

# Legal perspective on Instruments for Procurement of Innovation

## European Assistance for Innovation Procurement (EAFIP)

Mr. Stephan Corvers

Dr. Ramona Apostol

6 TH P2I MEETING ONLINE & PART TWO

30<sup>th</sup> June 2020

# Team & partners Corvers



**CORVERS** Chair  
on Innovation Procurement  
**Universidad Zaragoza**



## Results of Eafip 2015-now

- European Assistance for Innovation Procurement (Eafip)
- Initiative European Commission DG CONNECT
- Corvers Commercial & Legal Affairs
- Knowledge transfer about how to conduct innovation procurement to contracting authorities throughout Europe
  - Workshops & conferences
  - Toolkit
  - Local assistance (18 PCPs and PPIs)
- Network-approach
- Demand driven policy – no support to companies
- [www.eafip.eu](http://www.eafip.eu)



# Take up of EAFIP

- Projects oriented
  - Pan European
  - H2020
- Organization & policy oriented
  - LVNL (Dutch Air traffic Control organization) (Innovation Procurement)
  - Etc

LVNL: Europe's leading ATM Innovation procurement strategy  
First EAFIP supported PPI project in European ATM Market:

## Voice Recognition and Response System 2020-2021

Contactperson: Mark Bottinga (LVNL)





# Agenda (1)

- 1) Definition of innovation
- 2) Aggregation of demand in Innovation Procurement
- 3) The instruments identified by the directive to support innovation & examples
  - ✓ PCP
  - ✓ PPI
    - Open & restricted procedure
    - Negotiated procedure
    - Competitive dialogue
  - ✓ Innovation partnership
  - ✓ The EAFIP 2030 approach

## Agenda (2)

- 4) The crucial role of the preparatory phase
- 5) The inclusion of SME and innovative start-up and the necessity of division into lots
- 6) *The evaluation of environmental, social and economic advantages – Just info*
- 7) *The role of the life cycle awarding method and available tools – Just info*
- 8) Conclusion

## Definition of innovation





## **Article 2** **Directive 2014/24/EU**

***(22) ‘innovation’ means the implementation of a new or significantly improved product, service or process, including but not limited to production, building or construction processes, a new marketing method, or a new organisational method in business practices, workplace organisation or external relations inter alia with the purpose of helping to solve societal challenges or to support the Europe 2020 strategy for smart, sustainable and inclusive growth***

# Definition of innovation

## Frascati Manual 2015

*Innovation (...) has to do with putting new or significantly improved products on the market or finding better ways (through new or significantly improved processes and methods) of getting products to the market. R&D may or may not be part of the activity of innovation, but it is one among a number of innovation activities.*



*These activities also include the acquisition of existing knowledge, machinery, equipment and other capital goods, training, marketing, design and software development. These innovation activities may be carried out in-house or procured from third parties.*



## Frascati Manual 2015

*Research and experimental development (R&D) comprise creative and systematic work undertaken in order to increase the stock of knowledge and to devise new applications of available knowledge.*

**The activity must be:**

1. **Novel**
2. **Creative**
3. **Uncertain**
4. **Systematic**
5. **Transferable and/or reproducible**

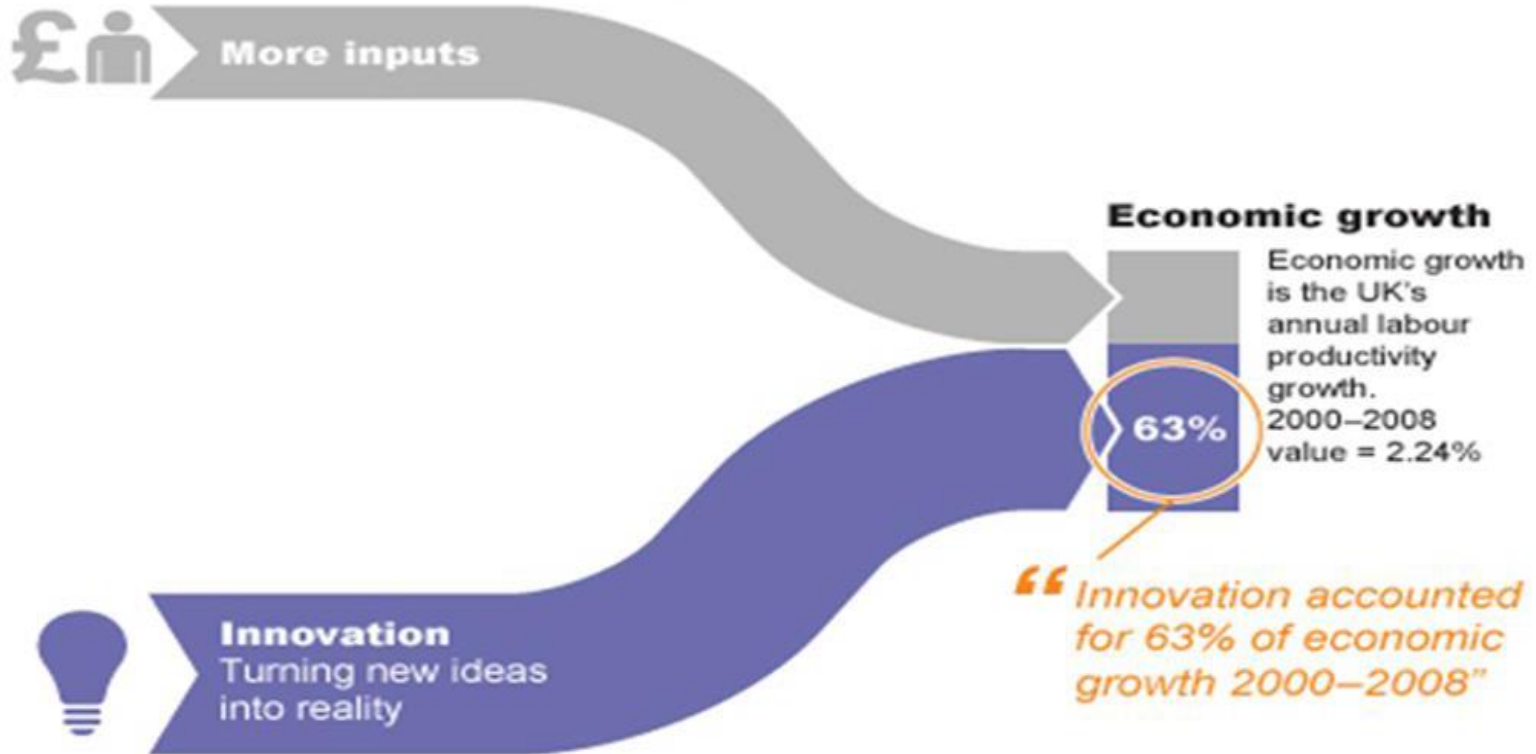
**R&D covers 3 types of activity:**

1. **Basic research** is experimental or theoretical work to acquire new knowledge (...) **without any particular application or use in view.**
2. **Applied research** is original investigation (...). It is **directed primarily towards a specific, practical aim or objective.**
3. **Experimental development** is systematic work, drawing on knowledge gained from research and practical experience(...), which is **directed to producing new products or processes or to improving existing products or processes.**

# Definition of innovation

## Innovation drives economic growth

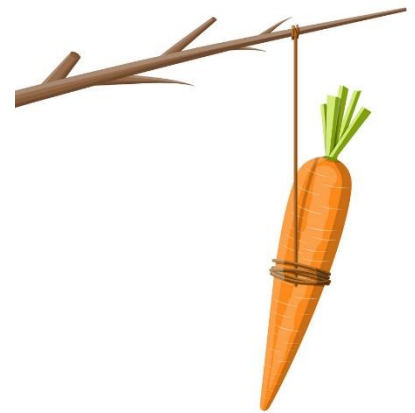
There are two sources of economic growth:



## Innovation Procurement

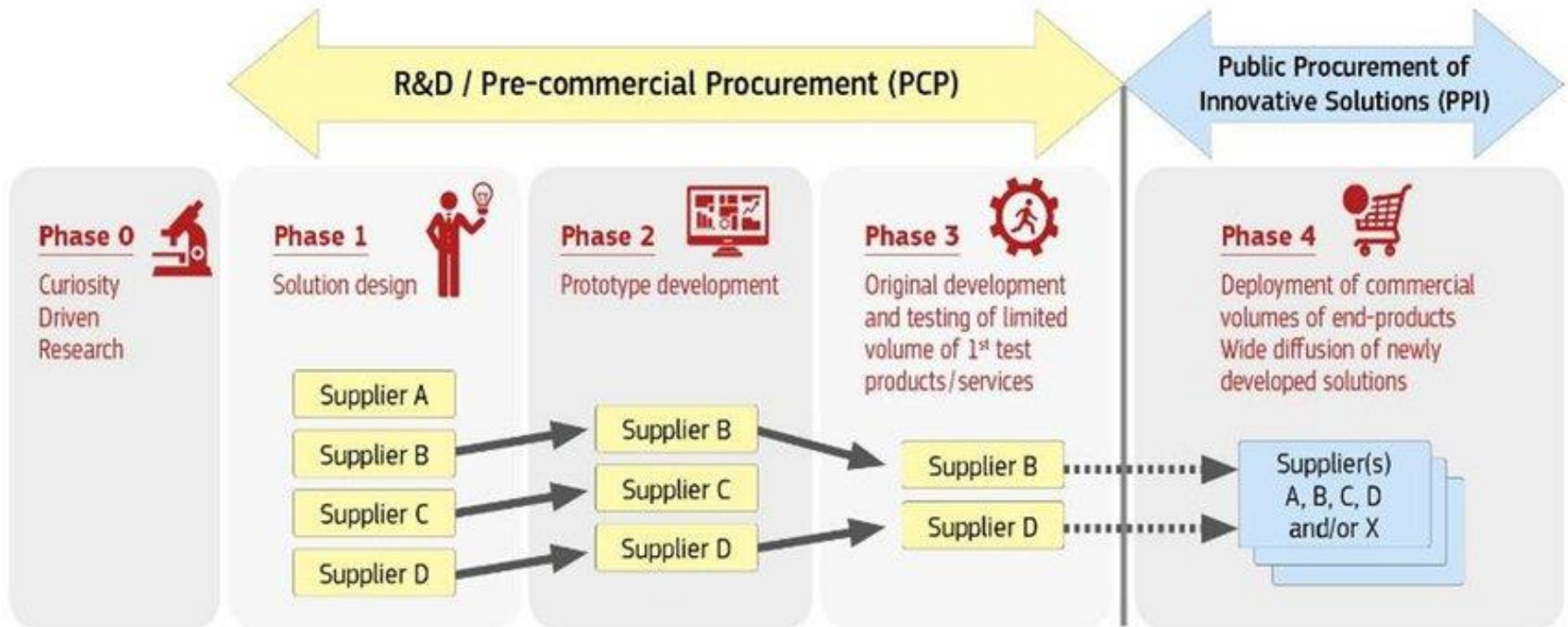
1. Innovation procurement happens when public procurers procure the development or deployment of pioneering innovative solutions to address specific mid-to-long term public sector needs.
2. Approach to encourage and focus innovation by the private sector

These two aspects go hand in hand. It is thus important to work out well the “carrot” for the private sector.



# Definition of Innovation Procurement

## Innovation Procurement



Source: European Commission, 2016



### WEBINAR – OPPORTUNITIES TO TACKLE THE COVID-19 CRISIS THROUGH INNOVATION PROCUREMENT

<https://eafip.eu/events/webinars/opportunities-to-tackle-the-covid-19-crisis-through-innovation-procurement/>



# Definition of Innovation Procurement

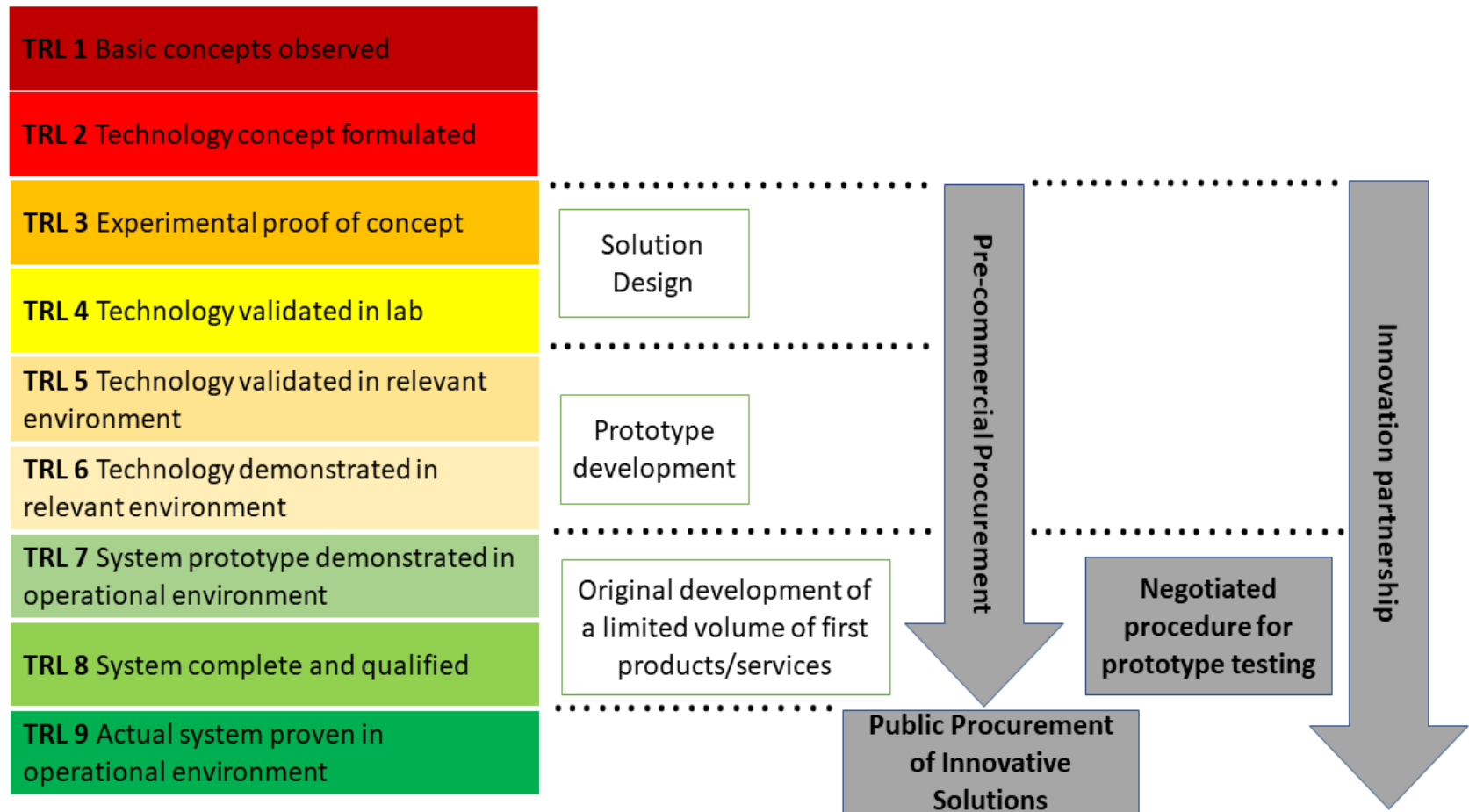


Figure: Technology Readiness Levels (TRLs) in relation to the phases of an Innovation Procurement

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## Aggregation of demand in Innovation Procurement



# Aggregation of demand in Innovation Procurement

Joint/coordinated procurement entails the combining of procurement actions of two or more public procurers from the same or from different countries.

- ✓ Better value for money solutions: the buying power is greater → economies of scale when the identified need is shared
- ✓ Reduction of (administrative) costs → shared
- ✓ Cross-border company growth
- ✓ Creation of open standards based interoperable solutions
- ✓ Sharing skills: vital for innovation

## Aggregation of demand

- Market situation:
- Sole national public authority (monopsony):
  - Air Traffic management organizations in the Member States (e.g. LVNL in the Netherlands)
  - Necessity to cooperate on pan European / international level
- Several public authorities:
  - Municipalities, watercompanies etc
  - Necessity to cooperate on a regional / national level

## Joint procurement

- Frequent
- Vertical cooperation:
  - WBL: Joint procurement in the waterchain (waterboard & watercompany & municipalities)
  - Muntstroom: joint procurement in mobility (people flow) (different CA's)
- Horizontal cooperation:
  - Waterschapshuis: PCP & PPI program: joint procurement in the waterchain (all the waterboards)
  - AluSludge project: Innovation partnership: joint procurement of watercompanies
- Regional, national, international
- Central Purchasing Bodies

# Challenges of cooperation

- Challenge I: common political commitment/ common public tasks
- **Challenge II: common needs assessment & analysis**
- Challenge III: mid-to long term commitment of partners
- Challenge IV: Governance & management structure
- Challenge V: Cultural differences



**Integrating the challenges into  
Joint Procurement Agreement**



# Recommendations



Tackling the challenges is not feasible:

- Do not start with a joint innovation procurement project



Do not create external expectations / obligations before the JPA has been signed by all partners.

## The instruments identified by the directive to support innovation



# Innovation Procurement

## Pre-Commercial Procurement (PCP)

Approach to public procurement of research and development (R&D) services that is outlined in the PCP communication and associated staff working document. It is an important tool to stimulate innovation as it enables the public sector to steer the development of new solutions directly towards its needs.

## Public Procurement of Innovative solutions (PPI)

The public sector uses its purchasing power to act as early adopter of innovative solutions which are not yet available on large scale commercial basis.

## Innovation Partnership

Approach in which the public sector combines the public procurement of R&D services and the procurement of the results thereof.



## European Assistance for Innovation Procurement

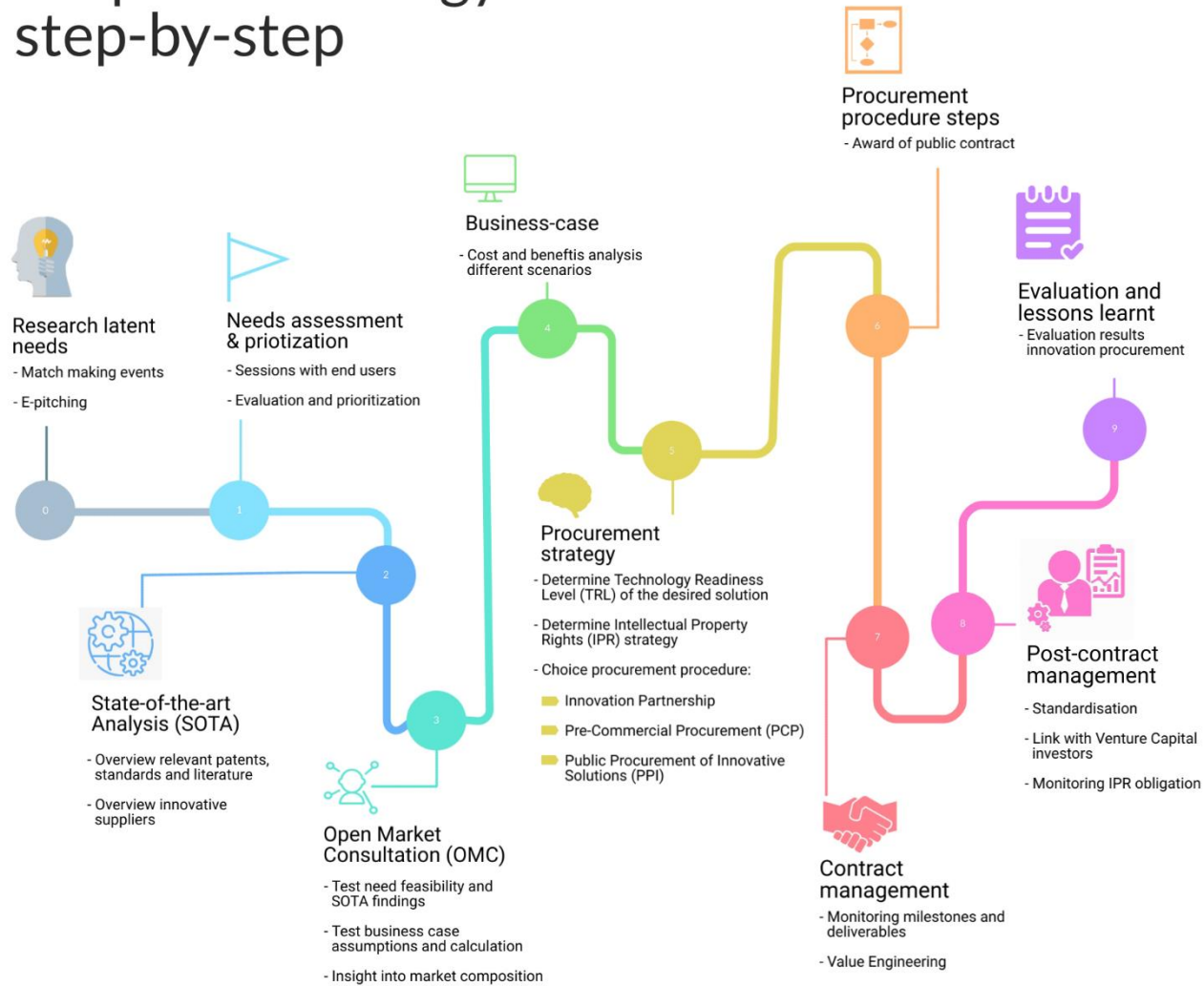
EC DG Connect

[www.eafip.eu](http://www.eafip.eu)

- Consortium partner Eafip: 2015 - 2018
- Contractor Eafip: 2019 - 2021

# EAFIP Methodology

## eafig methodology step-by-step



CREATED BY CORVERS PROCUREMENT SERVICES BV



# Definition of Innovation

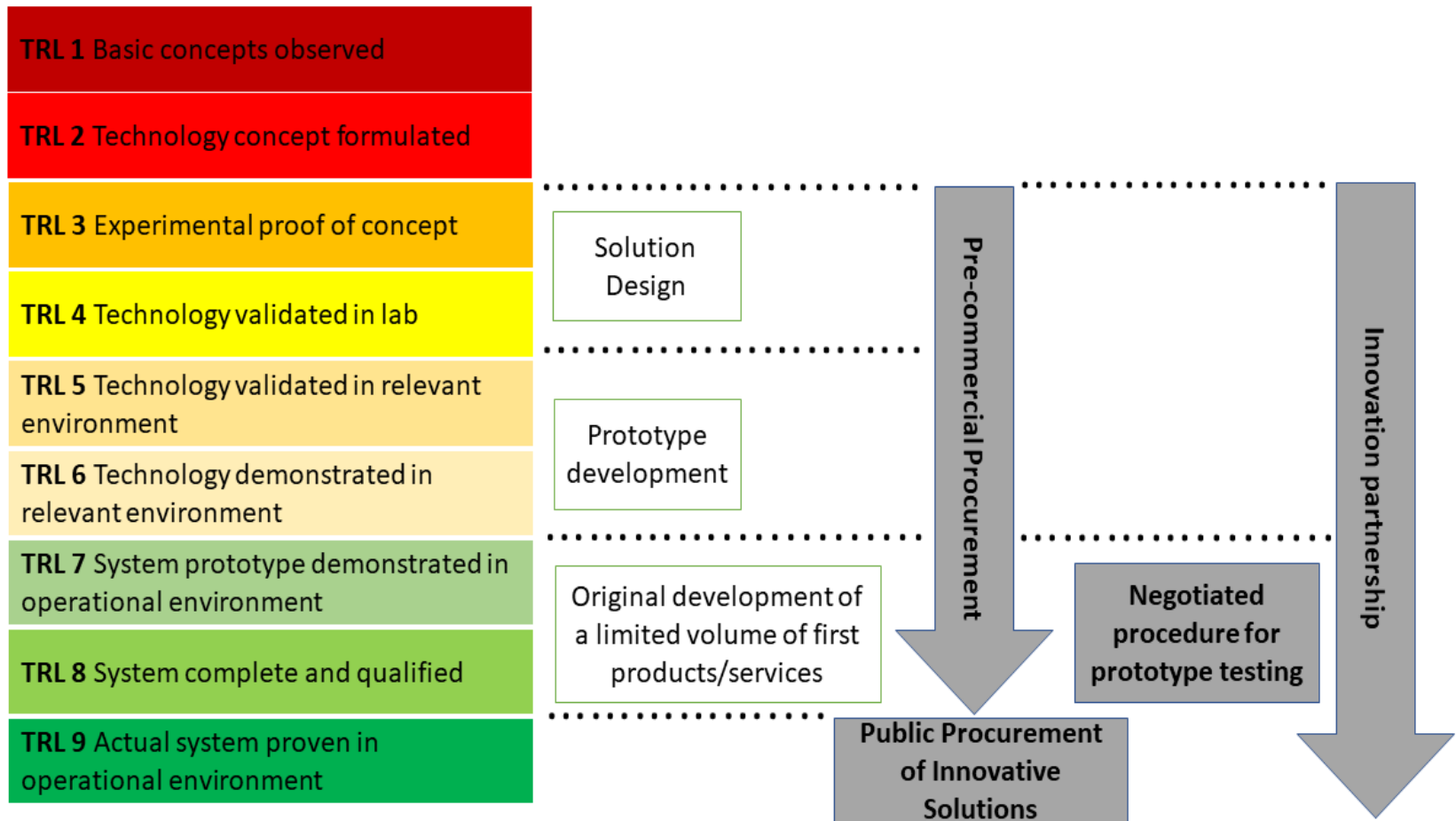
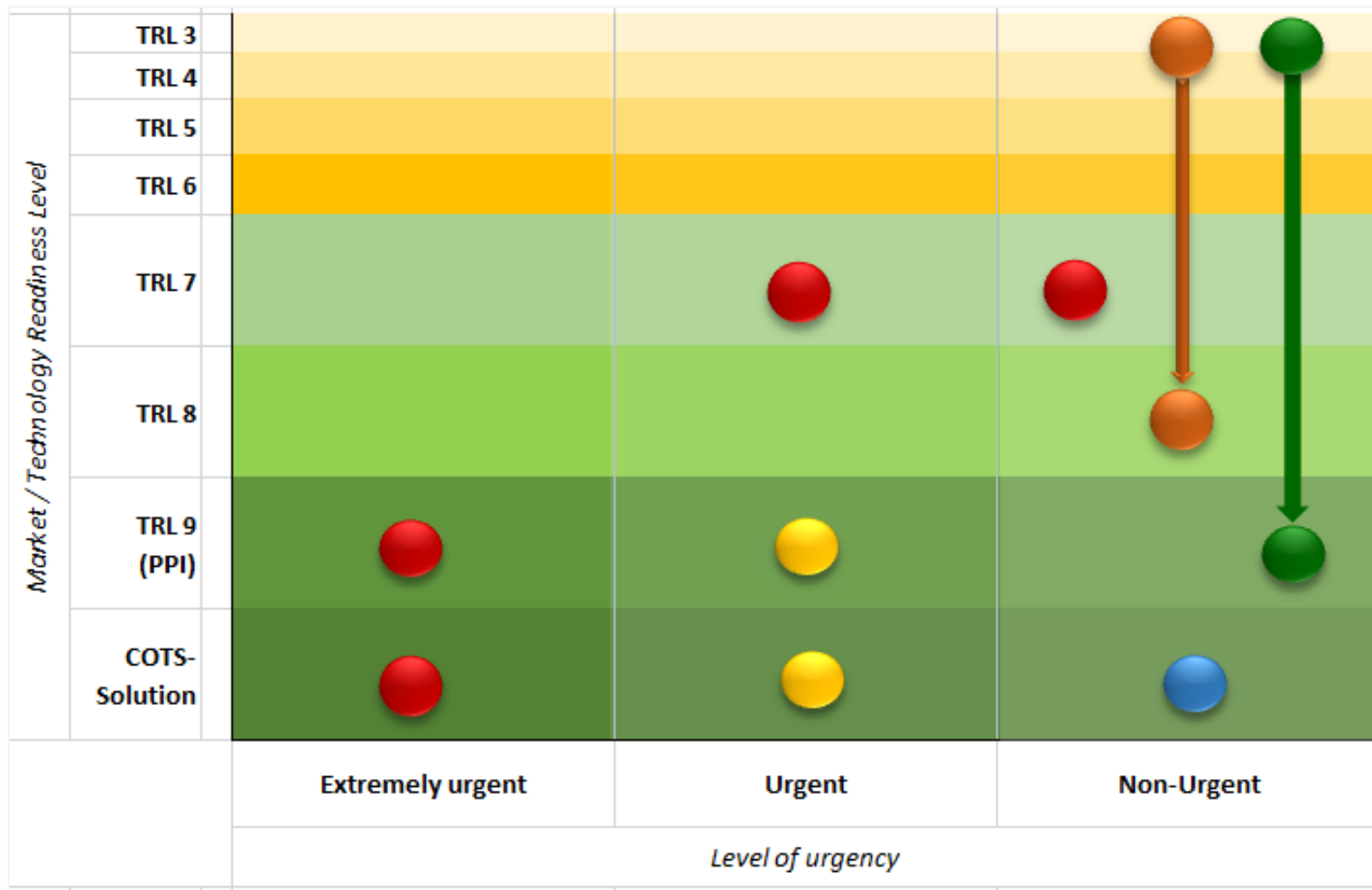







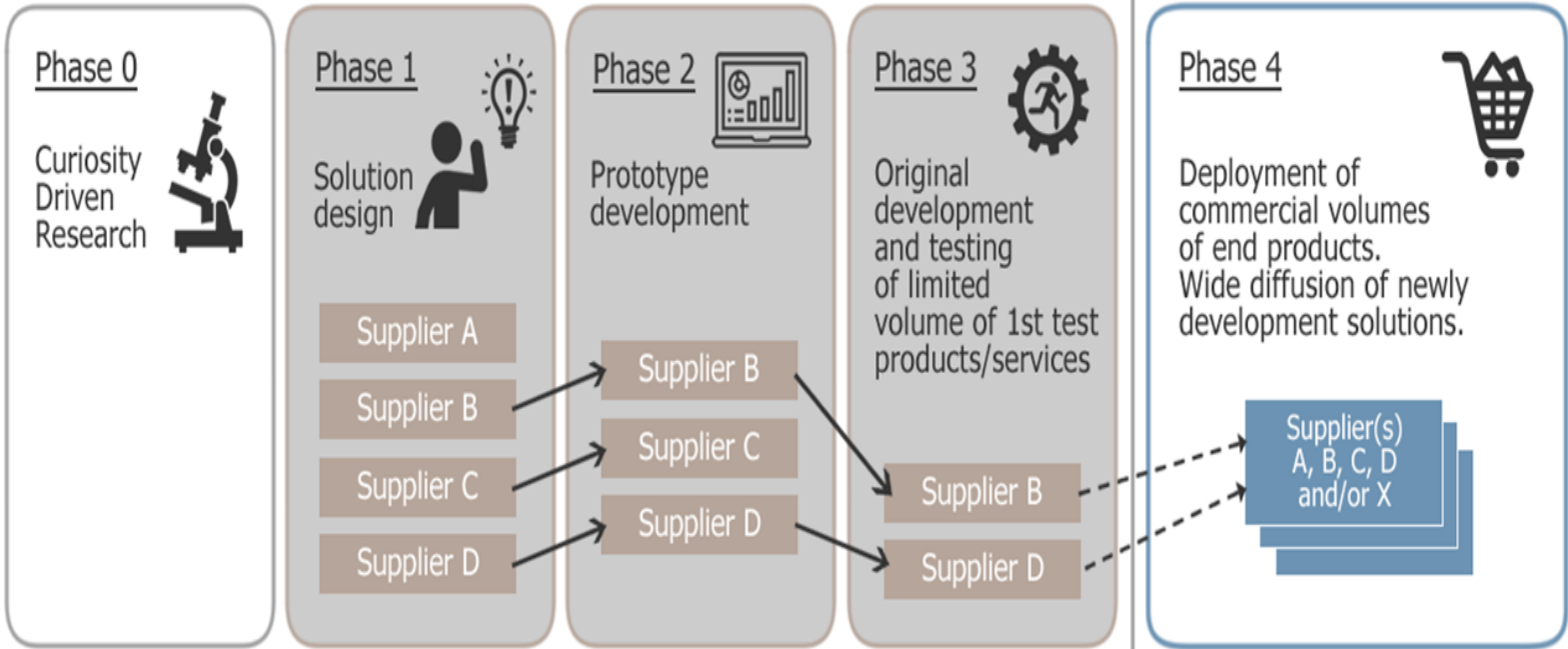
Figure: Technology Readiness Levels (TRLs) in relation to the phases of an Innovation Procurement



# TRL – Urgency Matrix



-  Negotiated procedure without prior notice
-  Standard procurement procedures
-  Accelerated open / restricted procedure,  
Accelerated competitive procedure with negotiation
-  Pre-Commercial Procurement (PCP)
-  Innovation Partnership



# PCP

- Exclusion of the Directives
- Remedies directives are not applicable
- No (illegal) state aid if 2007 communication is being followed
  
- **NB: It can favour European R&D !!**
- NB: PCP only is recommended if there is a real need from a CA to steer the market
- NB: The innovativeness of this approach for CA's
- NB: The need for a mid-to long term commitment
- NB: A PCP needs to be followed up by a PPI procedure
  
- **Examples:** Muntstroom project in Belgium

# Innovation partnership

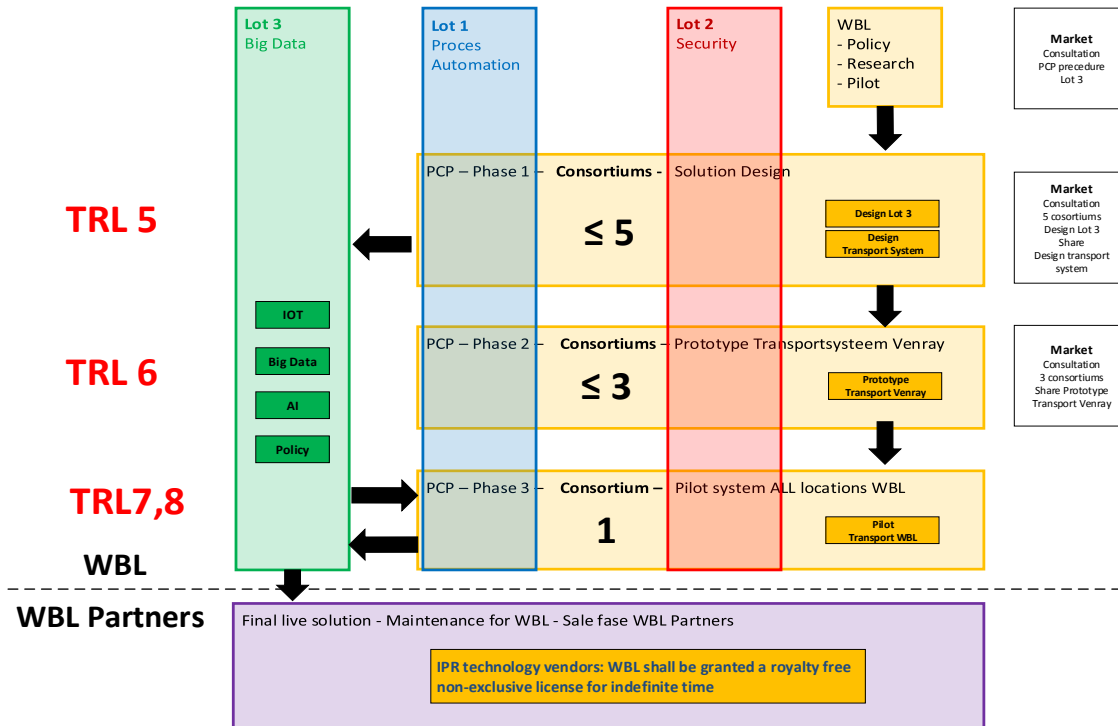
- Falls under the scope of the Directives
- Remedies directives are applicable
  
- **NB: It cannot favour European R&D !!**
- **NB: It favours big companies with deployment capabilities**
- NB: Still legal uncertainty to use the IP (no Court of Justice cases) (Serious risk of illegal state aid – risk for technology vendors !)
- NB: IP is only recommended if there is a real need from a CA to steer the market
- NB: The innovativeness of this approach for CA's
- NB: The need for a mid- to long term commitment
- NB: A CA needs to address the market developments before starting the actual procurement of the results.
  - Exit clause as part of the process
  
- Example: The AluSludge innovation partnership (Netherlands, Belgium and the UK)

# PPI procedures

- Open & restricted procedure
- Procedure of negotiations
- Competitive dialogue
  
- NB: Please be aware of information & knowledge asymmetry in the case of negotiations (procedure of negotiations & competitive dialogue) (technology vendors always know more than CA's)
- NB: Be aware of administrative costs of procedure of negotiations ( competitive dialogue) both for the CA and the suppliers
  
- **Example:** LVNL Voice Recognition System

# The EAFIP 2030 program approach

- Combining PCP & PPI



WBL: ‘The outcome of the PCP, i.e. the best prototype, will be implemented in in Lot 3 as defined in the procurement procedure Procesautomatisering, Security and Artificial Intelligence ‘



# Competitive procedure with negotiation

Innovative projects, implementation of major integrated transport infrastructure projects, large computer networks or projects involving complex and structured financing

Contracting authorities unable to

- define the means to satisfy their needs
- assess what the market can offer

# Competitive procedure with negotiation

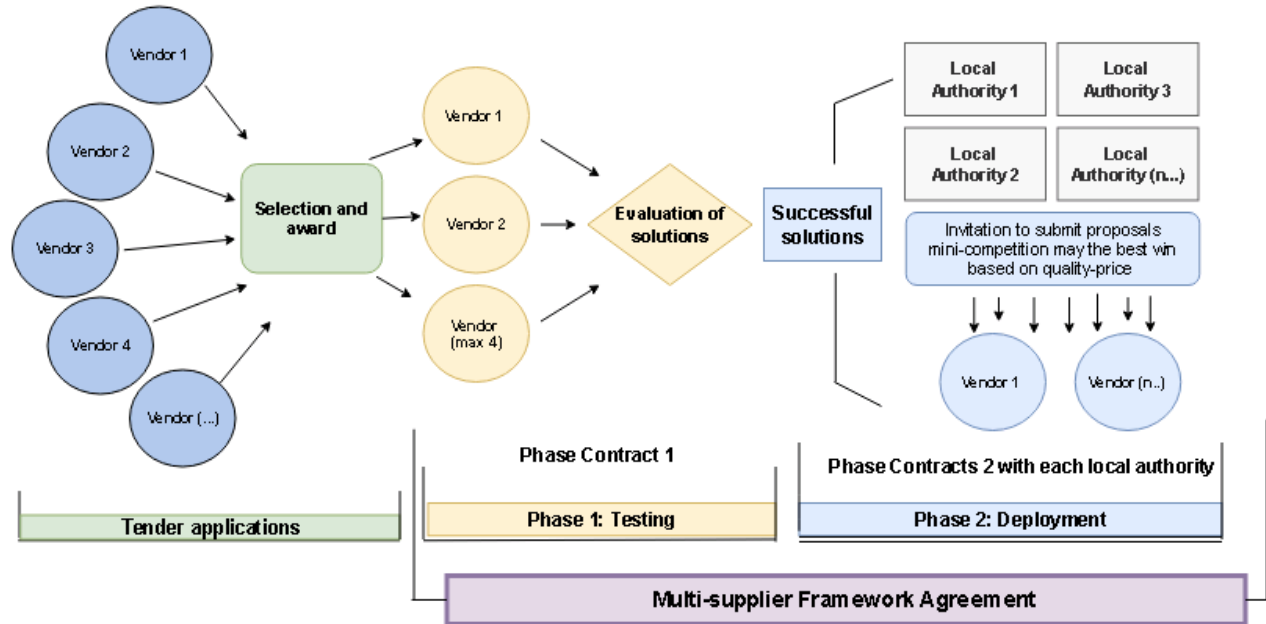
Article 29 of Directive 2014/24/EU + recitals 42 and 43

- *Any economic operator may submit a request to participate*
- *Contracting authorities shall identify the subject-matter*
  - *description of their needs*
  - *characteristics required*
  - *specify the contract award criteria*
  - *indicate which elements of the description define the minimum requirements*
- *Only invited economic operators may submit an **INITIAL TENDER** → basis for negotiations*
  - minimum requirements and award criteria not subject to negotiations

**Horizon Scanning Initiative - ten member states**

# Open procedure + Framework Agreement

## Smart Tech Saving Lives of Smart Dublin (PPI)



When in doubt, before choosing one of the negotiated, more flexible procedures, **first conduct a proper market consultation** and verify if an open procedure (with a testing phase) would be feasible, as it mitigates uncertainty of timing and costs.

# Competitive dialogue

Article 30 of Directive 2014/24/EU + recitals 42 and 43

- *Any economic operator may submit a request to participate*
- *Only invited economic operators invited may participate in the **DIALOGUE***
  - *to identify and define the best means to satisfying their needs.*
  - *discuss all aspects of the procurement*
- *Awarded on the sole basis of **best price-quality ratio***

HPC - PPI

# Innovation Partnership

Article 31 of Directive 2014/24/EU + recital 49

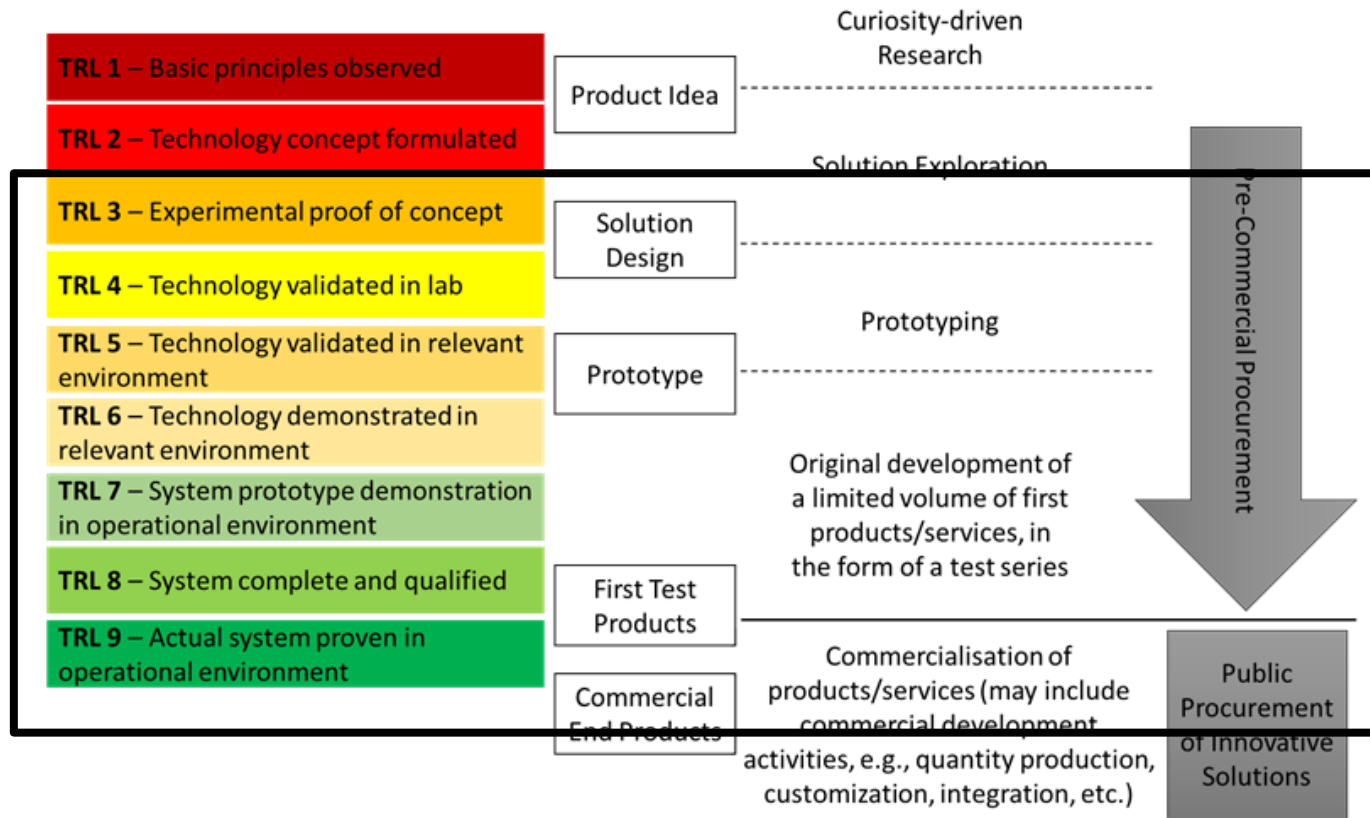
- *Any economic operator may submit a request to participate*
- *Contracting authority shall identify*
  - *the need for an innovative product, service or works that **cannot be met by purchasing** products, services or works **already available on the market.***
  - *indicate which elements of this description define **the minimum requirements***
- *Only invited economic operators invited may participate in the **PROCEDURE***

# State Aid & Innovation Partnership

- Para.33 Framework for State aid for R&D&I cumulative conditions for presumption of no State aid:
  - Open, transparent, non-discriminatory selection procedure
  - Criteria and contractual agreements are made available in advance
  - Concerns unique or specialised products or services
  - Results & IPR are shared

# Innovation partnership

**DEVELOPMENT** of an innovative product, service or works and the **SUBSEQUENT PURCHASE** of the resulting supplies, services or works.



**Mid- to long-term: Innovation partnership**

# Innovation partnership

Innovation  
Partnership

Separating PCP (R&D)  
from PPI (commercial  
deployment)

## Feedback from companies:

- Don't make big changes to the PCP instrument: it works well. More PCPs, please!

Update on results from completed and ongoing  
FP7 and Horizon 2020 funded PCPs  
Lieve Bos. DG CONNECT

Opens the market  
for small  
players/SMEs

Place of performance  
clauses create  
growth/jobs in Europe

Reduce vendor lock-  
in

Steer industry R&D to  
meet public procurer's  
needs



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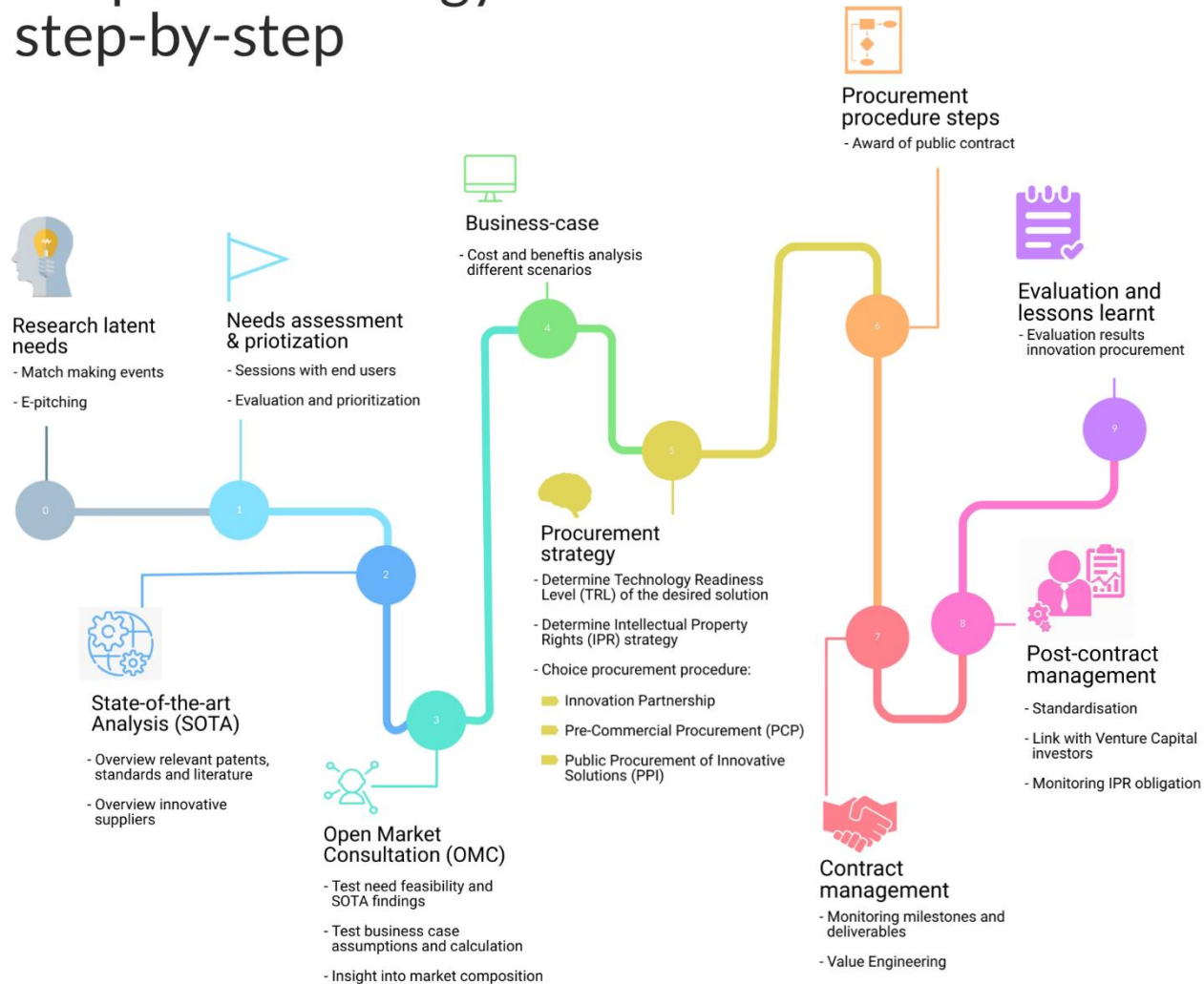
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## The crucial role of the preparatory phase



# EAFIP Methodology

## eafig methodology step-by-step

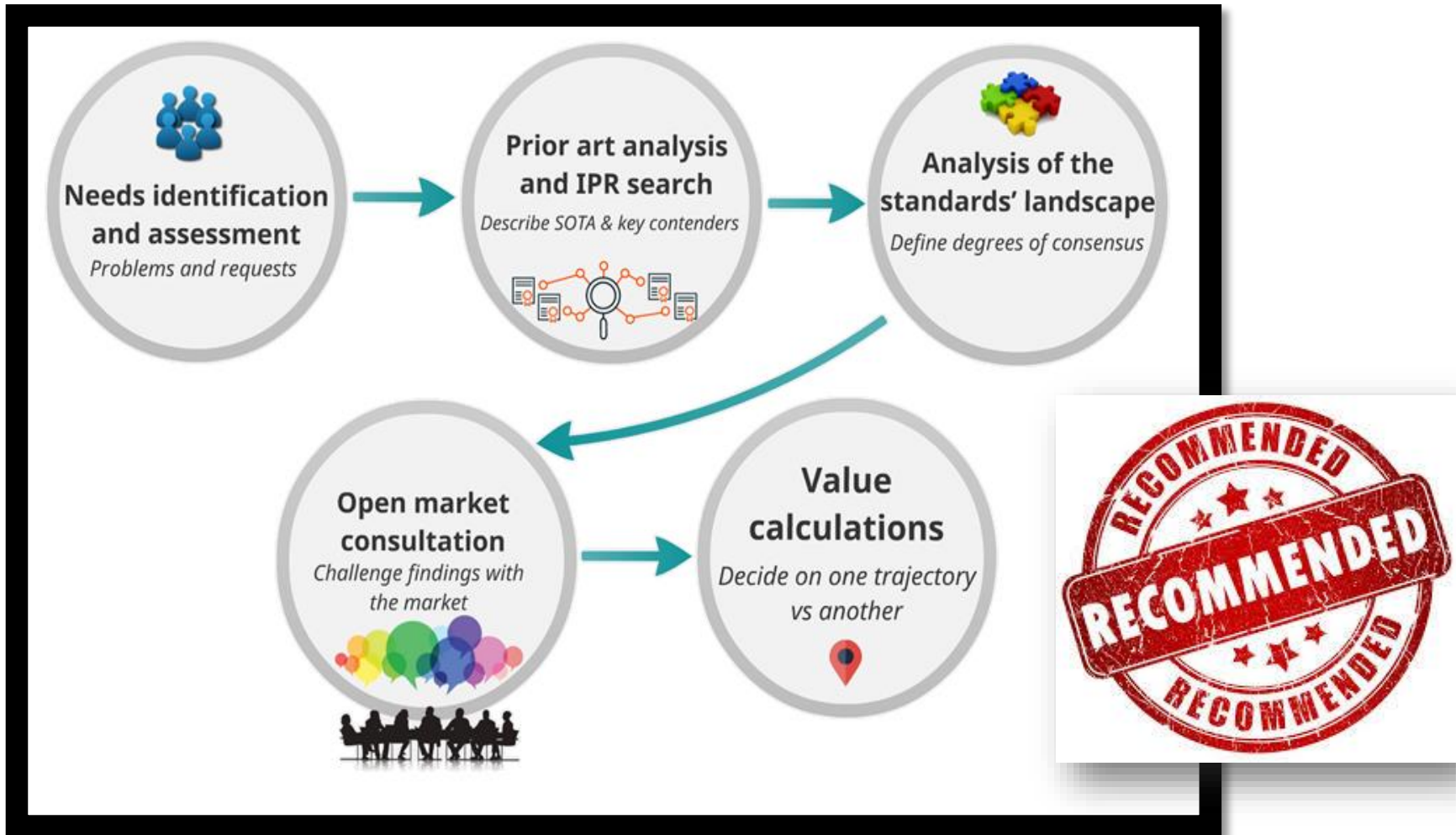


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# The crucial role of the preparatory phase

## Preparatory steps for a successful procurement

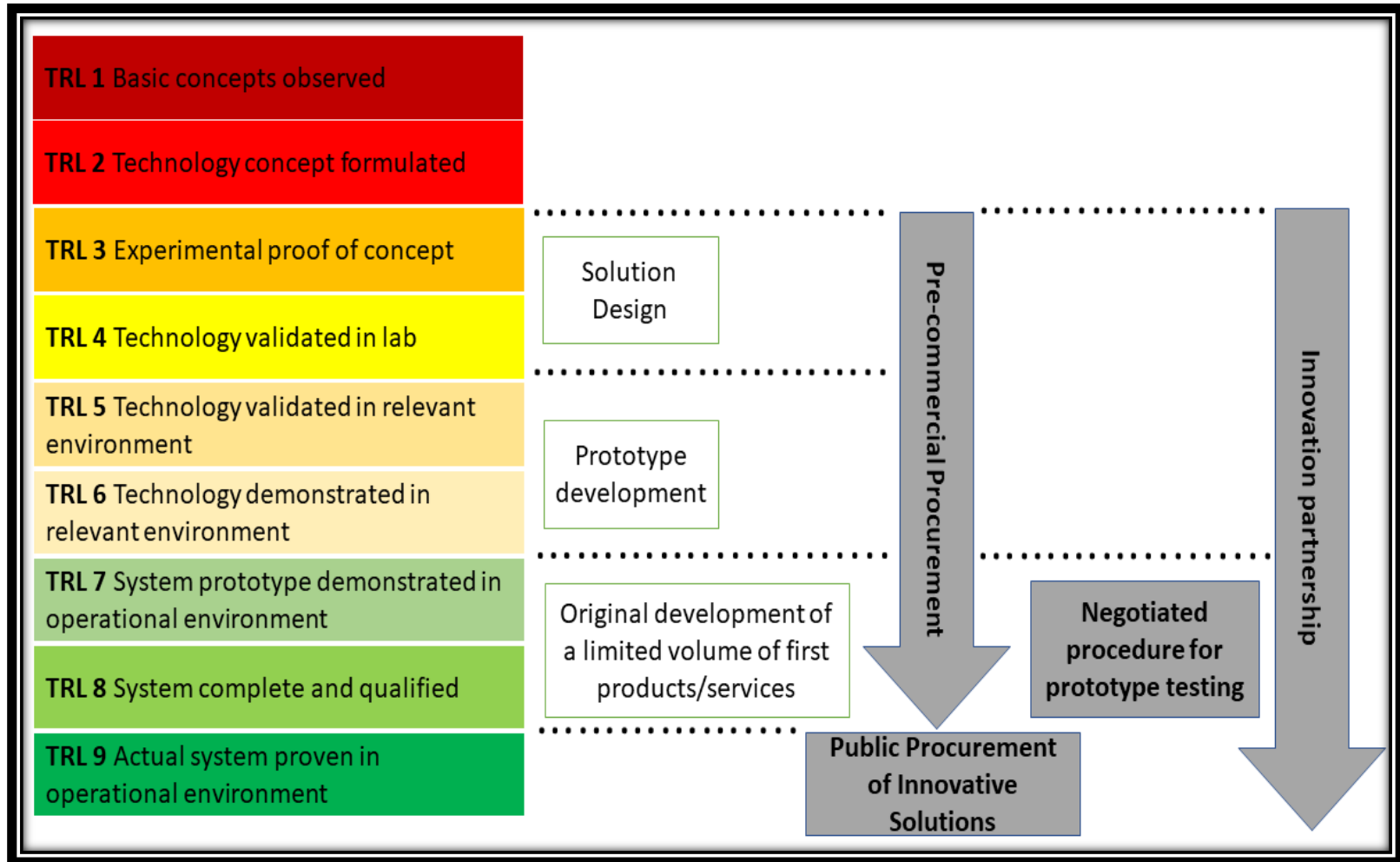


# The crucial role of the preparatory phase

- ✔ **Needs Identification & Assessment** – Work together with end-users to determine the problem to be solved, in terms of functional/performance requirements;
- ✔ **State-of-the-Art Assessment** – Research existing prior art and intellectual property (IPR) as patents which could provide new solutions to meet functional/performance requirements demanded by users;
- ✔ **Analysis of the Standards' Landscape** – Scan for relevant standards such as for interoperability and interchangeability, and select them with the help of technical specialist;
- ✔ **Market Consultation** – Engage with market players to gather information such as on quality and cost, and to test preliminary assumptions; and
- ✔ **Value Calculations** – Estimate the value of pursuing different options based on information gathered in the previous phases.

# The crucial role of the preparatory phase

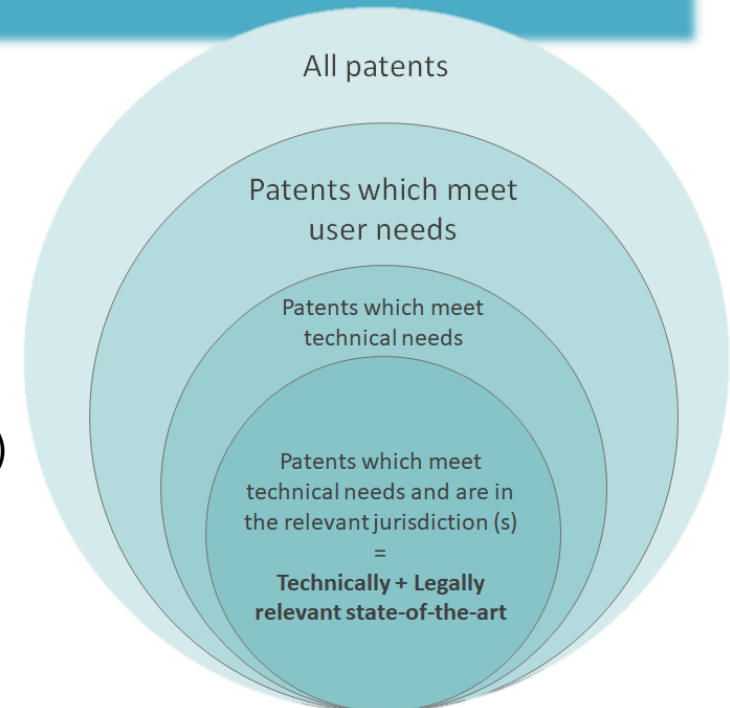
## What is the developmental stage of the solutions?



## STATE OF THE ART (SOTA) ANALYSIS

- ✓ Identify PRIOR ART through INTELLECTUAL PROPERTY (IP) IN PUBLIC DOMAIN
- ✓ Identify SUPPLIERS WHO OWN IP in the relevant jurisdiction which MEETS USER NEEDS and any technical requirements

- Performed after needs identification, and before the value calculations
- Together with the market consultation, the state-of-the-art analysis provides input on the commercial availability of solutions
- Examines intellectual property including patents and literature, and technical consensus (standards)
- Helps translate user needs to performance and technical specifications



## OPEN MARKET CONSULTATION

Needs analysis & SOTA as input for OMC to verify these provisional findings with the market

- ✓ Meet the Market (MTM) event
- ✓ Webinars
- ✓ Market surveys
- ✓ Industry days
- ✓ Publication of the yearly procurement plans
- ✓ Information in websites (difussion)





## VALUE CALCULATIONS

### Measures of project value

- **Net Present Value (NPV)** – to predict project value; the most common form of cost-benefit analysis (CBA)

$$NPV$$

$$= \text{Present Value (Expected Benefits)}$$

$$- \text{Present Value (Expected Costs)}$$

- **Internal Rate of Return (IRR)** – rate of return from an investment
  - Alternative discount rate  $i$  that makes the NPV=0
- **Return on Investment (ROI)** – investment gains vs costs

$$ROI = \frac{\text{Benefits} - \text{Costs}}{\text{Costs}}$$

- To structure the procurement, the CA can also calculate
  - What **maximum costs** they should pay
  - The **minimum time** over which they should implement a solution
  - **Minimum success probabilities**, minimum **revenues**, etc. etc.



## The inclusion of SME and innovative start-up and the necessity of division into lots



# The inclusion of SME and innovative start-up

## All types of PCPs v Innovation Partnerships

<u>Status December 2019</u> Comparing all previous breakdowns in one table	EU funded joint PCPs (TED published / EU wide promoted) 167 contracts €69M	National PCPs (TED published / EU wide promoted) 254 contracts €108M	National PCPs (not TED published or EU wide promoted) 2634 contracts €662M	Innovation Partnerships (TED published) 178 contracts €2,5Bn
Average Nr of offers received	16,6	13,9	9,0	1,5
% of procurements that receive only 1 offer	0,0%	2,4%	3,4%	18,8%
% of procurements that award contracts to single versus multiple vendors	0% to < 3 vendors 7% to 3 vendors 93% to > 3 vendors	10% to 2 vendors 14% to 3 vendors 76% to > 3 vendors	12% to 2 vendors 17% to 3 vendors 71% to > 3 vendors	88,2% to 1 vendor 10,7% to 2-3 vendors 1,1% to > 3 vendors
% of vendors winning a contract for the first time with the procurer	85%	60%	45,0%	12,0%
% of total value of contracts awarded to suppliers from another country	33,1%	12,6%	0,6%	2,2%
% of tendering procedures stopped i.e. no contract awarded	0,0%	0,0%	2,1%	9,0%
% of <i>total value</i> of contracts that is awarded directly to SMEs	61,5%	58,0%	64,6%	13,4%
% of <i>total number</i> of contracts that is awarded directly to SMEs	73,5%	71,6%	72,6%	45,5%
% of number of Startups < 10 years old that are awarded contracts	59,8%	58,9%	63,1%	16,3%
% of winning tenders with university / non profit research center in it	30,5%	10,2%	10,1%	3,4%
% of contract activities performed in EU Member States or Associated Countries	99,7%	97,0%	97,0%	65,0%

\* The figures reflect the status of all awarded national and EU funded PCPs versus innovation partnerships up to December 2019



- CA needs to understand the differences between R&D capabilities and deployment capabilities of companies.
- SME might not have the needed deployment capabilities.
- LOTS can be relevant, but also CONSORTIA.

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# The evaluation of environmental, social and economic advantages

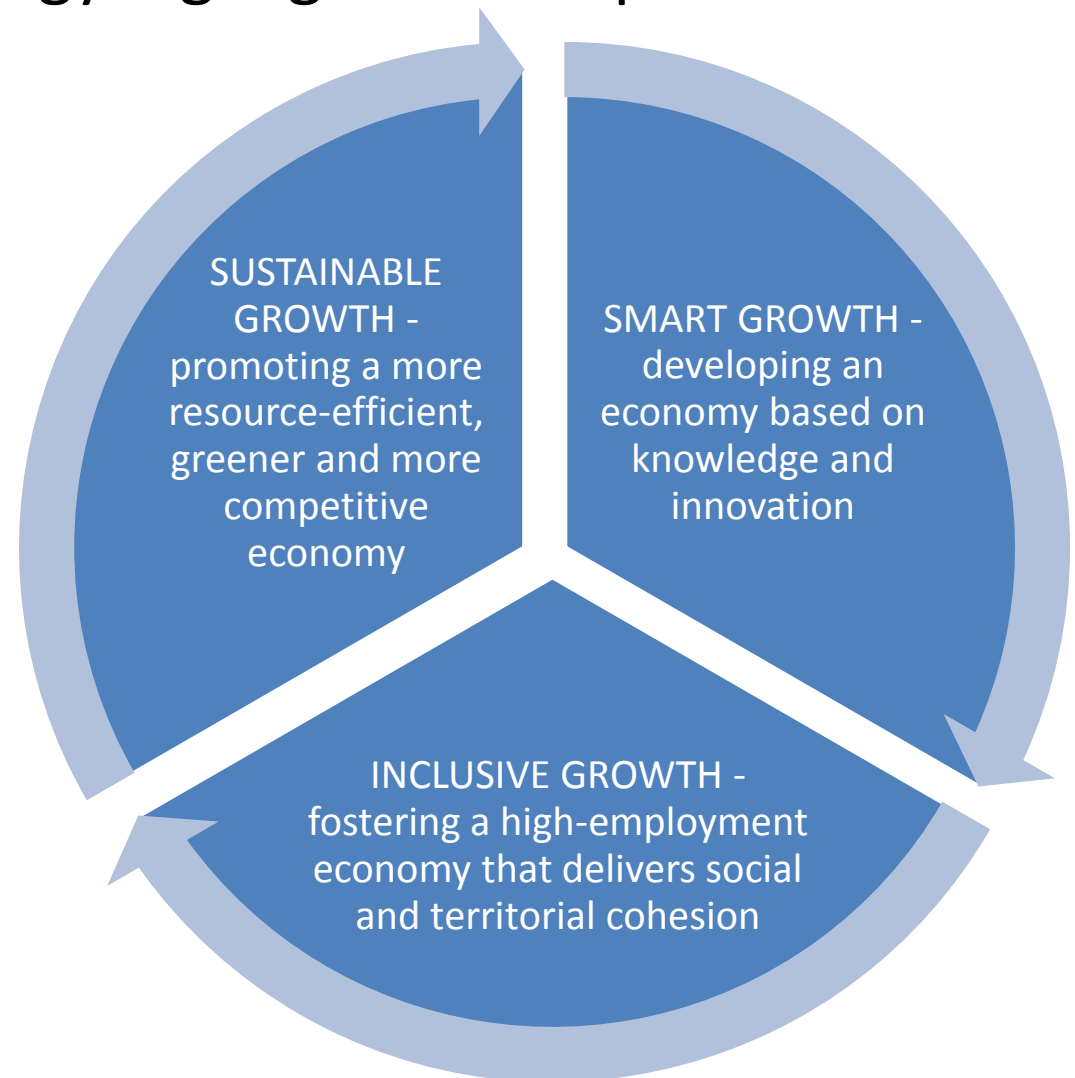


## Europe 2020 Strategy highlights three priorities

**Context of financial scarcity and budgetary constraints, public procurement not only to satisfy day to day needs, but to implement strategic policies.**

*Member States shall take appropriate measures to ensure that in the performance of public contracts/concession contracts economic operators comply with applicable obligations in the fields of environmental, social and labour law’.*

Article 18(2) of Directive 2014/24/EU



## How to incorporate environmental, social and economic considerations into the procurement process?

### 1. Preparatory phase

- ✓ Contracting authorities free to define the subject matter of the contract  
→ name the procurement and include environmental, social and economic aspects
- ✓ contract conditions and environmental, social and economic issues as award criteria → published upfront

### 2. Selection of the tenderers

- ✓ E.g. Social and environmental criteria as selection criteria: human and technical resources, experience and references. Environmental management systems.
- ✓ Mandatory exclusion grounds (e.g. child labour) and non-mandatory exclusion grounds. (e.g. non-compliance with applicable obligations in the fields of environmental, social and labour law).

## 3. Selection of the tender

- award criteria
  - Procurement Directives 2014 foster the most economically advantageous tender on various criteria: *'inter alia, environmental, social or innovation-related criteria'*
  - Linked to the subject matter:

E.g. If a contracting authority introduces an award criterion to combat long-term unemployment → define upfront what is 'long term unemployment' and how will this criterion be weighed against other criteria

- contract/concession performance criteria

E.g. Provision of education to formerly unemployed and/or young people hired to implement the contract, ask compliance with fundamental ILO Conventions.



# The evaluation of environmental, social and economic advantages

The OECD has formulated 10 key performance indicators to quantify environmental impact in procurements.

- ✓ Climate change
- ✓ Ozone layer
- ✓ Air quality
- ✓ Waste generation
- ✓ Freshwater quality
- ✓ Natural resources and assets
- ✓ Freshwater resources
- ✓ Forest resources
- ✓ Fish resources
- ✓ Energy resources
- ✓ Biodiversity



Methodologies to include the impacts of the entire lifecycle of a product already exist. I.e. Life Cycle Cost calculations (LCCC)



## The role of the life cycle awarding method and available tools



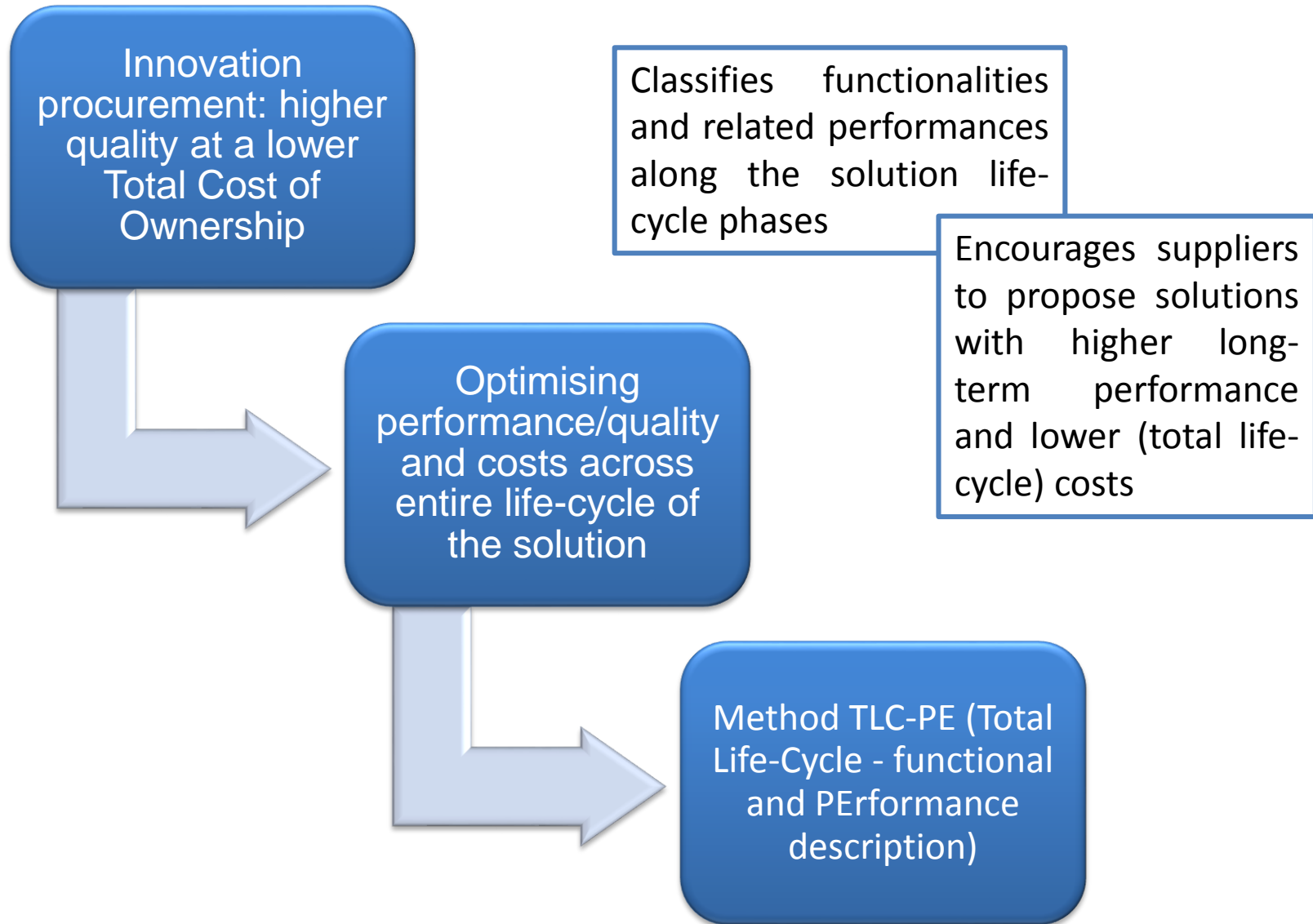
## LIFE- CYCLE COSTING

All costs over the life cycle of works, supplies or services:  
**INTERNAL COSTS** (research, development, production, transport, use, maintenance and end-of-life disposal costs)  
Costs of (environmental) **EXTERNALITIES**, provided they can be monetised and monitored



**Contracting Authority must establish the methodology before hand, in an objective, non-discriminatory and general manner and make it accessible.**

# The role of the life cycle awarding method and available tools



# The role of the life cycle awarding method and available tools

Life cycle costing allows contracting authorities to take into account the social and environmental impact of the product, work or service



**EXAMPLE** of a narrowly defined need for a PCP procurement – Lombardy Region and Niguarda Hospital translated unmet need into a comprehensive list of requirements

Following a WIBGI exercise at Niguarda Hospital (Lombardy Region, Italy) the following need was identified. *“Wouldn't It Be Great If we had an automated system to move around hospital beds that could avoid collateral effects, such as accidents and functional limitations that affect nursing personnel and socio-health operators who are moving around hospital beds manually today!”*

The exercise lead to the identification of the primary need to develop a new and cost-effective automated universal medical device for moving hospital beds, that is easy to use and manoeuvre for a single operator, equipped with anti-collusion and safety systems. Using the TLC-PE method, Niguarda Hospital and Lombardy Region formulated in total 32 (minimum) requirements, all directed to assure a full scalability and wide adoption of the solutions.

# The role of the life cycle awarding method and available tools

## Life cycle 1 – Installation, Start-up and management

1. The device must comply with general and design requirements set out in current regulations regarding safety at work and comply with current regulations as regards medical devices, such that there is no need for any modifications in order to obtain EC certification.
2. It must be very easy for operators to quickly learn how to use the device.
3. The device must be easy to install and use (with no need for calibration and adaptation).
4. Where the device is equipped with a power supply/recharging plug, the latter must be compatible with all types of mains electricity sockets used in European States.
5. Management and supervision of the device must not require any intervention on the part of specialised technical personnel.
6. The device must have recharging times that are as short as possible.
7. The device must ensure installation, management and operation costs are as low as possible.
8. The device must ensure zero or maximum reduction of any environmental impact.
9. The device must be provided with a utilisation data registration system (metres travelled, date and time of start and end of use etc.)



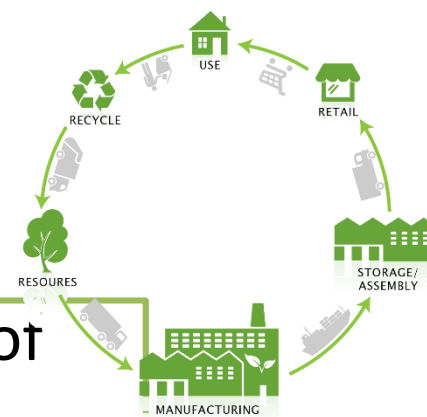
## Example: Criteria for Direct Benefits



- Purchase costs of new solution
- Delivery to site of installation/use
- Implementation and transition costs
- Costs of training to use the new solution
- Maintenance costs
- Testing, inspection, and control costs
- Removal and transition costs

## Example: Additional Criteria

- Current state of development and degree of market penetration
- Availability of required quantities
- Breadth of suitability
- Improvement in functionality for end-users
- Influence on the availability and uptake of open standards
- Impact on reducing supply side concentration





## Conclusions

Innovation procurement is *more relevant than ever*.  
It is *possible to accelerate* innovation procurement  
*with the right methodology, tools and expertise*.





# Thanks for your attention



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