

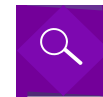


TRusted, Citizen - LEA collAboratlOn  
over SOcial Networks

03

August Newsletter, 2018

<http://trillion-project.eng.it/>





# End of the trip and start of a new journey

We are pleased to introduce the third edition of the TRILLION newsletter. This final newsletter about TRILLION platform, comes at the time that the project is completing its 36 months duration, having reached all its objectives. In this issue you will find reports on the final TRILLION platform, its potential, and possibilities on future deployment.

In a sentence, TRILLION project is proud to present “a community policing platform, based on a Service-Oriented Architecture, allowing the dynamic integration, exploitation and orchestration of services for data discovery and extraction, and is open to additional information sources and context-awareness tools”.

The above features have been highlighted also in the previous newsletters. In this final newsletter, and having completed the evaluation of the platform through pilots and the dissemination of results, receiving and processing feedback, we are also happy to present the modularity and flexibility of the platform to be offered through different user interfaces and over a variety of hardware platforms, including laptops, tablets, mobile phones, smartwatches, and also special hardware such as clickers (smart buttons, see the image below).

The pilots which have been successfully completed, and in which the TRILLION platform has been tested, have led to the improvement of the end user apps, which feature an easy to use interface for reporting and collaborating between LEAs and citizens, with respect to privacy. The latter has been extensively tested through the use of the Privacy Protection Communication Gateway, designed and used by the project, to offer users the ability to generate reports, while protecting their anonymity.



TRILLION apps come in different flavors, extending the use of the platform beyond mobile phones and tablets, including smartwatches and smart buttons.

# Project results

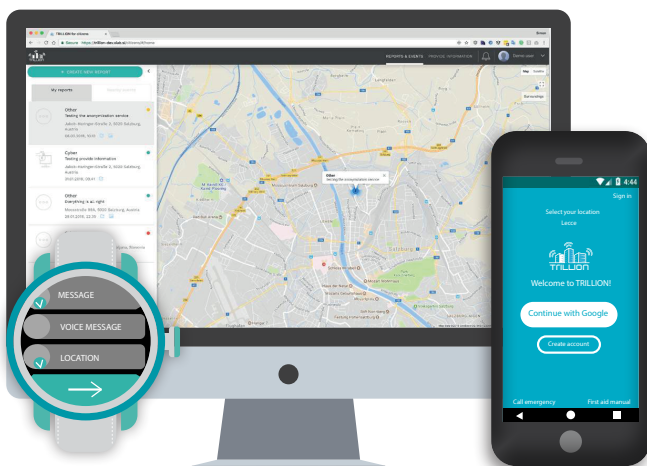
The end of the project, concludes the work of the consortium towards the provision of the integrated TRILLION platform, able to provide both LEAs and Citizens with interactive and efficient collaboration tools with which they can build a community policing environment to effectively fight against crime and create safer societies. In particular, the TRILLION platform comprises both back-end and front-end environments. The back-end environment consists of four groups of services related to:

- identification, profiling and data privacy management of users,
- detection and management of advanced alarm system,
- information management tools, and
- capture, extraction and analysis of data.

The front-end offers services both for LEAs and citizens. Services for LEAs include the management of data and decision-making tools from the TRILLION Dashboard Control Room and the management of collaboration between officers and citizens in the street with the TRILLION LEAs mobile application. Citizens can benefit from the facility to easily and safely report incidents through a set of devices thanks to the different interfaces offered by TRILLION: TRILLION Citizens

Mobile App, TRILLION Citizens Web App, and the wearable (smartwatch) app. However, the potential of the platform to be used in many situational scenarios does not stop here, as the project has successfully planned, executed and demonstrated the integration of clickers (TRILLION button), and also gesture based recognition (using smartwatches), for the creation and sending of reports.

All the above have been demonstrated and evaluated in many pilots and demonstration events. In particular, from April till July 2018, the TRILLION team organized 14 events at 8 locations for testing and validation of the TRILLION platform. Pilots in Lisbon, Lecce, Ancona, Palermo, Eindhoven, Middlesbrough, Huddersfield and York took place, while serious game training for LEA and citizens were done at the test sites in Lisbon, Lecce,



Ancona and Eindhoven. All the above, together with Hackathons organised in Eindhoven and Athens, provided feedback from more than 400 individual citizens and Law Enforcement Officers, which has contributed to the improvement of the platform, both in terms of usability, but also in terms of functionality. In the context of dissemination, the TRILLION team was happy to receive also input regarding future deployment and use of the platform, including scenarios that extend the use of the platform even beyond the planned scenarios. The case of Victoria BID in London is characteristic, where in the context of investigating the possible use of the platform, information was collected and used to provide the Police with valuable intel leading to a successful covert operation in late July 2018.

**889 total testers**

	Testers
<b>Mockup validation</b>	
Ancona, Eindhoven, Lecce, Lisbon, York	
October-November 2016	154
<b>Serious Gaming</b>	
Ancona, Eindhoven, Lecce, Lisbon	
May-July 2017	
June-July 2018	212
<b>α pilot</b>	
Ancona, Eindhoven, Heraklion, Huddersfield,	
Lecce, Middlesbrough, York	
July and October 2017	174
<b>β pilot + hackathons</b>	
Ancona, Eindhoven, Huddersfield, Lecce,	
Middlesbrough, Palermo, York, Lisbon, Athens	
April-July 2018	349



# Events

TRILLION platform has been extensively tested and evaluated in several pilot events, while the results have been demonstrated and presented in several events and publications.

## Pilots Beta

- 13th April - 1st June 2018: Pilots Beta at Eindhoven (NL) with 76 participants.
- 20th April - 30th June 2018: Pilots Beta at Lecce (IT) with 126 participants.
- 24th April - 28th May 2018: Pilots Beta at Middlesbrough (UK) with 10 participants.
- 25th April - 28th May 2018: Pilots Beta at Huddersfield (UK) with 20 participants.
- 26th April - 28th May 2018: Pilots Beta at York (UK) with 3 participants.
- 4th May - 5th June 2018: Pilots Beta at Lisbon (PT) with 63 participants.
- 31st May 2018: Pilots Beta at Palermo (IT) with 34 participants.
- 14th June - 13th July 2018: Pilots Beta at Ancona (IT) with 28 participants.

## Hackathons

Two Hackathons were organized during the last six months of the project. The first was subject to the ScienceHackDay Eindhoven 2018 event, from 2nd – 3rd of June 2018. Participants were invited to this adventurous survival of creative minds, and indulge into the experiments and daring prototyping as developed by teams of artists, engineers, architects, hackers, students, developers, startups, etc. The second, took place in Athens from 7th-8th of June 2018. The participants, following webinars explaining the concepts of the co-organising projects (INLIFE, MaTHISIS, TRILLION), were asked to design and develop learning material, using in their presented idea IoT devices delivered by InLife project and/or the (QuickButton) reporting app provided by TRILLION project.

## Serious Games

- 20th April 2018 (LEA, Citizens): The event took place at Lecce (IT) with 11 LEA and 56 Citizens participating.
- 31st May 2018 (Citizens): The event took place at Palermo (IT) with 34 participants.
- 14th - 15th June 2018 (LEA, Citizens): The event took place at Ancona (IT) with 11 LEA and 45 Citizens participating.
- 14th and 21st June 2018 (LEA): The event took place at Eindhoven (NL) with 14 LEA participating.
- 29th June 2018 (LEA, Citizens): The event took place at Lisbon (PT) with 21 LEA and 17 Citizens participating.

## Conferences / Workshops / Symposia participation

Members of RUSI (TRILLION partner) participated at Community Safety and Resilience Conference on the 20th of April 2018) presenting TRILLION Citizen WebApp and disseminating TRILLION newsletters during networking sessions.

- During the 10th Community of Users on Safe, Secure and Resilient Societies Workshop (7th of March 2018) TRILLION coordinator (ENG) participated in a round-table presentation of TRILLION project and in the discussions about possible synergies with other European projects.
- On the 23rd of March 2018, “TRILLION: Human sensors for Safer Society Community Policing of Stratumseind” was presented during the Kenniskring/Ruimteschepper symposium: Sensing for a safer society.

## Publications

- The paper “Developing a Framework for Automated Scenario-Based e-Learning Design” which includes the work on the TRILLION serious game for LEAs as the example, was included in the 16th LACCEI International Multi-Conference for Engineering, Education, and Technology proceedings (19th – 21st of July 2018).
- On the 6th - 7th of September 2018 members of UWA team will present the paper “PerceptionNet: A Deep Convolutional Neural Network for Late Sensor Fusion” during Intelligent Systems Conference (IntelliSys 2018). The paper is based on TRILLION’s results.
- Papers “Serious Games: An Attractive Approach to Improve Awareness” and “Use of Apps for Crime Reporting and the EU General Data Protection Regulation” were accepted for publication at the Societal Implications of Community-Oriented Policing and Technology Book (Springer publishing company).

## Other actions

- On the 28th of March 2018 TRILLION project together with Community Policing were presented during a visit of delegation from Fraunhofer Institute related to Morgenstad, Germany (City of the future).
- During Athens Science Festival (25th – 29th of April 2018), UWA research team demonstrated the potential of mobile and wearable computing to enhance quality of life in the city, with emphasis on security, through two interactive demonstrations, including smart watches and buttons.
- On the 23rd of May 2018 Dutch National Police in collaboration with the Dutch Prosecutors office organized a full day where all 11 Regional Dutch Police units were invited to showcase the newest developments in Forensics, Recherche and prosecution. DITSS was invited by the regional unit of Brabant to showcase their fildlabs including the TRILLION platform.
- On the 7th of June 2018 TRILLION was presented at Studyday “CPL looks to the future” to Belgium Police commissioners (CPL)

# Value Proposition and future extensions

TRILLION offers an open, flexible, secure and resilient socio-technical platform to foster effective communication and collaboration between citizens and law enforcement officers.

Using the TRILLION platform, citizens will be able to support the achievement of better urban security management by:

- reporting crimes, suspicious behaviour and incidents;
- identifying hazards;
- assisting law enforcement agencies (LEAs) through active participation.

At the same time, LEAs will be able to:

- detect incidents in a more efficient, content- and context-aware manner;
- locate on-site citizens, other LEA representatives and first responders and communicate with them;
- request more information and assign specific actions to address on-going incidents.

It should be highlighted here that one important element in the design of the TRILLION platform, has been since the beginning of the project, the protection of privacy. For this, offering the end users of TRILLION the ability to create and send reports, in a way that is protecting their identity, and ensuring that it will not be revealed if they do not wish to, has been a top priority for the project. As a result, a special mechanism for ensuring the protection of reporting citizen's identity has been introduced (named Privacy Protecting communication Gateway), and has been successfully demonstrated in several occasions. Looking into the future, the TRILLION team has experimented (through fully working prototypes or proof of concept), with the integration of alternative modes and devices for using the platform. In this context, integration with commercially available solutions such as Bluetooth buttons, and the use of activity recognition software have been demonstrated, giving an idea of the future extensions to the platform, in order to be used in many real life scenarios.

## Value Propositions



**Effective communication and collaboration between citizens and law enforcement**

**Increase of productivity in the forensic investigation and prosecution sector**

**Increased feeling of security by citizens**



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 653256.

TRILLION project is a Research and Innovation Action  
H2020 Call FCT-14-2014

# Stay tuned!

 <http://trillion-project.eng.it/>

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