



ALMA BOARD MEETING
November 10-12, 2021

PUBLIC SUMMARY

The ALMA Board convened via Zoom, between the 10th and 12th of November, with the following attendees:

Chair	Linda Tacconi (EU)
Vice-Chair	James Di Francesco (NA)
Board Members	Joseph Pesce (NA) Xavier Barcons (EU) Saku Tsuneta (EA) Tom Ray (EU) Daniel Weselka (EU) Tony Beasley (NA) Karin Öberg (NA) Toshikazu Onishi (EA) You-Hua Chu (EA) Demián Arancibia (CL)
Board Assessors	Andreas Kaufer (EU) Satoru Iguchi (EA)
JAO	Sean Dougherty (ALMA Director) Stuartt Corder (ALMA Deputy Director) John Carpenter (Observatory Scientist) Frank Ruseler (Head of Administration) Norikazu Mizuno (Head of Engineering) Ivan Lopez (Safety Manager) Jorge Ibsen (Head of Computing) Elizabeth Humphreys (Head of Science Operations) Rafael Mena (HR Manager) Valeria Foncea (EPO Manager)
Executives	Leonardo Testi (ESO ALMA Programme Manager) Phil Jewell (NRAO ALMA Program Manager) Álvaro González (NAOJ ALMA Program Manager) Paulina Bocaz (AUI/NRAO Representative in Chile) Tetsuhiro Minamidani (NAOJ Representative in Chile) Luis Chavarria (ESO Representative in Chile) Crystal Brogan (NA Program Scientist) Ciska Kemper (EU Programme Scientist) Mistato Fukagawa (EA ARC Manager)

ASAC Kotaro Kohno (ASAC Chair)

Board's Secretary Alejandra Voigt (ALMA Executive Officer)

PUBLIC SUMMARY

The ALMA Board held its November 2021 meeting, via Zoom.

The Board's Chair, Dr. Tacconi, welcomed all Board members, assessors and attendees, noting especially the attendance of Adam Cohen, AUI President, all members of the ALMA Management Team, the JAO Core Management Team, the representatives in Chile for ESO, AUI/NRAO and NAOJ, the ASAC Chair Kotaro Kohno, the Program Scientists from ESO and NRAO and the EA ARC Manager.

The Chair expressed the Board's appreciation and best wishes to Frank Ruseler, for whom this is his last meeting as he will be retiring soon.

In addition to other matters during the meeting, the Board:

1. Reviewed the status of the activities to transition to regular operations and the outcomes of Cycle 7, which were beyond expectations, given the extraordinary circumstances due to the on-going pandemic
2. Appreciated the extraordinary efforts made by the JAO and Regional Support Center staff during the pandemic.
3. Approved the 2022 ALMA Budget.
4. Received the ASAC report from the ASAC Chair.
5. Appointed 5 new ASAC members.
6. Assessed the ongoing Development Projects and the current efforts with the implementation of the ALMA Development Roadmap.
7. Approved the ALMA Band 6v2 project, phase 1.

ALMA Overview

The Board noted the presentation given by the ALMA Director, regarding the status of ALMA, including:

- Progress with the Return to Operations.
- General outcome of Cycle 7 and the projections for Cycle 8.
- Main current challenges:
 - Maintenance backlog
 - Recovery of regular operations
 - Budgetary constraints, especially related to prevailing macro-economic factors.
- The main conclusions of the Cycle 8 proposal review process
- The progress and challenges related to the implementation of the ALMA2030 Roadmap.
- Other JAO considerations, such as:
 - HR-related matters

- Developing a strategic plan for the power station
- Ongoing efforts to complete the Forward-look plan, including the long-term maintenance plan and obsolescence management strategy.

Scientific Matters

The Board noted the presentations given by the Chair of the ASAC, the Head of the ALMA Department of Science Operations, the Observatory Scientist and the Chair of the Board's Science Committee regarding:

- Assessment of the performance of ALMA scientific capabilities.
- Cycle 7 Science Operations Outcomes and operational performance.
- Ways to maximize ALMA's scientific impact, including high-frequency, joint proposals and large programs.
- Analysis and lessons learned from the Cycle 8 distributed peer review process and plans to improve the proposal review process for Cycle 9.
- The IST recommendations for the general science requirements and policies needed to implement joint proposals between ALMA and other observatories.

After deliberation of the range of science expertise and other requirements, the Board approved the appointment or reappointment of five members to the ASAC, starting January 2022:

1. Stefanie Milam (NA - NASA/GSFC, JWST - Chemistry in the ISM and Solar System objects), for a three-year term (2022-2024)
2. Anne Dutrey (EU - Université de Bordeaux – Circumstellar disks and observatory), for a two-year term (2022-2023)
3. Mario Tafalla (EU – OAN, Star formation. Nominated for reappointment, has served one term), for a three-year term (2022-2024)
4. Serena Viti (EU – Leiden University, Large-scale ISM, star formation), for a three-year term (2022-2024)
5. Hideo Sagawa (EA - Kyoto Sangyo University, Solar system science), for a three-year term (2022-2024)

Financial Matters

The ALMA Board noted the report of the ALMA Budget Committee on the 2021 budget execution and financial results and projections to the end of the year.

The Board also discussed the risks and challenges ahead for the 2022 budget and the approach to address the current macro-economic challenges, particularly the rising price of fuel and the weakening Chilean Peso.

Finally, subject to the FY2021 budget appropriation process in the USA and Japan and the approval by ESO Council, the Board approved the proposed 2022 ALMA Operations Budget for JAO and Off-site activities, projects and the Development Program.

ALMA Development Program Update

The ALMA Board noted the presentation by the ALMA Management Team regarding the status of the ALMA Development Program. This covered the on-going projects and studies, the projects that will be submitted for approval in the near future and a summary of the scope of upcoming calls for development proposals within the three regions.

The Board also noted the presentation related to the ALMA Development Roadmap Implementation Plan and the ongoing activities on the highest-priority Development Program projects as identified in the ALMA's long-term vision, including:

- Ongoing small development project (EU) for completion of the current archive vision
- Investigation of the long baseline case
- Wideband Sensitivity Upgrade status and requirements (including downstream components) and management planning.

Finally, the Board approved the ALMA Band 6v2 project, phase 1 (NA contribution to Development), which will culminate with tests at the ALMA observatory of a production-level prototype and a Critical Design Review. This will be followed by a separate Phase 2 proposal for the construction of 73 upgraded cartridges.