



DECEMBER 2023

## Description

acsp.space

---

# ACSP

DECEMBER 2023  
ACSP NEWSLETTER

*Editor-in-Chief: Will Lewis  
Managing Editor: Morgan McKelvey*

---

## WORLD RADIO CONFERENCE 2023 EXTRAVAGANZA!

- *Why it matters to you:* The World Radio Conference 2023 (WRC-23) concluded in December. A number of important issues related to the use of spectrum by satellite and space operators. Some decisions will maintain the status quo, others represent meaningful shifts in the way space stations can communicate. Some of these decisions will be mandated by your licensing government, other decisions will be more akin to recommendations that could enable new licensing options. Weâ??ll address a couple of WRC-23 items below that we believe are of particular interest to our readership. There are a host of satellite issues we wonâ??t touch on and the full accompanying Final Acts are available [here](#).

---

## EARTH STATIONS IN MOTION COMMUNICATING WITH NGSO SATELLITE SYSTEMS IN KA-BAND (PAGE 497 OF THE FINAL ACTS DOCUMENT)

- *Why it matters to you:* If you are a broadband operator, securing international standing for earth stations in motion will help facilitate international Earth Station in Motion business for the ever growing number of NGSO systems operating in the band. If you have no vested Ka-band broadband interest, the adoption further secures satellite standing in the Ka-band and helps set the ground

for other more dynamic and flexible use of the band for satellite communications, such as inter-satellite links.

---

## INTER-SATELLITE LINKS IN KA-BAND (PAGE 529) AND STUDIES FOR ISL IN C-BAND (PAGE 587)

- *Why it matters to you:* One of the difficulties in executing and licensing operations in lower-earth orbit, particularly for novel space activities, is finding a ground station solution that meets a mission's operational needs. Relaying communications through other satellite networks, via inter-satellite link (ISL), could help alleviate this concern. The developments at WRC have created a path for authorizing ISLs in select portions of the Ka-band and the next cycle will include study of the C-band for ISL consideration at WRC-27. This could create a more sustainable path for operators without their own ground station networks to secure reliable connections to the ground that are capable of supporting ever growing data needs.
- 

## EPFD PROTECTIONS FOR GSO SYSTEMS REMAIN UNCHANGED

- *Why it matters to you:* The WRC opted not to implement changes to the protection criteria that NGSO systems must

abide by to protect in-band GSO satellite systems. This maintains the status quo between the large NGSO and GSO broadband operators that share spectrum, frustrating some stakeholders and relieving others. But the flow down of this decision means that smaller players can continue to develop their spectrum solutions in a stable regulatory environment for the next decade. Operators seeking to use GSO networks for data-relay, for example, can now rely on the previous protection criteria for mission design and planning.

---

## DIPLOMACY IN SPACE

acsp.space

### AUKUS Alliance to Jointly Operate Deep Space Radar Network

- The Space Force announced a tri-lateral agreement with Australia and the United Kingdom (collectively “AUKUS”) to deploy a new deep space radar network to provide 24/7, all-weather capabilities that will increase the ability to detect, track, identify and characterize objects in deep space. The radar network will take advantage of the geographic diversity of the AUKUS alliance and deploy radars in each country, a truly global footprint.
- *Why it matters to you:* Note that this is a deep space radar system, which is presumably beyond lower-earth orbit. While the Space Force focuses on the defense aspects of the network, future deep space commercial missions will require situational awareness infrastructure to safely execute any deep space endeavors. Networks such as this could eventually be a part of the infrastructure that helps commercial missions map out their deep space trajectory and identify potential risks as commercial space ventures to the moon and beyond.

### Angola signs Artemis Accords

- Angola signed the Artemis Accords in early December 2023, becoming the third African nation to do so and the 33rd

country overall. Angola has launched at least two satellites, [Angosat-1](#) and Angosat-2, the latter of which provides telecommunications services. Angola also has an earth observation satellite, Angosat-3, [under development](#).

- *Why it matters to you:* Burgeoning policy issues like space traffic management and space situational awareness will require international standards and collaboration. Practically, there are countries that were always likely to align with a U.S.-driven standard like the Artemis Accords. Other countries like Angola could very well have oriented itself around a different space-power. Angola's first two satellites, for example, were built in part by Russia. Successfully bringing Angola into the Artemis Accords demonstrates that the appeal of the Accords extends beyond the traditional U.S. geopolitical circle and secures a new foothold in southern Africa, laying the ground work for truly global collaboration necessary for the future of space policy.

### [China Secures Egyptian Cooperation on Lunar Station](#)

- Egypt and China have signed a cooperation agreement on the China-led International Lunar Research Station (ILRS). Egypt appears to be the ninth country to have signed onto the ILRS project. China and Egypt already have a close working relationship on space matters, with China recently launching an Egyptian [remote sensing satellite](#).
- *Why it matters to you:* Unsurprisingly, no country is a signatory to the ILRS and the Artemis Accords. Egypt is the second African signatory. Its geography and presence in space (Egypt has launched at least 8 satellites) make Egypt a significant space power in both Africa and the Middle East. It recently hosted the World Radio Conference in 2019, demonstrating its standing in the global spectrum community. Egypt continues to receive a [significant amount of aid from the U.S.](#), so like Angola for the U.S., China has strengthened its relationship with a country that could have just as easily aligned itself with a different space-power. Expect the space-oriented African geopolitical competition to heat up in 2024.

---

## SOLAR WEATHER

## Solar Wind: Also a Problem When It Doesn't Blow

- A new study examined what happens when solar winds ebb, experiencing a low-density solar wind event. It turns out that when the solar wind dies down, the Earth's magnetosphere expands. This expansion can impact radio wave propagation, as well as potentially other operational considerations. The Earth has experienced 12 low-density events in the time period from 1995 to 2017.
- *Why it matters to you:* Much like high-density solar winds that can push satellites back into the atmosphere faster than expected, these low-density events could create unpredictable operational environments for systems in LEO, especially those operating in VLEO. In the event that one of these events causes communications disruptions, operators with a long-term presence in LEO may benefit from establishing protocols for handling disruptive solar events.

acsp.space



Copyright (C) 2024 Association of Commercial Space Professionals. All rights reserved.