

## LEAPS-INNOV

*LEAPS pilot to foster open innovation for  
accelerator-based light sources in Europe*

**Industry opportunities in light source infrastructures**

**1<sup>st</sup> December 2023, Cerdanyola de Vallès, Barcelona, Spain**

**Alejandro Sánchez, ALBA Synchrotron**

**LEAPS-INNOV Industry work package co-leader**



The League of European Accelerator based-Photon Sources (LEAPS) is the largest consortium of analytical facilities world-wide and further expanding its service to an interdisciplinary European user community

**19** synchrotrons and FELs - **16** institutions - **10** countries

> **300** operating end stations

> **1.000.000** h beamtime /year

> **5.000** publications/year

> **15** spin off companies

> **35.000** users from all of EU & beyond  
researchers from all research and industry  
areas



<https://leaps-initiative.eu/about/leaps-documents/>





# LEAPS

League of European  
Accelerator-based  
Photon Sources

**ESRF & PETRA III**  
6 GeV

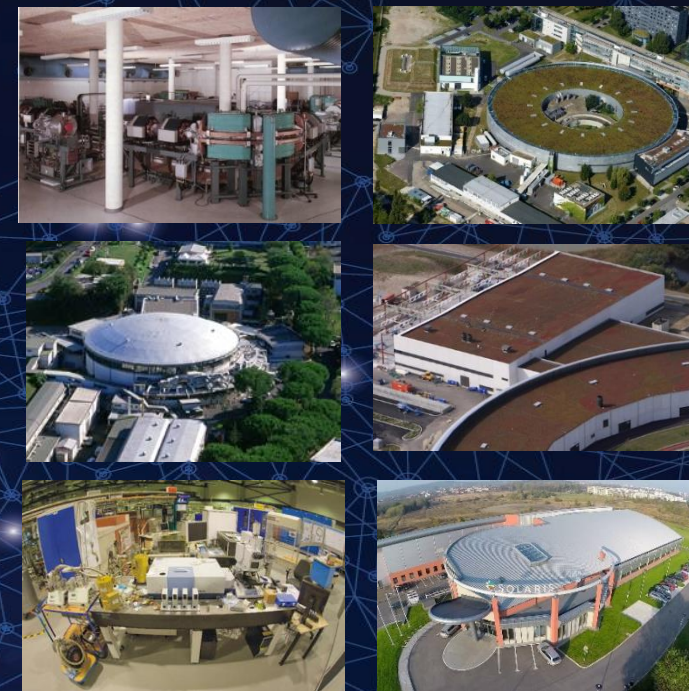


**ALBA, DIAMOND, ELETTRA, MAX IV, SLS, SOLEIL**  
2-3 GeV



**14 Synchrotrons**

**ASTRID, BESSY II, DAFNE, MAX IV,  
PTB, SOLARIS**  
**< 2 GeV**



**6 Free Electron Lasers**

**European XFEL**



**FERMI**



**FELIX**



**SwissFEL**



**FLASH**

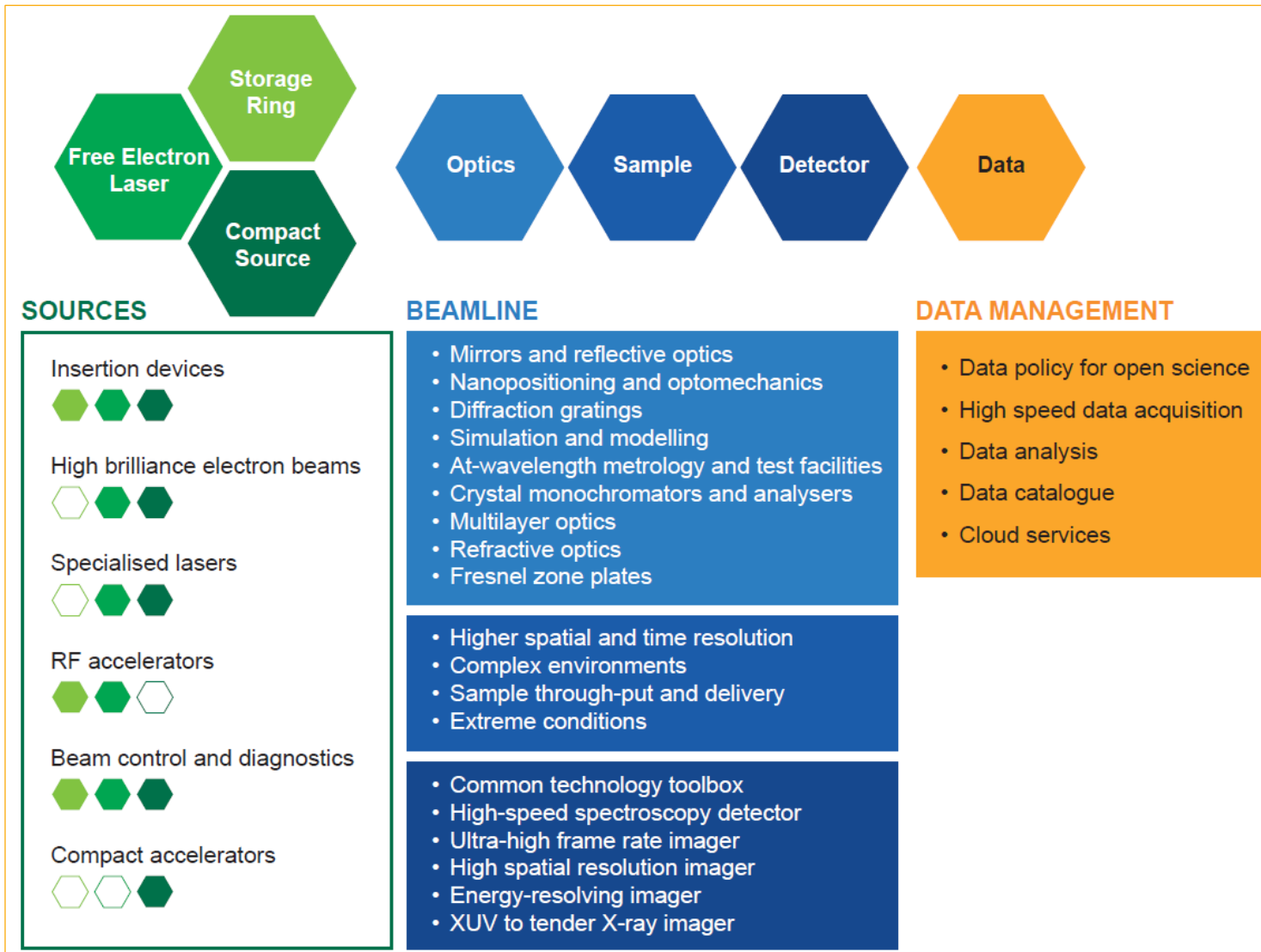


**ELBE**





# LEAPS technology roadmap – 2019, updated in 2022



<https://leaps-initiative.eu/>

The European  
Strategy for  
Accelerator-based  
Photon Science

ESAPS 2022

**LEAPS** League of European  
Accelerator-based  
Photon Sources

A game-changing improvement  
for access to high-end  
accelerator-based photon  
sources for European  
researchers and innovators

BLOCK GRANT

**LEAPS** League of European  
Accelerator-based  
Photon Sources



## LEAPS-INNOV – overview

- Implement the first projects of LEAPS roadmap
- Six key technology Work Packages (WP)
- WP Outreach towards industry
- WP Outreach towards user community

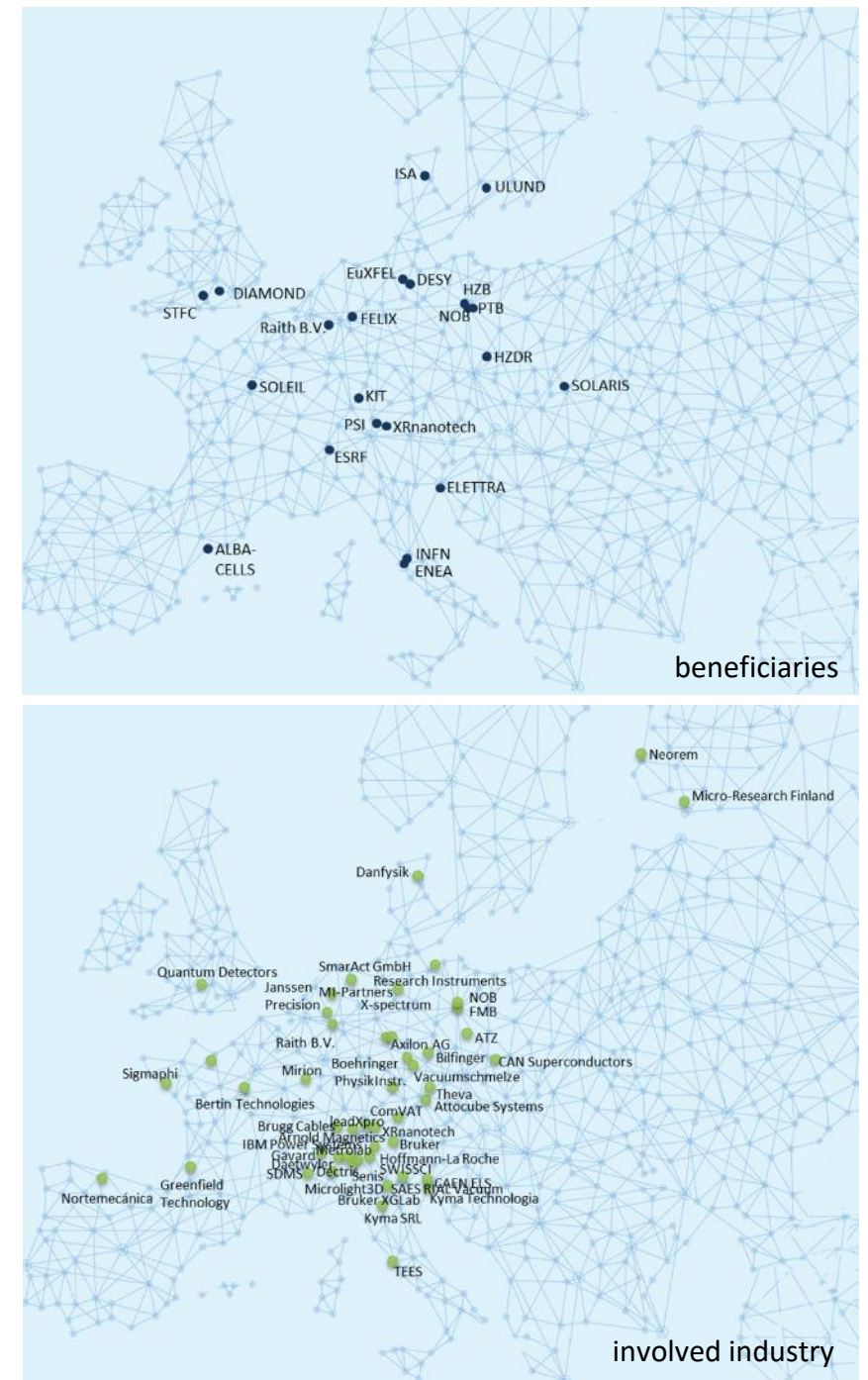
### Consortium:

- 22 beneficiaries (all 16 LEAPS members)
- 3 SMEs
- 3 technology partners (ENEA, KIT, STFC)
- > 50 European industrial partners (> 77% are SMEs)

**Budget** 10 million EUR  
with additional own contribution of  
8.3 million EUR

**Timeline** 4 years, started **April, 2021**

**Coordinator** DESY

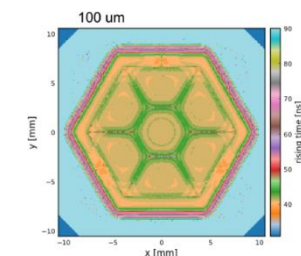
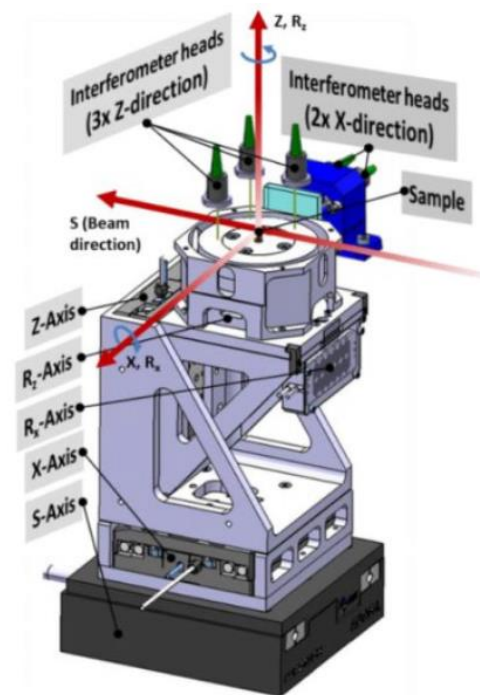




# Open innovation for accelerator-based light sources in Europe

Visit <https://www.leaps-innov.eu/>

<b>WP1</b>	Project Management and Dissemination
<b>WP2 XAFS-DET</b>	High throughput Germanium X-ray spectroscopy detector
<b>WP3 SuperFlat</b>	Production of high-performance X-ray mirrors, including PCP
<b>WP4 NeXtgrating</b>	e-beam lithography for soft X-ray gratings
<b>WP5 POSIT</b>	New positioning and scanning systems for speed and accuracy
<b>WP6 LIDs</b>	Novel insertion devices
<b>WP7 DATA</b>	Data reduction and compression
<b>WP8 INDUSTRY</b>	Industrial Innovation through Light Sources
<b>WP9 CO-CREATION</b>	Innovation by Co-creation towards Global Challenges

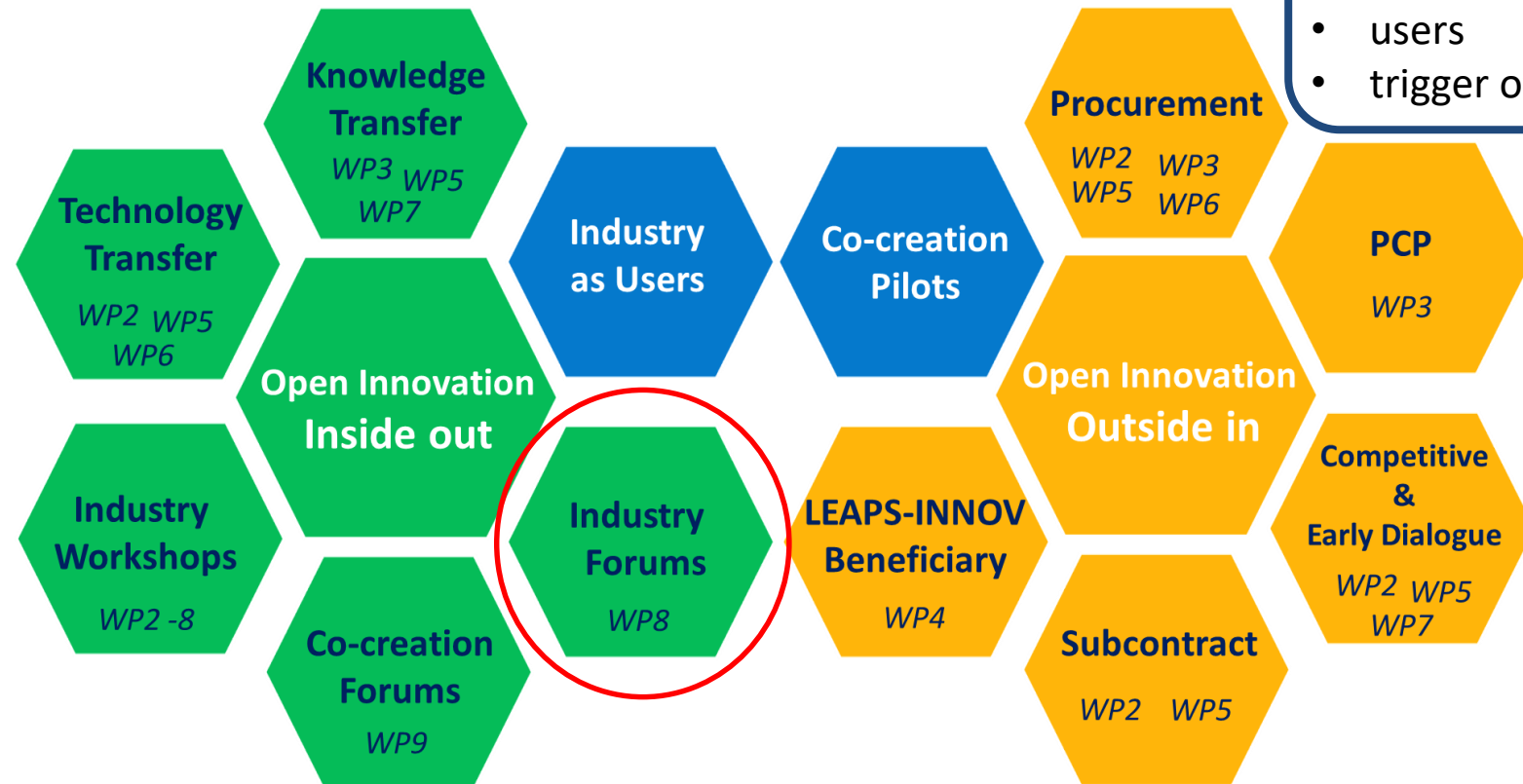


Bringing together technology innovation and people





## LEAPS-INNOV tools to foster technological development with early industry involvement

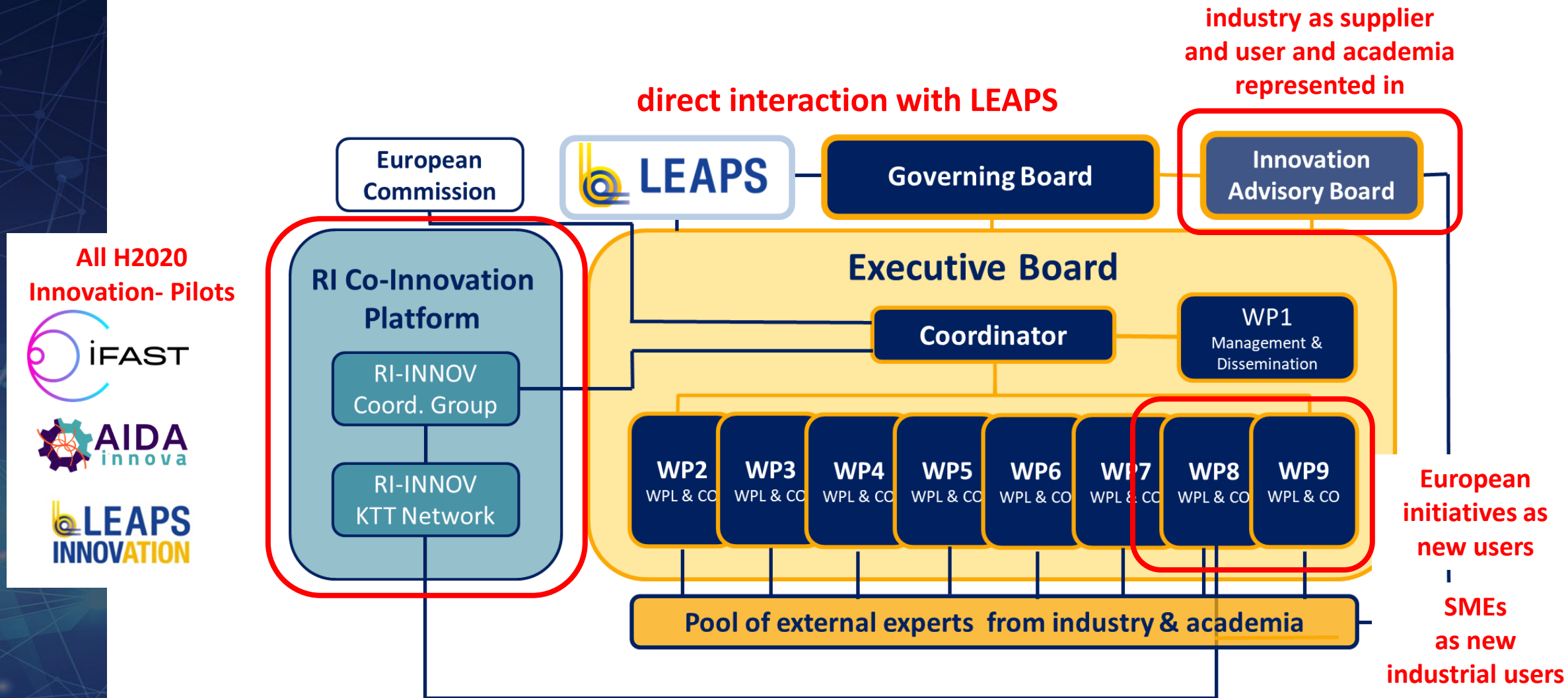


Involve **industry** in innovation for SR & FELs in Europe as

- suppliers
- users
- trigger of science



## LEAPS-INNOV external communication







*"Foster open innovation for  
accelerator-based lightsources in  
Europe"*

<https://www.leaps-innov.eu>



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No. 101004728

