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**Dated:** 24 March 2020

**Shri. Syed Tausif Abbas**

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**Subject:** Consultation on *Provision of Cellular backhaul connectivity via satellite through VSAT under commercial VSAT CUG service authorization*

**Ref:** Consultation paper: 29 January, 2020

Dear Sir,

This is with reference to the consultation paper on '*Provision of Cellular backhaul connectivity via satellite through VSAT under commercial VSAT CUG service authorization*'.

Please find attached GSMA's comments on this consultation as **Annexure-1** to this letter. We hope that our response will merit your kind consideration.

Yours sincerely,

A handwritten signature in black ink, which appears to read "Manoj Kr Misra", is written over a horizontal line. The signature is written in a cursive style.

(Manoj Kr Misra)  
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Enclosed: As above (*ANNEXURE-1, number of pages – 7*).



## Annexure -1

### Consultation Paper on the Provision of Cellular Backhaul connectivity via VSAT

We thank TRAI that has notably indicated, in order for the rural connectivity challenge to be addressed, current limitations to backhaul must be addressed. Higher bandwidth backhaul will also become imperative to serve a large customer base of India and especially in the context when approx. 88 mn customers in India will be using 5G connections by 2025, as per GSMAi forecast data.

Telecom Industry has been a bridge that is acting as a backbone in carrying out utility services for the nation and also supporting several government schemes by supporting citizen centric programs including digital banking, e-kyc and thousands of new start-ups in mainstream and far flung remote areas of the country.

In India as well, Mobile industry supports Government to Consumer (G2C), Business to Business (B2B), Government to Government (G2G), Business to Consumer (B2C) and Consumer to Consumer (C2C) data flows, as well as services which ride on top of the Digital India strategy and its various application components (e.g. Aadhaar, UPI, DBT, Health Card, National Survey, eKYC, Digi Locker etc.).

Particulars	Value/Period
Digital Payment ( UPI) <sup>1</sup>	<b>1305 mn Transactions</b> <b>INR 2,16,242 Crore</b> (total transaction value) (as on Jan 2020)
Direct Benefit Transfer <sup>2</sup> (in INR)	<b>9.22 Lakh Crore</b> (cumulative since 2014-15, as on 12 Feb, 2020)
Aadhar Generation <sup>3</sup> (population biometric)	<b>125.37 Crore</b> (cumulative as on 12 Feb 2020)
GeM <sup>4</sup> (e-commerce platform)	<b>3,393,809 orders &amp;</b> <b>Transaction Value INR 46,424 Crore</b> (as on 12 Feb, 2020)
GSTN <sup>5</sup> (Tax collection platform) Payment through the portal (excluding IGST on imports)	<b>22.04 Lakh Cr.</b> payments on portal <b>110 Crore E Way Bills</b> generated (as on 10 Feb, 2020)

<sup>1</sup> <https://www.npci.org.in/product-statistics/upi-product-statistics>

<sup>2</sup> <https://dbtbharat.gov.in/>

<sup>3</sup> [https://uidai.gov.in/aadhaar\\_dashboard/](https://uidai.gov.in/aadhaar_dashboard/)

<sup>4</sup> <https://gem.gov.in/>

<sup>5</sup> <https://www.gstn.org.in/>



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**Evidenced from above**, *mobile broadband does much more than just provide faster access to online services* - it is also bridging the digital divide, advancing financial inclusion, helping accelerate the achievement of the UN's Sustainable Development Goals (SDGs) and bringing mobile internet to millions of Indians who have no access to fixed broadband services and are unlikely ever to do so.

It is also supporting IT industry, e-commerce businesses in India. Essentially, telecom industry plays a pivotal role in both- business as usual days and in emergency situations to bring people, businesses and elements of economy together.

**Excellent backhaul support is a backbone to the Telecom sector in meeting such critical demands of the nation.**

This is a topic the GSMA has been closely working at both the global level and in country-specific contexts and consequently, takes this opportunity to share its views, considering the questions from the authority below.

**Q1. Keeping in view the connectivity requirements in remote and difficult areas, should the Commercial VSAT CUG service provider be permitted to provide backhaul connectivity for mobile services and Wi-Fi hotspots via Satellite? Please justify your answer.**

**1. Leverage existing backhaul technologies and provide on time & sufficient quantity of spectrum for backhaul**

Mobile operators need timely and affordable access to a sufficient amount of spectrum in order to support high speed, mobile broadband services with good coverage. Delays to spectrum awards and limits to how much spectrum is made available also has an impact on coverage levels. Recent research from GSMA has shown that mobile coverage increases between 11 to 20% when operators are assigned spectrum 2 years earlier. The same study showed an additional 20 MHz of spectrum per operator increases 4G coverage by 2-4 percentage points.

The principles of making sufficient spectrum available at the right time also apply to wireless backhaul spectrum which needs to be affordable and made available under an appropriate licensing scheme (in a timely manner, in sufficient quantities, and to those who can efficiently use it).

While we recognise that the TRAI considering amendment to the VSAT regulation to improve rural coverage, we would like to point to GSMA research which instead prioritises better leveraging existing technologies as a first step to address the backhaul challenge within the rural coverage debate. As per the GSMAi graphs in the consultation paper, evidence indicates that satellite backhaul does not result the most direct or widespread approach to the provision



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of backhaul and its role in the provision of backhaul is only expected to decrease, in time<sup>6</sup>. **With this in mind, the GSMA believes that microwave backhaul will play a substantially more critical role in addressing this challenge.**

The GSMA would like to clear what is mentioned in items 2.6 and 2.7 by interpreting GSMA's forecasts and current stats. As per the same illustrations, there are no expectations that VSAT will play a significant role in the near future as the numbers show a decrease on its use that is set to continue within the next years.

The GSMA, therefore, invites TRAI to review the current microwave situation in India as a matter of priority, and suggest that additional bands are made available for microwave backhaul (which accounts for 57% of worldwide backhaul links) in advance of relying on VSAT backhaul technologies, given this evidence. The GSMA requests the authorities to re-emphasize on the importance and need of wireless backhaul.

As per RCR Wireless News<sup>7</sup> has published an analysis specifically on the Indian market impact on backhaul world trends, showing that: *"The Microwave Transmission market, comprised of point-to-point systems, declined 5 percent in 2019 ..."* while for the world excluding India, microwave gear grew 4 percent in 2019—a better indicator for market demand in a 5G world.

In addition to the recommendation that proven microwave backhaul options are given priority consideration, the GSMA believes other measures can be taken to improve coverage and fulfil rural connectivity gaps in India and in other countries:

## **2. Do not inflate spectrum prices and look for Trade-offs between reduced spectrum fees and carefully considered wider coverage obligations**

Governments should prioritise improved mobile broadband services with excellent coverage, ahead of revenue maximisation, when awarding and renewing spectrum licences. High spectrum prices have been shown to lead to slower mobile broadband speeds and poor coverage outcomes. It is also important that governments strongly consider how they can achieve ambitious coverage goals by offering discounted spectrum for targeted coverage obligations.

Globally, there are a growing number of examples where available spectrum is going unsold due to unrealistic pricing expectations – this is particularly the case with the Digital Dividend band (700/800 MHz), which is central to improved 4G coverage<sup>i</sup>. These high prices can be due to short-sighted policymaking (including directly setting high upfront costs and/or annual fees, setting high reserve prices for auctions, restricting the supply of spectrum – creating scarcity) and can also be attributed to poor auction design<sup>ii</sup>.

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<sup>6</sup> According to ABI Research's analysis of backhaul link usage, satellite backhaul constituted 1.9% of worldwide backhaul links in 2017. By 2025, the percentage ratio drops to 1.4 on a percentage basis.

<sup>7</sup> [https://www.rcrwireless.com/20200309/analyst-angle/microwave-mobile-backhaul-5g-world/amp?\\_\\_twitter\\_impression=true](https://www.rcrwireless.com/20200309/analyst-angle/microwave-mobile-backhaul-5g-world/amp?__twitter_impression=true)



A growing number of governments are using reduced spectrum fees in return for operator commitments to provide coverage in carefully targeted areas<sup>8</sup>. These approaches include offering spectrum for very low cost or even for free when licences are due for renewal, or reductions in annual fees, or reimbursements of a fixed amount of upfront costs in return for coverage commitments in areas.

### **3. Avoid licence terms and conditions that discourage network investment and innovation**

A policy and regulatory environment that gives the mobile industry the ability upgrade and innovate, as well as the confidence needed to make significant, long-term network investments is key. This is especially vital for rural mobile coverage as the time needed to make a return on network investment can be significant, so unnecessary risks and limitations create major obstacles in terms of incentivising investment.

In regards to spectrum award processes, it is vital that regulators award long-term (e.g. 25 years), technology-neutral licences with the expectation of renewal<sup>9</sup>.

More widely, if regulations and policies fail to adapt to change, markets can become distorted in ways that harm competition, slow innovation, and ultimately deprive consumers of the benefits of technological progress. The continuation of unnecessary legacy regulations can directly impact the deployment of networks and the widening of mobile coverage. Policymakers and regulators are therefore encouraged to review their approaches, embracing technology-agnostic and flexible visions. This will more effectively align future changes in markets and technologies while still retaining the ability to achieve functional policy objectives and regulatory oversight.

These comments above also address the **Wi-Fi provision by other licensees**, as this is not a service that will cover wider areas or shows reliability for the aim here in this authorisation revision. Therefore, Wi-Fi should be taken into a different discussion and, at this moment, might be deleted from the proposal.

#### **Q2. Whether the scope of Commercial VSAT CUG Service Authorization be enhanced under both Unified License and UL(VNO) license to enable the provision of the said backhaul connectivity? Please justify your answer.**

Please refer to comments in Q1.

#### **Q3. Should the licensee having authorization for both Commercial VSAT CUG and NLD services be allowed to share VSAT Hub & VSAT terminals for the purpose of providing authorized services? Please justify your answer.**

Please refer to comments in Q1.

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<sup>9</sup> For more information see the GSMA paper with CEG entitled 'Best practice in mobile spectrum licensing'



**Q4. Whether the licensee should be permitted to share its own active and passive infrastructure for providing various services authorized to it under the other service authorization of UL and/or other licenses? Is there a need to impose any restrictions? Please enumerate and justify your answer.**

Please refer to comments in Q1.

**Q5. Whether formula-based spectrum charging mechanism for VSAT services in NLD/Access license is adequate and appropriate? If not, whether spectrum charging for VSAT services in NLD/Access service license should be made on AGR basis instead of existing formula basis mechanism? Whether it will require accounting/revenue separation for satellite based VSAT services under NLD/Access license? Please elaborate and provide proper justification.**

No comments

**Q6. Please give your comments on any related matter not covered in this Consultation paper.**

**1. Reduce mobile-specific taxes and fees that impede rollouts and harm internet affordability**

Some governments have chosen to impose sector-specific taxes, (beyond general taxation) on the mobile industry and consumers of mobile services. These can be borne either by the mobile operators themselves, resulting in reduced investment incentives, or by the consumers by way of higher prices, or a combination of the two.

Sector-specific taxes on airtime and devices reduce the affordability of mobile access for end-users, with low-income groups particularly impacted. It is these customer groups who typically make up the addressable market opportunity for rural coverage expansion, and therefore, such taxes further reduce incentives for investment in network expansion in those already-less-profitable areas. Network expansion incentives are also negatively affected by specific taxes on network equipment and levies targeting operators' revenues, particularly if such levies are not effectively utilised or directed towards improving levels of coverage.

These negative impacts result in weaker demand for and adoption of mobile services, particularly in rural and lower-income areas, which amplifies the reduced business case for investing in network roll-out in these areas. Conversely, lowering such taxes benefits consumers and businesses and drives socio-economic development as adoption increases and network investment is justified. At the same time, the removal of sector-specific taxes can simplify tax regimes by streamlining how taxes and fees are calculated and levied, thereby improving the investment environment

**2. Provide non-discriminatory and timely access to public infrastructure, especially in rural areas**



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Public infrastructure also has an important role to play in reducing the cost and accelerating the speed of network expansion projects. Policymakers can support the efforts of mobile operators to expand mobile network coverage by facilitating access to public infrastructures sites such as buildings, roads, railways and ducts for utility services. Such access can be easily implemented, will remove or reduce barriers to deployment and can result in cost efficiencies in regards to on the up-front (CAPEX) and operating costs (OPEX) of deploying and maintaining mobile networks in rural areas.

### **3. Simplify the planning approval process for new base stations to incentivise and speed-up deployments**

Building mobile networks involves complex and time-consuming planning approvals. Bureaucratic processes including multiple application processes and usage fees (and the resulting red tape) is a significant barrier to deploying mobile infrastructure. Frequently, mobile operators must obtain approvals from multiple authorities at various governmental levels, often creating redundant processes and delaying deployment.

To achieve ubiquitous rural coverage, governments and regulators should aim to implement streamlined processes while still respecting environmental and community impact considerations. Application processes can be transitioned to one digital administrative channel, improving coordination between government entities, driving cost efficiencies and saving valuable time. Governments are also encouraged to centralise all statistical and geographical information suitable to support mobile broadband network rollout.

As the number of small cell sites increase as a part of evolving deployments, governments may consider exemptions for small cell installations, reduce antenna height regulations in rural areas in order to maximise coverage, allow colocations or certain site upgrades, as well as establish 'one-stop shopping' licensing procedures and even implicit approval.

### **4. Adopt competition policy which supports investment in high quality mobile networks**

Effective competition spurs investment and innovation and is a principle firmly supported by the mobile industry. When reviewing mobile mergers, it is essential that authorities consider the economic realities of investments in infrastructure-based businesses, and adopt decisions which are consistent with wider policy goals, such as universal access to the internet. The benefit of more concentrated mobile market structures in terms of higher investments and higher performance, and improved consumer experience should be fully factored into any merger review.

### **5. Allow infrastructure sharing on a voluntary basis**

Common in many countries, infrastructure sharing arrangements allow mobile operators to jointly use masts, buildings and even antennas, thus avoiding unnecessary duplication of infrastructure. Infrastructure sharing can also provide additional capacity in congested areas where space for sites and towers is limited. This practice can also facilitate expanded coverage



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in previously underserved areas by reducing both CAPEX and OPEX costs (which are generally higher in more remote areas) for mobile operators.

In order to satisfy aims for widespread mobile coverage, governments should have a regulatory framework which allows for voluntary sharing of infrastructure amongst mobile operators. This enables operators to share the cost of network extension and densification without compromising competition in service provisioning. In order to avoid distorting competitive market dynamics, any sharing should be a result of commercial negotiation and should not be mandated or subjected to additional regulatory constraints or fees. Infrastructure sharing agreements should be governed under commercial law and, as such, subject to assessment under general competition law.

The GSMA believes most comments were addressed within the above response. Our team and member operators remain committed to the issue of rural coverage in India and are happy to address any immediate questions that the TRAI may have and, as it emerges share details on our policy research as it relates to this topic.

A handwritten signature in black ink, appearing to read "Manoj Misra", is written over a horizontal line.

**Manoj Misra**  
Senior Public Policy Director  
India (New Delhi)

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<sup>i</sup> Examples include India (2016) and Ghana (2018)

<sup>ii</sup> For more information see the GSMA's spectrum pricing position paper