



LEAPS

League of European
Accelerator-based
Photon Sources

LEAPS overview and Facts

Caterina Biscari

ALBA Synchrotron

LEAPS outgoing chair

LEAPS is the largest consortium of analytical facilities world-wide and further expanding its service to an interdisciplinary European user community

- 19 facilities - 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 EU & beyond**
researchers from all research area

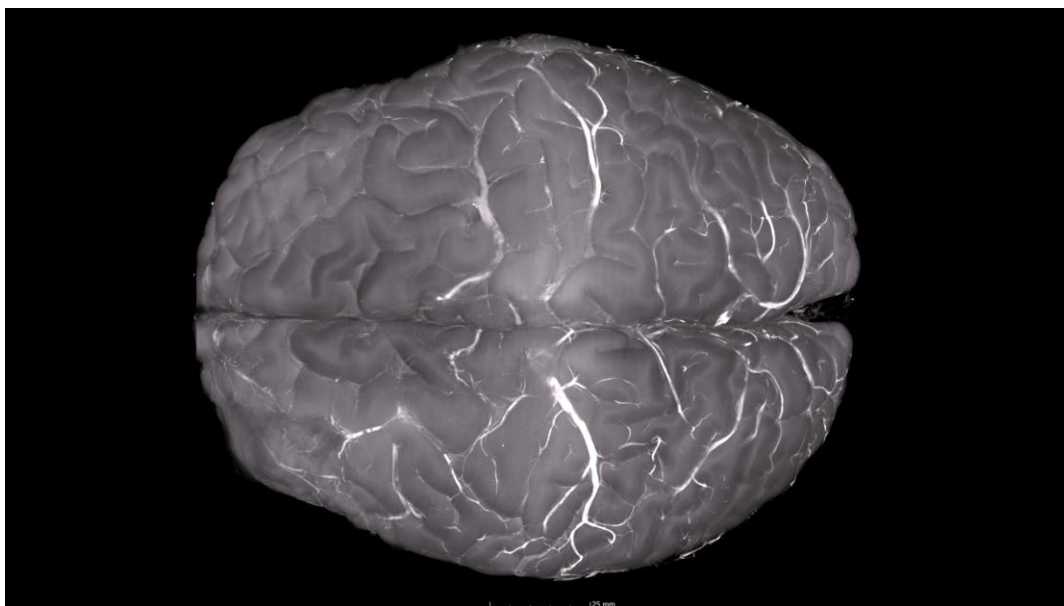


Construction and Operation (~ 800 M€/year) through national funding

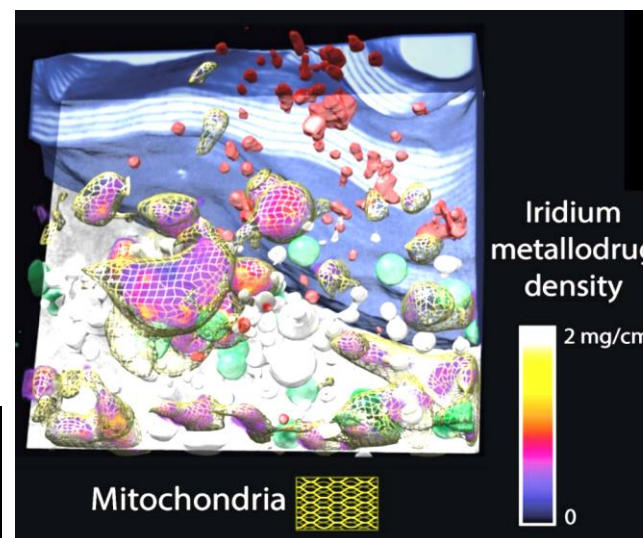
LEAPS provides unique solutions to broad scientific areas

Life Sciences – Health

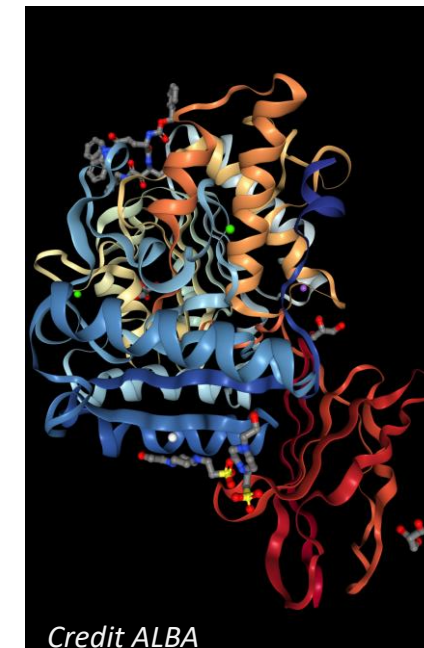
From proteins, through cells, tissues up to massive high resolution tomography



Human Atlas, credit ESRF



Credit CNB-CSIC/ALBA/ESRF



Credit ALBA

Collaboration with research institutions, universities, medical centers, pharma industry

LEAPS provides unique solutions to broad scientific areas

Material science

Electronic and magnetic properties of matter

Quantum materials

Atom and molecule physics

Energy materials

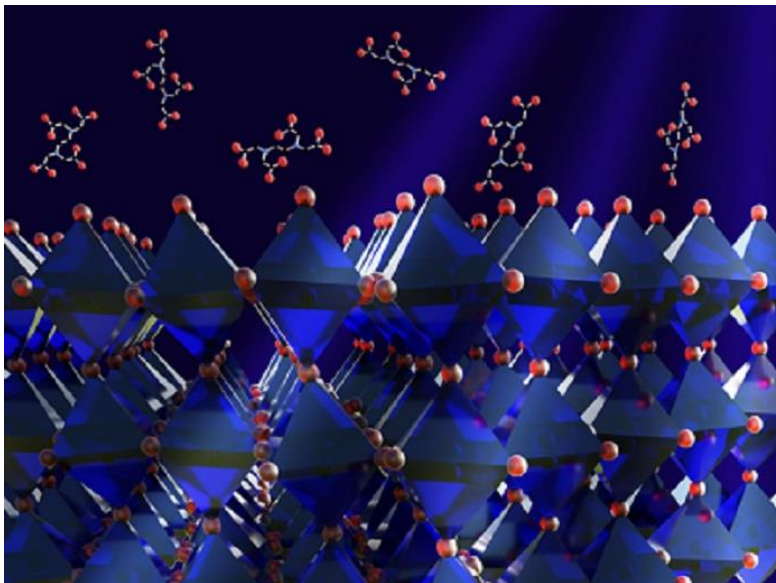
Surface science

Catalysis

Environmental sciences

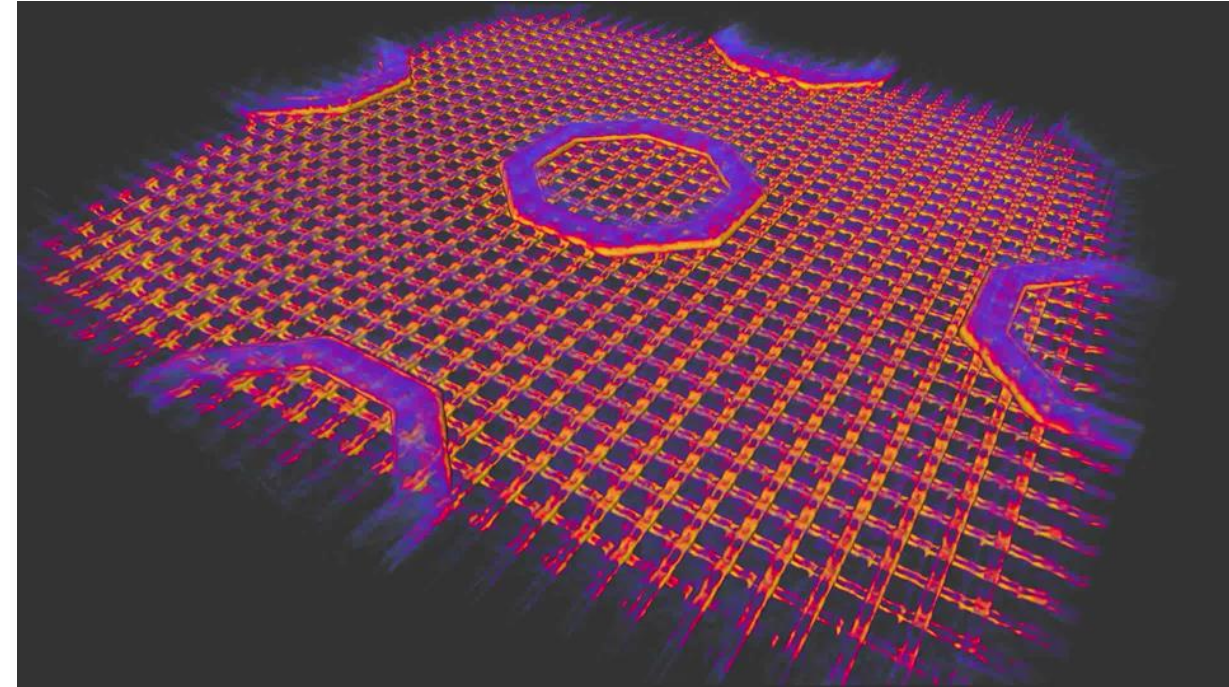
Information technologies

Cultural Heritage



Perovskite research - Diamond

Microchip Structure - PSI

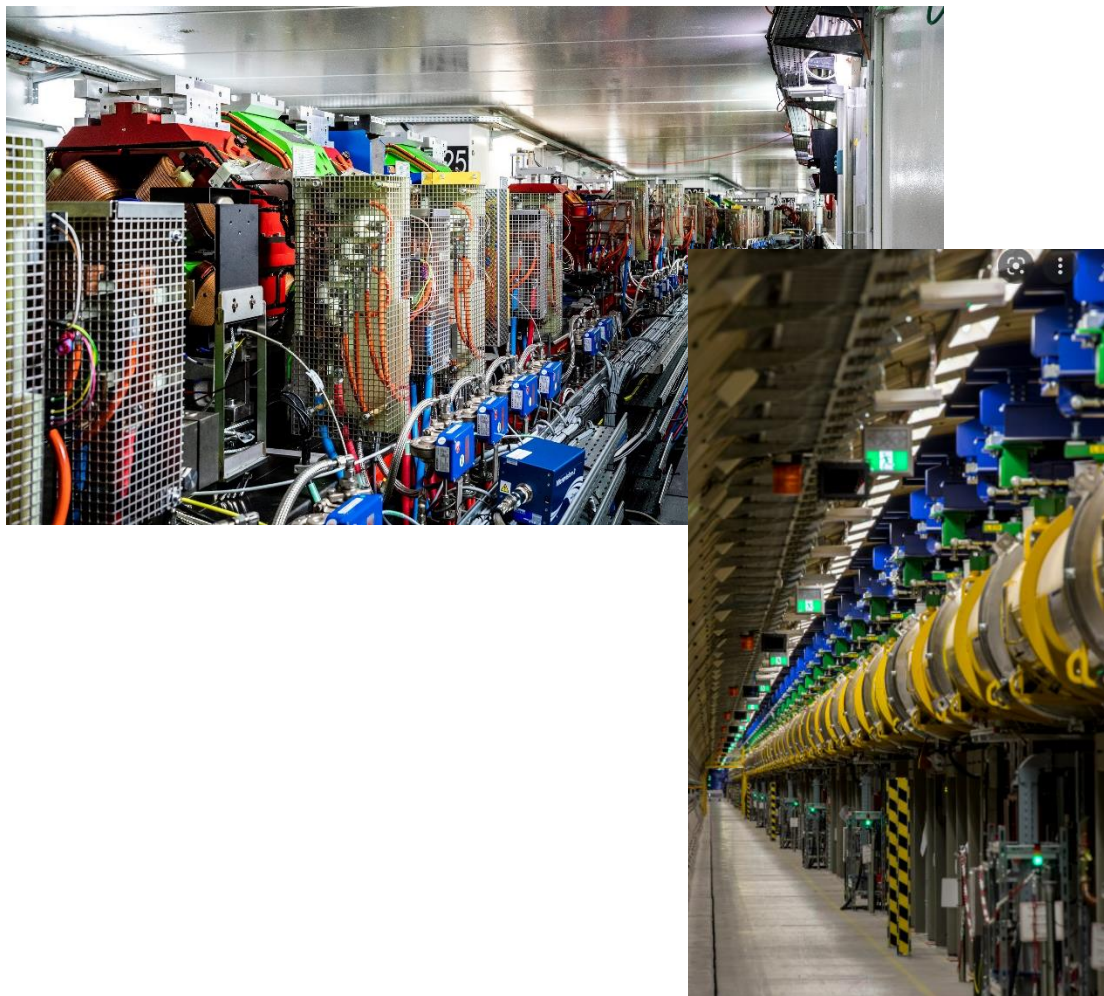


Collaboration with research institutions, universities, advanced material industry, strategic projects

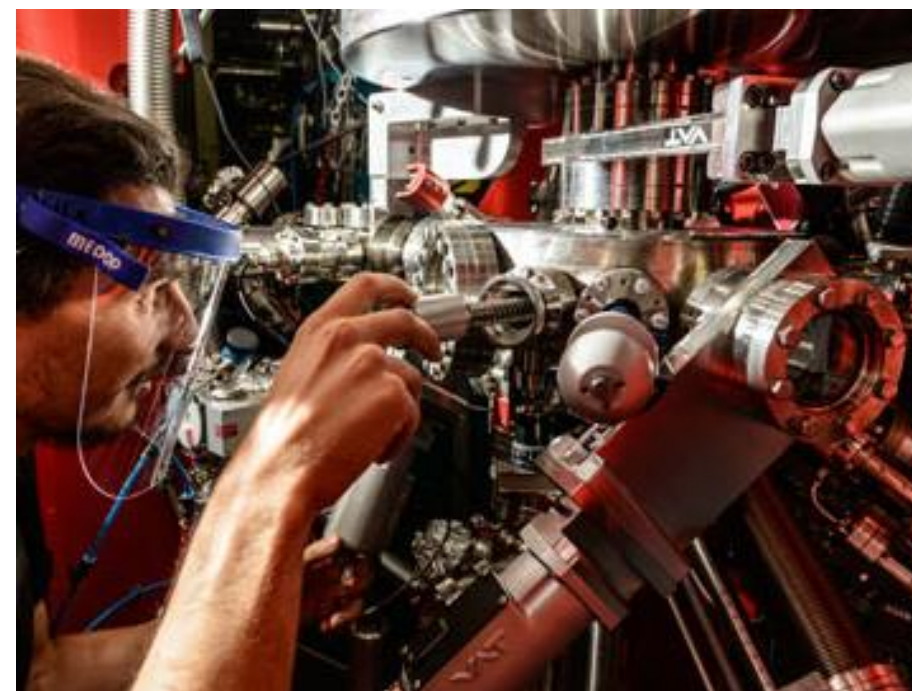
at a glance

LEAPS and Industry

Leading evolution from 3rd to 4th generation synchrotrons and FEL technologies



Innovation hubs
Industry as provider and Industry
as a research collaborator



at a glance

2015-2017

Kick-off

2018 - 2019

Organization

2020 - 2021

Working
together

2022

ESAPS

End of 2015: first meeting
Consortium declaration

Launch in Brussels
Organizing the structure
Collaborating teams

Answer to Pandemic => stronger links
On-line event with EU Parliament hosted by Lina Galvez
DIGITAL Leaps as strategic program
H2020 LEAPS INNOV granted – partnering with industry
LEAPS IDEA (Inclusion, Diversity, Equity and Anti-discrimination)
ARIE start-up – fostering complementarity
Participation in HE calls, also with ARIE

Timeline

ESAPS 2022

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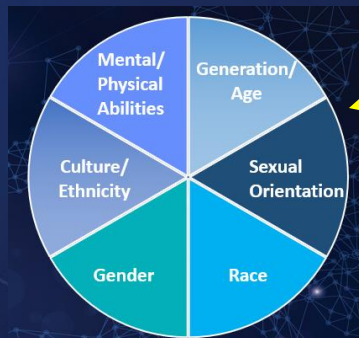
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DIGITAL @ LEAPS

**@ LEAPS
INNOVATION**

Timeline



ERA priority action 4

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The European
Strategy for
Accelerator-based
Photon Science

ESAPS 2022



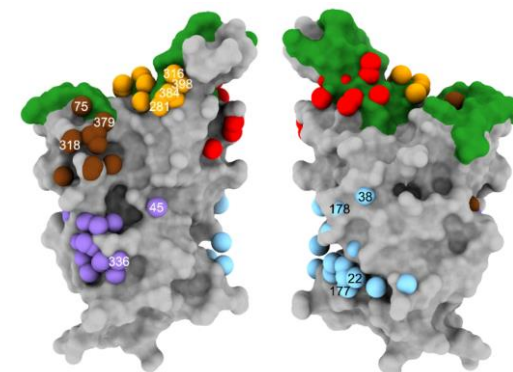
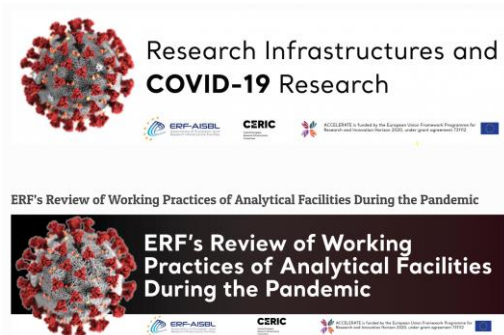
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Timeline

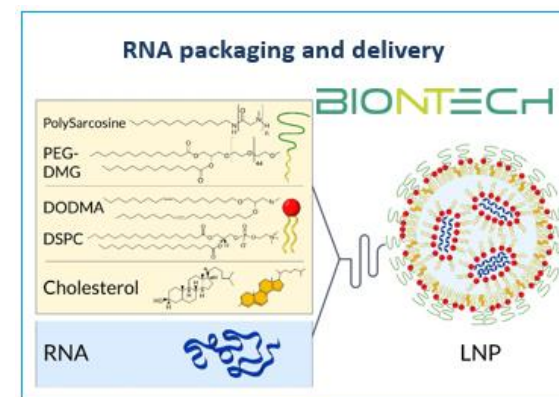
LEAPS providing solutions for the COVID19 pandemic

*Dedicated **fast track access mode** on almost all LEAPS facilities, addressed to Academy and Industry from the very first moment, compatibly with each country pandemic conditions*



Academy

<https://doi.org/10.1016/j.cell.2021.02.032>



Industry

Developing the new generation of mRNA vaccines with enhanced transfection efficiency and overall effectiveness of the vaccine.



“LEAPS meets” - biannual conference series

**LEAPS meets
Quantum Technology**
Elba, 15-19 May 2022



<https://agenda.infn.it/event/19730/>

**Upcoming conference
*in May 2023***

**LEAPS meets emerging
challenges in Life Sciences**





LEAPS

League of European
Accelerator-based
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Tool for
European
inclusiveness



“The strength of LEAPS lies in its staff and users, hailing from all European countries, beyond those which host the facilities.”

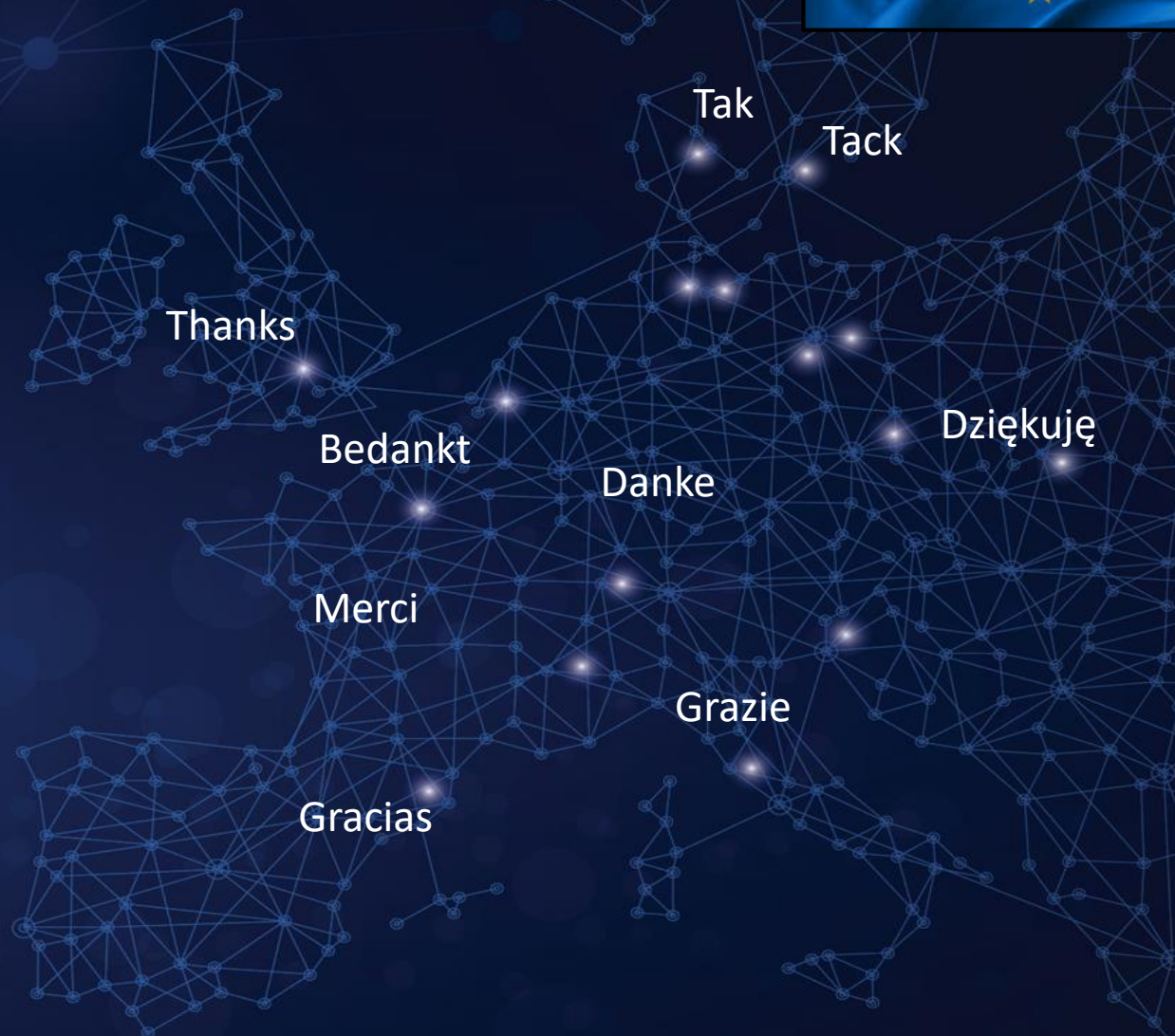


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<https://leaps-initiative.eu>



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