

17 April 2025

Subject: Plan-S response to ACMA's Five-year Spectrum Outlook 2025–30 and 2025–26 Work Program

Dear Sir/Madam,

We appreciate the opportunity to share our perspectives on Five-year Spectrum Outlook 2025–30 and 2025–26 Work Program (FYSO), which aims to support technology and service innovation in various sectors, with a potential to enhance regional development and connectivity. We commend ACMA's ongoing efforts to advance further its regulatory frameworks to support optimal outcomes for both licensees and the broader public.

As a satellite operator, we are committed to addressing global coverage challenges and advancing a sustainable future for the IoT ecosystem. The CONNECTA IoT Network, a cutting-edge solution optimized for massive narrowband IoT connectivity based on LoRaWAN and 3GPP standards, offers unparalleled cost efficiency, high reliability, high capacity, low latency, comprehensive global coverage, and standardized industry-leading technology solutions. Additionally, the CONNECTA IoT Network will provide global connectivity capacity through a low-cost constellation for billions of devices. Its LEO architecture and innovative standardized offerings allow customers to use IoT solutions at a low cost anywhere in the world where the service is authorized.

We acknowledge that the FYSO prioritizes continuing to monitor trends in the spectrum needs of space-based communications systems and developments in emerging space-based technologies and applications in line with WRC-23 and recent international developments. Therefore, we support the ACMA's aims for continuing to monitor the demand for spectrum and emerging regulatory arrangements for NGSO constellations.

We appreciate ACMA's recognition on the growing importance of LEO satellite systems in addressing national priorities and policies including the Universal Outdoor Mobile Obligation (UOMO), improved regional and agricultural connectivity, and progress toward net-zero emissions by 2050. We believe that LEO satellite IoT systems, especially achieving interoperability with LoRaWAN and 3GPP networks would be well-suited to enable a range of critical applications, from environmental and agricultural monitoring to logistics, energy, mining, transportation, and construction to serve these priorities and policies highlighted in FSYO.

With this opportunity, we would like to share our views regarding the 915–928 MHz and the 2 GHz MSS frequency bands for your consideration.

915-928 MHz Band for Satellite-to-LIPD Communications

Satellite-based IoT solutions can play a vital role in advancing Australia's national objectives by delivering seamless and resilient coverage across sectors such as agriculture, mining, energy, and logistics, as well as strengthening network resilience. In this context, we value ACMA's recognition of IoT growth and the associated spectrum needs across various domains

as well as the growing importance of LEO satellite systems in addressing national priorities and policies.

We would like to highlight a recent development within CEPT regarding the enablement of satellite-to-SRD (or low-power devices) communication in the 862-870 MHz band (which is equivalent to 915-928 MHz frequency band in Australia). CEPT has published a draft of ECC Decision (25)02, which sets conditions to safeguard the efficient use of spectrum to enable this usage, for public consultation, with final publication expected in June 2025. Furthermore, the Radio Spectrum Policy Group of the EU has included this concept in its draft Opinion on satellite D2D and recommends endorsing the European Commission's inclusion of satellite-to-SRD in its permanent SRD mandate to CEPT. This aims to establish harmonized technical conditions for satellite downlinks in the SRD bands and encourages Member States to develop authorization frameworks that facilitate SRD-based satellite communications across the entire EU territory. **These developments reflect a global shift toward integrating satellite IoT services into license-exempt spectrum bands, accelerating the growth and adoption of broader IoT ecosystems.**

Expanding SRD bands for satellite use introduces a Non-Terrestrial Network (NTN) dimension that complements terrestrial coverage and unlocks new possibilities for both satellite and terrestrial LPWAN (Low-Power Wide Area Network) operators. With satellite connectivity, LPWAN networks can extend into underserved regions, supporting cross-border IoT services and unlocking previously infeasible applications such as global asset tracking, environmental monitoring, and precision agriculture. Therefore, this concept can play a role in enhancing regional and agricultural connectivity and progress toward net-zero emissions by 2050.

Furthermore, the coexistence of terrestrial SRD applications and satellite-to-SRD transmissions has been extensively studied, as evidenced by ECC Report 357 and subsequent works within CEPT. In this context, satellite-to-SRD transmissions in the 862-870 MHz band can be viewed as an extension of the license-exempt SRD regime into satellite services, further enhancing spectrum efficiency within this band. We believe this concept could be adapted for the 915-928 MHz LIPD regulation in Australia, leveraging the technical foundations established in CEPT studies.

In this regard, we respectfully propose that the ACMA consider the utilization of 915–928 MHz band for satellite IoT operations under the LIPD regulation or any newly developed regulation. Such an approach aligns with ACMA's policy on monitoring innovative international regulatory uses of spectrum in band planning.

In addition to the technical compatibility demonstrated in ECC Report 357 and further studies conducted under the work item for ECC Decision (25)02, our testing and operations with eight LEO satellites have confirmed the technical viability and reliability of these operations.

The application of these technologies in the 915–928 MHz band would represent a significant opportunity to promote efficient spectrum use, support next-generation services, and uphold protections for incumbent users. This would also enhance spectrum-sharing principles and help realize innovation goals outlined in the FYSO. On this matter, we would like to emphasize our readiness to cooperate directly with ACMA to promote the efficient use of spectrum by introducing a new dimension to this frequency band utilization.



Plan-S is fully committed to working with ACMA to explore cooperative frameworks and optimize the use of this band for satellite-based IoT services.

2 GHz MSS Band

The 2 GHz MSS band has been gaining attention globally due to favourable propagation characteristics, device ecosystem maturity, and harmonized allocations across ITU regions. This band is suited for satellite-based M2M/IoT services as well such as NB-IoT based on 3GPP Release 17 and beyond, as it enables interoperable and resilient connectivity that complements mobile networks.

In light of this, we would like to once again appreciate ACMA's efforts enabling satellite IoT and similar narrowband services to operate on a shared basis between operators. We share ACMA's view that this approach provides low-barrier spectrum access for innovative satellite applications and supports the growth of the Australian space industry. Additionally, this concept encourage innovation, expand service offerings, and promote competition, ultimately benefiting all citizens in Australia.

Moreover, we note ACMA's preliminary view that an auction is the most appropriate mechanism for resolving competing demand for the 1980-2005 MHz and 2170-2195 MHz bands, given the likelihood of demand exceeding supply. However, we suggest that ACMA also consider a beauty contest approach, where spectrum allocation is based on an evaluation of interested parties' solutions, spectrum requirement, proposed investments, and the value they would bring to Australia.

Additionally, mechanisms to prevent spectrum hoarding and ensure efficient use, such as conditions addressing prolonged non-use of spectrum or underutilization could be implemented to maximize the economic benefits of this valuable spectrum for Australia.

We consider these developments to be pivotal in supporting Australia's communications policy objectives and in contributing positively to the nation's broader social and economic progress.

We appreciate the opportunity to provide these comments and remain at ACMA's disposal for further discussions.

Respectfully submitted,

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