ATUC: Responding to ATUC (and topics that don't fit anywhere else)

George Hobbs
ATUC meeting
9 April 2025

ATUC Report – October 2024

1. **ATUC members in attendance**

Stas Shabala (Chair), Vanessa Moss (Executive Officer), Hayley Bignall, Marcus Lower, Adelle Goodwin, Ivy Wong, Kovi Rose (student member), Gavin Rowell, Sanja Lazarevic (student member), Craig Anderson (remote).

2. **Commendations for S&A**

- Successful installation and performance of the CryoPAF at Murriyang
- Successful fringes and progress on BIGCAT at the ATCA
- Deployment of CRACO as a shared-risk national facility
- Revival of ASKAP's AKVET
- An all-sky RM map with SPICE-RACS
- The Prime Minister's Prize for Science to Matthew Bailes and his team for the "discovery of FRBs and leadership in the field of radio astronomy". The first FRB was discovered in archival data from Murriyang in 2007, underscoring the importance of ATNF archives.
- Engagement with users including the ATNF radio school and VLBI workshop.

ATUC thanks Tasso Tzioumis for his decades-long contributions to the radio astronomy community, and wishes him all the best in his retirement.

3. **Operations**

3.1. ASKAP

3.1.1. ASKAP spectral line observations

We welcome the acknowledgement in the previous director's response that improvement to the ASKAPsoft workflow is a priority. ATUC is happy to hear of AKVET's revival meeting in November 2024 and is looking forward to the ASKAP symposium in May 2025. ATUC looks forward to the improvements enabled by the ASKAP Key Capabilities Project. The community would be interested in forecasts for where efficiencies and improvements can be expected in the coming year to improve progress on the SSPs.

In particular, we welcome the revival of ASKAP spectral line processing. Specific to concerns regarding ASKAP's HI spectral line capabilities, ATUC is pleased to hear of the recent progress with processing DINGO's 8-hr observations in ~8 hours at Pawsey.

ATUC notes ongoing concerns from the WALLABY team regarding the low number and fraction of observations validated as usable over the past several semesters. ATUC supports the continued resourcing of WALLABY project needs by the ATNF, aimed at improving the fraction of usable observations, noting that it is one of two ASKAP flagship surveys and has a large international profile (the team is composed of over 200 national and international team members). The outstanding issue which ATUC would like to see addressed is the reliability of data product delivery.

Recommendation: ATUC requests an update on the progress specific to the WALLABY survey (fraction of usable observations resulting from recent observations and workflow improvements) by mid-January 2024.

Purpose of this talk

- Highlight the ATUC report (and thank the ATUC committee for writing it!)
- Respond to items not dealt with elsewhere
- To bring up new issues that do not fit into other presentations

The report

Recent Meetings

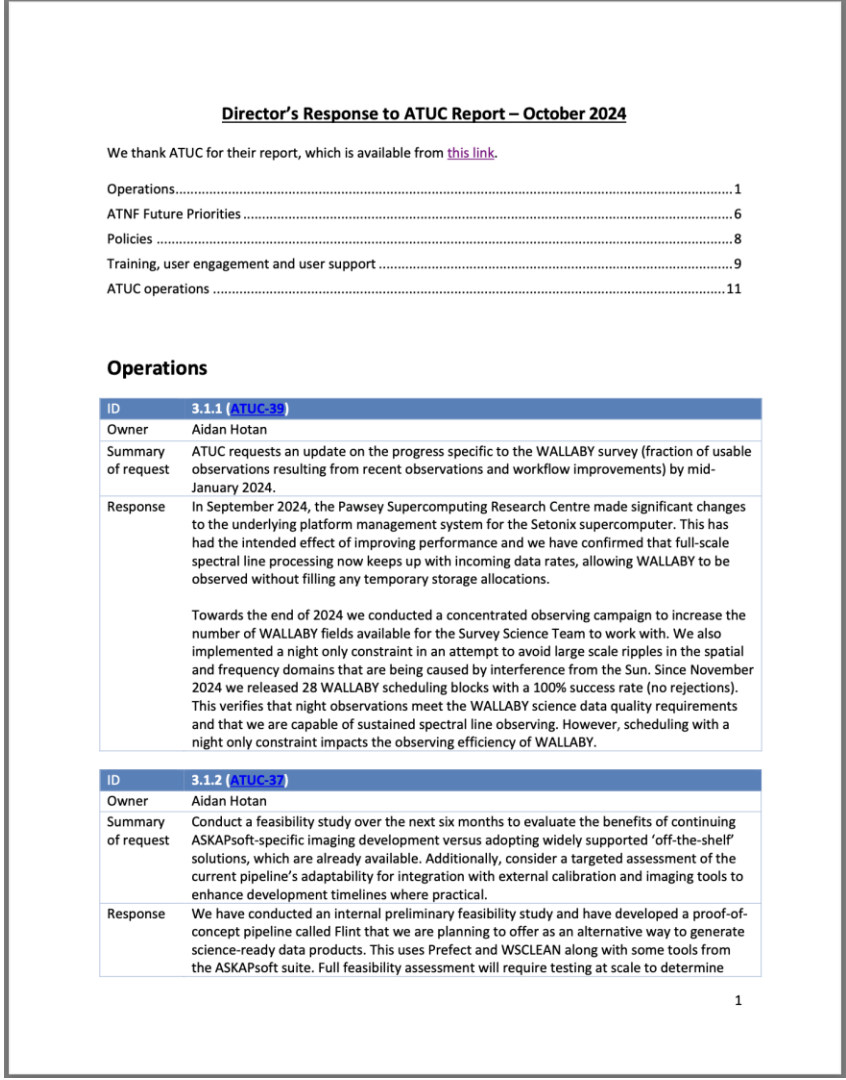
28-29 October 2024	Agenda & Supporting documents	ATUC Report to the Director	Director's Reply and ATUC Status
10-11 April 2024	Agenda & Supporting documents	ATUC Report to the Director	Director's Reply and ATUC Status
23-24 October 2023	Agenda & Supporting documents	ATUC Report to the Director	Director's Reply and ATUC Status
28-29 March 2023	Agenda & Supporting documents	ATUC Report to the Director	Director's Reply and ATUC Status
8-10 November 2022	Agenda & Supporting documents	ATUC Report to the Director	Director's Reply and ATUC Status
4-5 April 2022	Agenda & Supporting documents	ATUC Report to the Director	Director's Reply and ATUC Status

The report

- Detailed report including commendations and recommendations around:
  - Operations
  - ATNF future priorities
  - Policies
  - Training, user engagement and user support
  - ATUC operations
- Note significant text around each recommendation (do read!)

The response

- Have responded to each of the ATUC recommendations in as much detail as possible (please read!)
- Had one round of iteration with the ATUC committee to ensure the most useful response possible in the time available.



Director's Response to ATUC Report – October 2024

We thank ATUC for their report, which is available from this link.

Operations

ID	3.1.1 (ATUC-39)
Owner	Aidan Hotan
Summary of request	ATUC requests an update on the progress specific to the WALLABY survey (fraction of usable observations resulting from recent observations and workflow improvements) by mid-January 2024.
Response	In September 2024, the Pawsey Supercomputing Research Centre made significant changes to the underlying platform management system for the Setonix supercomputer. This has had the intended effect of improving performance and we have confirmed that full-scale spectral line processing now keeps up with incoming data rates, allowing WALLABY to be observed without filling any temporary storage allocations. Towards the end of 2024 we conducted a concentrated observing campaign to increase the number of WALLABY fields available for the Survey Science Team to work with. We also implemented a night only constraint in an attempt to avoid large scale ripples in the spatial and frequency domains that are being caused by interference from the Sun. Since November 2024 we released 28 WALLABY scheduling blocks with a 100% success rate (no rejections). This verifies that night observations meet the WALLABY science data quality requirements and that we are capable of sustained spectral line observing. However, scheduling with a night only constraint impacts the observing efficiency of WALLABY.

ID	3.1.2 (ATUC-37)
Owner	Aidan Hotan
Summary of request	Conduct a feasibility study over the next six months to evaluate the benefits of continuing ASKAPsoft-specific imaging development versus adopting widely supported 'off-the-shelf' solutions, which are already available. Additionally, consider a targeted assessment of the current pipeline's adaptability for integration with external calibration and imaging tools to enhance development timelines where practical.
Response	We have conducted an internal preliminary feasibility study and have developed a proof-of-concept pipeline called Flint that we are planning to offer as an alternative way to generate science-ready data products. This uses Prefect and WSCLEAN along with some tools from the ASKAPsoft suite. Full feasibility assessment will require testing at scale to determine

The key items

- Not a formal statistical study – simply highlighting the key items as reported by ATUC
- Note: during ATUC will report on significant progress on most of these ideas

Facility/topic	
ASKAP	Data processing, survey timelines, user engagement (AKVET, symposium), spectral line capabilities
ATCA	Science ready data products, array configurations, scheduling NAPAs
LBA	Widefield imaging
Murriyang	Ensuring science from CryoPAF
Archives	Data compression ideas
Future priorities	Timely completion of BIGCAT and CryoPAF, ensure high-impact science from these, more user input into future planning
Students	Student symposium

Dealing with minor issues

This issue keeps coming up and has not been resolved

- **Oct 2023:** *"National facility users have made a number of observations and suggestions relevant to ATNF operations. These are too specific to be included in the main report. We list these below for ATNF's consideration. We recommend that the ATNF investigate the possibility of a ticketing system to address such suggestions and queries in the future."*

Facility operations

- Develop ATCA and UWL calibration pipelines
- Develop standard pulsar processing and searching pipeline for Parkes
- Update Miriad installation webpage from FTP to HTTP and remove links to Wikipedia
- Provide transport facilities (e.g. bicycles) at observatory sites for those who need to observe on site

Student experience

- In the absence of DA contributions, consider the following roles for a two-week ATNF support requirement for co-supervised students: student events organising committee, training video-production, management of engagement within the student community, collecting and sharing student feedback for ATNF committees e.g., ATUC, DEI etc.
- Collate data on how many student projects (and thus degree completions) are affected by on-going delays in data collection/processing (e.g., with Pawsey and ATCA)

ATNF agrees that this will be useful. It is our intention to implement such a system and we will report on this at the next ATUC meeting. We note that there is also already an online ATUC feedback form which can be used to provide general suggestions.

Dealing with minor issues

This issue keeps coming up and has not been resolved

- **Apr 2024:**

Summary of request	In view of strong and continued user-demand, ATNF implements a ticketing system as soon as is practical, preferably prior to the next ATUC meeting.
Response	We have a ticketing system already for the Murriyang and ATCA observatories for faults and feature requests. Submitting requests is possible through the observing portals. The data archiving systems have their own reporting systems. Our users can also provide feedback through the ATUC feedback form (https://forms.office.com/r/nN3FSRiaue) which is advertised as part of the ATUC announcements.

Dealing with minor issues

This issue keeps coming up and has not been resolved

- **Oct 2024:**

ATUC's view is that there needs to be an easy-to-find mechanism for issues to be reported, prioritised and resolved in a timely manner, ideally with transparent tracking.

ATUC recognises that there are existing fault reporting systems for each telescope, and various platforms for community support (e.g. ASKAP forums, the ATCA online forum, ATCA User Community Mattermost channel), in addition to the ATUC feedback web form. A possible alternative to another ticketing system may be an easy-to-find, centralised page containing all feedback forms. The website refresh may provide an opportunity to facilitate this.

Whatever the mechanism, ATUC's view is that it is important for users to receive a response and commitment to resolve issues within a reasonable timeframe.

Recommendation: ATNF develop a clear pathway for dealing with minor user requests.

Minor requests: we haven't managed to implement anything, but I'm going to discuss this (and possible ideas) during my presentation in the open day.

How to move forward?

Have mostly-independent feedback mechanisms:

- ATUC
- Murriyang
- ATCA
- ASKAP
- Data
- General
- Senior systems scientists
- Telescope observing experts
- Head of Science
- CSIRO help

From a user perspective response is either:

- Quick response, or
- Total silence
- Hard for a user to tell if issue has been picked up, is being worked on, or not, whether it is being prioritised or not.

Questions back to ATUC

- We do not have (and unlikely will ever have) the resources available for a proper help-desk
- Is the issue
  - the number of different mechanisms to provide feedback or that there isn't a clear place to go and find out how to provide that feedback? (i.e., the different mechanisms not collated together), or
  - That feedback gets provided, but no information on prioritisation, status, etc. and some feedback goes missing?
- Does any other observatory do a good job of this? What is their process?
- What is a likely big-picture solution? I.e., if we create a new ticketing system then is the recommendation also to remove the current observatory fault-reporting systems?
- Can ATUC provide some specific examples of where the current systems have not been effective?

My attempt

- **Urgent:** "my observation failed", "I cannot prepare my schedule for my observing tomorrow", "all I see is RFI" => current system of observing expert and telescope fault reporting (but could be tidied up a bit)
- **Not so urgent:** "I don't like the font on the webpage", "I think the ATNF should focus on LAMBDA" => ATUC (through ATUC input form etc.) for triaging. ATUC to include "minor comments" in the main body of their report.

- We could also develop and track statistics relating to dealing with tickets/issues in a timely way

Some new announcements of relevance to our user community

Computer access changes

- Need to improve our computer security with a multi-factor-authentication-like system.
- Change will occur on Tuesday 1st July 2025
- Apply to gateway machines: venice and orion
- Users will require BOTH a password AND a ssh key
- This will apply to all users (staff, students, visitors) when they connect from a network outside of CSIRO
- Details of how to set this up will be provided soon

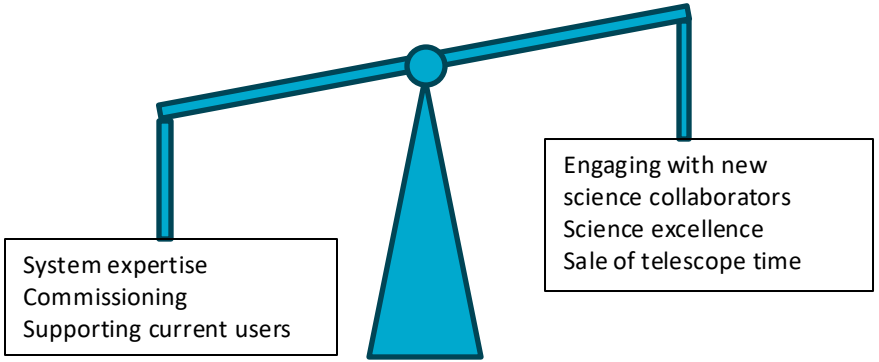
Information from Vince McIntyre

The Parkes senior systems scientist position

- Jane Kaczmarek has moved over to SKAO in Perth
- Shi Dai, Stacy Mader, Stefan Oslowski and John Sarkissian have split the role between them for now. **Huge thanks!**

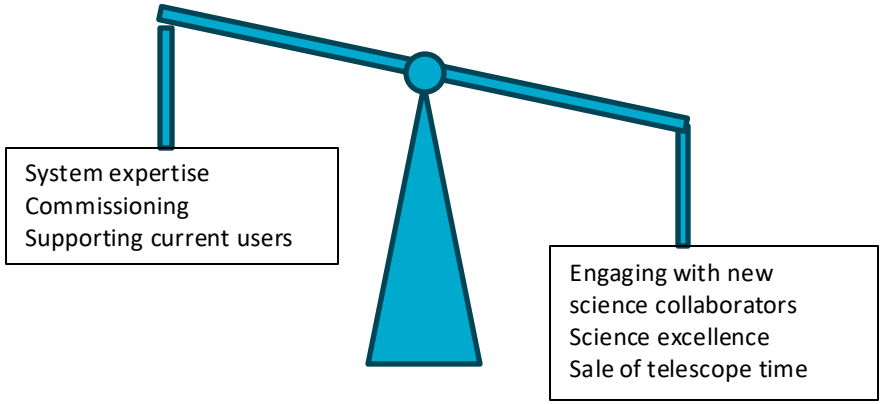
The Parkes senior systems scientist position

Previous role:



Parkes Senior Systems Scientist

New role:



Parkes Lead Scientist

ATUC Executive Officer

- Huge thanks to Vanessa Moss for being the ATUC Executive Officer from October 2022
- Huge thanks to Andrew Zic for taking on the role after this meeting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