

Developing and Testing a Community Policing Social Network in European Cities

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Abstract

Enhancing the feeling of public safety and crime prevention are tasks customarily assigned to the Police. Police departments have, however, recognized that traditional ways of policing methods are becoming obsolete; Moreover, a large number of police departments are experiencing budget cuts and are streamlining their operations while they are looking for innovative policing approaches to balance these reductions. However, when the Community Policing philosophy is appropriately applied, it provides the opportunity to identify risks and assist in solving problems related to crime and disorder. It also enhances the feeling of safety, consequently improving the quality of life in local communities.

Modern Community Policing approaches utilise Social Media and mobile applications. Due to their high level of infiltration in modern life, both of these media constitute a powerful mechanism which offer additional and direct communication channels for reaching individuals and communities. When the feedback gained via these channels is analysed by Law Enforcement Agencies the gain is twofold. These channels can be exploited to improve citizens' perception of the Police and to capture individual and community needs.

This paper presents the outcomes of the first trials of the INSPEC²T system (**I**nspiring **C**itize**NS** **P**articipation for **E**nhanced **C**ommunity **P**oli**C**ing **A**ct**I**ons). The project is funded by the European Commission's research agenda and aims to explore the impact of Social Media on Community Policing.

Keywords: Community policing, social networks, new technologies, organisational changes, information crowdsourcing

Introduction

There is no end to the usage and purposes of the smartphone applications that are available nowadays. Over the last years, numerous instances of mobile applications with focus on local communities' safety are available. At the same time, various Law Enforcement

Agencies (LEAs) across the EU have realised the importance of Community Policing (CP), an area that is rapidly evolving and transforming the policing landscape. CP provides the opportunity to communities to assist in solving problems of crime, disorder and safety, while at the same time contributes towards improving the quality of their lives and serves as an efficient decision support system for the Police, due to the crowdsourcing of information.

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Researchers will agree that CP is both a philosophy (a way of thinking) and an organizational strategy (a way of carrying out that philosophy) which allows the police and the community to work together in new ways. The philosophy is built on the belief that people deserve and have a right “to have a say” in policing in exchange for their participation and support (K.J. Peak, R.W. Glensor & L.K. Gaines, 1999). According to (A. Myhill, 2006) CP is the process of enabling the participation of citizens and communities in policing at their chosen level, ranging from providing information and reassurance, to empowering them to identify and implement solutions to local problems and influence strategic priorities and decisions’.

INSPEC^{2T} is a three-year project that started in May 2015. It focuses on a user-centric design and development approach, and has already mobilised and engaged a critical user group mass within the EU and overseas. With special emphasis on social media, it consolidates and modernizes bidirectional communication of stakeholders, using multiple levels of anonymity to ensure data privacy. Citizens are encouraged to interact with police using a mobile application and a web portal. The proposed and modernised communication platform, and the developed social media network enhance the participation of communities in policing.

Capturing stakeholders’ requirements

The INSPEC^{2T} project reached out to more than 2100 CP stakeholders using four online surveys and focus group discussions. The project partners promoted the online surveys using social media channels and electronic communications exclusively. All four surveys were structured in such a way so as to better grasp European values in regard to CP in respect to social, cultural, ethical and legal dimensions. The surveys were conducted between August 2015 and January 2016.

The first survey was aimed at communities and was promoted through the project’s social media channels. The general public questionnaire received 1092 responses from citizens living in Greece, the United Kingdom, Spain, the Netherlands, Germany, Cyprus and 5 other EU countries. Most respondents were university degree holders and were employed. They mainly lived in towns, cities and metropolitan urban areas. Citizens

2 <http://inspec2t-project.eu/en/>

that responded to the questionnaire were of various ages, most of them were not involved in any voluntary work and the majority of them felt safe in their communities.

The second survey was aimed at neighborhood watch members and social workers. In total 70 responses were provided from 14 EU countries (Austria, Bulgaria, Cyprus, Czech Republic, England, Germany, Greece, Ireland, Italy, Netherlands, Northern Ireland, Norway, Portugal and Spain). The third survey sought to capture the views of police colleges / universities / academies involved in the training of police students. 19 police professors from 6 countries contributed to the 3rd survey. The last survey was designed so as to capture CP practitioners’ experience and views. This survey received 782 responses from police professionals from 8 EU member states.

Except for the general public survey, which was promoted using social media channels, the other three surveys had a more focused method of attracting responses. The project partner’s professional networks were used to promote the surveys to CP stakeholders. The targeted respondents were Non-Governmental Organisations with an interest in CP, neighbourhood watch groups, community employees dealing with CP related issues, acting CP officers, police officers and their academia. The analysis from the online surveys provided a generic indication about the current CP status and about community preferences throughout a number of European member states which participated in the surveys.

In order to capture the “local” element and verify the findings of the online survey analysis, specific Discussion Focus Groups were formed. Guidelines about how to attract participant responses were issued and anonymous focus group interviews took place using a structured questionnaire. These focus group interviews were conducted in Greece, the UK, Cyprus, the Netherlands and Spain. Participants were questioned in two phases: the first phase concerned LEAs (10 participants from each country), while the second phase concerned citizens (60 participants in total, 10 per country). All participants, from different backgrounds, were selected with specific characteristics in mind, so as to capture a diverse set of views.

In addition to the online surveys and the focus groups, INSPEC^{2T} utilises a Stakeholder Advisory Group (SAG)

and an External Expert Group (EEG). These committees are made up of Law Enforcement Agency senior officers, government representatives, active citizen groups, community organizations, commercial associations, and CP visionaries. EEG members are distinguished Academics in Policing, Data Protection and subject matter experts in EU Ethical and Legal frameworks. The advisory committees, external to the project, were presented with the analysis from the responses to the online surveys and focus group interviews which were used to define the functionalities and system specifications.

The findings from the interaction with CP stakeholders are summarised herein.

Despite the fact that younger individuals are frequent users of Social Media (over 80%), the survey showed

that they are nonetheless not enticed to contact the police through this medium. Only 18% of ages 20 – 39 uses social media to contact the police, while the respective percentage for ages over 40 rises to over 30%, and in some age groups it doubles (39%). The same principal applies for the use of webpages as a communication channel with the police. Despite the fact that younger ages use the internet to access web pages for a large amount of their everyday lives, they do not use the web to contact the police. Similarly, mobile apps are not an established method of communicating with the police. Only a small percentage of over 7% of younger ages use mobile apps for this purpose, a percentage that rises slightly to over 10% for the ages of 40 – 59 and drops back to less than 9% for ages above 59 years old.

Table 1: Which communication Technology do you use/will use to communicate and engage with the Police?

Communication Technology to engage with the Police	Current situation (%)	Future Situation (%)	Difference (%)
Email	24,00	60,50	+ 36,50
Phone Communication	88,30	61,20	- 27,10
New/ Social media	26,90	51,50	+ 24,60
Text Messaging (SMS)	5,20	37,40	+ 32,20
Websites / Portals	19,50	46,70	+ 27,20
Mobile Applications	8,70	45,30	+ 36,60

The surveys strongly prove that the most familiar and accepted form of communication with the police is phone communication (Table 1). When referring to the future, all responders have *shown eagerness to use the most updated technologies for their communication with the police*. Social Media has an acceptance rate of 51,50%, internet and websites have an average acceptance rate of 46,70%, e-mail communication succeeds with acceptance rates that vary between 51% and 66%, text messaging is accepted as a means for contacting the police at a percentage between 36% and 41%, while mobile apps will be used by approximately 50% of those aged under 50 and 40% of those aged over 50. *New technologies, in general, have an average acceptance rate of over 50% throughout all ages.*

Defining system functionalities

The analysis from the four online surveys and focus group interviews, as well as the interaction with the two external committees, enabled a shared understanding among police authorities and citizens about the problems to be addressed in a CP approach. A number of social, cultural, ethical, legal, security and privacy aspects of CP programmes were documented to point out differences in the interactions between LEA and certain communities. All of the above was used to produce an analysis of CP practices (D1.1 Report on best practices in community policing & gap analysis, 2016) and of the technological tools currently in use. Along with the results from Ethical & Legal Dimensions (D2.2 Legal and Ethical dimensions of INSPEC²T System, 2015) and Societal & Cultural Aspect findings (D2.1 Social and Cultural Aspects of Community Policing, 2015) the consolidated End User Requirements were produced.

The end user requirements which were captured (D1.2 End User Requirements – 1st SAG Report, 2016) shaped the system architecture which was displayed using mock-ups for advisory groups external to the project. Following their feedback, suggestions and recommendations, the technical partners entered the development phase (D3.4 2nd SAG meeting report, 2016). At this stage there were a selection of 57 functional³ and 53 non-functional⁴ requirements classified as mandatory, highly desirable and desirable. In addition, there were 232 mandatory requirements resulting from the Description of Action⁵. Therefore, a total of 342 requirements were mapped into 24 use cases (Leventakis G., Kokkinis G., Papalexandratos G., 2017) which formed the operational guideline for the INSPEC²T solution.

A Use Case⁶ is a list of actions, typically defining the interactions between an actor and a system, to achieve an outcome. They document step by step instructions on how to test the built-in functionality and demonstrate specific features and functionalities of an advanced CP programme. The use case categories outline the interactions between users of the INSPEC²T solution, first among themselves, then with other (existing) social networks and, finally, they describe the collaboration between community members and police officers. Finally, the 24 Use Cases were grouped into the following 6 categories as shown below.

- [1] Advanced CP programme Interactions
- [2] Communities
- [3] Incident Reporting and Management
- [4] Interaction with Social networks
- [5] Back-End Intelligence
- [6] Rules and Supporting Actions

Concept of operations - Overview

The concept of operations is presented in Figure 1. INSPEC²T supports incident reporting from registered members and non-registered community members using a social media network. The citizens can fill in reports either as

- 1) *Registered*, where they agree to engage in two-way communications with the authorities (if required) or as
- 2) *Anonymous*, where they can submit reports. The anonymous users have willingly excluded themselves from being reached by other users and the system operators.

The submitted reports are intelligently processed by the system. The system's output will be used to assign CP officers to cases. The assigned resources will receive information to act upon and will have the option to interact with citizens and fellow officers. For incidents that might evolve beyond the CP context, front line police officers could interact with the system using the INSPEC²T tools.

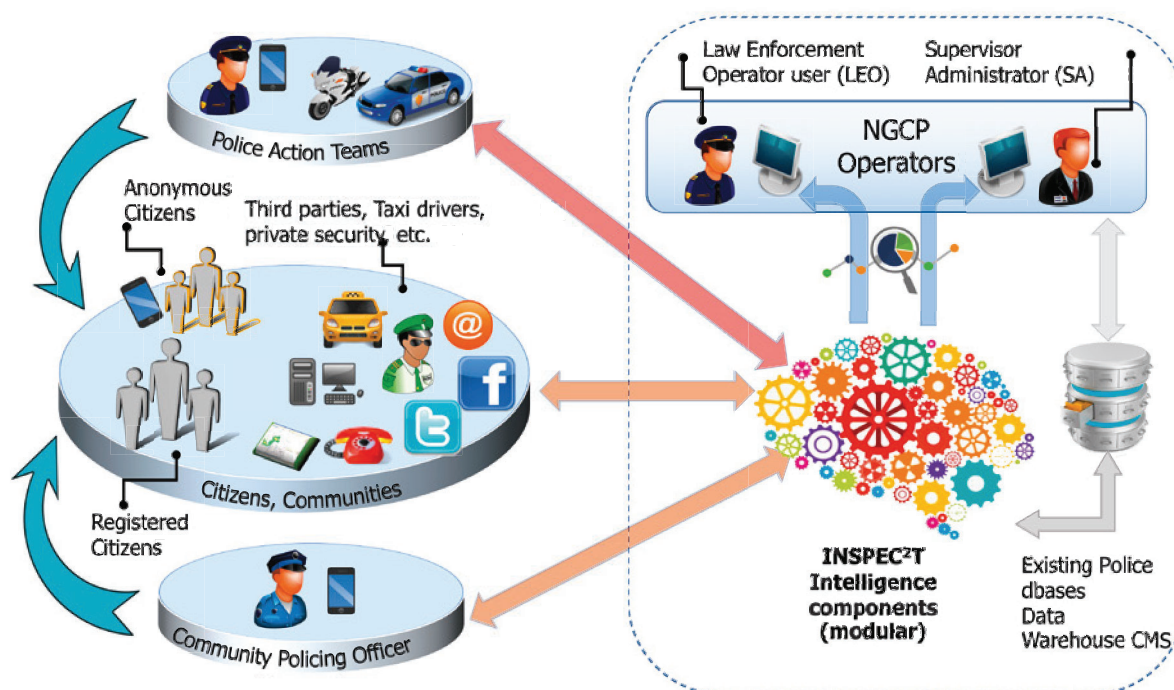
Aside from bidirectional and personalized communication, the system offers the means for community members to provide additional information (either text or multimedia files), enabling registered users to monitor the progress made on their submitted reports in real time. An advanced CP solution should possess intelligent functionalities and the overall architecture should be modular and should be based on open standard interfaces. As such, existing analysis modules and databases will be utilized and will constitute part of the advanced CP solution. The developed intelligence is made up of the following components: reporting, awareness raising, serious games, command, control and intelligence.

3 https://en.wikipedia.org/wiki/Functional_requirement

4 https://en.wikipedia.org/wiki/Non-functional_requirement

5 http://cordis.europa.eu/result/rcn/195176_en.html

6 https://www.ibm.com/support/knowledgecenter/en/SS-WSR9_11.0.0/com.ibm.pim.dev.doc/pim_tsk_arc_defininguse-cases.html

Figure 1: The INSPEC²T Concept

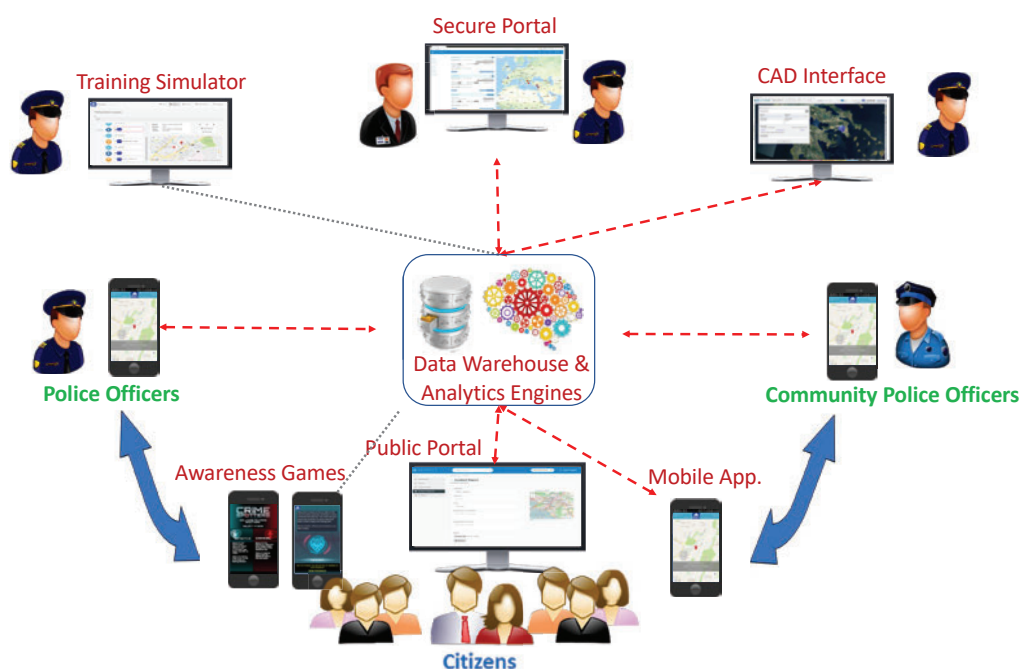
Implementing the solution

INSPEC²T is a collection of pluggable modules (Figure 2) that, as a whole, act as a user-friendly and efficient solution for strengthening community bonds. INSPEC²T consists of the following modules, each one adding unique functionalities to the platform. The smart Mobile Applications enhance incident reporting and management capabilities. The public and the private web portal promote community building and offer platform management. The data warehouse, the Geographic Information System (GIS), and the business and multimedia analytics modules augment the incident processing operations. The CAD (Computer Aided Dispatch) interface supports integration with

existing CAD systems. The Serious Games facilitate awareness of CP operations and the training simulator supports the system operator's functions.

Mobile Applications (Mob App) and Public Portal (PP)

Two different incident reporting functionalities are supported. Citizens can either submit reports to the Public Portal using a computer or smartphone (without the installation of any application), or by installing the INSPEC²T mobile application on their smartphone or tablet (Figure 3). An extended (in terms of functionalities) version of the mobile application is available to CP officers for managing the reports and for further interacting with the system and its operators.

Figure 2: The INSPEC²T solution

Training Simulator and Awareness Games

The training simulator module offers realistic in-situ simulations to allow the system administrators and Secure Portal operators to get familiarized with the platform, experience the potential impact of their decisions, interact in a safe environment, analyse their approach, facilitate peer assessment and benchmark so as to enable self-reflection and improvement. Moreover, the inclusion of courses, with a focus on privacy, data protection and how the system administrators can

comply with ethical, legal and societal requirements, should be mandatory items in an advanced CP training program. Apart from the mobile application and the Public Portal, an awareness game is also available. The game (Resource Force⁷) provides insight for citizens about the available CP resources and emphasises the role of community involvement. The game challenges citizens to command a limited number of CP officers and respond to a number of community requests.

Figure 3: Screenshots of the Mobile Application and the awareness game for Citizens

⁷ <https://play.google.com/store/apps/details?id=com.playgen.ResourceForce>

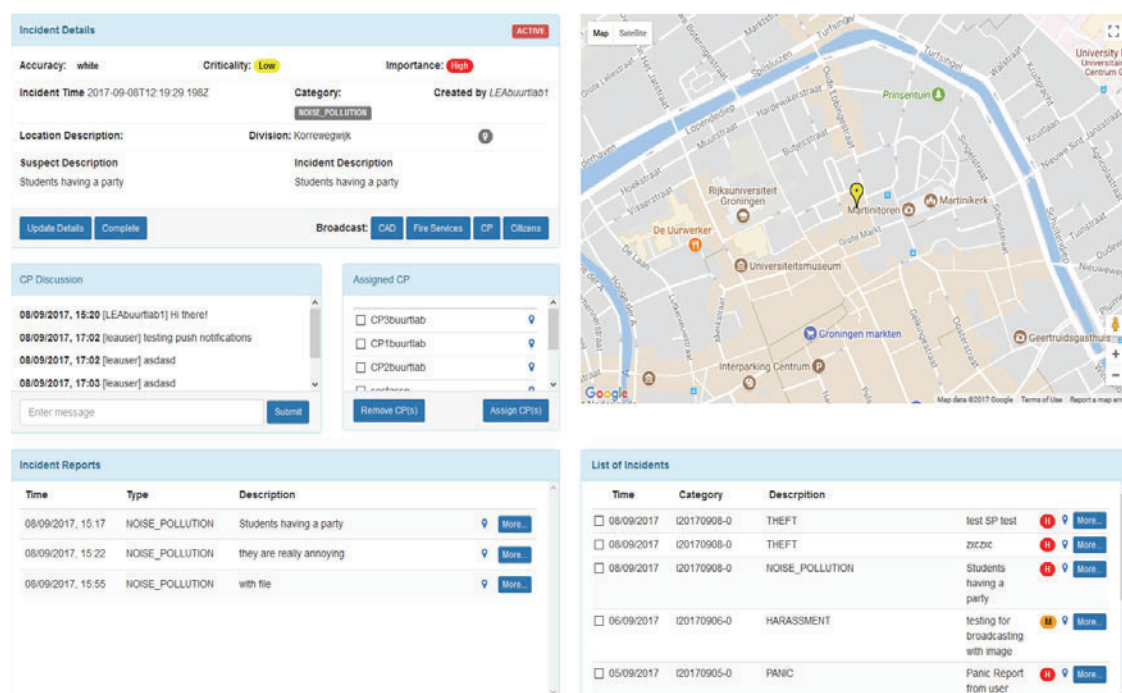
As new incidents endlessly arise and develop, the players, who are constantly under pressure, have to allocate overstretched resources while having limited information. The benefits of citizens contributing to CP are emphasised and the community members are taught that their involvement is key to safer societies.

Secure Portal (SP)

The intelligence submodules mentioned below, all feed into the Secure Portal (SP) which is the command

and control interface for the entire solution. The SP is connected with the intelligence modules and present an advanced operational picture to its operators. The Law Enforcement Operator (LEO) and the INSPEC²T Supervisor are in control of all CP submitted reports and, by utilising the intelligent processing of the advanced CP system, manage the reported incidents.

Figure 4: View of the Secure Portal



Intelligence

A series of intelligent modules provide processing, analytics, correlation of incident reports, archiving, and a file retention policy. The challenge of processing huge amounts of spatial data which is generated by either registered or anonymous users is addressed by the following modules:

Geospatial Complex Event Processor (GCEP). All incident reports are processed and analysed in a structural manner so as to generate meaningful information. The data submitted in the reports from multiple users are combined to infer events or patterns that suggest more complicated circumstances. The goal of complex event processing is to identify meaningful events at an early stage and respond to them as quickly as possible.

Multimedia Analytics (MMA) are capable of extracting semantic information from a wide range of multimedia data sources. Incident reports will contribute to increasing quantities of images, audio streams and videos. The MMA module first processes and then discards low quality data. The data of value is analysed to extract speech transcription, acoustic event detection (e.g. identification of a gunshot), person/face detection and other multimedia correlations.

Case Based Reasoning (CBR) is the process of solving new problems based on the solutions of similar past problems. In cases of uncertainty, or whenever decisions need to be taken based on different sources of information, this module takes action. The CBR module by design consists of two different submodules. The

first one is composed of rules that the user could adjust or modify, allowing it to make use of expert knowledge. The second submodule is equipped with a knowledge base and allows the inference of new rules and actions based on previous knowledge.

Business Intelligence Analytics (BIA) carries out the following functions: (1) computes metrics for the level of activity and engagement of both citizens and police and (2) calculates a rating for user profiles, by computing each user's activity (how frequently the user reports incidents, whether they are contributing helpful information to the system or whether they are malicious). It has to be noted that the rating essentially concerns the information provided by the users rather than the users themselves, that is BIA classifies the importance of each exchanged message, based on the author's profile ranking and other metrics.

Data Warehouse (DWH) integrates data from multiple heterogeneous sources and from different formats to support analytical reporting, structured and/or ad hoc queries and decision making. The large amounts of heterogeneous data provided by citizens and communities over time are arranged into abstracted subject areas with time-variant versions of the same records, with an appropriate level of data grain or detail to make it useful for the intelligent modules described above to retrieve and analyse them. In addition, **Data Processing Ageing (DPA)** can be configured according to the corresponding regulatory frameworks. Records may only be stored following a legitimate reason (massive storage of preventive data should not be allowed). Record lifetime and criteria for deletion have to be defined in accordance to Data protection legislation. The renewal of an item's date of expiration is possible and needs to be initiated from a user with the appropriate access rights. A mandatory description field justifying the need for this operation ensures that all data preservation actions are permanently retained for future reference and Ethical screening.

CAD interface supports legacy incident reporting systems and acts as the gateway which feeds CP related reports, which reach the call centre, into the INSPEC²T system. In addition, the CAD interface is used to supply the required information, with the location of police resources, to LEO operators.

Testing and assessing the developed solution

The first working INSPEC²T version undertook trials in Belfast, in April 2017. CP Officers from Police Service Northern Ireland, in cooperation with fellow Officers from Lancashire Constabulary, participated along with residents from the Holyland community and members of Ulster University in the execution of the CP scenarios. The second pilot and a demonstration of the solution to SAG and EEG committees took place in Egkomi, Cyprus in May 2017. In Cyprus, the consortium conducted a series of small scale pilots and solution demonstrations which engaged municipalities and LEAs. The third pilot took place in Valencia, Spain in May 2017. Further to Valencia local police and local community involvement, there were police representatives from San Sebastian and Guardia Civil.

The main scope of the first three pilots was twofold. One was to demonstrate and validate the strategic objectives of the project and second to present a working solution which satisfies the majority of end user requirements and requested functionalities. In addition, the empowerment of communities through the facilitation and delivery of a more personalised service, where citizens collaborated with the police in setting their CP agenda, was also tested. The output of the assessment was used to provide further input to system developers to fine-tune the system for the second testing phase which was scheduled to take place between October and December 2017.

The feedback from participants, (community members, neighbourhood watch associations, LEAs, CP visionaries) focused on the following three areas:

- 1) Reporting tools
- 2) Backoffice – Intelligent components
- 3) Issues primarily related to data protection and the compliance of the submitted intelligence with national and EU frameworks.

Following the development of the INSPEC²T solution, an assessment toolkit was required to verify whether the implemented functionalities satisfy the end user requirements. The THOR approach, which was developed by the CAMINO⁸ project was adapted and used for the assessment of the INSPEC²T solution. The de-

8 http://cordis.europa.eu/project/rcn/185485_en.html

livered solution was analysed in four dimensions as follows:

Technical – Assess if the implemented solutions will assist the uptake of CP and whether they will provide the intelligence mechanisms required to efficiently analyse the user supplied information.

Human – Evaluate how a series of human factors, behavioural aspects, privacy issues, ethical, societal and CP awareness-raising activities will influence CP practices and create more safe and secure communities.

Organisational – Examine if the proposed processes, policies and procedures will enhance co-operation between Communities and LEAs and if the project will result in better CP.

Regulatory – Inspect the project for adherence to laws, standards, data protection and the legal framework at a national and EU level.

Following the execution of three pilots, feedback was collected by 1) using face to face interviews with CP/ police officers using a structured questionnaire and 2) via an online survey made available for members of the public. The results recorded, were used to identify gaps and challenges that need to be overcome. The interaction of the THOR dimensions for the identified participant/user categories for the Use Case groups is shown in Figure 5.

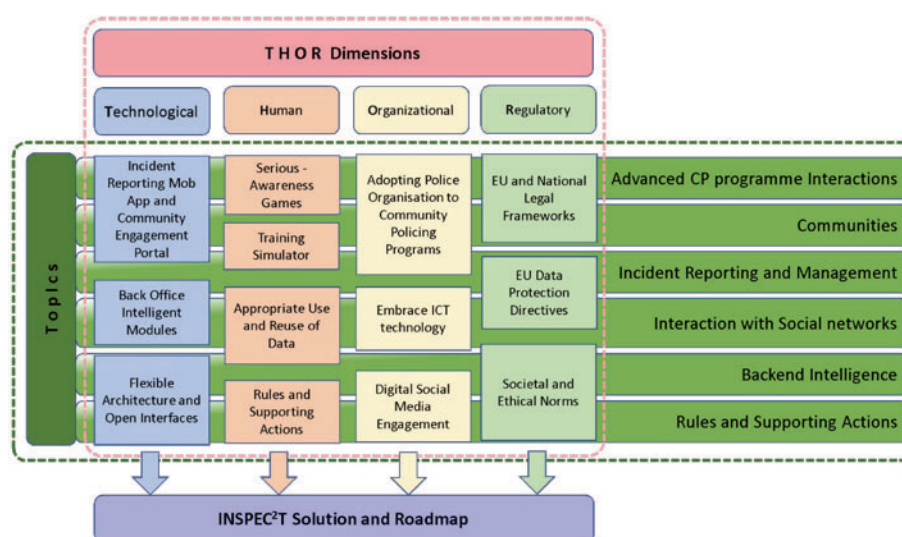
Assessment findings

The succeeding sections outline how each one of the THOR dimensions constitutes a CP verification framework and how each one of the use-cases are mapped under a specific dimension to provide the assessment criteria and verify whether the stakeholder requirements have been addressed and, if so, to what extent.

Technology

The improvements recorded by the adoption of new offered technologies and utilising it in current CP practices underlies the importance of understanding which technology solutions will introduce additional value. Introducing IT into police operations is a complex and demanding task and “it is not clear which technologies are more usable and effective in the context of a police organization” (Custers, B., 2012). Using a structured questionnaire, the INSPEC²T members requested from the SAG and EEG committees to provide their feedback and guide the consortium endeavours to shape and finalise the solution to be tested in the phase-2 pilots. Concerning incident reporting through the use of mobile applications, 93% of the experts indicated that they offer the greatest potential for improving CP. Similarly, 71% prompted that the application for LEAs is a great asset for CP officers in the field. For the public portal, 50% of the experts valued its use and ranked it at the top, along with mobile applications, as a component that could help in assisting and improving on community building and empowering citizen participation in CP tasks.

Figure 5: THOR model applied to INSPEC²T system



The independent advisors indicated that cutting edge police command and control centers are already using a number of intelligence subsystems. Therefore, the integration of “back office” components, like MMA, GCEP, BI, CBR, and DWH to support CP operations is well perceived. The experts also acknowledged that incident reporting, if processed intelligently, is a valuable intelligence source. Therefore, multimedia enriched content which is embedded in citizen reports should be treated as a valuable information source. The findings of (Kelling and Bratton, 2006) for “intelligence gathering and analysis” are confirmed for CP operations. Lastly, the INSPEC²T open interfaces can be utilized for forwarding incidents to other authorities, such as municipalities, or environmental agencies.

At the end of each pilot, debriefing sessions with community representatives were held. The findings of the INSPEC²T public survey (D1.2 End User Requirements – 1st SAG Report, 2016), were confirmed. Both CP officers and citizens indicated that using a mobile application will result in more frequent reporting.

Human

The INSPEC²T training simulator is a scenario driven tool that simulates the submission of citizen reports and trains police operators on the functionality of the platform. The option of training CP system operators received positive feedback from SAG and EEG members and it is a mandatory prerequisite for police organisations to offer customisation to their needs and operational training to their CP Officers. The community and police relations in a social-media-like ecosystem will be studied in detail in the second phase of pilots. Therefore, the rules and the supporting actions required to prevent inappropriate behaviour, and also promote community and police interactions, was tested between October and November 2017.

The end-user testimonials confirmed that one of the most fundamental aspects for improving CP is to empower communities to prevent crime or the problems that lead to it. Establishing and maintaining mutual trust is therefore the central goal of CP. (Docobo, J., 2005). The citizens need to be aware of their own role and responsibilities and should proactively respond to indications of crime and disorder in their communities.

In all three of the INSPEC²T pilots that were conducted, citizens value the option to form communities either physical (a group of residents) or virtual (licensed secu-

rity personnel) and participate in them. The exchange of ideas via discussion groups, the privacy of personal messages and public threads, are all acknowledged to be required functionalities to encourage citizen participation. With this in mind, in order to empower citizen participation, the INSPEC²T members developed an awareness raising game⁶ for citizens, which was developed for iOS and Android devices. Using a gamification approach, the citizens were trained to collaborate with the police for the benefit of their communities. Through this game, citizens confirmed that they came to the realisation that police resources are not infinite and, as such, their cooperation with police in a number of incidents will lead to better CP results.

Organisational

The first component of successful CP initiatives involves transformational changes in the organizational structure and operation of LEAs (Bureau of Justice Assistance, 1994). CP is an information-intensive task/process, and technology plays a central role in helping to provide ready access to quality information. Accurate and timely information makes problem-solving efforts more effective and ensures that officers are informed about the crime and community conditions of their beat.

At each pilot debriefing session, focused group discussions were held with CP officers to record their professional opinions. In all three pilots it is acknowledged that two-way communications, online reporting, hosting discussion forums, and citizens’ feedback promotes citizens engagement in CP and increases transparency in the way CP operations take place. Both the CP officers involved and policing experts from the SAG and EEG committees agree that the option for citizens to check the status of their submitted reports online, aside from increasing accountability of the police force, increases transparency. This highlights a strong interdependency between the Human and Organisational dimensions.

It should be highlighted that police adaptation to CP programs, the inclusion of modern ICT solutions in everyday policing tasks and the strategy of the police towards digital and social media are all topics outside of the INSPEC²T sphere of influence or other similar initiatives. To this extent, the consortium studied and analysed a number of indicators which were considered essential in the implementation of CP. Fostering and developing police-community relations requires

active engagement by police organisation, individual officers and community representatives. A CP maturity model is currently being developed for the purpose of producing CP policy recommendations for the EU.

Regulatory

The topics regarding the EU legal framework and data protection directives were discussed in the debriefing sessions of all the pilots and were debated on a round-table with SAG and EEG members. All experts agreed that the topic of data protection is well defined in EU directive 2016/680 which is designed to be consistent with the General Data Protection Regulation. Whereas Police officers as a competent authority, can process personal data for the “prevention of threats to public security” (Article 1), it is not clear at the moment which are the governing rules for use and reuse of data for CP purposes. The fact that the INSEPC²T solution implemented adaptable safeguards for data ageing and the archiving & retention of submitted records is well perceived.

The way forward

The INSPEC²T system aims to combine the principles of CP with the affordances of new technologies. Both the actual and potential utilisation of the resulting incident reporting and management tools (Mob Apps, Public Portal) and crowdsourcing processing modules (GCEP, MMA, CBR, BIA, DWH and DPA - referenced in section 5) have to be compliant with legal frameworks so that they can be correctly implemented in participating countries. This is the biggest challenge for a next generation CP solution.

Taking into account the effects of EU directives^{9,10} and legal trends across the EU, could help facilitate the exportation and application of the findings to countries that are not currently participating or associated with

the INSPEC²T system (D1.2 End User Requirements – 1st SAG Report, 2016). An advanced CP solution should offer safeguards to ensure Ethical, Legal, Societal and Data protection compliance.

Following the conclusion of the first three pilots, all involved stakeholders value the evolution from a CP solution to a social network system. The proposed solution allowed community members to get in touch with the police, report their problems and observe the police reaction online. At the same time, citizens can create communities to discuss their security concerns and participate in discussions with other community members. All these functionalities empower citizens to join and actively participate in modern CP initiatives. In addition, an intelligent community policing system should be capable of supplementing and feeding existing police operational systems and, if needed, should have the capability to provide facial recognition or offer acoustic event detection to alert operators.

The consortium members acknowledged all of the above and enhanced the solution with new features and improved functionalities. A second testing phase, took place in Groningen (Netherlands) between September and December 2017 and in Preston (UK) in November 2017 where all new and enhanced functionalities were tested.

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9 <http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX-%3A32016L0680> (protection of natural persons with regard to the processing of personal data by competent authorities)

10 <http://eur-lex.europa.eu/eli/reg/2016/679/oj> (protection of natural persons with regard to the processing of personal data and on the free movement of such data)

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