COMMUNICATIONS ALLIANCE LTD

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SATELLITE SERVICES WORKING GROUP

SUBMISSION
to the

Australian Communications and Media Authority's (ACMA)

Five-year spectrum outlook 2022–27 and 2022–23 work program

10 May 2022

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INTRODUCTION

The Communications Alliance Satellite Services Working Group (SSWG) welcomes the opportunity to provide this submission in response to the Australian Communications and Media Authority's *Five-year spectrum outlook 2022–27 and 2022–23 work program* Draft for consultation.

The SSWG thanks the ACMA for the opportunity to comment on this year's FYSO work plan. and believes this is one of the most valuable spectrum planning initiatives the ACMA has embarked on. It is a credit to the former Chair, Chris Chapman and his then-team, as well as to those who continue the work today.

In particular the SSWG would like to thank the ACMA for taking a holistic and proactive look at satellite systems spectrum planning in Australia which, combined with a number of world leading initiatives including but not limited to S-Band, Ku-Band and Ka-Band, have once again positioned Australia among the world leaders in spectrum management.

The SSWG agrees with the ACMA's view that there is no need for more prescriptive nor interventionist approaches to the regulation of satellite systems in Australia. Satellite systems benefit from streamlined, light-touch and flexible administrative processes for licence applications and grants, with reasonable fees and reporting requirements. The SSWG considers that there is no need for additional regulatory intervention by Australia, given the existing regulatory requirements in ITU processes and other major jurisdictions. Additional regulatory interventions would create additional burdens on satellite systems without any clear or proportionate benefits.

The SSWG is providing the following targeted comments on the Draft FYSO Consultation Paper, pertaining to bands shared with or that affect satellite bands.

This submission does not necessarily represent the views of Telstra, who are lodging its own submission.

About Communications Alliance

Communications Alliance is the primary telecommunications industry body in Australia. Its membership is drawn from a wide cross-section of the communications industry, including carriers, carriage and internet service providers, content providers, equipment vendors, IT companies, consultants and business groups.

Its vision is to be the most influential association in Australian communications, co-operatively initiating programs that promote sustainable industry development, innovation and growth, while generating positive outcomes for customers and society. The prime mission of Communications Alliance is to create a co-operative stakeholder environment that allows the industry to take the lead on initiatives which grow the Australian communications industry, enhance the connectivity of all Australians and foster the highest standards of business behaviour. For more details about Communications Alliance, see http://www.commsalliance.com.au.

Part 2: 2022 – 23 Annual Work Program

1 Monitoring stage

Bands being studied under WRC-23 agenda item 1.2

Resolution 245 (WRC-19), as the main reference for the on-going ITU-R studies under agenda item 1.2 (WRC-23), clearly states that Region 3 will only consider the band 7025 – 7125 MHz for possible IMT identification. This band is also in the range of frequencies being considered for RLAN/Wi-Fi (6425 – 7125 MHz). The SSWG views that RLAN/Wi-Fi use of this band is preferable. It is likely that the technical conditions for RLAN/Wi-Fi can be determined and allow both RLAN/Wi-Fi and FSS to co-share the band. On the other hand, use of any part of the 6425 – 7125 MHz band for IMT is not likely to be able to coexist with FSS. The SSWG opposes the identification of 7025 – 7125 MHz for IMT in Region 3.

With regard to the possibilities of IMT identification in other frequency bands in other Regions, Australia and other countries in Region 3 should focus on the impact of the possible IMT identification of those other frequency bands in other Regions (i.e. Region 1 and Region 2) to the current existing services in Region 3. This is the APT Preliminary view of APG23-3 which should be adopted by the ACMA.

Bands being studied under WRC-23 agenda item 1.4

The possible use of the 1885 – 1980 MHz, 2010 – 2025 MHz and 2110 – 2170 MHz bands by High Altitude Platform Stations as IMT base stations (HIBS) is being examined under this agenda item. Since these bands are adjacent to the 1980 – 2010 MHz and 2170 – 2200 MHz MSS bands, there are adjacent band compatibility issues that need to be addressed. The SSWG encourages the ACMA to engage in the technical studies associated with this agenda item to ensure that the planned MSS use of the 1980 – 2010 MHz and 2170 – 2200 MHz bands in Australia is not impacted by HIBS.

13 GHz (12.75 – 13.25 GHz)

Today, Earth Stations In Motion (ESIM) are being used around the world by airlines on thousands of planes, by the maritime sector on cargo, tanker, ferry and passenger vessels, and for public and private transportation on trains, buses, emergency response vehicles and other motor vehicles. The increasing demand from airline and cruise passengers, government and enterprise sectors is resulting in a rapid growth in the demand for flight and cruise ship broadband internet.

As indicated in the draft FYSO 2022-27, the 12.75 – 13.25 GHz band is the subject of WRC-23 agenda item 1.15 that calls for ITU-R studies on the possible operation of earth stations on aircraft and vessels communicating with geostationary space stations in the fixed-satellite service in the frequency band 12.75 – 13.25 GHz (Earth-to-space). The SSWG recently released a paper[1] to brief DITRDC, the ACMA and other stakeholders on the progress of ITU-R technical studies on Ku-band GSO Earth Stations In Motion (ESIM) and the benefits for Australia in supporting the ITU-R studies and their consequent regulatory introduction into Australia.

[1] https://commsalliance.com.au/__data/assets/pdf_file/0020/84071/CA-SSWG-Ku-Band-GSO-ESIM-Future-of-Australian-Satellite-Services.pdf

The SSWG encourages the ACMA to support the development of ITU-R studies on Ku Band GSO ESIM in WP 4A, APG23, CPM23, and WRC-23, noting that Australia was one of the proponents of Ka Band GSO ESIM studies from the previous ITU-R study cycle (i.e. WRC-19). While we acknowledge there are incumbent protection requirements in this band in Australia[2], the SSWG also encourages the ACMA to incorporate measures within the domestic regulatory framework to promote the deployment of ESIM in the 13 GHz band for aeronautical and maritime broadband services.

14.0 – 14.5 GHz

See Section 4 of this submission *Five-year spectrum outlook* for developments in the 14 GHz (14.0 – 14.5 GHz) band.

40 GHz (37 – 43.5 GHz), 46 GHz (45.5 – 47 GHz), 47 GHz (47.2 – 48.2 GHz)

While the bands above 37.5 GHz were identified at WRC-19 for IMT, some recent developments should give regulators cause for thought on any new IMT bands above 4.0 GHz.

Firstly the (then) acting FCC Chair questioned the viability of mmWave spectrum[3] to support 5G services. Given the recent allocation of the 26 GHz band the ACMA should not embark on any further disruptive 5G allocations above 4.0 GHz.

In any case, 5G (IMT) can be disruptive when it enters a spectrum environment. Vendors and operators often expect 'clear' spectrum, despite the claims, during ITU studies that they are able to share spectrum. Higher bands do not look as useful for mobile coverage, but do provide viable spectrum for space services, particularly FSS. The ACMA should not proceed to allocate any further space service bands to IMT, at least until current spectrum in low/mid bands are fully utilised. The SSWG does believe, however, that there is commercial and technical justification for real deployment using frequency ranges in Q/V bands.

Considering that the high gain, narrow beamwidth directional nature of Q/V band antenna beams, together with high elevation angles for transmitting to satellites, results in small coordination zones that facilitate sharing with FS.

With the aim of providing high capacity means of communication, even to the most isolated regions, these Q/V bands are vital for the future development of satellite services. A large numbers of satellite network filings has been submitted to the ITU containing these Q/V bands. At present, tens of Q/V-band satellites have been manufactured and plans are underway for future satellites intending to use these bands for gateway links and possibly for user terminals as well.

The SSWG requests that the ACMA to preserve these Q/V bands for space services and other services that successfully share these bands.

70/80 GHz (71-76 GHz / 81-86 GHz)

See Section 4 of this submission *Five-year spectrum outlook* for a recommendation to add the 70/80 GHz (71-76 GHz / 81-86 GHz) band to the 2022-23 annual work program.

[2] The ACMA Draft FYSO 2022-27 Consultation paper, p.30
[3] https://www.lightreading.com/5g/rosenworcels-mwc-appearance-hints-at-shifting-spectrum-policy/d/d-id/775691

2 Initial investigation stage

1.5 GHz (1427 – 1518 MHz)

The extended MSS L-band (1518 – 1525 MHz and 1668 – 1675 MHz) have been allocated to MSS in all ITU regions and are used by GSO systems globally. The IMT signals operating in the range of 1492 – 1518 MHz have potential impact on MSS operating in the adjacent band 1518 MHz. Many MSS applications are meant for disaster relief and safety purposes, and hence the SSWG would recommend that the ACMA considers allocating initially only the 1427 – 1492 MHz band for IMT, in-order to minimise the interference impact to the MSS terminals.

Extended MSS L-band (1518 – 1525 MHz and 1668 – 1675 MHz)

Satellites which make these bands available for MSS in Australia are now in orbit. Terminals that are capable of using these bands are already in use by MSS L-band users in Australia which currently are limited to operate only in the standard L-band (1525 – 1559 MHz and 1626.5 – 1660.5 MHz). The SSWG is pleased to note that the ACMA issued a discussion paper on 5 May 2022 to review the use of these bands. To allow MSS L-band users in Australia to fully utilise their current and future terminals, the SSWG would encourage the ACMA to expedite the allocation of this band for MSS in Australia.

6 GHz (5925 – 7125 MHz)

The SSWG understands the ACMA attempts to maximise the economic returns from the use of the spectrum, but prefers this be done in a way compatible with the Fixed Satellite Service (FSS) and various Mobile Satellite Service (MSS) feeder link systems. In our view, there are real challenges in sharing with IMT and as such SSWG has a strong preference for allocation of this band to Radio Local Area Networks (RLANs)

The SSWG supports allocating the entire 1200 MHz to RLANs as soon as practical with the following caveats:

- that RLAN (Wi-Fi) systems are not granted any protection from satellite earth station transmitters,
- to ensure protection of space station receivers, RLAN use is limited to 'low power indoor' and 'very low power' applications, with power limits no higher than those in the lower 6 GHz band.

The SSWG notes that there are substantive risks for satellite operators in waiting for the outcome of ITU studies in the 7025 – 7125 MHz band as it is evident IMT cannot share with other systems without seriously disrupting or degrading them and that IMT proponents would expect the band to be cleared for their use. This disruption, combined with the high value of both RLAN and satellite services, and taking into account the small amount of IMT spectrum that could be gained, means secondary RLAN services are by far the preferred outcome.

3 Implementation stage

2 GHz (1980 – 2010 MHz and 2170 – 2200 MHz)

This is a complex issue and while the SSWG is generally supportive of the outcome of the planning process, we continue to have concerns about potentially wasted spectrum opportunities in this band and via associated ITU processes.

2 × 25 MHz (1980 – 2005 MHz paired with 2170 – 2195 MHz) replanned for mobile- satellite services Australia-wide under apparatus licensing arrangements, with:

- *price-based allocation mechanism via auction – this is our preliminary view of the most appropriate mechanism to resolve competing demand, given demand is likely to exceed supply (as expressed in responses to the options paper)*

The SSWG cautiously supports price-based allocation, but urges the ACMA to take steps to ensure only viable MSS operators are qualified to bid, and guard against spectrum hoarding and market speculation; for example, to include the pre-requisite that bidders have an existing ITU-R satellite network filing for this band. This condition will help ensure that Australian consumers and businesses, particularly those in rural and remote areas, enjoy the economic and social benefits of early access to new services.

The ACMA may consider other mechanisms to accelerate deployment of MSS services, such as transitioning Television Outside Broadcast (TOB) services out of the band in rural areas by 2024, and by 2026 in capital cities.

- *arrangements to provide support for terrestrial applications where a mobile-satellite licensee wishes to supplement/extend its mobile-satellite service. For example, extending coverage of a satellite network with terrestrial-based complementary ground component infrastructure or direct air-to-ground communications services (involving ground-based WBB links to aircraft) to provide inflight communication services.*

Again this service should only be operated by the successful (and viable) MSS operator and remain part of that MSS system.

2 × 5 MHz (2005 – 2010 MHz paired with 2195 – 2200 MHz) dedicated for satellite IoT and similar narrowband services to be used on a shared basis between operators. This arrangement will provide spectrum access with a low barrier to entry for innovative satellite applications and will assist in growing the Australian space industry.

The SSWG does not support this proposed allocation for a number of reasons:

- This is a bespoke Australian allocation within an ITU MSS allocation. NGSO satellites (the most common filed in this band) by their very nature orbit the entire earth. Thus an allocation that must be switched out except over Australia is wasteful of both spectrum and in-orbit radio assets.
- Current and planned MSS systems can provide IoT applications within their normal radio suite.
- The ITU (under Agenda Item 1.18) is also looking for an 'IoT' allocation for MSS. This allocation would exclude Region 3 and in any case is not considering the 2 x 5 MHz proposed by the ACMA. The SSWG does not support the deliberations under WRC-23 AI 1.18 and suggests Australia propose to 'suppress' the Agenda Item and seek a regionally harmonised one (if needed) at a later WRC.

3700 – 4200 MHz

Several SSWG members operate C-band gateway FSS receive earth stations in metropolitan and other areas of Australia to support the maritime, mining, energy, defence, telecommunications and government industries. These gateways have been providing vital communication links for decades to remote and regional areas in Australia and the Asia

Pacific, especially in tropical and oceanic areas, often where no other telecommunications options are available.

Within the Metropolitan areas the band 3700 – 4000 MHz is in the process of being allocated to 5G and Wireless Broadband (WBB) in addition to the previous C-band spectrum that has been made available for 5G deployment (i.e. 3400 – 3700 MHz). Only the 4000 – 4200 MHz Earth receive segment is being protected for FSS across metro, regional and remote areas which will not be shared with 5G and WBB services. This matter is of continued concern to FSS operators, who request access to adequate and economically viable C-band bandwidth to support Australian customer requirements, as well as technical and regulatory measures that will adequately protect current and future FSS receivers from interference.

Co-frequency sharing in the same geographical area between FSS and IMT systems is neither feasible nor practical. Numerous studies have indicated this, and both the satellite and terrestrial mobile industry generally agree that this is true. Even when 5G and FSS operate in adjacent bands, interference to FSS receivers will occur unless mitigation techniques are implemented.

The SSWG believes that the ACMA's proposals to allocate 5G and WBB particularly in the 3700 – 4000 MHz band are likely to result in costly earth station relocation and/or re-tuning costs by the FSS incumbents and significant negative financial impact due to revenue loss. The SSWG would urge the ACMA to seriously consider compensating incumbents for at least the associated costs and losses.

The SSWG and its members have previously suggested that the ACMA compensate incumbents, especially when the proceeds of the subsequent spectrum re-allocation of the spectrum to a new, 'higher value' use exceeds the incumbents' costs and losses[4]. If the ACMA's reallocation decision creates surplus benefit (as reflected in the re-allocation proceeds) that exceeds the losses, then it is only fair that that those harmed by the ACMA's decision are compensated, e.g. by using the re-allocation proceeds. Such a result would be closer to the theoretical *Pareto efficient* outcome where at least one person is better off, and no one is worse off, because the 'winners' have compensated the 'losers.'

The SSWG notes that a strong precedent has been set for compensation for spectrum clearance whereby the National and commercial Free-to-Air (FTA) broadcasters were allocated in the 2012 – 2013 federal budget; $143.2 M over five years 'to support the process of restacking of television broadcasting services to new channels to release a digital dividend of 700 MHz spectrum' and $53.5 M over four years 'to assist with the purchase and deployment of electronic news gathering equipment to assist them to operate in alternative spectrum bands to clear for release the 2.5 GHz spectrum band'. Not only were these budget allocations made to compensate for the equipment required for the digital dividend band clearance but also a broadcast licence fee rebate was made to further compensate the broadcasters.

The SSWG recommends that the ACMA should give serious thought to compensation and the benefits this would bring to its implementation of 5G and WBB. High level interaction with the Department and the Minister would be most appropriate.

The SSWG would also request that the ACMA consider protecting key FSS C-band teleports from 5G and WBB interference through identifying them as Earth Station Protection Zones (ESPZs) or similar mechanism.

[4] Communications Alliance CA SSWG response to Five Year Spectrum Outlook 2017-21. pp 20-21. https://www.commsalliance.com.au/__data/assets/pdf_file/0009/59598/CA-SSWG-response-to-Five-Year-Spectrum-Outlook-2017-21.pdf

3400 – 4000 MHz (remote areas)

In the draft FYSO 2022-27, it indicates that the ACMA, as part of their implementation planning stage in Q2-3 2022 will be allocating apparatus licences in the 3.4 – 4.0 GHz band in remote Australia. The ACMA is proposing to authorise the licensing of wireless broadband (WBB) systems by means of area-wide apparatus licences (AWLs). It is proposed that FSS in remote areas in this band will continue to be licensed through site-based apparatus licences, with the coordination requirements of AWL WBB services with FSS being described in RALI MS47. These coordination requirements are based on the existing 3.4 GHz spectrum licensing technical framework but are extended to take into account that AWL WBB services may be below, co-channel or above FSS services.

The SSWG believes that the coordination requirements with FSS receive earth stations as detailed in the draft RALI MS 47, has significant issues that are not practical to implement by FSS operators and is likely to limit their operation, to the extent that services will not be viable. In summary, these concerns relate to the FSS receive earth station filter assumptions that:

- signal rejection would be at the same level above and below the licensed FSS receive earth station carrier frequencies.
- it is practical that the filters can be changed as the carrier frequencies change.
- there is only one carrier for each FSS receive earth station.

In the view of the SSWG, none of these assumptions are correct.

For the WBB service operating in remote areas in the 3400 – 4000 MHz band, the filtering assumptions of FSS Rxs in Table 7 of the draft RALI MS 47 are not practical and cannot be applied. The passband of the earth receive station's filter needs to be assumed as 3400 – 4200 MHz and WBB Txs operating in the 3400 – 4000 MHz band would be considered as in-band in relation to FSS Rxs and large separation distances would be required to operate both the WBB and FSS services.

These issues were raised at the recent Spectrum tune-up meeting, and details will be included in SSWG's submission to the public consultation paper on 'Apparatus licences in the 3.4 – 4.0 GHz band in remote Australia'.

3400 – 3575 MHz and 3700 – 3800 MHz (regional and metropolitan areas)

In the draft FYSO 2022-27, it indicates that the ACMA, as part of their implementation planning stage in Q4-2022 – Q4 2023, will develop proposed arrangements for allocating services in the 3400 – 3575 MHz and 3700 – 4000 MHz band in areas other than remote Australia.

The ACMA is proposing that spectrum licences be issued for WBB services in Regional 1 in the bands 3400 – 3442.5 MHz, 3475 – 3542.5 MHz and 3700 – 3750 MHz (or 3700 – 3800 MHz) and that FSS be cleared from this area and sub-bands. The SSWG questions the need to clear FSS in Regional 1 areas and would support the preliminary ACMA staff views in the TLG v3 doc (pg 3) that 'FSS services can continue to be licensed using the site based FSS receive apparatus licence type in remote areas and in *other regional areas*'. The reason being that *Other regional areas,* and in particular the Regional 1 area, have low population density, compared to major regional areas, resulting in low numbers of WBB services and therefore enabling FSS to also be assigned, making more efficient use of the spectrum available.

3800 – 4000 MHz (regional and metropolitan areas)

The ACMA is proposing that Area Wide Licences (AWLs) be used for licensing WBB and FSS in metro and regional areas in the band 3800 – 4000 MHz band. Specifically, the ACMA is proposing that 'the intent is, for FSS receivers operating under any AWL framework in these areas, that FSS operators license sufficient spectrum and geographic areas such that the potential interference from neighbouring (in location and in frequency) LA WBB AWLs is acceptable to the FSS licensee, by accepting the appropriate device boundary criteria and unwanted emissions limits for the spectrum space'.[5]

The SSWG suggests that, not only is the area needed disproportionately larger once interference management is considered, but it is also totally unnecessary for FSS given the nature of the service. By enforcing AWLs onto FSS, satellite service providers would effectively be made to take up a coverage far larger than their intended needs leading to unreasonable costs linked to this licensing scheme.

We urge the ACMA to seriously reconsider the potential unintended consequences of imposing a licence type that is unsuitable for a particular technology type (in this case, FSS). It is envisaged that imposing AWLs in this manner would invariably and systematically disadvantage FSS vis-à-vis other technologies in the same region and band, which we do not believe the ACMA intends to do. The result could be FSS being driven out entirely of that region/band.

The satellite community presented a technical paper indicating that the size of an AWL for FSS receive earth stations needs to be significantly large to protect the FSS receive earth station from WBB emissions. The study proposed that it is more spectrum efficient for Earth Stations to continue to be licensed through site-specific ALs with a coordination procedure. As the ACMA has identified that spectrum licence arrangements are not suited for a multi-operator restricted cell LA WBB use-case (i.e. multiple scattered small cells), likewise AWLs are not suitable for FSS where they are often single sites and no wide area terrestrial coverage is required.

If the ACMA persists with the impractical requirement that FSS receive earth stations in metro and regional area be licensed as AWLs, the SSWG is very concerned about the likely cost to FSS operators. With the pricing model for AWLs for FSS receive earth stations in metro and regional areas likely to be the same or similar to what is proposed for the remote areas, the use of population as a multiplier would make the FSS receive earth station AWL model not feasible from a business point of view. C-Band FSS receive earth stations are mostly used as hub teleport stations to connect remote sites in C or Ku-band (cross-strap). The metro and major regional 'population' are not the C-band customers of satellite operators, but the customers are located in remote areas or external to Australia. Use of spectrum by satellite services in these areas are not proportional to the population density and therefore there will not be a spectrum congestion or higher use because of population growth. As the ACMA has identified that LA WBB operators cannot compete (on cost) with WA WBB operators for spectrum licences, likewise FSS operators cannot compete with WBB operators under the conditions of AWL for FSS RXs.

The ACMA is proposing to have up to 15 MHz of restricted-use bandwidth between shared frequency boundaries, between spectrum licences and AWLs. The SSWG suggests that the ACMA consider that the restricted-use bandwidth should straddle the new spectrum allocation and AWL allocation, rather than AWL users have this imposed entirely on them.

[5] From ACMA's 3400-4000 MHz – Technical Liaison Group paper v3 (pg 40).

4 Five-year spectrum outlook

Market and technology drivers of change in spectrum demand

14 GHz (14.0 – 14.5 GHz)

Ku band (14.0 - 14.5 GHz) non-GSO ESIM have already been authorised in Europe via an ECC decision for CEPT countries and it is anticipated that work will commence in the ITU-R to develop international regulations for their use in due course. Similarly, the U.S. FCC has adopted rules that permit non-GSO ESIM operations in the Ku band.

Regarding Ku band (14.0 – 14.5 GHz) GSO land based ESIM, some Asia Pacific countries such as New Zealand and China have allowed the operations of Ku band GSO land based ESIMs also known as VMES (Vehicle Mounted Earth Stations) in their territory as indicated in APT Report# 110. In addition to APT Report# 110, the below table shows the developments of VMES in other regional organisations.

	Ku Band			
Terminal Type	USA (FCC)	CEPT (ECC)	Europe (ETSI)	International (ITU)
VMES	CFR 47 §25.226	ECC/DEC 18(04) published in 2019	EN 302 977	Recommendation ITU-R S.1857

Land based ESIM considered in the ECC Decision 18(04) are to be deployed with GSO satellite networks already in operation or may be deployed in the future. The ECC Decision 18(04) addresses the harmonised use, exemption from individual licensing, and free circulation and use of land based ESIM operating on Ku-band GSO satellite networks. This ECC Decision provides a regulatory framework for authorising land based ESIM on the condition that such deployment will not cause harmful interference to other authorised services.

The regulatory framework specifies that land-based ESIM should be exempt from individual licensing and offered free circulation and use. The other authorised services within the CEPT are limited to the fixed service (FS) in the 14.25 – 14.5 GHz band, deployed in limited number of administrations, and radio astronomy service (RAS) in the 14.47 – 14.5 GHz band, where astronomy observations are carried out at a limited number of observatories within the CEPT. The technical conditions established for land based ESIM to maintain compatibility with FS and RAS are also described in this ECC Decision.

Technical studies carried out by the CEPT have identified the technical solutions to protect the FS in the 14.25 – 14.5 GHz band and RAS in the 14.47 – 14.5 GHz band. Such protection is achieved by ceasing transmissions from land based ESIM in the frequency bands that overlap the frequency assignments of FS and/or RAS stations when the land based ESIM enter or are located within the zones identified for the protection of FS and/or RAS stations ('protection zones').

70/80 GHz (71-76 GHz / 81-86 GHz)

The 70/80 GHz band is an internationally allocated co-primary band for the fixed-satellite service (FSS), and footnote 561 of the Australian table includes specific protections for the FSS downlink in 74 – 76 GHz from the fixed service. A number of operators have filed at the ITU for next-generation satellite systems with 70/80 GHz gateway links, demonstrating a strong

interest in deploying in the band in the very near term to meet growing consumer demand for high-speed, low-latency broadband. The 70/80 GHz band will be essential to next-generation satellite systems and therefore it is critical that the ACMA take urgent action in the 2022-23 annual work program to make this spectrum available for the fixed-satellite service.

As the ACMA and many other regulators around the world have recognised, the unique 'pencil beam' properties of links in the 70/80 GHz band warrant a flexible, self-coordinated approach to licensing in the band. Indeed, the ACMA has already licensed many short point-to-point fixed services in this band using a self-coordinated approach described in RALI FX20. Expanding this model to incorporate satcom gateways—which also will use high-gain, narrow beams with small coordination zones—would further enhance the efficient use of this important band to serve consumers across the country. This extension can be accomplished with minor, straightforward changes to the ACMA's existing satellite and 70/80 GHz frameworks.

Considering the co-primary status of FSS systems in the band, the strong operator interest, and the low risk of interference between 'pencil beam' links in the band, the SSWG recommends that the ACMA urgently undertake planning in its 2022-23 annual work program to extend its existing self-coordinated light-licencing framework for the 70/80 GHz band to support the early introduction of satcom services in this band in Australia.

5 Pricing

The SSWG provided a submission to the ACMA '*Response to the implementation of the Spectrum Pricing Review (part 2) – Consultation on the second tranche of reform proposals'*. The SSWG believes that the proposed increase in the location weightings for FSS services provided in greater than 2,690 to 5,000 MHz range should not be applied to high and medium-density areas as it will cause an unbalanced additional cost for satellite services provided to remote areas. The ACMA should instead consider applying the same fees established for low density areas to high and medium density areas for satellite services in the greater than 2,690 to 5,000 MHz range or at least the same fees as established for above 5,000 MHz.

Communications Alliance Satellite Services Working Group membership

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