IMPULSE User access workshop

January 30th, 2024

Session 1: Organisation of User Calls

KEY MESSAGES	Section 1: Organisation of User Calls – first part
ELETTRA	- Get a good user database is crucial - Implement at least some automatic proposal check (e.g. missing answers or empty attachments, safety alerts) - Synergy between UO, BL scientists and Safety officer(s) is crucial - We are moving towards a BL specific risk assessment
ELI	- Challenge: integrate ELI-BL and ELI-Alps into ELI-ERIC, and progressively integrate ELI-NP - At ELI, safety issues are more related to equipment than to samples
All	Take advantage of fresh people and fresh ideas

M. Bassanese (MB):
- Key advice: get a good database is crucial
- It's interesting to have fresh people and fresh ideas

Z. Varadi (ZV):
- It's the very 1st time that all ELI User Offices meet in presence together
- ELI-Alps and ELI-Beamlines are already integrated in the ELI-ERIC, ELI-NP is observer; all 3 facilities in the same call but assessment is done separately (2 ELI-ERIC + 1 ELI-NP)

S. Chen (CH):
- I am an experimentalist, still familiarizing with the administrative procedures presented in this workshop, which is particularly useful and welcome.

Discussion:
Workflow and timing for reviews:
- In ELI-ERIC, technical review is not sent to the scientific committee, it is internal of the facility while panel members are external. We are still building / buying instruments with/for the users.
- (ZV) How is time for experiments decided at Elettra? (MB) Our Panel takes into account the user request, the beamline technical comment, and gives the final word
- Petra Dvořáková Ruskayová (PDR) Which type of automatic checks to you perform? (MB) The VUO checks if similar or identical proposals were submitted or were in editing, e.g. with same/similar title, and also if some particular info is missing. Those proposals are put in "editing" status and the UO checks them manually, asking the BL scientists to contact their users, if and were needed. In any case, immediately after the deadlin,e the VUO sends a warning to the proposer, so that he/she can still contact the User Office for information or to quickly complete the proposal, if doable.

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- Tamara Kecskés (TS): How is safety check performed ? (MB) We receive 450 proposal per semester, they are sent to BL scientist and safety officer for the feasibility. The VUO generates automatic alerts if there is any issue in the proposal, e.g. in the sample's datasheet.
- Andrew Harrison (AH) This is important when you will have to manage more and more proposals and not few long-term ones as we do nowadays.
- (TS) Do BL scientists receive a specific training to decide on safety issues? (MB) We rely on scientists' a) experience b) constant advice of the safety officer c) self-declarations of the users. (TS) Equipment is critical at ELI, not only samples.
- G. Paolucci (GP) In Italy we have quite strict laws e.g. for biological samples, and these are often our boundaries, particularly after the last pandemic.
- F. Bavdaz (FB) and (MB) We're changing safety procedures at Elettra, moving from a general risk assessment to a Beamline-specific risk assessment, including changes in online and in presence training for users.

KEY MESSAGES	Section 1: Organisation of User Calls – second part
NFFA	- Combining smart tools (single portal with dashboards) with promptly available experts to get reliable evaluations by each single instrument is one of the most challenging aspects. - BL scientists are sometimes hard to motivate to assist users in proposal preparation
CERIC-ERIC	- 2-step submission allows for proposals' quality improving
ELETTRA	- Train the panel members on how to express their feedback is crucial - users can re-submit a proposal addressing only the panels' comments - our proposal's safety forms include the chemical formula of the sample
ELI	- We still see a large gap between proposal from Western EU and US and others - Separate academic and proprietary access will be a hard task
All	- Training users and providing quality feedback are equally important - Incentivize BL scientists to do user service is a challenge

Multi-facility call management
R. Gotter (RG):
- NFFA offers 180 techniques to single users and groups
- Single portal with tools for offer display and work-plan optimization (Dashboard)
- To find and maintain a team of experts (evaluators) is one of the most challenging aspects, also to support inexperienced users prior to the submission of complex multi-competence proposals".

D. Brzosko (DB):
- 2-step submission to gradually improve proposals quality
- Scheduling is centralized, while safety is managed at single Partner Facility level

Discussion:

- (ZV) 2-step submission is time-consuming for the scientists
- (SC) We still see a large gap between proposals from western EU & US and others, we need to find a way to improve scientific content
- A. Hala (AlH) Do you have a template asking for clear motivation ? (MB) Yes, the proposal format is the result of 30 years of experience and tailoring, we have a motivation field and we provide examples and guidelines on our webpages
- (MB) To train the panel on how best express their observation on the proposals is really crucial: sometimes feedback can be too short, or even harsh, and so not useful to improve a subsequent proposal attempt
- (AlH) There is and will always be a "grey zone" between academic access and industrial one; M. Jurca (MJ) Protection of IP is and will be a delicate issue; some scientists have little knowledge of protecting their ideas
- (RG) BL scientists sometimes don't like to assist users in proposal preparation; in the future, we will also have to interface the A.I. usage. (AH) I'm sure some users are already using ChatGPT
- (PRD) Who is checking the safety aspects of the proposals ? (MB) BL scientists act as "local contact" for the proposal check it first, and ask advice when needed to the safety officer. Our proposal form is well structured in that sense and the "safety form" has to be filled for every sample and must include the chemical formula of the sample(s). (PDR) Sometimes our users declare "plastic" as a sample, it's challenging.
- (AH) How do we incentivize the scientists to do user service ? V. Duic (VD) Involving them in publications should be the first channel.

Session 2: User Access and experimental support – Team activities

KEY MESSAGES	Section 2: User Access and experimental support – first part
ELETTRA	- access procedures fulfilled on time is our challenge - User support policy is crucial to manage user travels efficiently - we have a dedicated person in the ELETTRA travels office that deals mostly with users - Users are key stakeholders and our ambassadors in disseminations
ELI	- ELI-Alps has a travel office but no users, while ELI-BL has not a travel office but is already welcoming users

User office role and responsibility
M. Bassanese (MB):

- Our challenge is still having users to fulfill requests on-time, e.g. access requests, safety courses, travel scheduling, reimbursement.

Travel and accommodation assistance
M. Benedetti (MBe):

- User support policy is crucial for us to make decisions; we match user needs, quality of travel, and best value for money.

Communication and events

M. de' Simoni (MdS):

- Elettra has a new strategic communication plan (2022-2024); users are our key stakeholders as well as science ambassadors. Elettra publishes yearly Highlights since 1997 and holds User Meetings since 1993; now Top Stories for media and public, 4 social media channels, photo and video shooting.

Discussion:

- (ZV) How is booking and payment processed at Elettra? (MBe) We have a travel agency to help us but low-cost travels and other aspects are dealt directly by us. Online payments for bookings handled directly by the travel office are made with virtual credit cards; a credit card with a spending limit is generated for each payment, allowing a single transaction (no risk of cloning). We have a person in the travel office fully dedicated to users travels. For travel expenses incurred by the user, e.g. reimbursement of mileage and tolls in case of use of a private car, Elettra, upon agreement, reimburses the user personally and not his institution.
- (AH, ZV) Which is your yearly budget to support how many users? (MBe, MB) Pre-covid we supported 200 users /semester, with a mixture of funding from EU sources (CALIPSOplus, now NEPHEWS), Italian funds, bi-lateral agreements (e.g. with India), and internal funds (for Italian users). The average amount is 60kEuro / semester.
- (MB) In every proposal, the experimental team is temporary; once the proposal is approved and scheduled, the real participants submit an access request; we send automatic reminders to all proposal participants via VUO.
- (ZV) What about users that only want to access the data of an experiment? (VD) The PI can grant access to their data to any participant (or user) - who must be already registered in our VUO. (TS) Do you perform specific training for researchers to provide the Communication Team with contents? (MdS) Not yet, but we plan to start. A. Schmidli (AS) How is the Comm Office composed? (MdS) We have planned 1 coordinator and 3 people full-time, not yet a reality.

KEY MESSAGES	Section 2: User Access and experimental support – second part
ELETTRA	- Dedicated ZOOM rooms for every beamline are useful - Efficient collaboration between facility staff and users is needed at every step - Our Safety Form for samples in embedded in the proposal; we will move towards a Risk Assessment of every experiment, and a Safety Manual for every BL
ELI	- How to link experiment value (can be as high as 0.5MEuro) and publication / other impact?

All	- Efficient data collection, sharing and analysis is the key to enhance scientific output

Beamtime scheduling / experiment set up / who is involved / training for users
A. Locatelli (AL):

- Flow diagram of beamtime scheduling from idea to publication following experiment. Calendar in VUO includes all experiments scheduling and link to proposal information.
- The beamline coordinator (BLC) organizes the calendar, taking into account the user's preferences for the visit date
- Calendar in VUO includes all experiments scheduling and link to proposal information.
- Efficient collaboration between facility staff and users is needed at every step. Organizing a kick-off meeting well in advance of the beamtime may have a positive impact on the overall productivity of the experiment. Also, The BLC and the users must work in synergy to arrange the shipment of equipment and samples, as well as the preparation of the experimental station.
  The remote tools developed during COVID enable greater user involvement, thereby increasing the workforce. Virtual logbooks, based on Donkey-Chat, prove extremely useful for documenting results and enhancing scientific productivity.

Security-safety aspects
F. Bavdaz (FB):

- At present our safety form is embedded in the proposal submission; in addition, users can add supplementary Safety Forms until 3 weeks prior to their experiment.
- Users have to take an online course and pass a little test to be admitted onsite.
- Soon we will move from a proposal-related safety information to a Risk assessment of the whole Proposal, since the risk of a single substance can only be lower or equal to the risk of an experiment. Our goal is to have a specific risk assessment for every proposal, and a specific procedure to address every risk assessment. A team of specialists in biology, radiation protection, chemistry, etc will assign a 4 level code to the exepriments (green/yellow/red/black=blocked). We will create a BL-specific Safety Manual and also Safety courses will have to be adapted.

Radiation protection
G. Tromba (GT):

- A training course on Radiation Protection is available online to users accessing Elettra for their experiments. It consists of 36 slides and includes a final test for the learning verification.
- The reference law in matter of Radiation Protection is the D.Lgs 101/2020 that implements the main European guidelines on radiation protection.

- The course covers a range of topics including the risks of exposure to ionising radiation at ELettra, the classification of areas under the radiation protection point of view, the characteristics of beamlines safety systems with the instructions for accessing the hutches.
- There are no problems of activation on BL components at Elettra.

Discussion:

- (ZV) How do you communicate with the users? (AL) We used more phone and emails before the pandemic, now every BL has its own ZOOM room and it's really helpful to discuss with users; we organize a proper "beamtime kick-off" for every experiment.
- (ZV) Who are the main contacts? (AL) The P.I. (Principal Investigator) of the proposal; at Elettra, not always the BL coordinator, we are typically 3 people at the beamline and we distribute the "local contact" role for the various experiments.
- (ZV) Do you apply for your own beamtime? (AL) We do but in a controlled way, limiting it if the BL is over-subscribed.
- (AH) Why experiments don't always lead to a publication, and what can be done to improve this situation? (AL) Our our side, we do our very best; a large responsibility is on the review panel's shoulders, since it's them to select (or not) a potentially successful experiment.
- T. Kecskés (TK) At ELI we are working on the procedures' harmonization; we will soon have in place a unified e-learning platform. In our case, no one can work alone with Class4 Lasers; nor users nor BL scientists. At ELI-BL, users apply for badges 2 weeks prior to their venue.
- (TK) Do you train BL people on radiation protection? (GT) Yes, all BL personnel is trained and authorized to work at the BL only after training. Users only have the short course to follow (and test to pass), and they cannot take any initiative at ration protection level.

Section 3: Experimental support – Team activities

KEY MESSAGES	Section 3: Experimental support – Team activities
ELETTRA	- Our Scientific Data Policy is fully FAIR compliant - We designed and develop our tools (e.g. for data access) in VUO; they are highly customized but open source - A high quality and detailed database (both for users and publications) is crucial - a key is to be more and more flexible with the users
ELI	- Need to define which information request to our users
All	- We must distinguish between "experiment" and "measurement"

Scientific data management

R. Pugliese (RP):

- Elettra has a Scientific Data Management that is fully F.A.I.R. compliant. We have storage in 3 tiers: scratch, online (6PB), offline (up to 60PB).
- Data policy has to be accepted by the user to submit a proposal; a chat with scientist and, if needed, IT colleagues is opened in the months before the beamtime; during beamtime, assistance and data analysis on-the-fly is available; 2 weeks after beamtime, data are moved offline; a DOI for the dataset and a tailored DMP are created; 1 year after the experiment, the chat is closed. Data are accessible via VUO through a Zenodo-similar tool designed by us. Data are kept for 3 yrs (+1 yr + 1yr); the PI is informed whenever an access request is formulated.

Remote experiments and data access

G. Kourousias (GK):

- Experiment Remotisation for Elettra started as a project of it own involving both IT and beamlines (see EsRe). It developed new custom solutions (e.g. remote dektops, e-logbooks, web interfaces for analysis and FAIR data access), introduced existing tools (e.g. Zoom, smartglasses, telepresence robots), and oversighted beamline hardware integration (in TANGO). It is easier for standardized (routine) measurements but more challenging for custom experiments.

Publications

A. Locatelli (AL):

- Workflow of publications on VUO: 1) start from DOI 2) validation by BL coordinator; we add info like proposal code, and with a plug-in we update our BL webpages. User upon login is warned as soon as an article related to Elettra is published on Scopus; with AI we will soon scan abstract and text to infere that date were taken at Elettra.

User database / statistics

V. Duic (VD):

- Our database has 15.000 entries; authentication can be local or federated (Umbrella); at the authorization level, most are "normal users". We perform "pseudonymization"
- VUO is a highly integrated ecosystem that can provide statistics. They can be standard / ah hoc / embedded, e.g. evaluation panel trends, geographical provenience, time-to-publication, etc.

Discussion:

- (SC) Besides HDF5, which standards do you use? (RP) The number of teams accessing data from experiments they didn't perform is very low; we use the standards needed by a specific BL, we combine best effort and common sense.
- (MB) Will remotisation be promoted in Elettra 2.0? It was a burden for BL scientists during the pandemic (GK) We will increase the IT presence but not go towards pure

remotisation. L. Schrettner (LS) How do you advertise remote access? (GK) Informally and always following the BL capacities and needs. (MB) During pandemic we had a tick box about possibility to perform remote experiment if BL scientists would agree on feasibility. (AL) It really depends on the experiment; (GK) partial remotisation should not be a taboo; (AL, MB) We must distinguish "measurement" from "experiment": a measurement can be performed remotely and in a semi-automatic way, not an experiment.

- (ZV) When is a proposal considered "completed"? (MB) On VUO, 6 months after completion of the beamtime.
- A. Gorkiewicz (AG) What if I need to add information about users at a later stage? (MB) If it's essential, ask via a specific form, if not, start from that moment onwards. It really depends on the situation as well as on the community's volume. A key is to be more and more flexible with the users, that comes with time.
- (LS) CERIC-ERIC is trying to develop its own Unified Office. (RP, VD) They have been trying for 3 years, there was a problem of corporate image and graphics but they have not completed this process yet.
- (ZV) How many people are dedicated to VUO? (VD, RP) 4 very experienced people full time, with complementary functions, all senior developers

January 31st, 2024
---…--- Guided tour of Elettra and FERMI ---…---
Session 4
Proprietary user access and engagement – Team activities

KEY MESSAGES	Section 4: Experimental support – Team activities
ELETTRA	- A single entry point is crucial for industrial users - ISO certification is important, confidentiality is a must - Define clear rules (e.g. timing) in the contract is essential
ELI	- At ELI, Users Office and Innovation Office are competing for attracting users
All	- Different competencies (not only scientific) are needed to deal with industry

M. Peloi (MP) and C. Modolo (CM):
- A single entry point for industries / companies is crucial; we have specialized staff and we sell consultancies.
- Industrial Liaison Office since 2004, team of 6 people with both scientific and business background
- ISO certification is important, means speaking the same language as companies and being accountable; confidentiality is a must
- Industrial Activity Procedure: the activity should be managed by the ILO officers, the proposal to the company should contain timing, scientific/technical golas, research

methodology. The final activity report should contain an "executive summary"; scientific details of the research will appear as an Appendix.

Discussion:

- (ZV) Our scientist are enthusiastic about their instrument but are not yet motivated to work with scientific users and industries (MP) With time, users and BL scientists will cooperate in the experiments and publish together; (CM) Industrial access can ensure media coverage (e.g. newspaper)
- (AlH) We have a mix of roles in ELI-ERIC (ZV) User Office and Innovation Office are now competing to attract the best users.

Appendix: List of participants and initials

Affiliation	Name Surname	Initials
ELI Alps	Balázs Bagó	BB
	David Bereczkei	DB
	Edit Anna Garab	EG
	Zoltán Gyarmati	ZG
	Tamara Kecskés	TK
	Ágnes Kerekes	AK
	Petra Krizsán	PK
	Gábor Lukács	GL
	Róbert Polanek	RP
	Lajos Schrettner	LS
	Izabella Zala	IZ
ELI Beamlines	Andrea Cejnarova	AC
	Alicja Górkiewicz	AG
	Ales Hala	AlH
	Dávid Horváth	DH
	Veronika Olšovcová	VO
	Petra Dvořáková Ruskayová	PDR
ELI-ERIC	Andrew Harrison	AH
	Alexandra Schmidli	AS
	Zita Varadi	ZV
IFIN-HH/ELI-NP	Maria-Alexandra Bîrleanu	MaB
	Sophia Chen	SC
	Cristina Holeab	CH
	Marius Christian Jurca	MJ
	Daniela Zamfir	DZ
	Vlad Vasilca	VV

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Affiliation	Name Surname	Initials
Elettra	Michela Bassanese	MB
	Flavio Bavdaz	FB
	Michela Benedetti	MBe
	Cecilia Blasetti	CB
	Maja de' Simoni	MdS
	Venicio Duic	VD
	Georgios Kourousias	GK
	Andrea Locatelli	AL
	Marco Lonza	ML
	Marco Marazzi	MM
	Cristina Modolo	CM
	Giorgio Paolucci	GP
	Marco Peloi	MP
	Letizia Pierandrei	LP
	Roberto Pugliese	RP
	Giuliana Tromba	GT
CERIC-ERIC	Dariusz Brzosko	DB
CNR-IOM	Roberto Gotter	RG