EVALUATION AND TESTING: TOOLS AND METHODOLOGIES

WEBINAR

14 July 2022

WEBINAR WORKSHOP - INNOVATION PROCUREMENT

**Evaluation and testing:
tools and methodologies**

14 July 2022   10.00 - 11.30 CEST

Watch the replay video of the webinar via:
https://youtu.be/9fK80k3abKU

Welcome

Stephan Corvers
CEO & Founder

Corvers Procurement Services BV

Introduction & Agenda

House rules

It is possible to ask questions in the private chat

The recording of the webinar will be made available on the EAFIP website

The list of participants will not be disseminated

In case there are technical problems, the session will be recorded and published

AGENDA

TIME (CET)	TOPIC	SPEAKER/PARTICIPANTS
9:55 – 10:00	Registration to the platform	Participants can ensure that the platform's functionalities are working fine
10:00 – 10:05	**Welcome & Introduction** House rules Agenda	**Stephan Corvers** CEO – Corvers **Lieve Bos** EC Policy Officer - DG Connect
10:05 – 10:30	**Environmental Technologies Verification** *Third-party validation technology performance using the internationally recognised ISO standard 14034*	**Izabela Ratman-Kłosińska** LIFEproETV Project Coordinator Institute for Ecology of Industrial Areas
10:30 – 10:50	**Testing tools and methodologies in HPC** *Public Procurement of Innovative Solutions (PPI) and Pre-Commercial Procurement of High-Performance Computing (HPC).*	**Dirk Pleiter** Head of the PDC Center for High Performance Computing KTH Royal Institute of Technology
10:50 – 11:15	**Drug Detect PPI** *Drug detection in correctional institutions and prisons Needs analysis, testing approach and KPIs.*	**Ramona Apostol** Senior procurement advisor Ministry of Justice, The Netherlands
11:15– 11:25	OPEN DISCUSSIONS Q&A	
11:25 – 11:30	**Conclusions & future events**	**Stephan Corvers**

Environmental Technologies Verification

Third-party validation technology performance using the internationally recognised ISO standard 14034

Izabela Ratman-Kłosińska
LIFEproETV Project Coordinator
Institute for Ecology of Industrial Areas

Environmental Technology Verification (ETV)

Third-party validation technology performance using the internationally recognised ISO standard 14034

Izabela Ratman–Kłosińska, LIFEproETV Coordinator

Institute for Ecology of Industrial Areas, Katowice Poland

EAFIP WEBINAR – EVALUATION AND TESTING: TOOLS AND METHODOLOGIES, 14.07.2022

Starting point

What you know:

- The problem / challenge / needs you want to address
- You want to address it in a most innovative , best performing way that fit your needs
- You want your target solution to deliver the performance in a more environmentally friendly way than available solutions
- Your requirements, constraints and limitations e.g. related to target application
- Technologies with the same purpose may perform differently (e.g. differences in Energy/resource consumption, space required etc)
- You want credible evidence for transparent decision making

There will be risks: you want to minimize them

What you don't know:

- The technical design of a targeted solution to your problem
- The way to check/test its performance vs your needs/limitations and requirements
- The variables to consider when assessing the technology technical/functional performance and the resulting environmental impacts

These assessments require dedicated in-house skills and competences that are rarely available at an IP team

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Your need

A robust , transparent methodology and a process that will allow to:

✓ Produce objective evidence on technologies performance based on facts that can be trusted

✓ Provide information in an understandable way enabling comparison/benchmarking for decision making

✓ Capable to deal with innovations that may require knowledge accessing the frontier of a specific scientific field

✓ Minimize risks

What is ETV?

ETV (Environmental Technology Verification) is a voluntary environmental scheme implemented as an EU programme operated by the European Commission with a three-fold aim to:

- help technology manufacturers, especially SMEs, market their new technologies

- assist technology purchasers (public or private) to select performing environmental technologies fitting best their needs,

- facilitate the implementation of the EU and MS policies and regulations for environment and innovation

What ETV does?

ETV proves in an **impartial and credible way** that the **claims about an environmental technology performance** made by providers **are true and based on sound scientific data**

Which technologies are concerned?

Environmental technologies are all technologies (**products, processes, services**) which:

✓ **demonstrate environmental added value** i.e. more beneficial or less adverse environmental impact with respect to the technologies applied currently in a similar situation

   e.g. water treatment technologies, biobased products

✓ **measure parameters** that indicate environmental impacts

   e.g. monitoring technologies

Which technologies are concerned?

✓ fitting to one of the technology areas of the EU ETV Programme
✓ potential to comply with the definition of environmental technology
✓ potential to perform in line with legal requirements
✓ market readiness (≤TRL7)
✓ sufficient level of innovation compared to relevant alternatives available on the market
✓ potential to meet user needs

ETV technology scope now	ETV technology scope extended			
Water treatment and monitoring · Energy technologies · Materials, waste and resources	Air pollution monitoring and abatement	Soil and groundwater monitoring and remediation	Environmental technologies in agriculture	Cleaner production and processes

How ETV supports PPI?

ETV offers a streamlined methodology which allows to deliver proofs that the technical design of the technology allows to achieve its declared performance and the resulting environmental benefits

ETV confirms that the new solution is a green innovation that:

√   performs better than conventional technologies in real operational environment

√   delivers an environmental added value: i.e. results in less adverse or beneficial environmental impacts compared to solutions currently used in similar situation

Relevant to assess the performance of innovation vs your performance ambition levels for the intended application

Relevant to proof that the innovation will address your problem with a reduced environmental impact

ETV methodology

ISO standardised process

- Robust and transparent verification procedures based on ISO 14034 standard: Environmental Management: Environmental Technology verification,
- EU and global recognition.
- ISO 14034 is a European Norm

Quality and impartiality assured

- Performance test data must be generated compliant to ISO 17025 requirements,
- Bodies performing ETV are accredited for compliance to ISO 17020 for type A inspection bodies and meet the requirements of third party

Fit for early market innovations

- Provides flexibility in the choice of parameters to be verified,
- Enables proving performance claims of innovations which fall outside regulations or standards or which do not fit into existing legislative, labelling or standardised performance frameworks.
- Ensures the same level of quality and credibility as compliance/certification schemes for mature technologies

Factual approach

- Statements of Verification are based on factual and relevant evidence confirming objectively the performance of environmental technologies.

ETV: how could it work for PPI?

LIFE pro ETV

CONTACT

Proposer contacts a verification body to get information on the process, check if the technology is a good candidate for ETV together with an idea of the performance claim to be verified

APPLICATION

Proposer submits an application file detailing information about the technology together with the performance claim and existing test data. Verification body decides on the eligibility of the technology for ETV and revises the performance claim to be verified.

SPECIFIC VERIFICATION PROTOCOL

Verification Body develops the specific verification protocol including a detailed plan of the verification together with specification of the parameters to be verified and test data requirements , assesses the existing data and decides whether further tests are needed
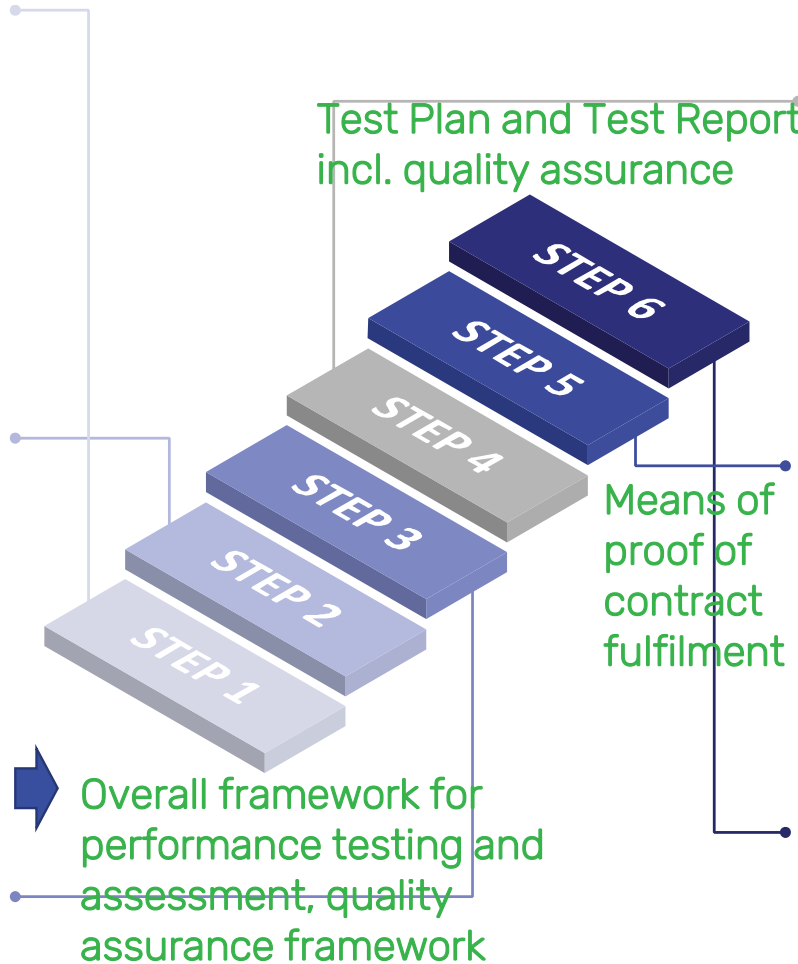
Test Plan and Test Report incl. quality assurance

STEP 6
STEP 5
STEP 4
STEP 3
STEP 2
STEP 1

Means of proof of contract fulfilment

Overall framework for performance testing and assessment, quality assurance framework

GENERATION OF TEST DATA

If the existing test data does not meet the requirements defined in the specific verification protocol the proposer is requested to perform additional testing typically with an appropriate test body.

VERIFICATION OF PERFORMANCE

Verification Body reviews the final set of data, concludes on the verified performance and develops the Verification Report and Statement of Verification.
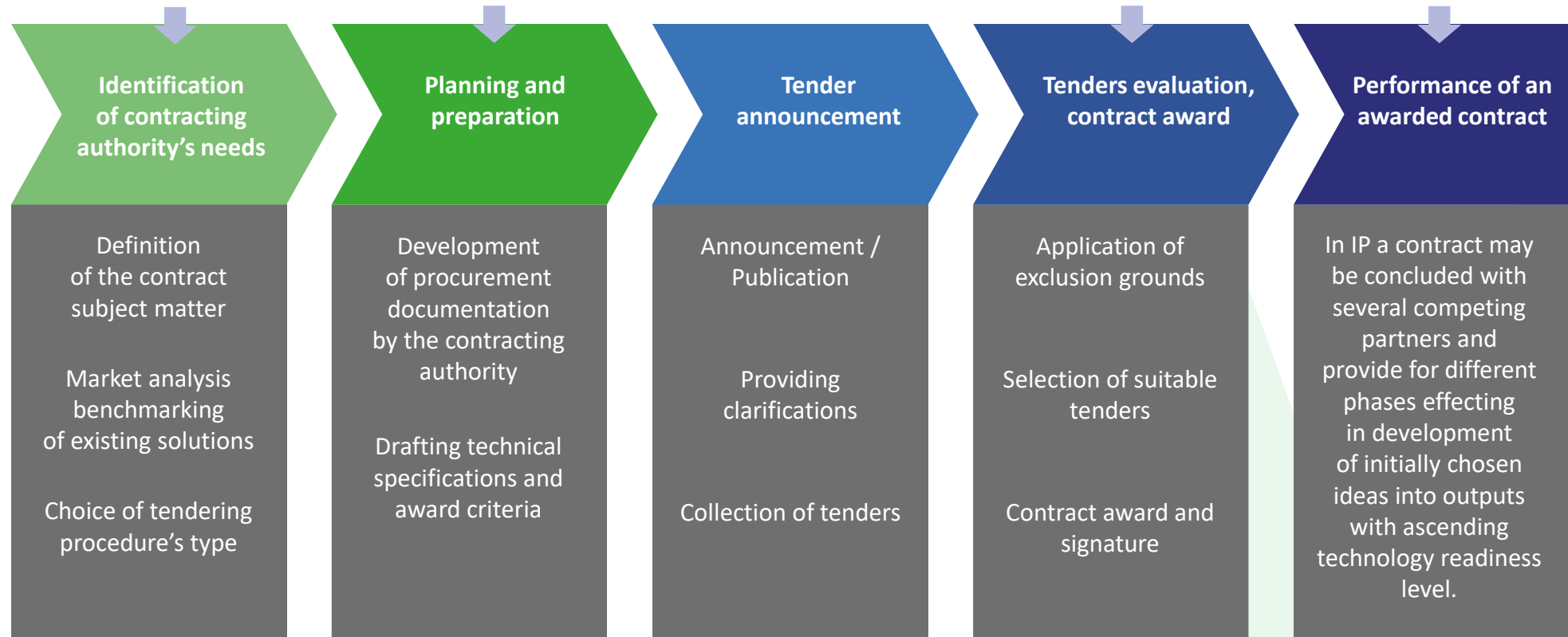
PUBLICATION

ETV Secretariat registers and publishes the Statement of Verification on the EU ETV website.

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ETV methodology in stages of PPI

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Identification of contracting authority's needs

Definition of the contract subject matter

Market analysis benchmarking of existing solutions

Choice of tendering procedure's type

Planning and preparation

Development of procurement documentation by the contracting authority

Drafting technical specifications and award criteria

Tender announcement

Announcement / Publication

Providing clarifications

Collection of tenders

Tenders evaluation, contract award

Application of exclusion grounds

Selection of suitable tenders

Contract award and signature

Performance of an awarded contract

In IP a contract may be concluded with several competing partners and provide for different phases effecting in development of initially chosen ideas into outputs with ascending technology readiness level.

ETV can be used to support the contracting authority either on planning and preparation stage, tenders evaluation stage or performance of an awarded contract stage.

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ETV Statements of Verification may help determine:

- availability of products or services satisfying the needs of the contracting authority,

- facilitate decision making on the need for concluding an Innovation Partnership if such offer does not exist on the market.

Identification of contracting authority's needs

Definition of the contract subject matter

Market analysis benchmarking of existing solutions

Choice of tendering procedure's type

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ETV procedure including the requirements of performance test data generation compliant with the requirements of ETV **may provide an overall framework** to be adopted in tender documentation (including a draft contract) **for specifying a method to be applied for:**

- **tender evaluation,**
- **verifying contract fulfilment at individual stages of the procurement.**

Generic verification protocol based on ETV methodology

Developed based on the requirements for the Specific Verification Protocol to serve as a „playbook" for the innovation procurement detailing the testing (test design) and quality assurance providing:.

- performance parameters of interest incl. possibly minimum required performance goals to be achieved
- methods and requirements for testing including testing conditions,
- quality assurance requirements
- test data assessment / evaluation process

Planning and preparation

Development of procurement documentation by the contracting authority

Drafting technical specifications and award criteria

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Tenders evaluation, contract award

Application of exclusion grounds

Selection of suitable tenders

Contract award and signature

- The overall framework based on ETV scheme (described in the procurement documentation!) provides **a methodology for a fair comparison (benchmarking)** between the offers based on objective, factual approach

- For Innovation Partnership stages resulting in TRL7 or higher, testing and test data generated based on ETV procedure may be applied to demonstrate fulfilment of the contract performance,

  e.g. to reduce the number of partners by terminating individual contracts that are not resulting in the delivery of innovation performance as defined in the targets or that result in environmental impacts more adverse than conventional technologies ,

- **At the end of the contract a full ETV verification can be implemented as means of proof to demonstrate fulfilment of the contract requirements performance at the final stage of an IP.**

Test Plans/Reports based on the Generic Verification Protocol

Test plan and test report developed individually for each technology based on the „Generic verification protocol". May include additional testing requirements related to the technology design and specificity of the principle of its operation/innovation of the technology in relation to fulfilling its purpose

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Performance of an awarded contract

In IP a contract may be concluded with several competing partners and provide for different phases effecting in development of initially chosen ideas into outputs with ascending technology readiness level.

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How ETV can take over the roles of a contracting authority?

Planning and preparation

A verification body provides input to technical specifications for tender preparation concerning performance parameters relevant to the subject matter of the contract:

- technical/functional performance
- environmental performance
- quality assurance framework
- testing requirements

Contract performance

A verification body takes over the responsibility for delivering evidence on candidate technologies performance:

- Ensure test data generation process (verification bodies do not perform testing!!!)
- Approve test plans and test reports
- „qualify" test bodies selected by technology providers for testing (test data for ETV must be generated compliant to ISO 17025 requirements),
- ensures the quality of the test data generation process/environment
- Provides final assessment: concludes on the verified performance, provides verification report and ETV statements

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ETV in PPI: ETV body a strategic partner

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7 accredited Verification Bodies offer ETV service

They will need to be involved:
- at the **procurement planning and preparation stage** to develop the Generic Verification Protocol

- at **performance of an awarded contract** to approve the test plans, the test reports, verify the performance based on test data

- **Involvement of an ETV Body as subcontractor may require a dedicated tender**

eurofins

ETA DANMARK

bre

IETU Instytut Ekologii Terenów Uprzemysłowionych

CSTB le futur en construction

CEMC České ekologické manažerské centrum

RINA SERVICES

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Benefits of using ETV in PPI

✓ No need to hire technology experts team as the whole technology assessment process is covered by a competent ETV Body

✓ Guarantee that the test data generated to demonstrate the performance of a green innovation are sufficient, relevant and produced with highest quality assurance standards to prove the performance

✓ Transparent information on environmental aspects of the technology as the ETV methodology involves the assessment of the environmental added value and compliance of the technology with a definition of an environmental technology according to ISO 14034 standard (Green taxonomy!)

✓ Reduced risk of purchasing solutions that do not work in real environments

Example:
Advanced Septic System Nitrogen Sensor Challenge, US EPA

The problem: Conventional nitrogen-removing onsite wastewater treatment systems (septic systems) are often not designed to remove nitrogen to levels that are protective of local water quality, which can lead to problems like excess nitrogen loading to waterways.

The challenge: Design a credible sensor that will indicate to the local and state governments that the septic systems treat the nitrogen as intended due to their location in nitrogen-sensitive watersheds.

Market size : 2,6 milion septic systems

Phase I – Competition based

Design a nitrogen sensor for use in advanced nitrogen-removing onsite wastewater treatment systems to monitor their long-term performance.

Best candidate selected

Phase II – ETV based

Prototype Testing Program based on ISO 14034 (ETV) + Verification Plan

If minimum performance goals met

Phase III Commercialisation

ETV statement of verification, Purchase order for 200 sensors to be presented to the best performing sensor

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Advanced Septic System Nitrogen Sensor ISO 14034 ETV
6 Month Field Test Performance Goals

Attribute	Attribute Description	Performance Goals		
		Minimum	Almost Ideal	Ideal
Parameter[1]	What is being measured	NO_3^-, NH_4^+	NO_3^-, NH_4^+, TOC	Total nitrogen (TN)[2]
Installation Price	Price to the homeowner to install	$1,500	$1,250	$1,000
Data Management	Ability to record and transmit data (i.e., telemetry) for real-time access by practitioners, regulators, and interested stakeholders	Record and automatically transmit data to designated server or cloud	Record and automatically transmit data to designated server or cloud	Record and automatically transmit data to designated server or cloud; include remote capability of programming variable sampling frequencies.
Applicability & Accessibility	Applicability of sensor(s) to various innovative/alternative system designs and ease of access to OWTS for installation and maintenance	Located in-situ to provide performance information on the OWTS; must be accessible for maintenance	Located in-situ to provide performance information on the OWTS; must be accessible for maintenance	Located in-situ to provide performance information on the OWTS; must be accessible for maintenance
Frequency of Sensor System Maintenance	How often the sensor(s) need to be maintained	No more than quarterly	No more than semi-annually	No more than annually
Accuracy	Accuracy of sensor measurements to the true measurement	Within 20% of true value[3]	Within 20% of true value[3]	Within 20% of true value[3]
Precision	Repeatability of sensor measurements	≤30% RSD	≤20-30% RSD	≤20% RSD
Range[4]	Range of the detection	2-60 mg N/L	2-60 mg N/L; 2-60 mg/L TOC	2-60 mg N/L
Frequency of Sensor Readings[5]	Capability of the sensor to provide parameter concentrations at time frequencies of:	Hourly[5]	Hourly[5]	Hourly[5]
Sensor Operating Temperature Range	Temperature range in which the sensor can operate	4° C to 35° C	4° C to 35° C	4° C to 35° C
Deployment	Period of deployment	Continuous	Continuous	Continuous
System Lifetime	Expected life of sensor	5 years	5 to 10 years	10 years

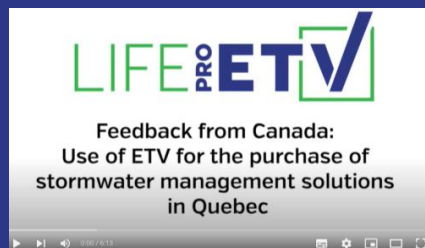National Fund for Environmental Protection and Water Management
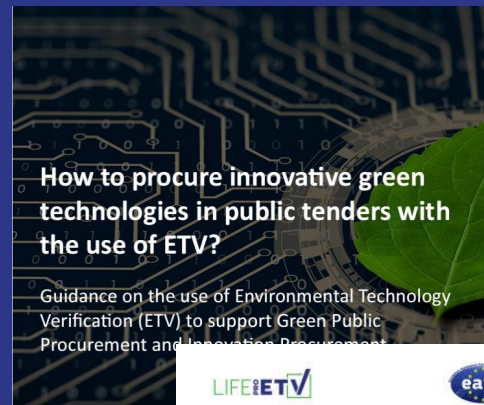
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More on ETV in public procurement:

LIFEproETV brochure:
https://lifeproetv.eu/wp-content/uploads/2019/09/LIFEproETV_brochure_Guidance_on_the_use_of_ETV_to_support_Green_Public_Procurement_and_Innovation_Procurement.pdf

Materials and recording from the webinar: *Let's talk about ETV as a tool for green innovations in public tenders*

https://lifeproetv.eu/our-events/

LIFEproETV

www.LIFEproETV.eu project:

Our ambition is to **make ETV the EU leading scheme accelerating market uptake of green innovations** with strong market acceptance and recognition through:

- stakeholders engagement
- solid and accessible knowledge base on ETV
- building ETV skills, knowledge and understanding
- capacity building
- favourable policy environment
- awareness raising and promotion

Total budget: €1.876,282
% EC co-funding: 52,68%
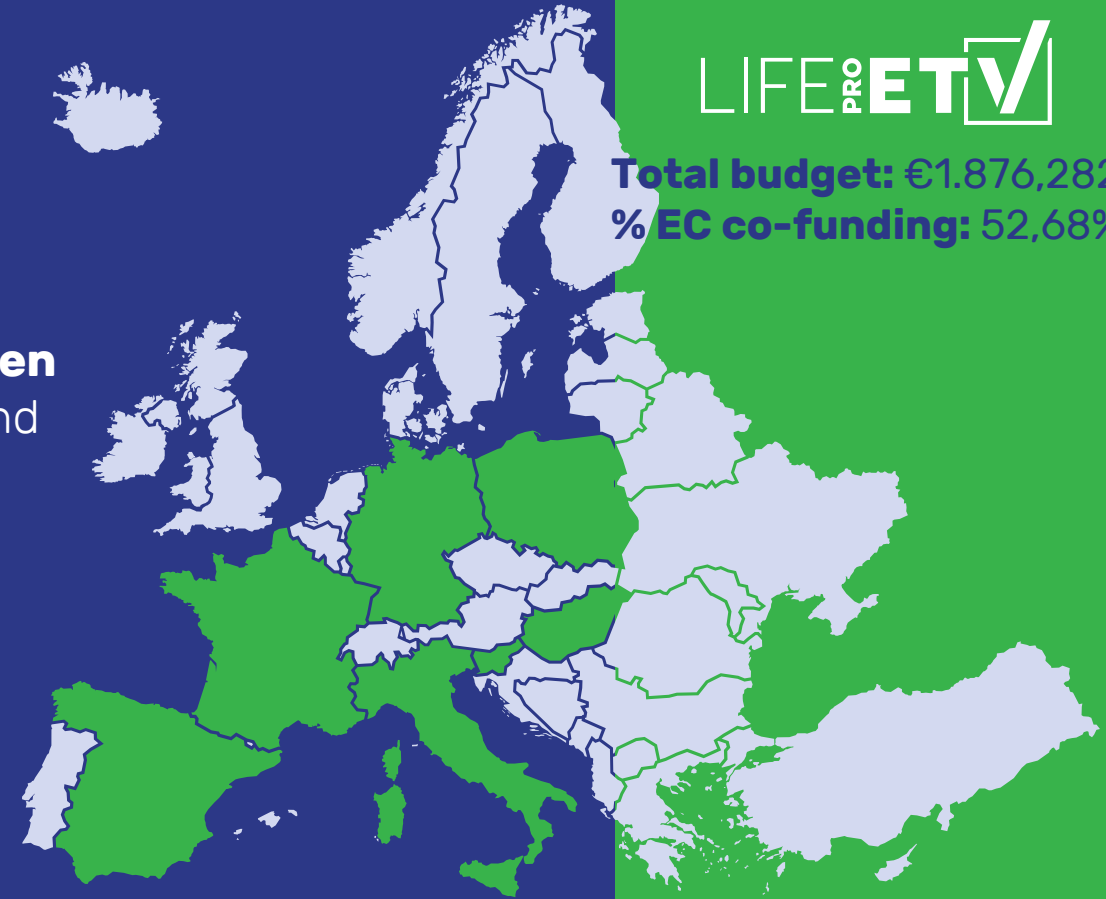
Thank you for your attention

Need more info?

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Institute for Ecology of Industrial Areas, Katowice, Poland

e-mail: i.ratman-klosinska@ietu.pl

www.lifeproetv.eu
https://ec.europa.eu/environment/ecoap/etv_en

Testing tools and methodologies in HPC
Public Procurement of Innovative Solutions (PPI) and Pre-Commercial Procurement of High-Performance Computing

Dirk Pleiter
Head of the PDC Center for HPC
KTH Royal Institute of Technology

Testing tools and methodologies in HPC

Dirk Pleiter, KTH

EAFIP Webinar
14 July 2022

Overview

- Introduction and background

- Overview of the needs

- Need for innovations

- Need for energy efficiency

- Summary and conclusions

PPI4HPC Goals

- Foster science and engineering applications in Europe by providing **more computing and/or storage resources** through PRACE

- **Promote R&I on HPC architectures and technologies** in Europe

- A greater weight and more **impact on common topics of innovation** and on the design of the solutions according to the need of scientists and engineers in Europe by a coordinated approach

Consortium and Procured Solutions

- BSC (Spain):
  Storage system

- CINECA (Italy):
  HPC system Marconi100

- GENCI/CEA (France):
  HPC system Joliot Curie

- JSC (Germany):
  HPC system JURECA-DC

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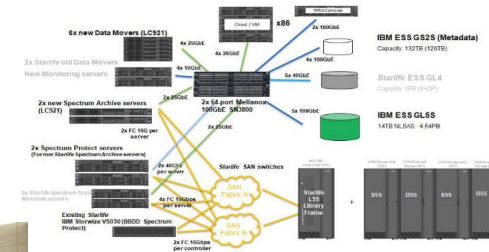
Procurement Organisation

- **Joint activities**

    - Election of a lead procurer: GENCI

    - Market survey, open dialogue

    - Common technical specifications and evaluation criteria

    - Joint call for tender and selection of candidates

- **Local activities**

    - Technical specifications and evaluation criteria for local lot

    - Competitive dialogue

    - Awarding of contract for local lot

    - Evaluation of the procured system

Needs

- **General common needs**
  - Significant increase of computing capabilities and/or storage capacity
  - Improve energy efficiency = reduce operational costs

- **Specific common needs = needs for innovation**
  - Energy efficiency and power management
  - Data management
  - Programming environment and productivity
  - Data centre integration
  - Maintenance and support
  - System and application monitoring
  - Security

- **Lot-specific needs derived from specific common needs**

Need for Innovation:
Innovation Criterion

- Mandatory requirement: include at least one innovative feature

- Criterion definition

  – **Relevant**: The innovative component or architectural innovation must be relevant for achieving performance targets or meeting functional requirements

  – **Recent**: The time difference in time between first deployment of innovation and submission of bid must be <24 months.

  – **New**: The component or architectural innovation in question must not have been used for more than 20% of the systems in the EU that are listed in a recent Top500 list

- Supplier were requested to document all innovative features and explain compliance with the criterion

Need for Innovations:
Topics of Common Interest

- Topics of common interests reflect common needs and have been communicated jointly as buyers group
- Tender implementation
  - For each evaluation criterion define level-one and level-two Target Capabilities (TC-1, TC-2)
  - Award higher score for given evaluation criterion if more TC-1 or (with less weight) TC-2 are provided
- Example: Energy efficiency and power management in German lot

  - Criterion: Quality of hardware (20% weight)
  - TC-1: The procured system will be able to measure energy at node level in time intervals of at least 60 seconds
  - TC-1: The Candidate will provide tools and/or an API that enable analysis and correlation of power and energy measurements with performance data
  - ...

Need for Innovations: Testing

- All received bids complied to the innovation criterion
- We observed significantly different market responses to specific needs
  - Not all Target Capabilities could be realised
- **Testing** of the innovations was performed on a case-by-case basis
  - No testing of standard-compliance required
  - Technical expertise for assessing compliance with requirements stated in tender was available
  - Testing focussed on demonstration of benefits, e.g. in terms of performance enhancements

Need for Energy Efficiency

- To promote energy efficiency, electricity costs have been taken into account in the value-for-money analysis

- **Value** = amount of work executable during the life-time
  - Amount of work defined by number of repetitions of pre-defined workload

- **Money** = Total Cost of Ownership (TCO)

  - Acquisition and maintenance costs

  - Site preparation costs (provided by procurer)

  - Electricity costs (based on figures provided by procurer)

Need for Energy Efficiency: Testing

- Testing happened after system deployment either as part of acceptance or as part of the evaluation

- Example: Comparison of old and new system in German lot
  - 4 application benchmarks for different science areas
  - Time-to-solution Δt should remain similar
  - Number of required compute nodes should reduce

Application benchmark	JURECA		JURECA-DC	
	N_{node}	Δt [s]	N_{node}	Δt [s]
ZFS	160	425	19	509
CP2K	128	819	48	883
ParFlow	64	81	16	98
ICON	100	24	9	38

Testing the Progress in Compute Capability and Power Efficiency

Relative change from previous to PPI4HPC systems

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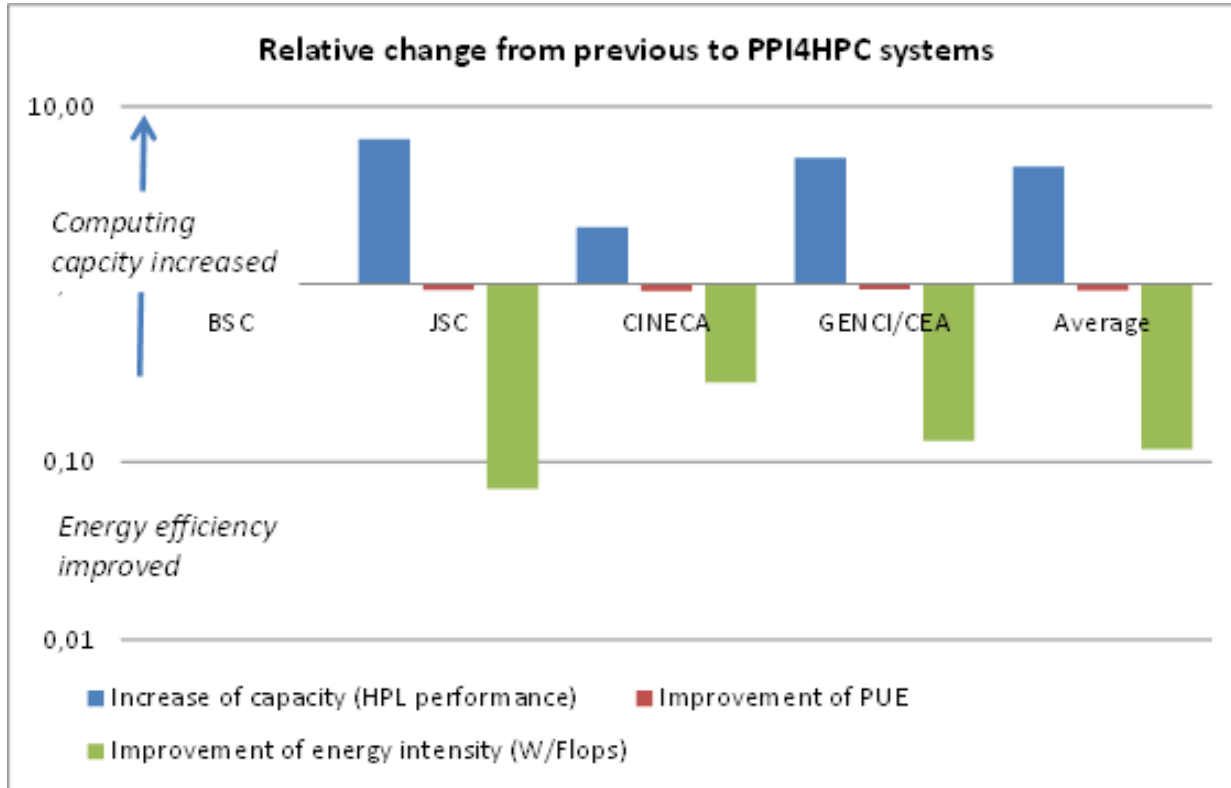
Connection to Preceding PCP

- Pre-Commercial Procurement on "Whole-System Design for Energy Efficient HPC" within the PRACE-3IP project

- Approach: Allow competitors develop different HPC architectures and technologies

- **Testing** based on 4 application benchmarks from different science areas based on the following criteria
  - Successful execution of the applications
  - Reduction of energy-to-solution within a given time-to-solution

- PRACE-3IP PCP and PPI4HPC had not been officially linked
  - Pre-requisite of unchanged buyer group was too restrictive
  - Overall benefits for procuring entities in this case too small

- Some of the developed solutions have been reused for the solutions procured within PPI4HPC

Sustainability: Carbon Footprint

- The carbon footprint has not been assessed as part of procurement process, only a a posteriori analysis was performed

- The carbon footprint is impacted by

  - Consumed electricity

    - Typically main impact factor, but depends on source of electricity
    - PPI4HPC sites: 50 – 300 g_{CO2} / kWh

  - IT equipment production

    - Estimated to account for ~15% of the carbon footprint
    - The necessary figures from suppliers are largely unavailable

  - IT equipment transport

    - No estimates available

Summary and Conclusions

- PPI4HPC has been the first joint procurement in Europe

- Computing performance (or storage capacity) could be significantly improved together with energy-efficiency
  - Main driver: TCO-based value-for-money evaluation

- All solutions included innovations that significantly improved quality of the offered solution
  - The tenders defined Target Capabilities that were taken into account for the qualitative evaluation of the solutions

- Testing was performed after solutions had been put into operation
  - Mainly due to available technical expertise, the following was not required: testing during procurement, standard compliance testing

Further Reading

- The public PPI4HPC documents are available at

  https://ppi4hpc.eu/about-ppi4hpc/public-documents

- Documents of particular interest

  - Report on the assessment and validation of innovative solutions (project deliverable)

  - Lessons Learned on Legal Aspects (white paper)

www.ppi4hpc.eu

THANK YOU

Drug Detect PPI
Drug detection in correctional institutions and prisons
Needs analysis, testing approach and KPIs

Ramona Apostol
Senior procurement advisor
Ministry of Justice, The Netherlands

Approach to testing and validation

Speaker: Dr. Ramona Apostol (DJI)

– Eafip workshop 14th of July 2022 –

Agenda

Overview project Drug Detect

Innovation requirement

Overview use-cases

Testing during the competitive dialogue

Validation after signing the contract

Agenda

Overview project Drug Detect

Innovation requirement

Overview use-cases

Testing during the competitive dialogue

Validation after signing the contract

Overview Drug Detect Project

- innovative solution
- that detects a large number of drugs
- that is available 24/7
- that does not cause delays in internal processes
- that requires minimal or no human intervention
- that is compliant with privacy legislation (GDPR)
- budget of approx. 3.880.000€

Overview Drug Detect Project

DRUGDETECT

- 34 prisons
- 23 locations
- +12 500 inmates
- +6 000 staff

Dienst Justitiële Inrichtingen — *Ministerie van Justitie en Veiligheid*

- 24 prisons
- 28 locations
- +8 500 inmates
- +15 000 staff

FEDERALE OVERHEIDSDIENST JUSTITIE

- 35 prisons
- +10.000 inmates
- +9000 staff

GOBIERNO DE ESPAÑA — **MINISTERIO DEL INTERIOR** — SECRETARÍA GENERAL DE INSTITUCIONES PENITENCIARIAS

- 81 prisons
- 55 110 inmates
- +23 000 staff

Agenda

Overview project Drug Detect

Innovation requirement

Overview use-cases

Testing during the competitive dialogue

Validation after signing the contract

Innovation requirement

- <u>new</u> or <u>significantly improved</u> products, services or processes (includes existing solutions that are to be utilised in a new and innovative way)

- that have already been <u>(partially) demonstrated</u> on a small scale and

- may be <u>nearly or already available</u> in small quantities on the market,

- but which have <u>not been widely adopted</u> yet.

  ✓ PPI does not include the procurement of R&D!!

Innovation requirement

relevant for important performance targets or functional requirements.

first deployment (purchase, not pilot), not more than 24 months ago.

Has not been used for more than 5 clients (purchase, no pilots).

One or more innovative components

Agenda

DRUGDETECT

Overview project Drug Detect

Innovation requirement

Overview use-cases

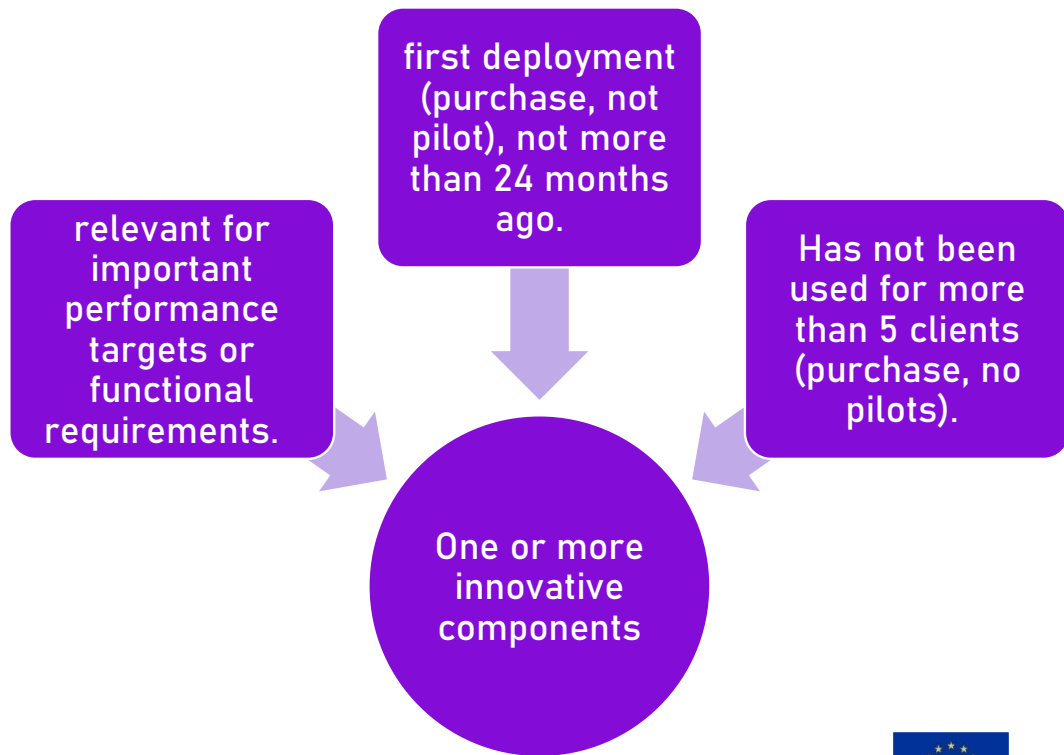Testing during the competitive dialogue

Validation after signing the contract

Use-cases

Importance differs per partner
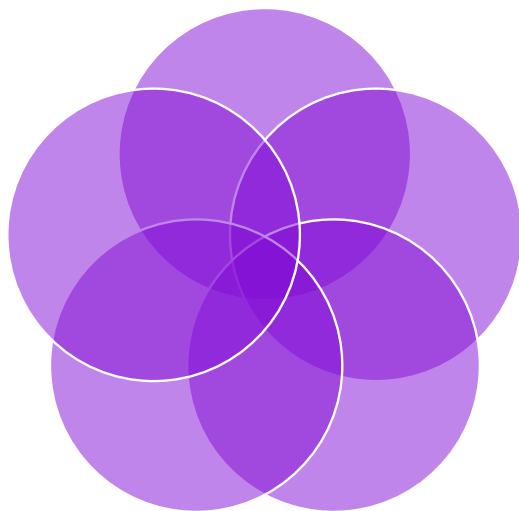
10 use-cases

Random order

Main scenario's

Overview use-cases

DRUGDETECT

UC-1 On the inmate's body	UC-2 On the visitor's body	UC-3 On the personnel /staff body	UC-4 Letter/post for inmate	UC-5 Package for inmate

UC-6 Packages from suppliers	UC-7 Visitor's luggage	UC-8 Personnel / Staff luggage	UC-9 Inside the inmate's body	UC-10 Inside a prison room/cell

Use-case 1 On the inmate's body – Normal flow

1. Inmate enters the building

2. Security officer (trained as profiler) notices suspicious behaviour (e.g. inmate is very nervous etc.).

3. Security officer asks the inmate to hand over luggage and other objects.

4. Inmate is asked to walk through the detection gate.

5. Gate signals the presence of a small package (5cmx5cm) hidden in the armpit of the inmate.

6. Security officer searches (rub-down) the inmate and asks him/her to hand over the suspicious package.

8. A sample from the package is collected and checked with trace detection device.

9. Trace detection device provides result. Inmate is allowed to pass or gets a report/sanction.

Targeted devices
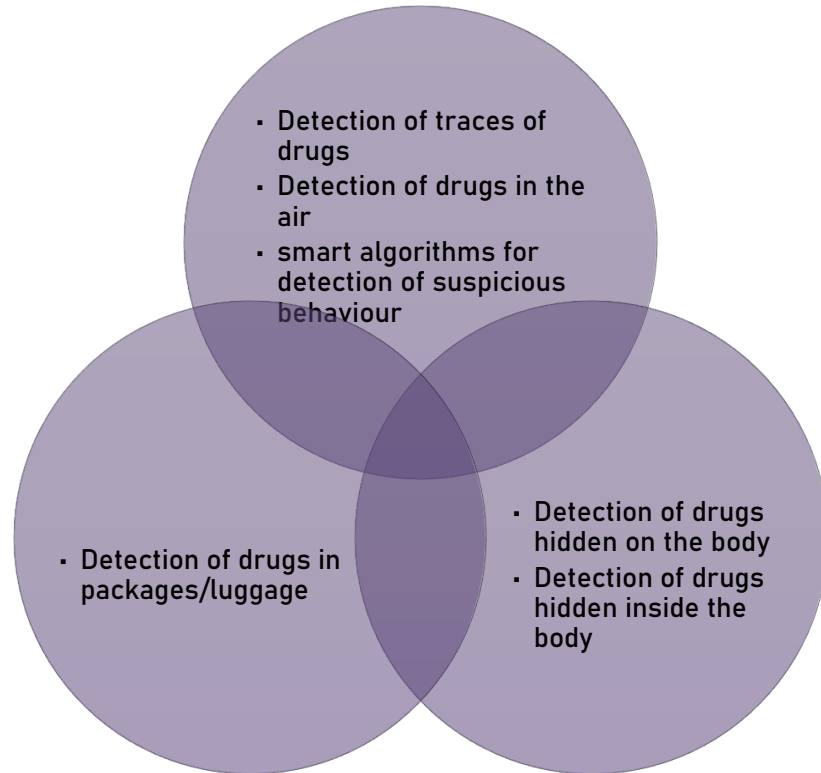
- Detection of traces of drugs
- Detection of drugs in the air
- smart algorithms for detection of suspicious behaviour

- Detection of drugs in packages/luggage

- Detection of drugs hidden on the body
- Detection of drugs hidden inside the body

Agenda

Overview project Drug Detect

Innovation requirement

Overview use-cases

Testing during the competitive dialogue

Validation after signing the contract

- Suppliers qualified on the basis of selection criteria
- Context meeting: ensure that each qualified candidate understands the elements expected in the initial proposals.
- Submission of initial proposal
- 2 or 3 dialogue rounds
  - Any element of the tender documentation may be discussed
  - Testing of compliance with the minimum requirements
- After each dialogue round intermediate/final proposal

Testing during the competitive dialogue

Testing during the competitive dialogue
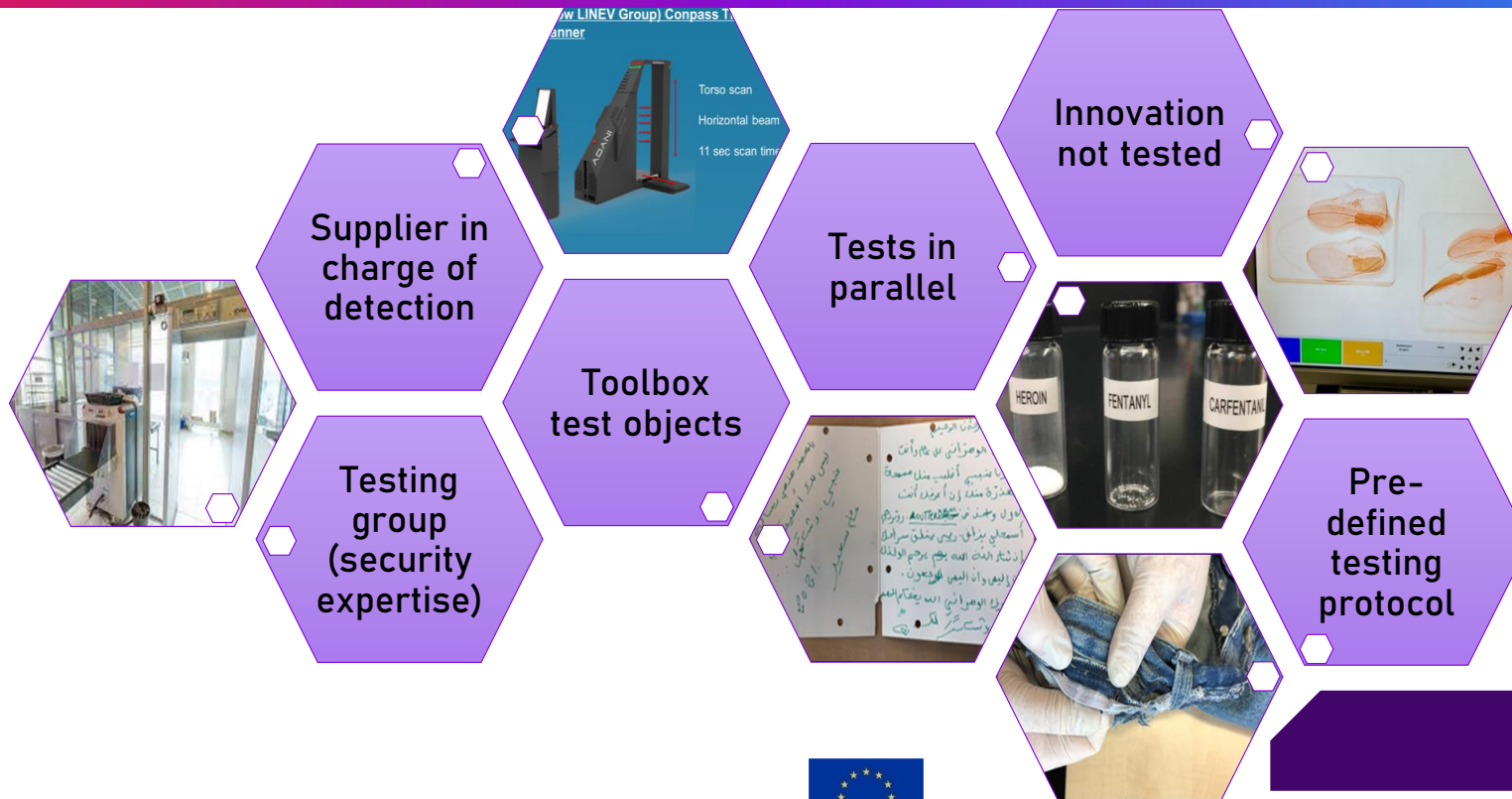
- Supplier in charge of detection
- Testing group (security expertise)
- Toolbox test objects
- Tests in parallel
- Innovation not tested
- Pre-defined testing protocol

Agenda

DRUGDETECT

Overview project Drug Detect

Innovation requirement

Overview use-cases

Testing during the competitive dialogue
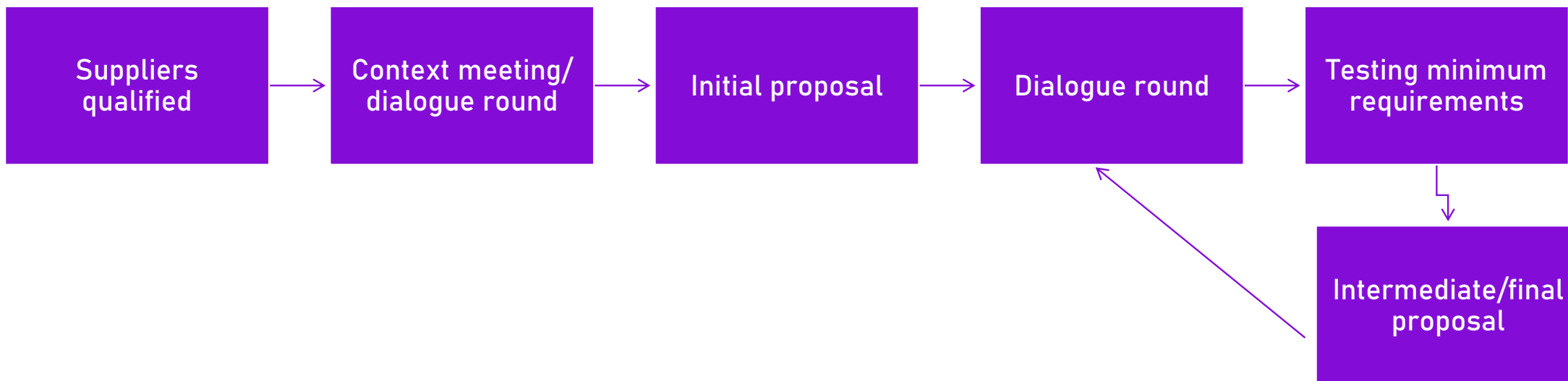
Validation after signing the contract

Validation after signing the contract

Installation and validation after the award

Small scale validation in operational environment (in one prison)

Further calibrate

Full deployment in several prisons

Questions?

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Tel. +31610796045

Q&A

Wrap up & Closure

Takeaways

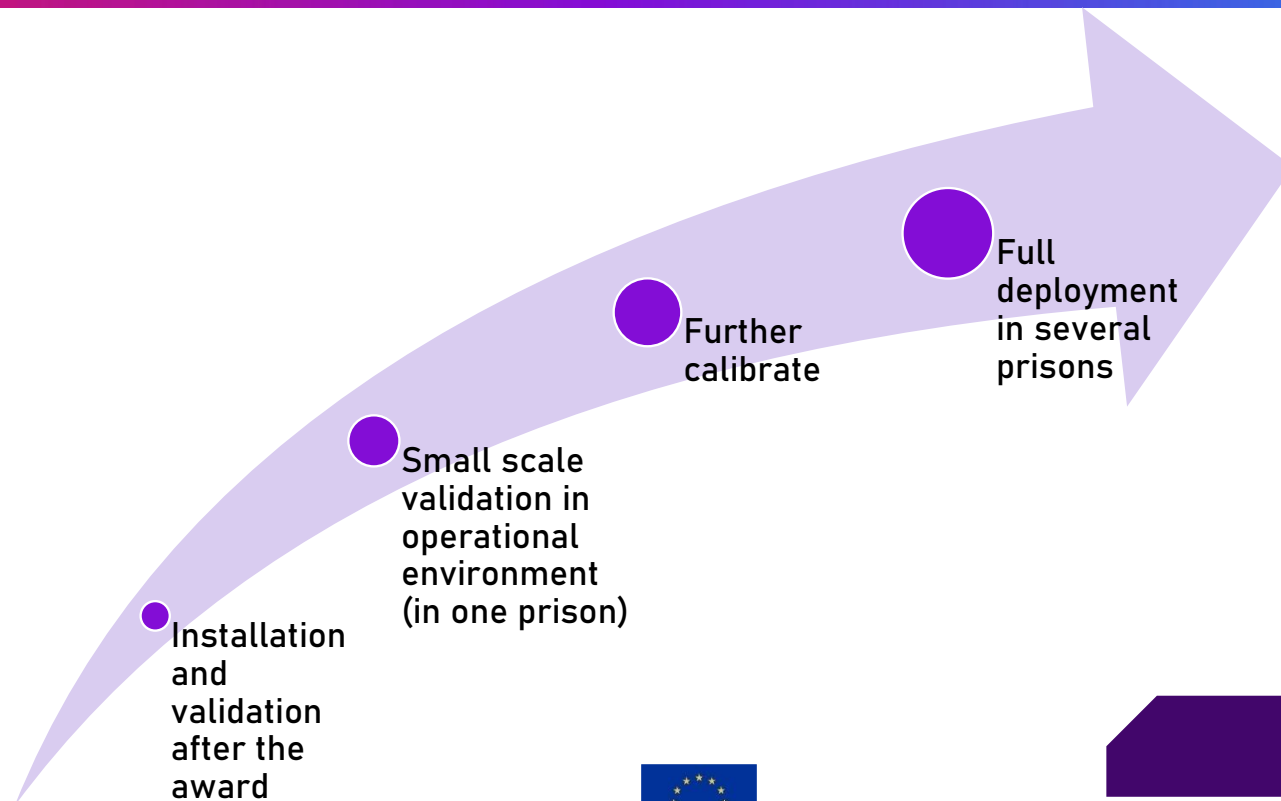- Testing should be addressed on a case-by-case basis. It can be focused on demonstration of benefits, e.g. in terms of performance enhancements.

- Testing methodologies can be based on compliance with standards, like ISO standard 14034.

- An innovation criterion in the tender can incentive suppliers to propose innovative aspects/components to be evaluated.

- Request suppliers to document all innovative features and explain compliance with the innovation criterion.

- One approach is to define for each evaluation criterion level-one and level-two targeting capabilities.

- Use a pre-defined testing protocol.

- Define Value and Total Cost of Ownership.

- Use cases are useful to define testing and validation conditions.

Future events

TOPIC	DATE
Climate change: procure greener	15th September 2022
Introduction to Innovation Procurement	27th October 2022
Automation of public services & Robotics: how public authorities can deal with it	15th December 2022
Construction, infrastructure & energy innovations in ICT related projects	16th February 2023

More information on: www.eafip.eu/events/webinars/upcoming-webinars/

Call	Launch date	Deadline
2nd Call 2022	15 April 2022	15 July 2022
3rd Call 2022	16 July 2022	17 October 2022
4th Call 2022	18 October 2022	17 January 2023

The 2nd of 2022 to apply for assistance under EAFIP is open

Apply now!

https://ec.europa.eu/eusurvey/runner/EAFIP2022

Thank you for your attention

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www.eafip.eu

EAFIP WEBINAR #1

EVALUATION AND TESTING: TOOLS AND METHODOLOGIES

14 July 2022

Q&A

Environmental Technologies Verification

Third-party validation technology performance using the internationally recognised ISO standard 14034

Speaker: Izabela Ratman-Kłosińska

LIFEproETV Project Coordinator - Institute for Ecology of Industrial Areas

	Question	Answer
1.	**What are the next steps of ETV regarding the full scale programme? protocols?**	ETV is completing a new general verification protocol in autumn this year extending the technology areas from the current 3: water treatment and monitoring, energy technologies, materials, resources and recycling by 4 new areas: cleaner production and processes, soil and groundwater remediation, air pollution monitoring and abatement and environmental technologies for agriculture. Even though it will take some time for verification bodies to get accredited to act in those new areas, it is important to highlight this point in the context of new EU policies like the [Zero Pollution Action Plan](#) that may demand innovations with proven performance for example new methods to monitor and eliminate more effectively pollution from industrial processes. This is also linked with the revision of the Industrial Emissions Directive. Moreover, the extension in the environmental technologies for agriculture involves a joint effort with the VERA programme (https://www.vera-verification.eu) - a multinational cooperation between Denmark, the Netherlands, Flanders and Germany for testing and verification of environmental technologies in the agricultural sector. The programme focuses a lot on accelerating new techniques to reduce emissions from agricultural production, mainly ammonia. The program is relevant for countries in which agriculture is an important sector with a significant contribution to air pollution.
2.	**Is it possible to combine the ETV scheme with the Eafip assistance?**	Yes, indeed. Both initiatives are compatible and in fact perfectly aligned with and support each other, especially at the increasing demand for new technologies that not only allow to address an environmental problem or create a new opportunity in a more effective, novel way but guarantee that the new technology will not cause adverse or alternative environmental issues compared to the solutions with the same function currently available on the market.

Testing tools and methodologies in HPC

Public Procurement of Innovative Solutions (PPI) and Pre-Commercial Procurement of High-Performance Computing (HPC).

Speaker: Dirk Pleiter

Head of the PDC Center for High Performance Computing - KTH Royal Institute of Technology

Question   Answer

3.	**The HPC has a lot of internal expertise, is this correct?**	It is true, but this can be an area where external expertise might become useful. Take, for instance, the case of determining the carbon footprint of an HPC system. Here it is about collecting the same kind of information as in other ICT sectors.
4.	**For evaluation, the public HPC procurers are using very objective tools. The HPC has benchmarks that allow for objective outputs. Is the HPC using other subjective tools?**	When it comes to the Value for Money assessment, this evaluation is mostly objective. But when it comes to the assessment of other parts of the offer, it was based on expert evaluation and, therefore, mostly subjective.
5.	**The ideal situation would be to have a fully objective benchmark, but reality shows that the assessment is a combination of objective and subjective tools.** **Is it possible to mitigate the risk associated to the subjective evaluation?**	This is indeed possible and recommendable. Risks of subjective evaluations can be mitigated in different ways, such as describing what leads to better scores, recording all the steps and justifying all the decisions taken.

Drug Detect PPI

Drug detection in correctional institutions and prisons

Needs analysis, testing approach and KPIs.

Speaker: Ramona Apostol

Senior procurement advisor - Ministry of Justice, The Netherlands.

	Question	Answer
6.	**One of the most important take aways, lays on the use cases, needed in ICT cases, but also to understand how the work processes are in different fields.** **Is the use cases approach one of the main take aways in the project?**	Yes, indeed. The use case approach was even used during the needs identification phase, in which partners were not allowed to leave cook pressure meeting sessions until the needs were identified. In these sessions, the use cases helped to come down from a very theoretical level to more concreate aspects of the solution and to the day to day issues that the partners are facing.
7.	**What is the next set of activities in preparation for the award procedure?**	Based on the input from the market consultation and the State-Of-The-Art (SOTA) analysis, we will decide the number of lots in which the tender will be divided. Each partner will subsequently decide in which lot they want to participate, and how to allocate their own budget. In September we will present the draft procurement documentation to the market for input, before publication.
8.	**When will the tender be launched? What is the expected timeline of the project?**	The goal is to launch the tender in October and give the market parties two months to submit their proposals. All in all, Q1 of 2023 the dialogue with the selected market parties will start.
9.	**How is the testing of the solution envisaged?**	The testing will be conducted jointly, in one location with the support of the forensic institution in the Netherlands. The rest of the partners will join in there, as there is only one technical partner. This helps to minimise risks and reduce costs.
10.	**Will you decide on specific technologies before the tender, and/or do you also plan on shortlisting initial technologies?**	Indeed, we will decide during the coming period which technologies we will purchase. Each partner will make a prioritization, as we don't expect to have sufficient budget to purchase many types of technologies.