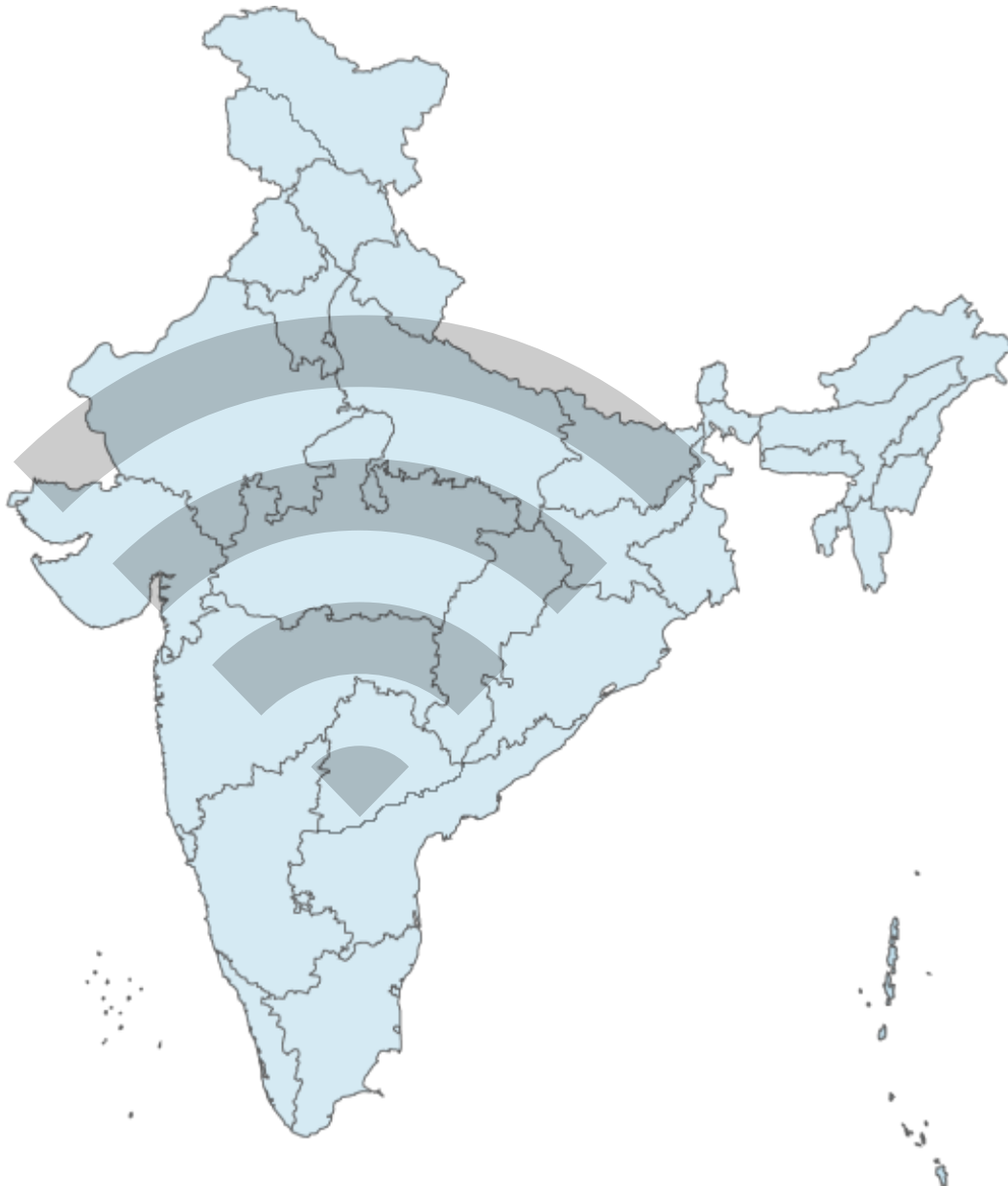# PM-WANI Explained

A white paper on the latest development
in the wireless space in India.

At-A-Glance

In this white paper, we speak about Prime Minister WiFi-Access Network Interface (PM-WANI), what it is, its advantages, how it will positively impact business outcomes, and the opportunities it will create for India in the wireless and telecommunications space.

PM WANI is a Government of India initiative to disseminate the internet through a network of lakhs of Public WiFi hotspots set up all over India.

We also speak about our technical expertise, our value proposition for stakeholders and the support we provide for PM WANI compliance processes.

Executive Summary

According to data sourced from the World Bank, the percentage of internet users in India stands at just 39.4% of the population1.

Connectivity in the context of India is a story we need to look at differently. Internet tariffs in India, while the lowest in the world, are still terribly high for a large percentage of the population.

The socio-economic status of a huge strata of the Indian population makes it difficult for them to enjoy access to the internet.

To overcome the lack of connectivity in India the Government of India has launched the PM WANI project.

It is estimated that by 2021, the total number of hotspots in India will reach 21 lakhs2. The proliferation of WiFi across the country will empower the generations to come.

The PM WANI project will allow India to access fast, seamless and reliable internet connectivity through the medium of Public WiFi Hotspots.

However, the PM WANI architecture can confuse industry-stakeholders like Internet Service Providers, telecom companies and others. We help you to identify the key aspects & necessary requirements to be a part of the initiative.

In this paper, we simplify PM WANI, present our value proposition, and help every stakeholder interested, to become a contributing party to the initiative.

At Indio Networks, our vision of Simplifying Connectivity for the masses aligns with the Government's goals for dissemination of the internet through WiFi. We have the technical expertise to enable the success of PM WANI. For all stakeholders involved, we help unlock business value and drive top-line growth.

39.4%
The percentage of the Indian population using the Internet according to World Bank data

1:300
The ratio of average number of WiFi Hotspots in India to the average number of hotspots in advanced economies like France, UK & US. 300x more hotspots than India.

What is PM WANI?

PM WANI is a Government of India initiative to distribute the internet through installations of Public WiFi Hotspots all over India.

The project had been in the pipeline for several years. In 2020, the Government announced that the PM WANI project will be implemented all across India, without the need for procuring licenses for deployment.

Why do we need PM WANI?

India is a developing country with more than 300 million youth. Youths are aggressive users of the internet, but many of them are still deprived of it.

The internet empowers generations of youths to develop skills & increase their knowledge. PM WANI will bring this connectivity to underserved youth and help them with bettering the quality of life and aid ease of living.

Several Scandinavian and Europeans countries provide Public WiFi to their citizens to improve the connectivity experience.

PM-WANI is the catalyst for improving & encouraging inexpensive internet use across all of India.

What is the PM WANI Framework?

The PM WANI Framework primarily consists of 4 key entities:

PDO (Public Data Office):

These units would be responsible for maintaining, managing and operating WANI – Compliant Access Points to deliver broadband internet services to everyday citizens.

PDOA (Public Data Office Aggregators):

These units would be PDO aggregators and will manage authentication and billing.
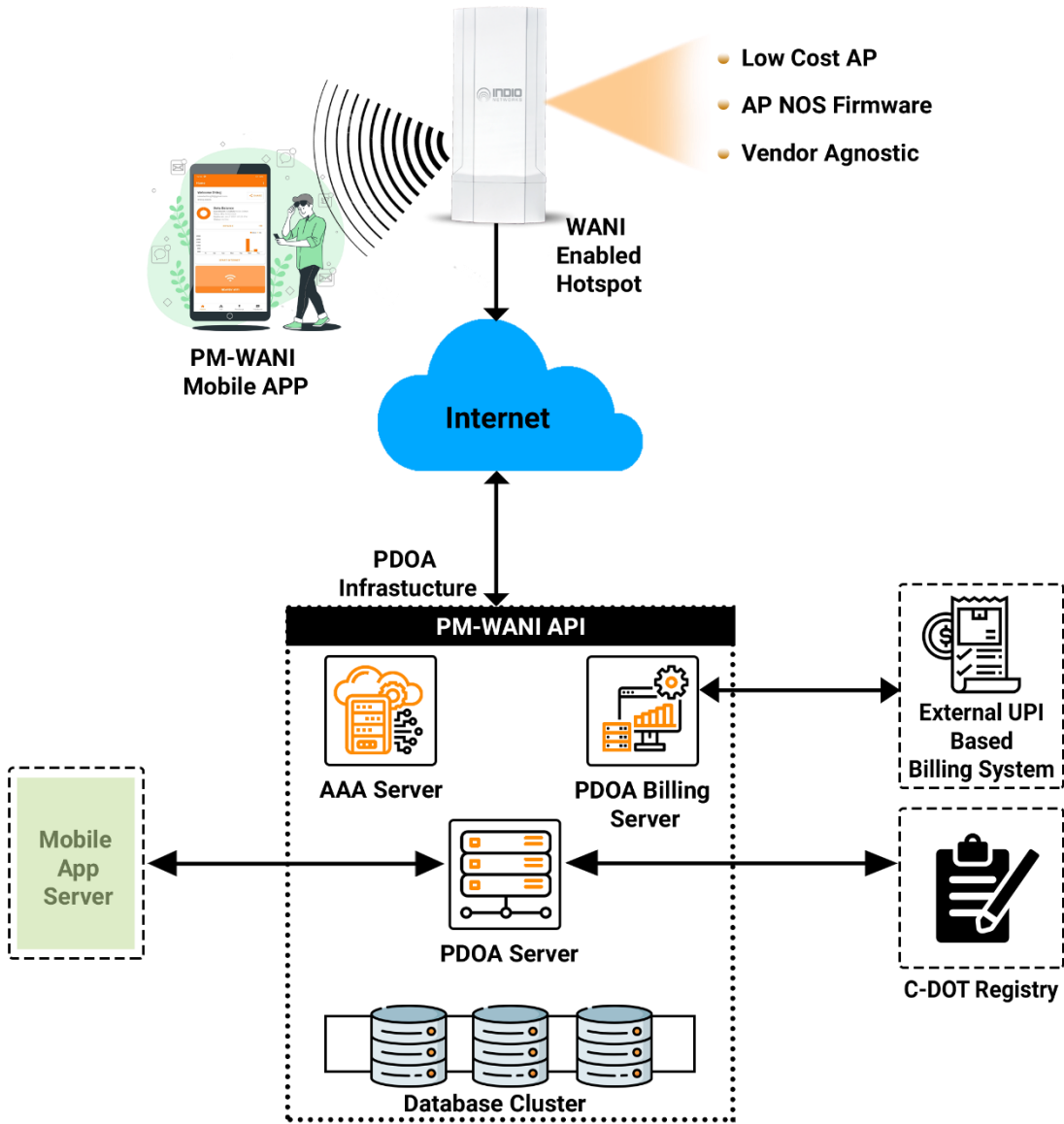
App Provider (Third Party):

An application will be developed to help citizens find and connect to WANI Compliant access points all across India. The application will allow people to find nearby WANI Compliant hotspots.

Central Registry:

The central registry will be maintained by the Center for Development of Telematics or C-DoT. The Central Registry will be responsible for maintaining the details of App Providers, PDOs and PDOAs.

Technical Architecture

OPEN-WIFI & WANI ARCHITECTURE

- Low Cost AP
- AP NOS Firmware
- Vendor Agnostic

WANI Enabled Hotspot

PM-WANI Mobile APP

Internet

PDOA Infrastucture

PM-WANI API

AAA Server

PDOA Billing Server

External UPI Based Billing System

Mobile App Server

PDOA Server

C-DOT Registry

Database Cluster

How will citizens use PM WANI hotspots?

In order to take advantage of PM WANI Hotspots, the citizen would have to go through these steps:

- Download the PM WANI Hotspot Mobile App

- Register themselves on the app

- Complete an eKYC and verification

- Connect to the nearest WANI Compliant Hotspot

- Select a data plan from the PDOs Captive Portal

- Activate the plan and enjoy internet services over WiFi

- The user should be able to discover all WANI compliant Access Points in all areas

- The user should be able to decide preferences for payment, also, there should be a provision for a single click renewal of voucher or data plan (available in UPI 2.0)

Requirements from a Stakeholder Perspective

For an industry stakeholder, the PM WANI flow will be:

- Let the user register from the Mobile App

- The user completes the one-time eKYC over the App

- If you are a PDO, you set up the pricing for the data based on a voucher system or direct payment through UPI or other Payment Gateways

- The authentication and billing of the user will be done by the PDOA, the PDOA will have to procure the software to fulfil all technical requirements

- App Provider has to ensure that it allow preferences for all MAC IDs for various devices and payment options

- App Provider should also ensure single-touch connect and discovery of all PM WANI Compliant Access Points

- For App Providers, there must be an authentication service called WiFi Captive Portal whenever the user connects to obtain a signed user profile

- PDOs/PDOAs must conform to the governing rules as laid down by TRAI with regard to pricing— free and paid services

- For Hardware & Software Providers, they have to make sure that all technical requirements as laid down by the TRAI are met and complied with

- Every stakeholder to register with C-DoT

Indio Networks Value Proposition

We have worked in the wireless space for the past 25 years. We've developed hardware and software expertise necessary to implement Public WiFi Hotspots.

At Indio, we have deployed Public WiFi solutions at thousands of locations with more than 25 million users served till date.

We have the necessary technical expertise to deliver a turnkey Public WiFi solution required for successful Public WiFi deployments. We have completed over 50 large scale Public WiFi deployments. We have also solved complex business and implementation challenges along the way.

We believe in "आत्मनिर्भर भारत" and we are Vocal for Local.

We enable multiple business cases through the WANI project and empower entrepreneurship.

How hosting PM WANI Compliant Hotspots will be a profitable business for you

PM WANI Hotspots have immense potential to generate business, encourage entrepreneurship and improve quality of life. Below are a few entities who stand to use PM WANI for creating a profitable business:

For Internet Service Providers:

For ISPs, the PM WANI project will help in increasing revenue by facilitating an extra stream of income. Here is how it can be done:

• ISPs often have surplus, unutilized bandwidth lying around.

• Through the set-up of PM WANI Hotspots, ISPs can utilize this bandwidth and monetize the service which they provide.

• Easy to set up, WANI Compliant Hotspots will serve as an extra source of income for ISPs.

• Performing as PDOA & PDO, ISPs stand to gain in terms of pure revenue generation and the added brand value in providing WiFi services to areas which are underserved.

• ISPs can set up their own PDOs at Small Shop venues and generate revenue by monetizing the WiFi service which they are providing.

• By our estimates, ISPs will expect anywhere between 10-15% Y-o-Y growth just by setting up these hotspots.

• Since the set-ups need not be licensed, but just registered, ISPs should be able to initiate swift deployments and be operational in no time.

For Village-level Entrepreneurs:

Developing a culture of village-level entrepreneurship has been a longstanding goal of the Indian Government. PM WANI brings an opportunity for entrepreneurship to villages. Here's how:

- In rural areas, low-income tier families still do not have access to the internet.

- An initial capital investment in WANI compliant hotspots will boost entrepreneurship and last-mile connectivity.

- The rural entrepreneur can set up 10 Hotspots around the village, and start distributing internet bandwidth over them at costs reasonable to the consumer base in the area.

- Over time, these hotspots recover the initial amount invested, and start generating profits.

- There are many beneficiaries through this project: The village, the people residing in it, and the rising entrepreneur who wants to see a developed community and country.

How Indio Networks can Help:

Indio Networks has the technical acumen necessary to fulfil all requirements of PM WANI Compliance from a hardware, as well as a software perspective. We can help stakeholders generate revenue through many ways:

- Working in the Public WiFi Hotspots space for 16 years, we manufacture the hardware and develop the software necessary for these deployments

- We will provide PM WANI Compliant enterprise-grade Outdoor Access Points for deployment

- All Access Points we provide are of plug-and-play configuration, which makes them easy to deploy

- We have a complete authentication and billing / monetization software with multiple payment options for PDOAs

- We will provide an intuitive App with simple UI / UX for user access, verification and discovery of WANI compliant hotspots

- Over this, we will help stakeholders with legal processes relating to certification of PDOs, PDOAs with the Centre for Development of Telematics

- We will familiarize PDOs and PDOAs with PM WANI and help them understand how it can aid their business expansion and generate revenue

- Our vision at Indio Networks, which is Simplifying Connectivity for the masses, aligns perfectly with the PM WANI initiative

- We invite all stakeholders to take part in this journey to connect all Indians with inexpensive, reliable, seamless and fast connectivity options.

Conclusion

As a homegrown company, we started our journey back in 2005. We witnessed continuous disruption and development in the field of wireless technology.

Throughout this journey, our goal for India and other emerging markets has always been to simplify connectivity for the masses.

PM WANI is the push and the opportunity we needed to achieve our goal of connectivity in India. We want to ensure complete connectivity for India, both rural and urban.

While urban areas have seen improved connectivity, it is concentrated to just certain areas. Beyond those areas, connectivity is still weak, and often unavailable.

We are going to change that, and we are going to do it with everyone's involvement. An ecosystem of homegrown entrepreneurs, where essentially anyone can become a WiFi-only ISP, PM WANI has opened the Indian wireless space to unimaginable scope for development.

WiFi Hotspots are going to keep growing. The question is, are you ready to ride the wave?

About Indio Networks

We, at Indio Networks, formerly Wifi-soft, help facilitate unforgettable digital experiences through resilient networking solutions.

With over two decades of experience, we have worked closely in the wireless space essentially serving over 25+ million users till date. At Indio, we have seen disruptions in the tech sphere and worked alongside them. We solve problems where we see them, we evolve, innovate and adapt. That's why, we constantly craft newer products and solutions to make your life easier. 'Simplifying Connectivity' is a principle we hold dear, and we plan on bringing it to everyone, everywhere. With a strong presence in over three important geographies, being Asia, the Middle East and America, we are always available for quick and responsive customer support.

Contact Sales: sales@indionetworks.com

Contact Marketing: marketing@indionetworks.com

Contact Number: +91 (20) 6715 7377 (India)

+1 (866) 554 5090 (US)

Indio Networks LLC

815-A Brazos St, #326,

Austin, TX - 78701 U.S.A.

+1 (866) 554 5090

+91 (020) 6715 7379