



iProcureSecurity - Identified Challenges and Innovation Needs

Main achievements

>920	•Mapped practitioners
>70	•Getting in contact with European and international initiatives
>140	•Practitioner organisations attending the workshops
>60	•Collected relevant projects
>140	•Collected EMS organisations
>110	•EMS Network members
>63	•Collected courses
28	•International Events
18	•Workshops and Webinars
>315	•Knowledge Items and Documents

iProcureSecurity - Identified Challenges and Innovation Needs

Short list of areas of EMS challenges



Wearables

- Provide vital data of patients or EMS staff
- Provide automatic alerts on changes of vital data or environmental changes



Unmanned Automatic Vehicles / Drones

- Rapid delivery of equipment or supplies
- Surveillance of dangerous areas to increase safety and situational awareness



Virtual Reality / Augmented Reality / Mixed Reality

- Train more realistic and complex scenarios
- Reduce costs for complex trainings



Telemedicine

- Provides remotely support of experts
- Exchange of vital data and patient history



Improved LOCs (Lab on a Chip)

- Rapid and precise detection of diseases



3D printing

- On demand creation of relevant supplies



Advanced Sensors and Materials

- Alert changes of vital signs of patients or EMS staff
- Improving EMS staff safety while not hindering them during treatment of patient



Artificial Intelligence and Machine Learning

- Provide automatically new insights and decision support on the environment as well as for diagnosis, treatment or triage



Blockchain/Cryptography

- Improve cyber security of all connected systems
- Secure sensitive personal data



Big data analytics

- Quick analysis of vast amount of data to get new insights on environment, diagnosis or treatment



Advanced Communication Technologies/5G

- More bandwidth to ensure vast amounts of data can be transferred immediately
- Decreased service interruptions and increased data security
- Additional information which is automatically annotated to the channel



10

Priority Areas
for R&I in EMS



81

Needs



81

Challenges



11

Technological fields

iProcureSecurity - Identified Challenges and Innovation Needs

5 Main Areas and High Level Challenges (Consortium Focus)

TRAININGS

Hands on training is expensive

High fidelity mannequins are expensive

Debriefing after training not possible

More realistic real-life scenarios needed

Real environment trainings are expensive

Individual training evaluation needed

TREATMENT

Connection to hospital

Victim located in dangerous area

Lack of access to a basic EHR

Time for diagnosis too long

Improve treatment on the scene

Treatments start late

TRIAGE

Triage algorithms are outdated

Missing situation assessment

Triage algorithms are time consuming

Triage badges get lost

No decision support systems

Over/Under Triage

BYSTANDERS

Lack of support

Afraid to risk own life

Fear in harming the victim

Limited first aid training

Lack of knowledge

Activation of bystanders

EMERGENCY CALL CENTERS

Multilanguage / Translation

Identifying fake calls

No prioritisation of right patient

Helping/responding hearing impaired

Unsufficient information about patients' location

More communication channels

The Challenge

Based on the intensive data gathering and comprehensive analysis carried out during the project the iProcureSecurity consortium agreed on the following Common Challenge for Emergency Medical Services to be tackled in a PCP action:

TRIAGE MANAGEMENT

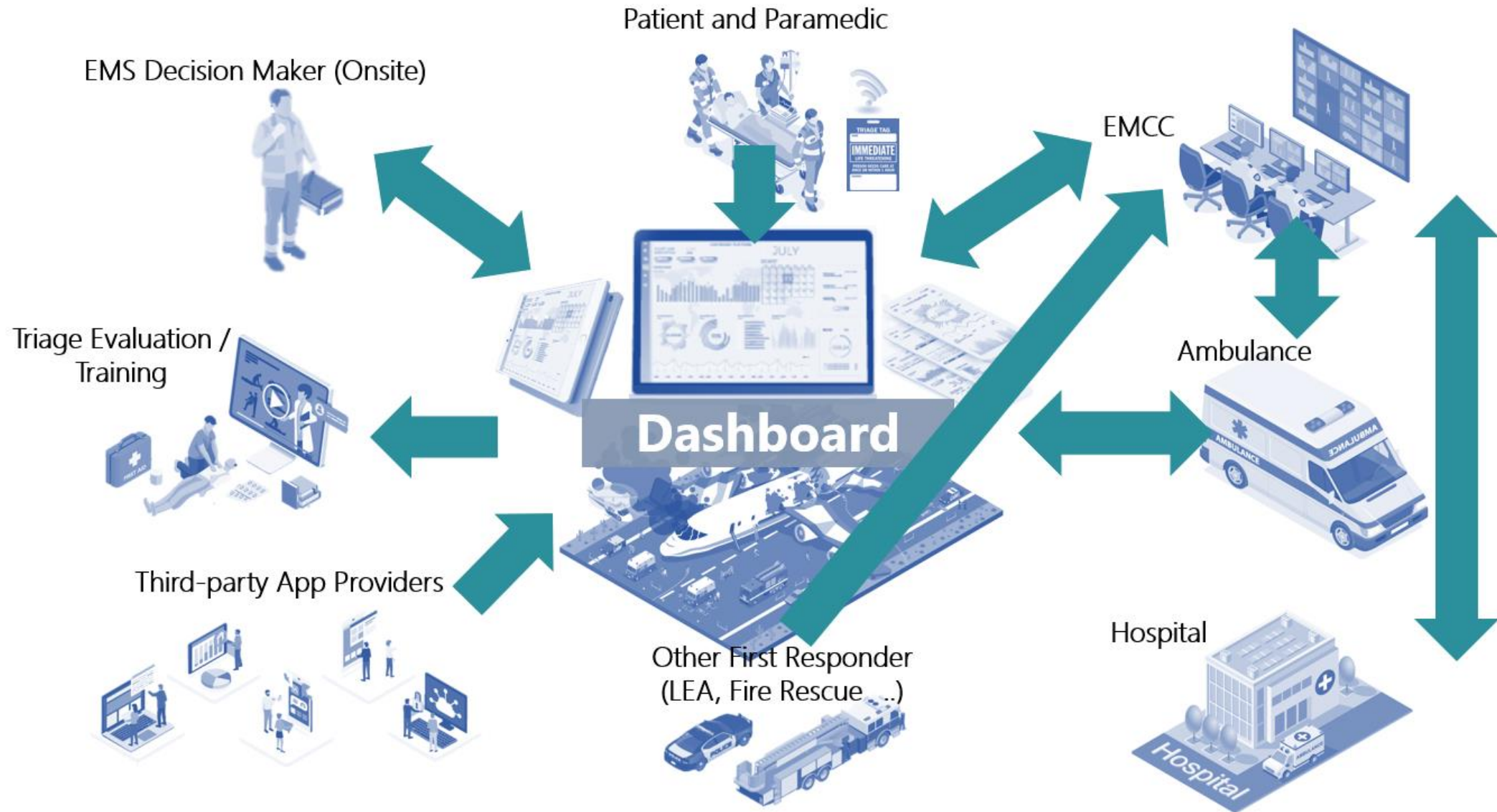
Improve triage scenarios through a flexible triage management system that provides:



- a) quick and accurate overview of casualties and their status
- b) decision support for better allocation of available resources and quicker support for casualties
- c) improved interoperability with other first responders and relevant actors
- d) reduced handover times between ambulance transport and hospitals, and
- e) insights for quality assurance and training measures.

iProcureSecurity – Common Challenge

Triage Management System



Why a data driven triage management system is urgently needed?

- Complex scenarios with quickly changing conditions
- Many casualties - scarce resources
- Outdated information and mistakes influence and delay decision making on all levels
- Inefficient paper-based or double documentation (paper-based and digital)
- Missing detection of Over-/Under-Triage
- Handover procedures need to be further improved
- Room for mistakes based on missing information should be reduced
- Missing evaluation of scenarios to improve service
- Many players that should act in concerts
- Inflexible systems
- No modular extension based on particular needs
- Missing interfaces
- Product Locked-in situation

Pre-Commercial Procurement



What is it?

Public sector challenges require improvements that are so technologically demanding that there are no near-to-the-market solutions yet and new R&D is needed.

Pre-Commercial Procurement (PCP) can then be used to compare the pros and cons of alternative competing approaches and to de-risk the most promising innovations step-by-step via solution design, prototyping, development and first product testing.

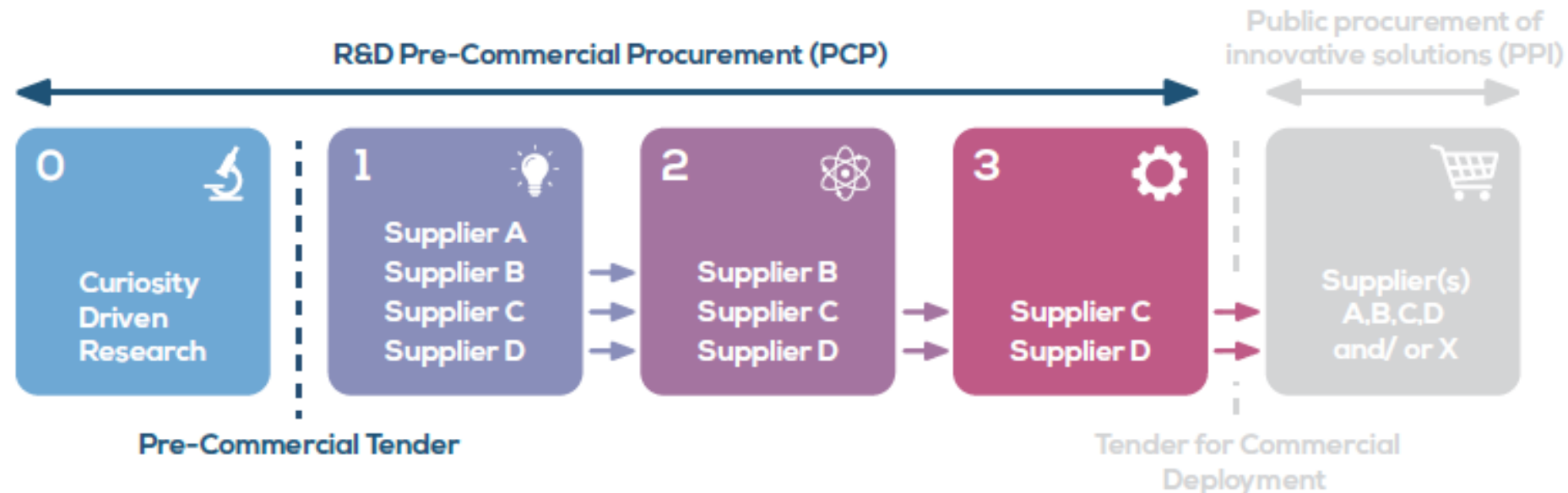
Source: <https://eafip.eu/>

Driving innovation to ensure sustainable high quality public services in Europe, Pre-Commercial Procurement (PCP) is an approach for contracting authorities to acquire research and development services (and under certain conditions related R&D results), with the purpose of steering the development of new innovations towards public sector needs, without committing to engage in a follow-up Public Procurement of the Innovative solutions (PPI) emerging from the PCP.

Pre-Commercial Procurement Overview

What is a PCP project?

In Pre-Commercial Procurement (PCP) projects public procurers provide funds to suppliers to procure R&D services and develop tailored solutions that are not available on the market yet. The PCP is co-funded by the European Commission and is divided into competitive phases, in which suppliers develop their solutions to address the procurement challenge. The iProcureSecurity budget is expected to be approximately € 12 Million Euros, of which 70% will be used to fund the R&D activities of the suppliers.



Which Phases are Planned?

0. Curiosity Driven Research

The preparation of the PCP will take place in the initial phase (phase zero). This will include an Open Market Consultation to raise the interest of possible developers or suppliers in the process, followed by the Call for Tender requesting for submission of proposals. To speed up this process some aspects have been already covered during the iProcureSecurity CSA project.

1. Solution Design

The project consortium will evaluate the bids with the support of external experts (including the presented solution designs) with respect to technical, economical and organisational viability. Finally a minimum of four suppliers will be selected to develop their solutions.

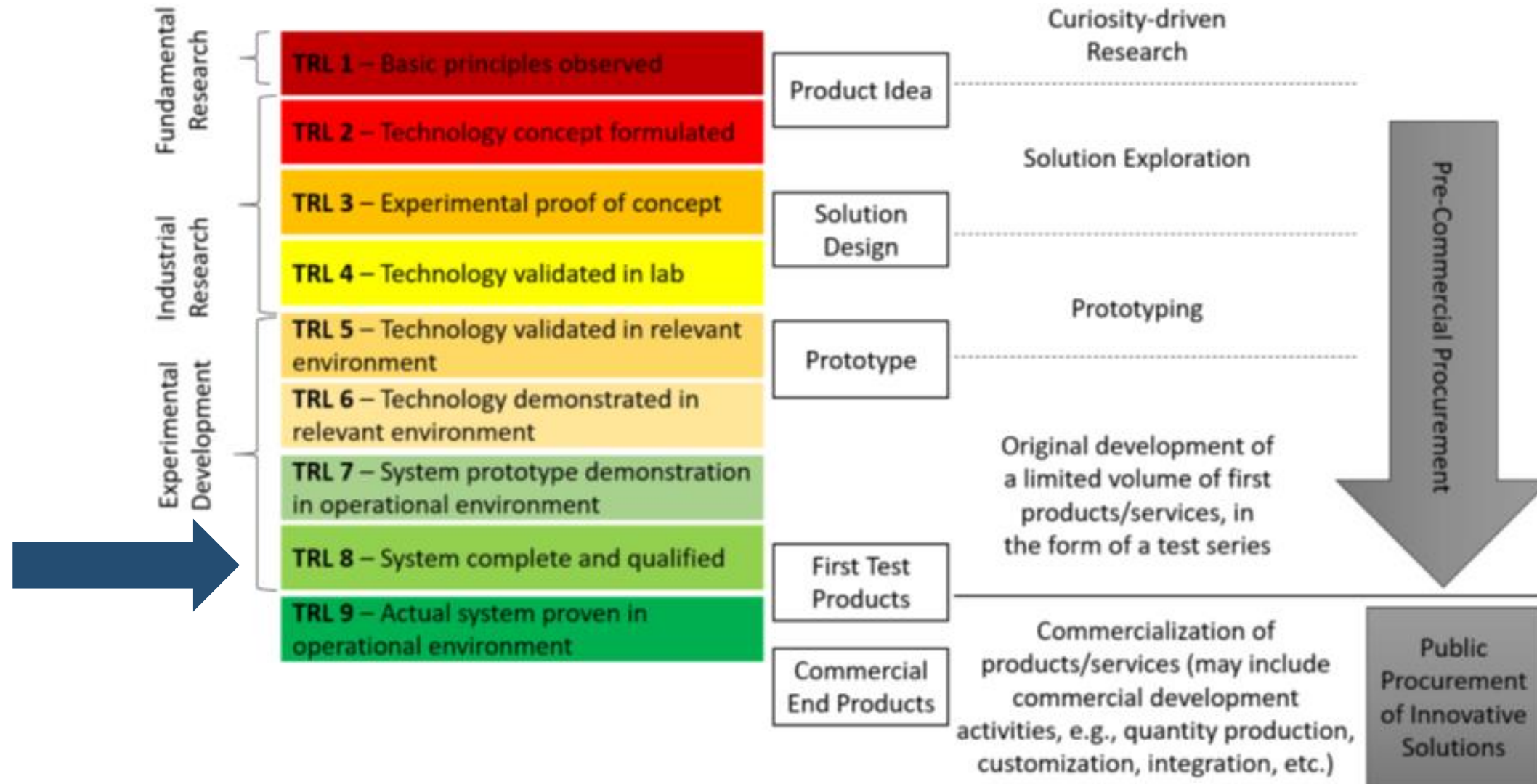
2. Prototype development

Participants who have successfully completed phase one will be invited to phase two. At least three suppliers will be awarded to develop their solutions into working prototypes. In this phase interim evaluations by an independent review board are foreseen to continuously improve the prototypes while developing them.

3. Original Development & Operational Testing

Finally, a minimum of two suppliers will be selected to test their prototypes under real-life situations. During the complete PCP process, selection of suppliers entering the next phase will be based on transparent and objective criteria.

Pre-Commercial Procurement Overview



Group of Buyers

The Buyers, that decide to jointly procure R&D services represent the demand side of the PCP, play pivotal roles in the procurement approach / strategy and ultimately, the final solutions' use.

Benefits

- Cross-border joint procurement
- costs of the PCP are shared between members of the buyers group
- decreasing the share of investment required from each buyer
- Risks are also shared by all parties
- total risk undertaken by a Public Buyer is diminished

[Source: PCP Handbook](#)

Pre-Commercial Procurement

Benefits for each Buyer

Procurers/Buyers:

- Achieve desired degree of interoperability from the start.
- Reduce technology and vendor lock-in (when interoperability requirements and/or open standards are required).
- Gain increased end-user satisfaction and quality service delivery.

Due to competing suppliers procuring organisations:

- Obtain better quality products at lower price.
- Reduce risk of investing high amounts of money in R&D to develop a product that doesn't work
- Risk of potential legal claims is also diminished, as the R&D development phase (PCP) is clearly separated from the purchasing of commercial volumes
- Avoid recurring unforeseen customised development expenditures.

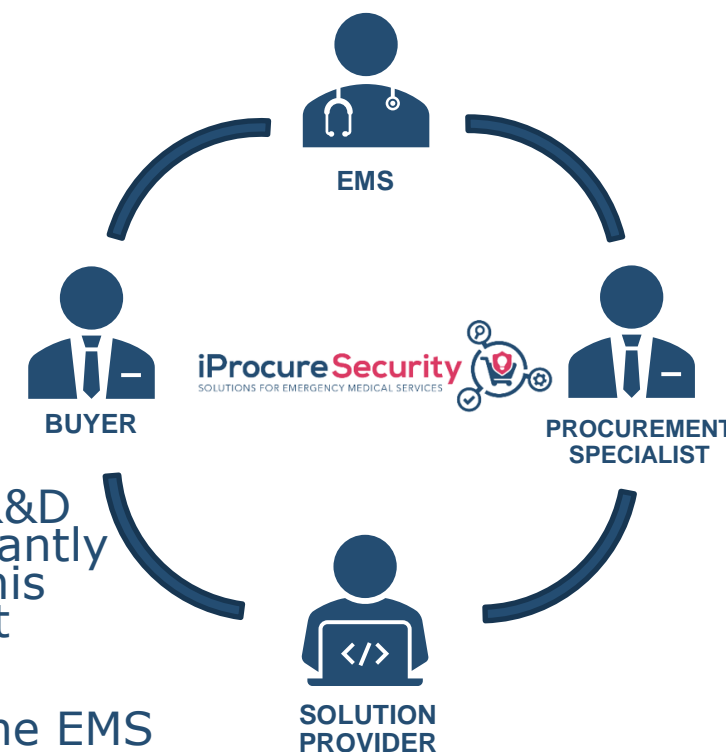
How to benefit as Supplier?

How to benefit from upcoming PCP activities (2021)

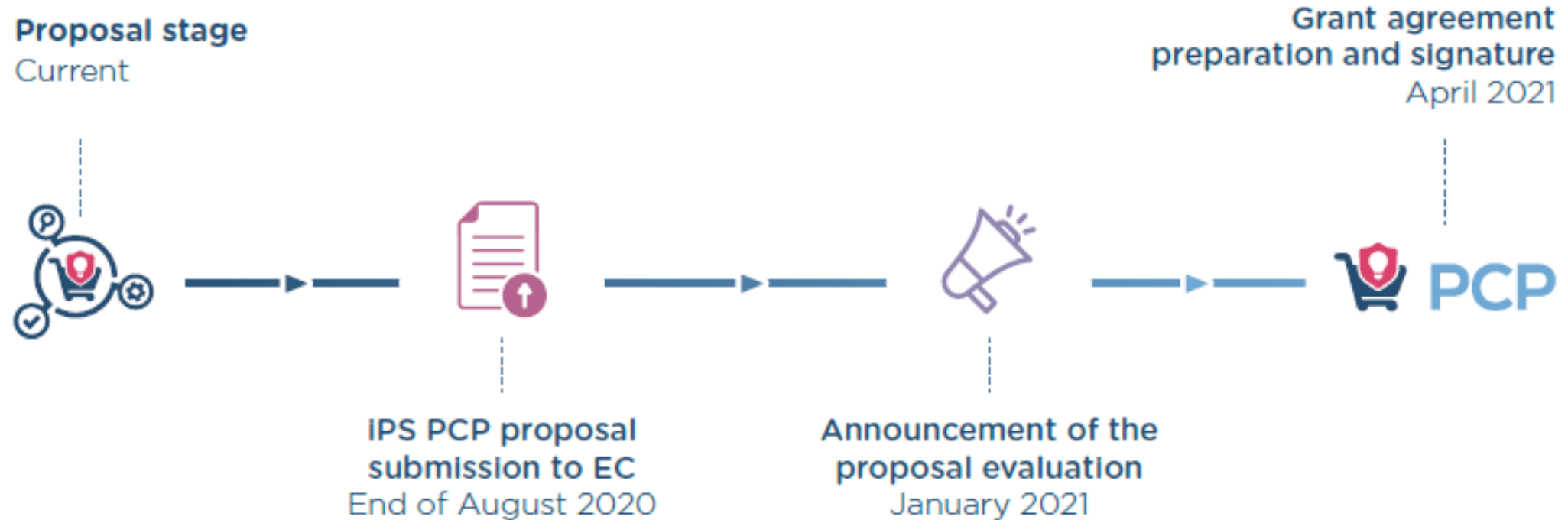
- Participate as bidder (individual or consortium)
- Funding of concepts and prototypes
- Detailed requirements and feedback from practitioners
- Shortens time-to-market for innovative products and services
- Huge market potential in Europe and across the world

How to benefit from iProcureSecurity (now)

- If you've **innovative solutions** in the EMS domain or running R&D activities please get in contact with us we're interested in constantly update our online catalogue and thereby contribute in sharing this information with EMS organisations and further interested target groups across the world
- Get in touch with **EMS practitioners** and decision makers via the EMS network and discuss with us challenges, innovation needs and available solutions
- Stay tuned for **upcoming webinars**
- Get in touch with us directly office@iprocuresecurity.eu



Timeline



iProcureSecurity Online Information Hub

www.iprocuresecurity.eu



The landing page features the iProcureSecurity logo at the top left, with the tagline 'SOLUTIONS FOR EMERGENCY MEDICAL SERVICES'. A navigation bar includes links for Home, News, EMS World, Knowledge, Events, EMS Network (highlighted with a heart icon), About, and Contact. The main content area has a background image of a hand holding a magnifying glass over a network of medical icons. A large white box contains the text 'Join our EMS Network' and 'Become a main driver of innovation in the field of Emergency Medical Services and join the iProcureSecurity EMS Network'. Below this is a red button labeled 'Register now!'. At the bottom, there are three smaller sections: 'Join our EMS Network' with a network diagram, 'Check out our Groups' with a smartphone showing a group chat, and 'Meet our Members' with a group photo of diverse healthcare professionals.

iProcureSecurity
SOLUTIONS FOR EMERGENCY MEDICAL SERVICES

Home News EMS World Knowledge Events **EMS Network** About Contact

Join our EMS Network

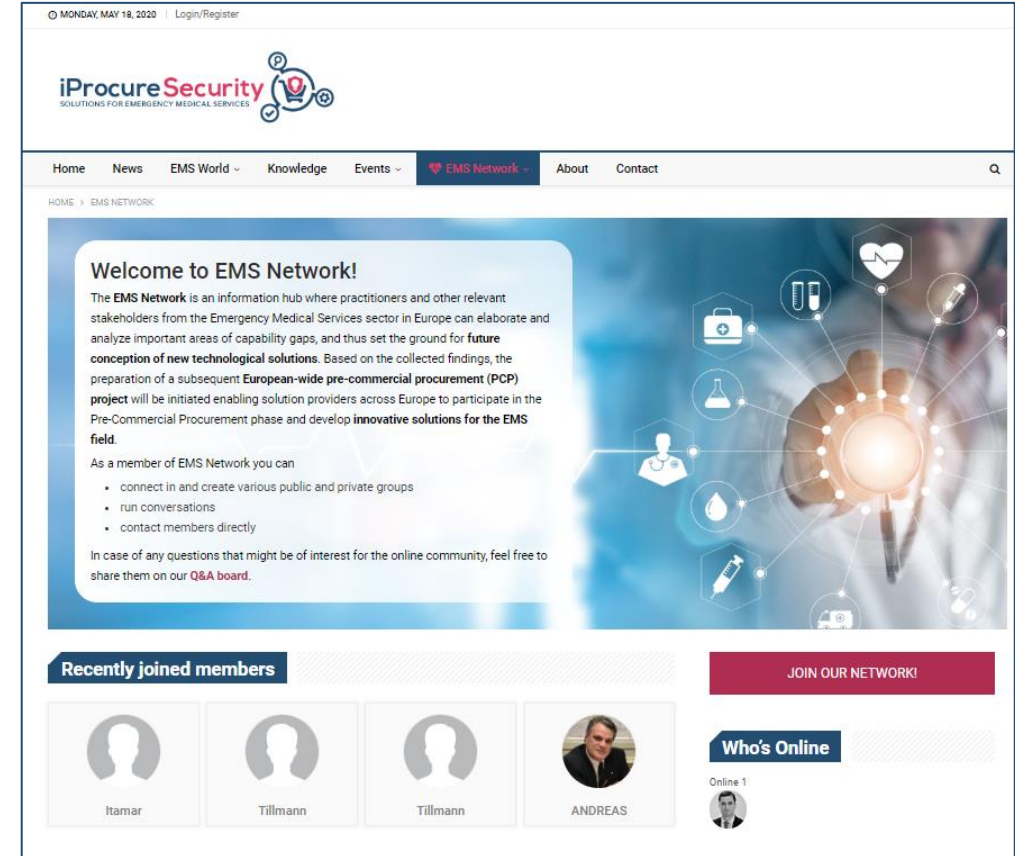
Become a main driver of innovation in the field of Emergency Medical Services and join the iProcureSecurity EMS Network

Register now!

Join our EMS Network

Check out our Groups

Meet our Members



This page is the welcome screen for the EMS Network. It includes the same header and navigation bar as the landing page. The main content area features a large blue box with the heading 'Welcome to EMS Network!'. The text describes the network as an information hub for practitioners and stakeholders in the Emergency Medical Services sector, aimed at identifying capability gaps and developing innovative solutions. It mentions a 'European-wide pre-commercial procurement (PCP) project' and lists benefits for members: connecting and creating groups, running conversations, and direct contact. A red button 'JOIN OUR NETWORK!' is positioned to the right. Below the welcome message, a 'Recently joined members' section displays four profile cards for Itamar, Tillmann, Tillmann, and ANDREAS. A 'Who's Online' section shows one user online.

MONDAY, MAY 18, 2020 | Login/Register

iProcureSecurity
SOLUTIONS FOR EMERGENCY MEDICAL SERVICES

Home News EMS World Knowledge Events **EMS Network** About Contact

HOME > EMS NETWORK

Welcome to EMS Network!

The **EMS Network** is an information hub where practitioners and other relevant stakeholders from the Emergency Medical Services sector in Europe can elaborate and analyze important areas of capability gaps, and thus set the ground for **future conception of new technological solutions**. Based on the collected findings, the preparation of a subsequent **European-wide pre-commercial procurement (PCP) project** will be initiated enabling solution providers across Europe to participate in the Pre-Commercial Procurement phase and develop **innovative solutions for the EMS field**.

As a member of EMS Network you can

- connect in and create various public and private groups
- run conversations
- contact members directly

In case of any questions that might be of interest for the online community, feel free to share them on our **Q&A board**.

JOIN OUR NETWORK!

Recently joined members

Itamar Tillmann Tillmann ANDREAS

Who's Online

Online 1

THANK YOU

MAAKE
TERMA KASIH
RAIBH MAITH AGAT
MULTUMESC
GRAZIE
MERC
MOCHCHAKKERAM
CHOKRANE
MATUR NUWUN
MATONDO
CHOKRANE
UA TSAUG RAU KOJ
DANK JE
RAIBH MAITH AGAT
SPASIBO
MAAKE
OBRIGADO
WELALIN
SPASIBO
ARIGATO
MOCHCHAKKERAM
OBRIGADO
KIITOS
SALAMAT
MOCHCHAKKERAM
MERC
OBRIGADO
ASANTE
UA TSAUG RAU KOJ
MOCHCHAKKERAM
KIITOS
DANKON
NIRRINGRAZZJAK
MOCHCHAKKERAM
VINAKA
MULTUMESC
NIRRINGRAZZJAK
MAMANA
OBRIGADO
DANK JE
KIA ORA
CHOKRANE
MULTUMESC
SALAMAT
CAM ON BAN
MERC
MOCHCHAKKERAM
JUSPAXAR
OBRIGADO
MATONDO