SCIENTIFIC HIGH-THROUGHPUT AND UNIFIED TOOLKIT FOR TRACE ANALYSIS BY FORENSIC LABORATORIES IN EUROPE

PRE-COMMERCIAL PROCUREMENT (PCP)

TENDER DOCUMENT 1 (TD1): CALL FOR TENDERS

Deadline to submit an offer:

20th November 2019 at 12 p.m (EET)

This project has received funding from the European Union's Horizon 2020 Programme under Grant Agreement (GA) N° # 786913

This Call for Tenders, designated as Tender Document 1 (TD1), should be read in conjunction with other documents related to this Pre-Commercial Procurement (PCP), listed hereunder:

Tender Document 2 (TD 2): Use cases and Specifications-Annexes K & L

Tender Document 3 (TD 3): Background IPRs-Annex H

Tender Document 4 (TD 4): Tender Forms- Annexes A, B1, B2 & C

Tender Document 5 (TD 5): Technical Offer-Annex F

Tender Document 6 (TD 6): Financial Offer and Cost Breakdown-Annex G

Tender Document 7 (TD 7): Framework Agreement-Annex D

Tender Document 8 (TD 8): PCP Specific contract for Phase 1-Annex E

Tender Document 9 (TD 9): End of phase report-Annex I

Tender Document 10 (TD 10): Contractor details & project abstracts-Annex J

All documents are available on the SHUTTLE website www.shuttle-pcp.eu

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PREFACE

This SHUTTLE Call for Tenders invites all interested parties to present their offers to develop a cost-effective, open machine integrating a rich toolkit for automated trace evidence analysis to provide scientific evidence in a high-throughput manner.

SHUTTLE is a research & development (R&D) project, which takes form as a Pre-Commercial-Procurement (PCP).

The PCP approach and how it differs from traditional procurement, will be explained in **Section 1**. This Section also provides an overview of the timeline, budget, and contracting approach. In addition, a general introduction to the procurers involved (also referred to as Buyers Group) is provided.

Section 2 introduces the overall challenge this PCP must address and the motivation behind it. It explains the different phases of the PCP and the expected outcome of each phase. Finally, Intellectual Property Right (IPR) considerations are addressed.

Section 3 explains the preconditions for submitting your Tender, and an overview of the criteria to be used in the evaluation of the Tenders. The process for the evaluation of the Tenders and how to communicate with the Buyers Group, namely putting forward your questions, is detailed in **Section 4.**

Section 5 explains the conditions of the contracts between the winning Tenderers and the Buyers Group, including the monitoring process, results evaluation, and payment conditions. This is followed up by a payment

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schedule outlined in **Section 6.**

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SECTION 1: THE PCP PROCEDURE

1.1 Introduction

The Contracting Authority invites Tenders to submit offers for the provision of R&D Services for the Project.

This PCP Competition will be conducted in accordance with the procedure explained in section 2.2 below.

The budget for the PCP Competition amounts 5,967,741.94 €. Please see section 2.8 below.

Tenderers should aim at a market introduction of their new solution at a maximum of four (4) years after the end of the PCP.

When tendering for this PCP, it should be considered that the tendered Price should reflect the fact that the Intellectual Property Rights (IPR) stay with the Contractor.

While every effort has been made to provide comprehensive and accurate information in all notices and documents prepared for the purposes of this PCP, the Contracting Authority does not accept any liability or provide any expressed or implied warranty in respect of any such information. Tenderers must form their own conclusions about the solution needed to meet the requirements set out in the Tender Documents and may wish to consult their legal advisers.

The Contracting Authority does not bind itself to accept the lowest priced or any Tender. The evaluation process is described in detail under section 3 of the present document.

The Call for Tenders does not constitute an offer or commitment to enter into a Framework Agreement.

No contractual rights in relation to the Contracting Authority will exist unless and until a formal written Framework Agreement has been executed by the Contracting Authority.

Any notification of a successful Contractor status by the Contracting Authority shall not give rise to any enforceable rights by the Contractor.

The Contracting Authority may cancel this PCP Competition at any time prior to a formal written Framework Agreement and Specific Contract being executed by the Contracting Authority.

The Call for Tenders supersedes and replaces any and all previous documentation, communications and correspondence between the Contracting Authority (in its

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own name and on behalf of the Group of Procurers) and Tenderers, and Tenderers should place no reliance on such previous documentation and correspondence.

This PCP is an open tendering procedure and participation is on equal terms to all types of operators from the countries provided under section 3.1 of the present document (Eligible tenderers, joint tenders and subcontracting) regardless of their size or governance structure. There will, however, be a requirement relating to the place of performance of the R&D Services.

For Phases 2 and 3, participation is limited to Contractors that successfully completed the preceding Phase.

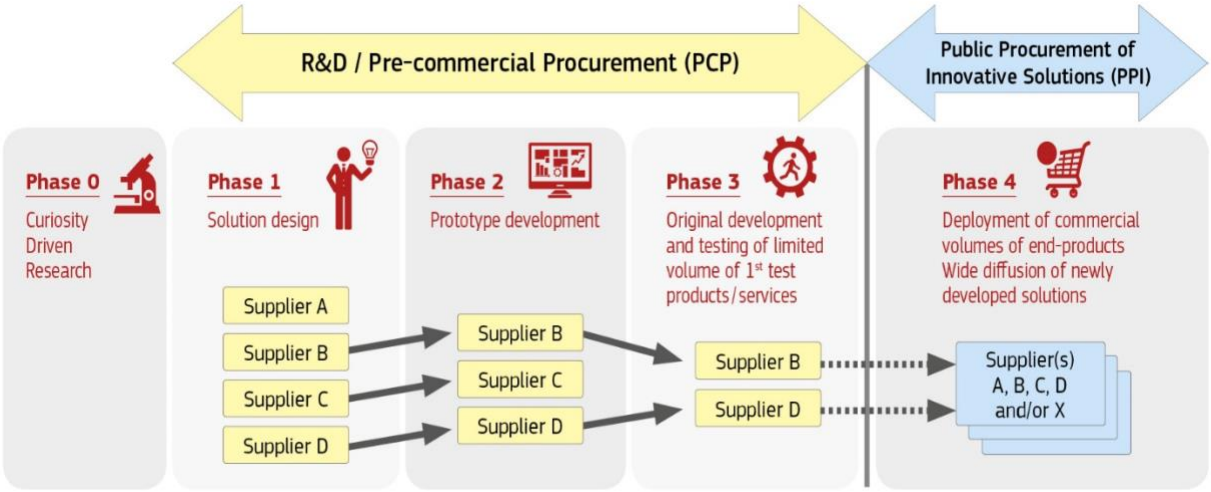
Tenders may be submitted by a single entity or in collaboration with others. The latter approach can involve either submitting a Joint Tender or Subcontracting, or a combination of the two approaches.

Participation in the Open Market Consultation is not a condition for submitting a Tender.

1.2 General context & background

This procurement is a **pre-commercial procurement (PCP)**.

PCP means that public procurers challenge innovative players on the market, via an open, transparent and competitive process, to develop new solutions for a technologically demanding mid- to long-term challenge that is in the public interest and requires new R&D services.



PCP is characterised by the following four **features**:

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- Competitive development in phases to identify the solutions offering the best value for money

PCP targets situations that require radical innovation or R&D and for which there are typically no solutions on or close to the market yet. Different competing providers may have different ideas for solutions to the problem. As R&D is yet to take place, there is not yet any proof as to which of these potential alternative solutions would best meet customers' needs.

PCP therefore awards R&D contracts to a number of competing contractors at the same time, in order to compare different approaches to solving the problem. It thus offers innovators an opportunity to show how well their solution compares with others. It also allows a first customer test reference to be obtained from countries of the procurers that will test the solutions.

The R&D is split into **3 phases** (1.solution design, 2.prototyping, 3. original development and testing of a limited set of 'first' products or services). Evaluations after each phase progressively identify the solutions that offer the best value for money and meet the customers' needs. This phased approach allows successful contractors to improve their offers for the next phase based on lessons learnt and feedback from procurers in the previous phase. Using a phased approach with gradually growing contract sizes per phase also makes it easier for smaller companies to participate in the PCP and enables SMEs to grow their business step-by-step with each phase.

Depending on the outcome of the PCP, procurers may or may not decide to follow-up the PCP with a public procurement to deploy the innovative solutions (PPI).

- Public procurement of R&D services

PCP addresses mid- to long-term public procurement needs for which either no commercially stable solutions yet exist on the market, or existing solutions exhibit structural shortcomings that it requires further R&D to resolve. PCP is a way for procurers to trigger the market to develop new solutions that address these shortcomings. PCP focuses on specific identified needs and provides customer feedback to businesses from the early stages of R&D. This improves the likelihood of commercial exploitation of the newly developed solutions.

PCP is explained in the PCP communication COM/2007/799 and the associated staff working document SEC/2007/1668. The R&D services can cover research and development activities ranging from solution exploration and design, to prototyping, right through to the original development of a limited set of 'first' products or services in the form of a test series. Original development of a first product or service may include limited production or supply in order to incorporate

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the results of field-testing and demonstrate that the product or service is suitable for production or supply in quantity to acceptable high quality standards. R&D does not include quantity production or supply to establish the commercial viability or to recover R&D costs.[1] It also excludes commercial development activities such as incremental adaptations or routine or periodic changes to existing products, services, production lines, processes or other operations in progress, even if such changes may constitute improvements.

✕ Open, transparent, non-discriminatory approach — No large-scale deployments

PCP is open to all operators on equal terms, regardless of the size, geographical location or governance structure. There is, however, a place of performance requirement that they must perform a predefined minimum percentage of the contracted R&D services in EU Member States or Horizon 2020 associated countries[2].

Any subsequent public procurement of innovative solutions (PPI), for the supply of commercial volumes of the solutions, will be carried out under a separate procurement procedure. Providers that did not take part in this PCP (or were not chosen to go through as far as the last phase) will thus still be able to compete on an equal basis in any subsequent procurement looking for contractors to provide a solution on a commercial scale.

✕ Sharing of IPR-related risks and benefits under market conditions

PCP procures R&D services at market price, thus providing contractors with a transparent, competitive and reliable source of financing for the early stages of their research and development. Giving each contractor the ownership of the IPRs attached to the results it generates during the PCP means that they can widely exploit the newly developed solutions commercially. In return, the tendered price must contain a financial compensation for keeping the IPR ownership compared to the case where the IPRs would be transferred to the procurers (the tendered price must be the 'non-exclusive development price'). Moreover, the procurers must receive rights to use the R&D results for internal use and licensing rights subject to certain conditions.

ⓘ For more information, *see PCP on the Europa website*.

✕ Exemption from EU public procurement directives, the WTO Government Procurement Agreement (GPA) and EU state aid rules

1 See also Article XV(1)(e) WTO GPA 1994 and the Article XIII(1)(f) of the revised WTO GPA 2014.

2 See below 3.4 C.

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PCP procurements are exempted from the **EU public procurement directives** because the procurers do not retain all the benefits of the R&D (the IPR ownership stays with the contractors).[3]

They are also exempted from the **WTO Government Procurement Agreement (GPA)** because this Agreement does not cover R&D services[4] (the PCP being limited to such services — and any subsequent PPI procurements relating to commercial-scale supply of such solutions not being part of the PCP procurement).

PCP procurements do not constitute state aid under the **EU state aid rules**[5] if they are implemented as defined in the PCP communication[6], namely by following an open, transparent, competitive procedure with risk- and benefit-sharing at market price. (The division of all rights and obligations *(including IPRs)* and the selection and award criteria for all phases must be published at the outset; the PCP must be limited to R&D services and clearly separated from any potential follow-up PPI procurements; PCP contractors may not be given any preferential treatment in a subsequent procurement for provision of the final products or services on a commercial scale.)

✕ Open market consultation

The start of this PCP procurement was preceded by an open market consultation (see summary and Q&A on https://www.shuttle-pcp.eu/shuttle-open-market-consultation-infoday/).

✕ EU funding

This PCP procurement is part of a project that is funded by the European Union's Horizon 2020 Research and Innovation Programme, under grant agreement No No 786913. (https://www.shuttle-pcp.eu)

The contracts will therefore be subject to additional rules that come from the EU grant(s).

ⓘ For more information, *see 'innovation procurement' and 'links to regional policy' in the Participant Portal Online Manual*.

⚠ **Attention:** The EU is not participating as a contracting authority in this procurement.

[3] See Article 16(f) of Directive 2004/18/EC (Article 14 of Directive 2014/24/EU), Article 24(e) of Directive 2004/17/EC (Article 32 of Directive 2014/25/EU) and Article 13(f)(j) of Directive 2009/81/EC.

[4] See the EU's Annex IV of Appendix I to the WTO GPA.

[5] See Point 33 of the Commission Communication on a framework for state aid for research and development and innovation (C(2014) 3282).

[6] Commission Communication: Pre-Commercial Procurement: driving innovation to ensure sustainable, high quality public services (COM(2007) 799) and PCP staff working document (SEC(2007)1668).

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SECTION 2: TENDER PROFILE

2.1. Description of services to be procured

2.1.1. SHUTTLE PCP Challenge

Within SHUTTLE, a cost-effective, open machine integrating a rich toolkit for automated trace evidence analysis will be designed and built to provide scientific evidence in a high-throughput manner.

This procurement is for R&D services to develop solutions to tackle the following challenge:

Design, build and introduce a cost-effective, open machine, integrating a rich toolkit for automated trace evidence analysis in a unified way, so that cross-border and cross-laboratory collaboration will be improved and methodology and quality assurance accreditation in different laboratories will be harmonised.

2.1.2. SHUTTLE PCP Background

The SHUTTLE Buyers' Group as a whole believes that the traces analysis is an area in which PCP can have significant potential to mitigate the technical and financial barriers that exist and jointly carry out the procurement of the necessary Research and Development (R&D) activities to develop a machine+toolkit that will integrate different tape lifts or other lifting systems analysis tools. The combined use of these will automate the routine part of the work of forensic experts as well as strengthen the evidential value of the findings presented in a Court.

The current process to analyse traces is based on samples comparisons by Microscopists/forensic experts. This activity is crucial, as a 'match' between a trace and a known source normally implies that the expert will conclude that the trace 'might have originated from the known source'. However, microscopic examination following the current procedure has serious limitations:

- The process is relatively inefficient as all traces have to be examined one-by-one.
- The process is selective as a microscopist cannot focus on "everything".
- The process is subjective as current analyses are based on the expert's eyes and experience.

This makes the transfer traces' analysis process work very intensive, time-consuming – hence expensive and subjective. Sharing results between European forensics laboratories is then hardly possible and these limitations restrict the use of trace evidence more and more to severe cases.

For a closer look at the motivation behind this PCP, please see below section 2.1.3.

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2.1.3 Motivation for the PCP

SHUTTLE aims to solve two major issues in forensic microtrace evidence investigation. First, current analyses are subjective and require a high level of expertise and training of examiners. SHUTTLE will render analyses more objective and scientific. Second, microtrace evidence analyses are time consuming and hence expensive. This limits the number of cases in which analyses can be carried out.

SHUTTLE will automate a significant part of forensic microtrace evidence examinations. The core of the SHUTTLE toolkit will consist of an automated microscope that will acquire high quality images of recovered microtraces. The acquired images will be processed automatically and an overview of available microtraces will be reported. In first instance, SHUTTLE focuses on Blood, Fibres/Hair, Glass, Saliva, Sand/soil, Skin cells. Algorithms to classify these microtraces will be developed. Additional algorithms can be developed by users or third parties. The additional algorithms can be added as plug-ins for more accurate classification of the aforementioned microtraces or for extension of the range of microtraces that can be classified. The data will be stored in a computer database, thereby facilitating future data analysis, such as provenancing of microtraces and forensic comparisons.

Introduction of the SHUTTLE toolkit will have several advantages for forensic laboratories and the connected entities. The automation will allow a more efficient workflow, while the obtained results will become more objective. The unbiased nature of the analyses and the available database will enable national or even international exchange of data.

Wide implementation of the SHUTTLE toolkit will harmonise the procedures for microtrace evidence examination in laboratories throughout Europe and hence facilitate better international collaboration and exchange of data. Laboratories may decide in the future to use data in a shared database for their data searches, taking into consideration and respecting the relevant legal and ethical requirements. In a similar way, data acquired by several laboratories can be used to calculate background populations and the calculation of the evidential value of the results. They may ask for help from international colleagues by just indicating a reference key under which data is stored in the joint database.

The standardisation of working procedures will form an excellent educational tool, as police officers and forensic experts can improve their knowledge by studying samples in the database. The SHUTTLE toolkit will also form a major incentive for Research and Development studies, e.g. by enabling discrimination and background studies.

All the above will lead to amazing possibilities:

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- The quality systems of different countries can be harmonised, using standardised samples and calibration procedures.
- Data acquired by other labs can be searched for matches, which will assist provenance studies.
- Conclusions reported to the Courts can be exposed in a scientifically justified way. Data, acquired in case work, can be used in later R&D studies without additional analyses.
- Traces that are currently investigated by different experts can be classified automatically. This will enhance collaboration between these experts on the initial investigation. The unique possibilities of SHUTTLE to localise different traces will form a valuable tool in the activity level evaluation of evidence.

The table below is summarising the above motivation for the PCP.

	Objective	*Challenge*	*SHUTTLE Breakthrough*
Tape lifts preparation	*Efficient recovery of traces on the tapes*	*Current tapes do not allow high magnification microscopy. Traces need to be isolated for microscopic investigation.*	*Provide tape lifts or other lifting systems that allow easy recovery, high magnification microscopy.* *Allow analysing A4-sized (or smaller) tape lifts or other lifting systems.* *Minimise the risk of loss of information when several forensic teams analyse the same tape lifts or other lifting systems sequentially.*
Microscopic Instrumentation	*Automatic analysis of the traces collected on the tape*	*Current analyses are performed by microscopists. They are time consuming, expensive and subjective.*	*Develop instrumentation that provides high quality images of tape lifts or other lifting systems, with different illumination modes.*
Image Processing	*Convert images to information*	*Acquired images are large and contain much information. Human evaluation would re-introduce subjectivity*	*Develop algorithms to search acquired tape lifts or other lifting systems and, as outputs, provide the location and classification of all relevant traces identified on tape lifts or other lifting systems .* *Allow finding where other traces are located, so that they can be isolated from the tape lifts or other lifting systems and analysed.*
Database formation	*Store the related results of different*	*Required data structure is relatively complex.*	*Develop suitable database structure.* *Implement database that can be used by nontechnical users.*

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	samples and different analytical techniques	*No agreement between European partners.*	*Include microscopy data in a database and allow performing Provenance studies: if reference materials are added to the database, it will be possible to recognise an item based on a single fibre: 'we have seen this fibre only once before, that was in a sports jacket made by Adidas'.*
Pattern Recognition Procedures	*Provide numerical value for evidential value of trace evidence*	*Develop algorithm that can use all database field as either a filter or a discriminating feature. This will improve conclusion both on source and activity level.*	*Develop algorithm that can use all database field as either a filter or a discriminating feature. This will improve conclusion both on source and activity level. As the microscope will see all fibres (or traces) on the tape lifts or other lifting systems, SHUTTLE will study as well the background population. This is important in the evaluation of evidence.*

2.1.4. Preparation for the PCP

This PCP takes the form of a Pre-Commercial Procurement (PCP) with the purpose of realising innovative solutions for the implementation of the automated trace analysis and forensics laboratory cooperation across all European countries.This PCP expects important outcomes regarding the availability of technology solutions. Features of expected technology solutions:

- used in each country will be interoperable
- will become more technically mature, catalysed by PCP activity
- will become lowest cost, due to a richer and competitive supplier eco-system
- will not be locked into individual suppliers
- will provide efficiency gains to forensic laboratories

2.2. SHUTTLE PCP Phase 0- Curiosity Driven Research

PCP Phase 0 (Curiosity driven research) prepared an inventory of forensic technologies already available at TRL 4 or 5, identifying, a subset of technologies that can be brought at TRL 8. Afterwards, the SHUTTLE partners determined the common operational requirements and specifications and plan the research and the design of the prototypes. The Consortium developed an overall and adequate procurement strategy and structure to conduct the procurement activities during the execution of the project and defined the evaluation, validation strategy and assessment of the results achieved by each participating contractor in each PCP Phase. Several "open market consultation" activities were organised in order to

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widen awareness of the industry regarding the tender to be launched and to collect insights on industry skills which can be used to fine tune the tender specifications. This open market consultation also allowed the SHUTTLE partners to an initial costs analysis and business model. The results of PCP Phase 0 led to the call for tenders.

2.2.1. Open Market Consultation

The objective of the Open Market Consultation (OMC) was to collect the information on what is the state of art keeping in mind that SHUTTLE has to procure innovations to develop and demonstrate TRL8 technologies. The SHUTTLE OMC period started on 30/11/2018 with the publication of the Prior Information Notice (PIN), including a live streamed two-day event in Paris (30-31/1/2019), one webinar (20/3/19) and a Request for Information (RFI) questionnaire published in the project's website. Altogether, over 85 people participated in the various events. This newly formed community provides a good basis for the promotion of the PCP and has given potential Tenderers a strong understanding of the intentions and needs of the Buyers' Group. The full OMC material is available on the SHUTTLE website: https://www.shuttle-pcp.eu/.

2.3. SHUTTLE PCP Procedure

The PCP shall follow the phased PCP model described by the European Commission in the Communication referred to in the 1.2 section, aiming at conducting R&D services up to the development of a limited volume of first products.

This PCP shall be divided into three Phases. Each Phase will result in a competition between the Tenderers in such a way that the number of Tenderers shall decrease from one Phase to the next one to ensure selecting those that best address the technical challenge on which this PCP is based.

- PCP PHASE 1 – SOLUTION DESIGN
- PCP PHASE 2 – PROTOTYPE DEVELOPMENT
- PCP PHASE 3 – OPERATIONAL VALIDATION

2.4. Expected outcomes (per phase)

Phase 1: Solution Design

During this phase, selected contractors will design and submit for technical evaluation their individual views of the solution that meets SHUTTLE requirements and functional specifications, and will verify the technical, economic and organizational feasibility of their solution approach to address the PCP challenge. The contractors will provide a detailed design of all the components, algorithms and processes of the proposed solution. The works carried out will also encompass the definition of verification procedures for the evaluation of the performance of

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the defined solutions according to technical parameters, thus leading to an evaluation of the level of compliance of the solutions with respect to the specification from a technical standpoint. A detailed planning for further stages of development will also be requested.

The Technical Board will be responsible in order to achieve effective monitoring. Monitoring meetings can be held physically or online and will be agreed between the Contractor and the Technical Board at least on a monthly basis. So, the technical progress of the Contractors will be monitored through the Solution Design Phase by way of a monthly meeting, which shall commence upon signature of the Contracts. In these meetings the Contractor shall give monthly progress presentations that will be used for reviewing against the expected outcomes (milestones, deliverables and output or results) for the Solution Design Phase. If there are issues to be discussed or clarified with the Contractors, separate online meetings will be organized, according to the principles of transparency and equal treatment.

For more information on the assessment of the satisfactory completion of the End of Phase Reports, please see section 6.2 Payments based on Satisfactory Completion of Milestones and Deliverables of the Phase.

Phase 2: Prototype Development

Qualified contractors will develop a first prototype based on the design documents delivered in the previous phase and test their solutions in lab conditions (lab of the R&D provider). Prototypes will be tested and verified to provide a measure of the technical performance of each solution in a controlled environment, and their readiness for a pre-operational deployment.

The technical progress of the Contractors will be monitored through the Solution Prototype Phase by way of a monthly presentation from the Contractors which shall commence upon signature of the Contracts (throughout all Phases). The Contractor shall deliver monthly progress presentations that will be used for reviewing against the expected outcomes (milestones, deliverables and output or results) for the Prototype Phase. If there are issues to be discussed or clarified with the Contractors, separate online meetings will be organized, according to the principles of transparency and equal treatment.

The Technical Board will be responsible in order to achieve effective monitoring. Monitoring meetings can be held physically or online and will be agreed between the Contractor and the Technical Board at least on a monthly basis.

Phase's 2 evaluation plan will also include Factory Acceptance Tests (FAT) that will be performed at the contractors' premises. These tests will check if the Toolkit

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meets each one of the specifications defined in Annex L of this document and that the prototypes reach TRL 6-7. Additional equipment may be required to complete the tests (e.g. renting or buying equipment, materials). In that regard, this should be reflected in the assessment of the financial offer for that phase.

For more information on the assessment of the satisfactory completion of the End of Phase Reports, please see section 6.2 Payments based on Satisfactory Completion of Milestones and Deliverables of the Phase.

Phase 3: Operational Validation

Phase 3 will validate the toolkits that have successfully reached this Phase. Final Solution Acceptance Testing consists of two parts: a) Technical Testing with Site Acceptance Test (SAT) and b) Operational Evaluation by End Users with tests against a set of standard benchmark cases with corresponding samples that will be developed in the beginning of Phase 3. Regarding point b) Indicative Use Cases are included in Annex K. The two final solutions have to be at TRL8 which represents a 'complete' and fully operational system achieving the best performance possible for all SHUTTLE's Objectives.

The technical progress of the Contractors will be monitored through Phase 3 by way of a monthly presentation from the Contractors that will be used for reviewing against the expected outcomes (milestones, deliverables and output or results) for the Operational Validation. Monitoring activities shall commence upon signature of the Contracts. If there are issues to be discussed or clarified with the Contractors, separate online meetings will be organized, according to the principles of transparency and equal treatment.

The Technical Board will be responsible in order to achieve effective monitoring. Monitoring meetings can be held physically or online and will be agreed between the Contractor and the Technical Board at least on a monthly basis.

All the prototypes and elements of systems issued from the previous phases of the action will be documented and validated using a set of different complementary operational field trials based on benchmark cases reflecting actual multinational and multi stakeholders operations.

For the purpose of the validation by the end users of the two solutions, each Phase 3 contractor shall provide 3 identical toolkits. These toolkits will be installed and remain after the end of the PCP, in the buyers' laboratories in the following way:

Solution A	Solution B
NFI	LPC-PJ

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KEMEA	MOPS-INP
LTEC	IRCGN

At the beginning of Phase 3, three months will be dedicated to the development of the required toolkits by each contractor. The evaluation will last 2 months (indicatively starting from M4 until the end of M5 of Phase 3).

Each solution shall be fully operational and shall run during, at least, a two (2)-month period (as a reference, and not at the same time: each site test evaluation shall have its own schedule and shall run for a certain amount of time during that frame). The starting date for the operational validation at each lab shall be established by the Contracting Authority in coordination with the rest of participating authorities. After the first half of the operation time, the Technical Board will review the operation status through a SAT test and intermediate results in order to determine if there are any deviations from the expected deployment. In case the operation runs as expected, the solution will be operated for at least one (1) month without interruption.

The Technical Board will witness and assess the results of this testing and evaluation. They will make a judgement and 'qualify' their decision that TRL8 has been reached.

The Contracting Board in collaboration with the Technical Board will gather and approve Phase 3 results.

The below milestones and deliverables are indicative.

Expected outcomes		
Phase 1: Solution design		
	Objective:	The R&D providers will have performed research to: -elaborate the solution design and determine the approach to be taken to develop the new solutions and -demonstrate the technical, financial and commercial feasibility of the proposed concepts and approach to meet the challenge -obtain a good understanding of the needs of the different systems, to be able to perform field testing activities at each site in phase three - identify any potential ethical consideration with a plan of approach how to address in the next phases and in a future market solution.

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	Output and results:	A solution design, including a clear and feasible plan on how to develop the solution successfully and formulate a preliminary business plan, which includes evidence of meeting the requirements outlined in the PCP challenge.	
Milestones		By when?	How?
M1.1	Kick-off meeting	At the beginning of phase 1	Physical Meeting or Online Meeting Presentation of Phase 1 action plan between TB and contractors and Q&A
M1.2	Interim-review meeting	At the end of month 3 of phase 1	Video conference / submission of intermediate progress report
M1.3	Submission of Phase 1 final report	One month before the end of phase 1	Submission of reports
Deliverables		By when?	How?
D1.1	Contractor details & project abstracts	At the end of month 1 of phase 1	EU template (Annex J)
D1.2	Intermediate progress report	At the end of month 3 of phase 1	Intermediate progress report - Preliminary Concept Design Initial design and basic system architecture Technical confidence that the needed capability can be satisfied within cost and schedule goals
D1.3	End of phase 1 report	At the end of M4 of phase 1	Final report phase 1 including a summary of the main Results achieved, including: -Technical Plan report. Final preliminary

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			design and basic system architecture. Technical confidence that the needed capability can be satisfied within cost and schedule goals -Lists of names and location of personnel that carried out the R&D activities - Business and exploitation plan and - Innovation Impact Plan -Data management plan -Compliance with the ethics requirements -IPRs management plan
D1.4	Report main results and lessons learned for publication (EU template).	At the end of phase 1	Report EU template main results (Annex I)

Phase 2: Prototype Development			
	Objective:	The R&D providers will have performed: -Develop, demonstrate and verify prototypes in contractors' lab conditions -Present advanced plans for conducting field testing (procurers' labs) in phase 3.	
	Output and results:	-Prototypes containing the potential to meet the requirements of PCP challenge. -Documentation of the implemented prototype covering actual implementation of the design, prototype testing processes and TRL assessment at this point.	
Milestones		By when?	How?

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M2.1	Kick-off meeting	At the beginning of phase 1	Physical and/or online meeting
M2.2	Interim Demonstration of prototypes to the T.B. in lab conditions	At the mid of M4 of Phase 2	Physical meeting – D2.2 submitted Presenting achieved levels of the prototype and demonstration of the results
M2.3	FAT - Demonstration of full working prototype	At the beginning of M8 of Phase 2	Face-to-face presentation and demonstration of working prototype to the buyers group.
M2.4	Submission of End of Phase 2 Report	At the end of M8 of Phase 2	Prototype delivery Evaluation report per contractor-Update of technical and commercialisation plan.
Deliverables		By when?	How?
D2.1	Contractor details & project abstracts	At the end of month 1 of phase 2	EU template (Annex J)
D2.2	Intermediate progress report	At the end of month 5 of phase 2	Intermediate progress report including -the demonstration report presenting achieved levels of the prototype and demonstration of the results
D2.3	End of phase report	At the end of month 8 of phase 2	Final report phase 2, including : - Operational environment – where the tests have been performed, and detailed information which hardware, software and developed tools were used - Detailed information regarding testing process team with description of the roles - lists of names and location of personnel that

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			carried out the R&D activities - Detailed Technical report for the achievements of Phase 2 -FAT results and acceptance tests conducted during the development period. Where is applicable, testing values should be specified as well as the range of values depending on the passing of the test. - Updated business and exploitation plan, compliance with the ethics requirements (state of the ethical committee approval), innovation impact and IPR management plan - Test plan description of Phase 3 with detailed documentation of the steps that need to be done in order to run the test
D2.4	Report main results and lessons learned for publication (EU template).	At the end of phase 2	Report EU template main results (Annex I)
Phase 3: Operational validation			
	Objective:		Original development of a limited set of first products/solutions (the test series) that are operated and validated in real-life settings (field-testing). The objective is to provide the Buyers Group with operational solutions having the required capabilities and maturity for the vendor to provide a solution that can work in a real-life environment.
	Output and results:		The output is the operational solution per contractor where the successful completion of all field-testing in a real lab environment ensures operational requirements compliance. A complete assessment of each operational solution and comparison between different solutions.
Milestones		By when?	How?

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M3.1	Start of field testing	At the beginning of month 4 of phase 3	On site
M3.2	Demonstration to the T.B.(SAT)	At the beginning of month 5 of phase 3	On site
M3.3	End of field testing	At the end of M5 of phase 3	Written confirmation of trial closure
M3.4	Submission of End of Phase 3 Report	At the end of phase 3	Submission of reports
Deliverables		By when?	How?
D3.1A	Project abstract	At the end of month 1 of phase 3	EU template (Annex J)
D3.1B	Information obligatory for ethical issues	At the end of month 1 of phase 3	Free format
D3.2	Intermediate progress reports	At the beginning of month 4 of phase 3	Intermediate progress report. -Results regarding the development of the two toolkits. -Updated demonstration plan. Documentation will consist of testing processes, final pilot specification and description of implementation. For each test it has to be delivered: - Detailed testing strategy– name all prerequisites which are necessary for testing and how they will be achieved - Detailed information regarding testing process team with description of the roles

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			- Test plan description with detailed documentation of the steps that need to be done in order to run the test.
D3.3	SAT report	At the end of phase 3	-Results of site acceptance testing - where is applicable, testing values should be specified as well as the range of values depending on the passing of the test.
D3.4	End of Phase Report	At the end of phase 3	- The analysis of the outcomes of the project and results of the physical tests including: 1. Summary of the main results achieved 2. Installation & integration report 3. Traceability Matrix 4. Objective of the demonstrating 5. lists of names and location of personnel that carried out the R&D activities 6. Summary of the features which were demonstrated. 7. Functionality on TRL8 of all demonstrated features -Technical report -SAT Report : Results for each test - where is applicable, testing values should be specified as well as the range of values depending on the passing of the test. - Business and exploitation plan, compliance with the ethics requirements, completion of the innovation impact evaluation form and IPR management Plan
D3.5	User Manual & Training	At the end of phase 3	Manuals delivery & Training report
D3.6	Report main results and lessons learned for publication	At the end of phase 3	EU Template (Annex I)

Milestones and Deliverables for the Phases 2 and 3

Any changes will be included in the respective Phase's call-off stage.

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A report including the IPR measures taken by the contractor to protect the results and lists of names and location of personnel that carried out the R&D activities should be provided at the end of each phase. At the end of the PCP phase 3, contractors must agree on the text for a summary of overall lessons learnt and results achieved from the PCP, for publication. It should be delivered by Month 21. (October 2021)

2.5 Tender closing time

Tender closing time will be the 20th of November 2019 at 12:00h Athens time.

2.6 Procurer(s) and other parties involved in the PCP

2.6.1. Contracting Authority

This procurement relates to a joint PCP that will be carried out by the following **Contracting Authority**: KENTRO MELETON ASFALEIAS (KEMEA), Greece.

The Contracting Authority is appointed to coordinate and lead the joint PCP, and to sign and award the framework agreement and the specific contracts for all phases of the PCP, in the name and on behalf of the following **buyers' group**:

-Ministere De L'interieur (MININT), and its two forensic laboratories: Forensic and Criminal Intelligence Agency of the French Gendarmerie (MININT-IRCGN) and Forensic laboratory of the French national police (MININT-INPS), France

-Netherlands Forensic Institute (NFI), The Netherlands,

-Lietuvos Teismo Ekspertizes Centras (LTEC), Lithuania,

-Ministério da Justiça (Polícia Judiciária) Judiciary Police - Scientific Police Laboratory (PJ - LPC), Portugal

-Ministry Of Public Security – Israel National Police (MOPS – INP), Israel.

The Contracting Authority is part of the buyers' group.

2.6.2. Buyers' Group

The procurers in the buyers group have the following background and profile:

1. The **Centre for Security Studies**, Ministry of Citizen Protection (KEMEA) **is a think tank on homeland security policies and an established research centre** since 2005 (L. 3387/2005) within the Hellenic Ministry of Citizen Protection, aiming to **support security policy implementation in Greece** at a strategic and national level. More specifically, the activity of KEMEA includes Research and Development in the context of National and European projects and in close cooperation with Hellenic Police, working under the auspice of the Ministry

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of Citizen Protection and Training of the practitioners in new systems and technologies. KEMEA also **provides advisory and consulting services to the Ministry of Citizen Protection** as well as to other Public and Private authorities on safety and security issues.

A main objective of KEMEA is to bring together all national Law Enforcement Agencies (LEAs) and Border Guard Authorities (Police, Fire Service, Coast Guard, Civil Protection Agency, etc.) and to enable them to collaborate and interconnect with corresponding agencies, research institutions and the industry from Europe. This dedicated approach to exploring synergies, establishing communication links and working together to produce end user driven research on all fronts of the Security Sector during the last decade, has earned KEMEA its participation in numerous National and EC R&D projects. In these projects, in 2015, KEMEA has carried out a comprehensive study called "Hellenic Integrated Border Security and Surveillance Systems for Sea and Land Borders", which included requirements for the concept of operation, suggested areas of monitoring and finally technical requirements and associated metrics for the competitive procurement process. Additionally, in 2011, KEMEA completed a comprehensive study for the development of the National Command Centre (NCC) in Greece in the framework of the EUROSUR regulation. KEMEA was responsible for the procurement of cutting-edge technological equipment for the Hellenic Police which significantly improved the existing capabilities of its CBRN laboratory, DNA analysis subdivision and Ballistics analysis laboratory of the Criminal Investigation Division. Accompanying soft actions, organized by KEMEA, also helped the Hellenic Police achieve compliance with relevant EU directives and promoted collaboration with respective agencies of other EU countries through the transfer of know-how and common training activities. In addition, KEMEA held international high-level workshops with the participation of political and institutional figures, police officers and expert scientists from around Europe to assist in the networking of the laboratory staff.

2. The MININT-IRCGN is an institute of forensic science. In this place, many departments with different specialties work together to search for scientific truth in the criminal process. The military status of the scientific gendarmes enables them to work in all places and at all times, giving this unit an operational status recognized throughout the world.

The MININT-IRCGN reports to the headquarters of the French Gendarmerie for the following posts:

- **carry out, at the request of judicial police officers (OPJ) and magistrates, technical or scientific examinations,** as well as at the exclusive request of magistrates. These various activities, carried out in

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accordance with the rules of criminal procedure, give rise to the drawing up of reports;

- **to provide, when necessary (serious crimes or disasters), to the directors of investigations, the necessary support** for the operation of technical and scientific sampling or assistance in the identification of victims;
- **directly assist in the training of criminal identification technicians** and the training of investigators (at all levels);
- **to follow, in all fields of forensic science, the research** required by the development of techniques of criminal investigation.

In recent years, and increasingly frequent, the Institute, recognized as a centre of excellence, has assisted its experts in numerous administrations and it is involved in various interministerial technical or normative work, notably on cybercrime, Video surveillance, document fraud, improvised explosive devices, protection of fortifications, intervention in contaminated environments, marking products in the context of the protection of property, etc.

The French Forensic Institute of the National Police (Institut national de police scientifique) – MININT-INPS – is part of the French Ministry of Interior. It is a state establishment created by the clause 58 of the law 2001 – 1062 (15 November 2001) on the French interior security, and organised by the decree 2004 – 1211 (9 November 2004). In 2016, INPS employs 815 people (75% of which are scientists). MININT-INPS is specialized in forensic technical and scientific investigations. The establishment consists of a **central coordination unit (Lyon) and five forensic laboratories covering the national territory**, located in Lille, Paris, Lyon, Marseille and Toulouse. The main activities of the laboratories are on-request forensic science analyses for police investigations with associated reporting in court cases (118,000 cases in 2016), the development and/or improvement of methods in the area of ballistics, chemistry, toxicology and biology in collaboration with universities and research institutes (for example, with the French National Centre for Scientific Research, CNRS) and lastly, the training of forensic scientists and police officers.

The laboratories are structured into eight technical departments which offer important skills to legal applicants: ballistics, biology (DNA), documents, illicit drugs, arsons/explosions, toxicology, physics and trace analysis (gunshot residues, glass, paints, etc.). MININT-INPS has also a role of an adviser in needs of police services which allows it to be a bridge between manufacturers and end-users.

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INPS is active member of the European Network of Forensic Science Institutes (ENFSI).

3. The **Netherlands Forensic Institute** (NFI) is one of the world's leading forensic laboratories. From its state-of-the-art, purpose-built premises in The Hague, the Netherlands, the NFI provides products and services to a wide range of national and international clients.

4. The Forensic Science Centre of Lithuania (LTEC) is a governmental institution, part of law enforcement system, established under Ministry of Justice of the Republic of Lithuania, acting as such since 1958. The main activities of FSCL: **performance of forensic examinations ordered by Courts**, prosecutors, pre-trial investigators in criminal and civil cases; scientific and methodical activity related to usage of forensic examination; **creation of investigative methods and methodologies** for forensic examinations; **preparation of bills and other legal acts** regulating the questions of forensic examination, criminology and usage of special knowledge; **education and training of forensic experts** and issuance of qualification in different types of forensic examination; collaboration with other Lithuanian and foreign examination institutions and scientific institutions.
LTEC performs **38 types of forensic examination**, including paints, glass, fibres, GSR, plastic and so on. LTEC employs 145 persons, including 109 forensic experts, who are registered in the register of forensic experts of the Republic of Lithuania, maintained by the Ministry of Justice. The activities of LTEC are regulated by Laws – Criminal procedure, Civil procedure codes of the Republic of Lithuania, Law on administrative proceedings of cases of the Republic of Lithuania, Law on forensic examination of the Republic of Lithuania and by lower legal acts such as Constitution of LTEC, certified by the Minister of Justice, Rules on performance of forensic examination in LTEC, certified by the Minister of Justice, etc. Annually experts of LTEC perform about 4300 forensic examinations, participating in approximately 500 court proceedings and other investigative proceedings, execute about 10 scientific researches, give consultations, etc.

LTEC participates in the activities of ENFSI (European Network of Forensic Science Institutions, www.enfsi.org) since 1995 and in the activities of BNFSI (Baltic Network of Forensic Science Institutions) since 2005. LTEC is accredited under ISO 17025 standard.

LTEC is always invested in the technologies which are necessary for aspects of its work. It is well equipped with a wide range of survey equipment: FTIR, Raman,

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MSP, ESM, XRD, GS-MS, TLC, RI measurement, cross-sections, microscopic investigations, and is accredited by ISO 17025 standard.

5. The Polícia Judiciária (PJ) is the Portuguese higher criminal police body, hierarchically organized under the aegis of the Ministry of Justice.

PJ's mission consists in assisting the judicial and prosecuting authorities with investigations, by developing and promoting preventive, detection and investigative actions.

Laboratório de Polícia Cientifica (LPC) – Scientific Police Laboratoryis one of the Polícia Judiciária support units, with the following tasks:

Search, collect, process, record traces and perform skills in the various fields ofchemistry, physics, ballistics, biology, questioned documents, handwriting, fingerprint and toxicology;

Implement new types of expertise and develop the existing;

Disseminate scientific and technical information that is appropriate to approach before new crime scenarios;

Provide technical and scientific advice in the field of their expertise in forensic sciences;

Management system for quality, administrative and technical activities;

Ensure technical and scientific participation of PJ, on forensic sciences, in the different national community and international instances.

6. The Israeli National Police (INP) is under the Ministry of Public Security (MOPS), composed of some 30,000 sworn officers, reinforced by 50,000 volunteers. It is the sole responsible body for policing and law enforcement in Israel. The responsibilities of INP cover all aspects from the local through the national levels. The Israeli National Police is guided by the values and principles of the democratic government of the State of Israel.

The main areas on which the Israeli Police focuses are:

Public Security – The prevention and fight against terrorism, response to calls from citizens, arrangement of security procedures and organisation of volunteers (Civil Guard).

Maintaining Law and Order – Response to calls regarding public disturbances, effective response to demonstrations and unlawful gatherings, licensing –

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establishment of limits and conditions for businesses, responsibility for detainees and implementation of court orders.

Fighting Crime – Investigation of crimes and apprehension of offenders, detection and exposure of unreported crimes such as drug trafficking, extortion and instructions to the public on how to protect themselves and their property.

Traffic Enforcement – Directing traffic and working to ensure smooth traffic flow, enforcement of traffic laws, investigation of traffic accidents and apprehension of traffic offenders. In addition, instructing the public on traffic safety and participating in the decision-making process in matters such as the planning and construction of roads, placement of road signs and traffic lights, etc.

Border Security – The Border Police Serves as the operational arm of the Israel National Police. The multi-purpose force deals with challenges relating to public security, terror, severe crime, rioting, guarding sensitive sites and securing rural areas.

2.7 Contracting approach

The PCP will be implemented by means of a framework agreement with call-offs for specific contracts for each of the 3 R&D phases (altogether 'Contracts').

The law governing the Contracts is Greek law, because of the location of the Contracting Authority. There will be no renegotiation. The Framework Agreement will remain binding for the duration of all Phases for which Contractors remain in the PCP.

KEMEA as the Contracting Authority will be required in all Phases for which Contractors remain in the PCP. Tenderers that are awarded a framework agreement will also be awarded a specific contract for phase 1 (evaluation of tenders for the framework agreement and phase 1 are combined). Tenderers are therefore asked not only to submit their detailed offer for phase 1, but also to state their goals, and to outline their plans (including price conditions) for phases 2 and 3 — thus giving specific details of the steps that would lead to commercial exploitation of the R&D results.

Phase 1: Solution Design. Following the tendering stage, a framework agreement and a specific contract for phase 1 will be awarded to a minimum of four (4) contractors.

Phase 2: Solution Prototype. A call-off will be organised for phase 2, with the aim of awarding a minimum of three (3) phase 2 contracts. Only offers from contractors that successfully completed phase 1 will be eligible for phase 2. The procurers will validate the phase 2 prototypes in the contractors' premises.

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Phase 3: Operational Validation. A second call-off will be organised for phase 3, with the aim of awarding a minimum of two (2) phase 3 contracts. Only offers from contractors that successfully completed phase 2 will be eligible for phase 3. The procurers will validate the phase 3 prototypes in the their labs. Three prototypes of each solution will be installed in the buyers' laboratories (three labs will get Solution A, the rest three will get Solution B).

Offers for the next phase will be requested together with the end-of phase deliverables of the previous phase. In this case all contractors of the previous phase will be invited to make offers for the next phase, successful completion of the previous phase is evaluated before evaluating the offers for the next phase, to determine which offers are eligible to proceed to the evaluation of offers for the next phase.

A Contractor must have been awarded a Specific Contract for Phase 1 in order to be considered eligible for Phase 2; a Contractor must have been awarded Specific Contracts for Phases 1 and 2 in order to be considered eligible for Phase 3.

2.8 Total budget and budget distribution (per phase)

The total budget for this PCP is 5,967,741.94 Euros.

The maximum duration per phase, the minimum number of contractors that are expected to be selected per phase, the maximum budget per phase and the maximum budget per bidder (excluding VAT and including other taxes and duties that may be applicable to the supplier) are given in the table below:

SHUTTLE PCP Phases	Minimum Number of contractors expected to be selected	Maximum budget per contractor	Total cost per phase
PCP Phase 1 (Solution Design)	4	241,935.48€	967,741.94€
PCP Phase 2 (Prototype Development)	3	806,451.61€	2,419,354.84€
PCP Phase 3 (Operational validation)	2	1,290,322.58€	2.580.645,16€

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For phases 1 and 2, contracts will be financed until the remaining budget is insufficient to fund the next best tender. The exact number of contracts finally awarded will thus depend on the prices offered and the number of tenders passing the evaluation. As leftover budget from the previous phase will be transferred to the next phase, the total budget available for phases 2 and 3 may eventually be higher than stated here (but the maximum budget per contractor for phases 2 and 3 will remain the same). The lower the average price of tenders, the more contracts can be awarded. However, the total value of the contracts awarded can also be lower than initially expected if there are fewer tenders than expected that meet the minimum evaluation criteria.

Since all Contractors will be paid by the Contracting Authority by way of centralised payments, and as KEMEA is based in Greece , EU rules and the valid Greek VAT legislation will be applied.[7]

[7] See indicatevely, VAT Council Directive 2006/112/EC and Law No 2859/2000 Greek VAT Code. According to the later, the 24% VAT applies.

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2.9 Time schedule

General duration of each phase is as follows:

- Phase 1: Solution Design (6 months)
- Phase 2: Prototype Development (9 months)
- Phase 3: Operational Validation (6 months)

The estimated planned schedule for the SHUTTLE PCP is presented in the following time schedule:

Date	Activity
30/11/2018	Publication of prior information notice in TED
20/9/2019	Publication of contract notice in TED
10/10/2019	Deadline for submitting questions about tender documents
20/10/2019	Deadline for Contracting Authority to publish replies to questions (Q&A document)
20/11/2019	Deadline for submission of tenders for the framework agreement and phase 1
25/11/2019	Opening of tenders
16/1/2020	Tenderers notified of decision on awarding contracts
26/1/2020	End of the standstill period
30/1/2020	Signing of framework agreements and phase 1 specific contracts
31/1/2020	Publication of contract award notice in TED

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Date	Activity
01/2/2020	**Start of phase 1 Solutions Design**
01/2/2020	Names of winning phase 1 contractors and their project abstracts will be sent to the EU and will be published on the project's website www.shuttle-pcp.eu
30/4/2020	Deadline for phase 1 interim milestone(s)/interim deliverable(s)
15/5/2020	Interim payments
1/7/2020	Deadline for phase 1 final milestone(s)/final report/deliverable(s)
19/7/2020	Assessment of phase 1 final milestone(s)/final report/deliverable(s)
20/7/2020	Phase 1 contractors notified as to whether they have completed this phase satisfactorily and successfully
30/7/2020	End of standstill period
31/7/2020	End of phase 1 Solutions design
31/7/2020	Summary of the results and conclusions achieved by each contractor during the phase sent to the EU
31/7/2020	Payment of balance for phase 1 to contractors that completed this phase satisfactorily
20/5/2020	Launch call-off for phase 2 (only offers from contractors that successfully completed phase 1 are eligible)
25/5/2020	Deadline for submitting questions on phase 2 call-off documents
1/6/2020	Deadline for Contracting Authority to circulate replies to questions to phase 2 tenderers
1/7/2020	Deadline for submitting phase 2 offers

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Date	Activity
1/7/2020	Opening of phase 2 offers
20/7/2020	Contractors notified of decision on awarding phase 2 contracts
30/7/2020	End of standstill period
31/7/2020	Signing of phase 2 specific contracts
1/8/2020	**Start of phase 2 Prototype Development**
1/8/2020	Names of winning phase 2 contractors and their project abstracts will be be sent to the EU and will be published on project's website www.shuttle-pcp.eu
15/12/2020	Deadline for phase 2 interim milestone(s)/deliverable(s)
4/1/2021	Interim payments
15/3/2021	Lab testing of the prototype developed during phase 2
1/4/2021	Deadline for submission of phase 2 final milestone(s)/final report /deliverable(s)
20/4/2021	Assessment of phase 2 final milestone(s)/final report/deliverable(s)
20/4/2021	Phase 2 contractors notified as to whether they have completed this phase satisfactorily and successfully
30/4/2021	End of standstill period
30/4/2021	End of phase 2
30/4/2021	Summary of the results and conclusions achieved by each contractor during the phase sent to the EU
30/4/2021	Payment of balance for phase 2 to contractors that completed this phase satisfactorily

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Date	Activity
20/2/2021	Launch call-off for phase 3 (only offers from contractors that successfully completed phase 2 are eligible)
25/2/2021	Deadline for submitting questions about phase 3 call-off documents
1/3/2021	Deadline for Contracting Authority to circulate replies to questions to phase 3 tenderers
1/4/2021	Deadline for submitting phase 3 offers
1/4/2021	Opening of phase 3 offers
20/4/2021	Contractors notified of decision to award phase 3 contracts
30/4/2021	End of standstill period
30/4/2021	Signing of phase 3 specific contracts
3/5/2021	**Start of phase 3 Operational Validation**
3/5/2021	Names of winning phase 3 contractors and their project abstracts will be be sent to the EU and will be published on project's website www.shuttle-pcp.eu
1/8/2021	Deadline for phase 3 interim milestone(s)/deliverable(s)
14/8/2021	Interim payments
1/10/2021	Deadline for submission of phase 3 final milestone(s)/final report/ deliverable(s)
17/10/2021	Assessment of phase 3 final milestone(s)/final report/deliverable(s)
17/10/2021	Phase 3 contractors notified as to whether they have completed this phase satisfactorily
27/10/2021	End of standstill period
29/10/2021	End of phase 3

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Date	Activity
29/10/2021	Summary of the results and conclusions achieved by each contractor during the PCP sent to the EU for publication purposes
29/10/2021	Payment of balance for phase 3 to contractors that completed this phase satisfactorily

The SHUTTLE Buyers Group reserves the right to adjust the time schedule under specific and fully justified conditions. This will be communicated in a timely manner to all Tenderers/ Contractors.

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2.10 IPR issues

2.10.1.Ownership of results (foreground)

Each contractor will keep ownership of the Intellectual Property Rights (IPRs) attached to the results they generate during the PCP implementation. The tendered price is expected to take this into account.

The ownership of the IPRs will be subject to the following:

- the buyers group has the right to:
  - access results, on a royalty-free basis, for their own use
  - grant upon notification of the contractors (or to require the contractors to grant) non-exclusive licences to third parties to exploit the results under fair and reasonable conditions (without the right to sub-license)
- the buyers group has the right to require the contractors to transfer ownership of the IPRs back to the buyers' group if the contractors fail to comply with their obligation to commercially exploit the results *(see below)* or use the results to the detriment of the public interest *(including safety and security interests)*.

2.10.2. Declaration of pre-existing rights (background)

The ownership of pre-existing rights will remain unchanged.

In order to be able to distinguish clearly between results and pre-existing rights (and to establish which pre-existing rights are held by whom):

- tenderers are requested to list the pre-existing rights for their proposed solution in their offers
- procurers and contractors will be requested to establish a list of pre-existing rights to be used before the start of the contract.

The list of pre-existing rights held by the procurers are presented in Annex H.

2.10.3.Commercial exploitation of results

The market potential of the results is estimated at 71 members in 38 countries according to the members of the ENFSI- this part of the market can be estimated to around 100 forensic laboratories.

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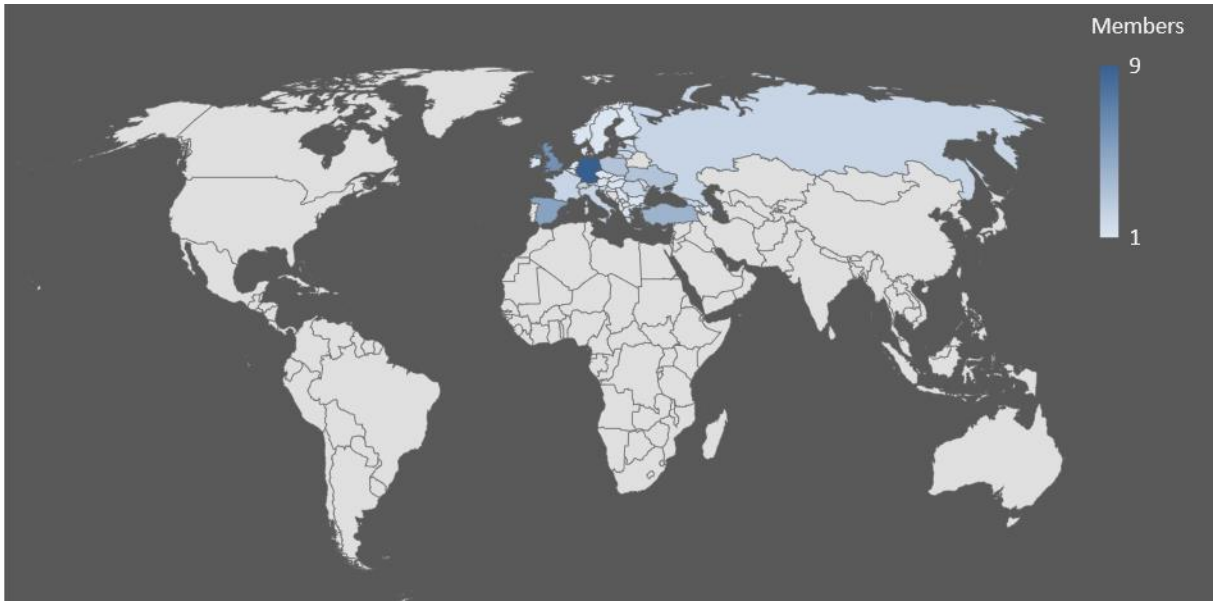

Figure 1 ENFSI Members (http://enfsi.eu/about-enfsi/members/)

Moreover, on the demand side, the targeted market is constituted by the following potential customers:

- Research Institutes in the field of forensic,

- Private companies.

In order to do the necessary estimations to perform the preliminary calculations, the SHUTTLE consortium has defined a standard sample to work with. The sample consists of a virtual tape lifts or other lifting system having a total area equal to the area of an A4 paper, as targeted by the SHUTTLE project.

Based on this virtual tape lifts or other lifting system, the SHUTTLE partners have defined the time needed for the examination methods that each laboratory uses. The sum of the specific times of examination of each microtrace provides an estimation of the necessary time, in hour, to examine the full A4 virtual tape lifts or other lifting systems containing 170 microtraces.

In this estimation, only optical microscopy is included as this is the identified bottle neck regarding the costs and duration of examinations compared to the SHUTTLE Toolkit performance. Other conventional examination methods (GRIM, SEM/EDS, ICPMS, FTIR etc.) are complementary and will continue to be performed in the same way after the use of the SHUTTLE Toolkit, which explains why they are not considered in this estimation.

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The example given leads to an average of 39,9 hour of work to perform this analysis.

In order to assess the benefits brought by the SHUTTLE Toolkit, the SHUTTLE partners have then estimated the necessary methods and instruments that they currently use to conduct the examination of the microtraces contained in the A4 virtual sample. They have taken into account the tasks and the instruments that the forensic laboratories are currently using to perform their daily duties. Moreover, into the analysis made they have taken into consideration information regarding the manpower, man hours, analysed traces, costs spent for each of their tasks.

The SHUTTLE partners have made an estimation of the SHUTTLE Toolkit expected performance for the examination of the same A4 virtual tape lifts or other lifting systems containing 170 microtraces. This estimation also describes how this performance will benefit the laboratories. During this estimation, it quickly appeared that each laboratory will get different kind of benefits:

1. Laboratories that are less equipped are performing less tasks and that is the reason why they will not consume much time in their examination. Those laboratories will have the benefit of new examination options by using the SHUTTLE Toolkit.
2. Other laboratories that are well equipped will have the benefit of consuming less time for the examination of traces, as they can use their conventional instrumentation more effectively, and with the SHUTTLE Toolkit they will be able to collect from crime scene and analyze more traces than before in less time. (The time that they would consume for optical microscopy to examine a limited number of traces, they can use it for examining more traces (collected with the novel tape lifts or other lifting systems and analyzed initially fast by the SHUTTLE Toolkit automatically) with their complementary conventional techniques for better identification and discrimination power).

So, with SHUTTLE, the consortium hopes to reduce the estimated time to perform the tape lifts or other lifting systems examination from 39,9 hours down to 1 hour. This 97% reduction in tape lifts or other lifting systems examination time is a very ambitious but realistic target and would allow to save 38,9 hours of work per tape lifts or other lifting systems examined.

Also, all laboratories estimated that there will be considerable total yearly cost savings , around 140.000 euros, by the usage of the SHUTTLE Toolkit. This savings estimation was based on:

1. The workload (number of hours of work) that the forensic analysts reduced due to the use of SHUTTLE.

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2. The deduction of spare equipement by a forensic laboratory due to the use of the SHUTTLE Toolkit.

The contractors are expected to start commercial exploitation of the results at the latest four years after the end of the framework agreement.

The contractors are required to undertake specific activities beyond product development to commercially exploit the results, by building a concrete exploitation plan, including a commercialization strategy, that should explain the proposed approach to commercially exploit the Results of the PCP in order to bring a viable product to market. Based on the indications for the market as presented in this section, contractors should prepare a detailed market analysis providing a first outlook on the cost/benefit ratio in the transition towards full scale deployment.

The procurers themselves should also plan to help remove barriers to the introduction onto the market of the solutions to be developed during the PCP (e.g. promotion of R&D results among other public procurers, contribution made by the demand side to regulation, standardisation, and certification).

The business plan is expected to take into account the involved stakeholders and value chain. The plan should also list those topics that are very relevant for the commercialisation, but for which no quantitative data are available yet.

Furthermore, a market analysis is meant to give a global qualitative insight in the market potential of the PCP services in both the test regions as well as on a European scale. The market analysis should at least indicate possible first-to-target deployment areas (geographical/services) and possible deployment barriers (e.g. political, technical, organisational, financial, legal, ethical). Feasibility regarding principles for licensing, business models, pricing, and distribution should also be included. Describe the innovation aspects of the proposed solution in respect to the state-of-the-art. This part should focus on the added value of the SHUTTLE solution, compared to the current state-of-the-art on the market services (not compared to solutions still in pilot phases) with respect to:

- Comfort for users and impact on “willingness to pay”
- Cost-benefit ratio for forensic laboratories
- Required public funding

Contractors must consider the future certification of their solutions or contribution to standardisation. The feasibility of the business plan to commercially exploit the R&D results (Technical Offer) will be assessed as part of the Award Criteria. Furthermore, the commercialisation plan will be part of the End-of-Phase reports of all three

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Phases, as well as of the offers for the Phases 2 and 3. In addition to the commercialisation activities performed by the Contractors, the Buyers Group Members will promote the R&D Results. The Buyers' Group Members will also actively disseminate the Contractors' Results at the end of each Phase via relevant public and industry related activities. It is the the Buyers' Group objective to help develop a working market for such type of solutions in order to ensure their usability and sustainability and to help overcome possible, commonly defined deployment barriers.

SECTION 3: EVALUATION OF TENDERS

3.1 Eligible tenderers, joint tenders and subcontracting

Participation in the tendering procedure is open on equal terms to all types of operators, regardless of their size or governance structure.

Tenders may be submitted by **a single entity** or in collaboration with others. The latter can involve either submitting **a joint tender or subcontracting**, or a combination of the 2 approaches.

Concretely:

-Natural persons residing in one of the following countries:

• EU and EEA (European Economic Area) member states.

• H2020 Associated Countries having signed a Bilateral Agreement with the EU on security procedures for exchanging and protecting classified information

-Legal entities established under the law of the following countries and having their central administration or principal place of business or registered office (seat) in one of the following countries:

• EU and EEA (European Economic Area) member states.

• H2020 Associated Countries having signed a Bilateral Agreement with the EU on security procedures for exchanging and protecting classified information

-Groups of economic operators of the above natural persons or legal entities, submit.

Participation in the **open market consultation** is not a condition for submitting a tender.

⚠ **Attention:**

There will, however, be a requirement relating to the place of performance of the R&D services *(see below 3.4 C.)*.

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For phases 2 and 3, participation is limited to tenderers that successfully completed the preceding phase.

For the present procurement, **the Open Procedure is adopted.**

3.1.1.Joint Tenderers-Consortia Tenders

A Consortium (a combination of firms) may submit a Joint Tender. Any type of natural or legal persons (including non-profit entities properly registered like universities) shall be entitled to submit Tenders either individually or by way of an association or consortium comprising several Tenderers set up temporarily for the purposes of this PCP.
For joint tenders:

- The group of tenderers must assume joint and several liability for the performance of the contract.
- The group of tenderers must mandate one of them with the power to sign the framework agreement and specific contracts provide in their name and on their behalf ('Lead Contractor').
- To this single authorised representative (Lead Tenderer) all communications shall be directed and accepted until this Competition has been completed or terminated. Correspondence from any other person or entity will NOT be accepted, acknowledged or responded to.
- Prior to and as a condition of award of the Contracts, the successful Tenderer shall be required to designate a single authorised representative (Lead Contractor), who will carry overall responsibility for the Contracts irrespective of whether or not tasks are to be performed by a Subcontractor (see below) or other consortium member. The Lead Contractor shall sign the Tender and Contracts in the name of and on behalf of all members, and shall be responsible for all aspects and execution of the contracts without prejudice to the existence of joint powers that they may grant for receiving and making payments of a significant amount. All members of the consortium shall be jointly and separately bound to fulfil the terms of the Framework Agreement and Specific Contracts. The Lead Contractor shall be mandated to act on behalf of the consortium for the purposes of the contracts and shall have the authority to bind the consortium.

3.1.2 Subcontracting

Subcontracting refers to any contract or agreement between the Tenderer and a third party, whereby that third party agrees to provide services to the Tenderer to enable

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or assist the Tenderer to provide the R&D Services or any part thereof to the Contracting Authority.

Subcontracting is permitted in each Phase of this Competition. However, no essential parts of the Contracts can be subcontracted, nor the management of the PCP.

For subcontracting:

- The tender must mention which parts of the contract will be subcontracted
- The contractors remain fully liable to the procurers for the performance of the contract (and that is the reason why subcontracts must reflect the rules of the H2020 grant agreement, including as relates to the place of performance, the definition of R&D services, confidentiality, results and IPRs, the visibility of EU funding, conflicts of interest, language, obligation to provide information and keep records, audits and checks by the EU, the processing of personal data, liability for damages, ethics and security requirements).

3.2 Exclusion criteria

The exclusion criteria are as follows:

Exclusion criteria	**Evidence**
A) Conflict of Interest	A) A declaration of honour
B) Bankruptcy & professional misconduct	B) A declaration of honour
C) Criminal offences	C) A Declaration of Honour
D) Proposed solution already available in the market	D) A Declaration of Honour

⚠ Tenderers that do not comply with these criteria will be excluded.

A) Conflict of interest

Tenderers that are subject to a conflict of interest may be excluded. If there is a potential conflict of interest, tenderers must immediately notify the Contracting Authority in writing.

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A conflict of interest covers both personal and professional conflicts.

Personal conflicts can arise in any situation where the impartial and objective evaluation of tenders and/or implementation of the contract is compromised for reasons relating to economic interests, political or national affinity, family, personal life *(e.g. family of emotional ties)* or any other shared interest.

Professional conflicts might occur in situations where the contractor's (previous or ongoing) professional activities affect the impartial and objective evaluation of tenders and/or implementation of the contract.

⚠ **Attention:** If an actual or potential conflict of interest arises at a later stage *(i.e. during the implementation of the contract)*, the contractor must contact the Contracting Authority, who is required to notify the EU and take all necessary steps to rectify the situation. The EU may verify the measures taken and require additional information to be provided and/or further measures to be taken.

B) Bankruptcy & professional misconduct

A tenderer or contractor can be excluded from further participation in the PCP if the former or any Sub- Tenderer on whose resources it relies upon in this procurement:

- Is bankrupt or is being wound up, is under compulsory administration or is the subject of a composition or has indefinitely stopped its payments or is subject to a prohibition on conducting business.
- Is the subject of proceedings for a declaration of bankruptcy, for an order for compulsory winding up or administration by the court or composition or any other similar proceedings.
- Has been convicted by a judgment which can apply as *res judicata* for an offence relating to professional practice. Has been guilty of grave professional misconduct and the procuring agencies can prove this.
- Has not fulfilled its obligations relating to social insurance charges or taxation in its own country.
- Shown significant or persistent deficiencies in the performance of a substantive requirement under a prior public contract, a prior contract with a contracting entity or a prior concession contract which led to early termination of that prior contract, condemned for damages or other comparable sanctions.

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Attention: Should there be any doubt as to any of these criteria, tenderers may be requested to provide additional information such as an extract of the local chamber of commerce.

C) Criminal offences

If the Procuring Entity becomes aware that a tenderer, or a representative of the tenderer, or Sub- Tenderer, under a judgment that has entered into final legal force has been sentenced for a criminal offence listed below, such tenderer can be excluded from the PCP. Tenderers must confirm by signing the Declaration of honour in Annex A that they are not subject to any of the criminal offences indicated below:
Participation in a criminal organization; this includes the following conduct: Conduct by any person who, with intent and with knowledge of either the aim and general criminal activity of the organization or the intention of the organization to commit the offences in question, actively takes part in:

- Activities of a criminal organization, which shall be taken to mean a structured association, established over a period of time, of more than two persons, acting in cooperation with a view to committing offences which are punishable by deprivation of liberty or a detention order of a maximum of at least four years or by a more serious penalty, whether such offences are an end in themselves or a means of obtaining material benefits and, where appropriate, of improperly influencing the operation of public authorities, even where that person does not take part in the actual execution of the offences concerned and, subject to the general principles of the criminal law of the Member State concerned, even where the offences concerned are not actually committed;

- The organization's other activities in the further knowledge that its participation will contribute to the achievement of the above-mentioned criminal activities;

- Conduct by any person consisting in an agreement with one or more persons that an activity should be pursued which, if carried out, would amount to the commission of an offence as mentioned above, even if that person does not take part in the actual execution of the activity;

- Corruption; corruption shall be considered as deliberately promising or giving, directly or through an intermediary, an advantage of any kind whatsoever to a public official, for himself or for a third party to act or refrain from acting in accordance with his duty or in the exercise of his functions in breach of his official duties; or in the private sector, directly or through an intermediary, deliberately promising, offering or giving an undue advantage of any kind whatsoever, for

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himself or for a third party, in the course of business activities of that person in order that the person should perform or refrain from performing an act, in breach of his duties;

- Fraud; fraud meaning both expenditure fraud and revenue fraud. This means any act or deliberate omission involving the use or presentation of false, incorrect or incomplete statements or documents which has as its effect the misappropriation or wrongful retention of funds from, or the illegal diminution of the resources of the general budget of the European Communities or budgets managed by, or on behalf of, the European Communities, non-disclosure of information in violation of a specific obligation, with the same effect, the misapplication if such funds for the purpose other than those for which they were originally granted or the misapplication of a legally obtained benefit with the same effect;

- Money laundering or terroristic financing, which shall be taken to mean:

o The conversion or transfer of property, knowing that such property is derived from criminal activity or from an act of participation in such activity, for the purpose of concealing or disguising the illicit origin of the property or of assisting any person who is involved in the commission of such activity to evade the legal consequences of his actions;

o The concealment or disguise of the true nature, source, location, disposition, movement, rights with respect to, or ownership of property, knowing that such property is derived from criminal activity or from an act of participation in such activity;

o The acquisition, possession or use of property, knowing, at the time of receipt, that such property was derived from criminal activity or from an act of participation in such activity;

o Participation in, association to commit, including attempts to commit, aiding, abetting, facilitating and counselling the commission of any of the actions mentioned in the foregoing three paragraphs;

- Terrorist offences or offences linked to terrorist activities

o Child labour and other forms of trafficking in human beings as defined in Article 2 of Directive 2011/36/EU of the European Parliament and of the Council of 5 April 2011 on preventing and combating trafficking in human beings and protecting its victims, and replacing Council Framework Decision 2002/629/JHA.

The exclusion criteria will remain unchanged for the entire duration of the PCP, thus applying also for the call-offs for the Phases 2 and 3.

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D) Proposed solution already available in the market

Tenderers whose proposed solution is already available in the market may be excluded.

3.3 Selection criteria

The purpose of the Selection Criteria is to determine whether a Tenderer has the financial, economic, technical and professional capacity necessary to carry out and perform the work.

The selection criteria are as follows:

Selection criteria	**Evidence**
Ability to perform R&D up to original development of the first products or services and to commercially exploit the results of the PCP, *including intangible results in particular IPRs*	Description of the capacity, materials and equipment that are available to the tenderer for research, prototyping and limited production and supply of the first set of products or services
Demonstration of expertise and working experience required to undertake an innovative R&D project that entails relevant technology	Description of the expertise and working experience required to undertake an innovative R&D project that entails relevant technology
Ability to commercially exploit the results of the PCP, including intangible results in particular IPRs	Decription of the availability of financial and organisational structures for management, exploitation and transfer of IPRs and for generating revenue by marketing commercial applications of the results.

⚠ Tenderers that do not comply with these criteria will be excluded.

Ability to perform R&D up to original development of the first products

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Tenderers must have:

- the capacity, tools, material and equipment to:
    - carry out research and lab prototyping
    - produce and supply a limited set of first products or services and demonstrate that these products or services are suitable for production or supply in quantity and to quality standards defined by the procurers.

Demonstration of expertise and working experience are required when undertaking an innovative R&D project that entails relevant technology

Tenderers must:

- Provide a description of relevant reference and /or previous projects (executed during the last 5 years) which reflect the competences and capacity of the Tenderer in the different phases and domains of the SHUTTLE project, such as research, development, prototyping, testing and commercialisation. These references will be based on previous projects of the Tenderers and /or other members of the joint consortia and subcontractors who will be working on the project.

To describe these projects, the Tenderers will provide proof of the capacity, tools, materials and equipment to carry out research and lab prototyping and proof of the capacity to produce and supply a limited set of first products or services. Tenderers will also have to demonstrate that these products or services are suitable for production or supply in quantity and to quality standards defined by the procurers.

In addition, the Tenderes will have to prove that they are able to manage, exploit and transfer or sell the results of the PCP (including tangible and intangible results, such as new product designs and IPRs) and able to generate revenue by marketing commercial applications of the results (directly or through subcontractors or licensees).

Finally, tenderers will have to provide the necessary competences to ensure that they are able to complete this PCP project on time.

- Demonstrate the expertise and working experience required to undertake an innovative R&D project by providing a number of CVs of key personnel and competences, which they consider necessary to complete the project.
- Confirm that their organization has a Business Continuity / Disaster Recovery / Risk Management plan which ensured that the described services will be

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delivered in the event of a disruption affecting their business and will ensure continuity of supply / service from critical suppliers.
- Confirm that the they will take the appropriate level of insurance cover in case they are successful in winning the contract.

Ability to commercially exploit the results of the PCP, including intangible results in particular IPRs

Tenderers must have:

- the financial and organisational structures to:
    - manage, exploit and transfer or sell the results of the PCP *(including tangible and intangible results, such as new product designs and IPRs)*
    - generate revenue by marketing commercial applications of the results *(directly or through subcontractors or licensees)*.

⚠ **Attention:** Should there be any doubt as to any of these criteria, tenderers may be requested to provide additional information.

3.4 Award criteria

There are 2 types of award criteria (on/off criteria and weighted criteria).

- **On/off award criteria**

These are the criteria that can only have value 0 or 1 and the score of the other award criteria must be multiplied by this value (so that the total score becomes 0 if a tender scores 0 on an on-off award criterion).

Tenders must comply with the following on/off award criteria:

On/off award criteria	**Evidence**
A) Compliance with the definition of R&D services	Declaration of Honour including the evidence required below

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B) Compatibility with other public financing	Declaration of Honour
C) Compliance with the requirements regarding the place of performance of the contract	Declaration of Honour including the evidence required below
D) Compliance with ethics requirements	Declaration of Honour
E) Compliance with security requirements	Declaration of Honour

⚠ Tenders that do not comply with these criteria will be excluded. The offers for each phase will be evaluated against these criteria.

A) Compliance with the definition of R&D services

Tenders that go beyond the provision of R&D services will be excluded.

R&D covers fundamental research, industrial research and experimental development, as per the definition given in the EU R&D&I state aid framework[8]. It may include exploration and design of solutions and prototyping up to the original development of a limited volume of first products or services in the form of a test series. Original development of a first product or service may include limited production or supply in order to incorporate the results of field-testing and to demonstrate that the product or service is suitable for production or supply in quantity to acceptable quality standards.[9] R&D does not include quantity production or supply to establish commercial viability or to recover R&D costs. It also excludes commercial development activities such as incremental adaptations or routine or periodic changes to existing products, services, production lines, processes or other operations in progress, even if such changes may constitute improvements. The purchase of commercial volumes of products or services is not permitted.

8 See Point 15 of the Commission Communication on a framework for state aid for research and development and innovation (C(2014) 3282).

9 See Article XV(1)(e) WTO GPA 1994 and the Article XIII(1)(f) of the revised WTO GPA 2014.

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The definition of services means that the value of the total amount of products covered by the contract must be less than 50 % of the total value of the PCP framework agreement.

A declaration of honour and the following evidence is required:

- the financial part of the offer for the framework agreement must provide binding unit prices for all foreseeable items for the duration of the whole framework agreement
- the financial part of the offer for each phase must give a breakdown of the price for that phase in terms of units and unit prices for every type of item in the contract, distinguishing clearly the units and unit prices for items that concern products
- the offers for all 3 phases may include only items needed to address the challenge in question and to deliver the R&D services described in the request for tenders
- the offers for all 3 phases must offer services matching the R&D definition above
- the total value of products offered in phase 1 respectively phase 2 must be less than 50 % of the value of the phase 1 respectively phase 2 contract and the total value of products offered in phase 3 must be so that the total value of products offered in all phases (1,2 and 3) is less than 50% of the total value of the PCP framework agreement.

B) Compatibility with other public financing

Tenders that receive public funding from other sources will be excluded if this leads to double public financing or an accumulation of different types of public financing that is not permitted by EU legislation, *including EU state aid rules*.

A declaration of honour confirming that there is no incompatible public financing is requested as to demonstrate compliance with this criterion.

C) Compliance with requirements relating to the place of performance of the Contract

Tenders will be excluded if they do not meet the following requirements relating to the place of performance of the contract:

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- at least 50% of the total value of activities covered by each specific contract for PCP phase 1 and 2 must be performed in the EU Member States or in H2020 associated countries. The principal R&D staff working on each specific contract must be located in the EU Member States or H2020 associated countries.

- at least 50% of the total value of activities covered by the framework agreement *(i.e. the total value of the activities covered by phase 1 + the total value of the activities covered by phase 2 + the total value of the activities covered by phase 3)* must be performed in the EU Member States or H2020 associated countries. The principal R&D staff working on the PCP must be located in the EU Member States or H2020 associated countries.

The percentage is calculated as the part of the total monetary value of the contract that is allocated to activities performed in the EU Member States or in other countries associated to Horizon 2020. All activities covered by the contract are included in the calculation *(i.e. all R&D and operational activities that are needed to perform the R&D services, e.g. research, development, testing and certifying solutions)*. This includes all activities performed under the contract by contractors and, if applicable, their subcontractors.

The principal R&D staff are the main researchers, developers and testers responsible for leading the R&D activities covered by the contract.

The countries associated to Horizon 2020 are those listed as associated countries in the Participant Portal Online Manual[10].

A declaration of honour and the following evidence is required:

- the financial part of the offer must provide binding unit prices for all foreseeable items for the duration of the whole framework agreement and give a breakdown of the price for the current phase in terms of units and unit prices *(hours and unit price per hour)*, for every type of item in the contract *(e.g. junior and senior researchers)*

- a list of staff working on the specific contract *(including for subcontractors)*, indicating clearly their role in performing the contract *(i.e. whether they are principal R&D staff or not)* and the location *(country)* where they will carry out their tasks under the contract

- a confirmation or declaration of honour that, where certain activities forming part of the contract are subcontracted, subcontractors will be required to

[10] List of H2020 associated countries.

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comply with the place of performance obligation to ensure that the minimum percentage of the total amount of activities that has to be performed in the EU Member States or in countries participating in Horizon 2020 is respected.

D) Compliance with ethics requirements

Tenders will be excluded if they:

- do not comply with the following rules:
    - ethical principles *(including the highest standards of research integrity, notably as set out in the European Code of Conduct for Research Integrity*[11]*, and, in particular, avoiding fabrication, falsification, plagiarism and other research misconduct)*
    - applicable international, EU and national law
- include plans to carry out activities in a country outside the EU if they are prohibited in all Member States or plans to destroy human embryos
- include activities whose aim is to:
    - carry out human cloning for reproductive purposes
    - modify the genetic heritage of human beings in such a way as could make such changes heritable (with the exception of research relating to cancer treatment of the gonads)
    - create human embryos solely for the purpose of research or for the purpose of stem cell procurement, *including by means of somatic cell nuclear transfer*
- include activities that do not focus exclusively on civil applications

If the tender involves activities that raise ethical issues, the tenderer must submit an ethics self-assessment that:

- describes how the tender meets the legal and ethical requirements of the country or countries where the tasks raising ethical issues are to be carried out
- explains in detail how the tenderer intends to address the ethical issues identified, in particular as regards:

[11] The European Code of Conduct for Research Integrity of ALLEA (All European Academies).

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- objectives *(e.g. dealing with vulnerable populations and dual-use goods[12])*
- methodology *(e.g. involvement of children and related consent procedure and protection of data collected)*
- the potential impact *(e.g. issues relating to the dual use of goods, environmental damage, stigmatisation of particular social groups, political or financial retaliation, benefit-sharing and malevolent use of results)*.

ⓘ For information on ethics issues, *see the guidance for EU grant beneficiaries How to complete your ethics self-assessment*.

A declaration of honour is requested as evidence.

⚠ **Attention:**

Call-offs for phases 2 and 3 may request that this information shall be updated in the offers submitted for these phases.

Before starting the particular task that raises ethical issues, contractors must provide a copy of:

- any ethics committee opinion required under national law; and
- any notification or authorisation for activities raising ethical issues required under national law.

The framework agreement contains a provision on ethics.

E) Compliance with Security Requirements

Tenders will be excluded if they do not:

- comply with:
  - EU, national and international law on dual-use goods or dangerous materials and substances
  - the security aspect letter (SAL) annexed to the H2020 grant agreement and the Decision No 2015/444[13]

[12] See Article 2(1) EU Export Control Regulation No 428/2009.

[13] Commission Decision 2015/444/EC, Euratom of 13 March 2015 on the security rules for protecting EU classified information

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Tenders themselves must not contain any classified information.

If the output of activities or results proposed in the tender raise security issues or uses EU-classified information, the tenderer must show that these issues are being handled correctly. In such a case, tenderers are required to ensure and provide evidence of the adequate clearance of all relevant facilities. They must examine any issues (*such as those relating to access to classified information or export or transfer control*) with the national authorities before submitting their offer. Tenders must include a draft security classification guide (SCG), indicating the expected levels of security classification.

A declaration of honour is requested as evidence.

⚠ **Attention:**

If necessary for the tender procedure or for performing the contract itself, contractors will be requested to ensure appropriate security clearance for third parties *(e.g. for personnel)*.

Call-offs for phases 2 and 3 may request that this security information shall be updated in the offers submitted for that phase.

Before starting the particular task that raises security issues, contractors must provide a copy of any export or transfer licences required under EU, national or international law.

The framework agreement and/or the specific contracts contain a provision on security.

ⓘ For information on security, *see the guidance for EU grant beneficiaries: Guidelines for the handling of classified information in EU research projects*.

⚠ **Attention:** Should there be any doubt as to any of these criteria, tenderers may be requested to provide additional information.

➢ **Weighted award criteria**

Weighted award criteria	**Maximum points**	**Weighting**
Phase 1: Solution design		
1.Contract Implementattion		**10%**

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Feasibility of the Project plan and schedule	5	
Methodology of the Project, including risk management and quality assurance	5	
2.Functional Quality Criteria		**45%**
Objective 1 - The Toolkit provides a system to recover traces efficiently using tape lifts or other lifting systems 1.1: Describe how your solution will achieve this Objective. 1.2: Describe how your solution will be innovative in this domain.	3	
Objective 2 - The Toolkit allows further analysis of recovered traces using tape system lifts or other lifting systems 1.1: Describe how your solution will achieve this Objective. 1.2: Describe how your solution will be innovative in this domain.	5	
Objective 3 - The Toolkit contains an automated microscope that provides images in various illumination modes 1.1: Describe how your solution will achieve this Objective. 1.2: Describe how your solution will be innovative in this domain.	5	
Objective 4 -The Toolkit converts acquired images to information (IP) 1.1: Describe how your solution will achieve this Objective. 1.2: Describe how your solution will be innovative in this domain.	7	
Objective 5 - The Toolkit shall include a Graphical User Interface 1.1: Describe how your solution will achieve this Objective. 1.2: Describe how your solution will be innovative in this domain.	5	
Objective 6- The Toolkit stores and enquiries data and helps in its interpretation 1.1: Describe how your solution will achieve this Objective. 1.2: Describe how your solution will be innovative in this domain.	7	
Objective 7 Toolkit practical issues to be met 1.1: Describe how your solution will achieve this Objective. 1.2: Describe how your solution will be innovative in this domain.	3	
Objective 8: Minimisation of classification 1.1: Describe how your solution will achieve this Objective. 1.2: Describe how your solution will be innovative in this domain.	10	
3.Non-Functional Quality Criteria		**15%**
Objective 1: Quality and traceability How will the proposed solution addresses the quality and traceability requirements? Please explain.	2	

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Objective 2: Modularity and integration How will the proposed solution addresses the modularity and integration requirements. Please explain.	3	
Objective 3: Training How will the proposed solution addresses the training requirements. Please explain.	3	
Objective 4: Maintenance How will the proposed solution addresses the maintenance requirements. Please explain.	2	
Objective 5: Solution technology readiness How will the evolution of solution's TRL throughout the project lifecycle be demonstrated the evolution. Please explain.	2	
Objective 6: User Experience How well the proposed solution addresses the end users' needs.	3	
4. Commercial Feasibility		**5%**
Exploitation Plan - Short to Mid-Term exploitation plan, including a commercialisation strategy. Completeness, sense of reality and feasibility of the commercialisation plan including the market analysis and risk management	2	
Commercial Viability. Sense of reality and feasibility of the principles for licensing, pricing, packaging, distribution	3	
5. Evaluation of the solution and sustainability of testing		**5%**
Describe your vision and plan on executing prototype and pilot testing.	5	
6.Price		**20%**
Binding contract Price for carrying out the work in the present Phase	20	

Weighted award criteria	**Maximum points**	**Weighting**
Phase 2: Prototype development		

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1.Contract Implementattion		**10%**
Feasibility of the Project plan and schedule	5	
Methodology of the Project, including risk management and quality assurance	5	
2.Functional Quality Criteria		**40%**
Objective 1 - The Toolkit provides a system to recover traces efficiently using tape lifts or other lifting systems 1.1: Describe how your development procedure of the first prototype and lab testing approach will address this Objective. 1.2: Describe how your solution will be innovative in this domain.	3	
Objective 2 - The Toolkit allows further analysis of recovered traces using tape system lifts or other lifting systems 1.1: Describe how your development procedure of the first prototype and lab testing approach will address this Objective. 1.2: Describe how your solution will be innovative in this domain.	4	
Objective 3 - The Toolkit contains an automated microscope that provides images in various illumination modes 1.1 Describe how your development procedure of the first prototype and lab testing approach will address this Objective. 1.2: Describe how your solution will be innovative in this domain.	5	
Objective 4 -The Toolkit converts acquired images to information (IP) 1.1 Describe how your development procedure of the first prototype and lab testing approach will address this Objective. 1.2: Describe how your solution will be innovative in this domain.	5	
Objective 5 - The Toolkit shall include a Graphical User Interface 1.1: Describe how your development procedure of the first prototype and lab testing approach will address this Objective. 1.2: Describe how your solution will be innovative in this domain.	4	
Objective 6 - The Toolkit stores and enquiries data and helps in its interpretation 1.1: Describe how your development procedure of the first prototype and lab testing approach will address this Objective. 1.2: Describe how your solution will be innovative in this domain.	5	

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Objective 7 – The Toolkit practical issues to be met 1.1: Describe how your development procedure of the first prototype and lab testing approach will address this Objective. 1.2: Describe how your solution will be innovative in this domain.	4	
Objective 8: Minimisation of classification 1.1: Describe how your development procedure of the first prototype and lab testing approach will address this Objective. 1.2: Describe how your solution will be innovative in this domain.	10	
3.Non-Functional Quality Criteria		**10%**
Objective 1: Quality and traceability Does the proposed solution address the quality and traceability requirements? Please explain.	1	
Objective 2: Modularity and integration How will the proposed solution address the modularity and integration requirements? Please explain.	2	
Ojective 3: Training How will the proposed solution address the training requirements?Please explain.	2	
Objective 4: Maintenance Does the proposed solution address the maintenance requirements? Please explain.	1	
Objective 5: Solution technology readiness Is the evolution of solution's TRL throughout the project lifecycle demonstrated?Please explain.	1	
Objective 6: User Expierience How will the proposed solution address the end users' needs?Please explain.	3	
4. Commercial Feasibility		**10%**
Exploitation Plan - Short to Mid-Term exploitation plan, including a commercialisation strategy. Completeness, sense of reality and feasibility of the commercialisation plan including the market analysis and risk management	5	
Commercial Viability. Sense of reality and feasibility of the principles for licensing, pricing, packaging, distribution	5	

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5. Evaluation of the solution and sustainability of testing		**10%**
Describe your vision and plan on executing prototype and pilot testing.	10	
6.Price		**20%**
Binding contract Price for carrying out the work in the present Phase	20	

Weighted award criteria	**Maximum points**	**Weighting**
Phase 3: Operational Validation		
1.Contract Implementattion		**8%**
Feasibility of the Project plan and schedule	4	
Methodology of the Project, including risk management and quality assurance	4	
2.Functional Quality Criteria		**30%**
Objective 1 - The Toolkit provides a system to recover traces efficiently using tape lifts or other lifting systems 1.1: Describe how your Final Solution Acceptance Testing will address this Objective. 1.2: Describe how your solution will be innovative in this domain.	2	

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Objective 2 - The Toolkit allows further analysis of recovered traces using tape system lifts or other lifting systems 1.1: Describe how your Final Solution Acceptance Testing solution will address this Objective. 1.2: Describe how your solution will be innovative in this domain.	3	
Objective 3 - The Toolkit contains an automated microscope that provides images in various illumination modes 1.1: Describe how your Final Solution Acceptance Testing solution will address this Objective. 1.2: Describe how your solution will be innovative in this domain.	4	
Objective 4 -The Toolkit converts acquired images to information (IP) 1.1: Describe how your Final Solution Acceptance Testing solution will address this Objective. 1.2: Describe how your solution will be innovative in this domain.	4	
Objective 5 - The Toolkit shall include a Graphical User Interface 1.1: Describe how your Final Solution Acceptance Testing solution will address this Objective. 1.2: Describe how your solution will be innovative in this domain.	4	
Objective 6 - The Toolkit stores and enquiries data and helps in its interpretation 1.1: Describe how your Final Solution Acceptance Testing solution will address this Objective. 1.2: Describe how your solution will be innovative in this domain.	4	
Objective 7 – The Toolkit practical issues to be met 1.1: Describe how your Final Solution Acceptance Testing solution will address this Objective. 1.2: Describe how your solution will be innovative in this domain.	2	
Objective 8: Minimisation of classification 1.1: Describe how your Final Solution Acceptance Testing solution will address this Objective. 1.2: Describe how your solution will be innovative in this domain.	7	
3.Non-Functional Quality Criteria		**7%**
Objective 1: Quality and traceability Does the proposed solution address the quality and traceability requirements?	1	
Objective 2: Modularity and integration Does the proposed solution address the modularity and integration requirements?	1	

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Ojective 3: Training Does the proposed solution address the training requirements?	1	
Objective 4: Maintenance Does the proposed solution address the maintenance requirements?	1	
Objective 5: Solution technology readiness Is the evolution of solution's TRL throughout the project lifecycle demonstrated?	1	
Objective 6: User Expierience How will the proposed solution address the end users' needs?Please explain.	2	
4. Commercial Feasibility		**15%**
Exploitation Plan - Short to Mid-Term exploitation plan, including a commercialization strategy. Completeness, sense of reality and feasibility of the commercialisation plan including the market analysis and risk management	7	
Commercial Viability. Sense of reality and feasibility of the principles for licensing, pricing, packaging, distribution	8	
5. Evaluation of the solution and sustainability of testing		**20%**
Describe your vision and plan on executing prototype and pilot testing.	20	
6.Price		**20%**
Binding contract Price for carrying out the work in the present Phase	20	

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Additional sub-criteria may be added for the call-offs for phases 2 and 3, as a way of making the award criteria more precise, provided that they do not substantially change the existing criteria.

Should there be any doubt as to any of these criteria, tenderers may be requested to provide additional information.

The table below contains the Scoring Model that will be used by the TB and the CB to assess and score the extent to which a Tender/Offer is meeting the Award Criteria.

Score	Textual Description
0	The description fails to address the Objective or cannot be assessed due to missing or incomplete information
0,2	Poor – Objective is inadequately addressed or there are serious inherent weaknesses
0,4	Fair – The description broadly addresses the Objective, but there are significant weaknesses
0,6	Good – The description addresses the Objective well, but a number of shortcomings are present
0,8	Very good – The description addresses the Objective very well, but a small number of shortcomings are present
1	Excellent – The description successfully addresses all relevant aspects of the Objective. Any shortcomings are minor.

- **Explanation :** Every score per quality criterion (all, will be multiplied with the weight for the criterion). For example, if a tender scores 0,8 points (Very good) for sub criterion X, this means this tender receives 0,8 points * 5 = 4 points in total for this criterion out of a maximum of 5 points. Per criterion, this same methodology will be used. If a tender would score the maximum number of points for every criterion, a total maximum technical score of 80 points can be given.

3.5. Evaluation Overview

There are two types of evaluations under this PCP:

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- Evaluation process intended to rank the Tenderers in order to award Contracts to the best ranked Tenders (see section 3.6);
- Evaluation process intended to assess the outcome of the work executed in a particular Phase. This evaluation will lead to the decision of payments and regarding the eligibility of a Contractor to bid for the next Phase. (see section 6)

For the purpose of the evaluation of the received tenders, the Contracting Authority shall appoint the following:

Contracting Board (CB)

The Contracting Board (CB) consisting of at least one representative of each forensic laboratory, chaired by the Contracting Authority representative, is responsible to steer the contracting process and the contract execution.

Technical Board

The Technical Board (TB) is composed by the technical representatives of each forensic laboratory, chaired by the Contracting Authority representative, is responsible regarding security, research or technical aspects.

KEMEA-SHUTTLE Procurement Board

KEMEA-SHUTTLE Procurement Board (PB) is composed by at least three members of the Contracting Authority and it is responsible for the Administrative evaluation. Its task in particular is the evaluation of legal, formal, administrative aspects of the tenders.

Tenders will be evaluated in a non-discriminatory and transparent manner.

3.6. Evaluation of the submitted Tenders and initial Contract Award

The evaluation process will be carrying out the following six steps:

- Step 1 — Checking whether the Exclusion Grounds apply to the Tenderer
- Step 2 —For tenderers passing Step 1, assessing whether the tenderer has the necessary capacities to perform the contract, on the basis of the selection criteria
- Step 3 — For tenderers passing Step 2, evaluating the tender based on the on/off award criteria
- Step 4 — For tenderers passing Step 3, evaluating the tender based on the weighted award criteria
- Step 5 — Opening of the Economical offers
- Step 6 — Final ranking

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3.6.1. Scoring

Awarded points for each criterion has to be multiplied by weighting percentage for particular criteria leading to a final score per criteria. Final score for Tenderer is a sum of all final criteria scores.

The maximum scoring obtained after the proposal evaluation shall be 100 points, where:

- 20 percentage points correspond to the **Financial Offer**, and
- 80 percentage points correspond to the **Technical Offer**
- Following the Scoring Model:

$$Li = 80 * (Ti / Tmax) + 20 * (Fmin/Fi)$$

- Where Tmax Technical Score of the Best Technical Tender
- Ti Technical Score of the Tender i
- Fmin Lower Price of all Tenders
- Fi Price of the Tender i
- Li Total Score of the Offer i rounded to two decimals places.

Tenders not complying with conditions on the content and format of the offer will be excluded from the tender evaluation.

Completeness and formal correctness of the tender procedure will be checked; in case of lack of documents, incompleteness and any other non-essential irregularities of the tender, the Contracting Authority will request the necessary additions and clarifications. The Contracting Authority will conduct the necessary regularization by requesting the information from the tenderer. Corrections will have to be received within five (5) working days after the request from the CA, otherwise the offer will be excluded.

The KEMEA SHUTTLE PB will procced with the tenderers' eligibility based on the information provided in the Administrative section of the proposal.

Once the evaluation of the technical offers has been completed, Contracting Authority will communicate electronically the technical scores assigned to the tenderers to the Buyers Group.

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Then the TB and the CB will proceed to the scoring, according to the criteria and procedures described above. At the end of the evaluation procedure, a ranking will be drawn up, in which the tenders will be inserted based on the overall score achieved, in descending order.

In case that tenders of two or more tenderers obtain the same overall score, but with different partial scores for the price and for all the other different evaluation elements, the tenderer who obtained the best score on the Technical Offer will be placed first in the ranking.

3.6.2 Evaluation Criteria for Phase 2 and 3

The above criteria, on/off and weighted criteria, will also subsequently be used for Call offs for Phase 2 and Phase 3, though elaborated and developed in further detail for the specific purposes of each such Phase. Additional sub-criteria may be added for the Call-offs for Phases 2 and 3, as a way of making the Award Criteria more precise, provided that they do not substantially change the existing criteria. Before the start of Phase 2/3, the Contracting Authority shall issue a Call-off.

3.6.3. Procedures for appeal

Submission of complaints shall not lead to unreasonable delays in the evaluation and award procedures.

All possible complaints during the tendering process will be submitted to the Contracting Authority (CA), within ten (10) days following the notification of the decision of the Contracting Board (CB). The CA will forward the complaints to the TB which is responsible to evaluate the complaints and to submit its opinion to the CB for final decision.

Possible complaints against any final decision of the CB may be reviewed by the Greek courts[14].
Any dispute or claim arising in connection with the execution of the contracts shall be heard by the Greek courts.

[14] https://europa.eu/youreurope/business/selling-in-eu/public-contracts/request-review-public-procurement-procedure/index_en.htm

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SECTION 4 : CONTENT & FORMAT OF TENDERS

4.1. Tender submission-Content & Format

All Tenderers must use the SHUTTLE Tender Documents, which can be accessed along with all of the other Tender Documents by following the instructions in the Contract Notice on TED. The Tender Documents are published on the SHUTTLE website – www.shuttle-pcp.eu.

All Tenders must be submitted as follows;

Dossier (R&D Services within the SHUTTLE Project)

They should be addressed at the Contracting Authority: Center for Security Studies (KEMEA), Hellenic Ministry of Interior, 4, P. Kanellopoulou str. 10177, Athens, Greece. They should be submitted no later than the 12:00 (Athens time) on 20 November 2019. They should be delivered by one of the following ways:

-By hand at the official registry office of KEMEA at the above mentioned address

-By registered post services with shipment notice. In such case, bidders should inform the Contracting Authority of the dispatch of the tender by fax, telegram or email on the same day, attaching a proof of the date of shipment, which must be before the deadline for the submission of tenders. In any case, the Contracting Authority must receive the documentation within five days of the deadline for submission. Failing this requirement, offers will not be admitted.

All Tenders must be submitted in three separate and independent envelopes (A, B and C), in a way that allows the secrecy of the content of each one to be guaranteed until their formal opening.

Said envelopes should:

- Be signed by the bidder or its duly accredited representative, stating the full name (or entity name) of both and identifying the tender, a telephone number and an email address for contact.
- Include a list of the contained documentation.
- Contain an electronic copy of their full content. This electronic copy may only be submitted on a DVD or memory stick (any other digital media will not be allowed) and shall be recorded exclusively in one PDF document.

Tenders that do not comply with the formal requirements will automatically be rejected.

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Tenders are secret and the submission thereof implies unconditional acceptance of all terms and conditions contained in this Call for tender. Under penalty of exclusion, tenders must not contain any reservation in relation to any point in the Tender terms and conditions.

Each bidder must present no more than one tender and must not sign any tender in a temporary consortium with others if it has done so individually, appear in more than one temporary consortium, or present itself jointly with other bidders with an undertaking to set up a company. Failure to comply with this rule will lead to the automatic rejection of all that is submitted.

More detailed information about the final layout requirements for the phase 2 and 3 offers will be provided in the call-off.

The period of validity of the Tenders is six (6) months from the deadline indicated above (shorter validity period shall be rejected as inadmissible).

All Tenders must be submitted in accordance with the following rules:

- Tenders and supporting documents must be written in English or a full English translation, provided at no cost to the Procuring Entity.
- Tenders must not be qualified or accompanied by statements or a covering letter that might be construed as rendering the tender equivocal. Unauthorized alterations or additions must not be made to any component of the tender documents.

4.2. Opening of tenders

Opening of the envelopes will take place 16:00h (Athens time) on 25 November 2019 at the following location:

Center for Security Studies (KEMEA), Hellenic Ministry of Interior, 4, P. Kanellopoulou str. 10177, Athens, Greece.

Opening of the envelopes will be carried out by the SHUTTLE-KEMEA Procurement Board.

An authorised representative of each tenderer may attend the opening.

Companies wishing to attend are requested to notify their intention by sending an e-mail to: shuttle-procurement@kemea-research.gr at least 48 hours in advance. This notification must be signed by an authorised officer of the tenderer and specify the

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name of the person who will attend the opening of the call for expression of interest on the tenderer's behalf.

Person of the Contracting Authority to provide all relevant information/clarification is: Name: Maria, Surname: Kampa, Phone: +030 2107710805 int. 393, Fax: +030 2111004499, Email: shuttle-procurement@kemea-research.gr

4.3 Administrative section (ENVELOPE A)

Envelope A shall contain information and evidence on the legal capacity non-disqualification from exclusion criteria, economic and financial standing of the bidder, technical and professional eligibility and fulfilment of the compliance criteria, to be provided by means of the documents and forms described below:

- The legal capacity and the representation of the bidder shall be proved by means of the types of evidence referred to in Annex C of this Call for tender
- In the case of a joint tender, the documentation referred to in Annex B1 of this Call for tender shall be provided.
- In the case of subcontracting, the documentation referred to in Annex B2 of this Call for tender shall be provided.
- The non-subjection of the bidder to any of the exclusion grounds contained in Annex A of this Call for tender shall be proved by means of the types of evidence referred to in that section.
- The fulfilment of the bidder of the selection criteria contained in Annex A of this Call for tender shall be proved by means of the types of evidence referred to in that section.
- The fulfilment of the bidder of the compliance criteria contained in Annex A of this Call for tender shall be proved by means of the types of evidence referred to in that section.

Should there be any doubt as to any of these requirements, bidders may be requested to provide additional information and/or evidence.

More detailed information for the phase 2 and 3 offers will be provided in the call-offs (in particular on the technical implementation plan, updated business plan and list of IPRs).

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4.4 Technical section (ENVELOPE B)

Tenders must include a **technical offer**, containing:

- a technical plan that outlines: 1. the tenderer's idea for addressing all the requirements given in the PCP challenge description, relating both to functionality and performance; 2. technical details of how this would be implemented and 3.
- a project management plan that outlines the execution and monitoring approach, including a Gantt chart.
- a draft business plan that explains the proposed approach to commercially exploit the results of the PCP and to bring a viable product or service onto the market
- a list of the pre-existing rights *(background)* relevant to the tenderer's proposed solution, in order to allow IPR dependencies to be assessed
- a risk assessment and risk mitigation strategy
- a reply to the question "Does this tender involve **ethical issues**? (YES/NO)" and if YES, an ethics self-assessment, with explanations how the ethical issues will be addressed
- a reply to the question "Does this tender involve: activities or results that may raise **security issues** and/or **EU-classified information**[15] as background or results? (YES/NO)" and if YES information on how these issues will be addressed

⚠ **Attention:**

Tenders failing to meet these requirements will be excluded.

The technical part must provide a *detailed* technical offer for phase 1 *(including an explanation of the methodology, a work plan and details of deliverables and milestones)*, and must specify the plans for and objectives of the subsequent phases 2 and 3 and beyond *(including a plan for commercial exploitation of the results)*.

The information provided in the technical section of the tender will be used to evaluate the tenders, on the basis of the technical award criteria and the on/off award criteria A, D and E.

[15] See Decision 2015/444/EC, Euratom on the provisions on security of EU-classified information.

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More detailed information for the phase 2 and 3 offers (in particular on the technical implementation plan, updated business plan and list of IPRs) will be provided in the call-offs.

4.5 Financial section (ENVELOPE C)

The tender must include a detailed **financial offer** specifying:

- binding **unit prices** for all items needed for carrying out phase 1 and for items that are expected to be needed for phases 2 and 3 *(given in euros, excluding VAT but including any other taxes and duties)*
- a fixed **total price** for phase 1 and an estimated total price for phases 2 and 3, broken down to show unit prices and the number of each unit needed to carry out phase 1 *(given in euros, excluding VAT but including any other taxes and duties)*.

In addition, the financial section must include:

- a **price breakdown** that shows the price for R&D services and the price for supplies of products (to demonstrate compliance with the definition of R&D in on/off award criterion A)
- a **price breakdown** that shows the location or country in which the different categories of activities are to be carried out *(e.g. x hours of senior researchers in country L at y euro/hour; a hours of junior developers in country M at b euro/hour)* (to demonstrate compliance with the requirement relating to place of performance in on/off award criterion C)
- the **financial compensation** valuing the benefits and risks of the allocation of ownership of the **IPRs** to the contractor *(i.e. IPRs generated by the contractor during the PCP)*, by giving an absolute value for the price reduction between the price offered in the tender compared to the exclusive development price *(i.e. the price that would have been quoted were IPR ownership to be transferred to the procurers)*

in order to ensure compliance with the EU R&D&I state aid framework.

⚠ **Attention:** The unit prices quoted for each category of items *(e.g. hourly rates for junior and senior researchers, developers and testers)* remain binding for all phases *(i.e. for the duration of the framework agreement)*.

The financial compensation for allocating IPR ownership to the contractor must reflect the market value of the benefits received *(i.e. the opportunity that the IPRs*

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offer for commercial exploitation) and the risks assumed by the contractor *(e.g. the cost of maintaining IPRs and bringing the products onto the market)*. (Note that when the value of the risks equals or exceeds the value of the benefits, the financial compensation offered by vendors may be zero.)

The price that will be evaluated is the Actual Price offered.

The information provided in the financial section of the tender will be used to evaluate the tenders on the basis of the price award criteria and the on/off award criteria A and C.

More detailed information for the phase 2 and 3 offers will be provided in the call-off. The price for phase 2 and 3 offers must be based on the binding unit prices in the tender and the price conditions set out in the framework agreement. Where new units/unit prices *(e.g. for new tasks or equipment)* are subsequently added to the phase 2 or 3 offers, they will become binding for the remaining phases.

Similar price breakdowns will be requested for the call-offs for phase 2 and 3.

The VAT regime of Greece will be applied.

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SECTION 5 : MISCELLANEOUS

5.1 Language

All communication (relating to either the tender procedure or the implementation of the contract) must be carried out in English.

Tenders as well as offers for phase 2 and 3 call-offs must be submitted in English.

Deliverables must be submitted in English.

5.2 Tender constitutes binding offer

A signed tender will be considered to constitute a firm, irrevocable, unchangeable and binding offer from the tenderer. The Tenderers signatory must have the proven power and capacity.

The signature of an authorised representative will be considered as the signature of the tender (and will be binding on the tenderer or, for joint tenders, the group of tenderers).

5.3 Communication

A webinar will be held on 7/10/2019 to discuss the Tender Documents and discuss the procedure and answer potential Tenderers' questions or requests for clarification. Registration details will be made available on the Project website.

The Q&A from the open market consultation can be found on www.shuttle-pcp.eu

For further questions, you may contact the Contracting Authority via email (shuttle-procurement@kemea-research.gr) and/or by other means in English until 10/10/2019.

All questions or requests for clarification must be received by the Contracting Authority no later than 10/10/2019. Any questions received after this deadline will not be answered. The questions or requests for clarification must be addressed to:

E-mail: shuttle-procurement@kemea-research.gr

Please mention the SHUTTLE Procurement Reference No XXX in the subject line of your emails. With each question the correct document reference and page number should be clearly stated. The summary of all questions and answers will be presented in an anonymized Q&A document that will be published on www.shuttle-pcp.eu in English , the 20/10/2019. For Phases 2 and 3, the Q&A will not be published, but distributed to all Contractors that successfully completed the previous Phase. Unless

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otherwise instructed, please do not use any other contact addresses or means or contact any other persons in connection with this procurement.

⚠ **Attention:** All other contacts (or attempted contacts) will be considered unauthorised and may lead to the exclusion of your tender.

5.4 Confidentiality

Tenderers must keep confidential any information obtained in the context of the tender procedure *(including EU-classified information[16])*.

All documentation, data, statistics, drawings, information, samples or material disclosed or furnished by the Contracting Authority to Tenderers during the course of this Competition:

1. are furnished for the sole purpose of replying to this PCP only;
2. may not be used, communicated, reproduced or published for any other purpose without the prior written permission of the Contracting Authority;
3. shall be treated as confidential by the Tenderer and by any third parties (including Subcontractors) engaged or consulted by the Tenderer; and
4. must be returned immediately to the Contracting Authority upon cancellation or completion of this PCP if so required by the Contracting Authority.

In respect of any Trade Secrets such as business plans, R&D maps or trajectories, customer lists etc. that it may receive from the Tenderer, the Contracting Authority undertakes to keep secret and strictly confidential and to ensure that all members of the Group of Procurers will be bound by the same confidentiality obligations towards the Contractor.

5.5. Freedom of Information

The principle of public access to official documents means that public documents and records (with a few exceptions) should be made available to whoever asks for them. The principle is balanced by the obligation of professional secrecy, that stipulates that public authorities are obliged to protect business secrets of others, if disclosure may seriously harm their interests.

Without prejudice to the confidentiality rules under Clause 6 of the Framework Agreement, Tenderers are asked to consider if any of the information supplied by them in their Tender should not be disclosed because of its confidentiality or commercial sensitivity. If Tenderers consider that certain information is not to be disclosed because of its confidentiality or commercial sensitivity, Tenderers must,

16 Commission Decision 2015/444/EC, Euratom of 13 March 2015 on the security rules for protecting EU-classified information.

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when providing such information, clearly identify the specific sections of their Tender containing such information and specify the reasons for its confidentiality or commercial sensitivity.

Tenderers should however be aware that the Contracting Authority reserves the right to publish public summaries of the results of the SHUTTLE PCP Projects (Phase 1, 2 and 3), including information of the key R&D results attained and lessons learned by the SHUTTLE Consortium. Details will not be disclosed that will harm the legitimate business interest of the Contractors involved in the SHUTTLE PCP or that would distort fair competition on the market. The Contracting Authority will also distribute and publish the following information about the Contractors that are awarded with contracts:

- The name of the organisation
- Their location
- The title of the Project
- A short summary of the Project
- Contract value

The above award information will be sent to the "contact information details" stated in the Tender. Experts, employees of the Contracting Authority and other persons contracted to aid in the tendering and award process will handle all information confidentially in compliance with the above procedure. Experts with a conflict of interest with one or more of the tenders will not assess these Tenders.

5.6. Data Protection

The contractor shall process personal data in the proposal documentation in compliance with the applicable EU and national law on data protection (including as well information related to authorisations and notification requirements).

The contractor may grant its staff access to data only in so far as it is strictly necessary for implementing the Tender proposal.

The contractor must inform the staff whose personal data are collected and processed by the procurer. For this purpose, the contractor must provide them with the privacy statements of the procurer, before transmitting their data. If explicit prior consent from the data subjects is needed, the contractor must obtain such consent.

Please refer to Article 12 — Processing of personal data of the Framework Agreement for the data protection handling during the contracts' implementation.

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5.7 Cancellation of the tender procedure

The procurers may, at any moment, cease to proceed with the tender procedure and cancel it.

The procurers reserve the right not to award any contracts at the end of the tender procedure.

The procurers are not liable for any expense or loss the tenderers may have incurred in preparing their offer.

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SECTION 6 :CONDITIONS OF CONTRACTS

6.1. Contract implementation

Successful tenderers will be requested to sign both a framework agreement and specific contracts for phases 1, 2 and 3 (see Annex D,E).

Monitoring

During each phase, contract implementation will be monitored periodically and reviewed against the expected outcomes for the phase.

Each contractor will be assigned a main contact person (their supervisor) appointed by the procurers.

There will be regular monitoring meetings between the contractor and the Technical Board.

The intensity of monitoring and communication between the Buyers group and the contractors will increase from Phase 1 to Phase 3. Monitoring meetings can be held physically or online and will be subject to agreement between the parties. The contractor will be asked to discuss the results achieved in the preceding period and present an updated work plan. The supervisor, or any party designated by it, is entitled to visit the premises of the contractor.

The Technical Board and /or supervisor will provide written feedback in writing or electronically to contractors after meetings or visits. Detailed information on the role of the supervisor will be provided after award of a specific contract. The role is intended to allow contractors to improve the way in which their solutions address the problem set out in the PCP challenge.

6.2 Payments based on Satisfactory Completion of Milestones and Deliverables of the Phase

Payments corresponding to each PCP phase will be subject to the *satisfactory* completion of the deliverables and milestones for that phase.

Satisfactory completion will be assessed by the Technical Board composed of members of the buyers group.

Satisfactory completion will be assessed according to the following requirements:

- if the work corresponding to that milestone / deliverable has been carried out
- if a reasonable minimum quality has been delivered
- if the reports have been submitted on time
- if the money have been allocated to the planned objectives

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- if the money have been allocated and the work has been carried out according to the on/off award criteria (place of performance, public funding and R&D definition criteria)

and

- if the work has been carried out in compliance with the provisions of the contract *(including in particular verification if the contractor has duly protected and managed IPRs generated in the respective phase)*.

'Reasonable minimum quality' of a report means that:

- the report can be read by somebody who is familiar with the topic, but not an expert
- the report gives insight in the tasks performed in and the results
- the report is made using the end of phase report form or (if applicable) the milestone report form and the requirements of this form have been met

'Reasonable minimum quality' of a demonstration (for phase 2 or 3) means:

- the demonstration can be understood by somebody who is familiar with the topic, but not an expert (for instance, somebody with operational but not technical knowledge)
- the demonstration shows how the innovation works, how it can be used and (if applicable) how it is operated and maintained
- the demonstration is accessible to parties appointed by the procurers, unless these are direct competitors of the contractor

Satisfactory completion in each of the phases does not mean successful completion.

Invoices must be submitted to the Contracting Authority.

Contractors' invoices must provide:

- a price breakdown showing the price for R&D services and the price for supplies of products (in order to demonstrate compliance with the definition of R&D in on/off award criterion A)
- a price breakdown showing the location or country in which the different categories of activities were performed *(e.g. x hours of senior researchers in country L at y euro/hour, a hours of junior developers in country M at b euro/hour)* (in order to demonstrate compliance with the requirement relating to the place of performance in on/off award criterion C).

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6.3. Payments Schedule

For the payments schedule described below the Contractor is requested to provide the Contracting Authority along with the respective invoice, the following documentation :

- Tax Clearance
- Insurance Clearance
- Criminal Record of the legal representative

	Phase 1		Phase 2		Phase 3	
	Date	%	Date	%	Date	%
Pre-Payment	n/a	0	14/8/2020	5	17/5/2021	5
Interim-payment	15/5/2020	50	4/1/2021	45	14/8/2021	45
Final payment (afrer successful completion)	31/7/2020	50	30/4/2021	50	29/10/2021	50

The percentage stated in the table above for the Assessment payments are subject to the Contractor having fulfilled its obligations during the phase Satisfactory.

The dates stated are the **estimated** last payment dates (when the Procurer makes the payment, not when the Contractor receives it).

6.4. Eligibility for the next Phase based on Successful Completion of the Phase

Eligibility for participation in the next phase (Phase 2 and 3) will be subject to *successful* completion of the current phase.

Successful completion of a phase will be assessed by the Technical and submits its opinion to the Contracting Board for final decision against the following requirements:

- if all milestones have been successfully completed
- if the R&D results meet the minimum functionality/performance requirements of the challenge description *(i.e. the minimum quality/efficiency improvements which the procurers set forward for the innovative solutions to achieve)*

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- if the results of the R&D are considered to be promising

'Promising' means:

- for phase 1, that the feasibility is convincing
- for phase 2, that the feasibility, the application in an operational setting and the potential impact of the product is convincing

Only contractors classified as "satisfactory" are eligible to have their work produced during a certain phase considered as "Successful".

6.5. Finalisation of phase 3: Possible follow-up PPI procurements

Follow-up PPI procurements for a *limited* set of prototypes and/or test products developed during this PCP procurement *('limited follow-up PPIs')* may be awarded.

Follow-up PPI procurements for a *commercial volume* of the innovative solutions developed in this PCP procurement will be subject to a new call for tenders.

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