European Commission, Horizon 2020

Minutes of the

SHOTPROS Consortium Meeting

7th and 8th May 2019, Vienna (Austria)

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Vers.	Date	Author	Description
V0.1	16/05/2019	USE	First Draft
V0.2	21/05/2019	USE	Revision
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V0.4	27.05.2019	ALL	Release to partners
V0.5	28.05.2019	USE	Revision
V1.0	**29.05.2019**	**USE**	**Final Version**

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1 <u>Executive Summary</u>

SHOTPROS' first consortium meeting took place in Vienna, Austria from May 7 to May 8 2019. In its function as the first official project meeting, the objective was for the partners to meet and deepen the network within the consortium as well as to get all consortium partners up to the same knowledge level. This was achieved by presentations from each consortium partner as well as presentations about SHOTPROS' work packages (WPs) by the respective WP leaders on the first day. The second day consisted of WP presentations as well as a more interactive session with a focus on discussions about topics raised by the partners. Possibly critical spots were uncovered and discussed in a solution-focused manner. Lastly, a plan of action for the following months was outlined. Throughout the consortium meeting, knowledge and experience was freely shared among the various partners both in the formal and informal settings of the two days.

2 List of acronyms and abbreviations

Abbreviations/Partners	Descriptions
USE	USECON – The Usability Consultants GmbH
AIT	AIT Austrian Institute of Technology GmbH – Centre for Technology Experience
KUL	KU Leuven – Department of Criminal Law and Criminology
VUA	Stichting VU – Vrije Universiteit Amsterdam
VESTA	Campus Vesta APB (Autonoom Provinciebedrijf)
RL	RE-liON Group B. V.
RMIA-DGL	Ministry of Internal Affairs – Directorate General Logistics
SPA	Swedish Police Authority
BP	Der Polizeipräsident in Berlin – Polizeiakademie
UHEI	Ruprechts-Karlos-Universität Heidelberg
NP-OBT	Nationale Politie Nederland
ADCC IBZ	Directorate General Crisis Centre of the Belgian Federal Public Service, Home Affairs
LAFP NRW	Polizei Nordrhein-Westfalen – Landesamt für Ausbildung, Fortbildung und Personalangelegenheiten

Abbreviations/Terms	Descriptions
WP	Work package
DMA-SR	Decision Making and Acting in Stressful and Risky Situations
VR	Virtual Reality

3   <u>Participants</u>

Partner	Names
USECON	Markus Murtinger
USECON	Gerhard Helletzgruber
USECON	Valerie Schlagenhaufen
USECON	Quynh Nguyen
Re-liON	Dan Nusman
Re-liON	Nick Zwaneveld
KUL	Emma Jaspaert
KUL	Geert Vervaeke
UHEI	Marie Ottilie Frenkel
UHEI	Laura Giessing
VESTA	Kathleen Van Heuverswyn
VESTA	Ronny Eyckmans
VUA	Raôul Oudejans
VUA	Vana Hutter
AIT	Sebastian Egger-Lampl
AIT	Helmuth Schrom-Feiertag
AIT	Raimund Schatz
AIT	Peter Wolkerstorfer (nur 2. Tag)
PB	Ivo Engelmann
PB	Manfred Strzeletz
ADCC IBZ	Cochez Barend

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SPA	Tomas Windahl
SPA	Anders Essman
LAFP NRW	Alexander Schäfer
LAFP NRW	Ortwin Maetzing
NPN	Gerard Willemsen
RMIA	Chiriac Claudiu
RMIA	Iancu Gabriel
Advisor	Zvi Nisin
Advisor	Alberto Varela
Advisor	Douglas Stirling
Advisor	Peter Lamplot
PO	Laure Guille

4   <u>Venue</u>

The SHOTPROS consortium meeting was organised by AIT and held at the AIT HQ from May 7 to May 8 2019.

5 Day 1

Day 1 was aimed at introducing the project and the partners. Furthermore, the first half of the work packages (WPs) were presented such that all partners would be fully informed about the plans of action and requirements of each WP for the partners. Day 2 continued the presentation of WPs and gave room for interactive discussions pertaining open questions as well as the planning of the next steps in the project.

5.1 Agenda Day 1

Time	Topic	Who
09:00 – 09:10	Welcome to AIT	**AIT & USECON**
09:10 – 09:30	Project Coordinator: - Project Background and Objectives	**USECON (MM)**
09:30 – 10:30	Partner Introductions – **10 min** PowerPoint Presentations: 1. USE 2. AIT 3. KUL 4. VUA 5. VESTA 6. UHEI	
10:30 - 10:50	**Coffee Break**	
11:00 – 12:30	Partner Introductions – **10 min** PowerPoint Presentations: 1. RL 2. SPA 3. BP 4. NPN 5. ADCC IBZ 6. LAFP NRWI 7. RMIA-DGL	
12:30 – 13:00	Project Overview: • Concept, Results, Workflow, and Responsibilities	**USECON (MM)**

Time	Topic	Who
13:00 – 14:00	**LUNCH**	
14:00 – 15:00	WP Presentations (1/4)– **30 min** each • WP2 - KUL • WP3 - VUA	
15:00 - 15:15	**Coffee break**	
15:15 – 16:00	PO presentation	**Laure Guille**

16:00 – 17:45	WP Presentation (2/4) – **30 min** each • WP4 - AIT • WP5 - REL • WP6 - AIT	
17:45 – 18:00	Q&A	ALL
18:00	**Closing Day 1**	
Appr. 19:00	**Social Event & Get-Together**	

5.2   Opening Session

5.2.1   *Welcome*

After a warm welcome by the hosts of the first meeting, AIT, the overall goal of the first consortium meeting was established as a space for open discussion, to share plans and knowledge, and to establish common goals. As the first meeting with representatives of all partner institutions present, the consortium meeting was also emphasized as a space to create synergies between partners.

5.2.2   *Project Background*

The overview provided all partners with a perspective of the project and its aims. While the starting point was based on shooting standards, SHOTPROS has emerged as a human-factor based project in the topic of decision making and acting in stressful and/or risky situations (DMA-SR). One of the main goals will be to develop and test a training program in real-life as well as virtual reality (VR) to improve DMA-SR for first responders in crises.

With this user-driven project, the six LEAs with different cultural and structural backgrounds are an integral part for the success of the project. The partners from academia/research and industry are also part of the project in each step.

5.2.3 *Objectives*

The five main objectives of SHOTPROS were summarized:

1. An evaluated and validated HF model for decision making and acting under stress and in high-risk situations.

2. A virtual reality (VR) environment that enables the manipulation of human factors in the context of DMA-SR and observing the related behaviour.

3. A (European police) training framework and curriculum for DMA-SR.

4. Establishing guidelines for the VR training based on the requirements of the LEAs.

5. A European network for transferring knowledge on VR training and creating a policy maker toolkit.

The overarching vision of the project is to create a human factors-based (VR) training framework for decision-making and acting capabilities under stress and in high-risk situations for European LEAs. SHOTPROS will investigate the influence of psychological and contextual HFs on the behaviour of DMA of police officers under stress and in high-risk operational situations (DMA-SR). Importantly, this innovation process will be driven by the needs of LEAs. As a result, the training regimen of European police officers (first responders) will be improved by including training for DMA performance and thus, enhancing police officers' capabilities in this area.

To discard any possibly remaining knowledge gaps among partners, factors which might influence DMA performance and are thus meant to be investigated were presented and explained through examples. These include human factors, contextual factors, organizational factors, and environmental factors.

5.2.4 *Expected Impacts*

Lastly, the expected impacts were presented. These include

- Tackling the actual and future **challenges** in the **combat against crime** and **terrorism** with effective and efficient **decisions** and subsequent **actions**,

- Strengthening the **knowledge**, **awareness**, and **importance** of **DMA-SR for European police forces** and follow the European security strategy,

- **Identifying** the **factors** to be trained based on a human factors DMA-SR model to facilitate LEAs' daily operations,

- **Practical solutions** to be implemented by a variety of **practitioners**,

- Fast reactivity by **adapting VR scenarios** for **future threats** in the area of **crime**, **terrorism**, and **CBRNe**, specifically with focus on DMA abilities of European police forces, and

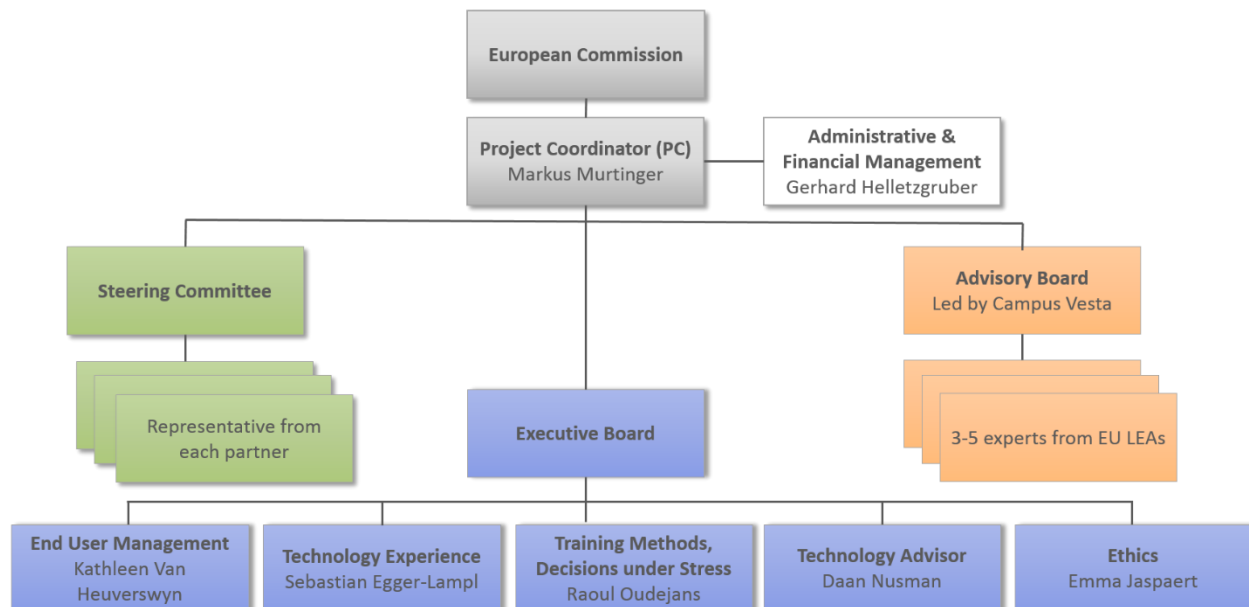- **Benefits** for **European citizens.**

5.2.5 *Partner Introductions*

All partners introduced their organisation, their interest in the project, and how their expertise and capabilities would aid in the success of SHOTPROS.

5.3   Project Overview

5.3.1   *Organisational Structure and Concept*

The organisational structure was presented and discussed.

It was communicated that proxy representatives of the partners could also be sent to the board meetings. The executive board will meet every 8-12 weeks based on necessity.

The SHOTPROS concept was presented.

5.3.2   *Results, Workflow, and Responsibilities*

The respective deliverables in correspondence to the five main objectives were presented. The presented deliverables illustrated the interconnectedness and interrelation of work between WPs and partners. In addition, the WP leaders were introduced. In terms of workflow, WP2-4 will follow a human-centred research approach. As such, they will be worked on iteratively, with a heavier focus on WP2 in year 1, and WP3 and WP4 in the latter years. In response to the findings and recommendations of these three WPs, WP6 will set up and conduct a series of HF studies. In parallel, a contextual VR simulator toolkit will be created in WP5. In year 3, WP7 will evaluate the progress and give final results. The project management (WP1) as well as WP8 on dissemination, communication, and exploitation will take place throughout the three years. WP9 (Ethics) was added by the EC and will also be a horizontal work package (led by KUL).
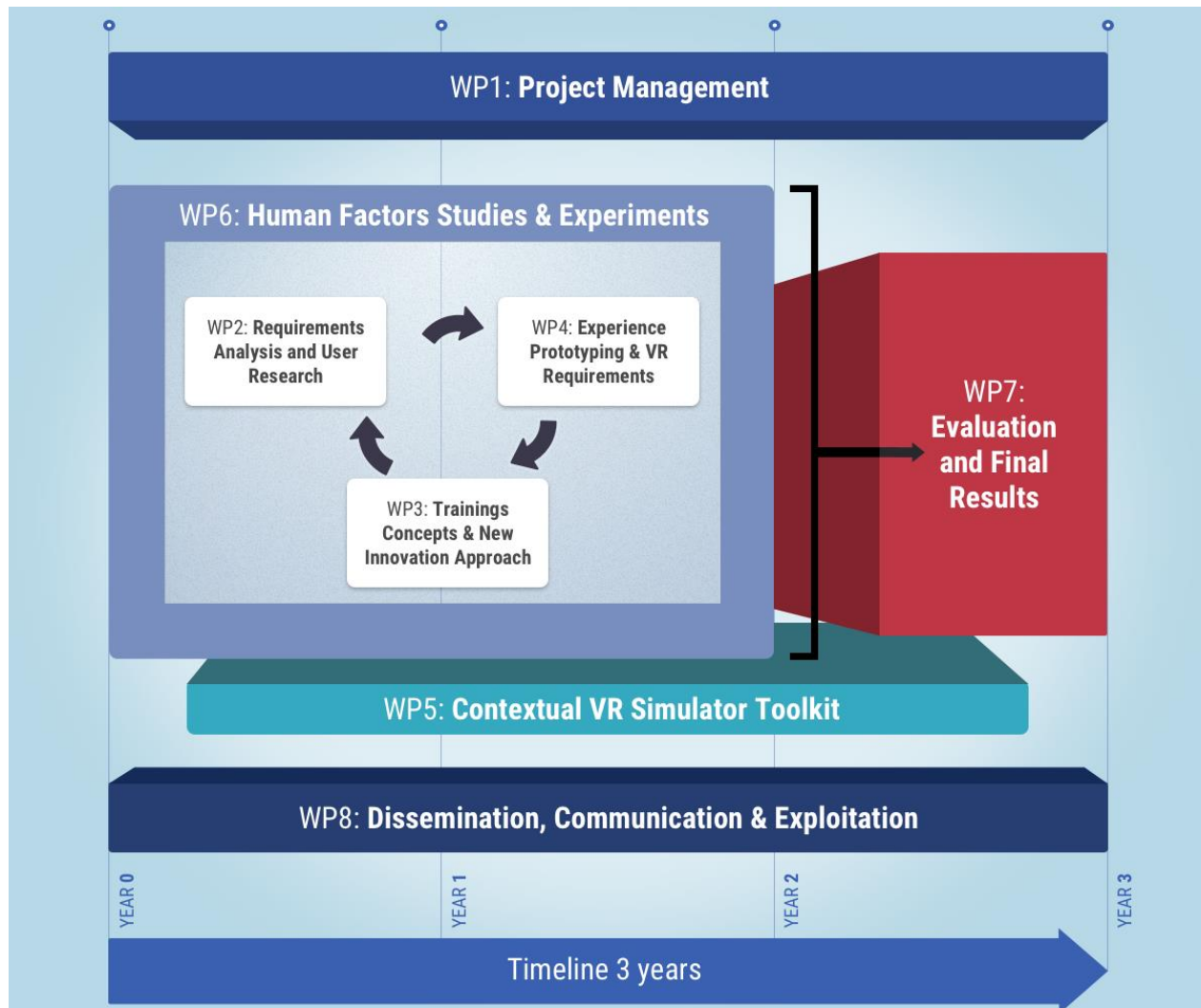
After sharing the necessary information pertaining the structure and organisation of the project, the participants were asked for remarks and objections regarding structure, process, content, objectives, as well as the organisations. They were given some moments to consider this question. After some time for deliberation, all partners and participants accepted the proposed structure, workflow, and responsibilities.

In the following, the WP presentations will be summarized. Especially the earlier WPs, such as WP2, will be described in more detail as they are more imminent and require action almost right away.

5.4   **WP2**

More details in the PDF presentation of WP2

WP2 focuses on the collection of the needs and requirements of the LEAs as well as on the citizen perception. There are four main objectives to be fulfilled:

1. Collecting the needs, requirements, and constraints of the LEAs

2. Defining and documenting the expectations of the LEAs for the outcome of the project

3. Identifying societal factors that influence the DMA-SR

4. EU citizen perception

5.4.1   Imminent tasks incl. deadlines

- Planning and set-up

- Co-creation workshops with participants from different stakeholders such as end users

- Focus groups

- In-depth interviews where expert knowledge is necessary

    o These will depend on what results we get through the focus groups and the co-creation workshops and could also be conducted via Skype.

For practical reasons, it was suggested to combine these three tasks into a 2-day endeavour, with the first day concentrating on co-creation workshops and focus groups while the second day could be used for the in-depth interviews. With these three tasks, it would be possible to get a good intersection of several user groups in order to identify the needs and requirements, all possible stakeholders etc. The invited stakeholders should include trainers, police officers who will use the DMA-SR training in the future, and higher-ranking members of the LEAs. The detailed breakdown of participants will be discussed within WP2 and decided in the next weeks.

5.4.2   Investment of other partners into WP2

- LEAs and VESTA:

    o scheduling of the workshops/focus groups/in-depth interviews. It was discussed that they should start in July or August, with the latest data collection possible Nov 15 (though of course preferably much earlier).

- o Contact persons of each LEA to coordinate the scheduling and appointments

- All: translation (and proof-reading) of the Europe-wide survey into the languages of the partners (i.e. German, French, Dutch, Flemish, Swedish, Rumanian, English)

5.4.3 *Remarks*

Regarding the large-scale study, LAFP NRW asked if it would be possible to link ratings to countries and even counties. In that way, the LEAs could increase the knowledge gain from the study. This was noted and will be considered in the future when the study is properly planned.

VESTA emphasised their function in the project as a mediator and coordinator. Thus, KUL/USE, and later other partners such as VUA, UHEI or AIT express what type of participants they need for the task at hand, and VESTA will coordinate while building their data base for the LEA network as well.

It was discussed how to combine the tasks of VUA (current LEA practices, best practices) with WP2. As a solution, VUA will be involved in the organisational structure of WP2. VUA could either take part in the workshops/interviews, or more practically, share them with KUL/USE so that their research questions could be integrated into the focus groups and/or in-depth interviews. In the end, the results from this would be one of the inputs for the current practices study of VUA (with also offline training plans etc from the LEAs), to then follow up with site visits to determine what actual practices look like and see to what degree that is in line with the practice plans etc.

5.5 **WP3**

WP 3 focuses on the training concepts and new innovation. The WP leader, VUA, presented the four main objectives:

1. Collect a comprehensive overview of current training and assessment methods in Europe, compile a catalogue of best practices and determine how and when VR-training can complement and extend current practices.

2. Develop an innovative conceptual model of behaviour, including different contextual and human factors that influence perception, decision-making and acting in a potentially high-risk situation.

3. Based on the model and the overview of current training and assessment practices develop training concepts, toolkits, assessment methods for training and assessment of DMA behaviour

4. Propose a European framework for effective training and assessment of DMA competencies, using VR.

This was followed by a framework of how to attain them within the deliverables of the WP.

5.5.1 *Investment of other partners into WP3*

It was stated that particularly objective 3 and 4 require assistance from other WPs, especially WP 6. Furthermore, collaboration between WP2 and WP3 as the acquisition of user requirements in WP2 may overlap with the planned on-site visits in WP3. This work should be distributed in a resource-efficient manner.

5.5.2 *Imminent tasks*

It will be necessary to figure out what the analysis of the current LEA training will entail in detail.

5.5.3 *Questions and remarks*

One question which was raised pertained to the question of data privacy during the studies. In response, VUA cited the scientific code of conduct used at universities which will be effective for the collection and management of participants' data as well. In terms of intellectual property, it was made clear that partners are not allowed to share user data or the created DMA-SR model with non-partners. Regarding scientific publications, the consortium must be informed about the planned publication six weeks in advance. Publications can then be appealed. This must be kept in balance with the goal of sharing gained knowledge with the (scientific) community when they may impact society.

The thus far created DMA-SR model was discussed at some length, with remarks about the degrees of freedom in the model. While some of the discussion was postponed for the more interactive mode of the second day, it was made clear that the model focuses on decision-making and acting under high-risk and stressful situations. Thus, the main variable to be manipulated will be anxiety or in laymen's terms, stress (see section 7.2 for more information).

5.6 PO Presentation

The Project Officer, Laure Guille, presented her agency REA (Research Executive Agency). It was encouraged to initiate contact with previous EU projects working with VR such as project TARGET and AUGMENT in order to create synergies and to learn from the failures and successes of these projects. Practical advice was given as well as critical areas in previous projects pinpointed for SHOTPROS to keep in mind. These include the expectation management of the LEAs with regard to the technical possibilities of a VR solution, the balancing act of being a user-driven project, and the importance of focusing on the emphasis on human factors in the project. Following, the guidelines for reporting, financial reporting, and dissemination were presented. In terms of dissemination, it is mandatory to add the following text to any dissemination text (baring Twitter): *"This project has received funding from the European Union's Horizon 2020 Research and Innovation Programme under grant agreement No 833672."* Furthermore, it is necessary to add a disclaimer that any message is one's own opinion, not the EU's.

5.6.1 *Questions and Remarks*

It was determined that police officers are not partners, but volunteers of the LEA partners as they are not directly working on the project or participating in writing the reports.

The need to take gender balance into consideration during the research process with regard to aspects such as physical gender differences in the training curriculum, as a human factor, etc was emphasized by the PO as well.

5.7 WP4

WP4 is concerned with the assessment of training experience as well as modelling and scenario development. The objectives are:

- Repository of psychological cues in VR environments (AIT)

- Prototyping of VR training scenarios incorporating the requirements from WP2 and the training concepts and learning objectives from WP3 (AIT)

- Psychophysiological measurement suite for assessing stress in VR training.   (UHEI)

- Training Experience Framework of VR Quality of Training (QUT) (AIT)

- Real-time training performance assessment suite for trainers (AIT)

- Technical requirements for VR Simulator Toolkit → for WP5 (AIT)

- Development of a risk assessment toolkit to identify high-risk situations (ADCC-IBZ)

The tasks to be tackled in WP4 consist of

- The selection and validation of stress and immersion creating cues and creation of training scenarios

- A psychophysiological measurement suite

- A training experience framework and models

- A real-time measurement of training progress and decision-making performance

- A definition of technical requirements for the implementation of highly immersive VR training scenarios, as well as

- The development of a risk assessment toolkit in order to identify high risk situations.

More details in the PDF presentation of WP4.

5.8 <u>WP5</u>

Based on input from WP2, 3, 4 and 6, the focus of WP5 with WP leader RL is to create the contextual VR simulator toolkit with the following main deliverables:

5.8.1 *Deliverables*
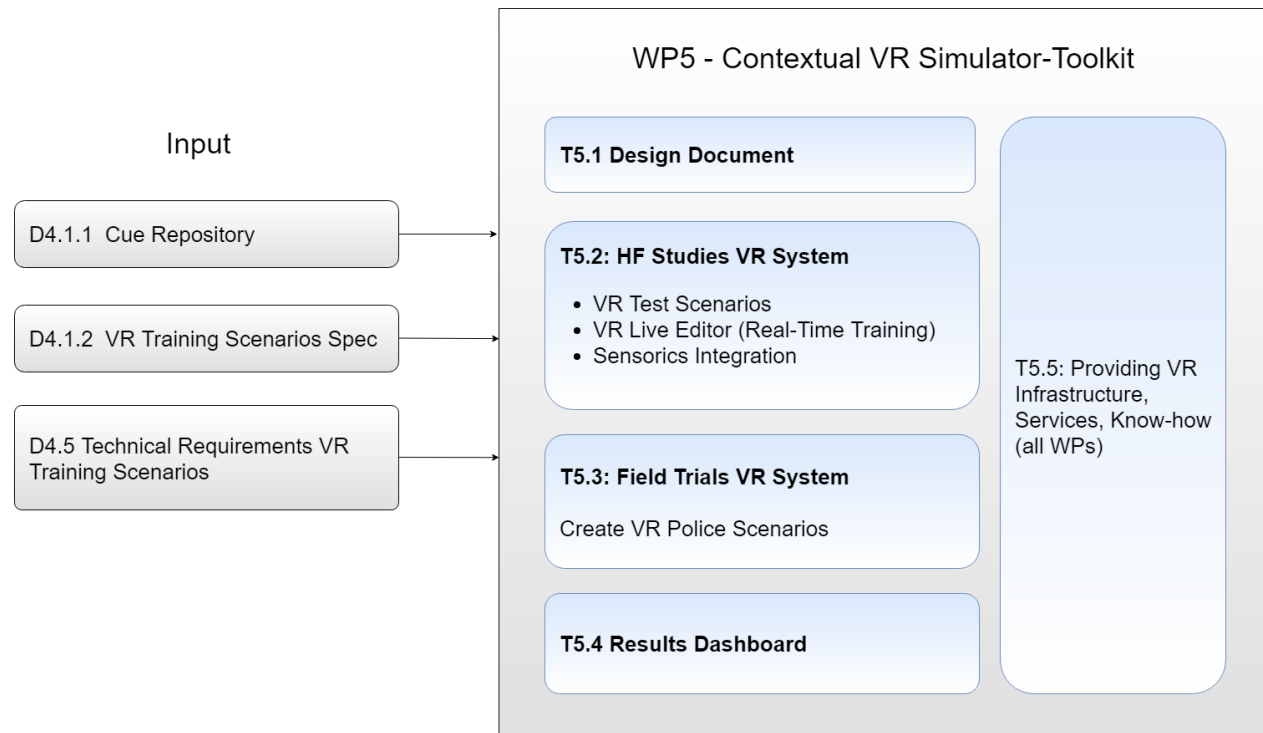
The Results Dashboard (T5.4), which is aimed to work as a dashboard to see the results of training, will be created in conjunction with the other partners, in particular AIT, VUA, and UHEI. One open issue here was the question of how to transfer these data and in which format. This will be discussed between the involved partners at a later stage.

The existing VR suite was described and shown in action through a video demonstration.

The Design Document (T5.1) will consist of use cases, scenarios, functional requirements, as well as technical requirements and an implementation plan. A scenario consists of

- A static environment

- A dynamic environment

- Non-player characters (NPCs) which are quite important but require a lot of resources to code

- A task to do

- Gear which is relevant for the scenario

Information to fill the scenarios will be inputted by RL, the scenario makers (WP4), as well as the VR System Operator live during the training. **More details in the PDF presentation of WP5**

5.8.2 *Questions and remarks*

- What do the other partners expect in terms of data export and availability? At the moment, e.g. the 3D data of the scenarios is only accessible in the suite itself.

- The VR suite is not meant to be a shooting trainer, but a tactical trainer. As tactical training, it suits the positive side of VR, i.e. its repeatability and the quick adaptation and change possible in creating and manipulating the training environment.

- RL will send out a list of suggestions of what is known to work well (and not so well) in VR.

- The PO emphasized the importance of practical feasibility of the project. In response, it was iterated that the idea of user-driven design on which SHOTPROS is built puts an emphasis on iterative design and low-fidelity prototyping. This mind set forces practicality, with low hurdles to create and improve a product, and will be used to tackle issues and problems in the project. For example, with regard to the question of using role players (easier) or programmed NPCs (more difficult), we will start with the easier solution and see from there what we require of NPCs.

5.9 **WP6**

As WP6 (Human Factor Studies and Experiments) is framed around WP 2, 3, and 4, the work will be very "service-work oriented". The four main objectives are as follows:

- Collection and administration of the measurement toolkit

- Coordination of study and experimentation plan between AP2-4 and end user partners

- Provisioning of a dataset with results of studies and experiments

- Quantitative analysis of results and prediction models for user behavior.

The tasks in WP6 consist of

- The preparation and development of measurement instruments and a experimentation plan

- The execution of experiments and studies

- Quantitative analysis of the impact of (simulated) human influence factors un user behavior, decision making and user experience.

More details in the PDF presentation of WP6.

6   **Day 2**

6.1   **Agenda Day 2**

Day 2 – Tuesday, 8th May

Time	Topic	Who
09:00 – 09:10	Introduction Day 2	**USECON**
09:10 – 09:30	Advisors' Introductions	**Advisors**
9:30 – 11:15	WP Presentations (3/4) – 30 min each • WP7 - VESTA • WP8 – USECON • WP9 - KUL	
11:15-11:30	**Coffee Break**	
11:30 – 12:30	Working Group "User Studies & Planning", Interactive discussion	**AIT + ALL**
12:30 – 13:30	WP Presentations (4/4): WP1 – Project Management • Overall • Reporting • Timeline & next Steps • Next Meeting / Place	**USECON (MM/GH)**
13:30 – 13:55	Financial Rules	**USECON (GH)**
13:55-14:00	Closing Remarks	**USECON (MM)**
	Small Lunch	
From 14:00	Social Activities	

6.2   <u>Advisor Introductions</u>

After a short introduction and the agenda of the second day, the four external advisors gave a short introduction of themselves and how their expertise may aid in the SHOTPROS project. All three emphasized their openness to any questions and offered their network if at any time the consortium required it.

Zvi Nisin from the Israel National Police focuses mainly on investigative psychology such as lie detection and polygraphing, cognitive interviewing, aspects of profiling. Furthermore, he is experienced in crisis management and working on his MA in cognitive and experimental psychology.

Douglas Stirling from the SMARTEU (Scottish Multi Agency Resilience Training and Exercising Unit) has worked for several years in the Scottish military. He is a criminal investigator, the head of detective training at the national police centre of Scotland. Currently, he works in counter terrorism with a focus on decision-making. He is involved in the development of VR as well.

Peter Lamplot is a colonel at the SIAK (the Ministry of the Interior Training Department – Sicherheitsakademie).

Last but not least, Alberto Varela from Spain is SHOTRPOS' fourth advisor.

6.3   <u>WP 7</u>

WP7, led by VESTA, is responsible for the end-user management during SHOTPROS. The objectives consider of the following:

1. Effectiveness of the training to improve DMA skills

2. User experience of the DMA-SR Training and curriculum

3. Evaluation of the influence of the identified human factors that will lead to the final human factor model

4. Evaluation of scenarios, VR environment, assessment and measurement of training success

These will be evaluated through field trials. In terms of expected outcomes, WP7 will provide guidelines for using VR training in police education and training, as well as guidelines and final input for the final results, impact and concepts. WP7 will facilitate and structure the approach

during SHOTPROS, particularly the last year. As VESTA is responsible for the overall end user management, their tasks run in parallel to WP2, WP 6 and WP7, even though the WP officially starts in M24 (i.e. May 2021).

In terms of methodology, information will need to be gradually collected. In particular,

- Input from WP2-6 on the 'aspects' (KPIs) to be evaluated

- Input from WP2-6 on conditions for testing: type of trial, profile of participants, profile of external participants (in the trial, as observer), etc. and

- Input from the scenarios will be needed.

Each LEA partner will host the Field X which includes the Evaluation Field X and a final demonstration (WP8). All other partners will participate with their developments.

6.3.1 *Notes and Remarks*

In order to find the participants that best fit the requirements for all user involvement, VESTA suggested to utilize the consortium's own organisations for possible end users, then the partners' respective network, followed by the networks specifically tailored for LEAs (such as ILEAnet, I-LEAD). The LEAs were urged to sign into these networks. This is easiest done by contacting the RMIA-DGL who are already part of ILEAnet.

Starting in June, a database with names, profiles, availability, areas of interest, and expertise of the different stakeholders will be developed.

It is not yet decided how the field trials will be conducted. It was suggested to combine some of them to lower organisational efforts and cost as the allocated time for the field trials is only four months.

The objective of the field trials is to evaluate the training curriculum with a focus on the validity and soundness of the DMA-SR model, the human factors, as well as dissemination, exploitation, and final adjustments needed in order to ensure the optimization of the training, not for technical testing. This, again, is in line with iterative nature of the human-centred approach.

The methodology and planning must be finalized in M25-28 (i.e. until September 2021). The planning should therefore begin in M12 (i.e. April 2020).

As a side note, from now on month names such as M1 should be translated into proper months and years for ease of understanding. M1 = May 2019. However, the organization and involvement of the LEAs specifically will become much clearer with the end user calendar (deadline M3-4, i.e. July-August 2019) employed by VESTA for the purpose of planning any and all tests.

6.3.2 *Organisational remarks following WP 7 presentation*

Following the presentation on WP7 which was focused on the time management and organization of the project, the overarching tasks for each year were discussed for clarity:

- **Year 1**: user requirements + current practice and best practices
- **Year 2**: iterative experimenting and testing
- **Year 3**: evaluation

In year 2, the "product", i.e. the training programme, should be finished. This will leave year 3 to evaluate it in-depth and enrich the training.

Furthermore, USE noted that EU projects do not submit a fully finished, final product to the EU. On the Technology Readiness Level (TRL), SHOTPROS must deliver a 5, i.e. an evaluated high-fidelity prototype. However, USE is optimistic that the DMA-SR training including the VR suite will more likely achieve a 6 or 7 on the TRL.

For reference, the TRL scale is defined as follows:

- TRL 1 – Basic principles observed
- TRL 2 – Technology concept formulated
- TRL 3 – Experimental proof of concept
- TRL 4 – Technology validated in lab
- TRL 5 – Technology validated in relevant environment (industrially relevant environment in the case of key enabling technologies)
- TRL 6 – Technology demonstrated in relevant environment (industrially relevant environment in the case of key enabling technologies)
- TRL 7 – System prototype demonstration in operational environment
- TRL 8 – System complete and qualified
- TRL 9 – Actual system proven in operational environment (competitive manufacturing in the case of key enabling technologies; or in space)

6.4   <u>WP8</u>

WP 8 focuses on the tasks of dissemination, exploitation, and communication. On the basis of definitions for the three terms, the objectives of the WP were described. The presented deliverables including KPIs were mainly focused on the first year. As WP8 is completely dependent on the efforts of all partners, USE need the partners to disseminate the project as often as possible, in informal and formal settings, across all platforms. Importantly, dissemination efforts must be communicated to USE, otherwise they are meaningless. When disseminating, it is necessary to include the following sentence: "*This project has received funding from the European Union's Horizon 2020 Research and Innovation Programme under grant agreement No 833672.*"

As future dissemination opportunities develop (e.g. LEA or academic conferences), partners shall communicate them with USE so that they can be included in the dissemination plan. Preferably, all dissemination activities should be communicated to USE one week in advance, but at the latest 2 days in advance.

In M3-4 (i.e. July/August 2019), the dissemination guideline will have been created. Until then, all partners have to disseminate on their own. However, USE is always available for feedback on any dissemination activities.

High-quality images (.jpg, .png) are needed. These include press photos, logos, etc. of the partner organisations which are not available to USE due to copyright or quality issues.

In terms of confidentiality of the project contents, RL asked not to share any specificities about the scenario as these are highly valuable for the company. RL will create some guidelines on what can be shared about the technology which will be included in the dissemination guidelines. The DMA-SR is open for sharing as it is research. However, the specifics of each of the created (VR) scenarios should remain confidential.

6.5   <u>WP9</u>

The ethical requirements for SHOTPROS were presented in WP9. In addition to the guidelines found in the slides (see PDF presentation), the following topics were discussed:

6.5.1 *Open questions/issues*

It was discussed how to handle the issue of data minimisation which is required by the EU guidelines. The partners were prompted to consider how personal data of the participants of any testing/workshops/questionnaires/interviews/etc. should be handled. Anonymization is the safer, and thus preferable route. However, it is much more difficult to achieve. Thus, pseudonymising seems to be a good compromise if enough safety steps are taken through that process. In collaboration with the other partners, KUL as WP9 leader will develop a data safety plan.

The issue was of the project needing the approval of an ethics committee was raised. It was suggested to submit the whole SHOTPROS project to the committee of KU Leuven for ease of process. Since the project is still in its beginning stages during the deliverable deadline (M3, i.e. July 2019), the approval will likely be given under the condition that the remaining information and plans will be filed subsequently.

KUL will send a document to be filled out by all partners that will conduct experiments with human subjects this week, collect them, and send it to KU Leuven's ethics committee.

As it was unclear who the host institution is, KUL will ask the PO for further information. This is necessary and time-sensitive, as the host institution provides the data protection officer (DPO) and the project requires a DPO by the end of M1 (May 2019).

6.5.2 *Remarks*

VUA emphasised that the participation to any of the SHOTPROS activities by the LEA officers must be **voluntary**. While the LEA partners may provide the contact information of prospective participants, they may not be forced (be it overtly or unconsciously) into participation.

7 Working Group: User Studies and Planning, Interactive Discussion

During the whole consortium meeting, some open issues were identified in order to collectively discuss them in the setting of the working group on Day 2. The first discussion points pertained to the definition of target groups and a working definition of stress vs. comparison for the DMA-SR model. Following, the consortium conferred about the concept of scenarios. Lastly, open questions about the status quo of the RE-liON suite were discussed.

7.1   Defining the Target Group

The target group of the DMA-SR training programme was discussed. Overall, the discussion displayed the different perspective from the LEAs and research-based partners. For example, the LEA partners considered it to be more useful to have a realistic replication of their field experience in which police often work in pairs or even larger teams) whereas the scientific partners showed a preference for reduced complexity for the sake of clear research results. While no clear consensus was found on the issue, the discussion allowed all partners to take in different perspectives to keep in mind during the run of the project. Furthermore, this issue will be discussed in more detail and backed with more knowledge, after WP2 which will reflect the LEAs requirements taken from more perspectives.

For the moment, it was decided to consider a two-person team as the standard use case. In more detail, the target group will consist of normal patrol officers, possibly riot unit officers (as they are, at least in NRW and Berlin, oftentimes first responders as well). Special forces are not the main focus of the DMA-SR training programme and will thus be excluded for now. In terms of profile, a wide range of experience levels in the police officers will be required. Any other variables, such as age, experience with video games, will be noted and possibly tested for in more detail in year 2.

7.2   Definition of Stress vs. Anxiety

Due to the differing (academic) background of the partners, the definition of stress in comparison to anxiety was discussed. While the focus of DMA-SR is anxiety, the term used more commonly in everyday life (and as such, among the end user group) is stress. It was thus accepted to use the lay term "stress" when discussing results although the academic partners will research anxiety.

7.3   Scenarios

Lastly, basic parameters for the VR scenarios were discussed. Importantly, the scenarios need to induce a specific stress level in participants in order to train their DMA-SR abilities. According RL, a scenario typically lasts from two to ten minutes. As a reminder, BP asked to keep the balance between creating high-stress and high-risk situations while at the same time keeping incentives such as positive feedback for the participants. There is apprehension that creating too stressful situations without a positive spin/feedback might create aversive feelings and thus, an

unsustainable training method. This will be kept in mind during the WP2, specifically the co-creation workshops focused on possible scenarios.

7.4   Status quo of the RE-liON suite

It was debated whether the participants of WP2 should be confronted with the limits and possibilities of the suite for framing purposes. While different options such as a live demonstration to achieve this were discussed, some issues were raised against them. One issue: it would be quite difficult to find appointments and coordinate with so many partners involved in the workshops. Furthermore, showing the LEA volunteers capabilities of the suite might prime them in two ways: For one, the participants might adjust and adapt their needs to what they know is practically possible at that time. For another, a demonstration might prime them to the topic of technical feasibility whereas the requirement workshops are meant to collect the LEA needs for the scenarios themselves (co-creation workshops), as well as factors such as the ethical, legal and societal factors that influence their needs. USE also emphasized that the WP2 will necessitate finding a balance between what is possible and what they need. It will be the task of WP2 to "translate" the raw requirements and scenarios created by the LEA participants into possibilities and guidelines for the other WPs.

Thus, it was decided that RL will share a list of the status quo of the suite with the consortium partners, but not to the LEA volunteers. Possibly, one could show the demonstration video to the LEAs after the initial workshops.

8   WP 1

In the last presentation of the consortium meeting, organisational and financial matters were presented. There will be biannual consortium meetings, the next likely in Leuven, Belgium. For the half-time review (in month 18, i.e. October 2020), then plan is to hold a bigger showcase of the achievements thus far. Vesta or Selm would lend themselves to such a setting. However, all plans for the coming consortium meetings are still flexible.

For internal project communications, AIT will host a OneDrive share point. For this, all partners should send their list of people who will need access. The partners were also urged to inform AIT

if access rights need to be revoked, e.g. when someone drops out of the project. In case of concerns regarding data protection, contact Sebastian Egger-Lampl.

Lastly, the organization should be handled in such a way that the LEAs have some front-running time, ideally six months advance. **More information see presentation WP1.**

9   Meeting Summary

Information:

- Each deliverable should be sent to USE **3 weeks prior to the official EU deadline**

- All disseminated materials must include the following sentence: "**This project has received funding from the European Union's Horizon 2020 Research and Innovation Programme under grant agreement No 833672.**" If this is not possible, at least the grant agreement number must be included.

- Presentation templates will be finished by the end of M3 (July 2019). Until then, USE will share temporary templates.

- WP leaders are the overall organisers of their WP. This does not mean, of course, that they are responsible for executing everything in the WP, but they have to function as coordinators and keep the big picture in mind.

- It was communicated that representatives of the partners could also be sent to the board meetings. The above-cited five board members are only responsible to send someone, be that themselves or someone else. The executive will meet every 8-12 weeks based on necessity.

- Month names such as M1 should be translated into proper months and years for ease of understanding. M1 = May 2019. However, the organization and involvement of the LEAs specifically will become much clearer with the end user calendar (deadline M3-4, i.e. July-August 2019) employed by VESTA for the purpose of planning any and all tests.

Questions:

- (In which way) Should participants of the requirements workshops and interviews be shown a demonstration of the RL VR suite?

Tasks:

- AIT will create a SharePoint data sharing drive

- VUA will define what the analysis of the current training practices will entail in detail

- LEU will send out questionnaires with regard to plans for user tests for WP9.

- VESTA and all other partners will define the end user management, in particular their tasks and responsibilities

- KUL will decide on a detailed breakdown of participants and begin the coordination and planning process of the workshops, focus groups, and in-depth interview.

- High-quality images (jpg, png) are needed. These include press photos, logos, etc. of the partner organisations which are not available to USE due to copyright or quality issues. These will be uploaded to the OneDrive, thus they are dependent on AIT.

- RL will send out a list of suggestions of what is known to work well (and not so well) in VR.

- RL will send out a list of current functionalities the suite with the consortium partners. However, this list must not be shared with the LEA volunteers.

- KUL will collect contact information of all LEAs to contact them for the workshops/interviews in WP2.

- LEAs should take part in networks which are specifically tailored to LEAs (such as ILEAnet, I-LEAD).

Decision:

- All partners and participants accepted the proposed structure, workflow, and responsibilities.

Risks:

- The PO emphasized the importance of practical feasibility of the project.

- It was emphasized, that a balance must be kept between the human-centred approach in which the LEAs needs and wishes are in the centre of attention and the practical aspects of SHOTPROS such as feasibility.

10 GANTT Chart of Deliverables for the first six months of SHOTPROS

As a reminder, the following excerpt of SHOTPROS' GANTT chart shows the deliverables for the first six months.

M1 = May 2019

M6 = October 2019

			FROM	TO	1	2	3	4	5	6
	Milestones				1					
WP1	**Project Management**	**USE**	**1**	**36**						
T1.1	Project Coordination and Management	USE	1	36				1.1		
T1.2	Internal legal and ethical compliance check	KUL	1	36				1.2		
T1.3	Data management plan	USE	1	6						1.3
T1.4	End user (LEAs) management	VESTA	1	36				1.4		
T1.5	Assessment and Reporting of Societal Impact	USE	12	36						
WP2	**Requirements Analysis and User Research**	**KUL**	**1**	**22**						
T2.1	Collect LEAs needs, requirements & opinions and (	KUL	1	14				2.1		
T2.2	Conduct a large-scale study on the perceived beh	KUL	12	22						
WP3	**Training Concepts & New Innovation Approa**	**VUA**	**1**	**24**						
T3.1	Comparison and Analytics of Existing training curri	VUA	1	8						
T3.2	Multi-Dimensional DMA-SR Model	VUA	5	12						
T3.3	Development of Training Concepts, Toolkits & Dida	VUA	12	24						
WP4	**Training Experience Assessment, Modelling**	**AIT**	**8**	**24**						
T4.1	Selection and validation of stress and immersion c	AIT	8	18						
T4.2	Psychophysiological Measurement Suite	UHEI	8	18						
T4.3	Training Experience Framework and Models	AIT	8	18						
T4.4	Real-time measurement of training progress and d	AIT	10	22						
T4.5	Definition of technical requirements for the impleme	AIT	18	24						
T4.6	Development of a risk assessment toolkit to identify	ADCC IBZ	8	18						
WP5	**Contextual VR Simulator-Toolkit**	**RL**	**8**	**33**						
T5.1	VR System Design for Human Factors Studies bas	RL	8	25						
T5.2	Development VR Test-Scenarios, VR Live Editor a	RL	8	24						
T5.3	VR Police Scenario Creation for Field Tests and C	RL	24	28						
T5.4	VR Results Dashboard for Training Evaluation	RL	22	28						
T5.5	Provide the necessary VR infrastructure and envi	RL	10	33						
WP6	**Human Factors Studies & Experiments**	**AIT**	**8**	**24**			✛			
T6.1	Preparation and Development of measurement inst	AIT	8	22						
T6.2	Experiments and Studies Execution	AIT	10	24						
T6.3	Quantitative Analysis of the impact of (simulated)	AIT	20	24						
WP7	**Evaluation Phase with Field-trials and creatic**	**VESTA**	**25**	**36**						
T7.1	Field-Trial Methodology, Planning and Setup	VESTA	25	28						
T7.2	Field Trial Conduction, Analysis and Reporting	VESTA	28	32						
T7.3	Demonstration at the final conference	VESTA	28	31						
T7.4	Final results, Conclusion and Recommendations	USE	32	35						
WP8	**Dissemination, Exploitation & Communication**		**1**	**36**						
T8.1	Dissemination Plan and Communication Guideline	USE	1	35				8.1		
T8.2	Media & Events	USE	1	36				8.2-3		
T8.3	Printed Materials for Policy-Makers and End Users	USE	10	36						
T8.4	Strategies and Toolkit for Policy-Makers	USE	15	36						
T8.5	Scientific Dissemination	AIT	1	36						
T8.6	Exploitation, Innovation Management and Business	USE	1	36						
T8.7	Reach-Out to other End User Partners (Showcase	RL	20	36						
T8.8	Establish a "VR Training Network" for LEAs and S	VESTA	1	36						
T8.9	Conference for Showcasing and (external) Evalua	VESTA	26	33						
WP9	**Ethics requirements**	**USE**	**1**	**6**						
T9.1	H - Requirement No. 1		1	6						9.1
T9.2	H - Requirement No. 4		1	6						9.2
T9.3	POPD - Requirement No. 5		1	1	9.3					
T9.4	POPD - Requirement No. 6		1	3				9.4		
T9.5	POPD - Requirement No. 7		1	3				9.5		
T9.6	POPD - Requirement No. 8		1	3				9.6		
T9.7	POPD - Requirement No. 9		1	3				9.7		
T9.8	POPD - Requirement No. 10		1	3				9.8		
T9.9	POPD - Requirement No. 11		1	3				9.9		
T9.10	POPD - Requirement No. 12		1	3				9.10		