Non-personal data** are controversial and unregulated at the European level, nor is there EU-wide legal framework for professional secrets.

**The first part of the webinar laid out the legal and ethical challenges of crawling** through social media and other online data sources, such as:

- The scope of data protection legislation: **what is personal data, and which acts constitute its processing** (information gathering, processing, deletion)?
- **What types of personal data are publically available** and do they qualify as sensitive personal data (n.b. sensitive personal data are explicitly excluded from DOGANA activities)?
- How does processing publically available information **impact the exercise of data subject's rights**, especially the right of access, the right to be forgotten and the right to a human in the loop (the right not to be subject to an automated decision)?
- Since DOGANA is all about **the enterprise environment**, how to ensure **the trust** between an employer and its employees is not breached, when the former gathers social media information about the latter? What role should anonymisation and pseudonymisation play?
- Security issues. How to prevent the data gathering exercise from becoming **mission creep**, and how to keep the personal data collected **safe, secure and confidential**?

**The second part of the webinar answered those questions** from a DOGANA perspective, based on previous research carried out within the project.

The **event was entirely recorded**; some pictures of the webinar are shown below. Here follows the agenda of the digital event:

- Brief Introduction of the LETSCROWD Project - 5-10 minutes, ETRA (LETSCROWD coordinator)
- Brief Introduction of the DOGANA Project - 5-10 minutes, CEFRIEL (DOGANA scientific coordinator)
- Talk of the DOGANA Legal Team - 60-70 minutes
- Question and Answers - 20-30 minutes.
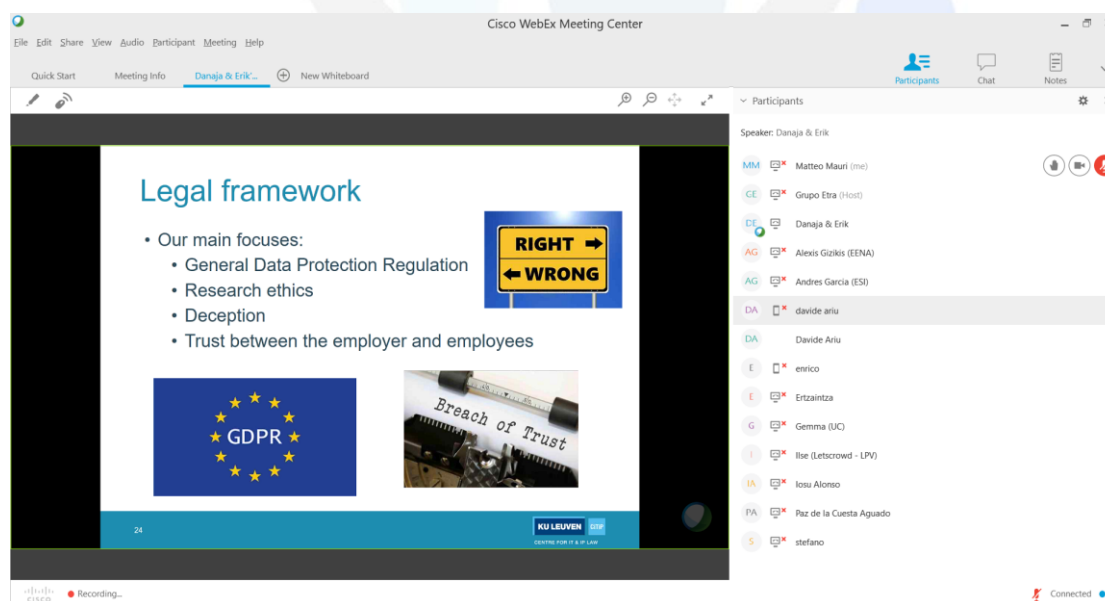


**FIGURE 17 – LETSCROWD-DOGANA Joint webinar**
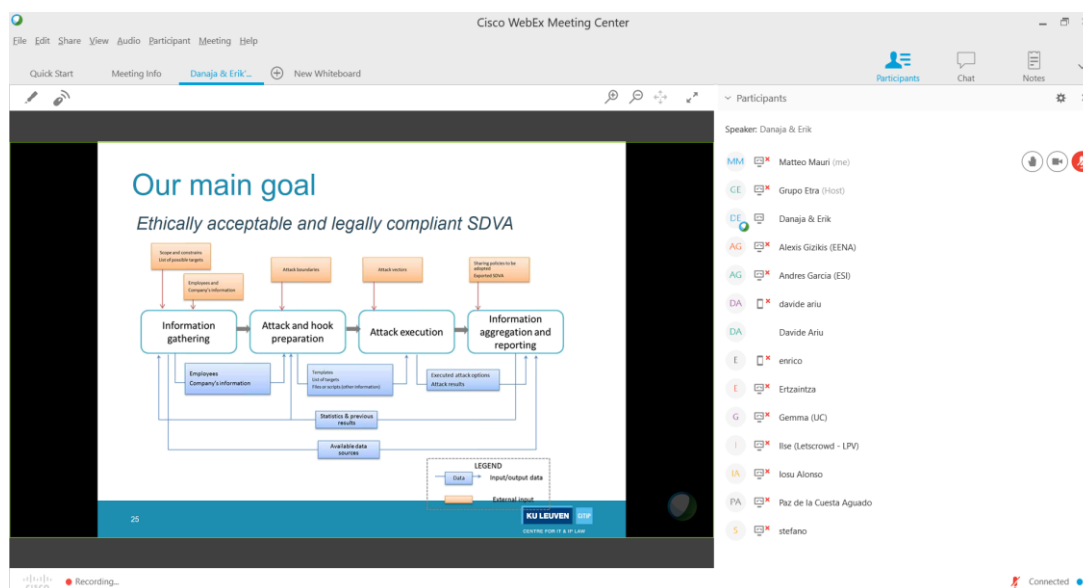
**FIGURE 18 – LETSCROWD-DOGANA Joint webinar**

## 7.2  Project newsletter

As stated in the previous paragraph, the **Block B of the dissemination strategy** (as we have defined it in the Chapter 1) includes activities related to communications, cooperation and on-going exchanges with related networks and research efforts. The task **7.3 Liaison, standardization and regulation activities (including management of the International Cooperation Board)** is partially dedicated to these activities.

For this purpose, the LETSCROWD consortium releases an annual newsletter in order to reach and constantly update the established network with information on project's steps, objectives, demonstrators, and research findings.

The **first newsletter** has been already prepared and **will be shared at the end of May 2018**.

Here follows the table of contents of the first Newsletter issue:

- LETSCROWD Newsletter 1. May 2018. Editorial
- Intelligent video surveillance for the security of mass gathering events
- Cooperation for a smart, connected and secure society
- Local Police Voorkempen: smaller events can also have risks
- Innovative communication guidelines for mass gatherings
- Can we predict Crowd Behaviour at Mass Gatherings?
- Dynamic Risk Assessment (DRA) for mass gathering events
- Addressing real-time challenge in real time evacuation calculations
- LETSCROWD Publications

The preview of the cover of this Newsletter issue is available in the picture below. The full newsletter is available in ANNEX F "**LETSCROWD NEWSLETTER ISSUE 1**" at the end of this document.



**FIGURE 19 – Preview of the LETSCROWD newsletter issue 1**

The next issues of the project newsletter will be delivered at **month 24 (April 2019)** and at the end of the project, **month 30 (October 2019).**

## 7.3 Training package for crowd protection based on human factors

The **Block A of the dissemination strategy** (as we have defined it in the Chapter 1) includes activities dedicated to spread the project's results to LEAs and government institutions. In particular, a specific task (**T7.2 Training Package for crowd protection based on human factors**) is focused on creation of **training methodologies** and **training materials**. LETSCROWD is developing a training package for LEAs and other stakeholders (such as venous security personnel) for enhancement of capabilities of the human factor as a "security sensor". Such capabilities include techniques to identify suspicious activities, guidelines to immediate emergency response, identification and reaction to suspicious items and other suspicious patterns. The final output of this block of activities will consist in the release of the deliverables **D7.3 Training Package for crowd protection based on human factors Version 1** (report, it be delivered at M15) and **D7.6 Training Package for crowd protection based on human factors - Demonstrator** (demonstrator, M26).

# 8 (OPEN) CONCLUSIONS: A TIMELINE FOR THE NEXT 12 MONTHS

In this document we reported on the dissemination activities performed by the LETSCROWD consortium during the first 12 months of project, providing an overview of the actions planned to reach several targets (including LEAs, researchers, stakeholders, general public) through different channels such us websites, newsletters, flyers, social networks, organization of events, peer-reviewed papers.

The dissemination plan and the evaluation of dissemination opportunities will be constantly improved during the project lifetime and the activities will be also reported in these documents:

- D7.3, Dissemination and communication plan and strategy and activities, M24
- D7.7, Final report on dissemination and communication activities, M30.

The **following timeline** can be considered as a temporary calendar of planned activities focused on the **second year of project**.

| Calendar of planned activities (May 2018 – April 2019) | | |
|---|---|---|
| | May 2018 | Delivery of the First Newsletter Issue to the consortium network (ALL PARTNERS) |
| Publication of the article "Protagonisti anonimi" on the Italian offline Magazine "Polizia Moderna", official magazine of the Italian Police (INTERNO) | May 2018 | |
| | 16 May 2018 | Presentation of the project at the International Conference: "Police Science in the European Union", National University of Public Service, Faculty of Law Enforcement, Budapest, Hungary. Title of the talk "The place of the police science at the Bavarian Police University (Lets Crowd as an example for applied police science in an European framework)". (Sebastian Allertseder, BayFHVR) |
| Participation at "XII Jornadas de Gerencia de Riesgos y Emergencias", conference on risk management and emergencies, Donostia-San Sebastián, Basque Country, Spain. (ERTZAINTZA) http://gerenciariesgosyemergencias.eu | 28-28 May 2018 | |
| | 30-31 May 2018 | Publication in the proceedings of the congress "IV Congreso Ciudades Inteligentes (VI Spanish Smart Cities Congress)", Madrid, Spain www.congreso-ciudades-inteligentes.es Santiago Cáceres, Antonio Marqués, Clara Pérez, and Josu Alonso, "*Ciudades inteligentes más seguras, nuevas herramientas para la gestión de eventos masificados para la policía municipal de Madrid y la Ertzaintza*" (More secure Smart Cities, new tools for the management of crowded events for the Municipal Madrid Police and |

| | | Ertzaintza). (ETRA - Policía Municipal Madrid - ERTZAINTZA). |
|---|---|---|
| Stand and 30 minutes talk at Security Forum 2018, Barcelona, Spain. (ERTZAINTZA) https://www.securityforum.es | 30-31 May 2018 | |
| | 8 June 2018 | Lesson for higher officers of the Bavarian Police. University of Applied Sciences for Public Service in Bavaria, Fuerstenfeldbruck, Germany. Title of the talk "EU Project: Lets Crowd". (Sebastian Allertseder, BayFHVR) |
| Publication of an article on a national Newspaper about smart, connected and secure cities (mentioning LETSCROWD). (BayFHVR) | June 2018 | |
| | June 2018 | Publication of an article on the Italian Magazine "Difesa online" dedicated to Italian LEAs and military Army http://www.difesaonline.it (UNICA) |
| Second LETSCROWD official Workshop, Brussels (ETRA, ALL) | June 2018 | |
| | 21-24 August 2018 | Participation and paper submission at the 9th Pedestrian and Evacuation Dynamics 2018, Lund, Sweden (UC) http://www.conferencemanager.dk/PED2018/event.html |
| Participation at Cybertech Europe 2018 (Rome, Italy). Networking event for industry leaders and government decision-makers on cybersecurity, technology, innovation and investment (UNICA/PLURIBUS ONE) https://italy.cybertechconference.com | 26-27 September 2018 | |
| | 11-12 October 2018 | Participation at SINNOVA 2018 (Cagliari, Italy) Sardinian Exhibition dedicated to Innovation. (UNICA/PLURIBUS ONE) http://www.sardegnaricerche.it/sinnova |
| Publication in specialized magazine (to be defined) on security and protection on events that will take place this year in Spain, such as the European rugby finals and the MTV awards in Bilbao (ERTZAINTZA) | November 2018 | |
| | 5-6 March 2019 | Participation at ICDEM 2019: 21st International Conference on Disaster and Emergency Management (DBLUE) https://waset.org/conference/2019/03/rome/ICDEM |

| | | |
|---|---|---|
| Participation at SECURITY SUMMIT MILANO 2019 (Milano, Italy) event dedicated to security information and information systems. (UNICA) https://www.securitysummit.it | March 2019 | |
| | April 2019 | Participation at OPEN DAYS 2019 (Cagliari, Italy), annual event organized by the University of Cagliari to present its activities to high school students and bachelor students (UNICA) http://sites.unica.it/opendays4openminds |
| Submission of a scientific publication related to a real-time people re-identification demonstrator. Provisional title: "From the lab to the real world: Person re-identification and crowd monitoring for the security of mass gathering events". (Supposed journal: IEEE Transactions on Circuits and Systems for Video Technology) (UNICA) | April 2019 | |
| | April 2019 | Preparation and delivery of the Second Newsletter Issue dedicated to the consortium network of contacts (ALL PARTNERS) |
| Publication of screencast videos from LETSCROWD demonstrators on the Youtube platform (ALL PARTNERS) | April 2019 | |

**TABLE 9 – Dissemination timeline for the 2nd year of project**

# 9 REFERENCES AND ACRONYMS

## 9.1 REFERENCES

1. *European Commission, Communicating EU Research & Innovation – A guide for project participants.* **Luxembourg : Publications Office of the European Union, ISBN 978-92-79-25639-4, doi:10.2777/7985, 2012.**

2. **LETSCROWD consortium.** *D7.1 - Dissemination and communication plan and strategy.* **2017.**

3. *Budapest Open Access Initiative.* **http://legacy.earlham.edu/~peters/fos/boaifaq.htm : s.n., last access september 2017.**

## 9.2 ACRONYMS

| Acronyms List | |
|---|---|
| CP | Consortium Plenary |
| DM | Dissemination Manager |
| DoW | Description of Work |
| EM | Exploitation Manager |
| IPR | Intellectual Property Rights |
| PC | Project Coordinator |
| PSC | Project Steering Committee |
| PPR | Project Periodic Report |
| QM | Quality Management |
| QR | Quarterly Report |
| RM | Risk Management |
| SVN | Subversion |
| TM | Technological Manager |
| OA | Open Access |
| IPR | Intellectual Property Rights |
| CC | Creative Commons |

**TABLE 10 – Acronyms List**

# 10 ANNEX A: PROJECT FLYERS AND POSTER

## 10.1 PROJECT FLYER FIRST RELEASE: A4 FORMAT, ONLY 1 SIDE



Horizon 2020
European Union Funding
for Research & Innovation

This project has received funding
from the European Union's Horizon 2020
Research and Innovation programme,
under grant agreement No. 740466

www.letscrowd.eu

@LetsCrowd

LETS CROWD (Law Enforcement agencies human factor methods and Toolkit for the Security and protection of CROWDs in mass gatherings) is a project funded by the **European Commission** under the HORIZON 2020 Programme.

Europe has suffered many criminal actions and terrorist attacks during mass gatherings, which have great impact on the citizens and the society, in the last few years. **LEAs must face this new scenario** (considered a priority by the European Union), which imposes a multitude of heterogeneous challenges. Hence, the key is to deter, prevent, protect, pursue and effectively respond to criminal and/or terrorist actions, achieving the best possible protection for people gathering in a specific area where particular events are taking place, thus increasing also the sense of security whit the necessary balance between protection and rights of EU citizens. For all these reasons, novel methodologies and tools must be investigated for **strategic and operational activities**, involving also strong cross-border cooperation and **intelligence sharing**, and planning solutions for all these issues, where the human and sociological factor is often the key driver. In fact, **humans play a key role in every dimension of crowd protection** against criminal and terrorist acts: as perpetrators, protectors and victims.

LETS CROWD will overcome challenges preventing the effective implementation of the European Security Model (ESM) with regards to mass gatherings, by providing the following to security policy practitioners and in particular, LEAs: (1) A **dynamic risk assessment methodology** for the protection of crowds during mass gatherings centred on human factors in order to effectively produce policies and deploy adequate solutions. (2) A **policy making toolkit for the long-term and strategic decision making** of security policy makers, including a database of empirical data, statistics and an analytical tool for security policies modelling, and (3) A set of human centred tools for Law Enforcement Agencies (LEAs), including **real time crowd behaviour forecasting**, innovative communication procedures, semantic intelligence applied to social networks and the internet, and novel computer vision techniques. LETS CROWD will be a security practitioner driven project, fostering the communication and cooperation among LEAs, first responders, civil protection and citizens in the fight against crime and terrorism during mass gatherings by a set of cooperation actions. The project will put citizens at the centre of the research and will assess and evaluate how security measures affect them, and how they perceive them, while respecting EU fundamental rights. Lead by ETRA Investigación y Desarrollo S.A. (Spain), LETS CROWD will be implemented by a consortium of **16 partners, from 8 different countries** (including SMEs, universities, LEAs), operating in the critical areas of government, security, energy, finance, transport and utilities.

## 10.1 PROJECT FLYER CURRENT RELEASE: A5 FORMAT, FRONT AND BACK



(Front)

Law Enforcement agencies human factor methods and Toolkit for the Security and protection of CROWDs in mass gatherings

LETSCROWD is a project funded by the European Commission under the HORIZON 2020 Programme.

Europe has suffered many criminal actions and terrorist attacks during mass gatherings, which have great impact on the citizens and the society, in the last few years.

LEAs must face this new scenario (considered a priority by the European Union), which imposes a multitude of heterogeneous challenges. Hence, the key is to deter, prevent, protect, pursue and effectively respond to criminal and/or terrorist actions, achieving the best possible protection for people gathering in a specific area where particular events are taking place, thus increasing also the sense of security whit the necessary balance between protection and rights of EU citizens. For all these reasons, novel methodologies and tools must be investigated for strategic and operational activities, involving also strong cross-border cooperation and intelligence sharing, and planning solutions for all these issues, where the human and sociological factor is often the key driver. In fact, humans play a key role in every dimension of crowd protection against criminal and terrorist acts: as perpetrators, protectors and victims.

LETSCROWD will overcome challenges preventing the effective implementation of the European Security Model (ESM) with regards to mass gatherings, by providing the following to security policy practitioners and in particular, LEAs: (1) A dynamic risk assessment methodology for the protection of crowds during mass gatherings centred on human factors in order to effectively produce policies and deploy adequate solutions. (2) A policy making toolkit for the long-term and strategic decision making of security policy makers, including a database of empirical data, statistics and an analytical tool for security policies modelling, and (3) A set of human centred tools for Law Enforcement Agencies (LEAs), including real time crowd behaviour forecasting, innovative communication procedures, semantic intelligence applied to social networks and the internet, and novel computer vision techniques.
The project will put citizens at the centre of the research and will assess and evaluate how security measures affect them, and how they perceive them, while respecting EU fundamental rights. Lead by ETRA Investigación y Desarrollo S.A. (Spain), LETSCROWD will be implemented by a consortium of 17 partners, from 8 different countries (including SMEs, universities, LEAs), operating in the critical areas of government, security, energy, finance, transport and utilities.

(Back)

Law Enforcement agencies human factor methods and Toolkit for the Security and protection of CROWDs in mass gatherings



*This project has received funding from the European Union's Horizon 2020 Research and Innovation programme, under grant agreement No. 740466*

### Goals of the project

LETS–CROWD will overcome challenges preventing the effective implementation of the European Security Model (ESM) with regards to mass gatherings.
This will be achieved by providing the following to security policy practitioners:

1. A dynamic risk assessment methodology for the protection of crowds during mass gatherings centred on human factors in order to effectively produce policies and deploy adequate solutions

2. A policy making toolkit for the long-term and strategic decision making of security policy makers, including a database of empirical data, statistics and an analytical tool for security policies modelling

3. A set of human centred tools for Law Enforcement Agencies (LEAs), including real time crowd behaviour forecasting, innovative communication procedures, semantic intelligence applied to social networks and the internet, and novel computer vision techniques.

**Objectives:**

I. Develop a common European understanding about security issues for crowd protection during mass gatherings

II. Develop a Policy-making platform for security policy-makers

III. Develop human-centred Toolkit for LEAs

IV. Perform practical demonstrations to assess project outcomes

V. Analyse public opinion or mood on mass scale in relation to policies and actions for protecting people in mass gatherings against criminal and terrorist acts

VI. Dissemination, communication of results and post project deployment and large scale adoption.

### LETSCROWD and the LEAs' phases during mass gatherings
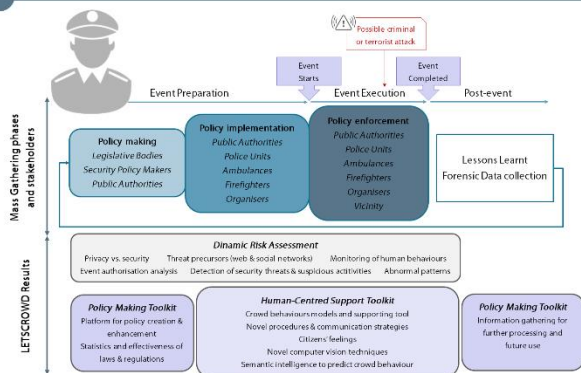


Cyber security
Behaviour forecasting
Human centered tools
Strategic decision making
Database of empirical data
People re-identification
Semantic Intelligence
Intelligence sharing

### LETSCROWD Numbers



MAY 2017 STARTING DATE

30 MONTHS DURATION

**2,92 M€ BUDGET**

8 COUNTRIES 16 PARTNERS

7 LEAs

11 USE CASES

### Consortium



www.letscrowd.eu        @LetsCrowd        linkedin.com/in/lets-crowd-project

## 11 ANNEX B: "PROTAGONISTI ANONIMI", ARTICLE TO BE PUBLISHED IN THE MAY 2018 ISSUE OF THE OFFICIAL ITALIAN POLICE MAGAZINE "POLIZIA MODERNA".

LETSCROWD is mentioned at page 5.

### il nostro lavoro/ordine pubblico



## Protagonisti anonimi

di **Mauro Valeri**

Stati generali dell'ordine pubblico: un momento importante per fare il punto sulla sua gestione e per annunciare l'ingresso delle donne nei Reparti mobili

Roma, 16 aprile, Polo Tuscolano. Nell'Aula Palatucci il convegno sul "contributo dei Reparti mobili della Polizia di Stato nella gestione dell'ordine pubblico" sta per cominciare. Nella platea ci sono i rappresentanti dei 15 Reparti mobili italiani. Tanti di loro si conoscono, hanno lavorato insieme quando, in occasione di importanti manifestazioni, è stato chiesto l'ausilio di Reparti mobili provenienti da altre regioni. Gli abbracci e le storie che si raccontano danno già la percezione del servizio particolare che questi poliziotti svolgono. Storie fatte di lavoro duro e impegnativo ma anche di solidarietà e di fratel-

lanza tra colleghi che indossano la stessa "giubba". Fare in modo che le manifestazioni si svolgano senza incidenti, contenere e reprimere gli atti sconsiderati della minoranza più facinorosa non è infatti compito da poco. E i diritti in campo hanno tutti rilevanza costituzionale, sono alla base del vivere civile. «L'ordine pubblico mette a confronto i diritti di "pezzi" diversi della società: quelli dei lavoratori o degli studenti che hanno il diritto di esprimere le proprie convinzioni e quelli della gente di vivere tranquillamente. Diritti, questi, che entrano in conflitto quando c'è l'uso della violenza. Il compito di prevenirla, evitarla o reprimerla è delle forze di

Davide Barbaro

## I REPARTI MOBILI

Unità specializzate nei servizi di ordine pubblico, i Reparti mobili della Polizia di Stato hanno una dotazione organica complessiva di 5.300 unità. Il personale, organizzato in contingenti, è impegnato quotidianamente, su disposizione del Dipartimento della pubblica sicurezza, in manifestazioni politiche, sindacali, eventi sportivi. La rilevante attività di addestramento e aggiornamento professionale è volta a caratterizzarne la peculiarità di reparti inquadrati, pronti a espletare il loro servizio nei diversi scenari operativi, anche nell'eventualità di attivazione in materia di difesa e protezione civile, con nuclei NBCR e di soccorso in occasione di calamità naturali. Prestano attività di soccorso alle popolazioni anche con servizi di antisciacallaggio volti alla tutela dei beni e delle proprietà momentaneamente abbandonati, nell'emergenza, dai cittadini coinvolti in tali tragici eventi. Questa la dislocazione dei 15 Reparti mobili sul territorio nazionale: I Roma, II Padova, III Milano, IV Napoli, V Torino, VI Genova, VII Bologna, VIII Firenze, IX Bari, X Catania, XI Palermo, XII Reggio Calabria, XIII Cagliari, XIV Senigallia, XV Taranto.



Davide Barbaro

*Nella foto in apertura, l'intervento del capo della Polizia, Franco Gabrielli. A fianco, la platea composta dai rappresentanti dei 15 Reparti mobili.*

polizia». Con queste parole il moderatore dell'evento, Marcello Sorgi, editorialista del quotidiano La Stampa, traccia subito il cruciale ruolo degli appartenenti ai Reparti.

Prende poi la parola il capo della Polizia Franco Gabrielli che sottolinea quanto si tenda a dimenticare un'indagine che non va a buon fine e quanto, al contrario, si ricordino, e chi è protagonista ne riporta i segni, gli esiti dell'ordine pubblico che non è andato per il verso giusto. «Per questo – evidenzia il prefetto Gabrielli – ringrazio il ministro dell'Interno Marco Minniti per aver espresso il desiderio di realizzare un momento di confronto non solo sulle tematiche appena espresse dal direttore Sorgi ma anche per ringraziare e sottolineare il ruolo e l'importanza di tanti protagonisti anonimi. Questa giornata è dedicata a loro, a tutti i colleghi dei 15 Reparti mobili e ai colleghi funzionari che dirigono il servizio di ordine pubblico perché credo che nessuna altra funzione sia più complicata e rischiosa». E dallo scorso mese anche le poliziotte fanno parte degli organici di alcuni Reparti. A darne l'annuncio è il capo della Polizia: «Abbiamo infranto un tabù: dal 18 aprile in 6 dei 15 Reparti mobili entreranno le donne. Non è uno spot pubblicitario, non saranno suffragette. Ovviamente manderemo colleghe che abbiano determinate caratteristiche fisiche perché l'ordine pubblico implica una capacità di resistenza fisica che anche le donne sanno avere. Quindi lo faremo con intelligenza, con quella giusta progressione che un'innovazione necessariamente comporta. Crediamo anche che que-

*maggio 2018* **POLIZIA**MODERNA **3**

Nella foto a fianco, il capo della Polizia, Franco Gabrielli, con i "suoi" poliziotti. Sotto, Arianna, una delle donne neo assegnate ai Reparti mobili.

## ORDINE PUBBLICO: QUALCHE NUMERO

L'attività della Polizia di Stato a tutela dell'ordine e della sicurezza pubblica è stata interessata, nel 2017, da 11.061 manifestazioni di spiccato interesse per l'ordine pubblico, di cui 5.306 su temi politici, 3.380 a carattere sindacale-occupazionale, 331 studentesche, 867 sulle problematiche dell'immigrazione, 502 a tutela dell'ambiente, 49 a carattere antimilitarista e 626 su tematiche varie. Tra gli eventi di particolare rilievo, che hanno comportato un'eccezionale pianificazione di servizi a tutela dell'ordine pubblico, si evidenziano:

> lo svolgimento del Summit G7 dei Capi di Stato e di Governo a Taormina (ME), con l'impiego complessivo di 24.557 operatori della Polizia di Stato, nonché i Vertici ministeriali di Firenze, Lucca, Roma, Bari, Bologna, Cagliari, Torino, Bergamo, Ischia (NA), Milano e Taormina, che hanno comportato l'impiego complessivo di 22.244 poliziotti;

> il perdurare delle esigenze connesse al fenomeno migratorio di rifugiati provenienti dai Paesi del Nord Africa e dal Medio Oriente, con l'impiego di 97.656 unità dei Reparti mobili;

> la prosecuzione della mobilitazione del Movimento NO-TAV in Valle di Susa contro la linea ferroviaria ad alta velocità, con l'impiego di 25.570 operatori di polizia;

> la mobilitazione ambientalista del Movimento NO-TAP in provincia di Lecce contro la realizzazione del gasdotto Trans Adriatic Pipeline, con l'impiego di 2.282 poliziotti.

In occasione di 386 manifestazioni si sono verificate turbative dell'ordine pubblico, 149 persone sono state arrestate e 2.798 denunciate in stato di libertà, mentre 210 operatori hanno riportato lesioni varie. Per le esigenze del 2017, è stata disposta la movimentazione in ambito nazionale di 656.549 unità dei Reparti mobili.

sta immissione di colleghe nei Reparti sia un ulteriore passo verso quell'ammodernamento cui la nostra amministrazione guarda con particolare attenzione». All'intervento del capo segue quello del direttore del Servizio reparti speciali Benedetto Sanna, che ha traccia l'evoluzione dell'impiego dei Reparti mobili nella gestione dell'op, quello di Massimo Zanni, direttore dell'Ufficio op, che evidenzia la funzione strategica dei Reparti e quello del Segretario generale del Censis, Giorgio De Rita, che spiega come gli aspetti dei processi di sviluppo della società italiana abbiano interessato la tutela dell'op. A chiudere il convegno è il ministro dell'Interno che sottolinea quanto il numero delle manifestazioni svolte durante l'anno scorso sia impressionante: 11mila, ovvero 30 manifestazioni al giorno in ogni parte d'Italia nelle quali è stato garantito a ognuno di poter esprimere il proprio punto di vista. «C'è però un limite invalicabile – precisa Marco Minniti – e quel limite è la violenza. Per essere molto chiari: non ci può essere nessun malinteso ideale, non ci può essere nessuna questione di principio che possa far arrivare qualcuno a lanciare bombe carta contenenti chiodi contro i Reparti mobili. Non ci può essere nessuna giustificazione per coloro che attaccano un carabinie-



re che è caduto a terra. Questi non sono ideali ma atti criminali e come tali devono essere perseguiti. Abbiamo vinto una scommessa: non abbiamo proibito nessuna manifestazione ma non è fisicamente successo nulla. Ho voluto questo incontro perché era mio dovere, di fronte a quello che considero uno straordinario successo della democrazia italiana, guardarvi negli occhi e dirvi una cosa semplicissima: grazie per quello che avete fatto e per quello che fate ogni giorno per garantire l'ordine e la sicurezza pubblica nel nostro Paese».

Valerio Giannetti

# La **formazione**
## scende in campo

**L**a professionalità e la preparazione non si improvvisano ed è per questo che è nato il Centro di formazione per la tutela dell'ordine pubblico della Polizia di Stato dove si insegna ai poliziotti, e non solo, a gestire nel modo migliore un evento pubblico sia dal punto di vista psicologico che da quello operativo. Ne parliamo con il suo direttore, Gianpaolo Orditura.

**Che tipo di corsi si tengono nel Centro?**

Il Centro in questi anni è stato impegnato nei corsi per gli operatori di polizia di ogni ordine e grado. Naturalmente i piani formativi sono modulati in base alla platea di riferimento. Per gli operatori dei Reparti mobili il programma si compone di una parte teorica e di una addestrativa. Nella prima le materie trattate riguardano in primis gli aspetti relativi al governo e alla gestione dell'op e poi le tematiche di ordine giuridico, organizzativo, psicologico ed etico che afferiscono ai servizi di op. Ciò che più caratterizza, tuttavia, questa attività formativa è l'addestramento alle tecniche operative, che tiene conto della particolare realtà dei Reparti mobili: quella di operare in unità organiche denominate "squadre" e di essere dotati di uno specifico equipaggiamento e di mezzi speciali quali, ad esempio, gli idranti.

Per i restanti operatori di polizia, compresi quelli dei corsi di base (allievi agenti, vice sovrintendenti e vice ispettori e commissari), il Centro ha elaborato tecniche operative che consentono la massima tutela e la massima flessibilità di impiego.

**Quale preparazione specifica si richiede all'operatore di polizia addetto all'ordine pubblico?**

La preparazione si basa, essenzialmente, su quattro aspetti:

1. aspetto psicologico finalizzato alla gestione dello stress operativo;
2. pianificazione degli eventi finalizzata ad evitare, prevenendole, le criticità operative;
3. addestramento tecnico-operativo che consenta all'operatore di accrescere il bagaglio professionale, al fine di affrontare al meglio ed in sicurezza gli scenari di op;

4. profilo etico che tenga conto dell'esigenza di improntare la propria azione ad un corretto livello di visibilità, di tolleranza e di proporzionato rigore.

**Quanti operatori formate?**

Il 3 dicembre di quest'anno, ricorrerà il decennale della nascita del Centro.

L'incessante attività di questi anni ha portato alla formazione di circa 20mila operatori.

Al fine di migliorare l'approccio formativo vengono acquisiti i feedback dell'attività svolta attraverso la compilazione di schede di gradimento. Tali riscontri hanno rivelato un generale ed elevato apprezzamento del lavoro svolto e, al contempo, i suggerimenti forniti dai frequentatori dei corsi hanno permesso di attagliare l'attività formativa alle mutate esigenze del territorio.

**Effettuate corsi solo per il personale della Polizia di Stato?**

Negli anni sono stati formati anche operatori dell'ex Corpo Forestale dello Stato, della Guardia di Finanza e della Polizia Penitenziaria. Si tengono conferenze sulle materie di competenza, presso la Scuola Addestramento di Specializzazione della Guardia

*maggio 2018* **POLIZIA**MODERNA **5**

## il nostro lavoro/ordine pubblico



di Finanza di Orvieto, che, a sua volta, invia istruttori di tecniche operative presso questo Centro al fine di uniformare le tecniche operative specifiche.

**Quali le tipologie di docenti che insegnano nei corsi e come vengono selezionati?**

Vengono selezionati docenti in base all'esperienza maturata "sul campo". Questi possono essere sia funzionari di polizia, responsabili dei servizi di op sul territorio, sia coloro che si occupano della pianificazione degli stessi. Inoltre vengono chiamati a fornire il proprio contributo esperti provenienti dalla Digos, dalla polizia scientifica, dall'Ufficio op, dai Reparti speciali, dall'Ufficio relazioni esterne, dirigenti dei Reparti mobili e psicologi della Polizia di Stato.

**Sviluppate dei progetti di ricerca con atenei o aziende private?**

Attualmente faccio parte di un gruppo di lavoro che partecipa, in rappresentanza del ministero dell'Interno, al progetto europeo denominato LETS CROWD, nell'ambito del programma di finanziamento della ricerca sulla sicurezza Horizon 2020. Il progetto, cui partecipano anche altre forze di polizia europee, aziende del settore e diversi atenei d'Europa, è finalizzato allo studio di nuovi metodi di gestione della folla durante lo svolgimento di eventi di massa e si prefigge lo scopo di pervenire all'individuazione e all'adozione di un modello comune di intervento nell'ambito del-



lo svolgimento di tali eventi.

**Si impara più in piazza o a scuola a gestire l'ordine pubblico?**

È difficile rispondere a questa domanda, ma la vera innovazione portata con la nascita del Centro di formazione è che le esperienze dei singoli, positive e negative, sono diventate patrimonio comune. Ovviamente non come dogmi assoluti, ma come principi operativi, atteso che la materia dell'ordine pubblico è molto "fluida" e presenta molte variabili.

Quindi è fondamentale l'esperienza, ma lo è altrettanto lo studio e l'approfondimento delle situazioni che si verificano in piazza.

**C'è condivisione delle best practice tra le polizie europee?**

Sia dal punto di vista dell'analisi dei comportamenti delle masse, che dal punto di vista dell'approccio all'op da parte delle forze di polizia dei diversi Paesi, risulta imprescindibile uno scambio finalizzato a ottimizzare le modalità di gestione dell'op e le tecniche operative.

Per questo gli scambi culturali sono piuttosto frequenti. Rappresentanti di vari paesi europei ed extra europei hanno più volte

visitato questo Centro ed i Reparti mobili di tutta Italia. Esistono anche alcune esperienze di esercitazioni congiunte, come quella effettuata in Francia alla fine del 2014 tra Reparti inquadrati italiani e transalpini, in vista dei campionati europei di calcio del 2016. Sono stati incontri particolarmente proficui e hanno fornito moltissimi spunti di riflessione sia per quanto riguarda l'approccio all'op, sia per quanto riguarda le dotazioni e i mezzi operativi.

**C'è qualcosa di "tipicamente italiano" nel nostro modo di gestire l'ordine pubblico?**

Quando si pensa all'approccio "tipicamente italiano" il pensiero va inevitabilmente a ciò che ci viene universalmente riconosciuto: la capacità di rispondere efficacemente anche alle situazioni più imprevedibili. Quello che, però, sempre più sta caratterizzando la gestione dell'op in Italia, è la capacità di effettuare un'attività preventiva che consenta, nella stragrande maggioranza delle situazioni, di evitare l'insorgere di criticità. In questo senso sono emblematiche le due direttive emanate nel gennaio 2009 e nel giugno 2017 che, nell'ambito delle manifestazioni di rilievo la prima e degli eventi che prevedono un forte afflusso di pubblico la seconda, disciplinano in maniera dettagliata tutte le fasi preventive, concomitanti e successive a un evento di op, con un fondamentale obiettivo che possiamo sintetizzare in una sola parola: pianificazione. ❖

## 12  ANNEX C: ERTZAINTZA PRESS RELEASE RELATED TO THE SEMINAR *"POLICE AND SOCIETY: NEW SECURITY CHALLENGES"*, MADRID, OCTOBER 15th 2017 (ENGLISH AND SPANISH VERSION)

**Presentation of LETSCROWD Project at the International Seminar held by Fundació Bosch i Gimpera and the Universitat de Barcelona.**

On Sunday 15th October 2017, the international seminar organized by the Fundació Bosch i Gimpera and the Universitat de Barcelona took place in Madrid (Auditorium of Hotel Melía Castilla), with the title *Police and Society: New security challenges.*

The seminar participants were, among others, 300 students of the Investigation Police of Chile, accompanied by their instructors and officials, who have already completed their three-year training program and who are on a study tour in Europe before joining the service.

The Directorate and responsible of the inauguration of the seminar was Dr. Manuel Martín, from the University of Barcelona. In the chapter "Today's Resources in Research", Dr. Diego Torrente, Professor of the University of Barcelona, presented the paper "Security Challenges and Social Networks", pointing out how factors as globalization and technologies have transformed the demands of security, threats and opportunities.

Dr. Isturitz made a sketchy review of the different technologies available for the police and security services in his presentation "Technological resources of the current police" with a special emphasis on the integration of systems.

In the "Risks and Security" chapter, Commissioner Ertzaintza, Josu Alonso, gave a presentation on "Risk analysis in large events", the evolution of the methods used and the current trends in Europe regarding the analysis of risks in events with large gathering of people. In this context, and in relation to Social Networks, semantic web, Big Data and analysis of video images, the LETSCROWD project was presented, in which Ertzaintza participate as partner of a consortium of 16 partners integrated also by 6 other European LEAs (Law Enforcement Agencies).

The last speaker was Mr. Joaquím Fernández, from the School of Public Administration of Catalonia, who dealt with the "Current Security Perspectives", showing the diversity of approaches and the relativity of the concept of security.

The moderator of the seminar was the criminologist Mrs. Isabél Loinaz, finishing it with the delivery of diplomas to the assistants.

Finally, the closing ceremony was held by the Chief of the Police Delegation PDI of Chile.

Website PDI Chile

http://www.investigaciones.cl/

**Presentación del proyecto LETSCROWD en el Seminario Internacional organizado por la Fundació Bosch i Gimpera y la Universitat de Barcelona.**

El domingo 15 de octubre de 2017 tuvo lugar en Madrid (Auditorium del Hotel Melía Castilla) el seminario internacional organizado por la Fundació Bosch i Gimpera, y la Universitat de Barcelona, con el título *Policía y Sociedad: Nuevos retos de seguridad.*

Los asistentes al seminario, entre otros, fueron unos 300 alumnos la Policía de Investigaciones de Chile, acompañados de sus instructores y responsables, que ya han finalizado su programa de tres años de formación y están de gira de estudios en Europa antes de incorporarse al servicio.

La Dirección del seminario corrió a cargo del Dr. Manuel Martín, de la Universitat de Barcelona, el cual inauguro el mismo. En el capítulo "Recursos de hoy en la Investigación" el Dr. Diego Torrente, Profesor Titular de la Universitat de Barcelona, presentó la ponencia "Retos de seguridad y redes sociales", señalando cómo la globalización y las tecnologías han transformado las demandas de seguridad, amenazas y oportunidades.

El Dr. Isturitz, hizo un esquemático repaso a las diferentes tecnologías disponibles para los servicios policiales y de seguridad en su ponencia "Recursos tecnológicos de la policía actual" haciendo especial énfasis en la integración de los sistemas.

En el capítulo "Riesgos y Seguridad", el Comisario de la Ertzaintza, Josu Alonso, hizo una presentación sobre el "Análisis de riesgos en grandes eventos", la evolución de los métodos empleados y las tendencias actuales en Europa en lo referente al análisis de riesgos en eventos con gran afluencia de personas. En este contexto, y en lo referente a las Redes Sociales, web semántica, Big Data y análisis de imágenes de video, se presentó el proyecto LETSCROWD, en el que la Ertzaintza participa como socio de un consorcio de 16 socios, entre los cuales hay otras 6 organizaciones policiales europeas.

El último ponente fue el Sr. Joaquím Fernández, de la Escola d´ Administració Pública de Catalunya, el cual trató sobre las "Perspectivas actuales de seguridad", mostrando la diversidad de enfoques y la relatividad del concepto de seguridad.

Ejerció como moderadora del seminario la criminóloga Sra. Isabél Loinaz, finalizando el mismo con la entrega de diplomas a los asistentes y la clausura a cargo del Jefe de la Delegación Policial PDI de Chile.

Website PDI Chile

http://www.investigaciones.cl/

# 13 ANNEX D: PROJECT'S KICK-OFF PRESS RELEASE (ENGLISH AND ITALIAN VERSION)



**16 European partners funded with 3 million euros to drive the challenging European project LETSCROWD, aimed at monitoring and protecting people during mass gatherings.**

The project's kick-off meeting took place in **Valencia (may 11th and 12th)** at the headquarters of the project coordinator **ETRA Investigación y Desarrollo S.A**.



LETSCROWD (Law Enforcement agencies human factor methods and Toolkit for the Security and protection of CROWDs in mass gatherings) is a project funded by the **European Commission** under the HORIZON 2020 Programme, that received a grant of nearly **3 million euros** (2919000 Euros).

**Europe has suffered many criminal actions and terrorist attacks during mass gatherings**, which have great impact on the citizens and the society, in the last few years. **LEAs must face this new scenario** (it is considered a priority by the European Union), which imposes a multitude of heterogeneous challenges. Hence, the key is to deter, prevent, protect, pursue and effectively respond to criminal and/or terrorist actions, achieving the best possible protection for people gathering in a specific area where particular events are taking place, thus increasing also the sense of security whit the necessary balance between protection and rights of EU citizens. For all these reasons, novel methodologies and tools must be investigated for **strategic and operational activities**, involving also strong **cross-border cooperation** and **intelligence sharing**, and planning solutions for all these issues, where the human and sociological factor is often the key driver. In fact, **humans play a key role in every dimension of crowd protection** against criminal and terrorist acts: as perpetrators, protectors and victims.

LETSCROWD will overcome challenges preventing the effective implementation of the European Security Model (ESM) with regards to mass gatherings. This will be achieved by providing the following to security policy practitioners and in particular, LEAs: (1) A **dynamic risk assessment methodology for the protection of crowds** during mass gatherings centred on human factors in order to effectively produce policies and deploy adequate solutions. (2) A **policy making toolkit for the long-term and strategic decision making** of security policy makers, including a database of empirical data, statistics and an analytical tool for security policies modelling, and (3) A set of human centred tools for Law Enforcement Agencies (LEAs), including **real time crowd behaviour forecasting**, innovative communication procedures, **semantic intelligence applied to social networks** and the internet, and novel computer vision techniques.

LETSCROWD will be a security practitioner driven project, fostering the communication and cooperation among LEAs, first responders, civil protection and citizens in the fight against crime and terrorism during mass gatherings by a set of cooperation actions. The project will put citizens at the centre of the research and will assess and evaluate how security measures affect them, and how they perceive them, while respecting EU fundamental rights. LETSCROWD impact will be measured under practical demonstrations involving **six LEAs** and relevant emergency services units. In order to facilitate the assessment of the performance, transferability, scalability and large scale deployment of these solutions, the demonstrations will be conducted following eleven use cases. The project, lead by ETRA Investigación y Desarrollo S.A. (Spain), will be implemented by a consortium of **16 partners, from 8 different countries** (including SMEs, universities, LEAs), operating in the critical areas of government, security, energy, finance, transport and utilities.

**Partners:**

- ETRA Investigación y Desarrollo S.A. (Spain, coordinator)
- Policía Municipal de Madrid – Ayuntamiento de Madrid (LEA- Spain)
- University of Applied Sciences – Police Affairs (LEA- Germany)
- Crowd Dynamics International Ltd (UK)
- Deep Blue (Italy)
- European Emergency Number Association (Belgium)
- Expert System Spa (Spain)
- Local Police Voorkempen – Lokale Politie Voorkempen (LEA-Belgium)
- Ministry of the Interior- Polizia di Stato, Department of Public Security (LEA- Italy)
- PROPRS Ltd. (UK)
- Ministerio da Administracao Interna - Polícia de Segurança Pública (LEA-Portugal)
- RAILSEC Ltd (Israel)
- Ministry of Internal Affairs - Ministerul Afacerilor Interne (LEA-Romania)
- Universidad de Cantabria (Spain)
- PRA Lab, DIEE, University of Cagliari (Italy) &
- Pluribus One (Italy, linked third partner of PRA Lab-DIEE)

**PRA Lab (UNICA) e Pluribus One (UNICA Spin-off) tra i partner dell'ambizioso progetto Europeo LETS CROWD, per il monitoraggio e la prevenzione di comportamenti anomali durante raduni di massa.**

Il kick-off meeting del progetto si terrà a **Valencia l'11 e il 12 Maggio 2017**, presso la sede del coordinatore ETRA Investigación y Desarrollo S.A.



LETS CROWD (Law Enforcement agencies human factor methods and Toolkit for the Security and protection of CROWDs in mass gatherings) è un progetto finanziato dalla Commissione Europea, nell'ambito del programma HORIZON 2020, per un totale di quasi **3 milioni di euro** (2919000 Euro). Negli ultimi anni l'Europa è stata teatro di noti fatti di cronaca che hanno causato numerose vittime, disagi e insicurezze nel tessuto societario europeo. **Attacchi terroristici e altre azioni criminali verificatesi durante eventi pubblici e in luoghi affollati**, sono improvvisamente diventati una priorità da fronteggiare per L'Unione Europea e per le forze dell'ordine degli stati membri. Si tratta di uno scenario dai tratti eterogenei, da affrontare con il giusto equilibrio tra aumento delle misure di sicurezza e mantenimento delle libertà individuali. LETS CROWD verrà finanziato dall'Unione Europea per indagare metodologie e soluzioni strategiche e operative per il **monitoraggio e la protezione delle folle durante raduni e assembramenti in luoghi pubblici**; il progetto è stato scelto soprattutto per il suo carattere eterogeneo, per la sua proposta di cooperazione transfrontaliera e di **intelligence condivisa**, e per la sua **attenzione particolare riposta sull'aspetto umano e sociologico** (oltre che su quello tecnico e tecnologico) della protezione delle folle (qualunque sia il ruolo giocato dalle macchine o dagli strumenti di monitoraggio, è sempre l'uomo ad avere un ruolo chiave, talvolta imprevedibile, durante tutte le fasi delle azioni criminali: è vittima, difensore, criminale...).

LETS CROWD fornirà un concreto supporto nell'attuazione del **Modello di Sicurezza Europeo (ESM)** per quanto riguarda i raduni di massa, aiutando i professionisti di politiche di sicurezza e in particolare le **forze dell'ordine (Law Enforcement Agencies - LEAs)**, attraverso le seguenti proposte: (1) lo **studio, centrato sulla componente umana**, di una metodologia dinamica di valutazione del rischio per la protezione delle folle durante raduni di massa, al fine di produrre in modo efficace le politiche di sicurezza e implementare soluzioni adeguate. (2) Un **concreto toolkit che agevoli le politiche decisionali** di lungo termine, comprensivo di un database popolato con una raccolta empirica di dati sulla sicurezza, e strumenti per l'osservazione statistica e analitica degli stessi. (3) **Un insieme di strumenti tecnologici a supporto delle forze dell'ordine**, tra cui: software in grado di rilevare e segnalare in tempo reale i comportamenti anomali nelle folle; procedure di comunicazione innovative; strumenti di intelligenza semantica applicata ai social network e ai testi ospitati in essi; nuove tecniche di Computer Vision.

LETS CROWD sarà guidato da **professionisti della sicurezza**, favorirà la comunicazione e la cooperazione tra le forze dell'ordine e **metterà i cittadini al centro della ricerca**, valutando le misure di sicurezza che li riguardano e come queste vengano percepite dai cittadini stessi, nel rispetto dei diritti fondamentali garantiti dall'UE. L'impatto del progetto sarà misurato attraverso dimostrazioni pratiche che coinvolgono sette forze dell'ordine e alcune unità dei servizi di emergenza. Al fine di facilitare la valutazione di applicabilità, trasferibilità e distribuzione su larga scala di queste soluzioni, saranno analizzati **undici concreti casi d'uso**. Il progetto, guidato da ETRA Investigación y Desarrollo SA (Spagna), sarà portato avanti da un consorzio di 16 partner provenienti da 8 diversi paesi; istituti di ricerca privati e pubblici, università, forze dell'ordine e pubbliche autorità che operano nelle seguenti aree critiche: governo, sicurezza, energia, finanza, trasporti e servizi.

L'università di Cagliari avrà un ruolo chiave del progetto, partecipando attraverso due unità di ricerca:

- **il laboratorio PRA Lab** che si occuperà di sviluppo di strumenti di videosorveglianza intelligente e per il processamento semi-automatico di immagini in grado di monitorare e rilevare comportamenti anomali in assembramenti pubblici. Il laboratorio darà valore aggiunto alla "Computer Vision for crowd protection – Intellingenza artificiale e visione mediata dalle macchine nella protezione delle folle" e avrà la leadership nella pianificazione della strategia di comunicazione e del work package dedicato alla disseminazione e allo sfruttamento dei risultati di ricerca.
- un linked third party, **la spin-off universitaria Pluribus One**, che approfondirà gli aspetti del progetto correlati a Cybercrime e cyberattacks, occupandosi di **analisi e sviluppo di casi d'uso** del toolkit proposto da LETS CROWD, e implementando delle sofisticate componenti per un avanzato motore di analisi semantica messo a disposizione da uno dei partner del consorzio.

**Persone del PRA Lab coinvolte:** Fabio Roli, Giorgio Fumera, Davide Ariu, Matteo Mauri

**Partners:**

- ETRA Investigación y Desarrollo S.A. (Spagna, coordinatore)
- PRA Lab, DIEE, Università di Cagliari (Italia) &
- Pluribus One (Italia, linked third party del PRA Lab-DIEE)
- Policía Municipal de Madrid – Ayuntamiento de Madrid (LEA-Spagna)
- University of Applied Sciences – Police Affairs (LEA-Germania)
- Home Office Centre for Applied Science and Technology (LEA-Regno Unito)
- Crowd Dynamics International Ltd (Regno Unito)
- Deep Blue (Italia)
- European Emergency Number Association (Belgio)
- Expert System Spa (Spagna)
- Local Police Voorkempen – Lokale Politie Voorkempen (Belgio)
- Ministry of the Interior- Polizia di Stato, Department of Public Security (LEA-Italia)
- PROPRS Ltd. (Regno Unito), Ministerio da Administracao Interna - Polícia de Segurança Pública (LEA-Portogallo)
- RAILSEC Ltd (Israele)
- Ministry of Internal Affairs - Ministerul Afacerilor Interne (LEA-Romania)
- Universidad de Cantabria (Spagna)

## 14 ANNEX E: SANTIAGO CACERES' PRESENTATION AT IMPACT FINAL EVENT

## OVERVIEW



## OBJECTIVES

I. Develop a common European understanding about security issues for crowd protection during mass gatherings

II. Develop a Policy-making platform for security policy-makers

III. Develop human-centred Toolkit for LEAs

IV. Perform practical demonstrations to assess project outcomes

V. Analyse public opinion or mood on mass scale in relation to policies and actions for protecting people in mass gatherings against criminal and terrorist acts

VI. Dissemination, communication of results and post project deployment and large scale adoption.

# LETSCROWD AND THE LEAS' PHASES DURING MASS GATHERINGS
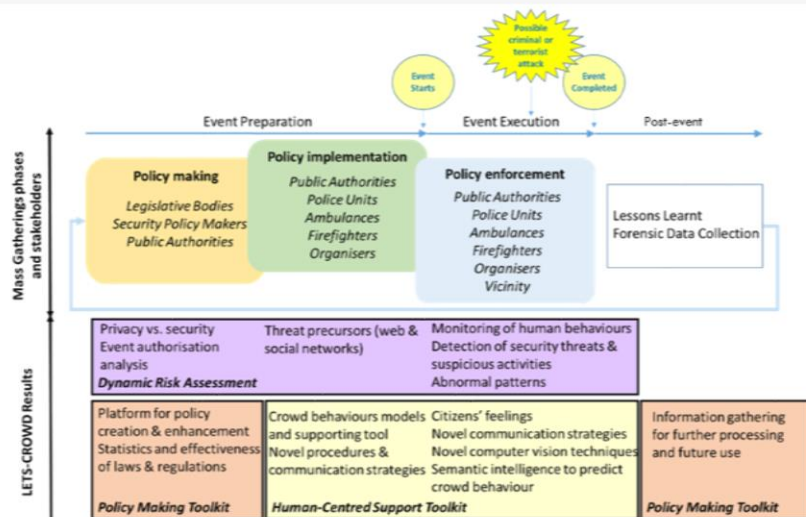


# RISK ASSESSMENT

- Methodology to dynamically assess the risks for crowds during mass gathering events.
- Situational awareness in a dynamically-changing uncertain risks conditions in the immediacy of the event.
- Combination of two approaches: Static and Dynamic risk assessment.
- Use of "weak signals" in the dynamic risk assessment.

## WEAK SIGNALS

- *Weak signals are suspicious signs of activity that singularly do not constitute a threat but when consider together can lead to the need to modify the risk*

## EXAMPLES OF WEAK SIGNALS

- Pattern recognition algorithms fed by video streaming
- Suspicious messages generated by Cyber Threat Intelligence (use of social networks)
- Patterns related to cyber attacks to ICT infrastructures (of the event or the LEAs)
- Meteorological forecasting
- Feedback from security personnel
- …

## QUESTIONS

- How to combine weak signals?
- What is the threshold for weak signals?

## THANK YOU!

## LET'S GO TO ROUND TABLE

For more information visit:
http://letscrowd.eu/

## 15 ANNEX F: LETSCROWD NEWSLETTER ISSUE 1

# The LETSCROWD Newsletter

N° 1, May 2018
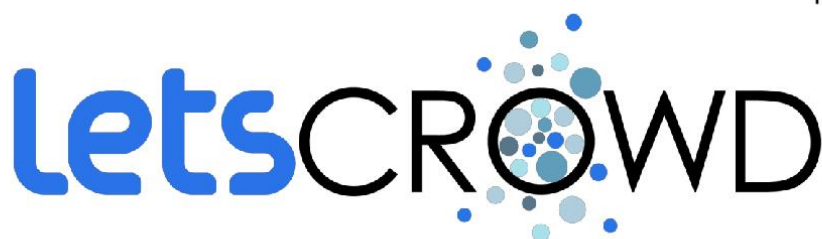
# letsCROWD

**Law Enforcement agencies human factor methods and Toolkit
for the Security and protection of CROWDs in mass gatherings**

## In this issue

## LETSCROWD Newsletter 1. May 2018

Dear Friend,

With the recent conclusion of the first year of work in LETSCROWD we are glad to share part of the outcomes of the first phase of the project with the community, a step forward in the protection of crowds in mass gathering events.

The main focus during the initial phase of the project was on the clear identification of the scenarios to be tackled by our research, negotiating the different responsibilities within the group of institutions cooperating, and analysing the requirements to achieve the ambitious goals of the project. Requirements coming from outside end-user community were taken into account thanks to our cooperation and advisory board, and a successful workshop held in Rome September last year with IMPACT project.

That initial effort has led to the first version of several outcomes that will be further developed, refined and validated in a set of practical demonstrations. Those outcomes include our Dynamic Risk Assessment that will help LEAs to deal with weak signals (suspicious signs of activity that singularly do not constitute a threat, but when consider together, they can lead to the need to modify risks), a Policy-Making Toolkit, which will help security policy makers to define innovative security strategies in crowded events, and a human-centred support toolkit which includes crowd modelling tools, semantic intelligence, effective communications guidelines and intelligent video surveillance.

The way ahead of us is exciting and challenging as we are starting to detail our practical demonstrations. They will be run thanks to the direct involvement of seven different Law Enforcement Agencies forming part of the consortium.

Therefore, please subscribe to our emailing list, and/or your organization to our stakeholders list (contact us!) in order to be updated on these, and other, developments in LETSCROWD.

I am sure you will find interesting the contents of this first newsletter, and hence I would like to invite you to read on.

Santiago Cáceres Elvira
Project coordinator
ETRA Investigación y Desarrollo SA

## Intelligent video surveillance for the security of mass gathering events

Rita Delussu, Giorgio Fumera, Matteo Mauri – PRA Lab, University of Cagliari

**Video surveillance systems** are nowadays widespread for security-related purposes in several contexts, both outdoor (e.g., monitoring public areas) and indoor (e.g., airports halls, banks, etc.). Due to the huge amount of video data acquired by camera networks, automatic tools based on computer vision algorithms are becoming necessary to support human operators in monitoring and analyzing such data. This is the subject of a multidisciplinary research area named **intelligent video surveillance**, which involves hardware and software aspects, such as sensors, networks, interfaces, as well as signal processing, pattern recognition and machine learning algorithms, to enable advanced computer vision capabilities.

Research efforts over the past decades have lead to many computer vision methods to implement functionality of interest in intelligent video surveillance, like object and person detection and tracking, detection of events of interest (like anomalous behaviors, e.g., in road traffic or in a mass of people), re-identification of objects (e.g., cars) or individuals across non-overlapping cameras, etc.

However, the recognition capability of computer vision algorithms in real-world application scenarios (like re-identifying individuals of interest in videos acquired by different cameras) has not yet reached a human level, except for very specific tasks with constrained settings. On the other hand, machines can process a huge amount of data at a much higher speed than humans; moreover, the performance of human operators decreases as the amount of data to be analyzed increases (e.g., when videos from several cameras have to be monitored, or simply when the monitoring activity has to be carried out for a long time), and also depends on factors such as operator's experience, psycho-physical state and working condition. To leverage complementary capabilities of humans and machines, computer vision solutions can be effectively used as **tools to support human operators** in carrying out complex monitoring and recognition tasks, rather than in a fully automatic way.

One of the goals of the LETSCROWD project is to develop semi-automatic computer vision tools capable of supporting human operators in analyzing videos acquired by camera networks, either in real-time (e.g., for monitoring a crowd during a mass gathering event) or off-line (e.g., for forensic purposes). In particular, the following functionalities will be considered: person re-identification, which is the problem of recognizing an individual in videos acquired by non-overlapping cameras, using an image as a query; people search for textual description, i.e., retrieving videos showing individuals that match a given description of their appearance; and crowd monitoring, e.g., to estimate its density or detecting anomalous behaviors.

PRA Lab works on the development of next generation pattern recognition systems for real applications such as video surveillance, biometric authentication, text categorization, and intrusion detection in computer networks. PRA mission is to address fundamental issues for the development of future pattern recognition systems, in the context of real applications.
http://pralab.diee.unica.it/en

**PRA Lab - University of Cagliari**

## Cooperation for a smart, connected and secure society

Sebastian Allertseder – University of Applied Sciences for Public Service in Bavaria – Department of Policing

The University of the Bavarian Police and the Bundeswehr University Munich recently started their cooperation in the field of **smart, connected and secure societies**. Both Universities have been working in this field for a longer time and have already finished national and European-funded projects with strong relations to this field.

The project franco-german project RE(H)STRAIN (Resilience of the Franco-German High Speed Train Network) is an example of the work of the Bundeswehr University during the last time. The projects aim is to improve the public security by giving the operators of the train the possibility to react quicker to possible attacks. In addition, the **improvement of the dynamic risk assessment** during these potential attacks is one of the major goals this three year project. Potential evacuations of passengers, which are always a big risk, can be planned, simulated and organized in a more precise way.

This the big parallelism between the RE(H)STRAIN project and Lets Crowd. Although, Lets Crowd is not dealing with critical infrastructure as such, dynamic risk assessment is a big issue for our project. Other parallelism are the crowd modelling part, which also allows precise predictions about the potential crowd behavior and the possible tactics for an improved security during large events and the analysis of big data.

The role as a Law Enforcement Agency partner in the Lets Crowd project allows the University of the Bavarian Police, to share experiences with the partners and to work on better solution for new challenges in globalized world. The newly built boundaries with the Bundeswehr University will additionally help to include substantial input by learning from each other.

The possibilities for an improvement of law enforcement, opened by new technologies, Big Data analysis and digitalization, are only rudimentary used at the moment. The huge amount of data and the complexity of these phenomena are changing the traditional work of the police. However, if intelligence is, according to the great scientist Stephen Hawking, the **ability to adopt to change**, police is required to adopt to these new phenomena and use the possibilities given by the new technology. Projects like Lets Crowd contribute to this process by offering a new and **innovative alternative to traditional police work** and static risk

assessment. The Bavarian Police is very proud to be part of this journey and to contribute to the smart, connected and secure society.

The University of applied Sciences for Public Service in Bavaria – Department Police, is the education and training institution for the higher police service in Bavaria. About 800 Students are trained every year in practical and theoretical contents related to their work as executive police officers. The team of six persons, working exclusively on European projects, is supported by the 45 University teachers. The research department tries to maximise the impact of their research work on the daily police work providing innovative approaches.
http://www.fhvr.bayern.de

**University of applied Sciences for Public Service in Bavaria**

## Local Police Voorkempen: smaller events can also have risks

Ilse Jacobs, Adviser and  Geert Smet, Chief of Police – Local Police Voorkempen

Concerning mass gatherings it is obvious that big countries and/or police forces especially participate in a project such as Lets Crowd. But also **'small' mass gatherings can face risks**.

The Belgian police is structured on two levels: the federal and the local level. These 2 levels are autonomous and come under the authority of different departments. They complement one another and work in close cooperation in order to contribute to security and to maintain democracy in Belgium.

The local level is made up of police zones. Each police zone is composed of one or several municipalities. The Local Police perform the 'basic police function': district policing, reception, intervention, aid to victims, local investigation, public order and traffic. The Local Police is also supposed to accomplish some Federal Police missions. These include for example the maintenance of law and order during major events or soccer matches and the crowd control during these events

As a police force in the Lets Crowd consortium we act as a LEA providing its know-how in the requirements and use cases phase. We have some knowledge within our police zone and good contacts within the integrated police. Although we don't have such a big mass events in our own police zone, on the basis of solidarity our people provide assistance to bigger mass events taking place in other parts of Belgium.

New **technological applications from private partners are regularly tested during events**. Often the initiative is taken from a private partner who thinks to know what we need as a police force. However, this technology is not always tailored to our needs or it isn't possible to make a connection between different (police-specific) applications so we have to enter the same data in different applications. This is quite labour-intensive and just before or during an event is time not always the luxury we have.

We will actively participate in the practical demonstrations, evaluate the outcomes of the project, and in the dissemination of the project. Our aim is to obtain tools that are useful for both large and smaller events. They must provide support for the work of police officers. So these tools must be user-friendly.

> The Local Police is composed of 187 police zones spread over the whole territory of Belgium and employ almost 33 000 staff members. The Local Police Voorkempen (LPV) is formed by the municipalities Brecht, Malle, Schilde and Zoersel (+86 000 inhabitants) and is situated in the east side of the province of Antwerp. We have about 178 staff members whereof 137 operational ones. The core business of the Local Police Voorkempen provides an effective victim support and doing proper effectively investigations and the managing of local events.
> http://www.lokalepolitie.be/5355/home.html
>
> **Local Police Voorkempen**  **O Politie** Voorkempen

## Innovative communication guidelines for mass gatherings

Alessia Golfetti, Sabina Giorgi - Deep Blue

Effective communication is of prime importance for running an event smoothly and safely. The provision of clear, unambiguous information to the crowd can help prevent dangerous situations arising.

When organising an international event, where people from different countries are expected to come, socio-cultural factors are important aspects to take notice of, both during emergencies and in the pre-event phase.

The communication guidelines developed within the LETSCROWD project aim at supporting security operators and first responders' intercultural competences for effectively manage multicultural crowds during normal and emergency situations.

### Who the guidelines are for?

- Law Enforcement Agencies personnel;
- Security operators;
- First responders.

### What do the communication guidelines look like?

The preliminary version of the LETSCROWD communication guidelines include:

- General and specific (i.e. related to sportive events and festivals) communication recommendations and solutions addressing socio-cultural aspects of relevance;
- Specific template for constructing warning messages;
- Specific template for supporting the mapping of the channels with the message to be delivered;
- Triggering questions that can be used as check list by the guidelines users when setting up their own communication strategy.

### What is the communication guidelines added value?

The communication guidelines present an overview of the existing communication measures applied by a number of Law Enforcement Agencies (LEAs) in different countries. By merging the current LEAs communication procedures with the literature review on crisis and risk communication, the communication guidelines show an integrate picture of them. The topic around which the integrated view is built concerns the **socio-cultural aspects** affecting the communication process.

**Which are the main socio-cultural aspects that can affect the communication process?**

**Large group identity**
(i.e. nationality; ethnicity/
cultural group belongingness);

**Subgroup membership/ belongingness**
(i.e. team supporters; fans; religious and
political groups; families; groups of
friends; etc.);

LANGUAGE
SIGN COMPREHENSION

Deep Blue (DB) is a research and consultancy Italian SME, specialized in human factor, safety, security, validation and scientific dissemination. The company operates in contexts with high safety, security and resilience requirements, such as Transport, Healthcare and Energy.
https://dblue.it

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## Can we predict Crowd Behaviour at Mass Gatherings?

Paul Townsend, Director and Dan Jeffery, Senior Developer - Crowd Dynamics International Limited

### Mass gatherings and crowds

A mass gathering is a coming together of people for some reason – maybe a concert, sports event or protest. However, the mass of people that attend, whether they are called visitors, spectators, protestors or any other name are, to a crowd modeller at least, just a new type of crowd that can be understood.

To most people, crowds appear unpredictable. The people in the crowd appear mindless and seem to be carried along within the crowd, so how can we predict what people are going to do? The answer to this question is complicated, but is being revealed through the work in the LETSCROWD project.

### How can we plan for the safety of crowds?

Before a mass gathering, it is imperative that crowds who will attend are understood in their movement patterns, likely behaviours. This means forecasting the number of attendees, how they arrive, how to process them and manage them throughout the mass gathering and how to allow them to leave; not to mention how to manage emergency situations. This complicated process is helped in many situations by **crowd modelling**.

It is the responsibility of the organiser to carry out this planning, but Law Enforcement Agencies (LEAs) need to assess this information, test their own contingency planning, or even organise parts themselves, when the mass gathering has no particular responsible organiser.

### What can the LETSCROWD models do?

LETSCROWD plan to help this planning process with an advanced crowd modelling toolkit (called the 'Crowd Modelling and Planning Tool', that can assess everything from the **capacity** of an area, to **evacuation** scenarios, to predicting **crowd behaviour** in reaction to a suspected bomb, or in reaction to **LEA tactics** (like police dogs, communication procedures or simply testing moving crowds away from a danger are ).

### Can we simulate crowd behaviour during a live event?

These simulations will be able to help in **training** LEA staff (decision makers and frontline) by recreating potential scenarios at a mass gathering, but also during operations. A **real-time** approach to crowd modelling is being trialled where LEAs can assess a situation, quickly trial the proposed response and get feedback on the consequences before implementing it.

www.letscrowd.eu        @LetsCrowd        linkedin.com/in/lets-crowd-project
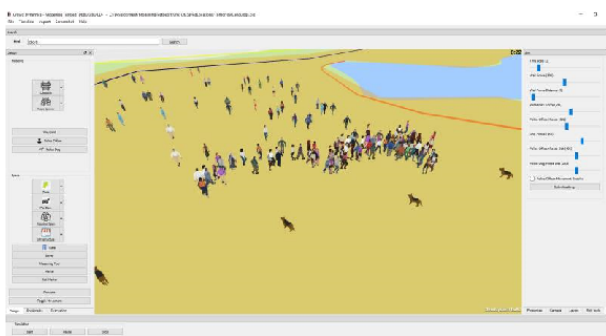
This has been shown to be possible for evacuation scenarios, and the possibility of the other features used by LEAs during their operations is going to be demonstrated and tested live.

## What are the models/simulations made up of?
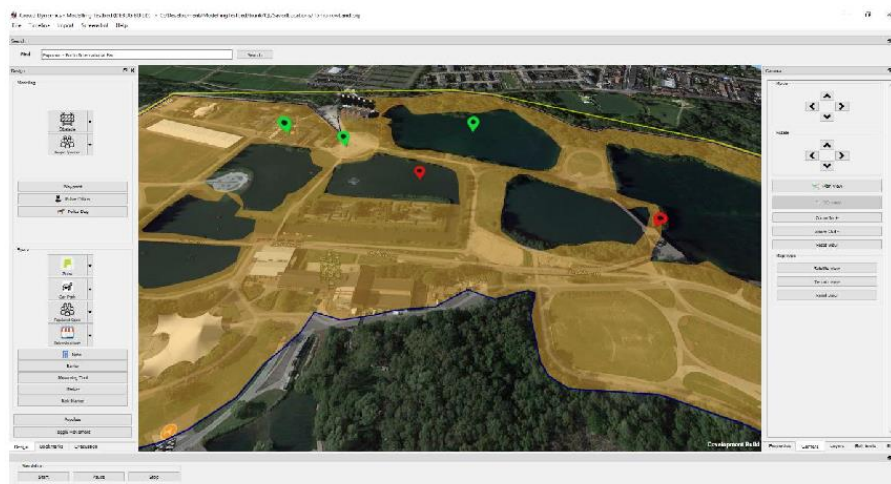


The crowd models use a combination of modelling scales from macroscopic, mesoscopic and microscopic **agent based models** to capture the requisite behaviour across different areas. For example, use simpler macro models to forecast crowd movements during evacuation over the entire mass gathering for multiple scenarios, and use detailed microscopic models (individual people who make their own choices in the model) to determine the effect of a particular crowd management/control strategy on the crowd itself. For example: What is the resulting crowd density? How many staff are required to be effective? Is the proposed communication effective? With a basis on the FP7 funded project eVACUATE (www.evacuate.eu), the real-time aspect of the model is extremely fast at computing crowd movement over many different possible routes. The detailed model is based on the social force approach for movement, but with a behavioural component that allows modelling of behavioural reactions to objects, staff, communication with the crowd etc. The models are all visualised in 3d for ease of understanding, and more work is being done on summary outputs that are easy to understand.

## How can the predictions be trusted?

A **validation process** for the models is in place, many basics of the models have already been validated such as the movement of people by comparing against other commercial simulations, data sets and observed phenomenon. The behavioural implementation will be validated alongside the 7 LEAs within the project.

They are helping to calibrate them using their knowledge of crowd behaviours and they will use the tools during the proposed practical demonstrations to provide feedback for incorporation. This user driven human factors approach should overcome any issues due to **trust.**

Crowd Dynamics International Ltd has a widespread client base and global reputation. Over many years, our experienced team of specialists has fine-tuned the science of Crowd Dynamics. The company's software developers have turned this specialist knowledge into practical modelling packages, with the goal of maximising capacity, space and efficiency while minimising risk. Such tools include real-time analysis of crowds.

http://www.crowddynamics.com

**Crowd Dynamics International Limited**

## Dynamic Risk Assessment (DRA) for mass gathering events

Carlo Dambra, Alex Gralewski – PROPRS LTD

In the management of **mass gathering events**, Law Enforcement Agencies (LEAs) are collecting **weak signals** from many different **heterogeneous sources**: physical sensors (metal detectors, explosive sniffers, etc.), CCTV-based sensors (intrusion detection, crowd monitoring, car number-plate readers, etc.), humans as sensors (public participating to the event, stewards, policemen in the crowd, etc.), intelligence warnings, cyber-threat intelligence.

The collected weak signals are extremely complex **to be interpreted as threat precursors in low probability high impact events** (e.g. terrorist attacks) due to: their heterogeneity and numerosity, the intrinsic uncertainty of the sensors and the related processing, the distribution in both time and space.

LETSCROWD has proposed an innovative methodology to process collected weak signals to **dynamically assess risks for the crowd** by

- **Ranking** them according to the **Credibility** of the detector (usually a trained steward can be considered more credible than a teenager in detecting an abandoned object), the **Reliability** of the sensor and related processing (a CCTV-based vehicle detector can be misleaded by shadowing in the scene) and the **Time Distance** between the detection and the event itself (a truck in a forbidden area can be considered differently if it is happening 3 days before or during the event).
- **Grouping** them into **Suspicious Patterns** to be considered as threat precursors according to space-based, time-based and experience-based rules allowing also the operator to group them dynamically.
- **Showing them to the operator** on a time-dependent GIS integrated with crowd modelling tools to allow him to take risk-aware decisions and implement mitigation actions.

The proposed DRA methodology will be tested, tuned and validated at LEAs demonstration sites.

PROPRS is an independent, British company (SME) providing a range of consultancy services in risk management. The Company's main area of expertise is in assessing and quantifying risks to the public, the workforce and the environment associated with the design, construction, operation and management of industrial plant and processes, transport operations (railway and maritime), ICT applications and infrastructures.
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## Addressing real-time challenge in real time evacuation calculations

Arturo Cuesta, Daniel Alvear, Orlando Abreu, Adriana Balboa – University of Cantabria

A timely prediction in the evacuation process of mass gathering events might well be crucial to save lives in case of an emergency.
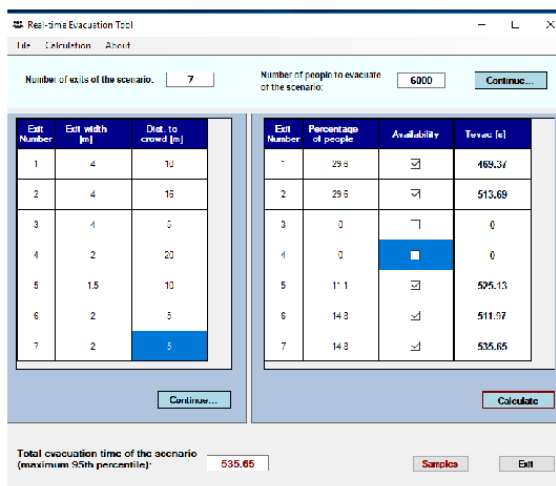
Evacuation process is being performed by both hand calculations and computational models, mainly with a deterministic approach and high run times. These tools have been successfully used in different contexts and applications, such as engineering and planning. However, during an event management it is highly likely to be required a higher level of accuracy and results must be provided in real time. Therefore, there is a need to develop new evacuation models specifically for mass gathering events, stochastic and with the capability to perform several simulations within a few seconds for supporting decision making in real-time.

In order to rise above this problem, The RTE (Real-time Evacuation tool) is a software designed in the LETSCROWD project to calculate the evacuation of people in the crowd under different emergency conditions. Some of features of the model include:

- Stochastic approach.
- Microscopic and macroscopic simulation.
- Results in *cuasi* real-time (within a few seconds).

### How the RTE works?

The model handles both indoor and outdoor scenarios. Geometry is configured by simply assigning the number of available exits and their width. The evacuation is calculated as the sum of two components: 1) time for the first pedestrians to reach the available exits and 2) time for the rest of population to flow through the available exits. The first component is calculated by using a microscopic approach whereas the second component is obtained by a macroscopic approach. Response times, travel speeds and flows through the available exits are stochastic variables in the model. Monte Carlo methods are used to generate samples of the input variables and the model has the capability to perform hundreds of runs to capture stochastic variations in the outcomes.



The real-time applications require processing the outputs quickly enough and the information provided need to be easy to interpret and with a high confidence level.

The model provides the significant evacuation time for each exit defined as time from a collection of (total) evacuation times that is greater than or equal to a threshold value to be defined (i.e. 95th percentile). It also provides the optimal proportion of the population per each exit available.

The RTE tool allows the user the possibility to make exits unavailable due to the emergency and explore the potential results.

The information provided by the model will help the security decision makers to:

- Predict the required safe escape time for people involved in the emergency
- Implement faster and/or safer evacuation procedures
- Assess the impact of current/potential emergency situations
- Plan intervention strategies



To sum up, RTE tool is an outcome of LETSCROWD that aims to solve a major problem during emergency management actions in a terrorist attack, since enhancing evacuation operations might be crucial to guarantee the protection of people involve in these situations.

## Cognitive technology and Text Analytics to secure mass gathering events

Andres Garcia-Silva, Jose Manuel Gomez-Perez - Expert System Spain
Alessio Mulas, Davide Ariu - Pluribus One

### Web Content as primary source of information

The value of an intelligence solution for mass gathering is its ability to make use of all the information available and provide the tools that analysts need in order to gain visibility, context and insights. The Web, including social media, news, wikis, forums and web sites in general, is a prominent source of user-generated content about events that can be leveraged to identify and assess security threats.

Nevertheless, when it comes to extract meaningful information from online sources, several big data challenges need to be faced, including the distributed nature of web resources and the fact that this information is mostly unstructured text. Indeed, regardless of the scale, processing natural language is a cumbersome task, given the ambiguity of words and sentences, misspelling errors, slang and informal language used in social media, and multilingualism, to name a few issues.

### Semantic Intelligence Engine

Expert System and Pluribus One work together in project LETSCROWD to deliver a Semantic Intelligence Engine (SIE) that enables security analysts to monitor and gather text from web resources via a configurable focused crawler. The extracted text is processed with Cogito, Expert System's cognitive technology, which enriches it with content-based semantic metadata, enabling advanced visualizations that support data analysis and inspection from a security perspective.

### Web Crawler

The Web Crawler Module gathers information from several web-based resources. Crawled sources are open (OSINT) and social media oriented (SOCMINT) and legal and ethical boundaries and limitations are considered. To tackle the complexity of different sources and the constantly changing scenario, the Web Crawler Module follows a plugin-based architecture where several smaller components or "plugins" manage atomic researches with customized approaches for each different source while a core module manages data retention, communication with other external modules and other tasks.
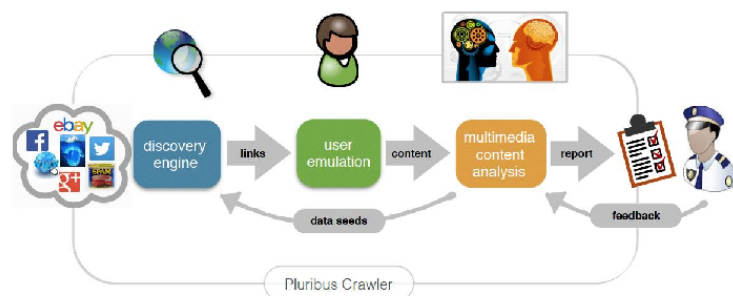
### Text Understanding: Semantic Technology and Machine Learning

Cogito is able to understand text producing meaningful, actionable intelligence that enhances insight, fuels more knowledgeable decisions and strengthens what analytics can reveal. The capability to understand, relate and disseminate intelligence as it is acquired can accelerate the risk assessment of an emerging situation and contribute to the development of a threat profile or to the effectiveness of a security strategy.

The approach for text understanding is based on a representation of knowledge, the **Cogito Knowledge Graph**, that encodes linguistic knowledge for 14 different languages. Cogito carries out semantic analysis, including word disambiguation, to identify the correct meaning of words and expressions in context, and understands the relationships between different concepts. The output of these linguist-based analysis is used to perform more complex tasks such as information extraction, text classification in taxonomies, and author writing style analysis.
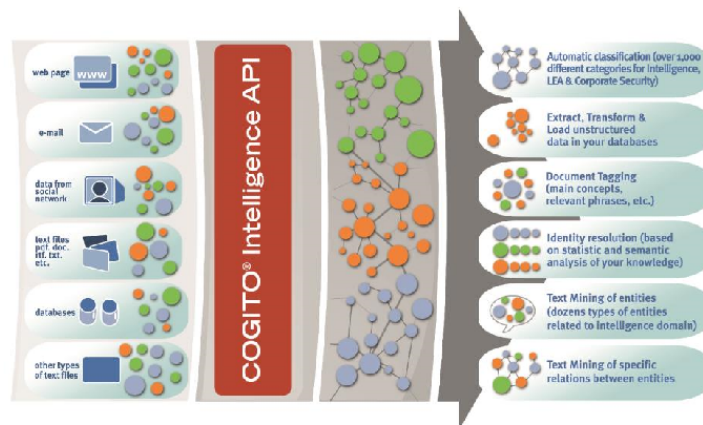
For example, security analyst can monitor categories such as "act of terror" or "religiously inspired terrorism" where documents are placed if they contain information about a terror attack or the motivation of the attack was religious. They can inspect sources where entities of type "criminal organizations" are found or specific people and places are mentioned, and the writing style analysis could be used to identify authors that are consistently using slang in criminal or cybercriminal contexts.

### Text Analytics

We developed a number of intelligence dashboards that provide a high-level indicator-based unified view of the documents gathered about a given mass gathering. Such dashboards are interactive and dynamic. They allow filtering the document collection using keyword searches, dates, taxonomies, and time series (see left hand side column), enabling a detailed inspection of each of the documents that fulfil the criteria.
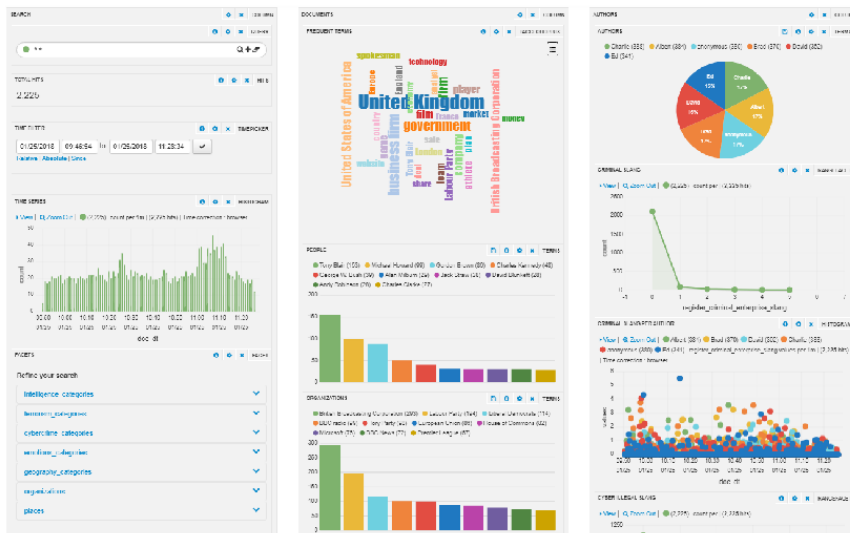
The dashboards include widgets that describe the metadata found in the document collection (columns on the middle and right-hand side) such as a tag cloud for frequent terms. They also include a variety of charts (bar, pie, line) that show the distribution of named entities extracted from the documents (people, places, organizations, etc) and indicate a measure of the level of slang per document or the characteristic type of slang that each author used.

Founded in 1989, Expert System S.p.A. is a big player in the big data analytics and semantic intelligence market that has developed a proprietary state-of-the-art software technology that understands the meaning of written language. Expert System is headquartered in Modena, Italy and has branches in US, UK, France, Spain and Germany. Expert System participates in LETS CROWD through the Spanish branch, specialized in NLP and semantic technologies.
www.expertsystem.com

**Expert System S.p.A.**

Linked third party of PRA Lab - UNICA (the University of Cagliari), Pluribus One S.r.l is a research-intensive company based in Italy focused on providing innovative solutions for cyber security, machine vision, and other data-driven applications. Pluribus One is involved in LETSCROWD in the development of the focused crawling engine for the COGITO semantic engine, and in the use cases on cyber attacks and cyber crime.
www.pluribus-one.it

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## LETSCROWD Publications

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- B. Lavi, G. Fumera, F. Roli,
  "A Multi-Stage Ranking Approach for Fast Person Re-Identification",
  IET Computer Vision, 2018.

- R. Soleymani, E. Granger, G. Fumera,
  "Progressive Boosting for Class Imbalance and Its Application to Face Re-Identification",
  Expert Systems With Applications, 2018.

- G. Ortiz, D. Alvear, S. Cáceres,
  "Metodología y herramientas centradas en el factor humano para una mayor seguridad y protección ciudadana en eventos masificados (Law Enforcement agencies human factor methods and Toolkit for the Security and protection of CROWDs in mass gatherings)",
  Conference proceedings, V Congreso Nacional de I+D en Defensa y Seguridad, Toledo, Spain, November 2017

- Cuesta, K. Rodríguez, O. Abreu, D. Alvea,
  "Taking into account groups for evacuation analysis",
  Conference proceedings, International Conference on Research and Advanced Technology in Fire Safety, Santander, Spain, October 2017