



SUPERFLAT

Introduction to the Superflat Project

Open Market Consultation (OMC)
19 November 2021

Ray BARRETT, ESRF



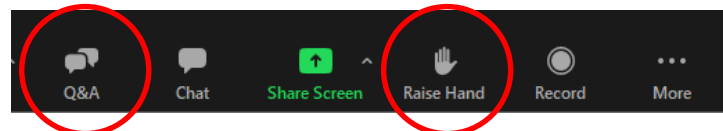
Co-funded by
the European Union

 **LEAPS**
INNOVATION

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement N° 101004728

Practical Information

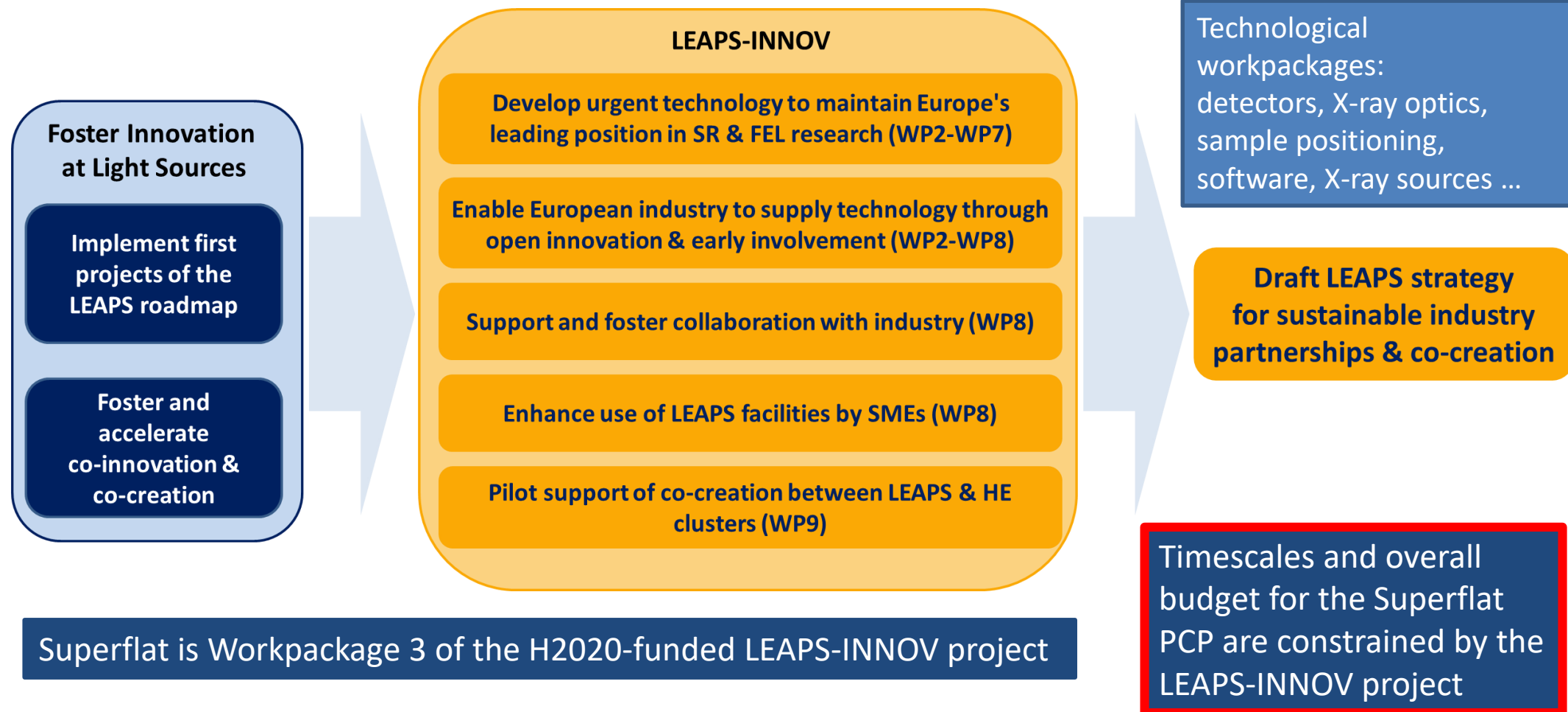
- The presentations and the Questions & Answers session **will be recorded and made available on the leaps-superflat.eu website.**
- The session will include a series of presentations that will provide an overview of the Superflat project and consortium, the pre-commercial procurement process and the objectives of the procurement activity. It will include information about the technical scope and requirements as well as the legal and contractual framework in which the procurement will be executed
- You are welcome to pose questions via the Q&A button of the zoom controls at anytime during the presentations and as far as possible replies will be given during the dedicated session at the end of the webinar. If you want to intervene orally during this last session please use the raise hand button and we will give you the possibility to activate your video and microphone (*such interventions will appear in the recorded version of the webinar which will be published on the website*)



LEAPS-INNOV strategy and objectives

H2020 call INFRAINNOV-04-2020: Innovation Pilots for Research Infrastructures

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



Superflat is Workpackage 3 of the H2020-funded LEAPS-INNOV project

*LEAPS: League of European Accelerator-based Photon Sources

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



SUPERFLAT

Superflat WP3 of H2020 LEAPS-INNOV

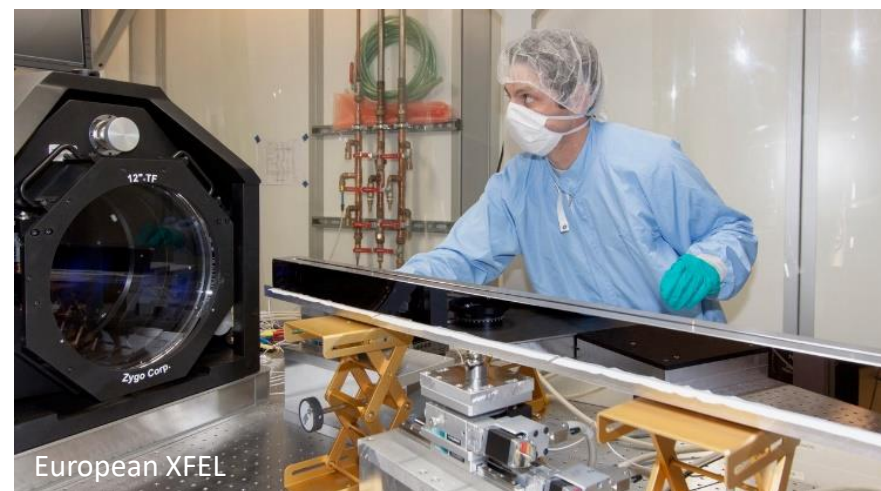
WP3 SuperFlat

Production of high-performance X-ray mirror and grating substrates

<https://leaps-superflat.eu>

Improve competitiveness for the industrial development of these optics in the EU:

- **Pre-commercial procurement (PCP)** for process development for higher performance flat silicon mirrors
- New metrology methods and measurement protocols suitable for production environments (curved & freeform mirrors)
- Deterministic corrective figuring techniques for freeform surfaces



This meeting addresses only the PCP task of the Superflat workpackage

Scope of the OMC

- To inform and prepare the market regarding the upcoming PCP/CFT
- To share information about the technical aims
- To gather feedback and suggestions from potential bidders and other stakeholders to complete the tender documentation

What we want to procure

- The PCP process will be used to procure R&D services via an open request for tender
- The scope of the project is to develop processing methods for the production of high quality X-ray mirrors
- These mirrors are required for the efficient use of current and future accelerator-based light sources (Synchrotrons and Free Electron Lasers)
- The technical content is detailed in François Polack's presentation
- The legal & administrative aspects of the PCP process will be presented by Claire Desjardins

Who is involved?

The Superflat PCP project partners forming the buyers group are:

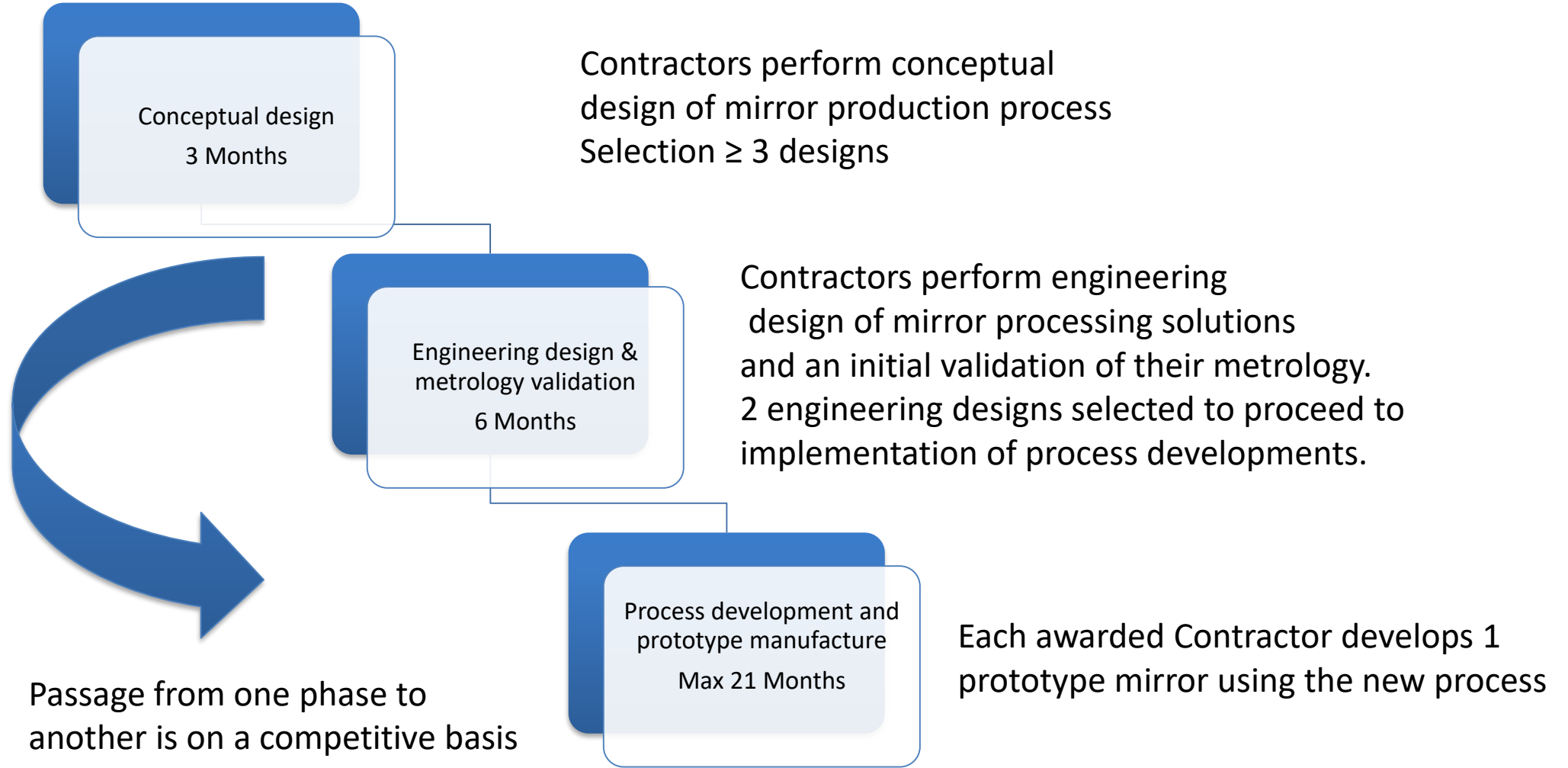
- ALBA (SP)
- DESY (D)
- Diamond Light Source (UK)
- ESRF (F)
- EU-XFEL (D)
- HZB (D)
- PSI (CH)
- SOLEIL (F)
- U. Lund – MAX-IV (SE)

Soleil Synchrotron is the lead procurer and will coordinate and lead the joint procurement for the benefit of the buyers group.



Implementation in 3 phases of Superflat PCP

After preparatory phase including Open Market Consultation, and after request for tender, bidders have 2 months to prepare the offer for Phase 1 & binding costs up to phase 3.



Why a PCP?

- No off-the-shelf technology is ready to meet the challenge represented by the Superflat needs.
- The small volume of the market and the technological risk are obstacles to a “conventional” tender
- Increase competition, trying not to penalise SME
- The PCP instrument can serve the purpose of enlarging the market basis (by reducing financial barrier for SMEs), to attract new or existing actors (by sharing the technological risk of committing into difficult R&D), to mitigate risk of over or under specifications (by engaging industries at an early stage)
- IP rights of developments can remain with the supplier beyond the duration of the PCP

Perspectives after the Superflat PCP

- Many new and upgraded sources will require mirrors with specifications similar to those which will be enabled by such manufacturing processes
 - No grouped purchase by the buyers group is foreseen after the PCP – the usual tender requests issued by individual facilities will remain the norm
 - Companies not participating in the PCP or not reaching the final phase will not be penalized for such tenders
- Extension of processes to longer and/or curved mirrors
 - it would be advantageous if the solutions developed within the scope of this PCP have *the potential* to be extended to applications beyond the manufacture of the medium length flat mirrors which are requested in Superflat
- Developments within the PCP can be also used for customers outside the buyers group as well as for other market sectors