

**ARINC India Private Limited**

404, Tower-A, 4<sup>th</sup> Floor, Unitech Signature Tower  
South City-I, NH-8, Gurugram – 122001, New Delhi NCR, India  
Tel: +91 124 4952630, Fax: +91 124 4952631  
CIN No: U64200HR2010FTC04117

Sam Png  
Program Manager, Aviation Datalink Services  
Connected Aviation Solutions

1 August 2024

Attn: Shri Akhilesh Kumar Trivedi  
Advisor (Networks, Spectrum and Licensing)  
TRAI

Re: ARINC's Comments in Response to TRAI's Consultation Paper on Paper on the Framework for Service Authorisations to be Granted Under the Telecommunications Act, 2023(Consultation Paper No. 07/2024)

Dear Sir

Please find below ARINC India Private Limited's response to the above-mentioned consultation paper released by TRAI on 11<sup>th</sup> July 2024. Although this consultation paper is covering a wide scope of the policy, however we are answering the question related to our scope below.

**Q24. In view of the provisions of the Telecommunications Act, 2023 and market developments, any further inputs on the following issues under consultation, may be provided with detailed justifications:**

**(a) Data Communication Services Between Aircraft and Ground Stations Provided by Organizations Other Than Airports Authority of India;**

**ARINC's Response:** TRAI had released the consultation and supplemental consultation paper with title "Data Communication Services Between Aircraft and Ground Stations Provided by Organizations Other than Airports Authority of India (Consultation Paper No. 14/2022 and 12/2023)", where detailed inputs are submitted by us and other stakeholders. We would like to reiterate the same inputs in this consultation paper and request for consideration.

We are attaching our responses submitted for the consultation and supplemental consultation on "Data Communication Services Between Aircraft and Ground Stations Provided by Organizations Other than Airports Authority of India (Consultation Paper No. 14/2022 and 12/2023)" for quick reference.

ARINC recommends the administrative approach for the assignment of frequency related to data communication service between aircraft and ground stations, and a licensing framework that is clear,

efficient, and transparent to the service providers. The current administrative process of issuing the wireless operating licenses largely works well and is also practiced by most countries globally.

However, a point to highlight is the license fee charged by DOT today is notably one of the highest as compared to other countries within the region or globally. Most countries view this service as a critical safety feature that should be made accessible to the air transport industry and the fees levied are nominal to cover the cost of administering the licenses.

ARINC would advise against the auction methodology for the following reasons:

- a. Auction methodologies are generally more suited to markets with many potential service providers and the need to create a competitive environment due to scarcity of frequencies accompanied by high demand. This is however not the case for data communication services between aircraft and ground stations as there are only two global service providers offering such services in India and there is a limited request in terms of channels. Such conditions do not fulfil the goal of creating a competitive environment under the auction methodology.
- b. Each service provider may only require one designated frequency, while the allocation of the Common Signalling Channel (CSC) operating at 136.975 MHz is shared by both providers<sup>1</sup>.
- c. If auction is practiced, it could potentially result in unwanted outcomes such as uncertainty or sudden change in the charges/costs involved and pose a risk to service providers who are required to maintain their service for the long term. This may also lead to service disruptions (affecting flight safety) in the event of sudden change in the valuation of VHF spectrum leading to the cessation of service.
- d. Any increase in the cost of the frequency will likely be passed down to the end users - airlines. For flight safety considerations, spectrum costs should be kept low (or even absorbed by the Government) to allow accessibility to such critical services.
- e. The auction methodology is not practiced anywhere else in the world for such type of service. Regulatory authorities globally generally use an administrative approach for the allocation of such spectrum with transparent fixed fees published.

It is also crucial to urgently resume the issuance of licenses to communication service providers to support the exponential growth in air traffic and allow airline operators to access essential air-to-ground communication services for flight critical and safety communications, and to comply with the requirement by DGCA to use all suitable means to track their aircraft on a real-time basis.

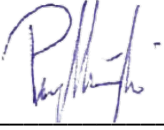
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<sup>1</sup> The frequency 136.975 MHz is recognized by ICAO as the reserved worldwide common signaling channel (CSC) for VHF digital link Mode 2 (VDLM2). This CSC uses the VDL Mode 2 modulation scheme and carrier sense multiple access (CSMA). VDL Mode 2 has been designed to allow multi-users on the same channel

Best Regards

Sam Png

In the capacity of: Program Manager, Aviation Datalink Services

Signed:  \_\_\_\_\_

Duly authorized to sign for and on behalf of **ARINC India Private Limited**, a part of **Collins Aerospace**

**Attachments:**

1. ARINC response to consultation paper 14/2022.
2. ARINC response to supplemental consultation paper 12/2023.

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*Written Comments on the Consultation Paper are invited from stakeholders by **01.08.2024** and counter-comments by **08.08.2024**. The comments and counter-comments may be sent, preferably in electronic form, to Shri Akhilesh Kumar Trivedi, Advisor (Networks, Spectrum and Licensing), TRAI on the email ID [advmn@traigov.in](mailto:advmn@traigov.in). Comments and counter-comments received from stakeholders will be posted on the TRAI9s website ([www.traigov.in](http://www.traigov.in)).*

*For any clarification/information, Shri Akhilesh Kumar Trivedi, Advisor (Networks, Spectrum and Licensing), TRAI, may be contacted at Telephone No. +91-11-20907758.*

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# ARINC India Private Limited

404, Tower- A, 4<sup>th</sup> Floor, Unitech Signature Tower,  
South City-I, NH-8, Gurugram – 122001, New Delhi NCR, India  
Tel: +91 124 4952630, Fax: +91 124 4952631  
CIN No: U64200HR2010FTC04117

## Sam Png

Program Manager, Aviation Datalink Services  
Information Management Services, APAC

04 January 2023

Attn: **Shri Akhilesh Kumar Trivedi**  
Advisor (Networks, Spectrum and Licensing)  
TRAI

Re: ARINC's Comments in Response to TRAI's Consultation Paper on Data Communication Services Between Aircraft and Ground Stations Provided by Organizations Other Than Airports Authority of India (Consultation Paper No. 14/2022)

Dear Sir

Please find below ARINC India Private Limited's response to the above-mentioned consultation paper (Chapter IV – Issues for Consultation) released by TRAI on 10<sup>th</sup> December 2022.

**Q1. Whether there is a need to bring data communication services between aircraft and ground stations provided by organizations other than Airport Authority of India under service licensing regime? Kindly provide a detailed response with justification.**

A1. Yes, data communication services for captive use, especially in this area of civil aviation where safety is involved, should be brought under the service licensing regime

**Q2. In case your answer to Q1 is in the affirmative, should the providers of data communication services between aircraft and ground stations be licensed through –  
(a) an authorization under Unified License; or  
(b) a separate service license. Kindly provide a detailed response with justification.**

A2. A separate service license under unified laws should be applied as the terms, conditions, and criteria of a Unified License (UL) may not be applicable to data communication services between aircraft and ground stations.

For instance, the period of validity of UL is 20 years and this may not be appropriate for services where there is an element of air passenger safety associated with it and requires more regular assessment of compliance, competency, and service levels. Reasonable validity period should be between **1-5 years** as there is reasonable investment involved in setting up a ground station and its related infrastructure.

**Q3. What should be the broad terms and conditions of the licensing framework for data communication services between aircraft and ground stations, such as –**

- (a) licensed service area, fixed area**
- (b) validity period of the license, yearly renewal**
- (c) scope of the license, operate on designated VHF frequency and provide services to Airlines**
- (d) technical conditions, frequency range and emission range**

- (e) operating conditions,
- (f) security conditions, and – check data security/vulnerability
- (g) financial conditions (such as application processing fee, entry fee, license fee, bank guarantees, etc.)?

A3. Broad terms and condition should include:

- (a) License granted to fixed areas of operation
- (b) Validity period of 12 months with self-service (i.e online/web application) annual renewal process in place
- (c) Scope of license to specify designated VHF frequency and provision of services specific to third party users (i.e airlines, ANSPs, etc)
- (d) Technical conditions such as frequency and emission range
- (e) Security condition such as infrastructure in place to ensure data security
- (g) Financial conditions may include one-time application processing fee for new sites, yearly license renewal fee, and bank guarantees.

**Q4. What should be the methodology for assignment of the spectrum in frequency range 117.975-137 MHz to the providers of data communication services between aircraft and ground stations? Should the spectrum be assigned administratively, or through auction, or through any other method? Kindly provide a detailed response with justification.**

A4. Spectrum should be assigned through an administrative process with standard levies based on a fixed formula. This method is adopted by most countries mentioned in the Consultation Paper (Chapter III – International Practices). As there are only two global providers for data communication services between aircraft and ground stations, auction may not be a suitable method to price the service. Auction is more suitable for products/services where there are many qualified bidders/suppliers requesting for the same license.

**Q5. In case administrative assignment is to be followed, what should be the mechanism for charging the VHF spectrum in the frequency range 117.975-137 MHz to be assigned to the providers of data communication services between aircraft and ground? Whether the auction determined prices for other frequency bands can be accounted for estimating the value of VHF spectrum in the frequency range 117.975-137 MHz? Kindly provide a detailed response with justification.**

A5. The charging mechanism for VHF spectrum in the frequency range 117.975-137 MHz for the purpose of data communication services between aircraft and ground should be either a fixed annual fee (consistent with most countries mentioned in the Consultation Paper, Chapter III – International Practices) or calculated based on the current formula:

Annual Royalty Charge per carrier (in Rs.) = M multiplied by W

Where:

- (a) M is the ‘Basic Royalty’ per carrier in a basic link, and
- (b) W is the ‘bandwidth factor’

Auction determined prices for other frequency bands should not be considered for estimating the value of VHF spectrum in the frequency range 117.975-137 MHz as the purpose and usage may be completely different, and not representative of the requirements and infrastructure required to provide data communication services between aircraft and ground.

**Q6. If auction methodology is to be followed, whether the valuation of VHF spectrum in frequency range 117.975-137 MHz assigned to the providers of data communication services between aircraft and ground stations should be derived by relating it to the valuation of other frequency bands by using technical efficiency factor? If yes, with which frequency band,**

**should these frequencies be related to and what efficiency factor or formula should be used for estimating the value of VHF spectrum in frequency range 117.975-137 MHz? Kindly justify your suggestions.**

A6. Auction methodology should not be followed as there will be uncertainty of the charges, lack of clarity in the cost involved (i.e high risk to service providers who are required to maintain their service for the long term), and potential service disruption in the event of a sudden change in the valuation of VHF spectrum leading to the cessation of service. It is also not ideal for markets with only two service providers whereby each may only require 1 designated frequency - does not fulfil the goal of creating a competitive environment. Auction methodologies are generally more suitable for markets with many potential providers and the need to create a competitive environment.

**Q7. What are the prevalent international practices being followed in other countries for assignment and charging (including other applicable charges and fees) of spectrum in the frequency range 117.975-137 MHz, which is used for providing data communication services between aircraft and ground stations? Please provide a detailed response.**

A7. Most countries mentioned in the Consultation Paper, Chapter III – International Practices, follow a fixed fee, fixed frequency model.

**Q8. Whether the valuation of VHF spectrum assigned to the providers of data communication services between aircraft and ground stations be derived using the methodologies used internationally in this regard? If yes, which of the methodologies can be followed? Please provide a detailed response.**

A8. The current methodology used by DoT is sound and can be retained:

Annual Royalty Charge per carrier (in Rs.) = M multiplied by W

Where:

- (a) M is the 'Basic Royalty' per carrier in a basic link, and
- (b) W is the 'bandwidth factor'

**Q9. Apart from the approaches highlighted above, which other valuation approaches should be adopted for valuation of the VHF spectrum in the frequency range 117.975-137 MHz? Kindly support your suggestions with detailed methodologies, related assumptions, and other relevant factors.**

A9. Not applicable.

**Q10. Whether there are any other issues/ suggestions relevant to the subject? The same may be submitted with proper explanation and justification.**

A10. The licensing process should be streamlined and made available online (i.e web portal application). Fair and time-bound responses should be provided to all applications received.

Best Regards

**Sam Png**

In the capacity of: Program Manager, Aviation Datalink Services

Signed: \_\_\_\_\_



Duly authorized to sign for and on behalf of ARINC India Private Limited, a part of Collins Aerospace

***Written Comments on the Consultation Paper are invited from the stakeholders by 09.01.2023 and counter-comments by 23.01.2023. Comments and counter-comments will be posted on TRAI's website [www.trai.gov.in](http://www.trai.gov.in). The comments and counter-comments may be sent, preferably in electronic form, to Shri Akhilesh Kumar Trivedi, Advisor (Networks, Spectrum and Licensing), TRAI on the email ID [advmn@traigov.in](mailto:advmn@traigov.in).***

***For any clarification/information, Shri Akhilesh Kumar Trivedi, Advisor (Networks, Spectrum and Licensing), TRAI, may be contacted at Telephone No. +91-11-23210481***

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Sam Png  
Program Manager, Aviation Datalink Services  
Connected Aviation Solutions

16 August 2023

Attn: Shri Akhilesh Kumar Trivedi  
Advisor (Networks, Spectrum and Licensing)  
TRAI

Re: ARINC's Comments in Response to TRAI's Supplementary Consultation Paper on Data Communication Services Between Aircraft and Ground Stations Provided by Organizations Other than Airports Authority of India (Consultation Paper No. 12/2023)

Dear Sir

Please find below ARINC India Private Limited's response to the above-mentioned supplementary consultation paper released by TRAI on 03<sup>rd</sup> August 2023.

**SQ1. In case it is decided to bring data communication services between aircraft and ground stations provided by organizations other than Airports Authority of India under service licensing regime, what should be the eligibility conditions for obtaining service license for data communication services between aircraft and ground stations? Please provide a detailed response with justifications.**

**ARINC's Response:** The basic eligibility criteria should be the following:

- a. Applicant must be an Indian entity registered under the Indian Companies Act, 2013.
- b. The applicant shall be the occupant of the geographical area(s)/property(ies) (either owned or leased) on which such network(s) will be established

However, meeting the above criteria do not automatically grant the licenses to the applicant. Based on experiences with several licensing authorities globally, applicants (and its partners, if applicable) are also evaluated based on one or more of the following considerations:

- Financial capability (audited accounts, paid up capital, source of funding)
- Technical capability and experience to deploy the service (technical expertise, past experience, track records)
- Compliance with international messaging standards (i.e., ARINC Specification 618)
- Global reach and availability of network



**SQ2: In case it is decided to auction.**

**the spectrum in the frequency range 117.975 - 137 MHz for Data Communication Services Between Aircraft and Ground Stations, -**

**(a) What should be the eligibility conditions for participating in auction?**

**ARINC's Response:** ARINC would advise against the auction methodology for the following reason:

- a. Auction methodologies are generally more suited to markets with many potential service providers and the need to create a competitive environment due to scarcity of frequencies accompanied by high demand. This is however not the case for data communication services between aircraft and ground stations as there are only two global service providers offering such services in India and there is a limited request in terms of channels. Such conditions do not fulfil the goal of creating a competitive environment under the action methodology.
- b. Each service provider may only require one designated frequency, while the allocation of the Common Signalling Channel (CSC) operating at 136.975 MHz is shared by both providers<sup>1</sup>.
- c. If auction is practiced, it could potentially result in unwanted outcomes such as uncertainty or sudden change in the charges/costs involved and pose a risk to service providers who are required to maintain their service for the long term. This may also lead to service disruptions (affecting flight safety) in the event of sudden change in the valuation of VHF spectrum leading to the cessation of service.
- d. Any increase in the cost of the frequency will likely be passed down to the end users - airlines. For flight safety considerations, spectrum costs should be kept low (or even absorbed by the Government) to allow accessibility to such critical services.
- e. The auction methodology is not practiced anywhere else in the world for such type of service. Regulatory authorities globally generally use an administrative approach for the allocation of such spectrum with transparent fixed fees published.

**(b) Whether the entire available spectrum in 117.975 - 137 MHz band at each airport/ ground station should be put to auction?**

**ARINC's Response:** ARINC is not in favor of the auction methodology for the entire available spectrum for the reasons mentioned in response to SQ2(a).

**(c) What should be the block size of spectrum and minimum bid quantity in terms of number of blocks?**

**ARINC's Response:** ARINC is not in favor of the auction methodology for the entire available spectrum for the reasons mentioned in response to SQ2(a). The block size can follow the existing structure.

**(d) What should be the spectrum cap for each airport/ ground station?**

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<sup>1</sup> The frequency 136.975 MHz is recognized by ICAO as the reserved worldwide common signaling channel (CSC) for VHF digital link Mode 2 (VDLM2). This CSC uses the VDL Mode 2 modulation scheme and carrier sense multiple access (CSMA). VDL Mode 2 has been designed to allow multi-users on the same channel

**ARINC's Response:** ARINC is not in favor of the auction methodology for the entire available spectrum for the reasons mentioned in response to SQ2(a).

**(e) What should be the roll-out obligations associated with the assignment of spectrum at each airport/ ground station?**

**ARINC's Response:** While ARINC is not in favor of the auction methodology, there should be roll-out obligations even with the administrative approach. This is to ensure that service providers efficiently utilize the assigned frequency spectrum and deploy the services within the stipulated time in a specified geographical area. A reasonable timeframe to deploy the service would be within 12 months from the assignment of frequency.

**(f) What should be the period of assignment of spectrum?**

**ARINC's Response:** While ARINC is not in favor of the auction methodology, the period of assignment of spectrum in the administrative approach could be retained as per current yearly basis. However, to reduce the administrative work involved in this process, there should be a streamlined and self-service mechanism (such as online/web renewal and payment of fees) for the annual renewal exercise. Licenses should be automatically renewed upon payment of annual license fees.

**(g) What should be the minimum period beyond which the spectrum acquired through auction may be permitted to be surrendered?**

**ARINC's Response:** ARINC is not in favor of the auction methodology for the reasons mentioned in response to SQ2(a). However, in the administrative approach, spectrum acquired should be allowed to be surrendered at any point of time if the service provider is unable to provide the service.

**(h) What should be the process and associated terms and conditions for permitting surrender of spectrum through auction?**

**ARINC's Response:** ARINC is not in favor of the auction methodology for the reasons mentioned in response to SQ2(a). However, in the administrative approach, surrendering of spectrum could be handled by formally notifying the regulator of such decision at least 3 months prior to the proposed date of surrender.

**SQ3. In case of auction based and/ or administrative assignment of spectrum, what should the payment terms and associated conditions for the assignment of spectrum for Data Communication Services between Aircraft and ground Stations relating to:**

**(i) Upfront payment,**

**ARINC's Response:** Since the spectrum for data communication services between aircraft and ground station is currently being assigned on an administrative basis, spectrum charges are due annually and upfront payment is not applicable. The same approach can be adopted in the new policy framework as it a common practice with most other countries as well and there are no deficiencies noted with this arrangement.

**(ii) Moratorium period,**

**ARINC's Response:** This should not be applicable as the fees are due annually. Fees levied should aim at recovering the administrative cost as the service provided is essential for flight safety.

**(iii) Total number of installments to recover deferred payments,**

**ARINC's Response:** This should not be applicable as the fees are due annually. Fees levied should aim at recovering the administrative cost as the service provided is essential for flight safety.

**(iv) Rate of discount in respect of deferred payment and prepayment?**

**ARINC's Response:** This should not be applicable as the fees are due annually. Fees levied should aim at recovering the administrative cost as the service provided is essential for flight safety.

**SQ4. Whether there are any other issues/ suggestions relevant to the subject? The same may be submitted with proper explanation and justification.**

**ARINC's Response:** ARINC recommends the administrative approach for the assignment of frequency related to data communication service between aircraft and ground stations, and a licensing framework that is clear, efficient, and transparent to the service providers. The current administrative process of issuing the wireless operating licenses largely works well and is also practiced by most countries globally.


However, a point to highlight is the license fee charged by DOT today is notably one of the highest as compared to other countries within the region or globally. Most countries view this service as a critical safety feature that should be made accessible to the air transport industry and the fees levied are nominal to cover the cost of administering the licenses.

It is also crucial to urgently resume the issuance of licenses to communication service providers to support the exponential growth in air traffic and allow airline operators to access essential air-to-ground communication services for flight critical and safety communications, and to comply with the requirement by DGCA to use all suitable means to track their aircraft on a real-time basis.

Best Regards

Sam Png

In the capacity of: Program Manager, Aviation Datalink Services

Signed:  \_\_\_\_\_

Duly authorized to sign for and on behalf of **ARINC India Private Limited**, a part of Collins Aerospace

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*Written Comments on the Supplementary Consultation Paper are invited from the stakeholders by **17.08.2023** and counter-comments by **24.08.2023**. Comments and counter-comments will be posted on TRAI's website [www.trai.gov.in](http://www.trai.gov.in). The comments and counter-comments may be sent, preferably in electronic form, to Shri Akhilesh Kumar Trivedi, Advisor (Networks, Spectrum and Licensing), TRAI on the email ID [advmn@trai.gov.in](mailto:advmn@trai.gov.in).*

*For any clarification/information, Shri Akhilesh Kumar Trivedi, Advisor (Networks, Spectrum and Licensing), TRAI, may be contacted at Telephone No. +91-11-23210481.*

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