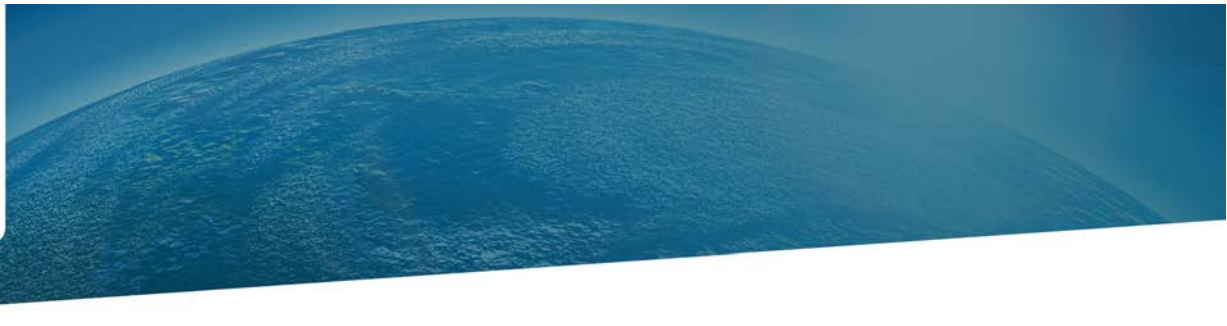


SKA Organisation Monthly Bulletin

3rd Issue, June 2014

From the Desk of the Director-General	2
Project.....	4
System Engineering.....	5
Architecture.....	5
Science	6
Policy Development.....	7
SKA Board Matters and Administration	8
Communications and Outreach.....	9
Connect with us.....	11



From the Desk of the Director-General

Welcome to the third edition of the SKAO Monthly Bulletin. I hope that, with these bulletins, we are raising, across the global project, the general level of knowledge of activities within the office.

I believe you are all aware that the month did not start well. Early in June I received an email from State Secretary Dr. Schütte of BMBF, the German Federal Science Ministry, informing me of Germany's intent to withdraw from the SKA on 30th June 2015, that is next year. The Board was immediately informed of this disappointing news. SKAO prepared a statement on this issue, which can be found on our website [here](#). Since the announcement our German science colleagues, who had not been consulted, have been working to try to overturn the decision. At the time of writing, less than a month from the announcement, there has been no change in the BMBF position.

My mood soon picked up as I and ~250 colleagues travelled to Gardini Naxos on the eastern side of Sicily for a week of SKA science (see Robert Braun's report below). I thoroughly enjoyed what was a very busy week with, I believe, 112 talks. I was struck by the strength of the science cases put forward, by the leading role that SKA will play in many of them and, most of all, by the youthful demographics of the attendees. I was clearly sitting on the older tail of the age distribution! The location in Sicily was picturesque, the conference was of high quality, and the conference dinner was something special (especially the so-called 'transformational event' on the beach afterwards) and then..... Mt Etna put on a show for us. Photos of the conference are available on a [dropbox link](#).



The conference dinner culminated with a delicious SKA cake, well looked after by 4 "adopted Sicilians" on the photo

However, the month was not all fun and games. Immediately after returning from Sicily we hosted the second two-day face-to-face meeting of the Science and Engineering Advisory Committee (SEAC). The membership and Terms of Reference for the SEAC can be found [here](#). The focus of this SEAC meeting was for the committee members to familiarise themselves with the work of the design consortia and the Science Working Groups (SWG),



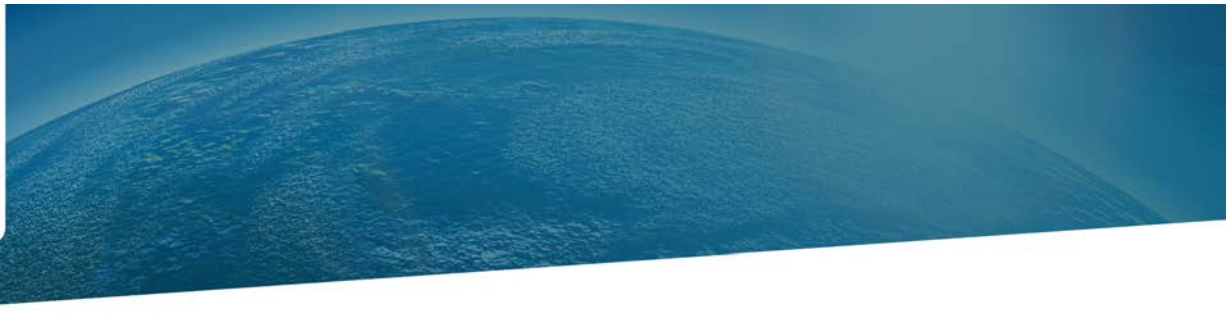
so the consortium leaders were all invited to SKA HQ to tell the SEAC about the design work in which their consortium is engaged; in addition the Chairs of the SWG attended by telecon to describe the current high priority science being planned. The SEAC enjoyed the session and found the information useful as they prepare for their role in the project re-baselining, scheduled for later this year.

The following week, it was onto a plane again, this time to fly west to the SPIE meeting in Montreal and then onto NRAO Socorro. At SPIE I had been invited to give a plenary talk on the first morning on SKA, my favourite subject. It was rather daunting to be following an excellent talk by Mark Clampin, JWST Observatory Project Scientist, and to be standing in front of ~1200 people, but I believe it went well and provided an update on the SKA to a largely US-based audience of optical/IR astronomers and instrument builders.

In Socorro I gave a seminar on SKA. The rather provocative title of 'SKA: the future of radio astronomy has already begun....' was designed to generate discussion within NRAO as our US colleagues begin to think about preparations for the 2020 Astronomy Decadal Survey.

Finally, I would like to congratulate our colleagues in the Netherlands as they announced yesterday the [award](#) of €12M from the Dutch government to enhance their participation in the current pre-construction phase. This is indeed a very welcome development.

Philip Diamond
SKAO Director-General



Project

By Alistair McPherson, Head of Project

This last month has been quite busy as we have focused around the Science and Engineering Advisory Committee (SEAC) meeting on 16-17 June and the following Consortium Leader's meeting on 18 June, both held at SKA Headquarters. The SEAC meeting, as well as discussing the re-baselining process, heard presentations from all of the consortium leaders. This was very valuable and it also gave the other consortium leaders the opportunity to hear how the others were doing. The three days at Jodrell Bank also proved a great chance for the consortia to get together into a variety of side meetings, and some had their monthly updates.

The feedback from the SEAC was re-assuring. They recognised that great advances had been made over the past months and that things are generally progressing well. They also gave the advice that we needed to continue to pick up momentum if we were going to deliver the re-baselining input by mid-September and the Preliminary Design Review (PDR) by the end of October. They were encouraged by the level of communication within the project but suggested a few ways to improve it.

Communication is always an issue on a project such as the SKA, with distributed groups and consortia from all around the world. One suggestion is to provide a Confluence Page for each Engineering Change Proposal (ECP) so that everyone can see the discussion in the Change Review Board. This is being set up.

Change control is progressing with 27 ECPs to date and, following the announcement that we will not be able to process further ECPs before re-baselining if they do not arrive before the end of June, we have received notification of some others. We know we will have to be pragmatic in dealing with ECPs to ensure that we do not inadvertently delay the project by reverting to a conceptual mind-set, whilst trying to deliver the most appropriate observatory for the scientists.

The consortium leaders also discussed the requirements of PDR and were briefed on the anticipated documentation requirements. The office is very happy to help assist with the scoping of document packs. Anyone who needs assistance should speak to their SKAO Project Manager as soon as possible if they need any help.

Oh yes, and there was the World Cup, but Scotland didn't qualify...

Organisation of the SKA Engineering Meeting at the end of September is progressing well. A detailed program has been established composed of presentations from SKAO and each of the consortia, as well as re-baselining related meetings, workshops and Interface meetings. A visit to the Murchison Radio Observatory will be offered with a limited number of seats schedules for the Friday 3rd of October. More information will be provided next week in a separate announcement.



System Engineering

by Tim Stevenson, SKA Chief System Engineer

Documenting whilst advancing design

During June, the System Engineering Team has begun to increase effort towards the Preliminary Design Review (PDR) in November 2014. During the PDR, SKA Office staff and external experts will review all design work carried out by the Consortia. The key to an efficient and successful PDR is good documentation from the design consortia, especially for the benefit of the external experts involved in the PDRs.

At the Consortium Leaders' meeting, held at SKA Headquarters on 18 June, the PDR process and draft timeline was presented to Consortium Leaders and Project Managers. The suggested contents of the PDR documentation data pack to be provided by the consortia was also discussed. There are 16 classes of document outlined in each Consortium's schedule of work and requirements documentation. The SKA Office expects the documentation data pack form to include areas such as Requirements, Architecture, Verification, Interfaces, Costs and Technology Readiness.

The consortia are responding to the challenging timescales for PDR submission and Consortium Leaders and Project Managers have been given sufficient information to start preparation of documentation data packs.

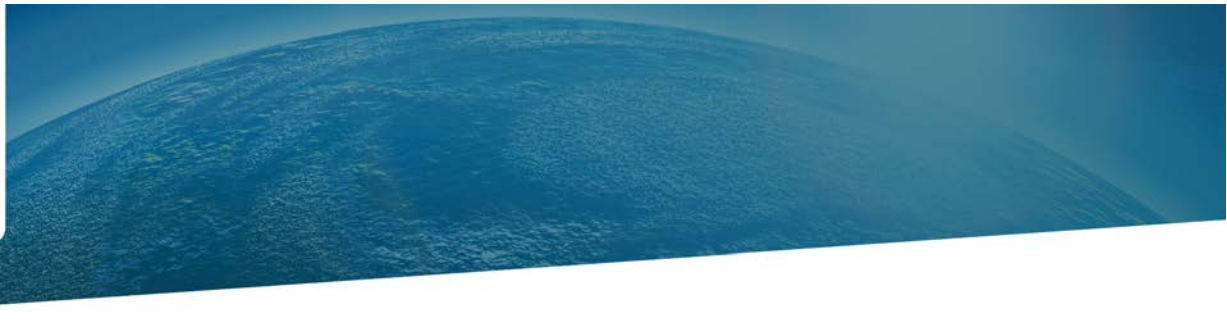
Architecture

by Tim Cornwell, SKA Architect

SKA Office staff have had informal discussions with industry about using cloud technology for potential transport, storage and processing of SKA data. Discussions are in the early stages of scoping possible options. Two potential models, a 'maximal' model and a 'targeted' model have emerged. The maximal model could involve outsourcing data transport after the correlator; the targeted model could involve certain aspects such as archiving or data transmission.

The update to the Level 1 Engineering Requirements is underway. The update is being coordinated by Wallace Turner (Domain Specialist, Signal Processing). SKA Organisation is reviewing all proposed changes to the Level 1 requirements received through the ECP process and by direct submission to Engineering Project Managers at SKAO. Trivial changes to the requirements, agreed by SKAO, will be made right away. Significant changes will be assessed against criteria by SKAO before being included in the updated requirements. The updated Level 1 Engineering Requirements will be published at the end of July.

The SKA Architecture Group visited the SKA Group at the University of Oxford to discuss technical matters associated with the LFAA and SDP consortia work. The meeting was very informative. The Architecture group learned about the LFAA beam former design and the reasons behind this. A good discussion about the SDP simulation capability was held. The Architecture Group intent to visit other SKA groups in the near future.



Science

by Robert Braun, SKA Science Director

The SKA Science Conference 'Advancing Astrophysics with the Square Kilometre Array' took place 8-13 June 2013. Over 250 attendees travelled to Gardini Naxos, Italy to discuss how the SKA observatory will perform transformational or, using the new phrase suggested at the meeting, game-changing science. The presentations given during the week will provide input to the new SKA Science Book, which will be published towards the end of 2014. Following the Science meeting work now turns to producing the Science Book. The final deadline for submission of chapter drafts by chapter authors is Friday 22 August 2014. Presentations are available from the [Documents page of the SKA Science Website](#) (bottom of the page).

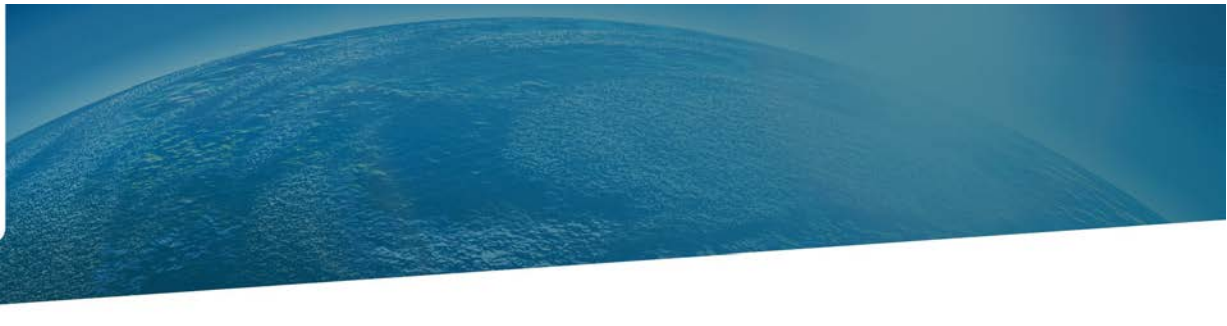
The Science Book will provide a definitive science case for the SKA Observatory and highlight the key science projects which will be carried out.



Group photo at the AASKA2014 conference. About 250 people from 22 countries attended the conference.

I would like to thank all the presenters for their excellent talks as well as the Local Organising Committee and in particular Grazia Umata from INAF Catania and her team for planning a superb conference. Even Mount Etna delayed her [eruption until the end of the conference](#).

During the week, Professor Giovanni Bignami, President of the Istituto Nazionale di Astrofisica (INAF) gave a public astronomy talk on SKA to the local community in Sicily, which was very well attended. Short video produced by INAF colleagues is available [here](#).



About 250 people attended Professor Bignami's public talk in Catania, on June 10.

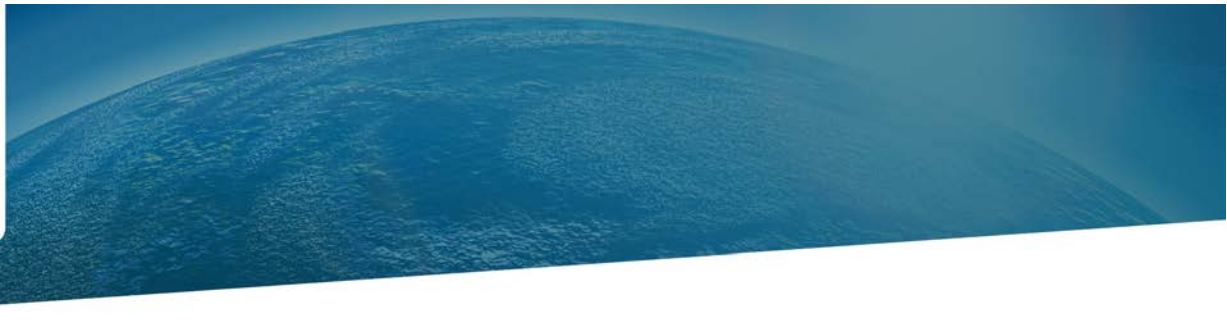
In the coming months, the science team will be supporting the Science Prioritisation process. This will feed the prioritised science goals of the SKA organisation into the re-baselining review. The Science Working Groups (further information [here](#)) will assist SKAO in drafting a list of science cases ranked in priority order. The list of priorities will be presented to an ad-hoc Science Review Panel for discussion and recommendation to establish the standard for 'transformational science'.

Policy Development

by Simon Berry, SKA Director of Policy Development

June is continuing where May left off with a busy programme of meetings and activity in the policy team. Our Strategy and Business Development Committee meeting in Beijing at the end of May provided us with plenty of input to make progress on the overall policy programme. The most important aspects are to take forward the development of the documentation needed for the next phase of SKA governance. As many of our readers will know, the goal is to develop an intergovernmental agreement as the basis of our future structure. Getting to that will be a challenging task, involving drafting and agreeing the basic principles of an agreement that later will be negotiated in detail between governments, and alongside it developing the funding and procurement (or more accurately work assignment) processes and rules that go with them.

To address the first part of this, we've formed an expert 'Drafting Group' which met for a two-day meeting in The Hague in mid-June. This was a detailed meeting, looking at how to describe what the future SKA Organisation's aims will be in legal terms, and other items such as how a future SKA Council might work and make decisions. We made good progress on this, and the results, a first full draft document, will be considered by the Board and member countries in early July. In support of this, we've also been trying to finalise how we see some of the elaborate jigsaw of policy and engineering/design issues coming together into a workable timeline.



On the funding side, we have several bilateral meetings coming up over the coming weeks with interested parties, ranging from some of our Member countries and the EU. With SKA receiving a favourable report from the [recent ESFRI process](#) examining the state of the various large infrastructure projects in Europe, we have also begun a dialogue with the European Investment Bank, a body which provides funding to major research (and many other) projects in Europe and beyond. Clearly, we are a very long way from serious discussions, but the fact that the discussion is open is itself a vote of confidence from within political circles that SKA is seen as a project moving in the right directions in governance and technical matters.

We're well aware that there is pressure in the project to talk seriously about how we will undertake the process of work assignment and procurement in the construction phase and beyond. This is of course related to the way that the project will be funded, where it seems likely that the members will push for some mix of cash and in-kind contributions to be the solution. But how we arrange that kind of mixed process, make the choices on how it works in practice, and then how we actually do it, all need careful thought. It is even more complicated because what you can do in legal terms, and when you do it, will be driven in part by the way the new structure shapes up. In terms of the top-level process, we are getting our thoughts together and we'll be making some strawman ideas available very soon. I hope that you will be able to work with your national representatives to provide input to us in the Office on these ideas so that we can (try to) come up with a process that will, at least as far as we can, work optimally for the project and the contributors.

With this in mind, another event in the last month was a visit by SKA Office personnel to Cadarache, France where we visited the ITER project. Our ITER colleagues there were extremely welcoming and helpful in the day of discussions we had. As many of you know, ITER has a range of challenges on its plate. Some of them are technical, some are funding related, and some have to do with the organisational structure in which they have to work. It was a useful day to understand some of the good things we can copy, and some of the less good things in their structure that we have to avoid. At its heart will be the way we treat the process to decide in-kind contributions. Food for thought for all of us in the coming months.

SKA Board Matters and Administration

by Colin Greenwood, SKA Head of Administration and Legal

Board of Directors

The next full meeting of the Board is to be held on 8 July 2014 via videoconference. The SKA Executive Committee held its latest meeting via teleconference on 18 June to discuss preparations for the Board Meeting. A summary of the Board meeting outcomes will be available in next month's bulletin.

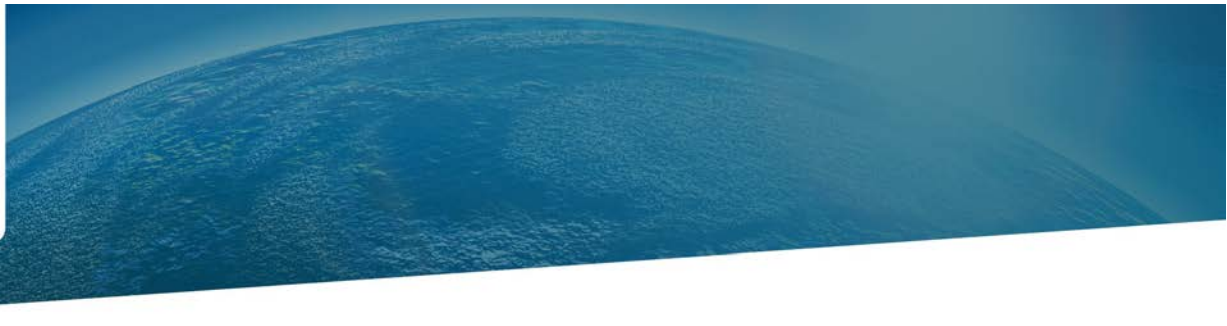
Staff Update

Mark Waterson, Domain Specialist – Aperture Arrays, will be working from SKA Headquarters from Monday 30th June. Vipin Gungaram will be joining the organisation as IT Intern in July. Nathan Cunningham, the current IT Intern will be leaving SKA Organisation at the end of August. We thank Nathan for his excellent work and wish him all the best in his future endeavours.

Information and contact details for all SKA Office staff are available on our website [here](#).

IT

Vidyo videoconference software has been rolled out in the SKA Office. Vidyo is available via desktop client, web client, and using meeting room videoconference systems. Instructions about how to join videoconferences with SKA



Office will videoconference will be provided by your meeting organiser at SKA Office. Skype will continue to be supported by SKA Office.

Legal

The process to include four additional variations to Memoranda of Understanding (MoU) between SKA Organisation and each design consortium is still underway. Full signed responses from a number of design consortia are yet to be received by the SKA Office.

One of the variations to the MoUs is to enable use of a Deed of Adherence to the MoU as the preferred mechanism for new members joining a consortia and signing up its MoU. The process will be administered by the SKA Office.

Communications and Outreach

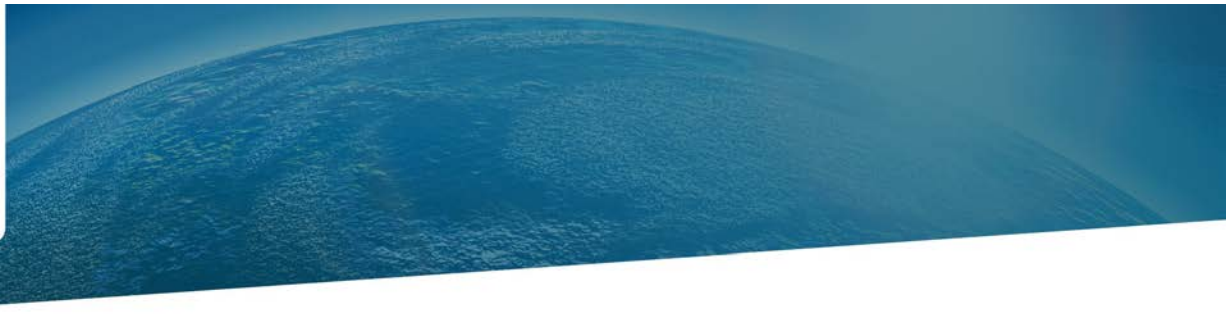
by William Garnier, SKA Communications and Outreach Manager

In June, the SKA Comms Team spent a significant amount of time organising and/or attending international conferences.

In particular, we were heavily involved in the organisation and promotion of the *Advancing Astrophysics with the SKA* conference in Sicily (see Robert Braun's report above). There was a huge excitement on Twitter during the conference thanks to the contribution of many of the scientists present at the meeting (see [#skascicon14](#)), which was great to spread the word about the transformational science planned for the SKA. We also issued a couple of announcements to promote interesting science results from some of the Science Working Groups ([here](#) and [here](#)) and sent out a [press release with a summary of this successful conference](#). At the end of this exciting week of talks and inspiring science, we set up a webcast press conference in order to brief journalists on the status of the project and precursor telescopes and to communicate on the outcomes of the conference. The press conference was well attended. Press coverage of the meeting in the Italian and international press was extensive (examples [here](#) and [here](#); media coverage in Italy [available here](#)).

The Comms Team was also involved in the science communication workshop of the [Annual Meeting of the French Astronomy Society](#) held in Paris, France from June 3 to 6 and attended the [ESOF conference](#) in Copenhagen, Denmark on June 22-26. Both conferences provided great networking opportunities. In particular, early discussions were engaged at ESOF2014 with the ESOF2016 Champion (Professor Dame Nancy Rothwell, President and Vice-Chancellor of the University of Manchester) and organisers to look into a more prominent participation of the SKA Organisation in the upcoming conference.

The Comms Team was part of an SKA delegation at the SPIE Astronomical Telescopes+Instrumentation conference in Montreal, Canada from June 23 to 27. It is the largest gathering of engineers and scientists working on telescopes and instrumentation. The SKA had a strong presence, with a plenary talk on the first day from Phil Diamond, a session talk from Alistair McPherson, a number of SKAO staff attending talks and a large stand in the exhibition hall. The stand attracted strong interest from both conference participants and a number of companies who are keen to get more involved in the project. For the first time, we presented hardware (elements from the Dutch Phased Array Feed design kindly lent to us by ASTRON). We would like to display more such things in the future to show how the project is becoming reality and strongly encourage consortia to get in touch with us to arrange this. One example is the URSI conference taking place in Beijing, China in August. We will be happy to display your work and to help arrange shipment.



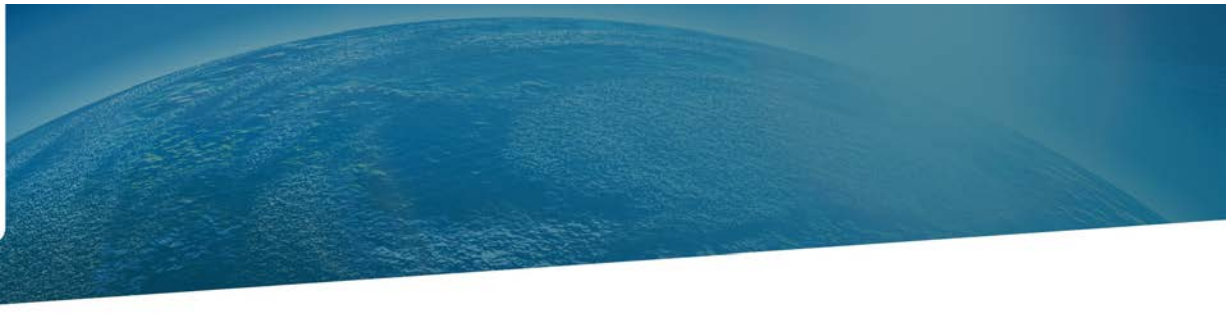
SKA stand at SPIE. Photo on the right shows the Dutch Phased Array Feed provided by ASTRON.

We also set up a stand at the [European Week of Astronomy and Space Science \(EWASS\)](#) in Geneva, Switzerland (30 June – 3 July), where both the SKA Communications and Outreach Manager and members of the SKA Science Team represent the project in this meeting, which brings together a large part of the astronomy community in Europe.



SKA stand at EWASS conference

As usual, a selection of media articles of interest is featured on the [press coverage page of the SKA website](#).



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](#).