



SKA Organisation Bulletin

26th Issue, November – December 2017

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From the Desk of the Director-General

As 2017 comes to an end we can all look back on a busy but productive year across the project. The first few months saw the primary focus being the Cost Control Project (CCP); through the tremendous effort of many people, both inside the SKA Office and across the consortia, the science working groups and the broader team, and ably led by Alistair McPherson, we have been able to identify reductions in the cost of the design baseline and define a deployment baseline which can be delivered for the cost cap. This was a major achievement for the project and was acknowledged as such by the SKA Board.

We also saw the [ground-breaking for the extension of the SKA HQ](#); a successful engineering meeting in Rotterdam organised in concert with ASTRON; extensive preparation for the Critical Design Reviews, which get underway early in 2018; a huge effort to negotiate the SKA Observatory Convention and associated protocols, which is nearing a conclusion; the completion of the 64th MeerKAT dish and some very [promising science done already with half of the array](#); the purchase of ~139,000 hectares of land for the core of SKA1-mid; the commissioning of the MRO's solar/battery power station; the completion of the expansion of the MWA; the [completion and start of commissioning of the aperture array verification system, AAVS1](#); the signing of cooperation agreements with [CERN](#) and [NRAO](#); [some excellent early science results from ASKAP](#); great engagement opportunities with key stakeholders and partners through our extensive participation in conferences around the world, such as the recent Science Forum South Africa and SC17 in the USA; and, I am sure, more that I have not listed.

Of course, we must remember the [sad and unexpected passing of Prof Giovanni Bignami in May](#). Just last week there was a memorial event for Nanni at the Accademia dei Lincei in Rome, commemorating his service to science.

2018, I am sure, will be an exciting and, as always, eventful year for the SKA.

I wish Season's Greetings to all colleagues around the world.

Philip Diamond
Director-General



Project

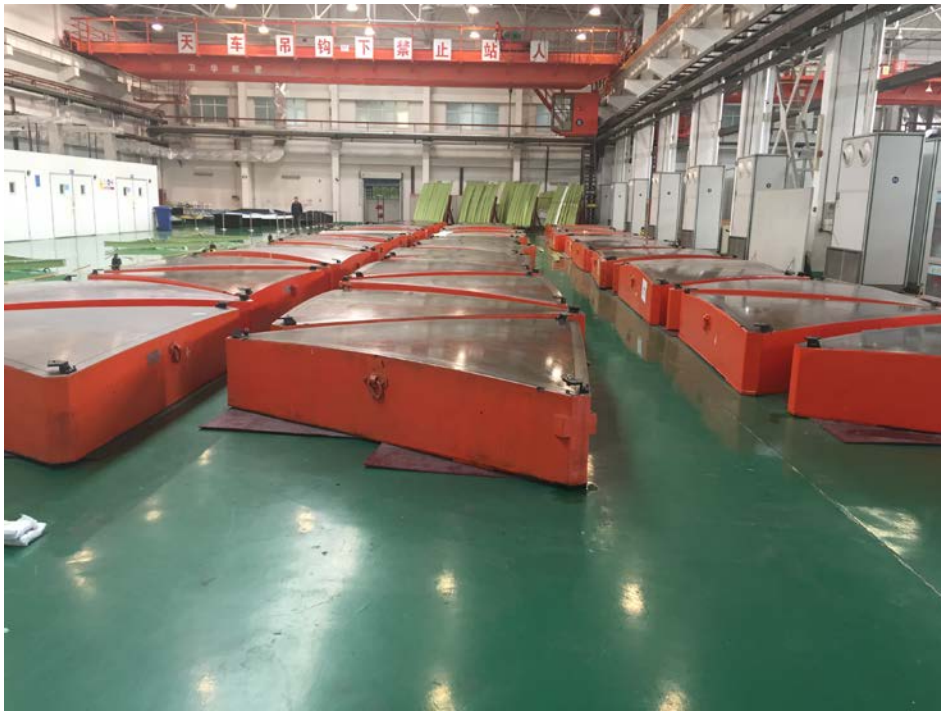
By Alistair McPherson, Head of Project

This quarter started with an Array Aperture Conference in China followed by an SKA Board Meeting in November in Italy. Then the Pre-CDR Review. Not a quiet period.

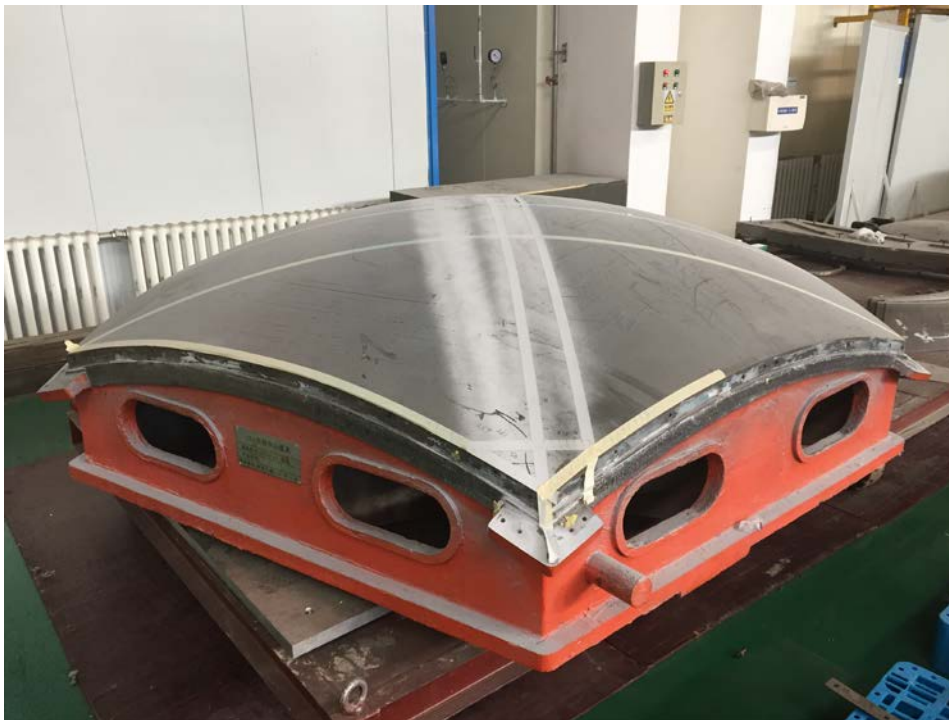
The Aperture Array Conference in Hefei went extremely well. It was a great opportunity from those within the aperture array community to get together and discuss progress in both LFAA and MFAA as well as related technologies and developments. In addition, we were hosted on a tour of CETC 38, a major electronic manufacturing facility which was extremely impressive. Part of the display was a demonstration of a CETC 38 Remote Processing Facility, array power generation set and a small array of antennas. Luca and I then travelled north to visit CETC 54 where we witnessed the preparations for the delivery of the two prototype antennas. We noted that most of the panels had been manufactured and that the pedestals were ready for machining.



Pedestal preparations in China



Moulds for the primary Reflector Segments



Secondary centre section prepared for autoclave

The Board meeting went well in Bologna and one major subject of discussion was the Bridging Plan to get us from Pre-Construction to Construction. This included ideas of how we would approach any outstanding work from the Critical Design Reviews (CDRs) and gaps noted during Systems CDR. In addition, it explained the ambition to build two Early Production Arrays (EPAs), one for SKA1-mid and one for SKA1-low. These arrays would have the principle aim of reducing risk during construction as well as, secondarily, maintaining momentum and expertise during the Bridging Phase prior to Construction being agreed by the future SKA IGO Council.

The Office is working with Members, initially South Africa and Australia, to plan the requirements and the detailed plans for the EPAs and will approach the other Members in the near future to align plans, required products and resources.

The Pre-CDR took place in the first week of December and is covered elsewhere within the Bulletin. I would summarise that it went well and demonstrated a renewed focus both within the Office and the Consortia following the successful Cost Control Project. There are still gaps in Requirements capture, verification, ICDs and budgets, but these have been identified and a work plan is in place to minimise impact prior to the CDRs next year.

Finally, I would remind all that my situation changes in January when Joe McMullin arrives to assume the responsibilities of Director of Programme. He will take over my current Head of Project Responsibilities within Pre-Construction and Construction Planning, whilst I focus more on my responsibilities as Phil's Deputy DG and assist with preparations for the future organisation.

I will take this opportunity in thanking everyone for their hard work and support, as well as thanking your families for their support and patience. I trust you will all have a great Festive Season and every opportunity in 2018, which looks like being a really busy year.

Project Management

by Andrea Casson, Head of Project Management

The System Pre-CDR took place throughout November and saw a detailed review of some of the key construction planning documents as well as a review meeting focussing on the major system engineering activities. This enabled progress since the System PDR to be seen and the remaining gaps and issues to be clarified. A Consortium Leads meeting was held on 7th December to share initial findings where impacts to Element CDRs were identified, and proposals to address these issues were agreed. More detailed planning will follow with consortia throughout December. Within the office, small teams are being formed to tackle specific themes that have arisen on the planning side with the aim of resolving many of them by the Construction Planning Review to be held 6-7 February 2018. Further detail is in the Project Engineering section below. The PM team provided several reports for BD-25 including the Engineering Report, Construction Cost Update, Risk Report, Pre-Construction Schedule and Integrated Schedule. Another cost and compliance update has been requested of consortia for 2nd March 2018 to support BD-26. Planning for the Bridging phase, post-CDRs but prior to construction approval, has started with the aim of submitting a plan for approval at BD-26.

The Engineering Project Managers have continued to work with their consortia counterparts in preparing for Element CDRs. This has included detailed design reviews, sub-element CDR reviews and pre-CDR milestone reviews as well as the identification of the external reviewers needed for the CDR panels and the development of the Review Readiness checklist. Next time I hope to be able to report on successful Review Readiness quality gates for TM and SaDT.

Mission Assurance

by Tim Stevenson, Head of Mission Assurance

As noted in previous Bulletins, issues relating to Intellectual Property (IP) are within the remit of Mission Assurance. The SKAO has a long-standing Intellectual Property Rights policy, and from this Policy stems an Intellectual Property Rights Register in which background IP (i.e. IP pre-existing or independent of Pre-Construction) is to be declared.

Understandably, owners of valuable IP are nervous about disclosing it (and indeed are constrained by their funders). However, the SKA is a research infrastructure, and its technological basis needs to be thoroughly understood by its users. Putting it a different way, raw scientific data is only valuable if the process that created it is completely understood and trusted. This means that there must be much greater shared knowledge of the design of the SKA telescopes than that required by users of an equivalent high-tech machine such as a telecoms network.

We are now in the process of trying to obtain as much critical design information as possible, whilst respecting the rights of IP owners. Part of this process is a 'refreshing' of the IPR Register, which is based on responses to a re-drafted IP questionnaire. At the end of the current activity, we expect to have agreed on the means to obtain the information we need to operate and develop the telescopes, and we will understand the costs of any IP we need to licence.

Project Engineering

by Luca Stringhetti, SKA Project Engineer

These last two months have been dedicated mainly to the pre-CDR review preparation, execution and conclusion. One of the objectives was to focus the attention to the system and to the work that we'll face at the end of 2018, when the System CDR happens. We do believe that this objective was successfully achieved. The review managed to collect nearly 500 'OARs' –comments- and during the full three days of meeting (from the 21st to the 23rd of November) the SKAO technical staff participated actively. I need to thank personally all my colleagues in the office that worked hard during the last months in order to have such fruitful review.

Different topics have been presented in the meetings; during the first day the meeting discussed project management artefacts such as plans, WBS, PBS, schedule, risk register, and safety. The other two days touched upon typical engineering deliverables as requirements, compliance matrix, ICDs, budget analysis, signal chain analysis, functional analysis, RAM analysis, block diagrams and software architecture. For each topic the current status, the missing work to complete the task, and the possible plan to complete it were shown.

The three-day meeting had the objective to take a high resolution picture of the project. The picture we got showed good progress with respect to the system PDR but also some gaps. Between the end of November and the beginning of December, the planning and prioritisation work started. Different themes were identified and have been allocated to specific teams for further analysis. The work is being monitored by the SKA Programme Board, that has organised three extraordinary meetings to work on the prioritisation of these themes. Priority has been given to the activities that could have a potential impact on element CDRs. No surprise that at the top of this list we can find Interfaces definitions, budget allocation, and compliance to requirements. To address and solve the latter issues, "busy week" meetings will be organised at the beginning next year. Relevant people for each consortium will meet in the SKA HQ and together with the SKA staff will go through the compliance matrix to prepare it for the element CDR.

We are looking forward to the first milestone of next year where we will be able to measure our progress.



Group photo of the pre-CDR meeting

Computing and Software

by Nick Rees, Head of Computing and Software

A dominant feature of the past two months has been spent working with others in the office building up to the system pre-CDR. This has resulted in the TM and SDP architectures being captured in the baseline design document, and some more ideas behind the use of SAFE during construction being developed in a draft of the Software Engineering Management Plan. We still have a lot of work to do to rationalise the software plan with the Project and System Engineering plans, but the basic ideas are there.

Another major area of work has been, of course, the build up to the consortia CDRs. The software team will have a software oversight on most CDRs, but we are also heavily involved in reviewing iterations of the TM and CDR documents. The former, in particular, has required a lot of effort, and we welcome the major improvement in many of the documents that has resulted from adopting the SEI processes.

Finally, I can't finish without mentioning the SKA presence at Supercomputing 2017 in Denver. You will have heard about, and possibly seen, the excellent SKA plenary by Phil and Rosie, but in the background we had many useful meetings with the major vendors. A feature of these was that most of these meetings were held jointly with CERN reinforcing the CERN-SKA collaboration to the vendors emphasising that we represented the two major scientific computing challenges for the next decade and share many common interests. We are planning on developing this collaboration with CERN in a number of areas, from developing OpenStack for cloud-like software infrastructure to working with hardware vendors through the CERN OpenLab programme.

Architecture

by Peter Dewdney, SKA Architect

A continuing theme for the Architect is a 'new' version of the Baseline Design document. As noted in the previous bulletin, this document is being written to reflect what is expected to be the actual design of the telescopes, when it is ultimately complete (i.e., the Design Baseline, not the Deployment Baseline). It is directed at diverse readership: informed agency persons, Board members, potential science users, engineering staff in consortia, and potential organisations looking to join the SKA. Important characteristics/goals of this document are:

- To reflect the actual design of the two SKA1 telescopes when they are ultimately complete (the Design Baseline, not the Deployment Baseline) at a much greater level of detail than in previous versions of the BD;
- To record what has been achieved in the whole as the System CDR approaches and serve as the primary review document for the System CDR (2018 Dec);
- To assemble an overview document to guard against loss of institutional memory in the period between the CDRs and actual construction;
- To record at a technical level what has been achieved in the whole project at this stage (technical & science-performance oriented rather than process oriented). Note that its content may differ from that contained in the subsystem CDRs, since changes to the design may be needed after these CDRs are completed.

At present, the outline of the document looks approximately like:

- A self-contained overview section (more than an executive summary, but much less than a detailed description). This could be extractable as a separate document, with a small amount of alteration.
- Critical technical/science design/performance sections:
 - Descriptions of aspects for which the design philosophy and approach is common to both telescopes (e.g. Telescope Management and some parts of Science Data Processing);
- A section specifically on SKA1-mid;
- A section specifically on SKA1-low;
- Important (but not critical) technical/science design/performance sections for which the approach is common (e.g. RAMS, RFI);
- Consolidated references;
- Cross-referenced Product Breakdown Structure;
- Appendices.

Operations Planning

by Gary Davis, Director of Operations Planning

In my last column, I wrote about the ongoing work to develop a bottom-up estimate of the operations budget for the Observatory. At the Bologna Board meeting in November, in order to provide the Board with assurance that the operations model is not driving the cost, the Office agreed to convene an independent review of the assumptions and methodology underlying this estimate. This review is now getting underway and it will report to the Board at its next meeting in April.

One consequence of this review is that the SKA Operations Workshops, about which I wrote in the previous Bulletin, have been deferred until later in 2018.

The Board also discussed the range of envisaged capabilities for the SKA Science Archive. The archive functionality will be provided by the SKA Regional Centres (SRCs), but the capabilities of observatory archives

vary widely. The outcome of this discussion was support for an archive which stores not only observatory data products but also advanced data products generated by user teams and legacy-style data products. The motivation for this was to ensure that, apart from proprietary access, SKA data are made publicly available to the widest possible range of users and thereby to ensure the scientific productivity of the Observatory. The SRC Coordination Group is now in the process of formulating the corresponding requirements.

Science

by Robert Braun, SKA Science Director

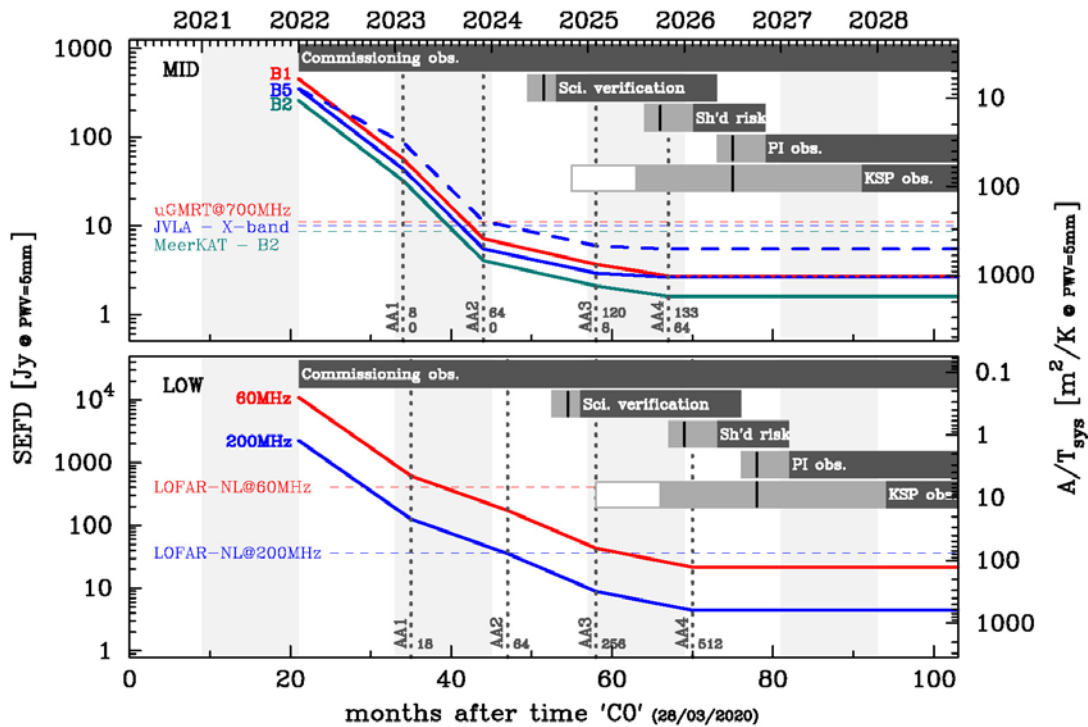
The SKA Science Team, in conjunction with the Operations Planning Team, have begun planning around some key milestones that relate to preparing for, and ultimately using the SKA1 telescopes for, scientific observations. A document outlining the current work can be found at the link below.

https://astronomers.skatelescope.org/wp-content/uploads/2017/11/SKA-TEL-SKO-0000822-02_SciencePlanning-signed.pdf

The ongoing preparatory activities include the series of major SKA Science Meetings and Key Science Project Workshops that have been underway since June 2014 (for the Science Meetings) and August 2015 (for the KSP Workshops). The next Science and KSP Meeting will be held at the SKA Headquarters in the week of 3 – 7 September 2018, so please reserve that week in your calendars. A third preparatory activity that we plan to get underway by mid-2018 will be a sequence of SKA Data Challenges. These will begin, in a modest way, to exercise data calibration, imaging and analysis pipelines. Over the course of several years these Data Challenges will increase in size, complexity and realism with the aim of providing a useful testing platform for a wide range of scientific use cases for SKA users.

Once the first production dishes and stations are available on the two SKA sites, an extended period of scientific commissioning will get underway. The next foreseen milestone, timed to coincide with the availability of about 64 dishes or stations, will be a series of Science Verification campaigns. Community suggestions for suitable commissioning targets will be invited for each campaign and the acquired data will be made public as soon as possible. Next, we foresee an interval of Shared Risk Proposal submission, review and scheduling. While these would constitute “normal” observing proposals, they would initially be quite restricted in the range of observing modes that were offered and in the event that a scheduled observation was unsuccessful there would be no guarantee that it be rescheduled. Next we would begin supporting a normal cycle sequence of Principal Investigator proposals. In parallel with some of these activities would be the preparations for, and ultimately the scheduling of, Key Science Project proposals. An extensive series of events is foreseen in the lead up to KSP scheduling. This includes an early call for “Letters of Intent” and is followed by a Coordination Workshop prior to the KSP Proposal Call. The announcement of successful KSP proposals must also occur early enough to allow KSP teams to secure resourcing prior to the commencement of KSP observations. Feed-back on the Planning Document is being coordinated via the SKA Science Working Groups and Focus Groups. Please have a look and channel your feed-back through the relevant SWG/FG Chairs.

A pictorial illustration of the improving sensitivity of the SKA1 telescopes as function of time and how this fits together with the scientific milestones outlined above is given in the accompanying Figure (courtesy of Mark Sargent and Rossella Cassano). Also shown in the Figure are some comparison sensitivities of existing facilities to put this in context.



Policy Development

By Simon Berry, Director of Corporate Strategy

In the last Bulletin, I expressed hope that we would be moving to the ‘initialling’ of the Convention documents before the holiday season begins in earnest around the world. It would be fair to say that the final issues needing resolution have been stubbornly difficult to overcome, and despite a major effort by many people, we are still not there yet, as I write this next update. “Hopefully very soon” remains our mantra, and with the Presidency preparing to engage with the negotiating countries again, following some important steps to unlock the final issues in recent days, we can be positive that 2018 will bring with it some early good news. Certainly all signs, from the Presidency to the delegations from the various countries, are that there is a shared determination to move as quickly as possible.

Away from the Convention, our group was heavily involved in the recent Board meeting, reporting on StratCom’s activities and the planning to transition from the SKA Organisation to the IGO. I have recently returned from a week in South Africa, meeting with the SKA SA team and many others on a variety of topics, and with the meeting cycle moving along at pace, attention is already turned to the next StratCom meeting in February 2018. Together with Ian Hastings, our Head of Procurement, we are preparing for the Big Science Business Forum (a major event advertising the potential for industry involvement in large research infrastructures) in Copenhagen in late February) and around it engagement with our network of industry contact points, supporting the upcoming ‘request for information’ exercise that will help us plan towards SKA1.

SKA Board Matters and Administration

by *Colin Greenwood, SKA Head of Administration*

SKA Governance

The 25th meeting of the SKA Board of Directors (SKA-BD-25) was held in Bologna, Italy on 8-9 November 2017. It was the first meeting chaired by Dr Catherine Cesarsky, the new Chair of the SKA Board of Directors. Dr Cesarsky holds a PhD in Astronomy and has wide-ranging experience from a career in astronomy that will benefit the SKA as it approaches the construction stage. In particular, Dr Cesarsky's role as Director-General of the European Southern Observatory, ESO (1999-2007) will provide invaluable insights as SKA Organisation transitions to an Inter-Governmental Organisation.

At this meeting, the Board heard how the SKA Office and Design Consortia have been implementing the outcome from the Cost Control Project and re-focusing their activities onto preparations for the forthcoming Element and System Critical Design Reviews (CDR). In an update on construction and operations costing, it was reported that the latest cost estimates for the design baseline are construction (€798M), sustained operations (€89M/year), and the development programme (€20M/year). The Board was also informed about the activities and resources required to bridge the period between the end of pre-construction and the start of construction. A more detailed 'bridging' plan will be presented to the Board at its next meeting (Gothenburg, Sweden on 11-12 April 2018).

Furthermore, the Board was informed of recent activities of the Board's Strategy and Business Development Committee (StratCom), as well as the SKA Office's policy and transition planning teams. Good progress to develop a revised governance framework in support of delivery of the transition plan was reported.

The Board approved the SKA Organisation's budget for 2018. It also agreed that the over-arching objective of SKA Organisation is, in collaboration with stakeholders, to deliver the design for an instrument, SKA1, with transformational capability in radio astronomy within an agreed cost and schedule. Further corporate objectives for 2018 are:

- All staff are to work to ensure that SKA Organisation is an exemplar of safe and responsible practice in all it does.
- Support and guide consortia to deliver critical design reviews (CDRs) on schedule aiming to finalise the SKA1 Design through a successful system CDR by December 2018 or otherwise as determined by the Board.
- Support the Council Preparatory Task Force (CPTF), through the provision of appropriate policy, organisational and technical documents to ensure a smooth preparation for the formation of the SKA Observatory.
- Ensure that the cost control processes developed in 2017 continue to be applied to both SKA1 construction and operations costs through 2018.

A full report on this Board meeting is available in the 'Notes from the Chair' at www.skatelescope.org/notes-from-the-chair.

SKA HQ

Construction of the new global SKA HQ at Jodrell Bank continues. Sir Robert McAlpine, the Principal Contractor, is about to complete the roof and external cladding. The internal fit out of the building continues whilst internal Council Chamber work has just started. Excavation and earthworks for an attenuation pond in the new central courtyard will commence in January 2018. Construction of the new building is on target to be completed by June 2018.

News and progress can be monitored on the SKA HQ web page at <https://www.skatelescope.org/skahq>



Construction of new HQ extension continues

Data Protection

Following a recent recommendation by Mazars LLP, SKA Organisation's internal auditors, the SKA Office has developed a Data Protection Policy to ensure that personal information held by the company is handled correctly.

Under the 1998 Data Protection Act, all UK organisations are legally obliged to follow rules covering the storage and processing of personal data. The Data Protection Act does not stop organisations from storing and processing information related to people; it simply means that a few basic rules should be followed. These rules are often referred to as the eight basic principles of data protection:

1. Personal information must be fairly and lawfully processed; you must say when data is being collected, why and for what purpose.
2. Personal information must be processed for limited purpose at rule 1; use it for anything else and you are probably acting outside the law.
3. Personal information must be adequate, relevant and not excessive; only collect and process necessary data, nothing more.
4. Personal information must be accurate and up to date; data accuracy should be checked regularly.
5. Personal information must not be kept for longer than is necessary; always delete personal information no longer required.
6. Personal information must be processed in line with the data subjects' legal rights.
7. Personal information must be stored securely.
8. Personal information must not be transferred to other countries outside the EU without adequate protection.

Storing or processing of personal information must be undertaken in accordance with the above eight basic principles. For further information about these principles or SKA's data protection policy, contact Ian Hastings, Head of Procurement Services, who is currently acting as the SKA Organisation's Data Protection Officer, at i.hastings@skatelescope.org.

Human Resources

by Fiona Davenport, Head of Human Resources

Following on from the last bulletin, HR activity remains focused on the following four areas:

- Growth and transition
- Delivering HR Excellence
- Employee Engagement
- HR Administration

Growth and Transition

HR continue to develop and start to deliver against a detailed HR Transition plan to meet the strategic needs of the future IGO. To support this activity we have actively started benchmarking across a range of IGOs, understanding what's working well and any lessons learnt, helping us develop HR practices that meet the needs of the future organisation whilst enabling us to attract, develop and retain the people we need.

Resource planning, future organisation design and recruitment continues to be a focus with a number of new colleagues due to join us early in 2018:

- Joe McMullin - Programme Director
- Federico Di Vruno - RFI/EMC Domain Specialist
- Andreas van Zyl - RAM and Logistics Engineer
- Meng Zhang - Finance Manager

Recruitment activity is also currently underway for the following roles, some of which are replacing staff who have left or changed roles:

- Junior Systems Engineer
- Business Systems Support
- Online Community and Contents Officer

- Network Software Engineer
- IT Systems Analyst
- Legal Assistant
- Facilities Coordinator
- HR Assistant
- Senior Project Manager (LOW)
- Senior Project Manager (MID)

Additionally work is ongoing to progress two Chinese secondments and two Australian fellowships.

Delivering HR Excellence

Development of the HR Strategy continues, building a long-term roadmap aligned to transition and the future IGO. Within this a number of key priorities for the short term have been implemented:

- Launch of new [Code of Ethics](#) and Whistleblowing policy;
- A refresh of the Performance Management process, documentation and introduction of guidance notes to support completion of the 2017 performance year and objective setting for 2018. These have been supplemented by line manager workshops.
- Equality and diversity, with work being actively progressed towards a 2018 Athena Swan submission

Employee Engagement

HR focus groups were conducted during November, providing valuable insight on what's going well, not going well and other staff priorities and concerns from an HR perspective. In addition the focus groups started to provide baseline data to inform and influence our future culture which we plan to develop further through future staff surveys, helping us better understand how staff are feeling.

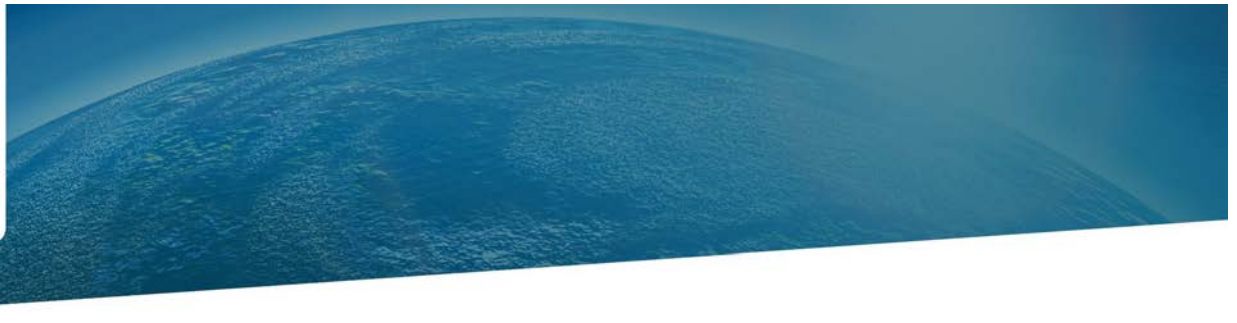
Communications and Outreach

by William Garnier, SKA Director of Communications, Outreach and Education

There we are. In just a click of the fingers, another year is gone bringing with it its lot of excitement and achievements in the SKA Project, that we endeavoured to share with you through our numerous communications channels, including this bi-monthly bulletin. The last couple of months were no different than the rest of the year, busy and thrilling.

SC17

In November, the culmination of a lot of efforts from the SKA Comms Team came to light at the popular SC17 conference, where Phil and Rosie delivered the only keynote of the conference in front of ~4,000 High-Performance Computing experts from around the planet. We had been preparing that talk for several weeks and Phil and Rosie's delivery was excellent, confirmed by all the superlatives used by many to describe it –it was almost embarrassing. HPC Wire, the “#1 news and information resource covering the fastest computers in the world and those who run them” –as they describe themselves- wrote a [very nice and compelling piece on the project](#) following the keynote, which clearly helps positioning the project very high within that industry, critical for the success of the project. The 50-minute keynote, projected on an impressive 46-metre screen was also filmed and is [available on YouTube](#) for you to watch at your own leisure. For those interested, the final PPT deck can be downloaded [here](#). Feel free to use it as you see fit. A lot of material was generated for the keynote, that is being re-formatted into a more 'traditional' format, and will be made available to the community at the earliest



opportunity. A few photos of the keynote are as follows, courtesy SC17 conference.



SKA eNews

Earlier this month, we released the 3rd and last SKA eNews of the year, whose goal is to allow all partners involved in our massive endeavour to report on progress, challenges and milestones, whether these are of technical, scientific, or political nature, as well as the outreach activities undertaken on the SKA planet. The eNews is always an impressive publication, and this issue is no exception, totalling 25,096 words! More than anything else, this clearly reflect the breadth of activities going on in the design consortia, the Science Working Groups, the communication & outreach teams, and at the SKA partner countries.

SKA 2018 CalenDaR

As has now become a tradition, we also released the always popular SKA calendar for next year. Some copies are being posted to a few individuals and a separate email has also been sent to SKACON members with a link



to the hi-res, print-ready file to encourage them to make a small print run for local distribution. A low-res digital version is also available [here](#). After having focused on the Science Working Groups this year, we wanted to focus on the design consortia for the 2018 issue. As most consortia will go through their Critical Design Reviews (CDRs) next year and will then be disbanded as we enter a new phase in the project, we thought it was very timely to celebrate one last time the immense role these hundreds of experts from ~20 countries have had in taking the project until where it is now. This SKA 2018 CalenDaR should be seen a testimony to their work, and each and everyone of them should be proud of what they've contributed to the project. As a heads-up for next year, we are also planning promotion campaigns around the CDRs, reporting on the technical challenges that have been overcome and stories of the people behind these.



SKA 2018 CalenDaR

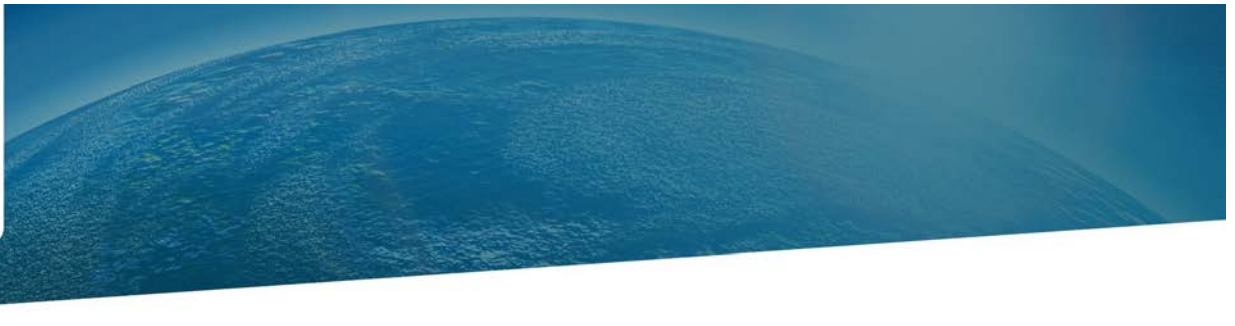
Cutting-edge engineering for the world's largest radio telescope

Font cover of the SKA 2018 CalenDaR

AAVS1 and Dish Prototype stories

Talking about overcoming technical challenges, we wanted to mark the end of this year by telling two great stories –amongst the many happening in the SKA partnership: the stories of the design of the 2 SKA telescopes. In addition to providing insights into the technical complexities, logistics and practical challenges of bringing together pieces of kits coming from different parts of the world, this 2-part series truly reflects the international nature of these 2 particular elements, and more generally of our project. The drafting of these 2 stories similarly reflects this international collaboration, and the numerous iterations we had with all the partners involved to converge to 2 texts that please us all was a very challenging exercise in itself. I reckon we managed that quite well and would like to thank here both my team colleagues Mathieu Isidro and Joe Diamond, as well as all the partners involved for putting these compelling stories together.

We hope you enjoy as much as we did “[From lab to Outback: The story of AAVS1 so far](#)”, and “[Across 18 time zones: a global effort to deliver a dish prototype](#)”, that are both complemented by nice visuals and videos. As an anecdote, I've also been told that the AAVS1 story was used extensively by our partners at ASTRON—who led that particular development- during the visit of the Australian Ambassador to their facilities last Tuesday, and the story was very well received.



SKA in the News

Last but not least, as usual, we've read the news for you and are happy to provide this selection of media articles relevant for the SKA directly on the SKA website. On the right hand-side of the [homepage](#), you'll see a "In the Press" tab, which is updated at least weekly. Note that the appearance of articles in the selection is not synonymous of endorsement by SKA Organisation. Enjoy!

Connect with us

For any enquiries, requests or feedback please write to ska-outreach@skatelescope.org

You can also find the SKA Organisation on [Facebook](#), [Twitter](#), [Google+](#) and [YouTube](#).