



DELIVERABLE 1.2

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Document Summary Information

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Revision History

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1	09.05.2018	Megan Kearney	Further partner contributions needed
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Executive summary

The following report serves as the D1.2 Periodic report. The document follows the outline of the periodic template and covers the objectives and outputs of the Unity project over the last year of the project. M25 TO M36

Periodic reports have previously be completed M1 to M12 M13 to M24, these were submitted to the commission in June 2016 and June 2017.

D1.3 is the Overall Project Report and so encompasses the objectives and outputs of the 3 years of the Unity project.

This report serves as a summary of activities and provides an overview of the resources used, deviations of tasks from the DoA, and the impact of the project. The full results of the Unity project, are to be found in the deliverables.



Project¹ Number: 653729

Project Acronym: Unity

Project title: Unity

Periodic Technical Report

Part B

Period covered by the report: 01/05/2017-31/04/2018

Periodic report: 3rd and final.

¹ The term 'project' used in this template equates to an 'action' in certain other Horizon 2020 documentation

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Explanation of the work carried out by the beneficiaries and Overview of the progress

- Explain the work carried out during year 3 in line with the Annex 1 of the Grant Agreement.
- Include an overview of the project results year 3 towards the objective of the action in line with the structure of the Annex 1 to the Grant Agreement including summary of deliverables and milestones, and a summary of exploitable results and an explanation about how they can/will be exploited.

Work Package 1

The OPCC project delivery team have been working towards the delivery and implementation of the Unity project year 3. We have also undertaken the coordination of work to meet the requirements of the recommendations of the projects year 2 review.

Task 1.1: Project Management Plan

Task 1.2: Project Governance and Reporting

Task 1.3 Project Coordination

Task 1.4: Establishment of Unity sub committees and Advisory Board

We have continued to work and coordinate the project management plan, ensuring the projects protocols and mechanisms are in place to ensure the delivery of the Unity project. Activities undertaken include administrative, financial and technical reporting processes and quality management monitoring.

The OPCC project coordinator worked closely with pilot country Finland to coordinate the 5th general assembly meeting and live pilot exercises, we also supported project partners from Bulgaria and Macedonia along with WP leaders in WP4, WP5, WP6 and WP7 to run 2 additional pilots. In November we coordinated the WYP consortium meeting and pilot in West Yorkshire. We ran 3 virtual community pilots engaging with members of the deaf community, LGBTQ community and the Leeds student community.

As coordinators, we have ensured the Scientific and Technical Management Committee, Security and Ethics committee held regular meetings or as and when issues arose. The Exploitation committee has been established in the last year and is led by the exploitation manager. The establishment of the exploitation of the committee was in response by the commission to coordinate our approach and update the exploitation strategy, the committee has also facilitated the request made by some Unity partners who required additional support for areas of exploitation work.

As coordinators we have managed information sharing with the Project Management Committee and held monthly Work Package Leader meetings. This has ensured we coordinate full WP updates on task activity and enables issues or risks to be raised or flagged and then enables guidance across the consortium on project matters.

We have remained engaged with the International advisory board and have welcomed two new members to the committee, with the members of the IAB being present at the consortium and pilot meeting in Finland and West Yorkshire.

MS3 Second annual review was coordinated with the report being submitted on time to the commission. Commission recommendations following this review were shared with the consortium and the coordinators assigned tasks to respective work leads and ensured all recommendations were actioned.

Preparation for the final Milestone MS6, commenced in February 2018. Coordinators wrote to WP leaders asking them to review their respective work package from month 25. Working with partners in their respective WP, the leaders and the coordinators worked together to produce the following report.

Work Package 2

Task 2.1 Identify a legal and ethical framework

This task was previously completed and results reported in an earlier review.

Task 2.2 Review social and legal implications for cooperation between LEAs and citizens

This task was previously completed and results reported in an earlier review.

Task 2.3 Identify ethically and legally sound requirements which meet the needs of a variety of users

This task was previously completed and results reported in an earlier review.

Task 2.4 Identify an ethical, legal and socially responsible framework for training, awareness raising and exploitation.

The Interim report was been produced and distributed throughout the consortium to assist partners continue to work and contribute ethically towards the training task T8.1.t

The final deliverable D2.4 was, with permission from the commission submitted in February 2018. The rationale for the delay was to ensure learning from all the pilots and the evaluation could be included if appropriate to ensure training materials were a rich reflections of the project findings.

Purpose: the main aim of Deliverable 2.4 was to provide research evidence which supports Work Package 8 and the construction of legal, ethical and socially responsible frameworks which will be utilised to support community police (CP) training, locally based CP awareness exercises and finally the exploitation and dissemination of the results produced by the Unity project.

In summary research findings presented in D2.4 relating to police officer training showed that:

Many participants, including the police, believe they do not have the correct training or knowledge to deal with some minority groups. Average participant responses from partner countries indicated that the police are not effective at engaging minority groups and there is room for improvement in relation to enhancing police understanding of the issues faced by minority groups.

Findings indicated that current engagement practices are predominantly unsuccessful in assessing the needs of various groups. Specific issues that minority groups find

more difficult to discuss with the police varied by country but common issues included: domestic violence, personal /family issues, sexuality /LGBT, trust in the police, sexual offences and culturally specific issues.

Across partner countries there was a general perception that at present CP is not being delivered equally within and between communities.

The outputs from D2.4 therefore recommended the following for CP training:

Training should be provided to police personnel and local community members should be provided with CP awareness raising days which will foster two way communication and improve each group's knowledge of the core concepts, principles and expectations of community policing in the local context.

Training for officers should support a problem solving and a preventative approach; focus on communication skills and highlight effective engagement practices. The training should include a focus on group social and cultural backgrounds in an attempt to prevent stereotypical assumptions being made, e.g. Roma and should be ongoing throughout the working life of officers and ideally be provided to all serving police officers.

In terms of the delivery mechanisms for training it should be learner led and contextualised with real life experiences e.g. problem based learning and provide learners the opportunity to feedback to support effective evaluation of the training.

Awareness raising and exploitation: Deliverable 2.4 also sets out Unity's recommendations for the ethical, legal and socially responsible awareness raising and exploitation of the project findings and outcomes. In terms of raising awareness of community policing in general and the technological outputs generated by the project in an ethically, legally and socially responsible way, this deliverable recommends that dissemination is conducted locally by consortium partners using a wide variety of communication platforms that will be accessible to all member of the public. This would include public meetings and face to face discussions for those who do not have access to the internet, advertising in local media outlets and utilising the variety of pre-existing social media platforms. Partners when conducting dissemination and awareness raising should also be cognisant of the variety of local languages and dialects used in their region and ensure that their activities are suited to the local demographics and meet with the requirement of current European legislation.

The recommendations reported set out the proposed exploitation framework for Unity outputs. These include conducting market analysis to identify key stakeholders, utilising a variety of platforms and languages suited to each audience group whilst protecting the intellectual and/or industrial property rights of each consortium partner.

Work Package 3

Task 3.1: Review of existing CP practices

This task was previously completed and results reported in an earlier review.

Task 3.2: Identification of stakeholder needs and perspectives

This task was previously completed and results reported in an earlier review.

Task 3.3: Comparative view on stakeholder needs and perspectives

This task was previously completed and results reported in an earlier review.

Task 3.4: Gathering of user requirements for CP tools

This task was previously completed and results reported in an earlier review.

Deliverables and tasks were completed in year 1 and year 2 of the Unity partners. Erasmus has continued to support partners and work packages in their efforts to apply WP3 findings in their activities and deliverables (platform development, training, dissemination, exploitation, etc.). This support included further data analysis and interpretation of data and/or findings for use in other work packages, extraction of specific results for partners/country-specific usage (e.g., presentations, dissemination materials), help in the interpretation of findings and extraction and reformatting of WP3 results for input into the CPSG. WP3 also participated in the Scientific and Technical Management Committee and the Exploitation Committee to ensure academic/scientific integrity of the project efforts as well as investigate and propose exploitation of WP3 results beyond the end of the project.

Work Package 4

Task 4.1: Population and Scope for the Combined Effect Architecture Framework (CPAF)

D4.6 Third report on population and scope for the combined affect Architecture framework (CPAF) was delivered in year 3.

D4.6, provided the final report on the population and scope of the CPAF, this report contained the final iteration of CPAF approach and methodology, which has now been used across all pilot countries to provide a unified view of European Community Policing.

This final iteration has now been tested and validated across all pilot countries and provides a robust framework for any end user to identify the issues, challenges and subsequent improvements in how they enact CP in their local communities. This final iteration needed no alterations to be used in varying levels of current CP maturity, ensuring it is scalable and transferable for all potential users.

Task 4.2: Gap, capability and role mapping and assessment for Combined Effect CP initiatives between extant CP methods and CP Target Operating Model

D4.7 Third report on Gap, capability and role mapping and assessment for Combined Effect CP initiatives between extant CP methods and CP Target Operating Model was submitted in year 3

This deliverable, D4.7, provided the first end to end view of how end users, get from their existing COM to their TOM, and the subsequent testing, validation and review process. This deliverable also provided the opportunity to comparatively assess the similarities and differences in implementing the best practice CP activities identified during the project. This assessment provided insight in how the current baseline CP maturity, affected the likelihood of uptake or the types of activities the CP practitioners

could perform, at their current state. Proving that an incremental approach to CP improvements was needed to attain the perceived best practice.

Task 4.3: Provision of usable community stakeholder outputs and meaningful scope

D4.8 Second report on the provision of usable community stakeholder outputs and meaningful scope was submitted in year 3.

D4.8, being the final WP4 deliverable, and the final report on the useable outputs and CONOPS, this report provided a conclusive report of all the current or perceived outputs from WP4 by the end of the project. This also included information on how these outputs can be used by potential end users, the benefits to gain from using them, and how they interrelate between each other. This final report provided the components to be included in the exploitation plan for WP4.

Work Package 5

Work Package 5: Focus was placed on finalising the development of the Unity IT-Toolkit to ensure the systems could be integrated and tested in line with the remaining pilots.

Task 5.1 Define the high-level architecture of the technological components

This task was previously completed and results reported in an earlier review.

Task 5.2 Modular Apps for citizens

The Deliverable linked to this task was completed in year 3 of the project. The outcome of D5.2 was the development of the core and new features, utilizing both the iOS and Android software for citizens. All features identified through the pilot instantiations were implemented successfully and as detailed in Task 5.4 below, enabled citizens and communities to engage with and access information about their communities. The applications user interface received good feedback for being simple and easy to use by varying communities. In addition to the maintenance of the Apps for the final pilot (Estonia) through WP6, the system development was carried through to WP8 - exploitation.

Task 5.3 Modular Apps for LEA and officers

The Deliverable linked to this task was completed in year 3 of the project. The outcome of D5.3 was the development of the core and new features, utilizing both the iOS and Android software for LEA's/ Stakeholders. All features identified through the pilot instantiations were implemented successfully. Replicating the core platform, the Apps for LEA's enabled the sharing of non-public data and allowed for further communication through voice, text and video. In addition to the maintenance of the Apps for the final pilot (Estonia) through WP6, the system development was carried through to WP8 - exploitation.

Task 5.4 Unity Core Platform

The Deliverable linked to this task was completed in year 3 of the project. The outcome of D5.4 was the development of the Unity Core Platform. The platform was designed around the Architecture produced in Task 5.1, the technical specifications for which were taken from the user requirements in Work Packages 2 and 3. During the final

year of the project, continued updates were made to the system to ensure it was fit for purpose for each pilot and to align it with the OWASP security regulations. Additional features were developed during the final year to meet the demands of the pilot requirements, these included, the ability to share videos via messaging and on the forums, the creation of private forums for LEA's to share non-public information and the ability to organise meetings. In addition to the maintenance of the system for the final pilot (Estonia) through WP6, the system development will now be carried through to WP8 - exploitation.

Task 5.5 Data driven analytics engine

The Deliverable linked to this task was completed in year 3 of the project. The outcome of D5.5 was the development of the data analytics engine. The data analytics met user expectations and received positive and valuable feedback, however, it was noted that if the pilots ran for longer periods and contained further data, then the analytics would have proved more effective. Also, during the final pilots it was important to reinforce the purpose of the data analytics as it was conceived by some users as an intelligence gathering tool as opposed to an information sharing tool. During the final year, sentiment analysis was expanded to provide users with the capability to determine the general 'feeling' of the discussions taking place. In addition, to the maintenance of the analytics for the final pilot (Estonia) through WP6, the system development will now be carried through to WP8 - exploitation.

Task 5.6 Integration and testing

The Deliverable linked to this task was completed in year 3 of the project. Technical partners continued to draft and populate test plans in preparation for the final pilots, to test and validate the underlying functionality of the various technical outputs – the mobile app, core platform, data analytics and CPSG within a controlled environment. The final report detailed the predefined plans as per the features available in the implementation roadmap and took into consideration the collated test following each pilot.

Work Package 6

Task 6.1 Unity Multi-dimensional Integration Framework

In previous periods, a first outcome of T6.1 was produced and submitted (D6.1, M14), aiming at providing a guidance document for the instantiation of the Unity results (represented by the Unity Community Policing Architecture Framework, i.e. the Unity Operational Model together with the Unity Communication Platform). This manual document has then been used as guidance for the preparation and realization of the United instantiation for Finland (May and June 2017) and is being followed again for each of the forthcoming pilots to be executed in WP7 (Macedonia, Bulgaria, and West Yorkshire).

Because of the incremental approach being followed in Unity, with multiple activities running in parallel for the definition of the requirements, concepts, models and technology, D6.1 was kept as a living and dynamic document, along with the project activities, being enriched and refined as the project advances. Its first version was enriched and enhanced to be included in upcoming outcomes (D6.2) in M28 (see below).

This task was previously completed and results reported in an earlier review.

Task 6.2 Preparation of the Unity Instantiations

This task continued in year 3 with relevant features being adjusted for the Finnish, Bulgaria Macedonia and West Yorkshire pilots to allow feedback to be received for future instantiations. Also the Estonia Pilot was revisited.

The Deliverable linked to this task will be completed in year 3 of the project.

T6.2 defines the preparation undertaken for each of the UNITY instantiations according to the integration framework identified in Deliverable 6.1. Outputs from previous work packages are considered to ensure the instantiations provide a test bed for evaluation of Community Policing (CP) as a whole according to the UNITY project. Work packages 2 and 3 deliver a baseline for policing and community practices, including the ethical and legal impacts, providing the initial requirements for CP in relation to the 6 pillars identified as part of the UNITY project. These requirements support the development of the CP framework and technical development, for which iterative versions are implemented for each instantiation.

Earlier pilots, namely Croatia and Estonia focussed predominantly on the research and process analysis. From these pilots and in collaboration with WP2 and WP3, the core user requirements were defined. The Bavarian and Belgian pilots saw the first introduction of the initial technical development in line with the early stages of the Target Operating Model (TOM) preparation; from this, specific end user feedback was gathered to support the technical architecture and Community Policing Architecture Framework (CPAF). The Finnish pilot provided the first real opportunity to test the UNITY concepts over an extended period of time.

Each pilot country is tasked with preparing a pilot scenario(s) which clearly meet the defined requirements of CP. From the scenario, a Current Operating Model (COM, As-Is) process flow is created by each pilot partner using a free-flow narrative. Then from this, and working with the Unity partners, a desired TOM is articulated based on the Delta analysis of 'What works what doesn't work' in the COM: i.e. the difference between the COM and the TOM where improvements to CP can be made. The scenarios provide hooks and triggers to support the 6 Unity CP outcome pillars determined by the WP2 & WP3 research. The scenarios are then used as the basis for the scoping of the rest of the steps that make up the CP Landscape Journey, up to the pilot and beyond. At each stage of the CP Landscape Journey, the scenarios are reviewed to ensure continued alignment with both the process and with the aims and objectives of the pilot.

The preparations carried out in WP4 as detailed above, coupled with feedback from previous pilot instantiations, the Unity IT Toolkit is parameterised and customised to produce precise UNITY instances. Each pilot highlights the evolution of generic and new features from when the IT Toolkit was first tested during the pilot in Germany to the latest pilots in Macedonia and Bulgaria. It is important to note, at the time this deliverable was written work was ongoing for the remaining West Yorkshire Police, Macedonia and Bulgaria pilots and subsequently additional features may be added to these pilots.

After each pilot, key focus groups were held with end users; the purpose being to understand perceived benefits after using an instantiation of the toolkit. The consensus was positive, end users advised they can see the real potential the toolkit could have in real life scenarios.

The detailed information of this task is included D6.2, which was successfully submitted on time (M28). Additionally, D6.2 included an update of D6.1 given the progress of the project.

Task 6.3 Realisation of the Unity Instantiations

This task continued in year 3 and was run in parallel with T6.2 for the Finnish, Bulgaria Macedonia and West Yorkshire pilots. Estonia pilot was also revisited.

The Deliverable linked to this task was completed in year 3 of the project.

T6.3 deals with the realization of the Unity instantiations. An instantiation refers to each preparation of the Unity approach for the different pilots of the project. These instantiations address specific communities, and therefore the specific needs and contexts of these communities). Since a pilot implementation might include more than one scenario, in this document, a community refers to each pilot scenario conducted in the pilot countries of the project (i.e., Croatia, Estonia, Germany, Belgium, Finland, Bulgaria, Macedonia, and the UK). The realization of the instantiations highly depended on the work done in WP4 (Community Policing delivery Framework) and WP5 (Technology Toolkit). Hence, the instantiations were created from two perspectives, one for the operating model for each community (WP4) and one for the IT toolkit instantiations (WP5).

In particular, the Operating model (WP4) was instanced for each scenario of each pilot describing the knowledge of CP and the potential improvements that were identified at local, community levels of instantiation across: Governance, People, Process, and Technology. Being specific of each scenario, the operating model could not be reused or adapted among pilots. However, all the created models were actually used for feeding the CP strategy generator in order to provide LEAs meanings for sharing information across all communities and locations. This means that if similar scenarios appear in new countries, users could check whether other LEAs have dealt with the same CP problems and how these have been solved. In addition, this accumulative knowledge could serve as a basis for a better planning of CP.

Regarding the IT Toolkit (WP5), given the incremental development used during the project (i.e., the last instantiations included more features than the first ones), it is not possible to identify a common set of features that were used across the pilots. However, we noticed that users tended to use a core set of features (e.g., private messages, events, news, and forum conversations). This would mean that these features could be standardized and included 'by default' in further instantiations. Nevertheless, further studies are necessary to shed light on this. The operating models of scenarios in Finland (Section 4.4.4) and the UK (Section 4.7.4) highlighted a number of technical requirements that need to be completed specific only to the pilot scenario. For the Finnish pilot, it became evident that the key focus was primarily around enabling LEA's/ Stakeholders to participate in the problem-solving process. This was achieved through the development of specific key features available only to LEA's/ stakeholders. In the UK pilot, it was needed to cater for different groups outside what

the existing functionalities already provided. As a result, 2 key features were derived: the ability to create a virtual community and the ability to share videos (for the deaf community). These changes evidence actual pilot-specific customizations outside the overall incremental development strategy.

It is also remarkable that, although possible, no features were actually removed from the instantiations although they were barely used in the pilots.

The different instantiations could be exploited by each pilot country as they are. For further developments, we refer to the Exploitation Agreement in WP8. All this information was completely described in D6.3, which was successfully submitted in M36.

T6.4 Unity Preliminary Evaluation

This task is being carried out in parallel to T6.2 for the Finnish, Bulgaria Macedonia and West Yorkshire pilots. Estonia pilot was also revisited.

The Deliverable linked to this task will be completed in year 3 of the project.

The object of this task is to subject the Unity Instantiations to a preliminary evaluation, that is, tests in a controlled environment to ensure proper functioning of the several components across various dimensions (organisational, governance, workflows, technologies, ethical and legal, social and cultural, etc.). Using the realisations of the Unity instantiations that have been developed in Task 6.3, each instantiation will be tested using controlled data in a controlled set of circumstances in order to identify missing components or requirements that will be required during the test bed. This task was conducted with active collaboration with end-users (including local police and community representatives) in order to ensure that their needs are being met by the instantiations, and in areas where they are not being met, the remaining barriers highlighted.

To achieve this objective, eight pilots were conducted. The first three pilots (phase 1 pilots) were held in Croatia, Estonia and Germany and carried out during the development phase of Unity. This was to ensure that from an early stage, the data collection and user requirements were taken into account, and incorporated into the fabric of the Unity Toolkit. The data and user requirements from phase 1 pilots were then fed into another five follow up pilots (phase 2 pilots), in Belgium, Finland, Bulgaria, Macedonia and United Kingdom (UK). The phase 2 pilots involved the testing of the Unity Toolkit including both the methodological approach and the technical tools.

An iterative approach ensured that the development of the Unity Toolkit was legally, ethically and operationally sound. Each pilot was also assessed against the 6 pillars of Community Policing (CP), which were developed in WP3. The 6 pillars being:

- Trust and Confidence Building
- Accountability
- Information Sharing and Communication
- Addressing Local Needs
- Collaboration

- Crime Prevention

It has to be emphasised that the aim of this preliminary evaluation process was not to compare and assess the pilot countries but encourage learning and feed the iterative development cycle of Unity. The assessment conducted as part of this task takes the evidence gleaned from the projects pilots and aligns them against the core principles of CP; the 6 pillars, in order to provide a commentary on the impact perceived by LEA's, community members and other stakeholders. All this information was completely described in D6.4, which was successfully submitted in M36.

Work Package 7

This task ran throughout year 3 with Finland, Bulgaria, Macedonia and West Yorkshire running pilots and year 4 with 2nd pilot in Estonia.

End user scenarios were developed within T7.3 by the end-user countries undertaking pilots, to demonstrate and obtain feedback on the Unity concept and the developing Unity technology tool kit. Pilots were conducted during the development phase in Croatia (Zagreb, October 2015), Estonia (1st pilot in Tallinn, May 2016) and Germany (Munich, Bavaria, September 2016). These pilots were conceptual exercises without material testing of Unity technology as such, with end user law enforcement agencies and stakeholders participating, to voice their opinion about the possible technical features and the Unity approach. The baseline measurement results shown in D7.3 provided a 'pre-engagement picture' for subsequent measurements after roll-out of the Unity platform and the findings were based on 572 interviews carried out with 170 members of police forces and 402 members of communities and external intermediaries in 8 European countries. This produced quantitative and comparable data across groups (LEAs, Stakeholders and Citizens) and countries on the perceived quality of community policing services, processual efficiency and police capabilities. It also provided baseline data on technology acceptance across these groups in each country, which varied tremendously, e.g. from a perception of high implementation satisfaction amongst the Police in Croatia and Estonia to quite low satisfaction in Bulgaria.

The proper testing of technology prototypes started with the Pilot in Antwerp, Belgium in January 2017, following which further technological developments took place for the Unity Platform, App, Analytics Engine and CPSG, based on the end user requirements for each pilot. The first testing of the full range of technology development within the Platform and App took place in Finland (Helsinki and Pohjanmaa region, May-June 2017), followed by Bulgaria (Ihtiman, September 2017), Macedonia (Vevchani, October-November 2017), UK (West Yorkshire, September-November 2017) and 2nd time in Estonia (Tallinn and Võru, February 2018).

For each pilot testing technology, comprehensive facilitation packs were prepared by the OPCC, for each of the roles, LEA, Stakeholder and Citizen taking part; these were tailored to each scenario and were designed to test the Unity Toolkit, but also to test and validate the interaction of each of the roles with each other. Prior to the pilot held

in Finland, exercise planning partners met at Edinburgh Napier University, UK in April 2017 to agree on and validate the chosen approach to the exercise planning process for the pilots testing the full range of technology, to ensure consistency of approach in the planning and execution of pilots, which would then maximise the evaluation opportunities afterwards for the project.

Pilot scenarios were further developed to ensure they addressed relevant areas of CP the Unity Project aimed to impact on, e.g. ensuring that participants included citizens from youth and minority groups and addressed issues that had been highlighted by the research carried out in WPs 2 and 3.

During the development process, it was agreed that two additional pilots to those originally planned, would be held in Macedonia and Bulgaria. These were both countries where CP was at a lower level of maturity than other pilot countries, so offered an opportunity to explore how CP would be received by their LEAs, Stakeholders and Citizens. Due to technology being less accessible in parts of Bulgaria, this pilot also offered the opportunity to test the non-technological components of the Unity tool-kit. For the UK pilot, additional scenarios were created to test Unity amongst virtual rather than geographical communities (the Deaf and LGBT communities). The additional technology feature of being able to upload videos was developed and tested during this pilot.

Finally, an additional pilot was held in February 2018, by Estonia; Estonia had previously shown a perception of high implementation satisfaction in relation to technology, yet had not had chance to test it during their pilot in the early stages of the project, as the technology had not been developed during that stage. They were able to re-run a scenario used in their original pilot, but this time using technology, which again provided useful evaluation opportunities, albeit the pilot was conducted after the submission of the Unity Evaluation deliverables.

Task 7.4: Evaluation of short-term impacts

The Deliverable linked to this task was completed in year 3 of the project.

Task T7.4: Evaluation of short-term impacts (M24-M27) assessed the potential effects in the first days and weeks, up to six months after the implementation of the UNITY tool(s). Special consideration was given to accessibility, from the perspective of various hard to reach communities and vulnerable groups. Based on the short-term evaluations design and usage recommendations formulated to inform further efforts in WP5 (technology) and WP6 (solution and integration).

A majority of the LEA, stakeholder, and community respondents in pilot countries saw also that UNITY tools could support CP in many ways. It could e.g. improve understanding communities' needs and building a situational picture of the operational working environment. Unity would also allow to gather security related information on a single restricted platform. The Unity CPAF would help the local community police, local authorities, stakeholders and citizens to facilitate regular problem solving and coordinate community meetings and events (for engagement). IT- technology needs

to be scalable: provide a smooth user experience with diverse mobile devices and computers and be used as a supportive resource for the CP.

Task 7.5: Evaluation of mid-term impacts

The Deliverable linked to this task was completed in year 3 of the project.

Task T7.5: Evaluation of mid-term impacts (M30-33) assessed the potential longer term impacts after six months to one year usage of the tools. Here also special consideration was given to diversity and ethical issues impacting the usability of the tools.

Unity evaluation of mid-term impact has focused on the ability of Unity tools to support the overall vision: to strengthen the connection between the police, communities and stakeholders to improve the safety and security of all citizens. More concretely, CP should achieve impact in six outcome areas: Trust and confidence building, Accountability, Information sharing and communication, Addressing local needs, Collaboration and Crime prevention.

The overall feedback from the end-users of Unity tools: the citizens' App; communication and collaborative problem solving platform for the LEAs and their community partners; data driven Analytics Engine and the CPSG – was rather positive.

End users have advised that they can see the potential in UNITY tools and the approach (the CPAF). Unity's tools were also seen as useful in engagement: organising meetings, supporting planning etc. The CPSG could be of additional help, when trying to find the best CP tactics and strategy in crime prevention and increasing a sense of security and safety in communities. Some end-users also saw potential in the Data driven Analytics Engine; it could assist in filtering information, pointing out hot topics and hate speech and monitoring the development of sentiments in communities. Yet, although UNITY tools and approach can support trust and confidence building, a certain level of trust towards LEAs seemed to be a prerequisite for the successful CP with UNITY.

CP as an ongoing, context based engagement process which views the role of the community as partners in local policing. The technological application requires knowledge on the police and its functions. End user focus and scalable interface are essential for future use. The educational system should correspond with the ICT system.

Work Package 8

T8.1 Training material development and training sessions for law enforcement agents
The development of training material for law enforcement agents continued to be developed in year 3 with it leading to D8.1

The deliverable for D8.1 was submitted by the end of August 2017. This deliverable included a draft for the training programme which was the basis for the further development, which was carried since this point. The first important step was the change of the platform from CEPOL to the moodle platform of the Finnish Police University College. This moodle platform offers a modern and more flexible environment for the delivery of the training. After finishing this transfer the contents were totally revised and new and interactive tools were added to this platform. The

training is divided into several modules with different thematically focal points. The following modules are available:

- Module 1: What is Community Policing? (Module includes an introduction to the UNITY approach including CP architecture framework and TOM)
- Module 2: UNITY IT- Tools
- Module 3: Data Security and Legal Aspects
- Module 4: Promotion of Communication Skills (Currently there is an example of Intercultural communication training; this module can be updated with further information of addressing the needs of other communities and minority groups identified within the Unity-project)
- Module 5: How to evaluate the impact of CP (based on WP 7)
- Teachers materials (This includes guidance for a face-to-face training sessions with a Problem Based Learning, PBL-method)
- Glossary of Terms (co-creative learning module)

The training is now ready for use available for users, which can be easily registered to this platform. In addition, FHVR implemented large parts of the training into their curriculum. Starting with a pilot training in November 2016, twice a year about 90 students were taught in community policing.

Task 8.2 Awareness raising campaigns for citizens and stakeholders

Awareness raising campaigns have been carried out throughout the lifetime of the projects. Messages, information campaigns and other information was shared over the main communication channels of the project

- Twitter (>2.250 Follower)
- Facebook (>130 Likes)
- LinkedIn (>120 Links)
- Unity website

To the raise awareness for the project, the following typical contents were published:

- Flyer (available in nine different languages)
- Newsletter (five different issues available)
- Video (>4.000 impression on twitter)
- Feedback Campaign
- Unity brochure (printed and digital)

T8.3 Dissemination through website, press releases, conferences and publications

Results were disseminated through the same channels like the awareness raising campaigns. Also the distributed materials contained the major outcomes and research findings of the project. For example the Unity brochure with the most important research findings was one of the most important sources for disseminating the projects results.

In addition to this also a number of dissemination events were organised or joined by partners. Beside all technical possibilities of sharing results and documents of the project, the human factor should not be underestimated. The direct targeting of audiences as well as the exchange with representatives of other European projects

with similar objectives is crucial for the awareness raising campaign of this project. Unity representatives have already taken part in numerous events and will continue with this in future. Beside the high number of smaller and bigger conferences, two major events in year 3 should be underlined in this context:

- Next Generation Community Policing Conference (co-organised by Unity)
25-27th October 2017
Fodele Beach, Heraklion, Greece
<http://ngcpconference.com/>
- Community Safety & Resilience Conference 2018
20th April 2018
EPC, The Hawkhills, North Yorkshire

Beside these events, the partners of the Unity consortium took part in more than 160 different dissemination events. All of them are documented in the projects' dissemination log. In addition, the consortium members published two high level scientific publications:

Bayerl, S et al. (ed) 2017: Community Policing - A European Perspective, Strategies, Best Practices and Guidelines, Springer International Publishing.

T8.4 Exploitation and realization strategy

Deliverable D8.4 was prepared and submitted to the commission in year one, however SERCO continued to work with partners on the exploitation and realisation strategy, D8.4 being kept as a living document through the lifetime of the project to ensure it remained aligned to the maturity of the project.

The second and final iteration of D8.4 has found that, through the better and more informed understanding of what Unity is and what CP benefits it can bring to the communities and law enforcement on the ground, set a more pragmatic and achievable, albeit highly innovative approach to post project exploitation. Resulting in a more focussed and coherent exploitation strategy, rather than the relatively ambiguous stance of the first version. This approach is based upon a clear understanding that CP, wherever we have looked, isn't a clearly defined, homogenous whole. Able to be cohesively identified and coherently communicated to and understood in terms of a market sector. Therefore the approach set out in this second version of D8.4 is aimed at building upon the project findings, to create an operationally and where appropriate commercially focussed mechanism by which all stakeholders identified as being directly or indirectly involved in CP, can be more readily associated with and identified as being part of a more coherent 'Community Policing' market sector.

In doing so, the value and benefit generated from the Unity project will be greatly enhanced to all: to the EU, to the Unity partners and to the citizens, communities and end users, rather than leaving CP as the predominantly police led and resourced disparate and fragmented activity that it is currently seen as.

Under the Exploitation & Realisation strategy, the tasks and activities that have been undertaken are: the establishment of an Exploitation Committee (ExC) made up of

project partners from the UK, Bavaria, Belgium, Macedonia, Croatia, Finland and Spain. This was at the request of the Unity project partners, and YR 2 recommendations. The Unity project Exploitation manager remained as lead for this work.

Carried out focussed Skype meetings and dedicated workshops at various partner locations. Has developed and populated by the ExC and communication out to all partners, four core exploitation themes that represent all of the exploitable components of Unity – Training, CPAF, Unity IT-Tools, Research; the development and contribution by all partners into a Component Ownership and Dependency Matrix to address pre and post project ownership and rights; the provision by some partners of their individual exploitation plans setting out their aims and objectives post project.

1.1 Objectives

List the specific objectives for the project as described in section 1.1 of the DoA and described the work carried out during the reporting period towards the achievement of each listed objective. Provide clear and measurable details.

Work Package 1

To design and update the Project Management Plan (PMP) in order to guarantee rapid overview of the progress of the project, including financial elements, through regular PMP updates and timely reports to the European Commission. To formulate and update the Project Management Plan, together with the production of interim and final progress reports focused on the project results, which will ensure the consistency of the actions to be undertaken within the specific and overall project objectives.

Key activities undertaken were;

Organisation of Consortium meetings, relevant workshops and EC reviews.

The consortium met in Finland in June 2017 and West Yorkshire in November 2017. The final consortium took place in York at the emergency Planning and Training centre. Partners, committee chairs and WP Leaders all provided updates on their respective working areas. Guidance and resource reporting guidelines for the final report requirements and guidance given.

Work in the run up to this meeting was undertaken to ensure all partners were on track to deliver the final deliverables and presentations for the Commission review.

The Unity OPCC project delivery team have continued in year three to liaise with partners to facilitate and ensure deliverables due between M25-M36 were reviewed in line with the peer review process and the review template that was introduced following the commission's recommendations was completed.

OPCC liaised with partners and the Project officer, when extensions to deliverable due dates were required or further guidance was required.

Quality Management Plan (QMP)

Quality Management Plan remained in place and provided the framework for quality control to ensure the project partners work within QMP Aims.

The project coordination, undertaken by the OPCC delivery team has continued to monitor, record and manage risks. Unforeseen risks that were identified, were flagged and working with partners, actions were taken to reduce or mitigate risk to enable a positive conclusion.

Work Package 2

Analysing the social, cultural, legal and ethical dimensions underlying best practice in CP and policing research (including interaction which is not face-to-face, i.e. occurs online) is central to Unity. WP2 Leaders ensured that the ethical, legal and community issues (including diversity) were consistently taken into account at every stage of the Unity project, pilot planning and consultation and briefing of participants. This ensured the project continued with a citizen-focused design and needs analysis. When continuing to consider the usage effects (communities and LEAs) and dissemination, WP Leaders ensured our approach was in line with the objectives of WP2 objectives.

Examples include:

The overall management of the project, including the needs of staff, appropriate involvement of volunteers in the project (informed consent) and storage of participants' personal information (WP5);

Identifying community and police requirements and best practice relating to co-operation between LEAs and citizens (WP3);

Designing a concept of operations/preferred CP system (the 'combined effect') WP4;

Designing and developing technological solutions that follow sound ethical principles and privacy-by-design (WP5);

Integration and delivery of CP communications technology solutions (WP6);

Pilots (proper involvement of human subjects in pilots) and evaluating the project (WP7);

Dissemination, training and awareness raising (WP8).

Please expand as required to ensure objectives of M25 to M36 are fully covered.

List the specific objectives for the project as described in section 1.1 of the DoA and described the work carried out during the reporting period towards the achievement of each listed objective. Provide clear and measurable details.

For WP2 leaders year three (M25-36) has been focused on working on task 2.4 in order to complete D2.4 *Ethical, legal and socially responsible framework for training, awareness raising and exploitation*. The main aim of deliverable 2.4 was to provide research evidence which supported Work Package 8, Deliverable 8.4 specifically and the construction of legal, ethical and socially responsible framework which will be utilised to support community police (CP) training and the exploitation and

dissemination of the results produced by the Unity project. In order to do this we reviewed relevant literature and undertook further analysis of data collected for WP2, going beyond that which was reported in previous deliverables.

We have continued to support consortium partners in terms of reviewing deliverables and ensuring partner scenario and pilot plans have been ethical, legal, and socially responsible and CP focused. We attended pilots and provided feedback in relation to multiple diversity strands, emphasising the importance of the social and political context of each pilot site. WP2 have also supported pilot partners with their evaluation process put in place for the pilots in terms of the evaluations being legal, ethical and socially responsible and provided WP8 partners with an ethical, legal and socially responsible framework for CP training under development. WP2 leaders have also taken part in the exploitation committee, providing guidance on legal, ethical and socially responsible exploitation delivery. WP2 also attend consortium meetings, relevant workshops and advised end user partners on appropriate ethical strategies to disseminate results back to research participants.

Work Package 3

Completed in Year 2.

Work Package 4

Objectives of WP 4 were to identify, analyse and map the Policing and Community Requirements and Best / Effective CP practices from WP2 and WP3 to the consensual and shared view of risks, threats, harm and hazards the community faces.

Work was focussed to ensure the project continued to identify and analyse gaps or recognise when overlaps exist and where the Unity 'Combined Effect' approach to CP could meet, mitigate or enhance these. The results of this work established what roles and responsibilities, capabilities and capacities were required, collectively and individually from stakeholders, including citizens and community groups, to meet these enhanced CP requirements and initiatives.

This work assisted partners take their current CP operating model, their COM to a target operating model, their TOM. In year 3 this work enabled the WP4 leader and end users to recognise and record their Delta map (gap and capability analysis). This approach was tested using the remaining year 3 pilots, Finland, Bulgaria, Macedonia and West Yorkshire. The outputs of this work and therefore the visual achievement of the objectives to date were reported in the deliverables – D4.6 D.7 & D4.8.

Objectives of WP4 directly impacted across many other work packages, in particular WP5, WP6, and WP7. Within WP5 the COM, TOM and delta work, provided additional requirements and improvements for the Unity It-Toolkit.

For WP6, the CPAF approach and methodology provided the foundations for the implementation and instantiation of each pilot, as seen in D6.2. WP7, relied upon and

was influential in all outputs of WP4, providing the information to inform the COM, TOM and delta CPAF work. While also relying upon WP4 outputs to identify the means to test and review their respective Pilot.

Work Package 5

The objectives of WP5 year 3 were to finalise the core and pilot specific developments of the Unity IT-Toolkit, which comprised of; the Core Platform, Mobile Applications, and Data Analytics as well as to integrate and test the technology components in a controlled environment.

Testing was undertaken and completed, as planned in Finland, Bulgaria, Macedonia and West Yorkshire. In addition, Estonia requested an additional pilot was held in their country, as the It-Toolkit was not available during their official pilot at the beginning of the project.

The system specifications in relation to the user requirements, the systems flexibility, adaptability, scalability and robustness were carried out through a series of planned demonstrations. The system was continually reviewed as results of each pilot were reported. This evidenced that the core features could be integrated across different countries with very little customisation and also proved that the content of each community within the It-Toolkit could vary significantly depending on the scenario presented by the pilot country. Pilot features were considered in line with the pilot instantiations in WP6.

Close collaboration with the pilot leads in Finland, Bulgaria, Macedonia and West Yorkshire ensured direct end user feedback was received and reviewed, therefore any further progress in the technology would ensure the system continued to focus on delivering the 6 key pillars of Community Policing.

The Unity IT Toolkit was developed and tested on PC's, Laptops, iOS, and Android mobile devices thus evidencing the practical use of mobile technologies and bi-directional communication.

The rich visualisation and reporting tools for LEA's were demonstrated and tested by the LEA volunteers who participated in the pilots. Each pilot instantiation evolved to highlight additional features, some beyond the scope of the project. I.e. WYP pilot highlighted the need for a live two way video facility for service users who required British sign language interpreters. An interim feature, to share videos in messaging and forums was developed to ensure the pilot could go ahead as planned.

Detailed test plans were used to prepare for each pilot, providing all technology partners with a thorough guide to test all areas of the IT Toolkit and address any issues prior to each pilot.

Following the data breach in Q3 of the final year, additional security measure were put in place in line with the new OWASP standards 2017. Further to this, during the final quarter, the system has been initially reviewed to understand any updates/ amendments required in line with the new GDPR rules.

Work Package 6

Activities in WP6 in year 3 focused on:

The preparation and realisation of the Unity Instantiations for the pilots in Finland, Bulgaria, Macedonia and West Yorkshire.

With regard to the objectives as defined for WP6:

Defining the Unity Multi-dimensional Integration Framework (completed in Year 1, although an update was sent jointly to D6.2)

Preparing and realising the Unity Instances for the different test-beds and pilots

Assessing a preliminary evaluation

2 two different instances were prepared and realised in Finland, 2 for Bulgaria, 1 for Macedonia and 3 for West Yorkshire. Additionally, 1 instance was created for revisit the Estonia pilot conducted in Year 1. This was done since in Year 1 the developments were in an early stage.

D6.4 finalises and reports on the objectives of WP6, the preliminary evaluation will review the available features for all the pilots in particular the pilots were technology was tested. The UNITY tools were tested over a 3 week plus period.

By completing all planned deliverables and task, the objectives of WP6 have been successfully achieved. As a remarkable point, WP6 was conceived for being sequentially fed by WP5, however, due to the incremental development taken, the actual technology development of WP5 was driven by the realization of the instantiations of WP6. This resulting in an overlap between both WPs.

Work Package 7

Objective for the third year have been to ensure the functionality and usability of the newly developed tool(s) for the diverse user groups (i.e., police, diverse citizens, different communities and organizations) in different usage and national contexts through cycles of tests and pilot implementations in the remaining pilot countries.

Work increased in year 3 on the evaluation work that was required to capture the findings of the pilots and identify short and medium term impacts and aspirations.

The pilots have been carried in Tallinn Estonia, Munich, Germany and in Antwerp, Belgium. Afterwards added Bulgaria, Macedonia and 2nd time Estonian Pilots.

Fully engaged with Exercise Planning for the Unity Pilots taking place in Bulgaria, Macedonia, West Yorkshire and Estonia. On the evaluation work captured the findings of the pilots and identify short and medium term impacts and aspirations. This involved regular conference calls with the pilot countries and exercise planning partners, along with preparation of facilitation packs to test the prioritised Target Operating Model (TOM) business improvements against the Unity Technology and approach.

Exercise Planning Documents were compiled for each pilot, containing details of the scenarios used, the TOM and how it would be tested, the participants involved and the

method of conducting the analytics and evaluation for the pilot. Collection and wrap up of materials (ToR, Stakeholder engagement plan, pilot debriefs and the evaluation surveys) from the pilot countries for reporting short term impacts. Work included preparations of an (online) questionnaire in varied languages (Bulgarian, Macedonian, English and Estonia).

Test Beds realized in local scenarios feed into the Unity Toolkit development and serve WP's 4, 5 and 6.

The Evaluation matrix is based on the six pillars (outcome areas of Unity) and assisted task leads of 7.4 and 7.5 in reporting the impacts of Unity approach and technical tools.

Task 7.4 Evaluation of short term impacts has written and completed Deliverable 7.4.

Task 7.5 Evaluation of mid-term impacts has written and completed Deliverable 7.5.

Work Package 8

For the third year of the project three main objectives were reached.

The Training set for the Unity training continued to be developed and finalised.

The pilots in Finland, Bulgaria, Macedonia and West Yorkshire were promoted on the website of Unity and the ones of the hosting organization, through Twitter and also press releases. In total the dissemination activities resulted in a high visibility of the project and its outcomes. This can be seen in the increased number of followers in social media and the interest of stakeholders in the project and outcomes. Also the publication of two, high-level scientific books secure the availability of the research work with the scientific community.

Unity was also presented to different audiences in the last year. More than 50 dissemination activities have been recognised during year 3, including two high level conferences that have been organised or co-organised by Unity. The first one was the "Next Generation Community Policing Conference" (co-organised by Unity), which took place from 25-27th October 2017 at the Fodele Beach Hotel in Heraklion, Greece (<http://ngcpconference.com/>). This conference was a clustering conference together with the European sister projects (INSPEC2T, TRILLION, CITYCoP, ICT4COP, CITY.RISKS, NEXES). The second conference, organised by the project was the "Community Safety & Resilience Conference 2018", which took place on 20th April 2018 at the Emergency Planning College at The Hawkhills, North Yorkshire.

1.2 Explanation of the work carried per WP

Work Package 1

We continue to work within D.1 – Project Management Plan

Work that is required for D1.2 progress reporting template is completed every 3 months in partnerships with the project partners. Work package leaders use this reporting

document to collate information on updates of progress on tasks and resources used. As Project coordinators we continue to provide guidance on this process.

D1.3 Overall project report, attached and is as a result of the coordinators monitoring and management of the project, this facilitated the collation of information to be stored in preparation for this final report.

D1.4 Quality Management Plan was implemented in year 1, during year 2 and year 3 we continued to coordinate the work required to ensure adherence to the process.

D1.5 – In partnership with our subcommittee chairs, work has continued to ensure all tasks carried out are in line with the committee's guidance and overview. The committees have supported the development of Unity and have offered expert guidance to the consortium regarding the development of Unity's outputs, ethical issues arising from end users reluctance to incorporate an anonymous feature and also the security breach during WYP pilot. These sub committees include;

International Advisory Board

Scientific & Technical Steering Committee

Security / Ethics and Confidentiality Committee

Exploitation Committee

Work package 2

Key activities undertaken in WP2 in year 2:

Supporting other work packages in Unity with regards to ethical matters. For example, working with consortium partners to examine what our ethical and legal responsibilities were in relation to the data breach.

Ongoing support to consortium partners regarding community policing principles and maintaining a CP focus for scenarios and pilots. Reviewing documents for scenarios including evaluation questions and COM and TOM documents. Assisting with the ethical and socially responsible planning of scenarios for Finland, Macedonia, Bulgaria and Estonia. Researching, sourcing and providing wider literature alongside Unity research data to support scenario planning (Bulgaria).

Ethics Committee, Science and technology committee, and Exploitation committee meetings. Calls and meetings related to the use of research and ethics for CP game (SHU). Working with partners to support the development of CPSG – calls, emails and sharing of research data to be input to the CPSG.

Re-analysis of WP2 data for D2.4 *Ethical, legal and socially responsible framework for training, awareness raising and exploitation*. Feedback was sought from partners, developing framework around exploitation through working with the Exploitation

Committee. Researching, designing and developing a Unity brochure to support diversity training.

Recommendations that executive summaries would be developed for all deliverables in order to improve the accessibility of findings, were undertaken, this also supported findings of WP2. Ethically, participants who have contributed to research should have those findings made available to them. It was acknowledge that it is important we ensured that the research was disseminated to academics and practitioners so WP2 research findings were presented at academic and policing conferences (e.g. European Society of Criminology Conference, Next Generation CP Conference, Scottish Institute for Policing Research (SIPR) International Policing Conference) and SIPR knowledge exchange events (e.g. with colleagues from Scotland, Sweden and Finland). Three papers have been drafted for publication.

Work package 3

Erasmus has continued to support partners and work packages in their efforts to apply WP3 findings in their activities and deliverables (platform development, training, dissemination, exploitation, etc.). This support included further data analysis and interpretation of data and/or findings for use in other work packages, extraction of specific results for partners/country-specific usage (e.g., presentations, dissemination materials), help in the interpretation of findings and extraction and reformatting of WP3 results for input into the CPSG. WP3 also participated in the Scientific and Technical Management Committee and the Exploitation Committee to ensure academic/scientific integrity of the project efforts as well as investigate and propose exploitation of WP3 results beyond the end of the project.

Work package 4

Following an update to the CPAF approach and methodology and its successful implementation in the Finland Pilot, the final iteration of the CPAF was used in the subsequent 3 pilots which ran almost parallel during the 2nd quarter. This final iteration can be seen in D4.6.

On top of this a 2nd Estonian Pilot was undertaken in the final quarter which utilised the same final iteration of the CPAF. To ensure a robust and comprehensive review of the project and the architecture delivery framework, subsequent updates for all previous pilots prior to Finland were undertaken to reflect the final iteration of the CPAF.

A subsequent comparative analysis was undertaken between the different pilots, which can be seen in D4.7. This report highlighted the similarities and differences in implementing best practice community policing across all the pilot countries, and how

the current maturity level of CP in that community affected the improvements that could be implemented.

Following these final updates to the individual pilot architecture work, the CPAG and CONOPS were iteratively updated, to provide a unified view of how best to implement Community Policing across the whole of Europe, ready for exploitation post project. Details of this can be seen in D4.8.

Work package 5

The key activities undertaken in WP5 revolved around the finalisation of the Unity IT-Toolkit in preparation for the final pilots in Finland, Bulgaria, Macedonia, West Yorkshire and Estonia.

Task 5.2 Modular Apps for citizens - D5.2, the development of the core and new features, utilizing both the iOS and Android software for citizens was submitted. The deliverable depicts the overall development of the mobile applications for citizens and provides the relative screenshots.

Task 5.3 Modular Apps for LEA and officers - D5.2, the development of the core and new features, utilizing both the iOS and Android software for LEA's/ Stakeholders was submitted. The deliverable depicts the overall development of the mobile applications for LEA's/ Stakeholders and provides the relative screenshots.

Task 5.4 Unity Core Platform – D5.3, the development of the Unity Core Platform was submitted. The deliverable depicts the overall development of the core platform for Citizens, LEA's/ Stakeholders and Administration and provides the relative screenshots.

Task 5.5 Data driven analytics engine – D5.5, the development of the data analytics engine was submitted. The deliverable depicts the overall development of the analytics engine and how it can be used by the LEA's/ Stakeholders to share information and to attain an overall picture of the hot topics being discussed within a specific community over a medium – long term period.

Task 5.6 Integration and testing – D5.6, the integration and Testing Results report summarises the test plans utilised to prepare for each pilot, ensuring they ran efficiently and effectively.

In addition to the deliverables completed during the final period, the system was prepared for live demonstrations for the NGCP conference in Crete and also during the pilot review meetings in the respective pilot countries.

Work package 6

Activities in WP6 in this period have focused on the preparation and realisation of the Unity Instantiations for the pilots in Finland, Macedonia, Bulgaria, the UK (and Estonia). Thus, with regard to the objectives as defined for WP6:

1. Defining the Unity Multi-dimensional Integration Framework
2. Preparing and realising the Unity Instances for the different test-beds and pilots
3. Assessing a preliminary evaluation

Objective 1 was addressed in previous periods, and because of the iterative and incremental approach in UNITY is being revisited, updated, enriched and refined as the project advances. The activities in this period have been more focused on the second and third objective by preparing and realising the different instantiations (objective 2) and by performing the preliminary evaluation of each created instantiation.

Planned outcomes of this WP for this period (D6.2, D6.3 and D6.4) were successfully completed and submitted on time (M28 and M36).

Work package 7

The key activities undertaken in WP 7 have been testing and validating the functionalities, features and design of the Tools (T 7.3) and making an assessment of the immediate short term and longer term impacts including a comparison with the baseline situation (T. 7.2). An Evaluation matrix with selected impact assessment criteria was developed based on the six pillars (outcome areas of Unity); the matrix assisted task leads of 7.4 and 7.5 in reporting the impacts of Unity approach and technical tools.

Within task 7.3 it was arranged 5 full technology pilot exercises, the last being in 2nd time in Estonia. The results of impact assessment have been reported in D 7.4 Report on the short term impacts including design and usage recommendations (M33), D 7.5, Report on the mid-term impacts including usage recommendations (M33) and in D 1.3 Overall Project Report.

There were many potential short and mid-term impacts found of the use of Unity Tools (the platform, the App, the data driven Analytics Engine and the CP Strategy Generator CPSG) and approach (CPAF). These were related to the improvement of CP capabilities (like ability to address local needs), processes and quality of Community Policing.

Work package 8

D8.1: The deliverable contains the methodology, including a didactic approach, a training plan and a handbook for the practical implementation of the training. Also included is a template with a draft of training contents. These contents were further developed during the last period of project and are now available on the moodle training platform of the Finnish Police University College.

In the latter stages of the project and in response to the identified need for the community to understand their role in CP, partners from SHU, led the development of the Community Policing Game.

The CP game was given the short name AEsOP standing for Applied Engagement for Community Participation. AEsOP was created as part of the Unity project's training programme and in response to the Six Pillar of Community Policing. Its main purpose is to provide a method of raising awareness among members of the community. The game functions across all platforms, including an embedded web browser version and IOS & Android application. This is to ensure the game is accessible to the community.

The game adopts principles from the 2D 'adventure game' genre, it utilises the rich hand illustrated backgrounds as a means to try and engage with groups including those who are often under represented or social marginalised. The game initially draws up a map of a community setting, shown below:



When the user clicks on a building, it will take the user through a community policing scenario and ask them how they would respond. The questions are multiple choice questions and the user they will be scored on their response. The list of the current community policing scenarios are as follows:

- Modern Slavery
- Begging and Vagrancy
- Domestic Abuse
- Illegal Parking and Speeding
- Youths and Illegal Street Drinking
- Acquisitive Crime
- Drug Use
- Mental Health
- Immigration and Social Tensions
- Travellers
- Rural Crime
- Anti-Social Behaviour

D8.2: The deliverable about awareness raising activities contains all action carried out by the project to spread the projects philosophy and its ideas to a wider audience. In addition to the points listed in the document, a feedback campaign was launched in the last phase of the project to gather direct reactions from the users about their opinion towards the project and its innovations.

D8.3: Dissemination activities were carried out over the whole lifetime of the project. As this was a technical activity, no separate deliverable was necessary. Nevertheless, the activities have been documented in a dissemination log.

D8.4: An exploitation committee was established and a workshop in Munich was organised. After this, the needs of the consortium members were evaluated through several templates and questionnaires. Finally, the deliverable, containing a flexible and tailor-made exploitation plan for all consortium members was created and submitted.

1.3 Impact

Include in this section whether the information on section 2.1 of the DoA (how your project will contribute to the expected impacts) is still relevant or needs to be updated. Include further details in the latter case.

The project remained on track and the research results received evidenced that the Unity project will deliver on the expected impacts.

The Unity legacy through the deliverables and exploitation activities post project will have a far-reaching and positive impacts for individual citizens, their communities, the LEAs and wider partners/stakeholders who have responsibility for keeping communities' safe and feeling safer. Unity delivered a unique range of positive impacts within and well beyond the scope of expected impacts of the work programme and stood out from other projects when defining effective and proactive community policing.

Through the research, the identified 6 pillars of community policing underpinned the work of the Unity project, Trust, Accountability, Information sharing, collaboration, addressing local needs and prevention were embedded in the Unity project approach and set the project apart from other H2020 projects who received grants in the same call.

Implementation of the Unity approach and IT tools when tested over 8 pilots and enabled direct and indirect short term and long term impacts on a diverse range of citizens and communities who took part in the pilots and interacted with their local LEAs. Unity continued to engage and include members of the community in establishing procedures and processes for engaging the wider community, the work with the deaf community was particularly insightful and when the SWOT analysis was undertaken with these servicer users, some valuable feedback was recorded.

The research results and the testing of the 6 pillars and Unity approach enabled communities and their needs to heavily influence the development, deliverables and the instantiations leading to the capture of best practise guidance.

Throughout the project, whether by undertaking research or analysing noise in the Unity Platform using the analytic engine, the project has listened to our communities

and participants and this shaped the development work in year 2 and testing in year 3. The focus always remained to support and identify community policing tools and approaches that work towards cohesive communities where police are seen as catalysts for change and where citizens and communities take ownership of issues to be solved.

Increasing community participation in the problem solving process, Unity 8 pilots in Croatia, Estonia, Germany, Antwerp, Finland, Bulgaria, Macedonia and West Yorkshire, stakeholders and citizens involved in community policing scenarios shared their experience's to enable us identify what is required to increase the sustainability of solutions addressing community concerns. The developing IT solutions and Unity problem solving approach was identified and tested to enable an increase in awareness raising to communities of the potential for effective collaboration with local LEAs. The result of the Unity project will assist and facilitate an understanding of the necessity of the participation of citizens, communities and partners to be involved in inclusive, effective and communicative partnerships in Community Policing. The Unity approach and IT solutions can enable the required interaction.

Increased empowerment via the Unity approach and IT solutions will enable residents to be more directly involved in service delivery in their communities, this creates a process of working with local community partners and the police to increase their sense of empowerment.

The Unity approach will improve efficiencies for LEAs, but also for Community partner agencies joining the Unity CP approach too. This unique selling point of Unity will result in more effective and efficient delivery of services to meet the local needs and requirements of the community. Unity's approach focuses on, Improving prevention, Information sharing, Trust, accountability, Collaboration and Addressing local needs.

Information sharing enables LEAs to share updates regarding reductions in crime, disorder and anti- social behaviour gives our citizens an increased perceptions of reduced crime, disorder and anti-social behaviour. Feedback received via the Unity approach and IT solutions enables engagement, communication, facilitates meetings and action that ensures a targeted response to address local priorities becomes a reality. The introduction of the Unity project approach acts as an enabler and will facilitates real partnership approaches resulting in an increased feeling of confidence in the police service and community partners.

Unity will enable more effective problem solving. When issues are dealt with collaboratively through Unity more than one agency, partner representatives and citizens can engage to resolve issues more effectively.

Unity enables citizens to engage in joint problem solving, this will lead to increased confidence in partners to deal with their problems and as a result of their increased confidence, they will be more likely to further engage with partner organisations by reporting problems and providing information.

Citizens observe an improved perception of safety through experiencing increased visibility, access and engagement with police and community partners. The Unity Coordination Portal is where data posted by citizens will facilitate the sharing of information, LEAs can also engage, increasing the virtual access and engagement that

communities are telling the project they want. This comes at a time when resources and police visibility are reducing

Interactions through the data analytic system will enable LEAs and representatives from community partner agencies to see results of engagement by applying the sentiment analysis following initiatives in the area. This innovative approach to measuring impact should in turn encourage partners to develop strong and productive personal working relationships with LEAs and citizens enabling greater communication and action.

The activities of Unity are of great interest and significance to nations beyond EU borders, reflected in the international participation and support of Unity from UNICRI (member of Advisory Board), UNODC and international academics who understand that all crimes and crisis emerge locally. Members of the advisory board have attended meetings and their feedback has been incorporated in the Unity approach and thinking.

Unity has focused on the safety and security of EU citizens, but has been developed to ensure Unity is scalable and has global potential for citizens in other countries and also for the millions of EU citizens who reside outside the EU.

The Unity project has remained relevant and on track to deliver work in accordance with the DoA. The increase in lone wolf terrorist activity has evidenced the need for a community platform in the initial days and weeks following national times of crisis; but also as a preventative tool in the run up to large public gatherings, events and times of community tension.

The project objectives remained current and the outcomes remain innovative and engaging.

2. Update of the plan for exploitation and dissemination of result

Include in this section whether the plan for exploitation and dissemination of results as described in the DoA needs to be updated and give details.

The Unity Exploitation Manager has worked closely with partners and the Dissemination Manager in year 3.

The Exploitation Manager reported; the exploitation plan originally produced and submitted in M6 of the project was described as a living document. It required a substantial refresh along with further development based upon the extent of the project development to date and successfully proven outputs.

The Finnish pilot in June 2017 was the first pilot where all of the various moving parts of the Unity project from all WP's came together in an integrated and meaningful way. From this, pilots extend to Bulgaria, Macedonia and UK. A clearer view emerged of what, where and how the initial exploitation strategy and plan should be refreshed and further developed.

This refreshed approach is based upon a clear understanding that CP, wherever we have looked, isn't a clearly defined, homogenous whole. Able to be cohesively identified and coherently communicated to and understood in terms of a market sector.

It is aimed at building upon the project findings, to create an operationally and where appropriate commercially focussed mechanism by which all stakeholders identified as being directly or indirectly involved in CP, can be more readily associated with and identified as being part of a more coherent 'Community Policing' market sector.

The refreshed EP sets three principal questions, namely: How do we keep the project partners engaged after the project ends? How do we keep and enable momentum after the project funding finishes? How do we move Unity from its prototype state to a practical (commercial / operational) application, either in full or in part?

Whilst Unity will have clearly demonstrated innovation and capability through its formal pilots, reinforced through significant amounts of external end user interest and feedback from its dissemination and communication, it will end the project not operationally or market ready. As such, there exists a gap between this 'prototype and practice' which, with the end of project funding requires and approach of creativity, innovation and incentive under the EP.

To bridge this Prototype-Practice gap the following objectives have been set:

- **Develop and implement a set of exploitation activities that continue to drive valuable, increased and continual impact for**
 - the project partners
 - the EU H2020 programme and wider CoU
 - end users (potential clients) of CP in support of the citizens and communities they serve.

- **Configure an exploitation strategy built around an 'Intelligent Client(IC)'**
 - the IC as a simulated purchaser(s)/user of Unity (in whole or in part)
 - working collaboratively with interested (extant) project partners, supplemented by additional, relevant external partners
 - utilising the various component parts of the EP such as the 4 exploitation themes, the Component Ownership & Dependency Matrix and underpinned by the key terms in the existing collaboration agreement augmented by a collaboration agreement update, discussed and agreed under the EP,
 - providing input to scope their immediate and wider CP requirements, needs and operational objectives (particularly from a citizen / community centric perspective) in order to identify
 - how, where and when Unity, centred around its 6 Pillars of CP and 4 exploitation themes, might need to be enhanced through further development, if at all, to provide a meaningful CP and wider community safety and resilience capability, tool or service. Bridging the gap between the prototype and the operational practice.
 - Using the D2.4 ethics deliverable as a guiding framework to ensure compliance with the various contained within

- **Implement a Hub & Spoke mechanism to support the IC**

- the hub populated with the expertise to translate the IC's CP requirements into enhanced operational, technical and commercial requirements (i.e. as both a procurement template and a business case) consisting of interested, extant project partners supplemented by external partners adding identified, missing expertise;
- giving the means to move Unity from its prototype at project end to operational practice under the EP with beneficial first mover advantage to the IC for their and their stakeholder partners use once more fully developed;
- the spoke, populated with multiple potential users/clients (with characteristics similar to those of the IC in the hub) drawn from shared geographic or domain relevance, with identified CP or wider community safety needs;
- 'crowd-fund' the development of the gap between the Unity prototype and the operational practice, receiving in return beneficial commercial and operational terms to support their CP and wider community safety needs.

The Unity exploitation committee was established and scheduled meetings fed into consortium meeting. Supporting outputs for the EP include an updated collaboration agreement to enhance the existing one; the Component Ownership & dependency Matrix; the individual partner exploitation plans where provided; the four developed and agreed exploitation themes of Training, CPAF, Unity IT-Tools and Research to provide a more coherent understanding of the exploitable areas of Unity.

3. Update of the data management plan

Include in this section whether the data management plan as described in the DoA needs to be updated and give details.

Not applicable

4. Follow-up of recommendations and comments from previous review(s)

Include in this section the list of recommendations and comments from previous reviews and give information on how they have been followed up.

YR2 Commission recommendations WP3; Deliverables should clearly outline the methodology in line with the DoA. In D 3.4 it is not sufficiently described in how far focus groups as described in the DOA have been used next to the interviews.

In response to this recommendation; The commission requested clarification of the methodology, especially with respect to the use of focus groups. Accordingly, the

method section has been updated to give clearer explanations of the methodological choices made in the data collection and analysis. More specifically, as explained in the document, the use of focus groups was decided against due to the sensitive nature of many questions for marginalized groups (e.g., refugees or hooligans, who may fear negative consequences for themselves if too much information is shared with others they do not know). Individual interviews thus seemed the more appropriate method. For a broader data base, additional data from the three pilots, which had been conducted within the reporting period, was included in the revised version. This provided further country-specific insights into the challenges, expectations for CP-support tools and conditions for their acceptance

YR2 Commission recommendation WP4; The project has provided further information on the build-up of the Unity Combined Effect Architecture Framework. This information could be exploited inter alia by academics, SME, and police. Information is published on the project's webpage. The project provided a high-level architecture design for the CP platform. This information could be exploited by companies which intend to design and bring such a tool to the market. Relevant information is not available yet publicly.

In response to this recommendation; the consortium established an Exploitation committee to move this work forward.

YR2 Commission recommendation WP4; WP 4, work on the CPAF, CPAG and the linked operating models has progressed. The submitted deliverables 4.3, 4.4 and 4.5 are sufficiently elaborated, however some content in the different reports is overlapping and deserves more focus in future versions.

In response to this recommendation; the subsequent final deliverable updates of each individual task, in D4.6, D4.7 and D4.8 respectively, were designed to provide clear segregation from each other. They followed the following structure; D4.6, provided final overview of the CPAF approach and methodology. D4.7, provided a step through from pilot visualisation, to implementation and review, as well as a comparative study against the implementation of COM to TOM across all pilots. D4.8, provided the overview of which outputs had or would be delivered come project end. As well as, how end users can use them to provide benefit to their own organisations and how each output interrelates.

YR2 Commission recommendation WP 5: Task 5.1 and deliverable 5.1 are completed. Postponement of the deadline for the report was agreed. The report is very much elaborated, but nevertheless it has to be resubmitted due to wrong formatting. Previous Commission's recommendations have been taken into account.

In response to this recommendation; the coordinators contacted the deliverable lead Rinicom to discuss the formatting of this report. It was established that the formatting became an issue when the coordinators came to complete the upload and the issue sat with the coordinators system not the deliverable lead. The coordinators sought IT support and the issue was rectified and the report was resubmitted successfully.

YR2 Commission recommendation WP 6: Work on the Unity Integration Framework started and delivered the Unity Multidimensional Integration Framework Manual (D 6.1) which is a living document and will be elaborated further. In future versions, the

evaluation part should be further elaborated and the different dimensions mentioned in the DoA better taken into account.

Response to this recommendation; Regarding the evaluation coverage, D6.4 fully covers a preliminary evaluation of the Unity instantiations for each pilot. That is to test in a controlled environment to ensure proper functioning of the several components across various dimensions (organisational, governance, workflows, technologies, ethical and legal, social and cultural, etc.). Using the realisations of the Unity instantiations developed in T6.3, each instantiation was tested using controlled data in a controlled set of circumstances in order to identify missing components or requirements that will be required during the test bed. T6.4 was conducted with active collaboration with end-users (including local police and community representatives) in order to ensure that their needs are being met by the instantiations, and in areas where they are not being met, the remaining barriers highlighted. In turn, planned outcomes of WP6 for this period (D6.2, D6.3 and D6.4) were successfully completed and submitted on time (M28 and M36) covering all the objectives originally conceived.

YR2 Commission recommendation WP8; Next to the/instead of the executive summaries of the public deliverables, it should be considered to publish the full versions of the deliverables 1.1, 1.4, 1.5, 2.1, 2.2, 2.3, 2.5, 2.6, 3.1, 3.2, 3.3, 3.4, 4.3, 4.4, 4.5, 6.1, 7.1, 7.2 and 8.4 on the UNITY webpage. The dissemination of project results in scientific publications should be further increased.

In response to this recommendation; The full versions of the deliverables 1.1, 1.4, 1.5, 2.1, 2.2, 2.3, 2.5, 2.6, 3.1, 3.2, 3.3, 3.4, 4.3, 4.4, 4.5, 6.1, 7.1, 7.2 and 8.4 were published on the UNITY webpage and were promoted using social Media.

YR2 Commission recommendation WP8; Intellectual property rights aspects should be clearly described in the planned update of the exploitation and realisation strategy.

In response to this recommendation; the coordinators of the project established an Exploitation committee to move this work forward. With the Exploitation Committee, we have developed and agreed that the use of the Component Ownership & Dependency Matrix, now populated and complete from all partners, coupled to a) either the existing Collaboration Agreement and / or augmented with a simple 1 page collaboration agreement update, will be sufficient to both address these recommendations and, ensure that under the exploitation going forward, these aspects are clear, transparent and manageable.

YR2 Commission Recommendations WP 8: Work is ongoing and previous recommendations have been taken into account, in particular regarding the UNITY webpage and use of social media. Although progress has been made, the proposed publication of the UNITY brochure in June 2017 does not fully fulfil the proposal as outlined in the DoA in Task 8.2. The envisaged several effective information campaigns with the planned incorporation of a feedback mechanism to gather further information and to build trust between citizens and police have not been sufficiently implemented yet nor presented in the ad-hoc periodic report. Newsletters have been published, further improvements regarding dissemination and exploitation of results (see DoA) like further press releases, articles in scientific journals etc. are possible and should be extensively pursued.

Response to the Commission's recommendations; The published brochure was only one campaign to raise awareness for the project by creating a printed product with the major findings of the project which could be dissemination on conferences or other face-to-face meetings. Another very effective campaign was the customized flyer campaign with basic information about the project in national language and with national pictures in order to create a higher acceptance for this European project. Also a feedback campaign was started. Citizens, LEAs and stakeholders were invited to give their feedback about Unity.

Finally, a number of scientific books and articles were published:

1. Bayerl, Saskia et al (editors) 2017: Community Policing – A European Perspective, Strategies, Best Practices and Guidelines. Cham.
(This Book contains 10 articles written by consortium members and with clear linkage to the Unity project)
2. Nitsch, Holger / Brewster, Ben 2017: Maximising the security and safety of citizens by strengthening the connection between the Police and the communities they serve, European Science and Research Bulletin, Issue 17/2017.
3. Marzell, Laurence / Brewster, Ben 2017: Building safer societies. A framework for Trust, in: Crisis Response Journal, Vol 13/1, p. 80-82.
(<http://www.crisis-response.com/archive/tablet/13-1/index.php>)
4. Akhgar, Babak et al. (editors) 2018: Social Media Strategy in Policing. From cultural intelligence to community policing (proposed title), Cham.
(Springer Publishing will publish this book within 2018).
5. Furthermore, altogether five issues of the Unity newsletter were published via the website, social media channels and in printed versions during face-to-face meetings.

YR 2 commission recommendations WP8; the project should focus more on the dissemination and exploitation of results, in particular Task 8.2. Should be implemented fully as proposed in the DoA, in particular the envisaged several effective information campaigns with the planned incorporation of a feedback mechanism to gather further information and to build trust between citizens and police

Response to the Commission's recommendations; The gathering of feedback was fundamental for the development of the project. Feedback was mainly collected through direct and indirect methods.

- **Direct: Explicit through pilots, trainings, focus groups and presentations**
Fundamental for the gathering of direct feedback were the pilot events during the project. During this event, it was possible for the consortium to have direct talks to potential stakeholder, which were testing the platform by themselves. In the frame of these scenarios, different conditions for the use of the project were tested and the results were used to improve the project. During the pilot meetings, the whole consortium was able to ask questions and to collect

feedback. The pilot cases and the involved groups are described in Deliverable 7.2. Also during the other forms – for example trainings and presentations – direct feedback was generated through discussions with participants. The involvement of this feedback, given by experienced practitioners, was also very important for any further improvement of the project. In addition, feedback was gathered through the Unity platform itself and through a special questionnaire which was published through the social media channels

- **Indirect: Built-in through established media channels (social media)**
The built-in elements in social media channels were also an important channel for receiving feedback from potential end-users and stakeholders. On the one hand direct feedback was given through comments and messages, on the other hand sharing or any interaction with contents can be seen as an indirect feedback because it shows which kind of contents were interesting for our end-user. Therefore, the interactions on social media channels were regularly analysed and the content was adapted, as well as potential feedback to certain parts of the project was forwarded to the affected partners.

YR 2 commission recommendations WP8; the dissemination of project results in scientific publications as planned in the DoA has improved but is still limited (only the SERCO article is mentioned in the ad-hoc report). Reports include a reference to EU funding. The exploitation and realization strategy/dissemination plan is planned to be updated.

Response to the Commission's recommendations;

Finally, a number of scientific books and articles were published:

1. Bayerl, Saskia et al (editor) 2017: Community Policing – A European Perspective, Strategies, Best Practices and Guidelines. Cham.
(this Book contains 10 articles written by consortium members and with clear linkage to the Unity project)
2. Nitsch, Holger / Brewster, Ben 2017: Maximising the security and safety of citizens by strengthening the connection between the Police and the communities they serve, European Science and Research Bulletin, Issue 17/2017.
3. Marzell, Laurence / Brewster, Ben 2017: Building safer societies. A framework for Trust, in: Crisis Response Journal, Vol 13/1, p. 80-82.
(<http://www.crisis-response.com/archive/tablet/13-1/index.php>)
4. Akhgar, Babak et al. (editors) 2018: Social Media Strategy in Policing. From cultural intelligence to community policing (proposed title), Cham.
(Springer Publishing will publish this book within 2018)
5. Ayora, Clara / Newton, Natasha 2018: Next generation of CP: the Unity IT Toolkit, in: Community-Oriented Policing and Technological Innovations, Cham.

6. Ayora, Clara / Newton, Natasha 2018: Next generation of CP: the Unity IT Toolkit, in: Big Data in Law Enforcement: From Reactive to Proactive, Zagreb.

YR 2 Commission recommendations WP8; the project has provided further information on the build-up of the Unity Combined Effect Architecture Framework. This information could be exploited inter alia by academics, SME, and police. Information is published on the project's webpage.

The project provided a high-level architecture design for the CP platform. This information could be exploited by companies which intend to design and bring such a tool to the market. Relevant information is not available yet publicly.

Response to the commission's recommendations;

With the Exploitation Committee, the four core themes for exploitation have been developed. These are: Training, Research, Unity IT-Tools and the CPAF, the latter, covering all aspects of the Combined Effect Architecture Framework. These 4 themes provide a more coherent understanding and approach as to what is exploitable in Unity. Then, through the use of the Component Ownership & Dependency Matrix, the specifics as to what component within each theme or between the themes, is dependent and related to what, in terms of both capability and ownership, can be managed for any post project exploitation. Furthermore the refreshed EP strategy, focussed on a Hub & Spoke approach, centred on the participation of an Intelligent Client(s), aimed at driving an operationally focussed means to bridge the 'Prototype-Practice' gap, will have as one of its core capabilities, the Combined Effect Architecture Framework. Therefore, in all exploitation and dissemination activity going forward, the exploitability of the Framework will be evident and prominent.

By way of practical example, the Framework is already providing exploitation leverage for two further potential high profile projects one in the UK (but transferable EU wide) with the Home Office and Hampshire Constabulary looking at a Whole System Approach to Serious & Organised Crime the other, a pan-Europe proof of concept study looking at the alignment of risk and resilience in civil society to the NATO 7 Baseline Requirements for resilience. This latter study is due to be briefed widely across Europe, including to DG ECHO, the EDA and has been already to NATO members; the study will include all aspects of civil society involved in the safety, security and resilience of citizens and communities and is aimed at supporting the joint EU/NATO declaration on wider cooperation.

5. Deviations from Annex 1

Explain the reasons for deviations from the DoA, the consequences and the proposed corrective actions.

Work Package 1

No deviations from the DoA in relation to WP1

Work package 2

In the interests of efficiency task 2.4 was achieved through a literature review, documentary analysis and extensive analysis of research data previously collected by partners in preparation for other WP2 deliverables. Therefore task 2.4 did not require further primary data collection in the form of stakeholder interviews or focus groups, which resulted in some end user partners transferring effort to other WPs (see section below).

Work package 3

No deviations from the DoA in relation to WP3

Work package 3 work was completed in the first half of year 2, however partners remain on the project and provide support as and when required relating to the research findings of WP3

Work package 4

No deviations from the DoA in relation to WP4.

Work package 5

No deviations from the DoA in relation to WP5

Several partners moved effort in year 3 from WP5 to either WP2 so to support the legal and ethical contributions or WP8 to support the exploitation and dissemination activities. This had no effect on the remaining work in WP5.

Work package 6

There were minor deviation, this was because of the incremental approach being followed in Unity, with multiple activities running in parallel for the definition of the requirements, concepts, models and technology, the manual in D6.1 needed to be updated along with the project activities. A potential impact would have been for the manual becoming out of date. As a corrective measure, and to avoid any potential loss of information, D6.1 was kept as a living and dynamic document, being updated, enriched and refined D6.2 (M28).

Work package 7

Deliverable 7.4 was due for submission in July 2017, instead the deliverable was submitted in January 2018 (M33) alongside 7.5 as agreed with the PO. The reason for the extension was to allow for more data to be collected, from all 8 pilot countries for a fuller report. The extension gave 3 months after the final pilot exercise to complete the deliverables 7.4 and 7.5.

Work package 8

No deviations from the DoA in relation to WP8

5.1 Tasks

Include explanations for **tasks not fully implemented, critical objectives not fully achieved and/or not being on schedule**. Explain also the impact on other tasks on the available resources and the planning.

Work Package 1

The coordinators can confirm no deviations of work carried out in tasks under WP1 during the reporting period.

All tasks and critical objectives for WP1 were delivered on schedule, with no tasks failing to be achieved.

Work package 2

Work Package lead can confirm no deviations of work carried out in tasks under WP2 during the reporting period.

All tasks and critical objectives for WP2 were delivered on schedule, with no tasks failing to be achieved.

With the support of the commission D2.4 had an extension of deadline to enable full inclusion of findings of all pilots and evaluation.

Work package 3

Work Package 3 lead can confirm no deviations of work carried out in tasks under WP3 during the reporting period due to WP 3 completed in year 2.

All tasks and critical objectives for WP3 were delivered on schedule, with no tasks failing to be achieved.

Work package 4

Work Package lead can confirm no deviations of work carried out in tasks under WP4 during the reporting period.

All tasks and critical objectives for WP4 were delivered on schedule, with no tasks failing to be achieved.

Work package 5

Work Package lead can confirm no deviations of work carried out in tasks under WP5 during the reporting period.

All tasks and critical objectives for WP5 were delivered on schedule, with no tasks failing to be achieved.

Work package 6

Work Package lead can confirm no deviations of work carried out in tasks under WP6 during the reporting period.

All tasks and critical objectives for WP6 were delivered on schedule, with no tasks failing to be achieved.

Work package 7

Work Package lead can confirm no deviations of work carried out in tasks under WP7 during the reporting period.

All tasks and critical objectives for WP7 were delivered on schedule, with no tasks failing to be achieved.

While tasks remained on track, D7.4 & D7.5 evaluation deliverables were submitted in January 2018, this extension was agreed due to the requirement of ensuring the last pilot findings were included in the reports.

Work package 8

Work Package lead can confirm no deviations of work carried out in tasks under WP8 during the reporting period.

All tasks and critical objectives for WP8 were delivered on schedule, with no tasks failing to be achieved.

Due to technical issues with the online portal, a slight delay was incurred when uploaded D8.3.

5.2 Use of resources

Include explanations on deviations of the use of resources between actual and planned use of resources in Annex 1, especially related to person-months per work package.

Include explanations on transfer of costs categories (if applicable)

Work Package 1

Unity project coordinators can confirm there was a slight deviation of resources due to additional support being required on the Unity committees due to exploitation work, security breach and ethical obligations. Also activity to support partners with reallocation of resources and management of internal project reporting including reallocation of direct costs and reallocation of IAB budget to enable the NGCP conference in Crete.

12.086 Person-months were used in WP1 in year 3.

Partners from OPCC increased the amount of staff working on WP1 by 0.246 PM, this increase in staffing while effecting the person months originally planned for this work package, did not see an increase in budget expenditure. This was achieved by increasing staff numbers whose costs were less than the original PM calculation submitted at the time of the bid proposal.

The increase of staff time ensured OPCC personnel could complete their obligation to project coordination and project management.

Work package 2

Work Package lead advised a slight deviation incurred in the use of resources between actual and planned person-months in work package 2 in year 3.

10.183 Person-months were used in WP2 in year 3.

Due to underspend in WP6 and WP5 ENU transferred 2.52PMs to WP2. We completed the required work to fulfil our obligation in these work packages 5 and 6. By transferring our time to WP2 we were able to ensure that we could complete our assigned tasks and provide ongoing support regarding to 'ethical, legal and societal concerns' to the end of the project. For the same reasons the UoD transferred 2.86PMs from WPs 5 & 6 to WP2.

Due to an underspend in WP2 the European Institute (Bulgaria) transferred 1 PM. They completed the required work to fulfil their obligation in WP2 and by increasing their time in WP8 were able to complete their assigned tasks and increase dissemination of findings. Likewise, POLAMK transferred 0.3 PM's to WP8 allowing them to increase dissemination of Unity findings. In addition SERCO transferred 1.56 PM's to WP8, this allowed them to increase their effort as exploitation lead in the final months of the project. OPCC completed their contribution to WP2, the remaining time of 0.67 PM's was transferred to WP8 to ensure OPCC contributed to the work around exploitation.

Similarly, the Estonian Police and Border Guard transferred 1.01 PMs from WP2 to WP7 to test the Unity tools in Estonia in year 3.

Work package 3

Work Package lead advised no deviations in the use of resources between actual and planned person-months in work package 3 in year 3.

1.21 Person-months were used in WP3 in year 3.

As partners contributions for WP3 was completed early on in the project, partners transferred their PM's to other WP's. POLAMK transferred 0.25 PM's to WP8 allowing them to increase dissemination of Unity findings. Likewise ENU transferred 0.8PM to WP8 allowing them to spend more time on awareness raising and dissemination of findings e.g. via writing publications and presenting at workshops /conferences. Also OPCC completed their contribution to WP3, the remaining time of 0.05 PM's was transferred to WP8 to ensure OPCC contributed to the work around exploitation.

Work package 4

Work Package lead advised a slight deviation incurred in the use of resources between actual and planned person-months in work package 4 in year 3.

30.35 Person-months were used in WP4 in year 3.

Serco transferred 4.57 PM's in total to WP4 due to their underspend in WP5, WP6 & WP7. This allowed them as WP lead work to continue work on the CPAF associated tasks as they were ongoing right to the very end of the project, the extra PM's allowed for a greater impact. Similarly due to an underspend in WP6 POLAMK, transferred 0.39 PM to WP4, to cover for their extra time taken than planned on test beds, during preparation for their pilot.

Partners from SHU increased the amount of staff working on WP4 to 10PM, this increase in staffing while effecting the person months originally planned for this work package, did not see an increase in budget expenditure. This was achieved by increasing staff numbers who whose costs were less than the original PM calculation submitted at the time of the bid proposal. The increase of staff time ensured SHU personnel could increase activity and fully contribute to WP4 and the work of the preparation of pilots through the COM/TOM/DELTA along with the development of the CPSG.

ENU transferred underspend in WP4 totalling 1.1 PM's in WP8 to increase their time on awareness raising activities such as writing publications and presenting at conferences. BayFHVR transferred 1PM from WP4 to their direct costs, in order to increase their travel budget to fulfil the objectives in WP8 and disseminate the results of the project. Similarly UoD transferred 1.81PM from WP4, increasing their time in WP2, and allowing them to further contribute to the ethical and legal needs of the remainder of the project. In addition OPCC completed their contribution to WP4, the remaining time of 2.14 PM's was transferred to WP8 to ensure OPCC contributed to the work around exploitation.

Work package 5

During year 3, a slight deviation incurred in the use of resources between actual and planned person-months in work package 5. This had no bearing on the remaining work for WP5 and all tasks were completed successfully and on time.

40.418 Person-months were used in WP5 in year 3.

Rinicom transferred 1PM from WP5 to direct costs of travelling, this allowed them to spend an additional €6000 on travelling allowing them to better support the pilot countries during and prior to the pilots.

Many partners transferred their remaining WP5 effort to WP8, in the last quarter to increase dissemination activities. ENU transferred 1.4PM's from WP5 to WP8 to increase their time on awareness raising activities such as writing publications and presenting at conferences. BayFHVR transferred 2PM's from WP5 to WP8, in order to increase dissemination of findings as WP lead. Similarly POLAMK transferred 0.43 PM's from WP5 to WP8.

Due to an underspend in WP5, Serco transferred 1.64 PM's to WP4 allowing them as WP lead to continue with the CPAF associated tasks till the end of the project allowing for a greater impact.

Partners from SHU increased the amount of staff working on WP5 to 5 PM, this increase in staffing while effecting the person months originally planned for this work package, did not see an increase in budget expenditure. This was achieved by increasing staff numbers who whose costs were less than the original PM calculation submitted at the time of the bid proposal. The increase of staff time ensure SHU personnel could increase activity and meet their obligations within WP5 and the work for the preparation of pilots through the app development and testing, along with the development of the CPSG.

Likewise, Partners from OPCC increased the amount of staff working on WP5 by 0.31 PM, this increase in staffing while effecting the person months originally planned for this work package, did not see an increase in budget expenditure. This was achieved by increasing staff numbers whose costs were less than the original PM calculation submitted at the time of the bid proposal. The increase of staff time ensured OPCC personnel could increase activity and fully contribute to WP5 particularly the development of the CPSG.

Work package 6

Work Package lead advised a slight deviation incurred in the use of resources between actual and planned person-months in work package 6 in year 3.

53.001 Person-months were used in WP6 in year 3.

ENU transferred 1.65PM's from WP6 to WP2 to complete their assigned tasks and allowed for them to provide ongoing support regarding to 'ethical, legal and societal concerns' to the end of the project. Similarly due to an underspend in WP6, POLAMK transferred 2.79PM's to WP4 & WP7, to cover their extra time taken on additional test beds, during preparation for the pilots. Partners from SHU increased the amount of staff working on WP6 to 10 PM, this increase in staffing while effecting the person months originally planned for this work package, did not see an increase in budget expenditure. This was achieved by increasing staff numbers who whose costs were less than the original PM calculation submitted at the time of the bid proposal.

The increase of staff time ensure SHU personnel could increase activity and meet their obligations within WP6 and the work for the preparation and iteration of the pilot through the continued app development and testing, along with the development of the CPSG and CP Game which were developed through the IT and pilot iteration process.

Likewise, Partners from OPCC increased the amount of staff working on WP6 by 1.82 PM, this increase in staffing while effecting the person months originally planned for this work package, did not see an increase in budget expenditure. This was achieved

by increasing staff numbers whose costs were less than the original PM calculation submitted at the time of the bid proposal. The increase of staff time ensured OPCC personnel could increase activity and fully contribute to WP6 particularly the iteration stage of the testing, building in extra time for the development of resources to assist the needs of the pilot participants.

Many partners chose to transfer their remaining time in WP6 to WP8 in the last months of the project to increase dissemination activities. POLAMK transferred 0.34PM from WP6 to WP8 to increase their dissemination activities in the final months of the project. Likewise UoD transferred 0.99PM to WP8 allowing them to disseminate the Unity findings via workshops, writing articles and presenting at conferences. Due to an underspend in WP6, Serco transferred 0.79PM to WP4 allowing them as WP lead to continue with the CPAF associated tasks till the end of the project allowing for a greater impact.

Work package 7

Work Package lead advised a slight deviation incurred in the use of resources between actual and planned person-months in work package 7 in year 3.

48.503 Person-months were used in WP7 in year 3.

As the final planned pilot was complete in November 2017, partners chose to transfer their time to other WP's mainly WP8 for dissemination. BayFHVR transferred 1.5 PM's from WP7 to WP8 allocating enough time in WP7 to complete the remaining work and while increasing time in WP8 to focus on dissemination. Similarly UoD transferred 1.16 PM's from WP7 to WP8 allowing them to disseminate Unity findings by attending workshops, writing articles and presenting at conferences. Due to an underspend in WP7, Serco transferred 0.79 PM's to WP4, as WP lead this allowed them to continue the CPAF associated tasks right till the end of the project, which gave greater impact.

As EPBG ran an additional pilot in February/March 2018, they transferred time into WP7 in total 1.21 PM's from WP2 & WP3. This increase of time in WP7 allowed them to improve their test preparation which allowed for better results when testing the Unity tools. In addition POLAMK transferred 2.4 PM's from WP6 to WP7, to cover the effort needed for the additional test beds.

Partners from OPCC increased the amount of staff working on WP7 by 10.123 PM, this increase in staffing while effecting the person months originally planned for this work package, did not see an increase in budget expenditure. This was achieved by increasing staff numbers whose costs were less than the original PM calculation submitted at the time of the bid proposal.

The increase of staff time ensured OPCC personnel could increase activity and fully contribute to WP7. As task leads for T7.3 the team at the OPCC were required to increase activity due to the extra support required for coordinating partners who were hosting pilots. OPCC also increased their original planned 1 pilot to 3, to ensure virtual communities were represented, this included the deaf community. The deaf community required increased support to enable participation in the Unity pilot.

Work package 8 BayFHVR

Work Package lead advised a slight deviation incurred in the use of resources between actual and planned person-months in work package 8 in year 3

63.294 Person-months were used in WP8 in year 3.

BayFHVR as WP lead, transferred in total 3.5 PM's from WP5 & WP7 to WP8 allowing them to better complete their assigned tasks and increase dissemination through attending workshops, writing articles and attending conferences.

During the last year of the project, partners chose to transfer their time to WP8 to increase dissemination and awareness raising activities. ENU transferred in total 3.3 PM's to WP8 from WP3, WP4 & WP5 as they had completed the required work in these work packages and the extra time allowed them to present at conferences and write publications. The European Institute (Bulgaria) transferred 1PM's from WP2 to WP8 as their contribution complete in WP2 and this allowed them to increase their dissemination activities in the final months. Likewise, POLAMK transferred in total 1.32 PM's to WP8 from WP2, WP3, WP5 and WP6. They had complete their contributions to these WP's and this allowed them to increase their dissemination activities in the last months of the project. As well, UoD transferred 2.15PM's in total to WP8 from WP6 & WP7, their underspend in these WP's allowed them to focus on disseminating the Unity findings via workshops, writing articles and presenting at conferences. In addition SERCO transferred 1.56 PM's to WP8, this allowed an increase effort SERCO also manage and chair exploitation activities, this work increased in the final months of the project. OPCC completed their contribution to WP2, WP3 & WP4 and in total 2.86 PM's to WP8 to ensure OPCC contributed to the work around exploitation.

In addition, Partners from OPCC increased the amount of staff working on WP8 by 0.82 PM, this increase in staffing while effecting the person months originally planned for this work package, did not see an increase in budget expenditure. This was achieved by increasing staff numbers whose costs were less than the original PM calculation submitted at the time of the bid proposal. The increase of staff time ensured OPCC personnel could increase dissemination activity and fully contribute to WP8, particularly work around exploitation.

EPBG transferred 1 PM's from WP8 to cover their direct costs of travelling, allowing them to travel across Estonia to disseminate the Unity tools and findings.

5.2.1 Unforeseen subcontracting

Specify in this section:

- a) the work (the tasks) performed by a subcontractor which may cover only a limited part of the project;**
- b) explanation of the circumstances which caused the need for a subcontract, taking into account the specific characteristics of the project;**
- c) the confirmation that the subcontractor has been selected ensuring the best value for money or, if appropriate, the lowest price and avoiding any conflict of interests.**

All Unity partners have been contacted and we can confirm no subcontracting was required or was undertaken in year 3 of the Unity project.

5.2.2 Unforeseen use of in kind contribution from third party against payment or free of charges

Specify in this section:

The identity of the third party;

The resources made available by the third party respectively against payment or free of charges

Explanation of the circumstances which caused the need for using these resources for carrying out the work.

All Unity partners have been contacted and we are able to confirm no tasks were undertaken free of charge from third parties, nor unforeseen use of in kind contributions have taken place in year 3 of the Unity project.