ESO/UC-81

Users' Committee

38th Meeting

Garching, April 10 and 11, 2014

Draft Minutes

UC		
Chairperson:	Prof. Gary Fuller	United Kingdom
Vice-chairperson:	Prof. Hans Kjeldsen	Denmark
UC members*:	Dr. Stefano Covino	Italy
	Prof. Wolfgang Gieren**	Chile
	Dr. Emmanuel Jehin	Belgium
	Dr. Adéla Kawka	Czech Republic
	Prof. Bodo Ziegler	Austria
	Dr. Matthew A. Kenworthy	The Netherlands
	Dr. Kirsten Kraiberg Knudsen	Sweden
	Dr. Elja Laurikainen	Finland
	Dr. Philippe Delorme	France
	Prof. Thomas Preibisch	Germany
	Dr. Hans Martin Schmid	Switzerland
	Dr. Maria Rosa Zapatero Osorio	Spain

* Portugal was not present; no member was designated in time for the meeting.
** Excused

Invited to Special Session	Dr. Livia Origlia	Italy
On behalf of ESO	Prof. Tim de Zeeuw	ESO Director General
	Andreas Kaufer	Directorate of Operations/La Silla Paranal Observatory (DOO/LPO)
	Rob Ivison	Directorate for Science (DSC)
	Christophe Dumas	Paranal Science Operations (PSO)
	Michael Sterzik	Data Management and Operations Division (DMO)
	Francesca Primas	User Support Department (USD)
	Martino Romaniello	Back-end Operations Department (BOD)
	Paola Andreani	ALMA Regional Centre Department (ARC)
	Ferdinando Patat	Observing Programme Office (OPO)
	Pascal Ballester	Pipeline Systems Department (PSD)
	Wolfgang Wild	European ALMA Support Centre (EASC)
Invited to Special Session	Marina Rejkuba	User Support Department (USD)
Minutes taken by	Stefan Geier	ESO Fellow (DSC)

1. CLOSED SESSION

No meeting minutes are taken for the closed session.

2. OPENING OF THE UC MEETING

The Chair, **Prof. Fuller (UK)**, opens the 38th Users' Committee meeting.

2.1. Adoption of the Agenda and approval of the minutes

The draft agenda is adopted and the draft minutes from the 37th UC meeting are approved.

3. UPDATE ON ESO'S PROGRAMME

Prof. Tim de Zeeuw, Director General of ESO, presents the highlights and most recent news on the ESO's programme, which trigger a variety of questions.

Prof. Fuller (UK) asks about the potential impact of the upcoming elections in Brazil on the parliamentary ratification process for its accession to ESO. The **Director General** says that he hopes the impact will be insignificant.

Prof. Kjeldsen (DK) asks about the starting date of the E-ELT project. The **Director General** reminds the UC that the programme was approved in 2012. Award of big contracts requires securing 90% coverage of the total costs of the project. One way to achieve this is completion of the ratification process of Brazilian membership in ESO. The Council exempted the contracts for the road and the platform from this rule.

When asked by **Dr. Knudsen (SE)** about potential new member states for ESO, the **Director General** reports that government-level discussions with Poland are ongoing and informal discussions have been initiated with the Australian government.

Moving to ALMA, **Prof. Fuller (UK)** asks whether the construction of ALMA can be considered finished. The **Director General** responds that the US partner has to strictly separate construction from operation and therefore already speaks about the end of construction. ESO, instead, does not need such sharp distinction. When asked about the operations plan for ALMA, the **Director General** says that ALMA Director would like to increase the corresponding budget line, but first one must understand what is truly needed. ALMA should stay within budget for at least two years and so far the budget has not been used in its entirety. About the ALMA Residencia, the **Director General** informs that discussions are ongoing as the costs will be higher than anticipated.

Prof. Ziegler (AT) asks whether the new ESO Visitor Center will be maintained by ESO or whether there is an extra budget from the Tschira foundation to run the building. The **Director General** clarifies that it will be an ESO building and that operations costs are not included in the donation.

Dr. Covino (IT) asks if the CTA consortium has shown any interest in Cerro Armazones. The **Director General** confirms that CTA has requested information on the Paranal/Armazones site. The CTA Board will decide and then eventually approach ESO. The matter was discussed in the STC, which considers this an interesting option. However, at present ESO will not be able to invest any money on this project.

Dr. Knudsen (SE) asks about ESO's vision for the future. The **Director General** says that ESO aims at a modest further strategic increase in its membership. The main mission of ESO is to build and operate world-class facilities for astronomy that go beyond the capabilities of single countries. A strategy group of Council is looking into possible future opportunities. The E-ELT will not be the last telescope of ESO. About SKA, the **Director General** says that discussions are ongoing regarding an enabling role of ESO for SKA.

Prof. Fuller (UK) asks about the visits of the Visiting Committee. The **Director General** responds that the Visiting Committee looks into ESO's programme and provides advice. All sites in Chile have been visited in December 2013 and the Headquarters in February 2014. A positive and constructive report is expected in June 2014, which is usually not public. In

response to a question by **Prof. Fuller (UK),** the **Director General** says that an executive summary could be made public, although a decision has not yet been taken.

4. REPORT FROM LA SILLA PARANAL OBSERVATORY

Andreas Kaufer (Director of La Silla Paranal Observatory, LPO) presents an update on the La Silla Paranal Observatory (attachment 1).

Prof. Fuller (UK) asks about ESO's share on APEX and **Dr. Delorme (FR)** asks about the very small amount of science time at APEX in January. Kaufer (LPO/DOO) clarifies that there are about 1000 (ESO) hours per period and that APEX is officially shut down mid-December to mid-March for maintenance during the altiplanic winter. Some science is still done, weather permitting.

About the plans for AMBER, Kaufer (LPO/DOO) responds that it will stay for the time being, because of its unique high-resolution mode. **Dr. Delorme (FR)** adds that French users would prefer PIONIER, if a choice needs to be made. Kaufer (LPO/DOO) clarifies that there is no need to choose right now, but that this is important information.

Dr. Covino (IT) asks about the data archival from the 2.2m telescope instruments at La Silla. **Prof. Fuller (UK)** is interested how future instruments will be handled in this respect. Kaufer (LPO/DOO) replies that all data is stored in the ESO Science Archive Facility and that any change of configuration by the MPIA/Heidelberg including new instruments must be discussed with ESO in advance. No changes are foreseen at the moment.

Prof. Ziegler (AT) voices his community concerns about the different pressure factors on the four UTs, asking whether a reshuffling of instruments is in the planning. Kaufer (LPO/DOO) reminds the UC that ESO has already successfully moved instruments (e.g. ISAAC, XSHOOTER) in the past, but that a conservative cross-benefit analysis is necessary. Both ESO and the STC are aware of this and discuss it regularly. However, the big picture must be kept in mind, as well as operational considerations. For instance, it is necessary to gain experience with new instruments first, before making a call for a re-shuffle – this is not possible in just one period. Sometimes, actions can be limited also by the type of instrument. NACO for example is quite fragile and spare parts are hardly available anymore.

Prof. Ziegler (AT) asks weather the scheduling process needs to be revised, in view of the concerns he has received about highly ranked programmes not being executed. The amount of time is fixed – says Patat (OPO) – and it is difficult to balance time-oversubscriptions (to keep flexibility) and users' frustration. In **Prof. Fuller's (UK)** opinion, it is better to be disappointed immediately than get time granted, but no OBs executed.

Dr. Kenworthy (NL) asks what will happen with NACO and states that the Dutch community was confused in that respect. Kaufer (LPO/DOO) replies that the number of moves will be reduced to one to hopefully increase its lifetime by a few more years. Following pre-announced decommissioning plans is not always possible, because of unforeseen delays in the arrival of new instruments.

Dr. Osorio (ES) asks when CRIRES will be available again and when VISIR and SPHERE will come. Kaufer (LPO/DOO) replies that CRIRES can be back for sure when NACO goes, but if FLAMES is removed, CRIRES can take its place. The issue was discussed in the STC, but no decision has been taken yet. VISIR has technical problems that affect the telescope chopping, hence its re-commissioning will be complex because it will entail the re-commissioning of the telescope chopping. SPHERE is currently being integrated at Paranal, commissioning starts May 10, 2014.

5. REPORT FROM PARANAL SCIENCE OPERATIONS

Christophe Dumas (Head of Paranal Science Operations, PSO) presents an update on Paranal science operations (attachment 2).

6. REPORT FROM FRONT-END OPERATIONS

Francesca Primas (Head of User Support Department, USD) reports about front-end data flow and operations (attachment 3).

Regarding the feedback received from the users **Prof. Fuller (UK)** wonders whether documentation (user manuals, web-pages) are read or if the users just claim to do so. He asks whether users complain about missing information, even when it is already documented. Primas (USD) believes that manuals are read, though not in their entirety. The users asking for details that are already in the, e.g., manuals, represent a tiny fraction.

Prof. Ziegler (AT) asks whether there will be a call for MUSE Science Verification. Primas (USD) and Patat (OPO) confirm that a call will be issued in May to the whole community.

Dr. Delorme (FR) points out that there are inconsistencies in the requirements and definitions between Phase 1 and 2. Patat (OPO) agrees and says that this will be resolved with the new Phase 1 implementation..

7. REPORT FROM BACK-END OPERATIONS

Martino Romaniello (Head of Back-end Operations Department, BOD) reports on back-end operations (attachment 4).

Prof. Fuller (UK) asks if the ESO Archive also contains ALMA data and about the difference between source lists and catalogues. Romaniello (BOD) clarifies that the ESO Science Archive Facility contains data from La Silla/Paranal only and explains that source lists are built from single exposures, whereas catalogues are merged throughout the Survey and therefore represent the highest level data products.

Dr. Covino (IT) asks about the statement "Equips ESO with strategic capabilities". Romaniello (BOD) explains that the strategic scientific capability is the one to handle and serve to our community science data through the ESO Science Archive Facility so as to exploit and enhance their value.

Dr. Delorme (FR) reports about the wish of the French community to extend the proprietary period for some reduced data, because of competition. Romaniello (BOD) points out that according to Council policy all data are treated equally, i.e. that products inherit the same proprietary rights as the parent raw files, and that the Director General can grant exceptions. Very few such requests are made..

Dr. Knudsen (SE) asks if old data will be reprocessed. Romaniello (BOD) answers that this is planned for a subset of instruments (UVES, XSHOOTER, VIMOS imaging, HAWK-I, FLAMES/GIRAFFE/MEDUSA, FORS and VIMOS spectroscopy are being considered) and then the focus will shift to newer ones.

Prof. Ziegler (AT) remarks that a high number of Austrian users are interested in uploading reduced data. Romaniello (BOD) points out that the infrastructure is there (Phase 3), but not yet for all kinds of data, because an appropriate data standard must be defined first. In order to initiate the submission process users have to get in contact with usd-help@eso.org and the procedure is described in the ESO webpages.

8. REPORT FROM THE ALMA REGIONAL CENTRE

Paola Andreani (Head of ALMA Regional Center Department, ARC) reports on ALMA operations (attachment 5).

Dr. Knudsen (SE) expresses her concerns about the high pressure faced by European ALMA proposals. The Swedish community is concerned that highly ranked European proposals have a disadvantage compared to proposals from the other ALMA partners and she asks whether this point is taken into account in the time allocation process and/or if alternatives are being investigated. Andreani (ARC) points out that Europe has a share of 33%, no matter how many proposals are submitted. A-ranked proposals will be executed; the rest is done on best-effort basis. Ivison (DSC) confirms that it is harder for European PIs to get time with ALMA. More sophisticated models are planned for the future, but most likely not within the next two cycles. The intention is to move forward as soon as 'full ALMA' is operational. The fact that the same proposals are submitted using different channels will also need to be addressed in the call.

Prof. Ziegler (AT) points out that the Austrian community is also unhappy about the European ALMA situation and raises the issue about Europeans using Chilean PIs to front proposals. Andreani (ARC) replies that this practice cannot be forbidden but she expects the pressure to go down as the available time for science observations increases.

Dr. Knudsen (SE) asks whether new ESO members would enhance the pressure even more. Andreani (ARC) remarks that this would also mean more money for operations. Ivison (DSC) adds that ESO is looking into this as part of the scientific

review. Wild (EASC) explains that not even 20% of observing time has been reached yet and the pressure will drop as soon as the efficiency is increased to that of other radio telescopes.

In response to a series of APEX-related questions by **Prof. Ziegler (AT)** and **Dr. Knudsen (SE),** De Breuck (ARC) confirms that Swedish APEX data also becomes immediately available, that ARTEMIS will come with SABOCA being still available in case of major problems with ARTEMIS. **Dr. Knudsen (SE)** remarks that users have been very appreciative of the new 'notification' system that updates them about the status of their observing programmes and wonders weather the service could be extended also to APEX. De Breuck (ARC) does not see technical problems and confirms that the notifications of night reports would be possible.

9. REPORT FROM THE OBSERVING PROGRAMME OFFICE

Ferdinando Patat (Head of Observing Programme Office, OPO), reports on telescope statistics and activities in OPO (attachment 6).

Dr. Delorme (FR) asks whether the observing period could be prolonged to one year in certain cases. **Patat (OPO)** replies that large programmes are already possible. A rolling deadline similar to DDTs could be considered.

Prof. Kjeldsen (DK) states that more member states will mean more proposals and current users might therefore not want new members. He asks whether ESO is prepared for that and how many users from prospective new member states are already submitting proposals. Patat (OPO) reports that Polish CoIs submit on average about 20 proposals per period, Australian astronomers less than 10. **Prof. Fuller (UK)** asks how many proposals HST and NRAO receive each year. Patat (OPO) replies that HST receives about 1300 per year.

Prof. Fuller (UK) announces that the UC would like to support the development of the Phase 1 project and asks how the UC should interact with ESO on this matter. Patat (OPO) replies that any community role/involvement is not clear yet. This will depend on the level of changes that get implemented, which in turn will affect also the timescale of the project. Patat (OPO) expects the project to start sometimes in 2015 and to require 2-3 years development work before final deployment.

Dr. Jehin (B) asks whether more details will be included in Phase 1 proposals. Patat (ESO) confirms that the new Phase 1 system will contain more details about the observing strategy and will allow a better way of specifying time constraints. However, **Dr. Delorme (FR)** adds that the Phase 1 for VLTI is already too descriptive, requiring details that are not relevant for the science. A lot of time is lost because exact configurations are to be met. Patat (ESO) confirms that too much flexibility on the users' side is highly inefficient and that the new system should be more rigid. After a short exchange of views **Dr. Delorme (FR)** and Patat (OPO) agree that fewer fixed configurations should be offered.

Dr. Knudsen (SE) remarks that the ETCs do not specify the magnitude system. Ballester (PSD) replies that this could be better documented and that the ETCs are being changed in an ongoing project.

As a final note, **Prof. Ziegler (AT)** mentions that 80% of the Austrian astronomers are willing to serve in the OPC. Patat (OPO) replies that a pool of about 150 people is usually needed.

10. FIFTEEN YEARS OF END-TO-END OPERATIONS AT THE VLT

Michael Sterzik (Head of Data Management and Operations Division, DMO) reports about end-to-end operations and publication statistics (attachment 7).

Concerning the percentage of VLT/I programmes that publish their results, **Dr. Covino (IT)** thinks that PIs should be contacted and asked directly, a view shared also by Sterzik (DMO), whereas some scepticism is voiced by **Prof. Kjeldsen (DK)** who fears that such feedback won't be very useful.

Dr. Delorme (FR) observes that programmes might be split into different runs and apparently decrease the productivity in terms of publications. **Prof. Ziegler (AT)** wonders whether the statistics include information about the completion of the programmes. Since programmes can consist of several runs and detailed paper might need more observations. Sterzik (DMO) replies that reference programmes per paper are counted using TelBib and adds that a more detailed approach in publication statistics might be feasible. Romaniello (BOD) wonders whether the number of publications is the only figure of

merit, suggesting that maybe citations are equally important. Patat (OPO) adds that the numbers derived and presented by Sterzik (DMO) need further calibration by comparison with other observatories.

Dr. Schmid (CH) asks whether the OPC might consider previously published results as a more important selection criteria. Patat (OPO) explains that this is already partially done, but warns that this might introduce a bias towards strong groups when pushed any further.

Dr. Delorme (FR) remarks that the OPC cannot distinguish between A- and B-ranked proposals. Sterzik (DMO) considers this a complex problem, because B-ranked proposals are systematically penalized, but designed for the same conditions as A-ranked proposals. C-ranked proposals, instead, have different requirements. **Dr. Delorme (FR)** remarks that C-ranked proposals are not necessarily bad weather programmes. Patat (OPO) counter-argues that these are in fact bad weather filler programmes and that the number of such proposals is usually too small. Asked about a filler-programme category, Patat (OPO) confirms that such channel is under discussion.

Prof. Ziegler (AT) wonders whether a filler proposal meets the same scientific standards of a normal proposal. Patat (OPO) clarifies that it must pass the OPC evaluation, but it does not need to be ranked very high. Due to a psychological bias, such proposals are more often rejected. Filler channel (yes or no) could also cure any idle time there might be. Kaufer (LPO/DOO) adds that the wording should also be changed, because the word 'filler' creates some negative associations. The myth that only the hardest conditions produce the best science must be fought against. The OPC and the community need to be de-biased.

Dr. Knudsen (SE) adds that the availability of reduced data in the Science Archive Facility might change things. Romaniello (BOD) agrees and mentions SDSS as one example.

Prof. Kjeldsen (DK) states that finding the real reason for these results is important for the UC rather than coming up with random ideas. Sterzik (DMO) emphasizes that a poll should be conducted and that the publication analysis will be shared with the community. Feedback from the UC will be encouraged.

11. REPORT FROM THE UC CHAIR

Prof. Fuller (UK) reports that the UC-survey is unfortunately incomplete, but that the problem has been recovered in the meantime. The country fact sheets will be created after the UC meeting. He asks ESO to provide technical support to conduct the survey in the future. Primas (USD) replies that it is possible to use ESO infrastructure and create a Lime Survey account for an external user. It is however important that this remains an independent poll, organized and managed by the UC.

12. OLD RECOMMENDATIONS

ESO's responses to last year UC recommendations:

UC37.R.1: The UC recommends that ESO software should be platform independent. ESO should solicit help from the user community for testing on a wide range of platforms and publicly document the results. The UC finds this particularly important for Reflex workflows.

As per the UC's recommendation itself, among all of ESO's user software we have concentrated our effort on this topic on Reflex. We have identified the main issue with platform independence and portability for Reflex with its installation on the Mac platform. The software itself uses standard technologies that, in themselves, are actually platform independent and portable (C compiler for the pipelines, Java for Reflex itself and the underlying Kepler workflow engine, Python and its standard graphical libraries for plotting and interactive capabilities). The issue is, in fact, with the management of software dependencies, which is exacerbated by lack of native package management system on the Mac (as opposed to most Linux distributions). We have, then, repackaged the whole chain of dependencies within the MacPorts package management system. The installation can be initiated with one high-level command, which takes care of resolving the dependencies and install and configure the required software. In addition, this same system allows the installation and removal of individual pipelines, something that is currently not possible. The new system is being finalized and tested with the aim for a public release of Reflex and workflows in October 2014.

UC37.R.2: The UC notes and supports the plan to revise the Phase 1 proposal submission process and recommends that ESO consult the users about user requirements for this new process.

Given the scale of the community we are serving (about 3000 distinct users per semester) it is inconceivable to have a public poll generating a potentially large amount of requests that would reflect personal opinions or working habits. The experience demonstrates that this leads to an unstructured feedback, often containing contradictory requirements.

As discussed during the UC37 meeting, an ESO internal working group will define the initial requirements. The working group will include selected members of the ESO Faculty (composed by over 80 astronomers) who are active astronomers and experienced users of ESO facilities. The definition of the requirements will take into account the experience accumulated by the Observing Programmes Office during the 15 years of VLT operations. Requirements collected both from the community and the OPC will be taken into account. Once a first mock-up version of the web-based proposal submission interface will be ready, a structured review process involving external users will be put in place in coordination with the UC.

ESO suggests the UC selects an external working group for testing the mock-up version and report back via a unique document with recommendations and requests for changes or the implementation of additional features. How this is organized within the community is fully up to the UC. What is important is that the recommendations are not the outcome of single users opinions, but rather reflect the general needs.

UC37.R.3: The UC encourages ESO to present the proposed implementation definition for the revised Phase 1 proposal submission process in a timely manner, hopefully by the UC Mid-Term Telecon.

The proposal for project inception was submitted and approved by the Change Control Board in Feb 2014. The inception phase has started and it is supposed to last between 6 and 8 months. The main purpose of the inception phase is the definition of the in-scope/out-of-scope items and the formulation of the detailed user requirements. This will result in a proposal to be submitted to the Programme Manager of ESO's Data Flow System by the end of 2014. If approved, the timescale for the project development and the final deployment of the new system will depend very much on the exact scope, requirements and the resources that will be allocated to the project. In its current design, the new Phase 1 system will cover a wide range of aspects of the ESO data flow, of which the interface for proposal submission (that is relevant for the community at large) is only one facet of a much-needed upgrade across all Phase 1 procedures. The forecast is between 2 and 3 years after the project is approved.

UC37.R.4: The UC recommends that ESO should continue its efforts towards rebalancing the load on OPC panels and individual OPC reviewers to continue the improvement of the OPC process.

The workload on the OPC and Panel members remains high. OPO is studying redefinition of the categories in order to level out the large discrepancies between the load on AB (cosmology and galaxies) and CD (planets and stars). Some other measures (reducing the number of proposals to comment on) will be addressed as part of the new Phase 1 Project. More drastic measures will be required to significantly improve the situation (i.e. decreasing the number of proposals to be read and graded from 60-80 to more acceptable values, e.g. 30-40). These will probably imply changes in the science policy and another re-analysis of the whole proposal review process at ESO. The previous review by the OPC Working Group (2010-2011) did identify a number of possible actions, none of which, though, could either be implemented (for instance the reduction to one cycle per year) or produced meaningful improvements (e.g. the introduction of monitoring programmes).

UC37.R.5: The UC recommends that ESO should continue to review all applicable rules for Phase 1 and Phase 2 proposal preparation in order to continue to make sure that they are clear, well documented and public.

The Heads of the Observing Programmes Office and the User Support Department have approached this issue in a systematic way, agreeing on and formalizing the policies on the relevant matters. This work is by definition ongoing. Part of it may also be addressed in the broader context of the Science Policy document.

UC37.R.6: The UC recommends that ESO should maintain a frequently asked questions list on reducing data from ESO instruments, linked from both the User Portal and the individual instrument pages. ESO should also provide a prominent link to the Science Data Product Forum from the individual instrument pages.

A list of frequently asked question was compiled and published. It is based on the user feedback as recorded in the usd-help@eso.org database and by consulting in-house experts in the User Support Department, Science Data Products Group

and the Instrument Scientists in Paranal Science Operations.

UC37.R.7: The UC is encouraged by the new Program Change Request system and recommends that this be implemented as soon as possible.

The plan to improve the current Programme Change Request interfaces and procedures via the development and implementation of a robust tool that logs change requests and target replacements properly in our operational database has now become part of the Phase 1 Upgrade project (since such a facility is needed also to check conflicts against GTO protected targets and duplicated requests, by OPO and by the OPC.

UC37.R.8: The UC recommends that ESO should further develop the VLTI observation preparation tools to assess the feasibility and requirements for VLTI observations.

The VLTI observation preparation tools will be further developed to adapt to the second-generation instruments MATISSE and GRAVITY. A particular emphasis will be put on the preparation of "imaging" programs which will request an increase uv coverage and will therefore require a significant number of OBs be prepared and a dedicated scheduling strategy to be put in place. On the aspects of calibration ESO is pursuing an active and fruitful collaboration with the Jean-Marie Mariotti Center with the purpose to have the JMMC deliver a new calibrator catalog well suited for faint object science at VLTI in the context of GRAVITY and MATISSE.

UC37.R.9: The UC recommends that ESO should provide users with high-quality VLTI data reduction up to averaged calibrated visibilities.

Of the current VLTI instruments, we have concentrated on AMBER, as MIDI is to be decommissioned later this year. Work is in progress to provide users with an interactive Reflex workflow for AMBER to enable data reduction up to averaged calibrated visibilities. A prototype workflow was created to evaluate the quality of the data reduction modules and finalize the workflow design itself by identifying the location and nature of the interactive reduction steps. The expected timeline is to have a public release by October 2014

Second generation VLTI instruments GRAVITY and MATISSE will come with science-grade pipelines including Reflex workflows as part of the instrument development.

In parallel, work is ongoing to extend ESO's Science Data Product Standard to VLTI in order to allow the publication of science ready data via Phase 3 in the Science Archive Facility.

UC37.R.10: The UC recommends that ESO should continue to engage the user community in VLTI through data reduction workshops and interferometry schools and other activities.

The European Interferometry Initiative funded by OPTICON has been organizing the last six VLTI schools, which take place every two years on average. The schools have been highly successful with numerous attendants from all over the world. ESO has systematically sent speakers to these schools to provide the latest updates on VLTI development. We consider that the current organization is working particularly well and wish to continue promoting the use of VLTI through these schools under the lead of the EII. Additionally the first VLTI community days were organized and funded by ESO, IPAG and EII in January 2014 in Grenoble France (80 participants). These meetings, intended to become regular, are meant to be the place where the VLTI status, scientific exploitation and evolution are discussed with the community. The next one will be organized early 2015 and will be focused on the arrival of the GRAVITY instrument.

UC37.R.11: The UC recommends that ESO should endeavor to continue to improve the efficiency of VLTI observations, for example to increase the use of Service Mode.

The efficiency of VLTI observations in terms of uv coverage will dramatically increase with the advent of second-generation instruments and their four-telescope combination capability (as demonstrated by PIONIER) and will enable "aperture synthesis" imaging possibilities.
The efficiency of VLTI observations, measured in OB duration time, with AMBER and MIDI has improved considerably as Mérand (PSO) demonstrated during the UC meeting. There will be probably future gain with second-generation instruments but they are unlikely to be transformational. The additional step for improvement is indeed to increase the use of service mode. Therefore we share the concern of the UC and wish to evolve to a model where the Service Mode is much more in use. However in the current situation (P93) almost 80% of the scheduled time on the ATs array is devoted to the PIONIER instrument, which cannot be operated in service mode. It is nevertheless clearly our intention to promote the use of the

second-generation instruments GRAVITY and MATISSE, and possibly PIONIER using this mode. Our two main axes to reach that goal are the following: 1) improving the robustness of the instrument to degraded environmental conditions through the development of additional subsystems (adaptive optics for ATs, infrared-wavefront sensors for UTs, fringe tracker). This point will also act on the efficiency through sensitivity improvements; 2) finding an optimum in authorized VLTI configurations (currently the user is totally free) in order to provide scientific powerful observing modes while avoiding the scheduling to be blocked by exotic requests.

UC37.R.12: The UC recommends that ESO should endeavour to maintain broad wavelength coverage in VLTI, for example maintaining MIDI until MATISSE arrives.

ESO is optimizing as much as possible the time between MIDI decommissioning and the start of operation of GRAVITY and MATISSE by allowing proposals to be submitted in P94 until the start of laboratory work. However the number of nights requested on MIDI has fallen quite significantly in the last period (only 15 nights on ATs and 15 nights on UTs), which we interpret as a sign of strong decrease of its scientific interest. The VLTI community meeting held in January clearly showed the interest in having MATISSE in operation as soon as possible.

UC37.R.13: The UC recommends that ESO should consider limiting the blocking of GTO targets or fields to protect specific science questions.

The GTO target blocking is regulated by the following policy: http://www.eso.org/sci/observing/visas/gto/gto_policy.html

GTO Teams can either provide the specific list of targets, or the field coordinates and size to be explored. In both cases instrument setups and integration times must be specified. Like for any other observations, GT Observations are protected against duplication. OPC will reject proposals that will clearly duplicate GT Observations. However, GT observers do not have exclusive rights over the targets they intend to observe or over the science they intend to investigate. OPC can recommend observations of the same targets with different instrument setups or different targets of the same nature proposed by non-GTO scientists. Protection against duplications will be enforced only on a semester-by-semester basis.

In principle, this policy already includes the UC recommendation. The real issue is related to the way this is implemented and enforced. Real cases of potential conflicts arising from requests by non-GTO scientists to observe GTO-protected targets have led to discussions/negotiations between the applicants and the relevant GTO Consortium. As one can imagine, this is a delicate issue, which needs to be addressed on a case-by-case basis. Because of the heavy load on the OPC, it is very difficult for the referees (especially in terms of time) to identify real conflicts and propose alternative approaches (as implied in the above policy). This is particularly true for instruments like KMOS and MUSE (while it is easier for single-target instruments). The whole target protection procedure is under revision in the context of the new Phase 1 submission system.

UC37.R.14: The UC recommends that ESO should investigate ways to improve the return rate for Visiting Astronomer End-of-Run reports, for example by not allowing the visiting astronomers to leave the facilities without filing a report.

ESO finds the proposal by the UC a bit radical. As an alternative, the following two actions were taken and implemented in Paranal during the past period:

1. The shift-coordinator and/or daytime support staff systematically reminded the visitors to submit their EoM report, preferably even before they leave the observatory.

2. The Head of PSO then personally contacted the PIs of the runs for which no EoM report had been received, explaining the importance of getting their feedback, and inviting them to submit the form. Nearly all the persons contacted replied. The outcome of this action is an increase in the EoM reports submission rate during Period 92 of 15 percentage points (from 80% to 95%).

As a result, we will keep applying this scheme, which showed to be quite effective. For La Silla, the newly appointed Site Manager plans to do the same.

UC37.R.15: To minimise the possible inefficient use of APEX by inadvertently repeating existing observations, the UC recommends that ESO should investigate the possibility of allowing ESO users to view which observations have

been taken with the APEX facility instruments by all the APEX partners.

All data taken during Swedish APEX time are already made public after the standard 1-year proprietary period. Following the UC recommendation, ESO asked the MPIfR and Chilean APEX partners to open up their data in the same way. MPIfR refused this. For Chile, ESO offered to distribute the APEX data to their users on a much faster timescale than currently done, in compensation for opening up their data in the ESO archive. This proposal is currently under consideration by the Chilean APEX community.

As each APEX partner owns the data taken in their time, ESO cannot enforce this otherwise very sensible recommendation. We will, however, try to impose this condition to MPIfR and Chilean use of the ESO PI instruments at APEX (e.g. Artémis).

The UC was satisfied with ESO's replies, therefore no further discussion took place.

13. CLOSED SESSION

No meeting minutes are taken for the closed session.

14. GENERAL DISCUSSION

This part is grouped according to broad themes that were discussed during this session.

ALMA/APEX

Dr. Osorio (ES) mentions that the Spanish users didn't find the CASA workshops useful. Andreani (ARC) appreciates the feedback, but has not received any complaint.

Prof. Fuller (UK) asks if the list of successful ALMA proposals is already public. Andreani (ARC) replies that it will soon be published.

Dr. Knudsen (SE) emphasizes that ESO should pay attention to the disparity of the communities. Andreani (ARC) reiterates that Europe has a share of 33%. Kaufer (LPO/DOO) adds that the ALMA partnership is a delicate balance. Europe can hardly increase its influence. Asked by **Prof. Fuller (UK)** whether the NSF c/would sell observing time, the **Director General** replies that although this would in principle be possible, it will be politically difficult for NSF, because this would impact the balance among the partners.

Dr. Knudsen (SE) points out that new ESO members may further increase the pressure on ALMA. The **Director General** explains that more money from new members would lead to some re-discussions and to the construction of new telescopes that in turn will reduce pressure. He stresses that ESO is in a favorable situation in this respect and quotes the NTT, ALMA and the E-ELT as examples of expansion of the scope of ESO's programme made possible by new member states.

Prof. Ziegler (AT) mentions that users complain about the expertise of the ALMA referees, who sometimes seem to have no idea about radio astronomy. Andreani (ARC) replies that it is hard to find panel members. Not all are radio astronomers, but all are experts on the science part. ALMA staff assesses the technical feasibility of all proposals.

Prof. Fuller (UK) asks about the triage procedure applied to proposals. Patat (OPO) explains that the lowest 30% of the proposals are triaged to reduce the number of proposals to be discussed at the OPC meeting. Since GTO and Chilean proposals are not triaged, the true fraction is about 20%. Higher fraction would lead to the rejection of proposals that were successful in the past. **Prof. Fuller (UK)** asks whether 50% of the APEX proposals are triaged. Patat (OPO) replies that this is due to small number statistics. De Breuck (ARC) adds that there are 40-50 APEX proposals per semester. Bad weather proposals are not successful because of the lack of bad weather.

De Breuck (ARC) points out that the other partners of APEX are reluctant to make their data public. ESO PI instruments will require publication of the data. **Prof. Fuller (UK)** appreciates the efforts of ESO on behalf of the UC. **Dr. Knudsen (SE)** wonders whether this issue qualifies as topic for the re-negotiation of the APEX Agreement. Kaufer (LPO/DOO) replies that ESO concentrated during the negotiations for the extension of the APEX Agreement on the access to PI instruments for all APEX partners but not on data access.

GTO

Dr. Schmid (CH) says that a clarification about the GTO policy would help to inform the community, because different people mention different rules. Patat (OPO) agrees that target protection policy needs to be revised especially because of IFU instruments with large FOV. He thinks that a Messenger article would be premature and it should be included in the Call for Proposals instead. The **Director General** agrees to include it in the CfP for now, because a change of policy is a long-term process. Kaufer (LPO/DOO) adds that the policy has been in place for many years and that all aspects have to be taken into account.

Prof. Fuller (UK) wonders whether the OPC is able to spot conflicts and if this could be done automatically. Patat (OPO) replies that this is difficult with multi-object instruments, because the number of conflicts can be very large. OPO flags them to the OPC, but it is the latter that must decide. Solutions implemented so far range from the immediate publication of the data to the merging of teams. Both alternatives are usually not liked.

Prof. Ziegler (AT) points out that GTO proposals can block entire fields. Patat (OPO) acknowledges that there is this possibility, although GTO teams get a target protection only on a semester-by-semester basis and only for the total amount of time they get in that semester. This should prevent the monopolization by GTO teams. On the other hand, there may be cases in which a full protection will be required, including extensions in the proprietary periods (e.g. for SPHERE). However, changing the current policy would require a higher-level decision.

Prof. Fuller (UK) asks about a planned Messenger article describing the OPC process. The **Director General** explains that the former OPC Chair Prof. Conny Aerts was planning to write an article together with Patat (OPO) and Leibundgut (DSC). Both the OPC and the UC advise him and the advice should go directly to him, and not as a publication in the Messenger. Patat (OPO) mentions the already existing articles on the ESO OPC process (one in the Messenger and one as a book chapter, cf. http://adsabs.harvard.edu/abs/2013ops2.book..231P).

Service Mode

Dr. Delorme (FR) says that the users ask for Service Mode on HARPS. Kaufer (LPO/DOO) replies that Service Mode is not offered at La Silla any more. The choice was to have La Silla with Visitor Mode only or no La Silla at all. **Dr. Delorme (FR)** asks if Visitor Mode is cheaper than Service Mode. Kaufer (LPO/DOO) explains that support astronomers, front- and back-end operations and also the costs for reintroducing those services cannot be covered by the La Silla budget, but that the UC can recommend Service Mode for La Silla. The **Director General** adds that some exoplanet groups already organized themselves for pool observing.

Dr. Delorme (FR) says that a few people would like to have regular contact with service mode observers. The **Director General** wonders what 'a few people' means. The UC should clarify before, whether these are general problems or not. Dumas (PSO) replies that the communication channel for Service Mode users is provided through USD. Closer contacts imply Visitor Mode. He also explains that Paranal is in charge of technical feasibility assessments. Users often over-constrain their programmes. Primas (USD) confirms that requests to revise Observation Blocks during the period are usually granted, as long as they do not impact significantly on other programmes. Kaufer (LPO/DOO) adds that the current Service Mode implementation includes a shielding function, because too many interactions between user and observer are not feasible. He emphasizes that users who want to gain deeper insights, should apply for Visitor Mode.

Dr. Schmid (CH) remarks that small countries have a higher fraction of people involved in ESO panels and committees and profit from that, while larger countries have internal problems according to **Prof. Fuller (UK)**. The **Director General** explains that national representation in the UC and STC is maintained because the Council members want to consult their own communities. The UC members must do their homework and represent their very diverse countries. **Prof. Ziegler (AT)** adds that different interests are difficult to handle and that more interaction is necessary. This could be achieved through workshops about proposal writing, etc. Maybe ESO should provide more tools and information beyond manuals.

Prof. Ziegler (AT) wonders whether the OPC might be biased about the requested conditions in general. Patat (OPO) says that if there is a bias, this tends to be towards those proposals requesting loose conditions, which are anyway very few. **Dr. Jehin (B)** suggests giving feedback to the community. The **Director General** asks who of the UC members have already served on the OPC. He points out that ESO has organized tutorial sessions and Patat (OPO) has given presentations about submitting proposals at ESO. Primas (USD) reminds the UC that two P2PP workshops were also organized in the past few years but poorly attended. **Prof. Fuller (UK)** points out that changing the location of these meetings (roadshow) helped a lot

for ALMA.

Pipelines

Dr. Covino (IT) reports that some users complain about the difficulties in interacting directly with software developers, some would like to have one-on-one exchanges. Dedicated workshops would also be appreciated. Ballester (PSD) reminds that there has been a calibration workshop in 2007 and a workshop with instrument consortia in 2008, but admittedly not many others since then. He would like to request input from the users regarding the format and the topics. Kaufer (LPO/DOO) adds that the feedback from the community to the calibration workshop was limited and the web forums offered are not used. The scope needs first to be clarified. Romaniello (BOD) adds that there are ESO contributions at conferences, invitations to PIs have been issued and FAQs on data reduction are now published. One-on-one interactions should be discouraged in favor of contacting usd-help@eso.org. ESO has to address such issues also in terms of available resources.

Dr. Schmid (CH) mentions that the SPHERE consortium has regular internal workshops that might include pipelines in the future and could initiate a series of other workshops. Ballester (PSD) adds that with 17 different instruments the organisation of such workshops has become more complex.

Role of the Users' Committee

Prof. Fuller (UK) asks about the feedback ESO expects from the UC. Does ESO require more details, more activity on behalf of the UC or maybe a broader approach? Sterzik (DMO) acknowledges the tremendous potential of the UC and the interest of ESO in its feedback. The problem is to filter real issues from individual opinions. Ideally, a consolidated feedback is sought and general directions need to be distilled. Kaufer (LPO/DOO) acknowledges the constructive discussions of this meeting and suggests to further exploiting and strengthening this forum.

Decommissioning of instruments

Dr. Kenworthy (NL) asks for more clarity in the process of decommissioning instruments. Kaufer (LPO/DOO) replies that plans are driven by the actual arrival dates of new instruments, which are uncertain. Future planning should be more transparent. The **Director General** suggests adding a small outlook at future UC meetings.

15. CLOSED SESSION

No meeting minutes are taken for the closed session.

16. SPECIAL TOPIC: "Observing tools"

16.1. ESO Introduction

Marina Rejkuba (USD) introduces the Special Topic session reporting on observing tools and feedback from the users (attachment 8).

Dr. Schmid (CH) asks how many of the tools presented can be used in Visitor Mode. **Rejkuba (USD)** replies that a logging tool is available in Visitor Mode, but the visitor only sees his/her own programme. An execution sequence is planned for Visitor Mode, but no sophisticated tool for ranking.

Dr. Osorio (ES) asks whether there are plans to introduce sky models in the reduction pipelines and to make them publicly available. Ballester (PSD) replies that ESO recently released a sky model as well as tools to fit and remove telluric and emission lines. It will be integrated in a number of ETCs, but still needs to be validated.

Prof. Fuller (UK) wonders whether P2PP is running on users' machines. Rejkuba (USD) confirms that, but adds that there are installation issues on Macs, because Java is not supported directly by Apple any more.

16.2. Feedback from Expert Users

Dr. Livia Origlia reports about the experience of her team with ESO observing tools and offers some detailed feedback on

possible improvements (attachment 9).

16.3. General Discussion

Dr. Covino (IT) points out that Macs are widely used, thus supporting Mac OS should not be just an option. Ballester (PSD) replies that there are lots of technical issues with a large variety of tools. **Prof. Fuller (UK)** asks if virtual machines can be used to compile old packages easily. Rejkuba (USD) confirms that and refers to the instructions already being provided by USD.

Prof. Kjeldsen (DK) asks Dr. Origlia, whether she is happy with the general philosophy behind the ESO tools besides the specific issues addressed in her report and/or whether she misses any specific tool. **Dr. Origlia** replies that ESO Phase1/2 concept is extremely powerful and efficient when compared to, e.g., Keck. Fine-tuning is possible before observing, which is mandatory for Large Programmes. However, the variety of observing preparation software tools for different instruments make the process cumbersome and inefficient. She points out that most of the observational experience is achieved through Phase 1/2, because not very many people go observing any more. A simplified system (e.g. APT@HST) would help a lot, alternatively different P2PPs for different instruments.

Prof. Ziegler (AT) acknowledges that most of the users are happy with the ESO tools. A possible next step could go in the direction of the HST/APT tool. He asks if ESO collects individuals' suggestions or if the UC should do that. Primas (USD) replies that feedback is received from individuals (via *usd-help*) and/or via dedicated feedback campaigns. This feedback is then evaluated, keeping in mind ESO's operational constraints. Small updates and bug-fixes to tools are implemented from time to time, depending on required effort and internal priorities. Sterzik (DMO) adds that there are two levels of implementation. Individual suggestions are taken into account to a certain extent. However, major developments on longer timescales relate to overarching concepts (e.g. new instruments, new type of data). Also backward compatibility needs to be considered and new deployments ought to be beneficial for older instruments.

Prof. Fuller (UK) asks Dr. Origlia how much time it takes to prepare one night of OBs. **Dr. Origlia** replies that it depends on the instrument, usually a few hours for FLAMES, a day or more for X-SHOOTER.

Prof. Fuller (UK) asks how long it takes to reduce the data. **Dr. Origlia** explains that FLAMES is straightforward, but that XSHOOTER has pipeline issues in the IR, which therefore is currently only used up to a certain step. On the other hand, **Dr. Origlia** points out that she is very impressed with the KMOS pipeline.

Dr. Jehin (B) suggests that P2PP should be able to compute the exact position of fast moving solar system objects from more detailed ephemeris information. Rejkuba (USD) and Kaufer (LPO/DOO) explain that this would require modifications at the level of the telescope control software and Kaufer (LPO/DOO) adds that this is possible and that the community interested in this should submit a proposal to ESO with the requirements.

Ballester (PSD) asks **Dr. Origlia** about possible improvements of the background treatment for SINFONI. Specifically he wants to know whether a background spectrum with a scaling factor would be preferred. **Dr. Origlia** replies that both solutions would be practical, but that the magnitude is the clearest information. Ballester (PSD) replies that the AO models need specific colours and the specialists must be consulted.

Romaniello (BOD) emphasizes that support for Mac OS needs to be offered, but since this is not just a flavour of Linux, it takes more effort than it may seem. Sterzik (DMO) adds that on the long term ESO aims at platform independence via web interfaces. For the old tools virtualization is the way to go. Ballester (PSD) points out that installation of the tools to correct for telluric absorption and emission (Molecfit and Skycorr, respectively) is complex and that virtualization was advertised in a workshop. However, users seem to prefer local installations.

17. CLOSED SESSION

No meeting minutes are taken for the closed session.

18. ACTION ITEMS AND RECOMMENDATIONS

Prof. Fuller (UK) informs ESO that **Prof. Kjeldsen (DK, Vice-Chair)** will be the Chair of the next UC meeting and **Dr. Knudsen (SE)** his Vice-Chair.

Prof. Kjeldsen (DK, new elected Chair) takes over the chairing of the meeting and reads the UC recommendations.

UC38 Recommendations

UC38.R.01
The UC recommends ESO to host and provide (limited) technical support for the annual UC user poll. Further details should be discussed with the UC Chair.

UC38.R.02
The UC recommends ESO to continue exploring options for further improvements to the telescope allocation process (OPC). The UC recommends ESO to involve the UC in the discussions concerning users' related issues.

UC38.R.03
The UC recommends ESO to explore ways that allow for the implementation of filler-time proposals.

UC38.R.04
The European ALMA user community is very concerned about the pressure for ALMA observing time. The UC recommends ESO to explore whether different or innovative routes for allocating the ALMA observing time exist (potentially including cross executive allocation of observing time).

UC38.R.05
The UC recommends ESO to continue the monitoring of over-subscription factors on the VLT UTs and to explore options alleviating the most critical situations (possibly also instruments swapping).

UC38.R.06
The UC recommends ESO to continue the monitoring of publication rates from accepted programs and to analyze the results, possibly together with the PIs.

UC38.R.07
The UC recommends ESO (possibly together with Onsala Space Observatory) to provide APEX users with observing progress reports, either as is done for other LPO instruments or when the data reaches the archive.

UC38.R.08
The UC recommends ESO to explore the possibility to add remote observing (in addition to the service and visitor modes already available) and to report back to the UC.

UC38.R.09
UC recommends ESO to continue working on the redesign of the Phase I system and to involve the UC in discussions relevant for the users' community.

UC38.R.10
The UC recommends ESO to continue updating the UC about future instrument strategies and involving the UC when relevant. The UC is pleased to see the extension of the operation of APEX until 2017 and recommends to being involved in user specific questions related to single dish mm/sub-mm access after 2017.

UC38.R.11
The UC recommends ESO to strongly support the ARC, increasing awareness about ALMA across the ESO user community.

UC38.R.12
The UC recommends ESO to explore the possibility to make (old and new) data from the national telescopes on La Silla accessible via the ESO science archive. The UC also recommends ESO to continue exploring the possibility of archiving data from any future instruments on the 2.2m telescope. In addition, ESO should strongly encourage the archiving of data from PI instruments (for example APEX and GROND on the 2.2m).

UC38.R.13

The UC recommends ESO to continue organizing workshops where the user and developer communities can interact, especially when new instruments are planned and become available.

UC38.R.14
The UC recommends ESO to provide confidential feedback to the UC on the UC-relevant aspects of the ESO Visiting Committee report, which may impact ESO users.

UC38.R.15
The UC recommends ESO to continue developing and enhancing the ETCs. This should include clarifying the magnitude system used in ETCs and extending the available spectral templates cooler than M2V and M6V, thus reaching the late Ms, Ls, and Ts. The user community would be happy to provide such templates.

UC38.R.16
The UC recommends ESO to continue supporting software packages across the main hardware platforms used in the observer community.

UC38.R.17
Users have informed the UC that in order to improve the quality of observations of (fast moving) solar system objects the coordinates and differential velocities should be computed from the target orbital parameters and updated in quasi real time on the telescope side rather than taken from the ephemeris at the start of the OB execution. This will ensure that the telescope points to the actual location of the target. The UC recommends that the community is asked to support and work together with ESO on those issues.

UC38 Actions

UC38.A.1
The UC will establish a small working group to look at the UC poll. The working group should produce a report to be circulated for discussion at the UC mid-term telecon.

UC38.A.2
After each annual meeting, the UC will provide a short written report (in addition to the UC recommendations), which includes feedback on broader topics that cannot be easily captured in a recommendation. The report shall be made public.

Comments

At the end of the reading, Kaufer (LPO/DOO) points out that archiving the data from all national telescopes at La Silla is hardly possible. The **Director General** adds that people can only be encouraged. Kaufer (LPO/DOO) then asks what the term 'new instruments at the 2.2m' means. **Prof. Fuller (UK)** clarifies that this applies only if there should be a new one.

Prof. Kjeldsen (DK) wonders about those users who might wish to publish their reduced data. Romaniello (BOD) stresses that the data needs to comply to the defined standard. Sterzik (DMO) considers the available Phase 3 infrastructure offers that possibility. **Prof. Fuller (UK)** suggests the UC publicizes that and encourages people to return processed data.

Ballester (PSD) asks if the UC would encourage workshops on new instruments, which is confirmed by **Prof. Fuller (UK).**

The **Director General** asks for clarification on the recommendation regarding the review of the Phase 1 + OPC-process. **Prof. Fuller (UK)** explains that the UC would like to be updated on the progress and help. The **Director General** also confirms that the key committees will be informed about the report from the Visiting Committee.

Sterzik (DMO) confirms that consolidated ideas about remote observing will be shared with the UC.

Ballester (PSD) explains that the magnitude system used in the ETC is described in the FAQs. Templates for cool stars are welcome.

19. ANY OTHER BUSINESS

Prof. Fuller (UK) asks how the STC handles the input from the users, followed by **Prof. Kjeldsen (DK)** who adds that the impact of new developments on the users' community shall be discussed. The **Director General** points out that the UC should advise on operational aspects of the existing instrumentation.

The **Director General** remarks that any extension of the proprietary period can be requested. **Prof. Fuller (UK)** suggests including a standard box in the proposal to request more time. Patat (OPO) explains that this would mean a change of policy. The **Director General** points out that there is a push to make data public earlier and earlier in the field.

20. CLOSING REMARKS

The **Director General** thanks everybody for the constructive dialog. The consolidated broad feedback is necessary for ESO and the UC is aware of that. ESO can work the recommendations by the UC and an additional report is very welcome.

Prof. Kjeldsen (DK, new elected Chair) closes the meeting at 15:00h.