



BroadMap to BroadWay :

Steps towards European Interoperable broadband
for Public Safety

PSCE Conference, Madrid,
28th November 2017

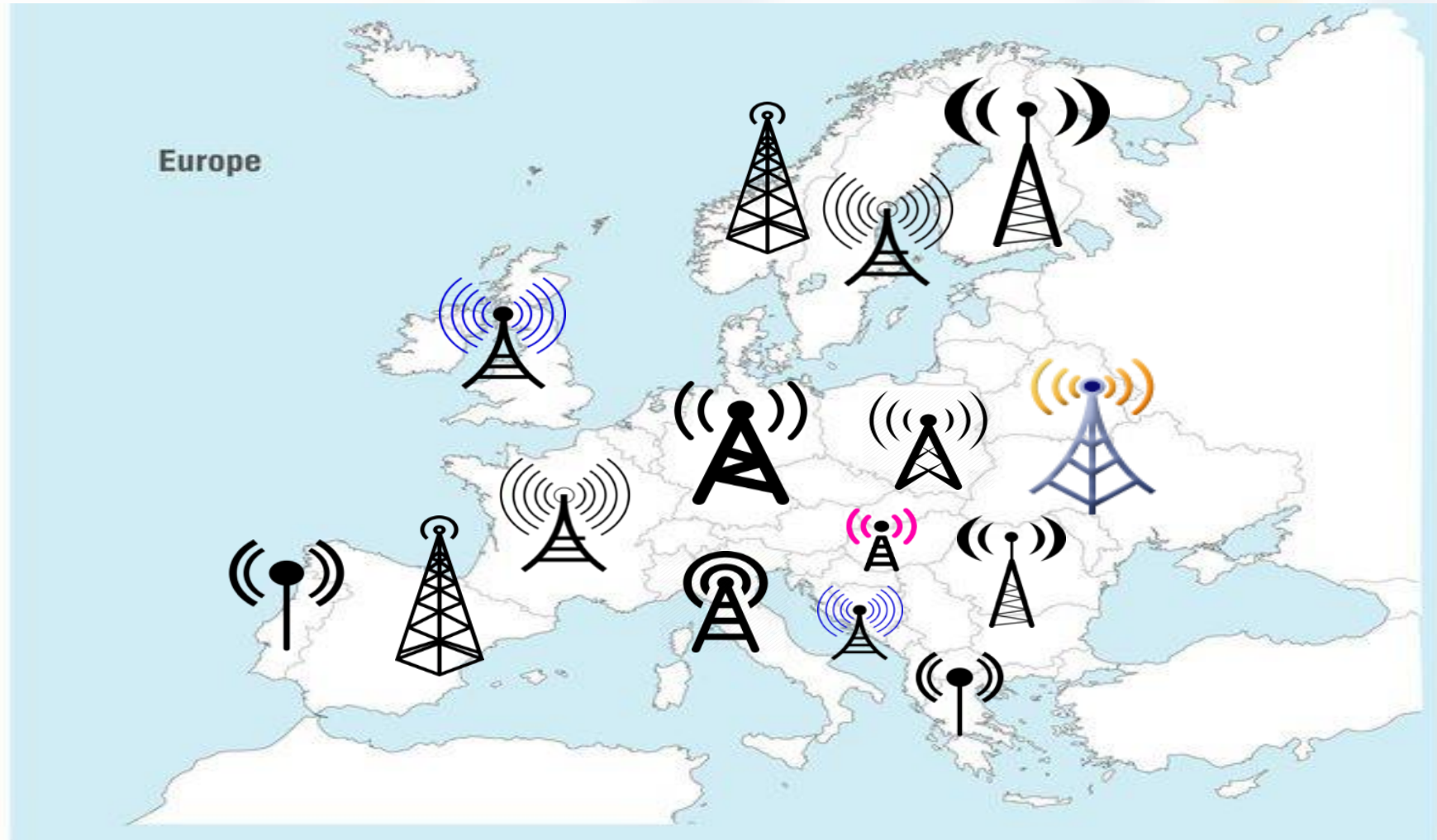
David Lund

PSCE Forum, BroadMap Coordinator

www.psc-europe.eu

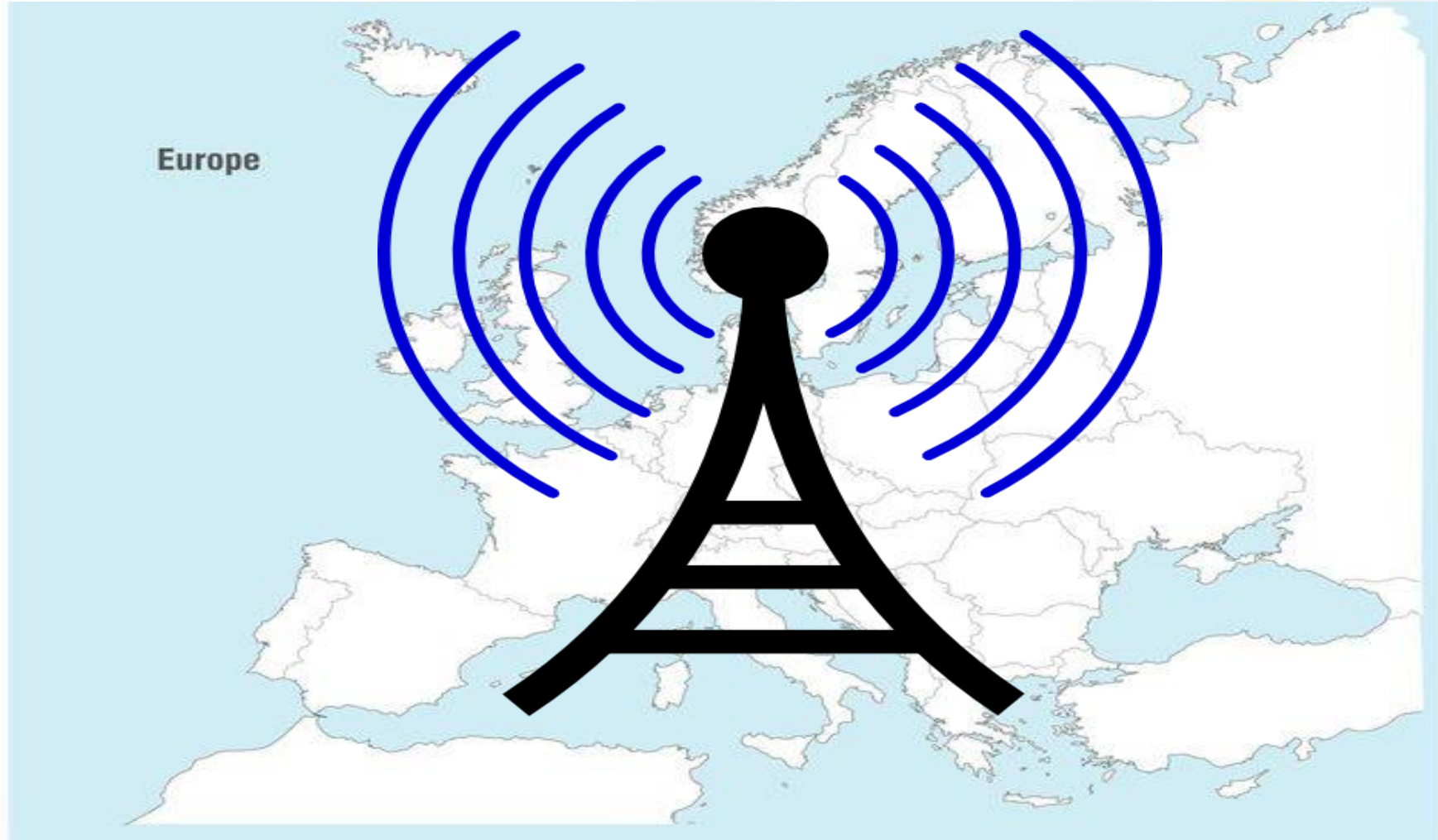
PPDR have today

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What PPDR need today?

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Ultimate Goal

European Interoperable mobile broadband for Public Safety

To Improve Collaboration between responders from different agencies
and different countries

To Enable mobility of responders between different countries

Ultimate Goal

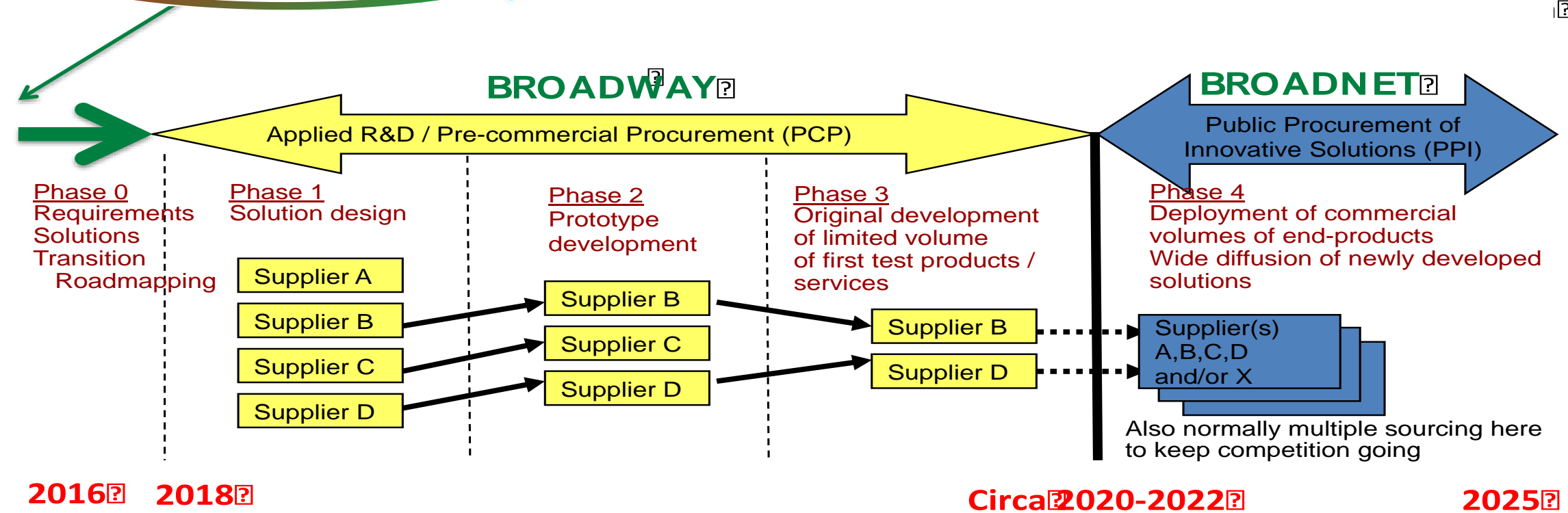
European Interoperable mobile broadband for
Public Safety

To Improve Collaboration between responders from different agencies
and different countries

To Enable mobility of responders between different countries

Bad things that happen don't care about borders

A Cornerstone for Interoperable, Mission Critical Mobile Broadband Communications for Public Safety



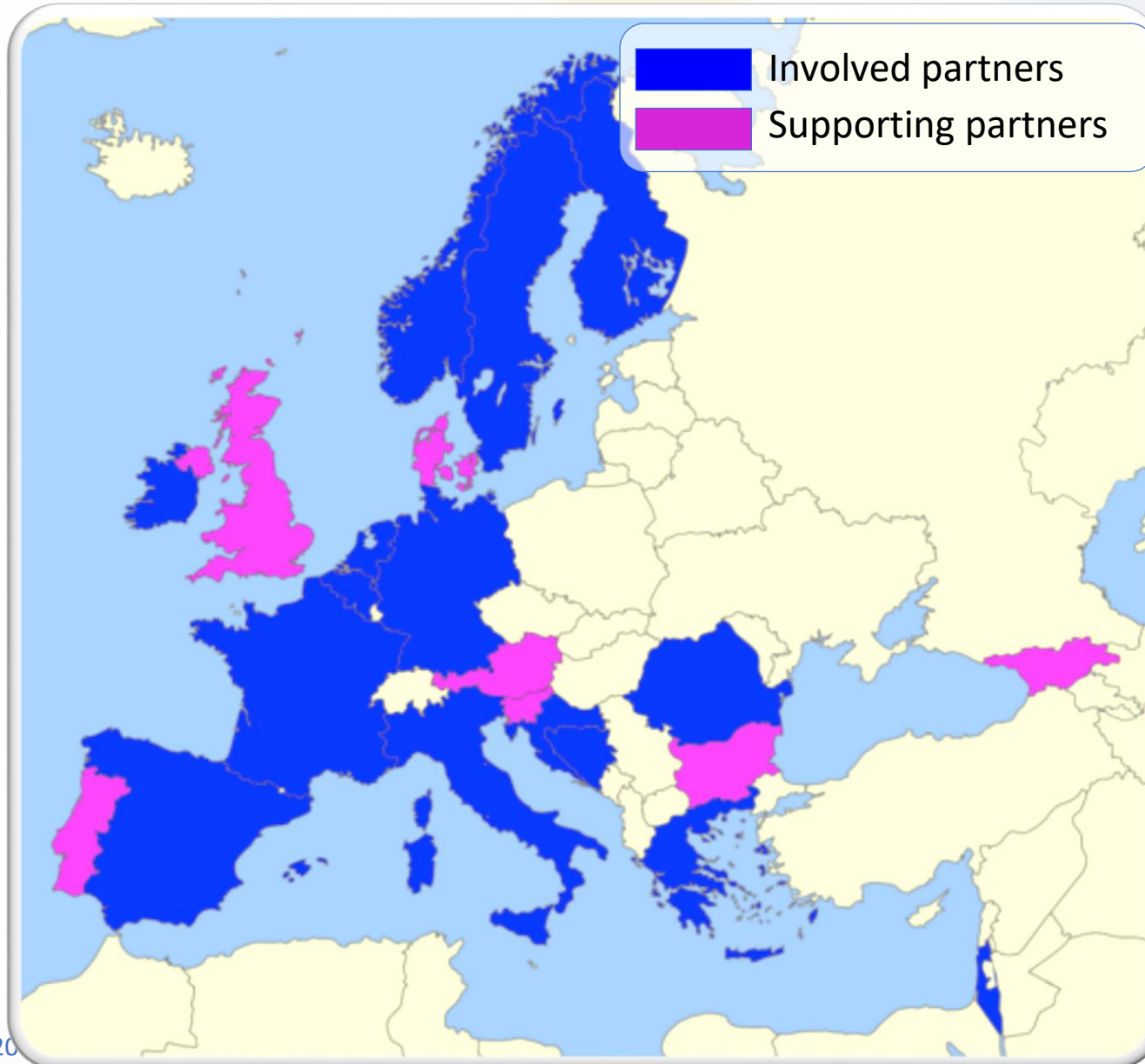
2025 - Commercially Deployed Interoperable Broadband Applications, Services, Networks, Devices for PPDR

BroadMap Goal

- Validation of PPDR / user requirements
- A core set of specifications
- The roadmap for procurement

to achieve future evolution of European PPDR
broadband applications and interoperable (!) radio
communication solutions

A Broad Map



PSCE providing project coordination and support,

Consortium Leader:

Dr. David Lund, PSCE

15 potential buyers/end users,
of which

- 12 represent EU Member States
- 3 represent Associated Countries
- 8 represent the responsible Ministry within their country
- 7 represent end user organizations and/or operators of emergency service networks

48 external supporters

- 7 extra countries

DGFLA providing legal expertise

Requirements Validation

National and international workshops:

15 project partner countries

- **over 270 PPDR organisations**
- **from 18 countries**
- **600+ practitioners**

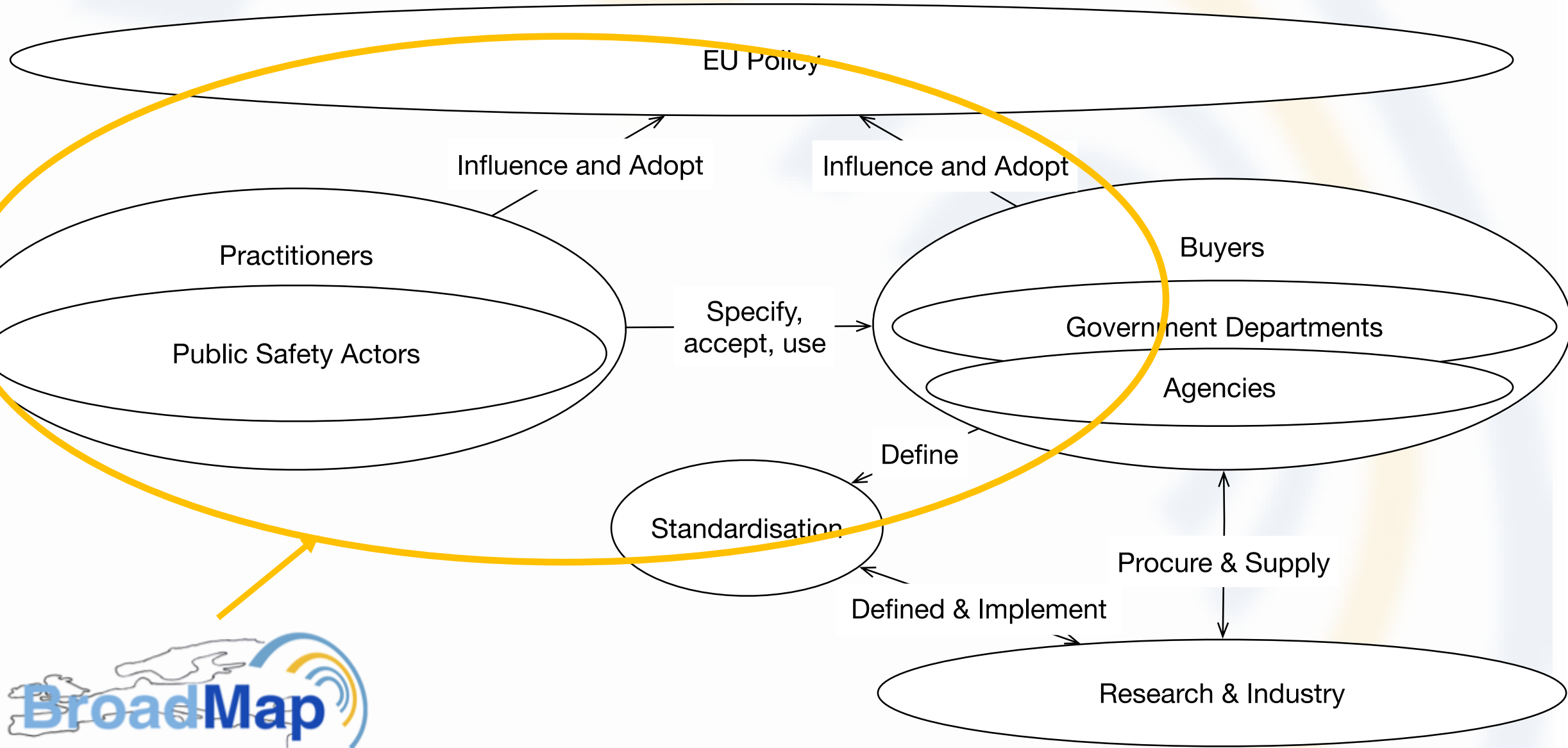
National and international workshops

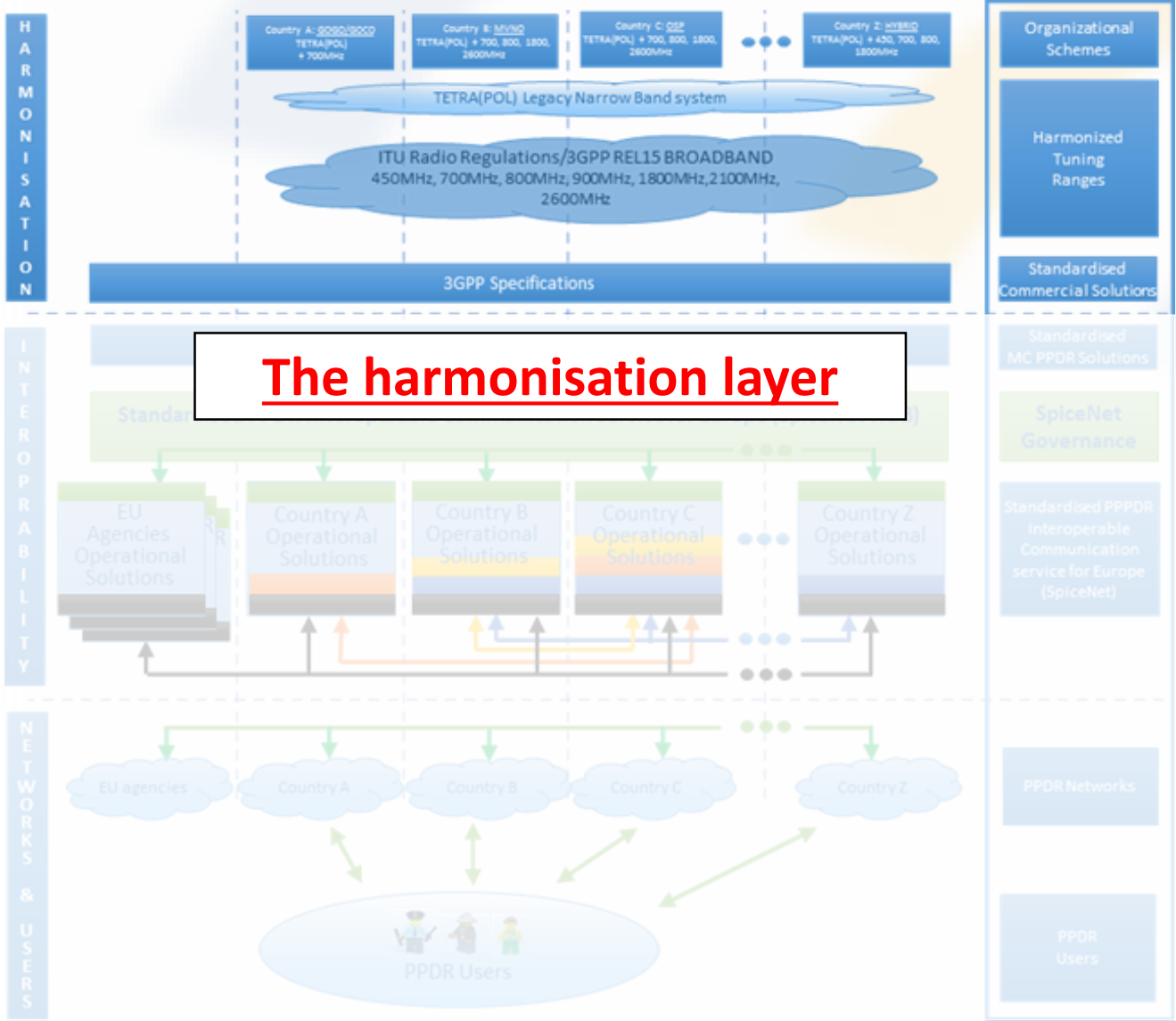
- Police
- Health emergency
- Fire brigades
- Ministry of Defence
- Coastguard
- Customs
- Prisons
- Utilities - Critical infrastructure

BroadMap Reqs/SA1 Gap Analysis

- 2 gaps found relating to feedback given to end users regarding variation in mission critical communication service availability
 1. Support to applications to minimise interruptions in ongoing MCX Service Communications
 2. Additional of operational status visibility for MCX Users

Who's involved ?



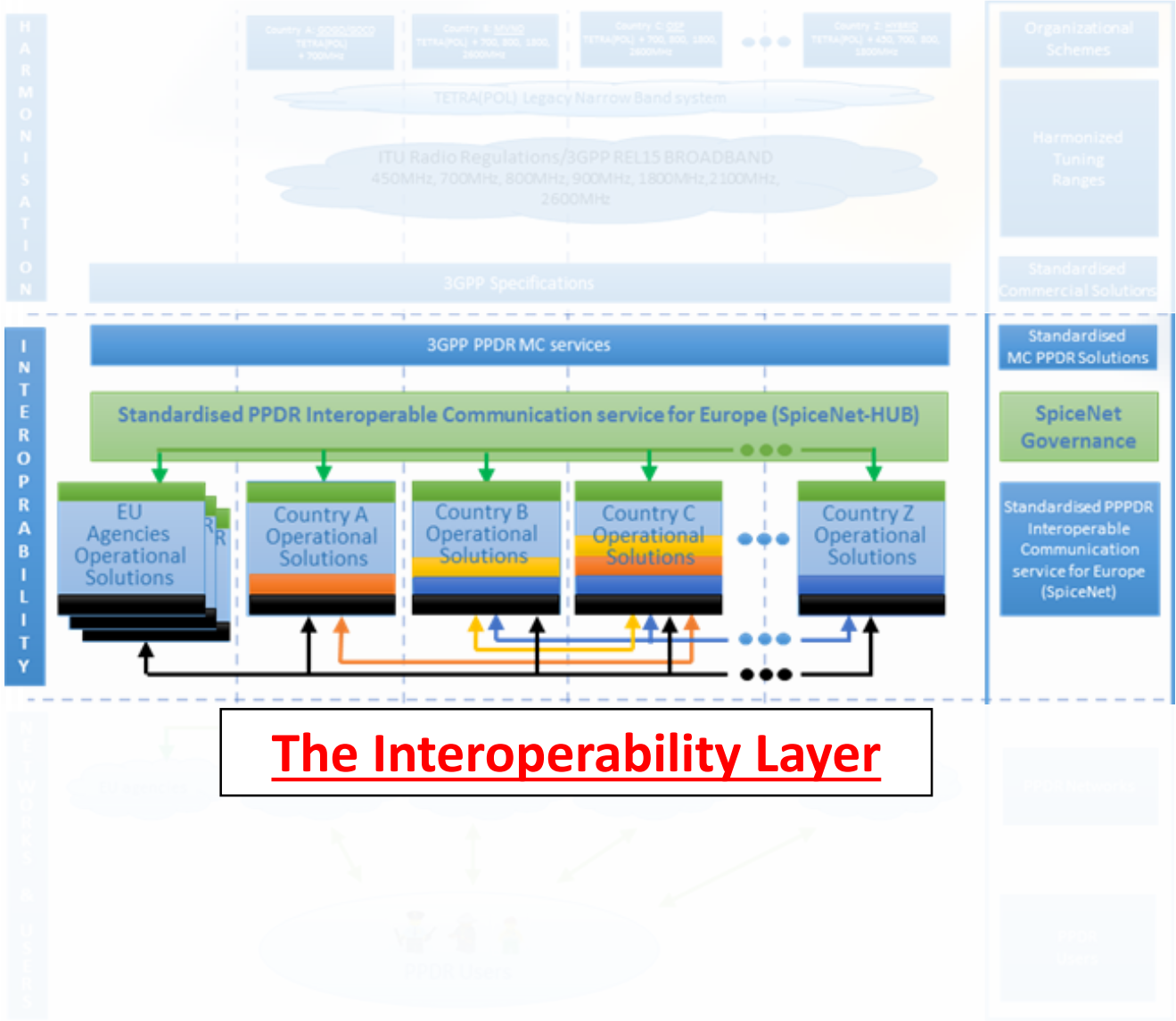


SpiceNet Reference—

Standardised PPDR Interoperable Communication Service for Europe

Three layers:

- **The harmonisation layer** enables own organisation schemes to provide PPDR services.
- Flexible harmonisation is achieved by using 3GPP and other standardised technologies and commonly agreed harmonized tuning ranges.



SpiceNet Reference— Standardised PPDR Interoperable Communication Service for Europe

Three layers:

- **The harmonisation layer** enables own organisation schemes to provide PPDR services.
 - Flexible harmonisation is achieved by using 3GPP and other standardised technologies and commonly agreed harmonized tuning ranges .
- **The interoperability layer** defines **SpiceNet** (Standardised PPDR Interoperable Communication for Europe) as a **common PPDR Pan European cross-border interoperability solution**.
 - This enables each country to use a set of common services for pan-European interoperability.
 - For national interoperability countries have freedom to use their own operational solutions.

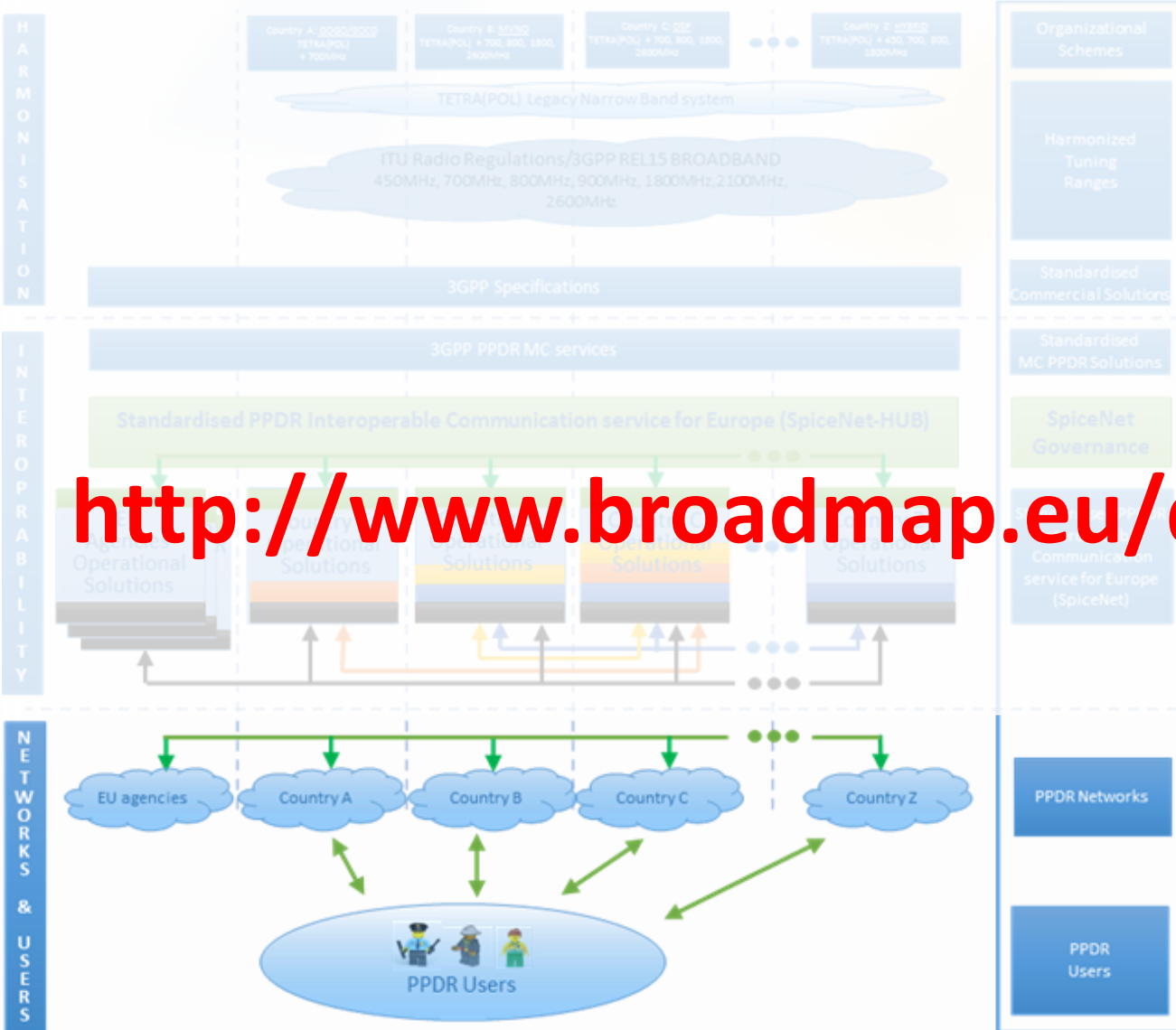
Standardised PPPDR Interoperable Communication for Europe (SpiceNet) service
 Country B&C Contractual agreement for PPDR Interoperability
 Country A&C Contractual agreement for PPDR Interoperability
 Country B,C&X Contractual agreement for PPDR Interoperability
 Pan-European contractual agreement for PPDR Interoperability

SpiceNet Reference— Standardised PPDR Interoperable Communication Service for Europe

Three layers:

- **The harmonisation layer** enables own organisation schemes to provide PPDR services.
 - Flexible harmonisation is achieved by using 3GPP and other standardised technologies and commonly agreed harmonized tuning ranges .
- **The network and user layer** enables common services provided by **SpiceNet** to be used in all participating countries. These common services can be further extended via agreements between nations.

<http://www.broadmap.eu/download-final-deliverable>



The network and user layer

- Standardised PPPDR Interoperable Communication for Europe (SpiceNet) service
- Country B&C Contractual agreement for PPDR Interoperability
- Country A&C Contractual agreement for PPDR Interoperability
- Country B,C&X Contractual agreement for PPDR Interoperability
- Pan-European Contractual agreement for PPDR Interoperability

Our answer to the EC's "SEC-04 2017" call:



- 11 'buyer' Countries
- 49 supporting practitioner organisations
- 23 countries covered overall

- Pan-European pilot system by 2021/22

To procure...

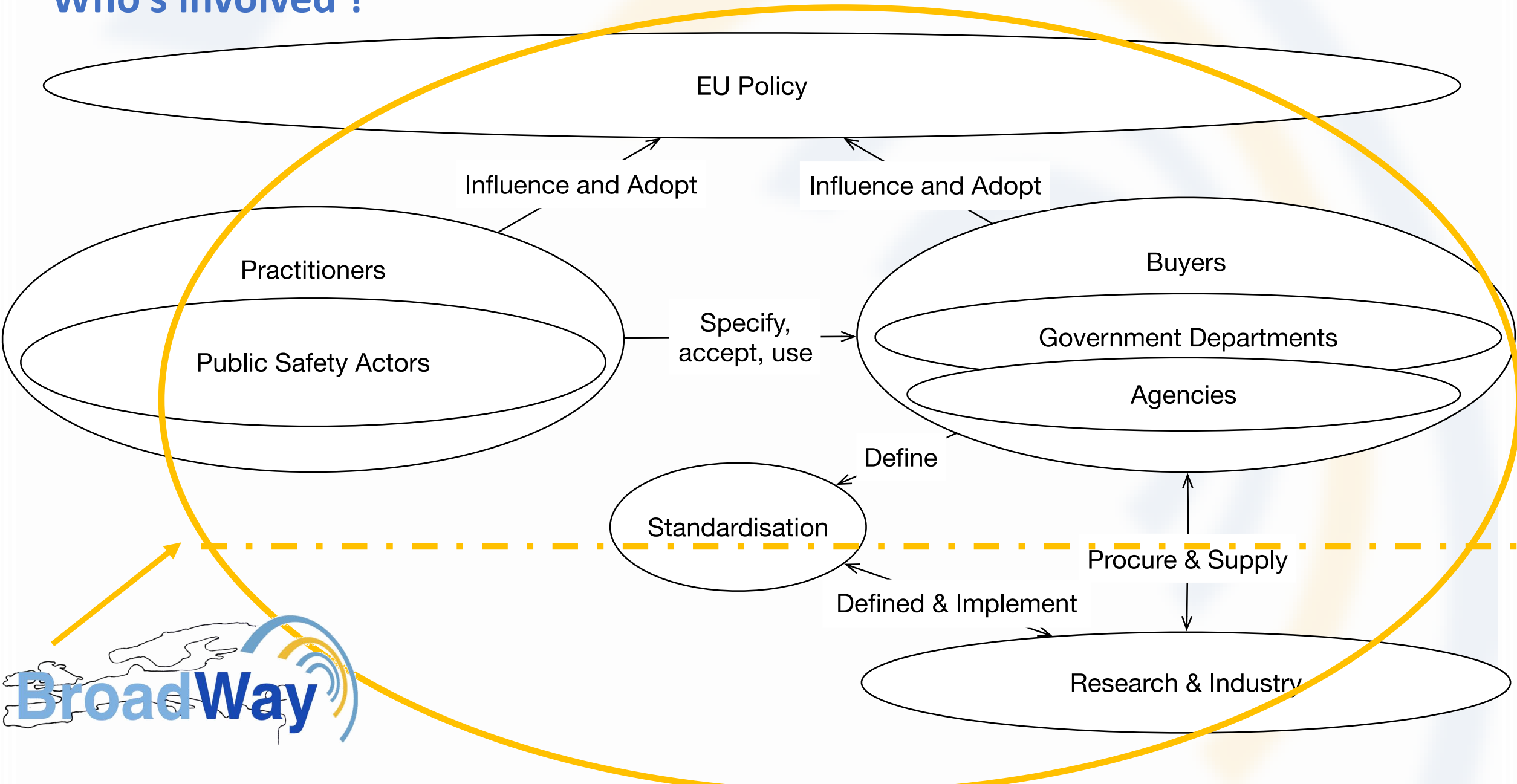
SEC-04-DRS-2017

- prototype communication equipment that will constitute the foreseen communication system
- prototype instruments for validating the components of the foreseen communication system

- TRL8

- Demonstration of the foreseen communication system in a multidisciplinary (firefighters, police departments, medical emergency services, etc.), international (involving practitioners from at least 10 Member States or Associated countries), and realistic scenario.

Who's involved ?



Related Policy Activity

[EC Communications Committee NBP/5G](#)

PSCE message to EU member states:

‘Mission Critical Broadband for Public Safety must be considered within national 5G plans’

Related Policy Activity

Network and Information System (NIS) directive/Telecom Framework Package

How does a Mission Critical virtual network 'slice' operate over a 'not necessarily mission critical' physical mobile infrastructure ??

(SDN/NFV)

Wherever (whichever country) that mobile infrastructure is physically located...

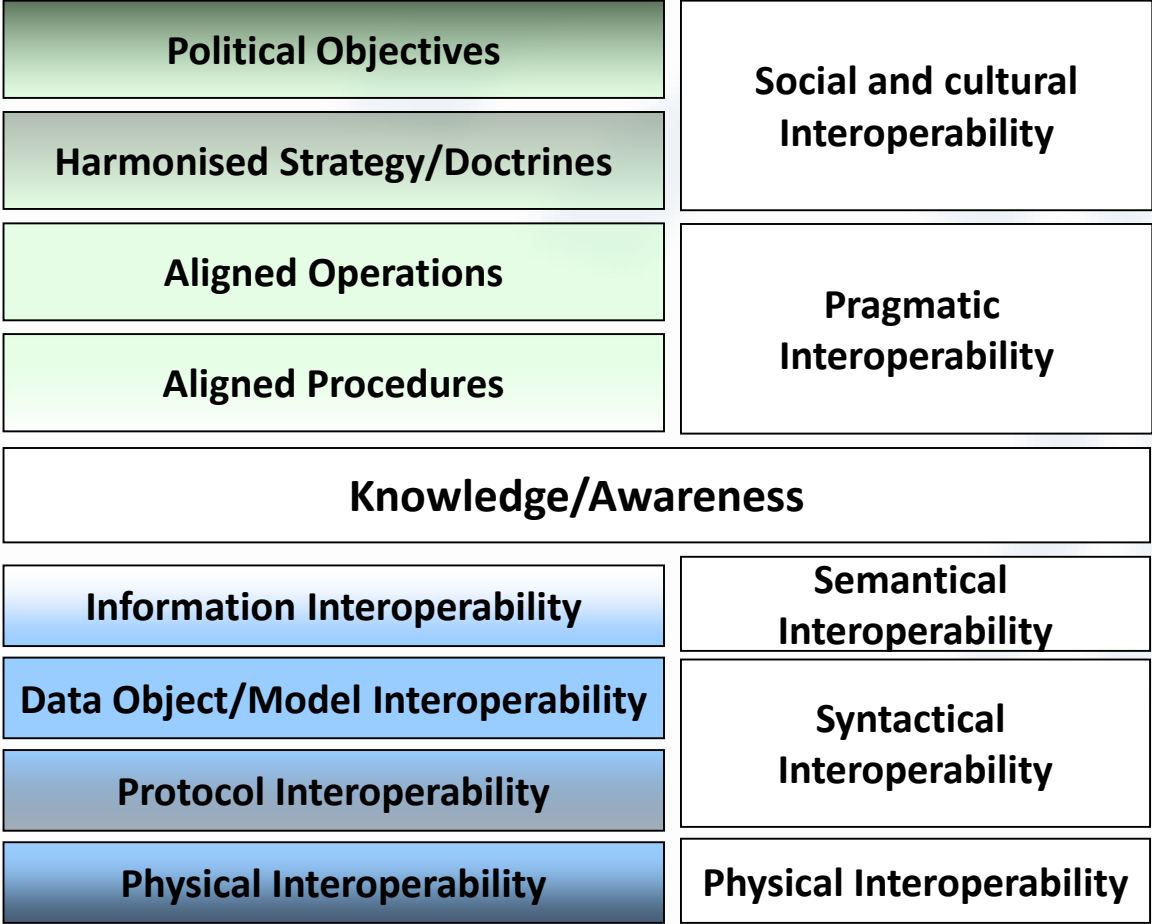
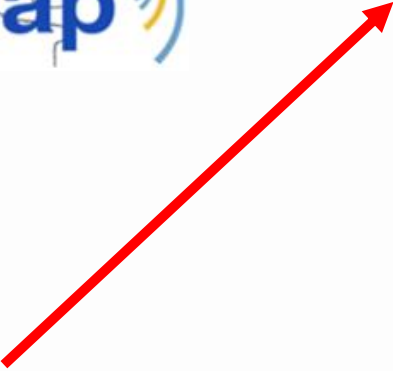
We now have to consider...

'Critical Virtualised Information infrastructure (CVII)'

(Not just CI, or CII)

<https://www.psc-europe.eu/library/psce-policy-papers/mission-critical-policy-gap/download.html>

Contribution to the interoperability stack

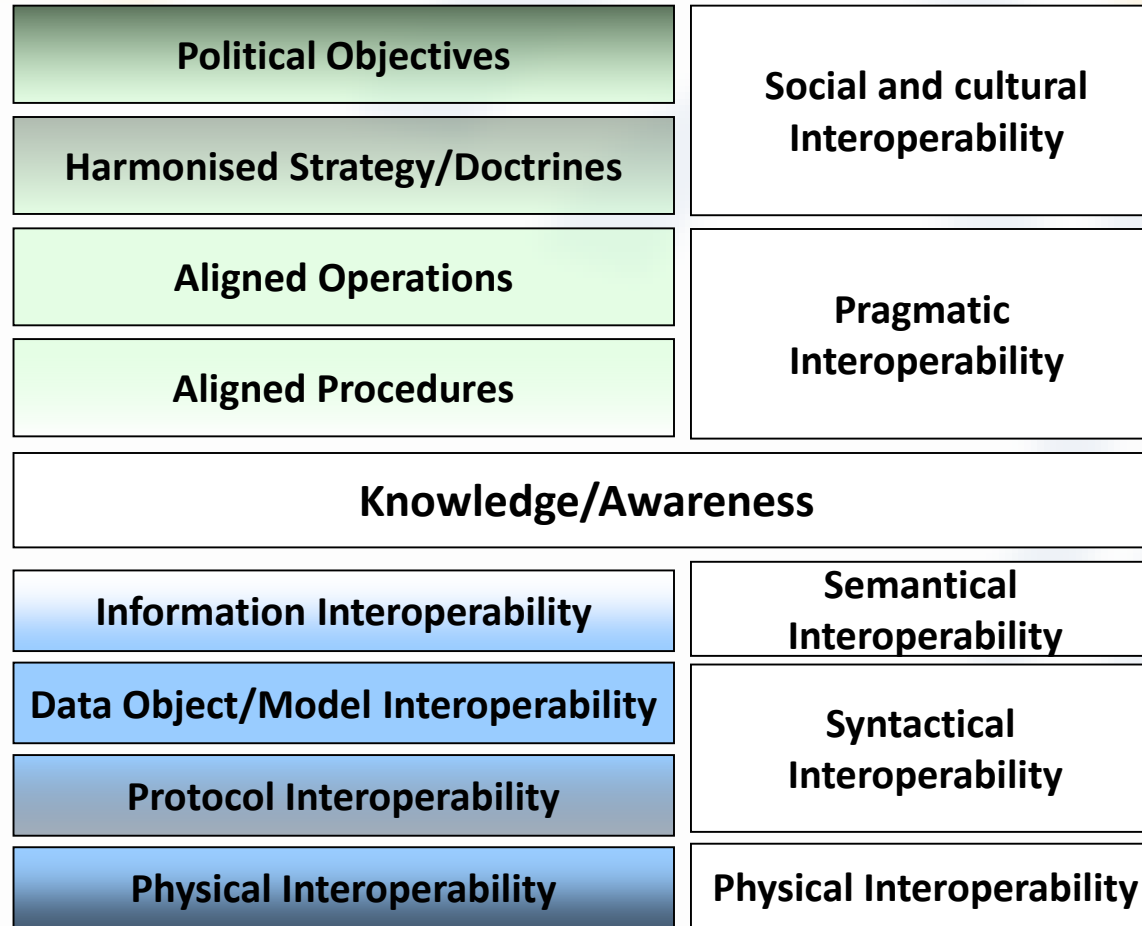


Source: NATO Research Task Group

Other standards :

Information Interoperability on top of 3GPP

Common Information Space



Source: ESENTER project

Source: NATO Research Task Group

www.episecc.eu
www.concorde-project.eu
www.driver-project.eu

A key challenge !!

A mindset transition from spectrum separation to virtualised separation

- European Policy flow-down to national policy for PPDR over 4G/5G
- Supply chain around the Government Ministries and their mission critical operators:
 - Commercial Mobile Operators
 - Mission critical service provision
 - Handset and accessory devices (+ wearables and other IoPST)
 - Integration/interoperability of information
 - A key priority of the of the Security Union
- Secure separated Virtualisation across different operation/business domains
- Secure cross border, cross agency information exchange

Availability !!!!

Thanks for listening

Any Questions ??