

Call for Ideas of New Instrumentation for ALBA and ALBA II

This call is a first step to produce a variety of pre-proposals which form a pool of ideas from which a limited number will be encouraged to be developed to a full proposal. The final decision for one or two new beamlines, depending on the funding possibilities, will take place early 2022. The remaining pool may be used later in the process to select additional instruments or motivate major upgrades of existing beamlines.

Background information.

In December 2020 the funding agencies approved the ALBA proposal to develop a plan to upgrade to the facility to ALBA II. This plan includes the upgrade of the accelerator complex to a diffraction limited source (4th generation storage ring), the upgrade of the existing beamlines programs to fully benefit from the accelerator upgrade, the construction of new beamlines and the extension of the existing services to fulfill the societal needs of the future.

At the beginning of 2021, ALBA has developed the Strategic Plan 2021-2024 under frame conditions from the Ministry of Science and Innovation. The Strategic Plan is a high-level scheme which lays out the plans of ALBA to keep operational excellence and at the same time develop and start ALBA II, including the expansion and update of laboratory support structure and ALBA's relation with ASTIP or other strategic partnerships if funded.

The approximate timeline is based on a period of about 7 years for the ALBA II design and construction in parallel with the ALBA operation, the installation taking place in 2029, the commissioning in 2030, and the operation of the new facility starting in 2031.

While the Strategy Plan is being evaluated, possible funding opportunities, still to be confirmed, are appearing, which could cover the budget of one or two beamlines to be started soon, meaning that they will be in operation already at ALBA before the shutdown.

ALBA and its community must be ready to take advantage of this great opportunity, and prepare the corresponding projects.

It is important to acknowledge our commitment to integrate all users who are interested together with all ALBA employees into the planning process of the beamlines and ALBA II. It is our hope that the community takes full ownership of ALBA II.

The goal of this call.

The funding opportunity triggers the development of a very fast, but still effective and fair selection process. We want to emphasize that at this point, it is not important to be perfect nor to have even a full proposal; in contrast we invite you to make suggestions for full beamline concepts or individual end station concepts guided by your experiences of the needs and also opportunities. You will find a very simplified PowerPoint template which will show the few information we need at this point. Goal is to pick up as many options as possible and work out later, after a first selection process feasibility and details.

What is needed now?

As already said, the goal is to find as many opportunities as possible and get a first glimpse on feasibility, usability, and ultimately productivity. The selection criteria which will be applied are:

- (i) how much does the beamline program benefit from ALBA II but also is usable at ALBA?
- (ii) does the instrument solve a scientific or a community need which is consistent with ALBA's scientific strategy?
- (iii) is there a potential or existing community in Spain?
- (iv) how the instrument fits in the international competition?
- (v) and is the concept feasible and can be built with realistic resources?

At this point not expected that all areas are known or that the feasibility and risks are already known (more to the template).

You can make already suggestions for any beamlines built at ALBA II (long or short beamlines, with photon sources which can be Insertion Device, Bending Magnet or Super Bends).

In the first selection process of two beamlines, we want to focus our attention on the short beamlines to be started soon. The rest of the remaining instrument proposals will be collected in a pool of proposals and will be used at a later stage for major upgrades of existing instruments with change of the scientific focus and for additional new instrumentation.

Who should propose ideas?

Any member of the community, including ALBA staff, Spanish and international users of the community, is encouraged to participate in this call. Multiple individuals can form teams to propose a single instrument. One person can also participate in multiple teams. Each proposer team can propose only one concept including multiple endstations.

The roles in the proposer team. *See Addendum*

There will be 3 roles in the proposer team: (i) the SpokesPerson (SP) who is responsible for the proposal preparation and submission. The SP will also be responsible for all follow-up communications and required presentations of the proposal idea. Requirement for being a SP is employment by a Spanish institution (excluding ALBA) or any Spanish industrial entity. (II) the Principal Investigator(s) (PI) are proposers with major contribution to the proposals. There may be multiple PIs contributing to a proposal. (iii) the SUpporters (SU) who will either support the proposal team with minor contributions or endorse the proposed instrument. The role of each proposer should be indicated on the proposal (SP, PI, SU after the personal information).

The beamline proposal process.

This information will be published on Wednesday, 1th of July. Deadline for pre-proposal submission is 20th of September 2021. A team of facility experts, Scientific Advisory Committee (SAC) members and ALBA management will form a Proposal Committee (PC); this PC will review the received proposals, may suggest merging or separation of individual proposals and will suggest to develop three or four pre-proposals to full proposals. The announcement of this decision is planned for end of September. At the full proposal phase, the proposer team will be supported by an ALBA expert team. The full proposals will include the science case, cost, impact- and risk analysis based on a first preliminary design including a first budget estimation. The deadline for full-proposal submission will be end of December 2021.

During December the PC will rank the proposals which address the short beamlines. All others will be reviewed later. The review report will be available around Christmas and a final presentation to the SAC will be done in January with subsequent decision of the beamline to be built by ALBA management. Specific workshops can be organized parallel to this process even during the full proposal development stage, to strengthen the scientific case and narrow down required instrumentation.

The Timeline

Call for beamline/instrument ideas	1 th of July, 21
Pre-Proposal deadline	20 th of September, 21
Encouragement to full-proposal (including providing support team)	Mid of October, 21
Full-Proposal deadline	End of December, 21
Final decision for beamline 14	February 22

Addendum: Call for ideas of new instrumentation for ALBA and ALBA II

After getting additional feedback from various proposer teams, ALBA has decided to relax the requirements on the SpokesPerson by removing the requirement of being employed by a Spanish research institution or Spanish company; the section of “The roles in the proposer team” has been changed to (the changed section is marked bold):

[The roles in the proposer team.](#)

There will be 3 roles in the proposer team: (i) the SpokesPerson (SP) who is responsible for the proposal preparation and submission. The SP will also be responsible for all follow-up communications and required presentations of the proposal idea. **Every member of the national or international user community can become the SP.** (II) the Principal Investigator(s) (PI) are proposers with major contribution to the proposals. There may be multiple PIs contributing to a proposal. (iii) the Supporters (SU) who will either support the proposal team with minor contributions or endorse the proposed instrument. The role of each proposer should be indicated on the proposal (SP, PI, SU after the personal information).

It will be especially important for proposals with SP outside of Spain or with a SP employed by ALBA to argue why there will be a potential user community in Spain (for example by showing the need of specific communities) and it will be beneficial if a clear path is shown how this community can be created.