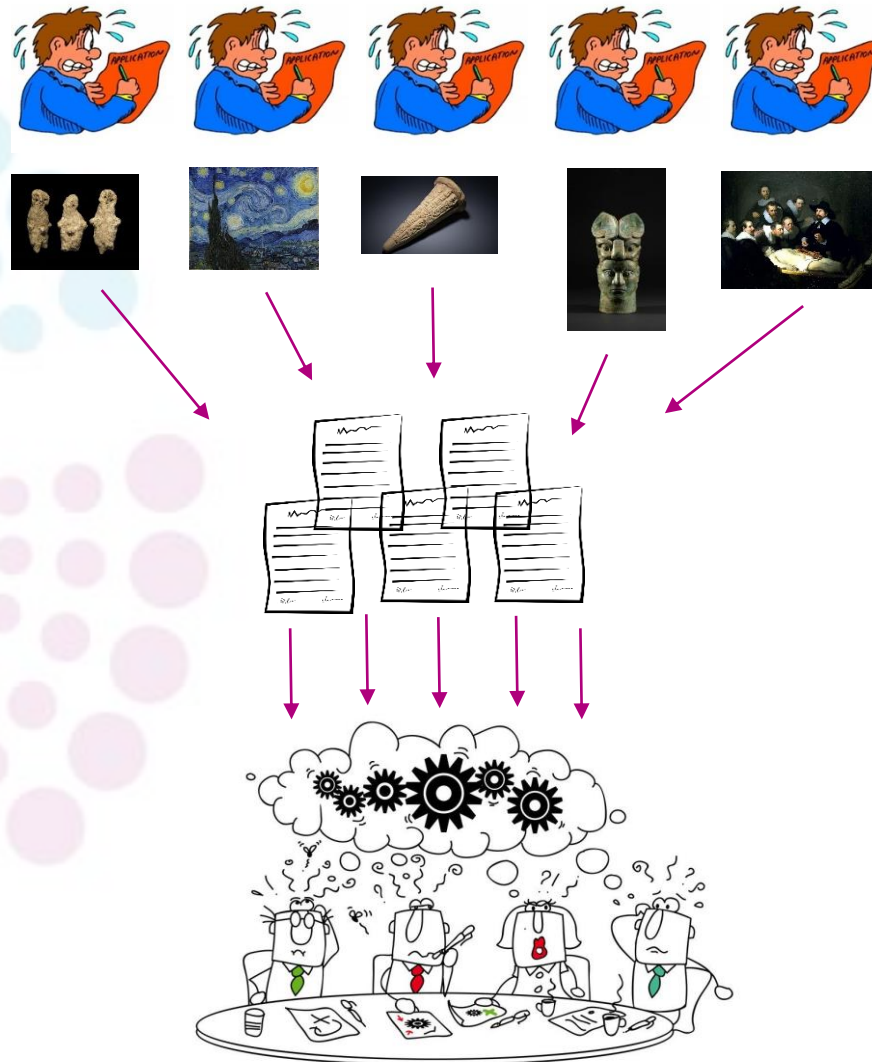


Community access proposals group together **scientists working on similar scientific topics or themes who apply together as a consortium** for a regular allocation of beamtime at the ESRF to work on that topic or theme. If successful, **the ESRF grants the beamtime to the community who decide between themselves how best to distribute the beamtime within the community and for which projects** in order to produce the most impactful science in that field.

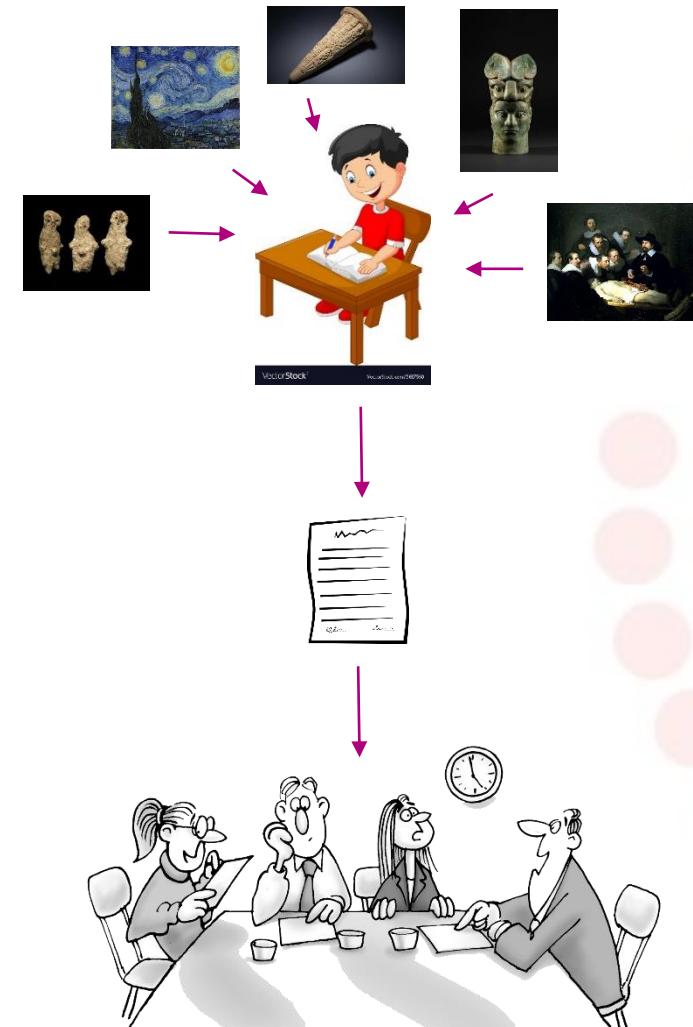
In addition to the existing MX BAG proposals, the ESRF is also implementing (i) **BAG proposals for non-MX** topics and (ii) **HUB proposals**.

The essential difference between a BAG and a HUB is that a BAG groups together a number of **independent** Principal Investigators working on similar scientific or technical projects, who **share beam time and decide on measurement priorities**. In general, they **work independently and do not necessarily share results**. The HUB access mode is different in that it groups a number of Principal Investigators (PIs) working on the same major scientific theme, but who **commit to collaborate and work together** to coordinate the beamtime use and **share results** obtained in such a way that progress is faster and more impactful across the field, rather than made incrementally by the different PIs working separately. **This necessitates that the HUB members share knowledge, beamtime data and results prior to publication.**

NOW



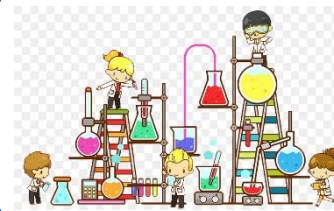
BAG/HUB



NOW

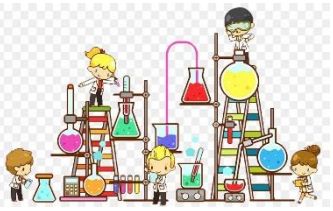


Experiment 1



Experiment 2

BAG/HUB



Experiment 1

Definition of sustainable access models

- **Reflection on new access models and selection of pilot projects**

Expand the ESRF role towards an active facilitator for targeted communities

❖ Starting pilot projects:

1. Technique driven: e.g. collect the entire “shock” community in a single BAG
2. Science driven: e.g. encourage museums to adopt BAG(s) – “degradation of paintings”
3. ESRF as a science hub in selected areas – “Grenoble Battery Hub” (LTP-style)

**Creation of an expert working group
(3 SAC members, 3 senior ESRF scientists, DoRs, UO)
to reflect on new access models**

HISTORICAL MATERIALS BAG

SHOCK BAG

BATTERY HUB

As the battery market is exponentially growing, research and innovation in this field requires one to optimize advanced battery characterization schemes at large scale facilities, e.g. identifying relevant technique(s), writing beam time proposal(s), organizing the experiment(s), and acquisition, processing and analysis of the data sets. The complexity of the electrochemical systems and variety of parameters to be investigated, ideally in operando mode, calls for the simultaneous, or time-coordinated, use of different probes (neutron/X-rays), potentially at several beamlines (scattering, imaging or spectroscopy experiments), under different conditions (post-mortem, operando, controlled conditions), to be scheduled and performed to meet the scientific objectives. In addition, specific needs are foreseen such as high-throughput experiments, dedicated sample environments including smart control/sensing and real (large size) devices, high quality experiments to be combined with big data analysis and multi-scale numerical simulations, or the need to acquire data repeatedly for long time periods on the same system during cycling. To date, single-shot experiments (granted through standard proposal submission) lead to a fragmented knowledge and satisfy short-term objectives, insufficient for a program for the development of advanced battery technology (high energy, high power, safer), where a more integrated (holistic) approach is clearly needed in the near-future. Within the standard proposal infrastructures, only limited coupling of different instruments is possible, with the organization of the multi-instrument experiments often problematic and not assured. The scope of the Battery Hub is to guarantee continuity, flexibility, reactivity, repeatability and efficiency.

- Which beamlines are involved?
- Who is involved?
- What are the obligations of a Hub partner?
- What is the Battery Hub?
- Who to contact?

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COMMUNITY ACCESS PROPOSALS - NEW

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Historical Materials BAG

Shock BAG

Battery HUB

Introduction and Motivation

The ESRF is looking to implement new access models that will facilitate access to the ESRF for researchers working in fields of important societal impact and willing to collaborate to produce more impactful science, but also facilitate access for user communities if they can structure themselves in such a way as to efficiently use regular beamtime slots for the projects they consider to be of highest importance for the community. These "community access proposals" are intended to optimise the use of the new EBS X-ray beams that will allow faster and shorter experiments due to their unprecedented intensity and coherence by :

- reducing the lengthy set-up and take-down overhead time per project by fully utilising the useful beamtime in between to measure data on a maximum number of samples and projects,
- encouraging user communities to agree together on the most important projects and samples for that community, and to assign priorities for a particular beamtime slot,
- ensuring regular access to ESRF beamtime to allow these priorities to be set and to allow a strategy for best use of the beamtime to be conceived within the community,
- creating scientific synergy within the community to develop tools for data acquisition, analysis and interpretation.

STD

BAG/HUB

<https://www.esrf.fr/CommunityAccess>

Aspects to consider

1. **Definition (& conditions) of community access proposals**
2. **Governance** - membership of community proposals, transparent and fair beamtime allocation
 - formal structure for governance and organization
 - sharing of data
3. **Submission, review and selection** - approval process for community access
4. **Follow up and reporting** - documentation, procedures (cycle length, who evaluates, etc), decision making
5. **Fair balance between different ESRF access modes**
 - STD, LTP, BAG, HUB, etc
6. **Further administrative aspects** (integration into SMIS, safety aspects)

Rapid access

1. Proposal required? How is the time counted for in usage stats? Country balance?
2. Who decides on allocation (Review Committees, Management, BL staff...)
3. Time limits for accepting, safety, etc.
4.

Community access

1. Do we need to monitor membership? Do we need to police collaboration?
2. Fair balance between different access modes, do we need to ensure individual access is preserved?
3. What limitations in terms of beamlines, beamtime, preferential access?
4. What about competing proposals, how do we keep beamtime reasonable?
5.

Cross-facility access

1. Do we really need to know if a proposal is accepted elsewhere? Is it even really possible to know this for sure?