



**Myriota Pty. Ltd.**  
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## **Myriota Response to the ACMA Consultation Satellite Direct-to-Mobile Services: Regulatory Issues**

Myriota is the global leader in low-cost, low-power, secure direct-to-orbit satellite connectivity for the Internet of Things (IoT).

Myriota was founded to revolutionise IoT by offering disruptively low-cost and long-battery-life global connectivity. Based in Adelaide, a focal point of the Australian space industry and home of the Australian Space Agency, Myriota has a growing portfolio of over 100 granted patents, and support from major Australian and international investors. With deep heritage in telecommunications research, world-first transmission of IoT data direct to nanosatellite was achieved in 2013. Myriota has made this ground-breaking technology commercially available for partners worldwide.

Myriota welcomes the opportunity offered by the ACMA to comment on its Five Year Spectrum Outlook 2023-28 regarding the so called satellite direct-to-mobile services, and other satellite use of bands without a satellite allocation.

Myriota requests the ACMA to clarify whether the current text in the FYSO 2023-28 refers to satellite direct-to-mobile services exclusively in the context of mobile handsets and smartphones for broadband systems, or whether it includes other terrestrial systems that could provide additional services such as IoT in the bands that are not allocated to mobile use?

If the ACMA restricts the consultation on direct-to-mobile for smartphones and broadband, Myriota wishes to understand the rationale of such a restriction. Myriota broadly supports the ACMA's willingness to allow innovative services to be introduced to the market. This pragmatic approach would see further benefit if the ACMA covered other forms of terrestrial services, to ensure that all forms of IoT services could benefit from the adaption of the regulatory framework, whether such services are mobile or not; and whether broadband or narrowband.

Myriota is of the opinion that the regulatory framework can be simplified and adapted to all forms of terrestrial stations that intend to communicate with a satellite using spectrum that does not have an earth-to-space or space-to-earth allocation.

It is worth the ACMA considering other satellite uses of bands without an existing satellite allocation, in particular regarding the uplink (earth-to-space) direction. An existing terrestrial system that already uses a particular frequency band for terrestrial communications could be complemented by employing satellites to also receive those same signals from space. This complementary arrangement would theoretically have zero impact on the interference environment, since it makes no difference whether or not the satellites exist. This type of complementary uplink arrangement ought to be permitted under any ACMA terrestrial transmit



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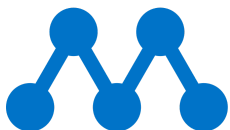
licence in frequency bands that do not have an earth-to-space allocation. By default, the satellite receivers operating in this manner would operate on a non-protection basis.

Myriota makes the following brief observations of three types of ACMA licence that may be options for the discussed services.

LIPD Class Licence: Enables a terrestrial station to transmit on a given frequency (or frequency range), within specific operating parameters, and with some restrictions of its location. The restrictions all relate to the transmitter. However, the LIPD Class Licence does not appear to impose any restrictions on the receiver, including its location, which could be in space. The receiver is only mentioned in the context of absence of protection from interference. Therefore, it appears that any terrestrial station is permitted to communicate uplink to a satellite under the LIPD Class Licence, so long as the terrestrial station operates within all the conditions of the LIPD Class Licence, such as technical parameters, and its intended purpose/application. These flexible conditions can be used to adapt this licence for authorising a potential satellite link complementing terrestrial systems that use the frequency bands under the LIPD Class Licence.

Spectrum Licence: The ACMA advised in the FYSO 2023-28 that spectrum licences can already enable uplink (earth-to-space) communications, due to the technology-flexible nature of the spectrum-licensing regime. However, spectrum licences can be difficult, slow, and expensive to obtain and therefore might only be accessible to bigger players. This could create conditions that will preclude innovation coming from smaller companies often unable to afford the spectrum licence. Spectrum licences should not be relied upon as the only mechanism the ACMA employs to enable use of terrestrial allocated spectrum for satellite uplink communications. Some frequency bands might not be permitted to obtain a spectrum licence in Australia, which could exclude certain terrestrial systems from being complemented by satellite receive capability.

Apparatus Licence: In general, apparatus licences are not able to be used for satellite communications within Australia, unless there is an appropriate space allocation such as MSS, FSS, etc. The ACMA has previously amended a point-to-multipoint apparatus licence to specifically enable uplink communications with satellites, despite the licensed frequencies not having an earth-to-space frequency allocation. The whole process of amendment required significant resources and time from the ACMA to enable the use of these particular frequencies for satellite communications. The ACMA can seize the opportunity of this consultation to revisit the scope of the apparatus licence, and enable this regulatory mechanism to authorise earth-to-space communications using terrestrial allocated spectrum, if an applicant can show that there is public benefit in such use.



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Myriota understands that the ACMA generally seeks to encourage greater utilisation of the radio spectrum, and it is possible to increase this utilisation in Australia by enabling uplink communications (earth-to-space) using terrestrially allocated spectrum. For example, in remote parts of Australia there are frequency ranges that are unused by terrestrial communications but could be used for satellite uplink communications without any impact on other users. The ACMA should be open to any proposed earth-to-space communications using terrestrial allocated spectrum, so long as an applicant is able to provide sufficient rationale supporting its request. It is important to ensure that the ACMA is able to approve such use of the radio spectrum when it is suitable to do so.

Yours sincerely,

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