

WP5 Integrated User Access

Report on requirements: Survey on existing comparable systems and report on requirements and framework for common data exchange (to be delivered: month 12)

User Survey Proposal Procedures

A survey was conducted among neutron users using the European neutron facilities in their scientific work. According to the Counting Users survey of PanData counting the number of individual active users in the period June 2009 to May 2011 at European photon and neutron facilities there are 8852 unique neutron users in Europe. The survey was held anonymously and received 259 responses, which would represent about 3% of the user community.

Topics tackled by the survey were to evaluate the frequency and activity of the users in asking for beam time, the usage of the facilities by the users and its funding, the response to current proposal procedures and possible future developments or requirements.

The survey shows a high activity of the users. About 50% of all users have submitted between 5 to 20 proposals within a 5 year period. On average each users submits between 2 and 4 proposals each year to the facilities. On the majority they act as main proposer.

The proposal activity also generates a high frequency of visits to the facilities. 37% have 1-4 visits within this period, 23% have 5-9 visits. On average each users has 1-2 visits per year to the facilities. The majority of users (51%) use 2 to 3 facilities in parallel for their research. Methods used in the users research are mainly diffraction methods (36%) and SANS (22%), but a majority of users uses more as one method in their research.

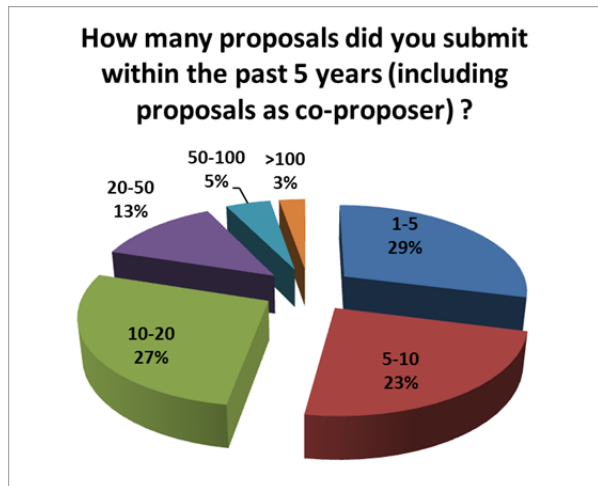
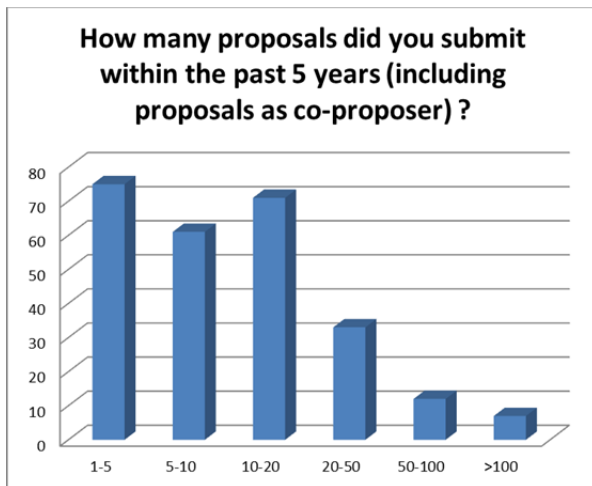
Financial support of the users in their visits and usage if the neutron facilities is with 53% EU access funds and 26% internal resources.

Nearly all proposals are submitted by web based user portals (96%) which are considered as very useful (70% give rating of 8-10), and easy to use (78%) or considered as easy to access (88%). The vast majority also consider current frequency of proposal deadlines as sufficient (74%) with two dates per year (33%). 30% of current users would like to have between 3 and 4 deadlines for proposals per year. The majority of users are not in favor of a continuous proposal submission scheme (52%). Only 27% would consider this as useful. The majority of users favors as time delay between proposal submission and experiment a time span of 2 to 4 months (2 months: 21%, 3 months: 28%, 4 months: 14%).

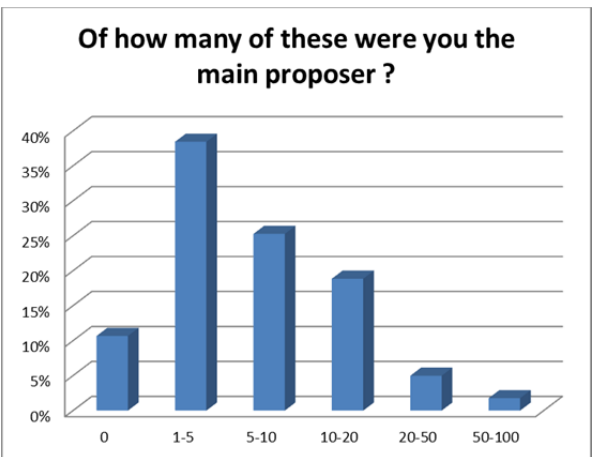
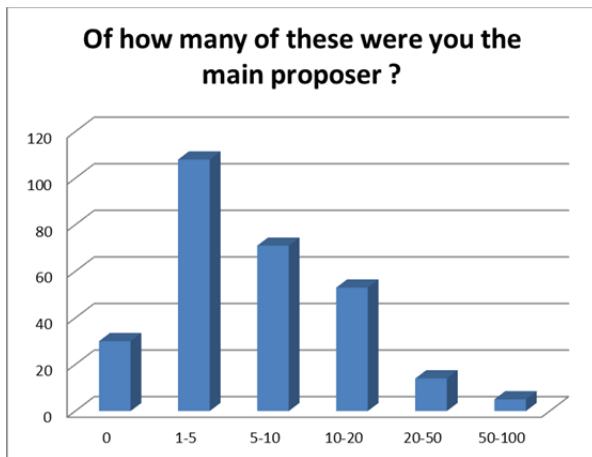
A clear majority of 78% is in favor of a harmonized proposal form and procedure and also favors a unified entry point to get access to the current digital user office platforms (65%). Regarding harmonized proposal deadlines half of the users are in favor (43%), half are not (43%).

Nearly half of all users (52%) would like to share submitted proposal to several facilities for review or move rejected proposals for review to another facility (58%). The majority of users even would favor an automatic move of rejected proposals due to overload to other facilities (60%). A joined facility review committee is less favored by the users (42% yes, 34% no).

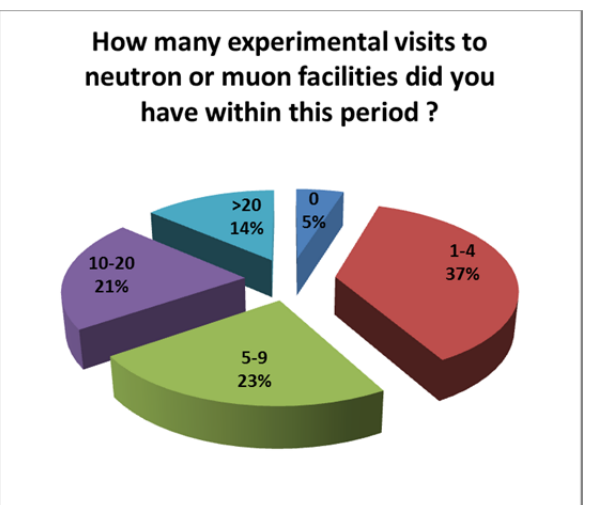
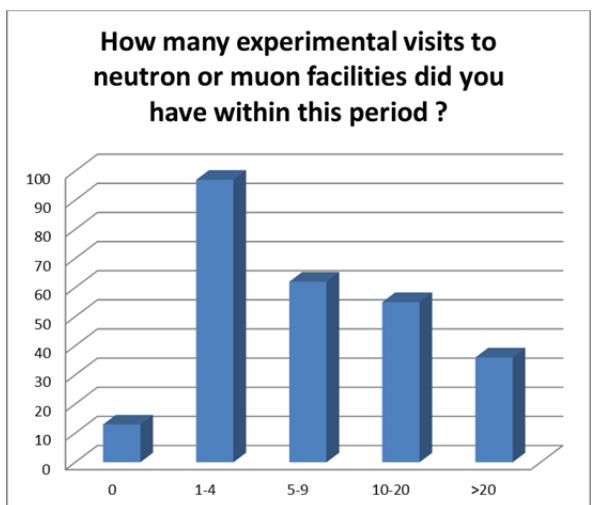
How many proposals did you submit within the past 5 years (including proposals as co-proposer) ?



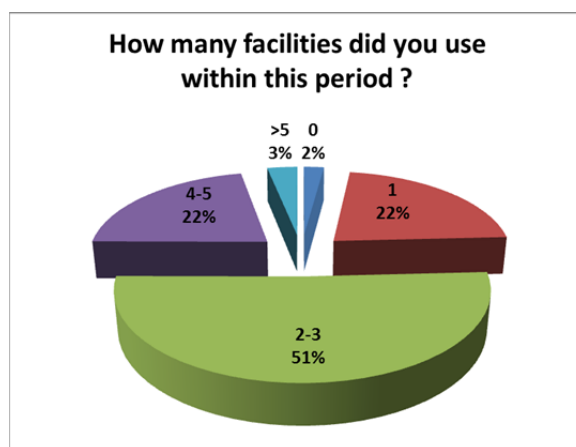
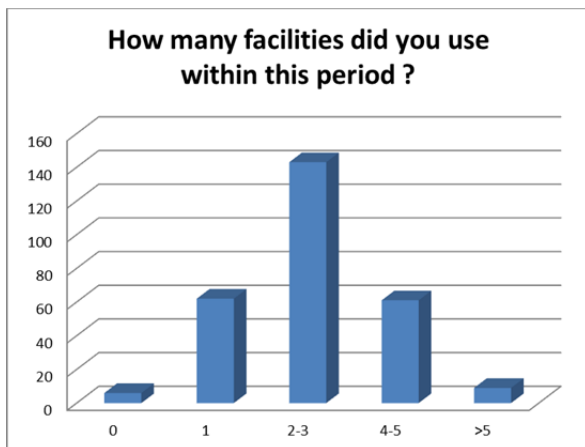
Of how many of these were you the main proposer ?



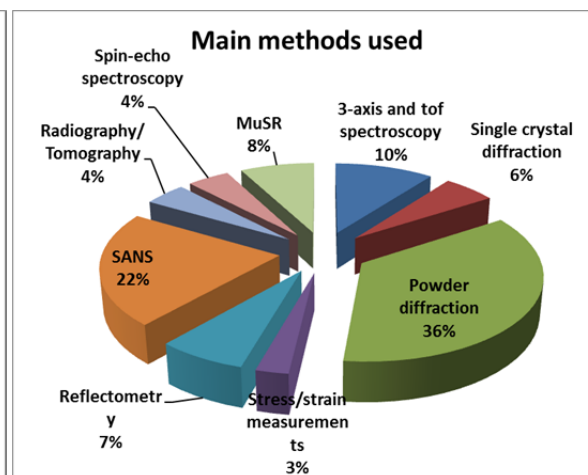
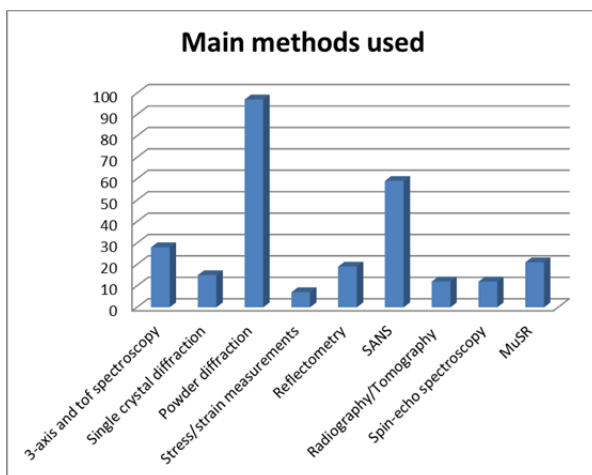
How many experimental visits to neutron or muon facilities did you have within this period ?



How many facilities did you use within this period ?



Main methods used (tick up to 3 with "ctrl")



If "other method", which ?

Neutron Methods:

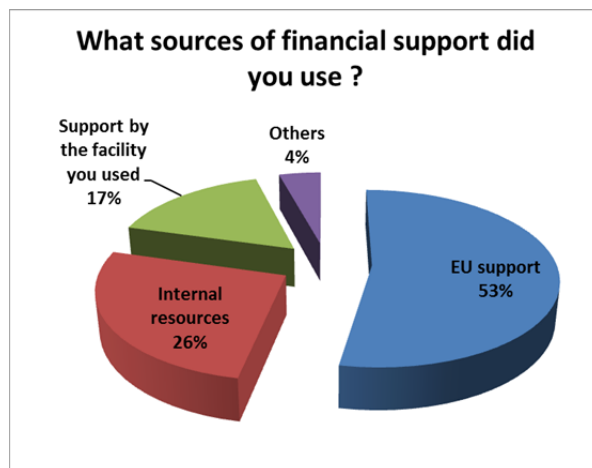
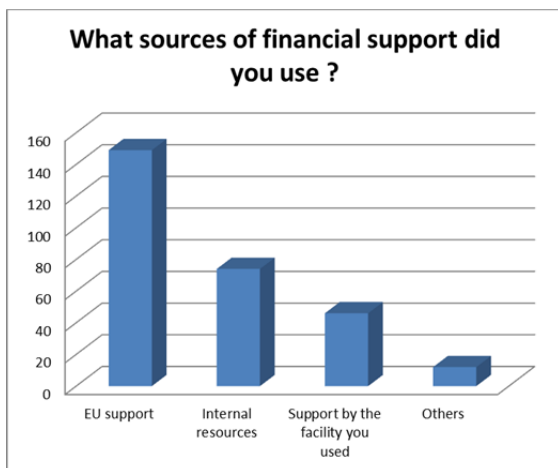
- diffuse scattering
- medium q diffraction
- USANS
- eV spectroscopy
- inelastic neutron scattering
- QENS
- neutron backscattering
- spin echo SANS
- n-capture
- neutron interferometry
- PGAA
- neutron activation analysis
- ultracold neutrons

very Cold neutron propagation

Non Neutron Methods:

- D4C liquids
- deuteration lab
- high-field NMR
- SAX
- soft x-ray resonant scattering

What sources of financial support did you use (tick several if applicable, use "ctrl") ?

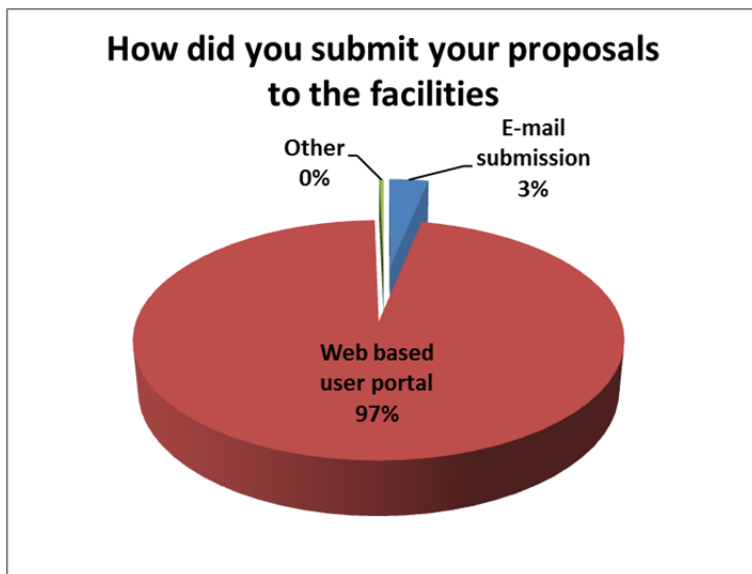


If "other", which ?

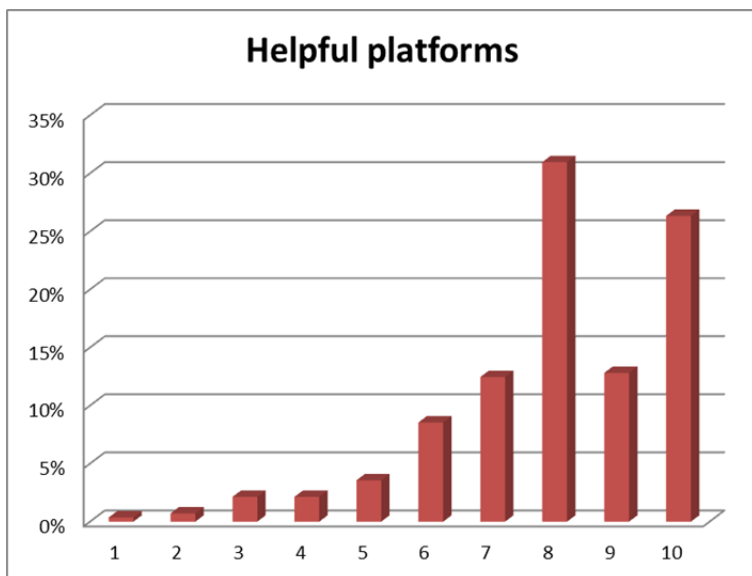
- CNR-STFC agreement
- Danscatt
- DFG
- BMBF
- DPG
- EPSRC
- EU support
- facility used and internal resources
- CNR
- FNS
- foreign funding agencies
- Foundation research grants; University funds
- Funding from my govt. agency (US)
- home institution resources
- Industry
- Institute project
- national funding
- NMI3
- personal funds
- Project funding
- Research grants

self
 sometimes EU via the facilities
 Swiss National Science Foundation
 The DANSCATT organization
 The Swedish Scientific Council
 U.S. DOE
 University Research Funds
 US and EU funding
 US NSF, US DOE

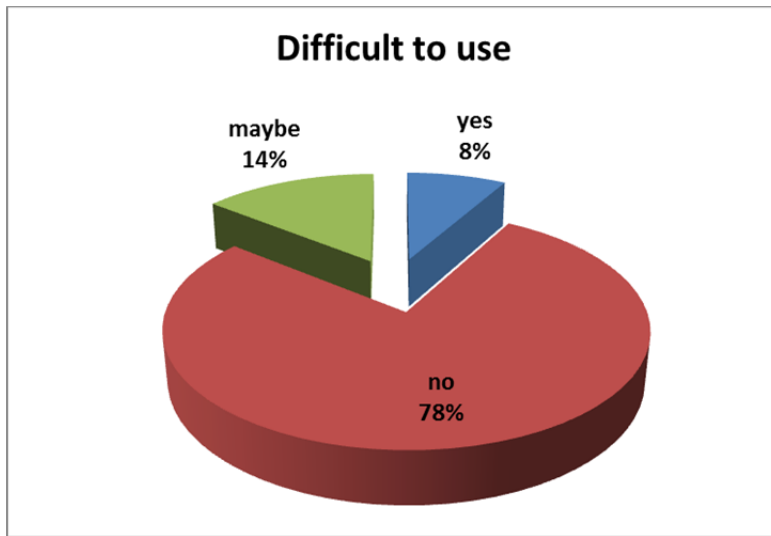
How did you submit your proposals to the facilities (tick several if applicable, use "ctrl") ?



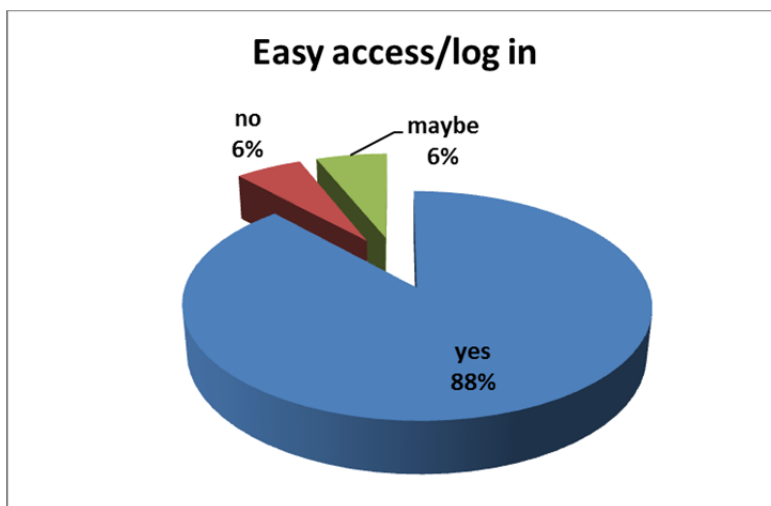
Are digital user offices helpful platforms ? (give grades for 0 (very bad) to 10 (very good))



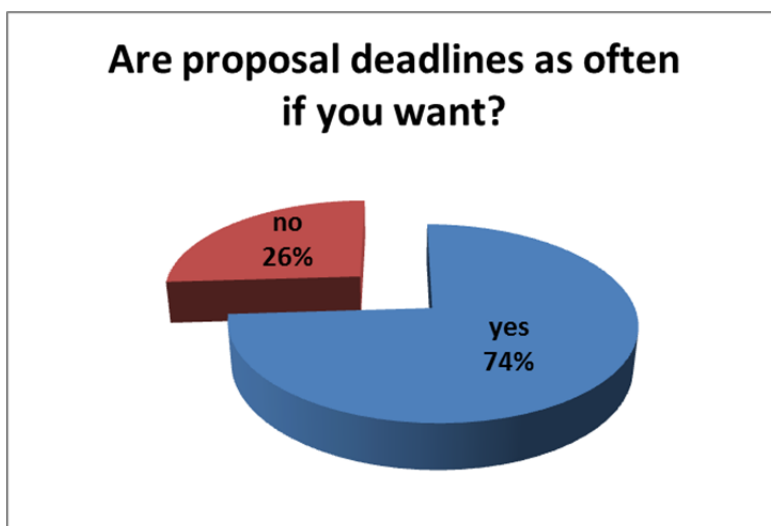
Are digital user offices difficult to use ?



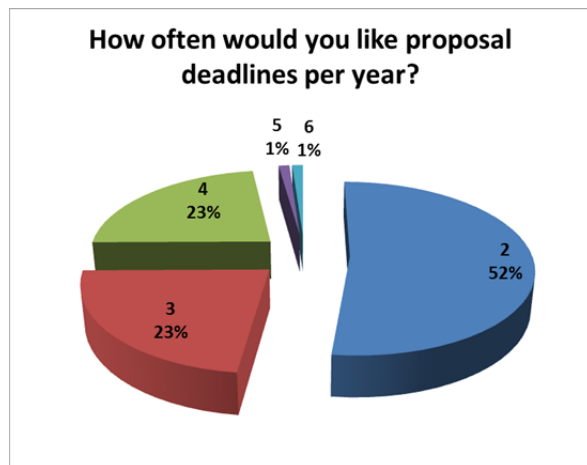
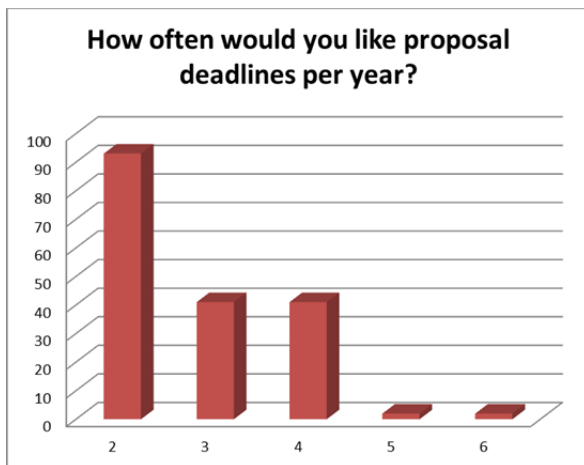
Are digital user offices offer easy access/log in ?



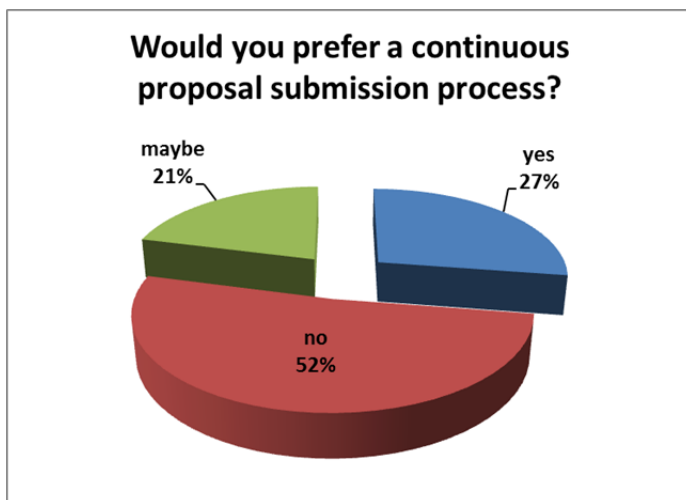
Are proposal deadlines as often if you want?



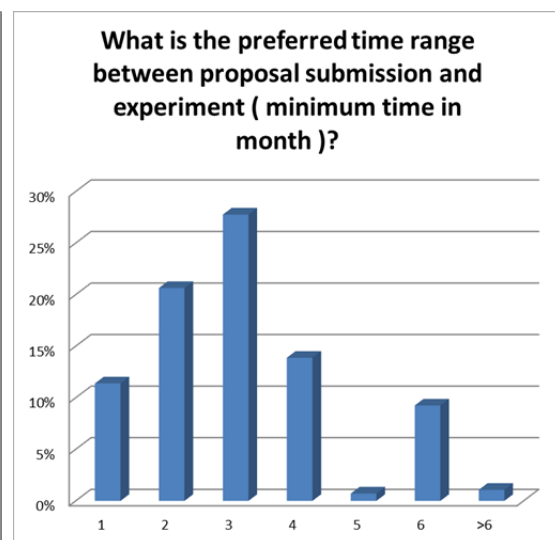
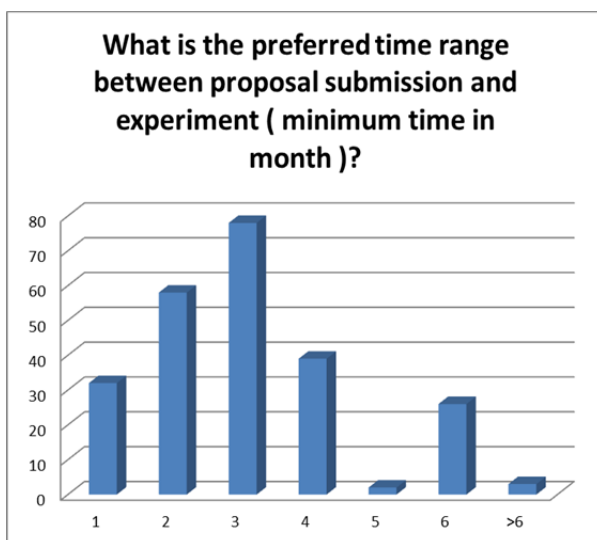
How often would you like proposal deadlines per year?



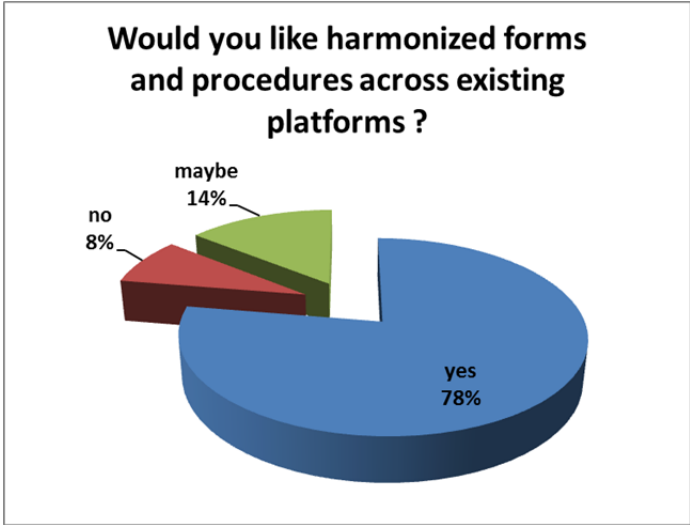
Would you prefer a continuous proposal submission process?



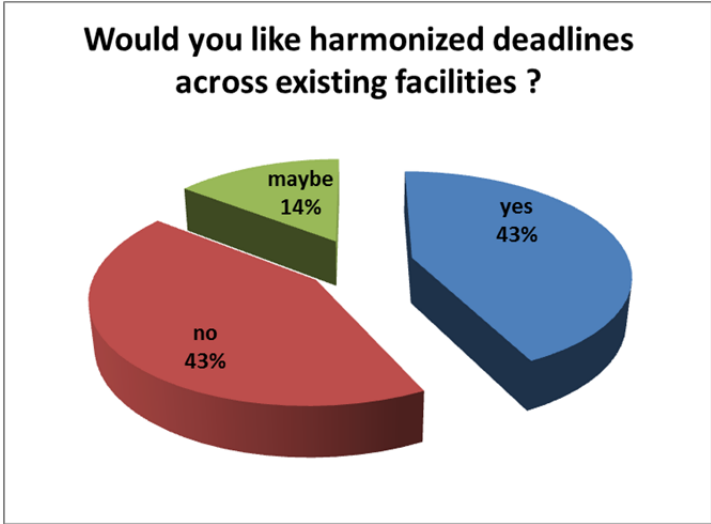
What is the preferred time range between proposal submission and experiment (give a minimum and maximum time values in months like 4,6)?



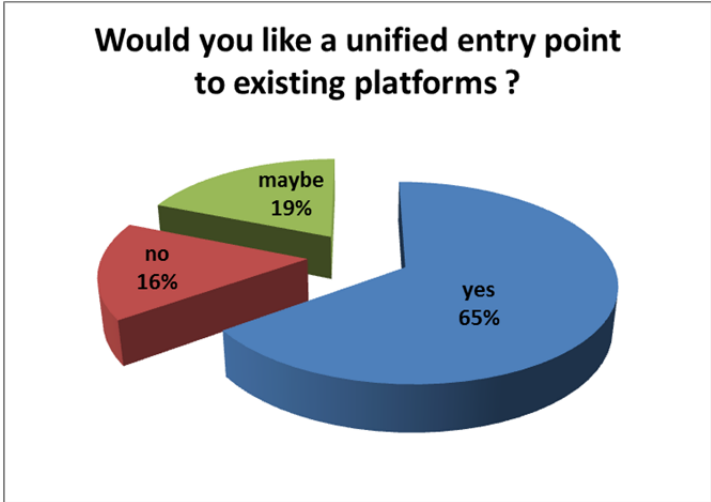
Assuming that each facility operates its own web based user platform, would you like harmonized forms and procedures across existing platforms?



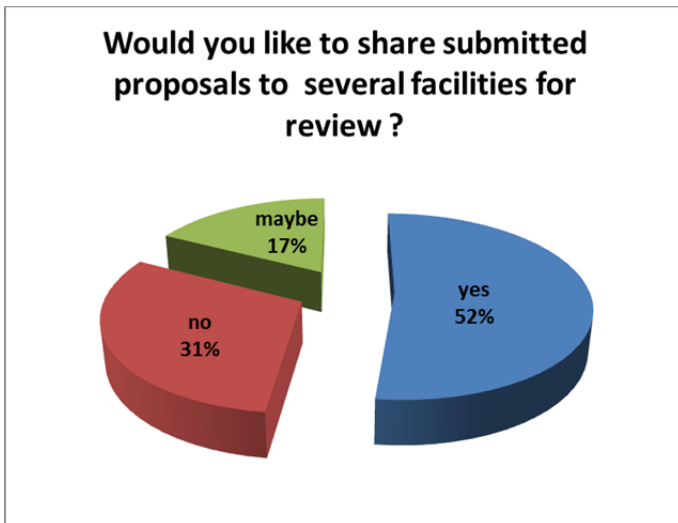
Would you like harmonized deadlines across existing facilities ?



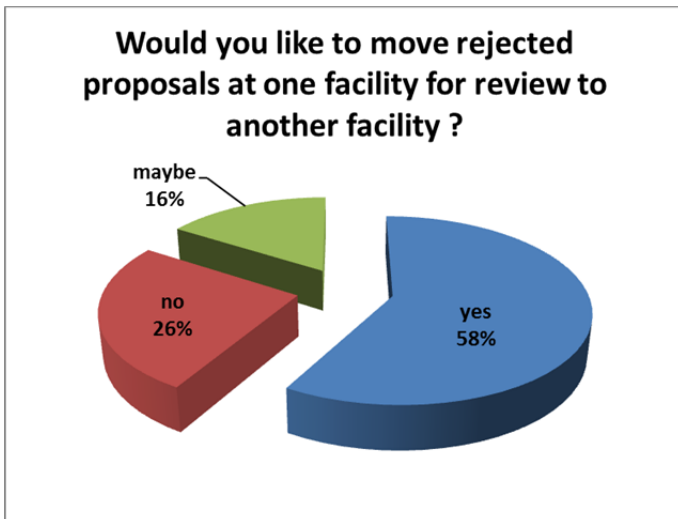
Would you like a unified entry point to existing platforms ?



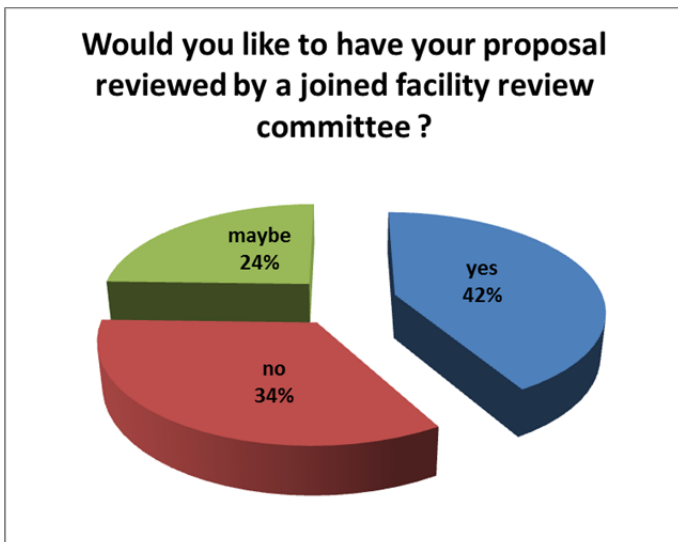
Would you like to share submitted proposals to several facilities for review ?



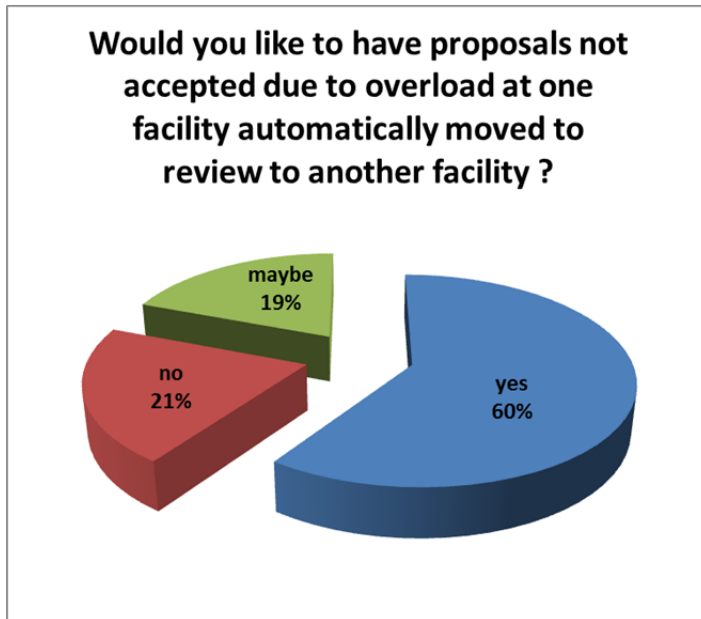
Would you like to move rejected proposals at one facility for review to another facility ?



Would you like to have your proposal reviewed by a joined facility review committee ?



Would you like to have proposals not accepted due to overload at one facility automatically moved to review to another facility ?



General comments:

- A fast mail-in proposal as it is provided at the 11BM synchrotron beamline in Argone would be perfect
- A pool of proposals for all EU facilities would be interesting, as some proposals accepted at low flux sources would really benefit from a high flux, and vice versa. Having identical sample environments and sharing rarely used sample-env. would also be nice.
- Additional suggestions for facility selection due to respective expertise of instrument scientists (e.g. regarding material under investigation).
- Any measure that helps to maintain the pace of experimental program without unnecessary duplication of paperwork would be welcome.
- As to the unified entry point to existing platforms, the proposer should have the possibility to choose his/her preferred facility/instrument and, in to propone suitable alternative instrument/facilities in case of overloading.
- Beamlines are different, and some are more suitable for certain projects than others. At FRM-II in Munich, we've been bumped twice from an oversubscribed, useful machine to one that's utterly useless but undersubscribed. All data had to be retaken the first time, and this time if we even show up it will be to check alignment. It might be convenient not to have to apply more than once, but I'd like to be able to veto some options.
- Big problem for industrial users to have proposals moved to other facilities is that we have to have separate user agreements or contracts in place with any facility we will take data at. These contracts are difficult and take a long time to negotiate with each separate facility.

- Clearly, reviewers decision to grant beam time can not be 100% objective. A good proposal may receive no beam time because reviewers *think* it is not good enough/makes no sense etc. In case when every facility has a separate review committee, the same proposal/idea has a chance to get beam time elsewhere. Joined facility review committee is really , really, bad idea. New things in science often come unexpected. Joined facility review committee may lead to stagnation.
- Common proposal system would be great. However in that case we need minimum 4 deadlines per year or continuous evaluation. Currently the asynchronous deadlines reduce the time between idea and proposal. We simply apply to the facility with the closest deadline.
- Cross facility shifting would require the specification of acceptable instruments in the proposal, adaptation of time requests and request of other equipment
- Current system is optimum and has been fine tuned over many years. Joint proposal for different instruments (X-ray & neutron) at the same facility may be appropriate. Experiments are normally designed for a specific instrument at a given facility with a unique capability. Experimental design part of a proposal normally would need changing if a proposal is to move/submitted to another facility, to take into account the source and instrument performance at that particular facility.
- Current system works ok for me.
- Different muSR facilities have their own specificities regarding ranges of different observables, so they are to some extent complementary.
- Experiments at central facilities come in two flavours (i) part of an established programme where the current system works reasonably well (ii) new ideas where one or two days of exploration would be very valuable - the current system seems to handle this less well
- Great ideas these last 4 points!
- Harmonized procedures sounds like a good idea but I worry a little about joint committees and continuous submission. I worry they might put onerous demands on the time of the facility scientists. It would be a shame to raise their administration time to science time ratio.
- I am strongly dependent on external travel and expenses support, so automatic movement of the proposal to another facility should be done only if it is under the same financial conditions.
- I have one question concerning last 4 questions. Do you like 'Chinese' style for work? Well... Let's do it. Hope, this comment will not affect my further proposals.
- I think it is preferable to make the decisions about different facilities for oneself. Recommendations or suggestions regarding other facilities may be more helpful.
- I would like to receive more information about the review process after I submit - e.g., the date when I will be notified about the outcome of my proposal.
- I'm satisfied by the following european facilities of which I've been a user: LLB ILL ESRF
- If a proposal is rejected a brief motivation should be given, which could be useful for future proposals

- If possible, it would be nice to see if we could 'rank' suggested facilities for a given proposal, i.e., if our proposal for our first choice specific beamline at a specific facility is rejected, then it would be considered at our second choice, etc. But it could be left at the discretion of the review committee as to which facility ultimately is chosen if the proposal does not score highly enough at the first choice.
- In a web based system, proposal deadlines should not be necessary at all. See e.g. ESMI
- In general each facility has two proposal deadlines per year. That is OK. But not all facilities should have the same date for the deadline otherwise the time in between two deadlines is too long (6 months). Would be nice to have the deadline harmonized such every three months there are deadlines: e.g. half of the facilities have the deadlines in January and July; the second half of facilities has the deadlines in April and October.
- In some cases, it would be useful to have proposals rejected at one facility moved to another. But in other cases, the experiments are very specific, and each facility has different experiment resources (for instance, rheo-SANS in a real rheometer) that can be more suitable for that experiment, and so, moving it to another facility would not be suitable anymore... So, the answer, is 'Maybe';... depends on the experiments.
The ideal would be to have the possibility to select a number of instruments/facilities where the experiments could be run, with an order of preference. And if the slot was fully booked on the preferred instrument, it would go automatically to the second instrument on the list, and so on. This would be good because users would not need to write multiple applications.
- In the last questions, I feel that the answers depend on the reason for the rejection. If it's only a matter of overload, then it's nice to have the proposal automatically reviewed in another facility. If the problem arises from a poorly written proposal, it would be better if only one facility saw it before the authors submit a corrected version, so as not to leave a bad impression everywhere at once (especially if there is a joined committee). In any case, the users should be asked for permission to transfer the proposal.
- Keep review panel at high professional level, i.e., judging the proposal strictly on scientific merit, is important for the health of the neutron scattering field and the status of the facility among its peers in the world. This is easier to say than to follow.
- Moving proposals between facilities is not straightforward for all techniques as some features of one facility are not available at others. If proposals are transferred across directly the experiments will not be designed optimally for the subsequent facility. A proposal is a statement of an experiment's design and methodology and should be based on the tools/instrument that will be used. Otherwise it will waste a lot more expensive time at the facility than is wasted by rewriting proposals for resubmission.
- Multiple review of the same proposal is more work for panel members. I wouldn't recommend shifting too much as users often apply for a specific instrument. If harmonized means 'distributed over the year', then I would answer yes to that question. Preferred time range 3 to 6 months (not accepted by webform).
- No to 'hamonised'; deadlines as long as there is no unified entry point because this would delay a 'second chance' at another facility. Maybe to joined committee because this may reduce topic diversity. No to automatical move because experiments may be transferred to inadequate instruments (as already happens IN6- IN4 at ILL).
- One joint system will be really great!

- Some web based user portals are very good, some are rather mediocre. Therefore, it is hard to answer the general question. Best web based user portal is found at the ORNL at the moment.
- The BAG system which I am using is very practical
- The platforms vary across facilities from impossible to use to excellent. Hence 5 is a mean score. Peer review is an excellent and fair system
- The present system works fairly well, improvements are possible but of limited extent.
- The proposed exchange among facilities is not feasible to my point of view mainly because instruments have not the same characteristics in all the facilities
- The system mostly works well as it is. Don't fix what isn't broken.
- The system seems to work reasonably well at present, although some simple improvements are possible
- The volume of proposals would be too great for a combined facility review committee so the review panel would have to be made extremely specialised to allow them to read all the proposals and then the overview/balance would be lost (or would have to be the responsibility of some higher committee - more admin, less time for us to do experiments!)
- The way the user program runs is archaic, it worked in the past, but now we need to find a new way to give access to users. I would like to have an open access process, more instruments following the ISIS example.
- The weak financial support complicates the research work of users / researchers came from the small centers / universities.
- There are pros and cons for a joined facility review process. Finally we will depend on the available number of persons who are willing and able to work as referees. Sending rejected proposals due to overload would be good for the users but increase the number of proposals to be read by the referees... This should be managed by harmonized deadlines.
- We'd like to measure the probability of an inelastic scattering of cold and very cold neutrons on our impurity gel samples of heavy water and deuterium in He-II in a wide range of energies (from a few micro eV up to a few meV), but we could win the strong competition in ILL. And we'd like to clear if it is possible to distinguish between the ferroelectric and nonferroelectric clusters of the heavy water forming the backbone of our heavy water gel samples in superfluid He-II and if so, to observe the phase transitions from the clusters of the ice X (ferroelectric phase) to cubic ice and next to usual hexagonal ice grains on heating the sample from 1.5 K to 200 K, for example.
- Why limit to only neutron and muon sources and not also synchrotron (photon) sources?