

Update on ALMA Development toward the WSU - Autumn 2026

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This presentation provides an overview of recent ALMA development activities since the previous ASJ meeting in March 2026. Preparations for the Wideband Sensitivity Upgrade (WSU) are progressing. This major upgrade includes replacing hardware components such as receivers, digitizers, data transmission systems, a correlator, and a spectrometer, with the aim of broadening the Intermediate Frequency (IF) bandwidth by at least a factor of two. In addition, the observational and data analysis software is being updated for operations of the integrated WSU system.

The overall system design and staged implementation plan are being actively developed by teams from software/computing, science operations, development, and engineering, in preparation for the WSU implementation. Regarding developments led by East Asia, the preliminary design work for the Total Power GPU Spectrometer (TPGS) and the new Band 8v2 receiver has been completed, with both projects successfully passing their Preliminary Design Reviews (PDRs). This means that all EA-led development projects are now in the critical design stage. In addition, the ALMA Board approved the Phase 2 proposal for the Data Transmission System (DTS) in April 2026. This project phase for DTS covers the remaining design work, as well as production, delivery, and Assembly, Integration, and Verification activities, in alignment with the WSU schedule.