



## SKA Organisation

Jodrell Bank Observatory  
Lower Withington  
Macclesfield  
Cheshire, SK11 9DL.  
UK

t: +44 (0)161 306 9600  
e: [enquiries@skatelescope.org](mailto:enquiries@skatelescope.org)  
w: [www.skatelescope.org](http://www.skatelescope.org)

## Notes from the Chair of the SKA Board

### 26<sup>th</sup> Meeting of the Board of Directors of SKA Organisation held at Gothia Towers Hotel, Gothenburg, Sweden. 11-12 April 2018

Dr Catherine Cesarsky, Chair of the Board, welcomed directors and invited guests to the 26th Meeting of the Board of Directors of SKA Organisation. The Board approved the appointment of Mark Thomson as the UK's new Voting Director.

#### Director-General's Report

Philip Diamond commenced his update on project activities since the last Board meeting by reporting on project safety, health and environmental issues. Work has now started on drafting of the Project Safety Management Plan (Rev 2) and the Environmental Management Plan (Rev 1); target completion date of both these documents in 2018Q3. Hazards and safety reviews for element Critical Design Reviews (CDR) are ongoing and a System Safety Review panel has been formed to integrate element safety reviews.

The Communications Steering Committee met for a face-to-face meeting at SKA HQ in early-March 2018 to update the global SKA Communications Strategy. The meeting was attended by representatives from Australia, Italy, the Netherlands, South Africa, Sweden, UK, and the SKA Office. A CDR communications campaign has been launched, which will feature success stories and will profile key people, institutes and technological developments.

An attraction strategy for new members was presented and it was noted that several countries could reasonably be seen as possible candidates for SKA membership in the near future. A bottom-up strategy was favoured in which SKA Organisation would engage with a prospective member country's science community in order to open the door to dialogue about possible membership with its government and funding agencies.

Robert Braun, Director of Science, reported that an in-depth study of SKA-1 computing requirements from a science perspective is underway; a draft paper has been circulated amongst Science Working Groups for comment. He added that an SKA Key Science Project Workshop and general science meeting will be held on 8-12 April 2019 at SKA HQ.

#### Science, Engineering and Operations

Joseph McMullin, Programme Director, presented his Engineering Report. He noted that, since the last Board meeting in November 2017, the focus has been on CDR preparations at both element and system levels. The element CDRs will take place on the following dates: TM (17-20 April 2018), SaDT & SAT (15-18 May 2018), INAU (27-29 June 2018), INSA (2-4 July 2018), SDP (pre-CDR: 20-22 June 2018), CSP (25-28 September 2018), DSH (7 January 2019, tbc); the LFAA CDR is currently being scheduled. The System Pre-CDR took place in November 2017, which was followed by the first construction planning review in February 2018. The System CDR (incl. AIV) is scheduled for 30 March 2019.



The Board noted that the availability of intellectual property to the SKA project remains a concern for design review, cost certainty and operations reasons. Efforts to improve the situation are ongoing and the Board agreed to help in this matter.

Joseph McMullin presented a Bridging Plan covering the interval between the end of formal consortium activities and the start of construction activities under the SKA Observatory, a period anticipated to be from roughly October 2018 to May 2020. He noted that not all of the required development work for SKA-1 definition will be completed when the majority of consortia conclude this year. For example, additional work will be needed to develop the construction proposal and construction phase procurement contracts and agreements. The Board approved the approach and overall scope of the proposed bridging activities and so the next steps will include consultation with the design institutes leading to a more detailed plan later this year.

The SKA Office, with support from colleagues in Australia and South Africa, has carried out an initial investigation of the utilisation of Early Production Arrays (EPAs) to reduce schedule, cost and performance risks during the Construction Phase and to mitigate other, non-technical risks. Alistair McPherson, Deputy Director-General, provided a progress report on this work and reviewed a number of options regarding timing of the implementation of EPAs. It was agreed that the SKA Office will develop a detailed plan for EPAs, including costing, which takes account of its feedback from this meeting.

Joseph McMullin and Gary Davis, Director of Operations Planning, presented an update on construction and operations costing. The Board was informed that the latest cost estimates for the Design Baseline are construction (€814M), sustained operations (€86M/year), and development programme (€20M/year). The construction and operations estimates both include contingency at 15%. The small increase in the construction cost estimate is primarily driven by projected increases in the costs of FPGAs and GPUs.

Andreas Kaufer, Chair of the external Operations Model Review Panel, reported that, since the last Board meeting (November 2017), the Panel has reviewed the current operations model and its costing assumptions. The Panel endorsed the nine principles guiding operations planning to date and emphasised the importance of the one observatory approach for an observatory with two telescope sites and a headquarters on three continents. The Panel made seven recommendations, including a recommendation that telescope operations in the host countries should be based on a partnership model and should not be governed by service level agreements. The Board endorsed the Office's response to the Panel's report and instructed the SKA Office to develop the operations model in collaboration with the Host Countries and other Members. The Board also noted the Panel's view on the importance of securing the development budget for the long term.

The Board noted site reports from Australia, South Africa and the UK.

- Australia: US researchers recently reported detection of signals from the earliest stars in the Universe using the EDGES antenna at the Murchison Radio-Astronomy Observatory (MRO). The signals detected were just off the FM radio band, which was possible only in an extremely radio-quiet environment such as that at the MRO.
- South Africa: the phasing up of the full 64 antenna MeerKAT array took place on 29 March 2018, which was a significant milestone. The first MeerKAT-led research article was published in the Astrophysical Journal on 6 April 2018 and the first large survey project observations will take place later this month.
- UK: A progress report was provided on the extension to the SKA HQ, which is scheduled for completion in June 2018.

## Procurement



Alistair McPherson presented the procurement strategy for 2018-19 that will enable SKA Organisation to develop the core competencies, capabilities and capacities to transact procurement business to meet both current and future business objectives.

Following several internal workshops to develop and refine an appropriate contract structure for SKA-1 construction, a comprehensive procurement Request for Information (RfI) pack was released on the 12 February 2018. The Board was provided with an update on progress with the RfI and noted that returns are expected by early-May 2018. A paper containing conclusions, recommendations and next steps will be presented to the Board at its next meeting (11-12 July 2018).

### Policy

Daan du Toit, Chair of the Strategy and Business Development Committee (StratCom), reported on the Committee's meeting on 8-9 February 2018. He noted the StratCom's endorsement of the initiative to develop an extended Business Plan for SKA Organisation beyond the current horizon to 2020. In addition, the Board was informed about a range of EPA-related issues, such as procurement policy, that has been considered by StratCom.

Theresa Devaney, Transition Co-ordinator, provided an update on planning for the transition of SKA Organisation to an Inter-Governmental Organisation (IGO). She reviewed progress highlights in terms of communications, HR, legal, procurement and finance. The Board noted the update on transition governance and endorsed a proposal to establish a new governance body, the Joint Working Group for Transition (formerly the "Transition Committee") to support transition activities and to co-ordinate transition activities between the Board and the Convention Preparatory Task Force (CPTF). The CPTF will be established after the signing of the SKA Observatory Convention and will represent the interests of the IGO until the SKA Observatory Council is formed.

The Board noted progress to establish the SKA Observatory IGO and to develop the three hosting agreements. All negotiating parties now accept the text of the Convention and Final Record and so the next step is for delegations to be invited to initial these documents, which signals their willingness to freeze the text. Signing of the Convention and Final Record is expected to take place in September 2018.

### Administration and Governance

Fiona Davenport, Head of HR, presented an update to the HR plan for 2018, which focuses on priority deliverables in four areas: (i) HR excellence, (ii) growth and transition, (iii) HR administration, and (iv) equality, diversity, inclusion and engagement. An Enterprise Resource Planning (ERP) system, which will include an HR module, will be implemented at SKA HQ in the latter part of this year. Furthermore, the SKA's submission for Athena SWAN accreditation will be made by 18 May 2018. Athena SWAN is a UK charter with the aim of advancing the representation of women in science, technology, engineering, medicine and mathematics (STEMM). The Board was informed of the key findings from a recent staff survey on equality and diversity.

David Luchetti, Deputy-Chair of the Finance Committee, presented a report of the Finance Committee meeting on 27 February 2018. Following the Committee's recommendation, the Board approved the external audit plan for the year ended 31 December 2017. The external audit will be carried out in 2018Q2 by RSM UK Audit LLP, SKA Organisation's external auditors.



The Board also approved the appointments of Mark Brocken (NL) and Justin O'Byrne (UK) to the Finance Committee.

The Board confirmed the following future Board meetings:

SKA-BD-27: 11-12 July 2018 (Cape Town, South Africa)

SKA-BD-28: 13-14 November 2018 (SKA HQ)

SKA-BD-29: March 2019 (SKA HQ). Dates to be confirmed.

Catherine Cesarsky  
Chair, Board of Directors  
SKA Organisation  
19 April 2018