Independent Response to BIF / TRAI Consultation on PM-WANI

Submitted by: Reynovo Networks Private Limited Role: PM-WANI PDOA / App Provider

1. Authentication Friction and User Onboarding

The current PM-WANI onboarding involves multiple steps including OTP authentication, app usage, and voucher purchase. This creates high friction compared to seamless mobile data.

1. 30–50% drop-off during login stage
2. OTP delays and failures
3. Repeated login requirements
4. Complex multi-step onboarding

Impact

1. Reduced user adoption
2. Lower PDO/PDOA revenue
3. Underutilization of infrastructure

Recommendations

1. One-time KYC-based authentication
2. Device-based auto login
3. OpenRoaming / Passpoint adoption
4. SIM-based authentication integration
5. Free trial access (5–10 minutes)
6. Unified SSID and wallet-based system

2. Trust Deficit and Privacy Concerns

Users perceive public Wi-Fi as insecure despite strong technical standards.

1. Fear of data theft and fraud
2. Lack of visible security indicators
3. Low trust leading to poor adoption

Solutions

1. Visible security badges and certification
2. WPA3 encryption and HTTPS portals
3. DPDP-compliant privacy design
4. AI-based threat detection
5. User awareness and education

Strategic Importance

1. Supports mobile data offloading
2. Reduces telecom congestion
3. Improves QoS and affordability
4. Accelerates Digital India goals

Conclusion

Addressing onboarding friction and trust deficit will unlock PM-WANI’s full potential as a national digital infrastructure layer.

TRAI Consultation Submission – PM-WANI & Mobile Data Offload Model

Submitted by: Reynovo Networks Private Limited Role: PM-WANI PDOA / App Provider Date: May 2026

Executive Summary

This submission highlights key structural challenges in PM-WANI adoption and proposes a high-impact solution through integration with BSNL for mobile data offloading and public Wi-Fi expansion.

Key Issues Identified

1. High onboarding friction due to OTP-based login
2. User trust deficit in public Wi-Fi
3. Underutilization of deployed infrastructure
4. High dependency on mobile data despite higher costs

Critical Recommendation: BSNL-led Public Wi-Fi Offload Model

We strongly recommend that TRAI enable and mandate a framework where BSNL collaborates with PDOAs like Reynovo Networks to build a nationwide mobile data offload architecture using PM-WANI.

1. BSNL as a trusted government entity improves public confidence
2. Leverage BSNL fiber/backhaul for scalable hotspot deployment
3. Enable seamless integration between mobile and Wi-Fi networks
4. Position PM-WANI as an extension of telecom infrastructure

Consumer Impact

1. Reduces dependency on expensive mobile data plans
2. Supports users who require only voice/SMS without forced data bundles
3. Provides affordable high-speed internet access
4. Improves indoor connectivity and rural access

Economic & Policy Benefits

1. Reduces telecom network congestion
2. Optimizes national digital infrastructure
3. Supports Digital India and broadband inclusion
4. Creates sustainable revenue models for PDO ecosystem

Conclusion

A BSNL-integrated PM-WANI model can transform public Wi-Fi into a trusted, scalable, and high-impact digital infrastructure. We request TRAI to consider enabling such frameworks for rapid adoption and national benefit.

TRAI Consultation Response – PM-WANI

Submitted by: Reynovo Networks Private Limited
Role: PDOA & App Provider

Q1. What are the key supply-side constraints affecting Public Wi-Fi proliferation in India? What targeted policy or regulatory measures may be required to address these supply-side constraints? Please provide your response in detail with justification.

Response:

The key supply-side constraints affecting Public Wi-Fi proliferation in India include:

1. **Lack of sustainable revenue models for PDOs/PDOAs**
   The current ecosystem does not ensure predictable income, making it unattractive for long-term investment.
2. **High cost and limited availability of backhaul connectivity**
   Dependence on ISPs for bandwidth increases operational cost and reduces margins.
3. **Limited access to public infrastructure (street furniture, buildings, transport hubs)**
   Deployment permissions are fragmented across authorities.
4. **Absence of telecom-grade integration for data offloading**
   Wi-Fi operates independently instead of complementing mobile networks.
5. **Fragmented ecosystem and lack of scale**
   Small, isolated deployments fail to generate meaningful usage.

Justification:

Addressing supply-side issues through **BSNL-backed integration, BharatNet utilization, infrastructure sharing, and Viability Gap Funding (VGF)** will significantly improve deployment scale, financial viability, and long-term sustainability.

Q2. What are the major demand-side constraints limiting the uptake of Public Wi-Fi services in the country? What targeted policy or regulatory measures may be required to address these demand-side constraints? Please provide your response in detail with justification.

Response:

Demand-side constraints include:

1. **Complex OTP-based authentication process** causing user drop-offs
2. **Lack of awareness about PM-WANI services**
3. **Trust deficit regarding security of public Wi-Fi**
4. **Seamless and convenient mobile data alternatives**

Justification:

Adopting seamless authentication (OpenRoaming/SIM-based), free trial access, unified SSID, and government-backed trust certification will reduce friction and improve adoption significantly.

Q3. Despite the PM WANI initiative, scaling the number of public hotspots across diverse geographies, especially in remote and underserved regions, remains uneven. What are the key challenges...

Response:

Key challenges include:

- Low commercial viability in rural areas
- Lack of reliable backhaul connectivity
- Limited demand aggregation
- Deployment complexity in remote geographies

Justification:

A cluster-based deployment model, leveraging BharatNet and enabling BSNL-led rollout, can ensure balanced nationwide expansion.

Q4. What changes, if any, are required in the existing PM-WANI framework to improve revenue certainty and long-term sustainability for PDOs/PDOAs?

Response:

- Introduce revenue-sharing with telecom operators
- Enable Wi-Fi data offload monetization
- Support subscription and wallet-based models
- Provide Viability Gap Funding (VGF)

Justification:

Sustainability depends on predictable revenue streams and scale, which current models lack.

Q7. In the Indian context, which model would be more appropriate...

Response:

A hybrid model is most appropriate:

- Government ensures robust backhaul infrastructure
- Market drives hotspot deployment
- Government intervenes in underserved areas

Justification:

This balances efficiency and inclusivity, avoiding over-dependence on either public or private sector alone.

Q8. Is there a need to adopt separate strategies for Public Wi-Fi proliferation in rural and urban areas?

Response:

Yes:

- Rural Areas: Subsidy-driven, shared infrastructure
- Urban Areas: Commercial models, ads, subscriptions

Justification:

Different economic and usage patterns require customized deployment strategies.

Q9. What measures can be taken to improve deployment in high-footfall areas (outdoor & indoor)?

Response:

Outdoor:

- Deploy at bus stops, parks, markets
- Use ad-supported free Wi-Fi

Indoor:

- Airports, railway stations, malls
- Enterprise-grade high-speed Wi-Fi

Justification:

High-footfall areas offer **maximum usage potential**, improving ROI and visibility.

Q10. Funding mechanisms?

Response:

Use **differentiated funding models**:

- Rural → Full subsidy
- Urban → Market-driven
- High-footfall → PPP

Justification:

Uniform funding is inefficient due to varying economic viability.

Q11. Criteria for fund allocation?

Response:

- Population density
- Digital inclusion index
- Demand and usage potential

Justification:

Ensures **targeted and efficient fund utilization**.

Q12. Is last-mile connectivity a constraint?

Response:

Yes, it is a major constraint.

Justification:

Without reliable last-mile connectivity, hotspot deployment becomes unviable.

Q13. Funding for last-mile connectivity?

Response:

Yes, funding should be provided via USOF/VGF models.

Justification:

Critical for rural and underserved areas.

Q14. RoW challenges?

Response:

Yes, including delays and high charges.

Justification:

A single-window clearance system is required.

Q15–17. Role of State Governments & Local Bodies

Response:

- Provide infrastructure access
- Simplify approvals
- Enable deployment at panchayat/municipal level

Justification:

Local authorities are key enablers of execution.

Q18–19. Incentives for TSPs/ISPs

Response:

- Revenue sharing
- Wi-Fi offload monetization
- Bandwidth subsidy

Justification:

Encourages telecom participation in PM-WANI ecosystem.

Q20. Incentives for private entities

Response:

- Revenue sharing
- Tax incentives
- Branding benefits

Justification:

Drives large-scale participation.

Q21. Role of system integrators

Response:

Yes, essential for scale.

Justification:

Ensures **standardization and efficient deployment**.

Q22. Authentication challenges

Response:

Yes, OTP-based system causes high drop-offs.

Justification:

Seamless authentication is critical for adoption.

Q23. Centralized platform

Response:

Yes, required.

Justification:

Should be managed by a **neutral government-backed entity (e.g., BSNL/C-DOT)**.

Q24. Interoperability & roaming

Response:

- Mandatory roaming
- Introduce **Super Aggregator**

Justification:

Ensures seamless nationwide connectivity.

Q25. Monetisation models

Response:

- Rural → Subsidy + Govt services
- Urban → Ads + subscription
- High-footfall → Premium

Justification:

Location-specific monetization improves sustainability.

Q26. Additional suggestions

Response:

Enable **BSNL-integrated Public Wi-Fi Mobile Data Offload Model**.

Justification:

- Builds public trust
- Reduces mobile data dependency
- Positions PM-WANI as national infrastructure

📄 Clarification Note on Telecom Integration for PM-WANI (Including BSNL Reference)

Context and Clarification

In this submission, reference has been made to **Bharat Sanchar Nigam Limited (BSNL)** in the context of enabling a **mobile data offload model integrated with PM-WANI infrastructure**.

This reference is made **purely from a strategic and practical standpoint**, considering the following:

- BSNL is a **Government-owned telecom operator**, which inherently carries **higher public trust**, especially for public digital infrastructure
- It possesses **extensive fiber backhaul and rural presence**, making it well-positioned to support large-scale Public Wi-Fi deployment
- Its infrastructure can be effectively leveraged to accelerate **nationwide rollout, particularly in underserved regions**

Non-Exclusive Recommendation

It is clarified that:

The recommendation is **not exclusive to BSNL**, and similar participation should be encouraged from **all telecom service providers (TSPs)**.

- Private telecom operators may also participate in:
  - Wi-Fi data offloading
  - Infrastructure sharing
  - Integrated service delivery
- A **technology-neutral and operator-neutral approach** should be maintained

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Role of Policy and Regulatory Authorities

For effective and uniform implementation, it is recommended that:

- The framework should be **designed, governed, and standardised under the guidance of**:
  - Telecom Regulatory Authority of India
  - Department of Telecommunications
- Key aspects to be regulated and standardised include:
  - Interoperability between Wi-Fi and telecom networks
  - Authentication mechanisms (e.g., SIM-based / OpenRoaming)

- Revenue-sharing frameworks
- Quality of Service (QoS) standards
- Security and data protection compliance

Objective of the Recommendation

The intent of suggesting BSNL as an initial enabler is to:

- Accelerate **early-stage adoption and trust-building**
- Demonstrate **scalable implementation models**
- Enable **rapid deployment in rural and underserved areas**

Subsequently, the framework should evolve into a **multi-operator, interoperable ecosystem**, ensuring:

- Fair competition
- Wider participation
- Faster and more balanced proliferation of PM-WANI

Conclusion

The integration of telecom networks with PM-WANI, whether led initially by BSNL or jointly by multiple operators, should be implemented within a **clear regulatory framework defined by TRAI and DoT**, ensuring:

- Transparency
- Interoperability
- Scalability
- Long-term sustainability

This approach will help position PM-WANI as a **core national digital infrastructure layer**, complementing mobile networks and enhancing broadband accessibility across India.