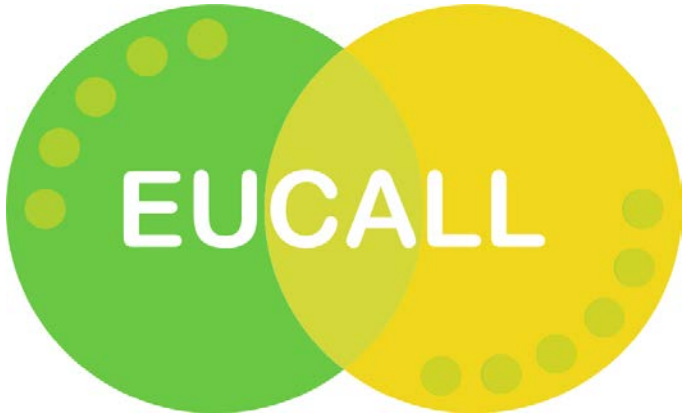

Value added through cross-community activities – Highlights of EUCALL

Panel Discussion – Moderation: G. Appleby (European XFEL) and F. Canova (ELI-DC)

This project has received funding from the *European Union's Horizon 2020 research and innovation programme* under grant agreement No 654220

EUCALL's Strategic Goals and Objectives

Goals

- Develop & implement cross-cutting services for XFEL, ESRF and ELI
- Optimize use of advanced laser light sources in Europe.
- Stimulate & support common long-term strategies & research policies

Objectives

- Analyze & promote efficient use of facilities
- Identify & develop combined research potential
- Analyze & promote innovation potential by the ensemble of facilities
- **Identify joint foresight topics in science & research policy**
- Develop & implement a simulation platform
- Develop ultrafast data acquisition
- Develop ultrafast sample handling systems
- Develop advanced beam diagnostics

WP 3

WP 4 - WP 7

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Panellists

- Cecilia Blasetti – International Project Officer at Elettra, Italy
- Markus Gühr – Professor and Group Leader of Experimental Quantum Physics at Potsdam University, Germany
- Sakura Pascarelli – Leader of “Matter at Extremes” Group at ESRF, France
- Antonio Bonucci – Leader of Industrial Liaison Office at European XFEL, Germany
- Aleš Hála – Head of Technology Transfer Office, ELI-Beamlines, Czechia

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Landscaping exercise of European UV/x-ray instrumentation at RIs

	RI operational
	RI in preparation

			Instrument details	Properties of generated X-ray/UV photons E range, spot size, time resolution etc			Properties of associated laser source E range, rep. rate, time res, Energy per pulse etc			Experiemental Support Labs, Data acquistion, support			Last Updated
Type	Facilitiy	Land											
FELs	European XFEL	DE	FXE	...	...	...	...	...	...	...	...	...	...
			...	...	...	...	...	...	...	...	...	...	...
	FLASH	DE	FL1	...	...	...	...	...	...	...	...	...	...
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Synchrotrons	PETRA III	DE	P01	...	...	...	...	...	...	...	...	...	...
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	ESRF	FR	ID01	...	...	...	...	...	...	...	...	...	...
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Laser Facilities	ELI Beamlines	CZ	PXS	...	...	...	...	...	...	...	...	...	...
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	ELI ALPs	HU	ALPS-HR	...	...	...	...	...	...	...	...	...	...
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Landscaping exercise of European UV/x-ray instrumentation at RIs

EUCALL spreadsheet "UV-x-ray Instrumentation at Advanced Laser Light Sources"

Goal:

- allowing the identification and analysis of duplications and missing elements
- new research opportunities arising from the combination of offers by different RIs
- Include international RIs for an assessment of the international scientific competitiveness of the Europe in this field.
  - Comprehensive list of EUCALL facilities and their application areas
  - x-ray, laser(-like) [pump-probe, coherence, fs-scale, etc]
  - 124 facilities/beamlines with each 22 properties
  - ~2700 entries

Integrate the compiled data into a searchable database available for external users. WP3 extended to Elettra and the started an upgrade to the www.wayforlight.eu database [include ELI, LLE facilities]

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EUCALL – wayforlight database

C. Blasetti, Elettra Sincrotrone Trieste

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Elettra Sincrotrone Trieste

Wayforlight's past & present

First developed under FP7 Integrating Activity CALIPSO

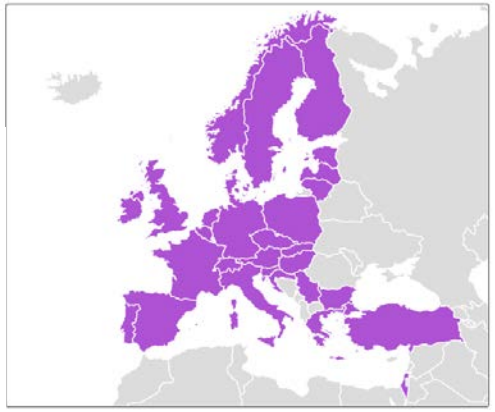
- SR & FELs facilities and BL datasheets (>250 instruments)
- Pilot standardized proposal form

European Synchrotron and FEL User Organisation (ESUO)

- National delegates from 30 countries, new to come

H2020 Integrating Activity CALIPSOplus

- Industry section with multi-language option
- ESUO intranet to be developed
- Training pillar to be populated



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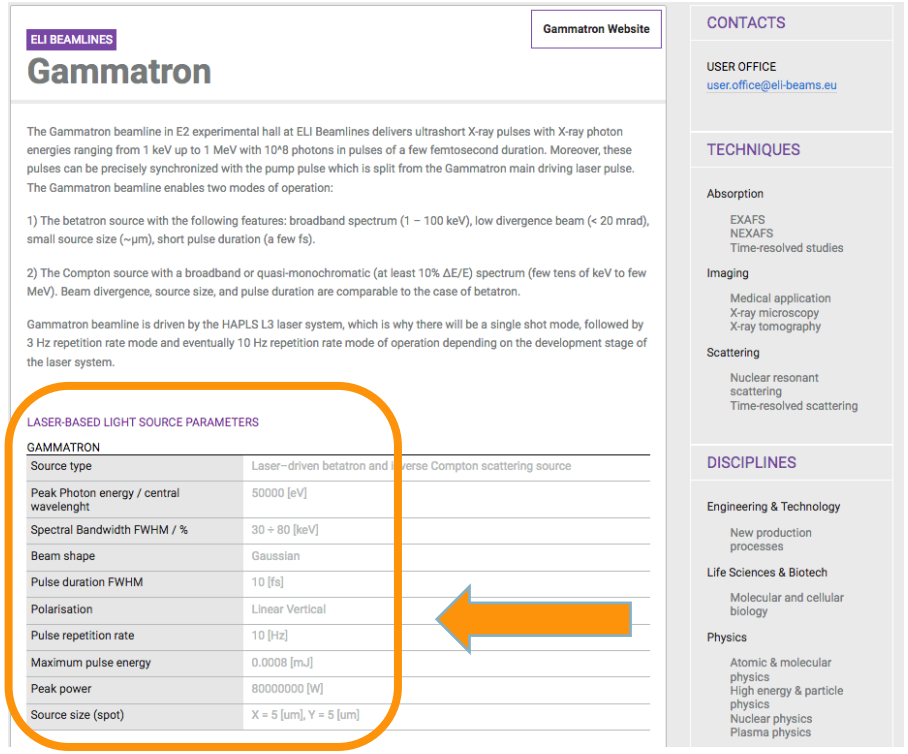
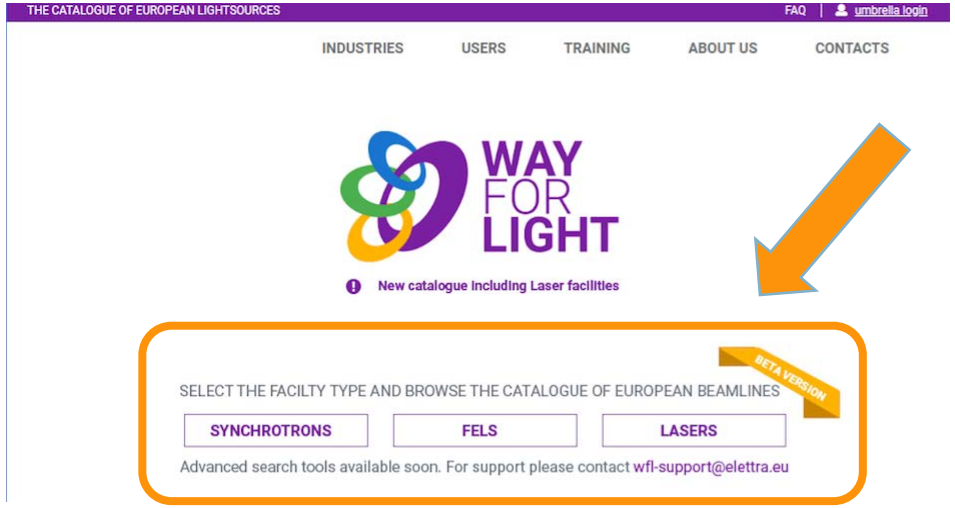
Wayforlight's present: EUCALL - 1

A full spectrum of standardization

- New sheets designed for Optical Laser facilities
- Renewed datasheets for X-ray FELs and IR FELs
- Enriched datasheets for Synchrotron facilities





> 90% common fields between FELs & Optical Lasers

Techniques & Disciplines classification in each of the three facility types

WAY FOR LIGHT

Elettra Sincrotrone Trieste

Wayforlight's present: EUCALL - 1

A full spectrum of standardization

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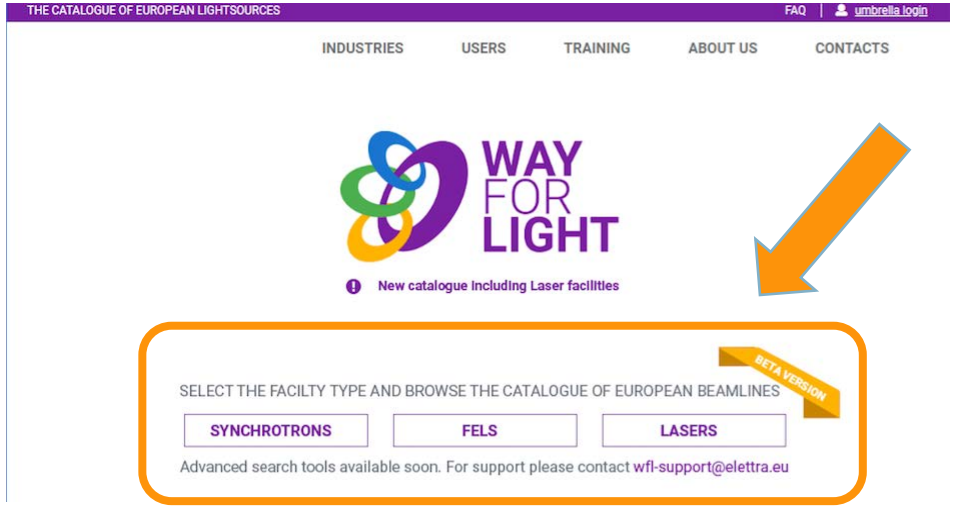
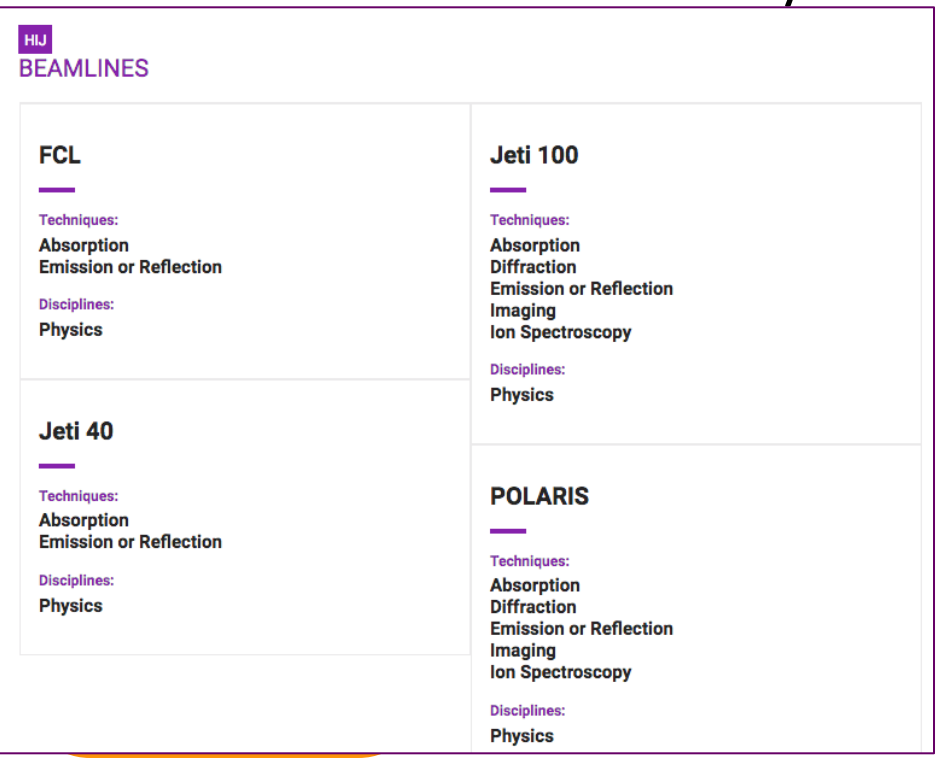




> 90% common fields between FELs & Optical Lasers

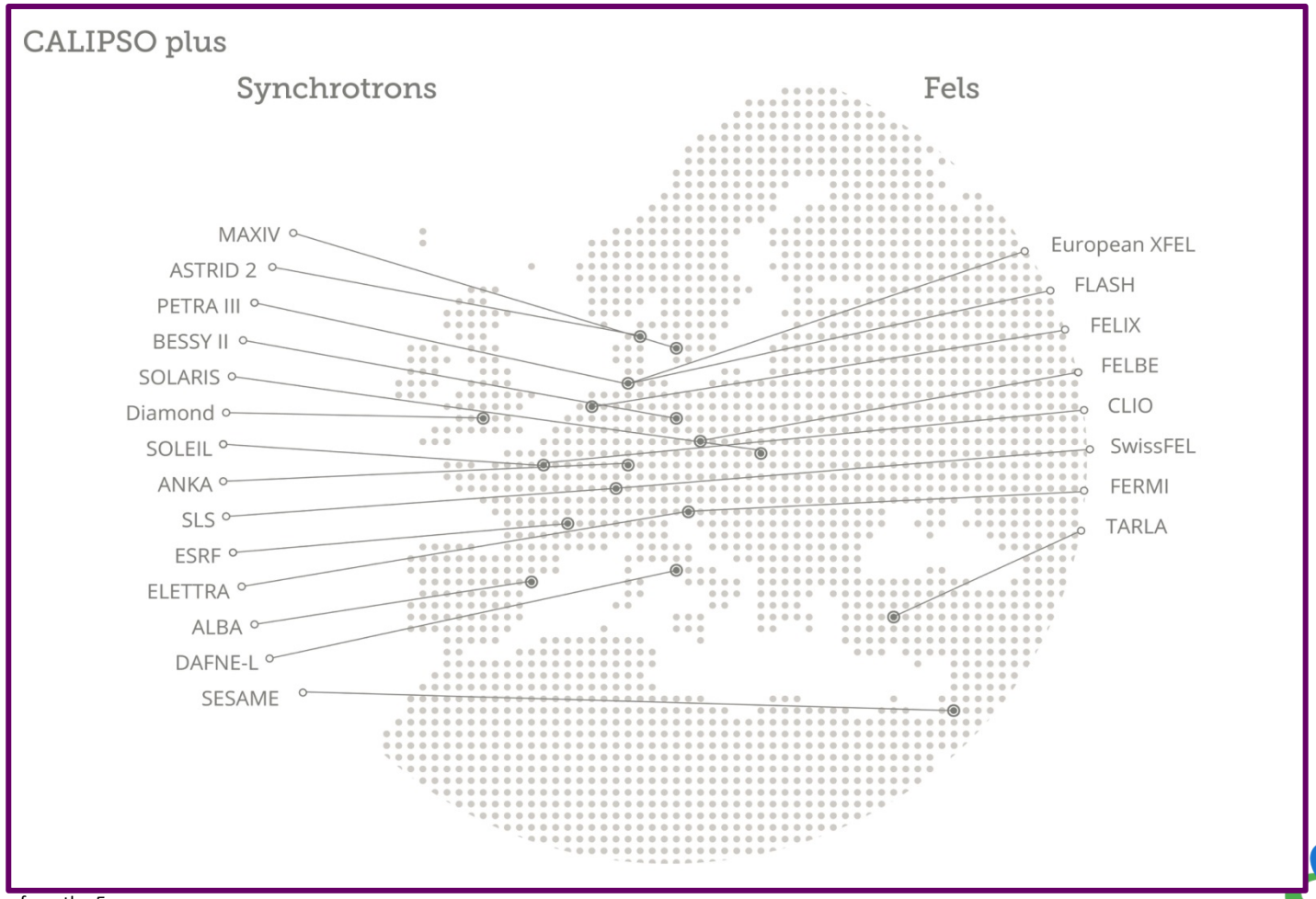
Techniques & Disciplines classification in each of the three facility types

WAY FOR LIGHT

Elettra Sincrotrone Trieste

Wayforlight's present: EUCALL - 3

A full spectrum of facilities



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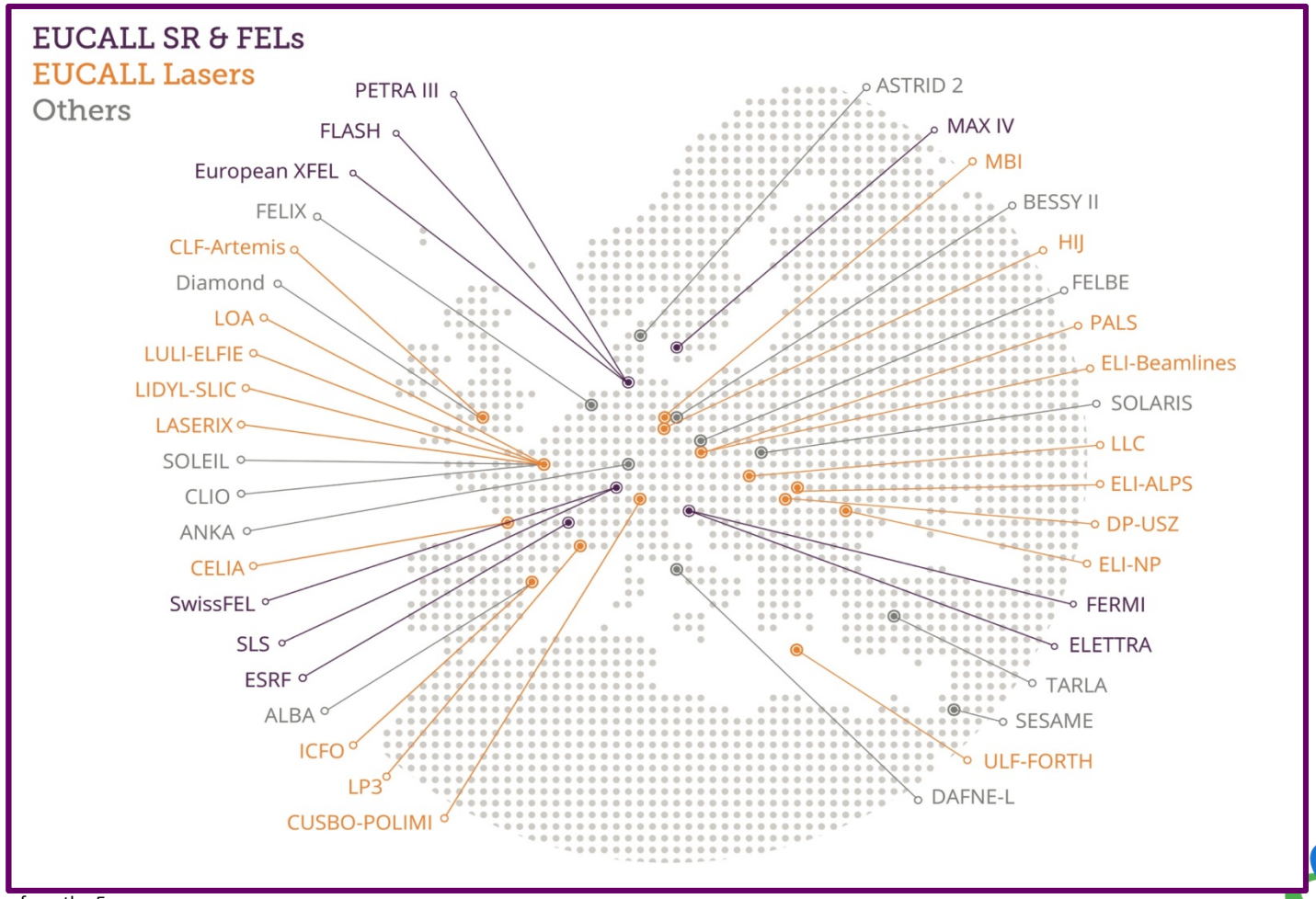
Wayforlight's present: EUCALL - 3

A full spectrum of facilities



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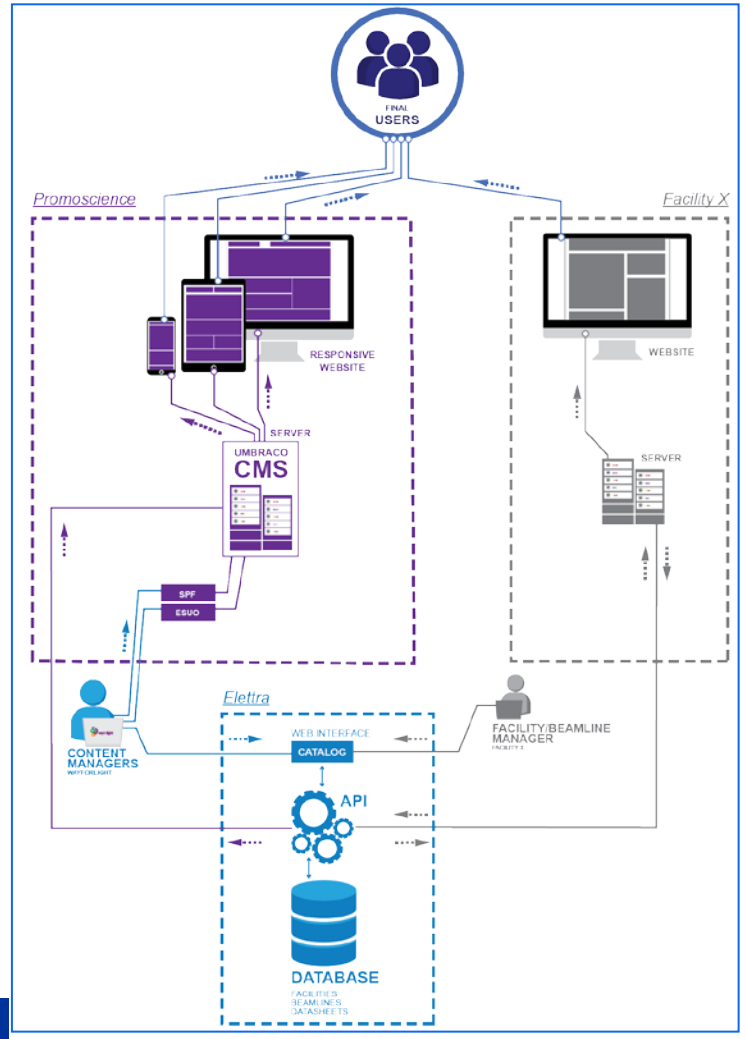
Wayforlight's present: shared benefits



A smart sustainable system

- Designed and created at Elettra
- Scientists will have to fill data only once
- Elettra provides advanced programming interfaces (APIs) for easy data export
- Login is based on Umbrella
- Key for any future interface with other websites - facilities and/or project ones

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Wayforlight's future

Jointly developed by complementary projects & communities

→ a portfolio of partner initiatives for growth and sustainability

- FELs of Europe: www.fels-of-europe.eu
- Laserlab Europe: https://www.laserlab-europe.eu
- The global portal: www.lightsources.org
- The LEAPS initiative: www.leaps-initiative.eu

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Landscape analysis – User Feedback / Markus Gühr

- The value in the EUCALL landscape approach to optimize the research potential of European light sources
- Major conclusions / recommendations that come from the EUCALL spreadsheet and the following report
- What can be done with these recommendations? What is the best way to ensure that facility managers implement the suggestions?

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Experience Exchange – Sakura Pascarelli

- ESRF's activities within the context of EUCALL
- The main lessons learnt from these experiences
- The best way in the future to facilitate cross-community projects. How to tackle the difficulties you've observed and experienced?

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Innovation Potential of Advanced Light Sources

- Joint development of technology with industry
- Protection and commercialization of intellectual property
- Commercial/proprietary access to light source infrastructure
  - Survey of Technology Transfer practices of 14 light sources (EU, USA, Japan)
  - Recommendations of best practices
  - Experience Exchange workshop in November 2017, with 19 organizations represented

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Perspectives on innovation potential from ELI - Aleš Hála

- Transfer and Industrial Liaison polices of the future ELI ERIC.

- Value of EUCALL's activities in defining ELI's policies

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Perspectives on innovation potential from Eu.XFEL - Antonio Bonucci

- Commonality between the different types of Advanced Light Sources, despite the differences between FELs, synchrotrons and optical lasers.

- Further networking work on innovation topics could be done at the cross-community level or even at a more macro level (eg involving neutron sources)

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Summary

- Landscape exercise very useful both for RI operators and users
  - Repeat / update regularly
  - Keep database updated
- Experience exchange between scientists and RI operators very beneficial

- Survey of innovation potential at light sources of great use for “best practices” and for networking and further clustering activities

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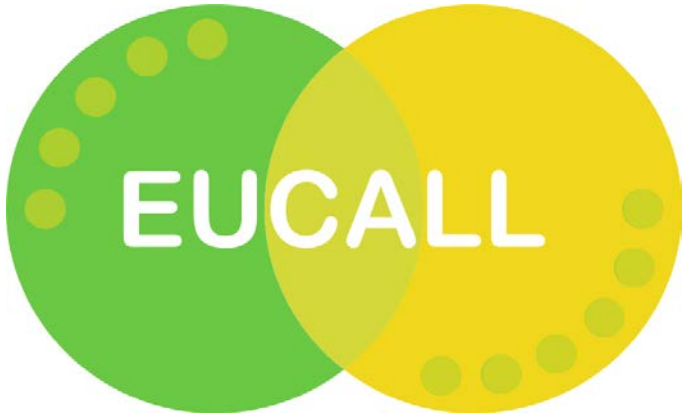

Many thanks to the Panelists, and to you for your attention

www.eucall.eu

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