



**ATMANIRBHAR BHARAT KI AUR
... ek aur Kadam**

Broadband at your fingertips

PM WANI

PM-WANI Wifi - PDO for everyone

Prime Minister's Wi-Fi Access Network Interface

Entrepreneurship Opportunities for Small and Micro Businesses
Local Manufacturing and Supply Chain for Wi-Fi Equipment

How to become an **App Provider**

Govt. of India

How to Become an App Provider

Introduction to PM-WANI

Broadband is no more a buzzword of technical meetings and forums, it has become a necessity of every individual aspiring to connect with the fast evolving information world. Governments around the world have recognized the importance of its far-reaching impact on social and economic development of people and public broadband networks are being set up in every part of the globe now-a-days.

As per the latest statistics, the internet broadband density in the rural areas stands at 38 per 100 users. For the development of the rural areas, it is essential that for improving literacy and economic growth, this gap should be bridged.

In-line with this, Govt. of India had launched the PM-WANI Scheme in December 9th, 2020 to take forward the goal of National Digital Communications Policy, 2018 (NDCP) of creating a robust digital communications infrastructure.

PM-WANI unbundles the ecosystem of Wi-Fi operations and deployment and enables multiple players to be a part of the ecosystem for offering affordable broadband. The end user can buy coupons of smaller denominations ranging from Rs.2 to Rs.20 for broadband access.

The PM-WANI framework envisages provision of Broadband through Public Wi-Fi Hotspot providers and will consist of the following elements:

Public Data Office (PDO)

PDO will establish, maintain, and operate PM-WANI compliant Wi-Fi Access Points and provide last-mile connectivity to deliver Broadband services to subscribers. ***PDO need not pay any license fee or perform any kind of registration.***

The PDO needs to arrange PM-WANI compliant access point, power source(230V) for powering up the access point and internet bandwidth from ISP/TSP's such as BSNL, MTNL, RJio, Vodafone or Bharat Broadband Nigam Limited.

Any tea-shop or *kirana* shop owner who has a customer base and has space for installation of access point can become a PDO.

Public Data Office Aggregator (PDOA)

PDOA provides aggregation services such as authorization and accounting to PDOs, thereby facilitating PDOs in providing services to

the end consumer. **PDOA need not pay any license fees.** PDOA needs to perform a simple online registration process at Saral Sanchar Portal (<https://saralsanchar.gov.in/>), followed by signing up at Central Registry(<https://pmwani.gov.in>).Any retailer having multiple shops can become a PDOA by converting the shops as PDO's.

App Provider

App Provider, who will develop an application to register users and 'discover' and display PM-WANI compliant Wi-Fi hotspots in the proximity for accessing the internet service and also authenticate the potential Broadband users. Startups and wallet providers can become App Providers.

App Provider **need not pay any license fees.** App Provider has to perform a simple online registration process at Saral Sanchar Portal (<https://saralsanchar.gov.in/>), followed by signing up at Central Registry (<https://pmwani.cdott.in>).

Central Registry

Central Registry will maintain the details of App Providers, PDOAs, and PDOs. To begin with, the Central Registry will be maintained by the Centre for Development of Telematics (C-DoT). Central Registry is responsible for the certification of PDOA and App Provider software.

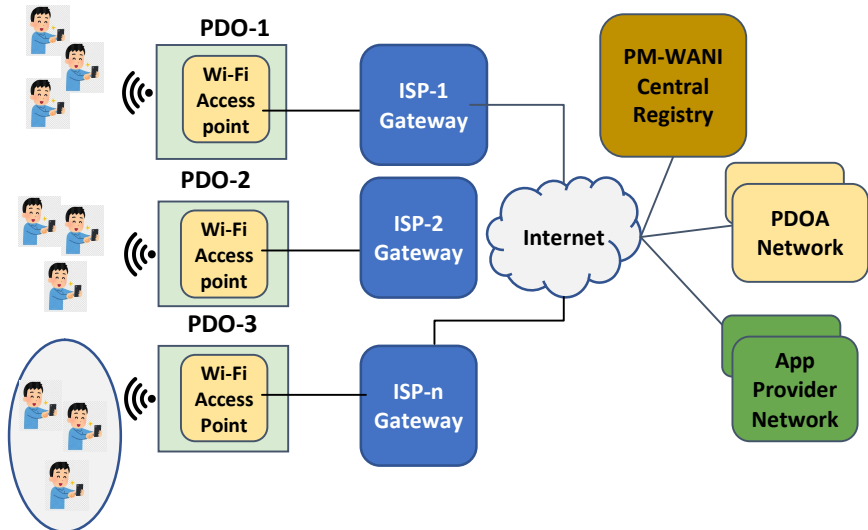


Figure 1: PM-WANI Network Elements

APP Provider Onboarding Process

To become an APP Provider firstly APP Provider needs to register at Saral Sanchar portal(<https://saralsanchar.gov.in>). After successful registration at Saral Sanchar, the APP Provider needs to sign-up with the Central Registry(<https://pmwani.gov.in>). After signing up with the Central Registry, they need to deploy the APP Provider software on the cloud infrastructure. While deploying the software on the cloud infrastructure, the APP Provider needs to arrange the cloud infrastructure, SSL certificate and payment gateway account for collecting the revenue.

After the APP Provider software deployment, the APP Provider applies for provisional certification at the Central Registry. After the provisional certification is provided by the Central Registry, then the APP Provider has to add the security certificate and Authentication URL in the Central Registry. After the configuration at the Central Registry, the APP Provider will be ready to offer the services as per the PM-WANI framework. Meanwhile, the APP Provider will also have to visit C-DOT for software certification. The Central Registry certification lab in-charge will communicate with the APP Provider regarding the pre-requisites and time-slot assigned for certification.

APP Provider onboarding process is explained in detail now.

How does the APP Provider register at Saral Sanchar?

APP Provider has to follow the following process:

1. **Visit Saral Sanchar Portal**(<https://saralsanchar.gov.in/>).
2. **Enter basic details of organization along** with the CIN number. **Corporate Identification Number** (CIN) is a unique identification number that is assigned by the Registrar of Companies (ROC) to the companies registered in India.

In how many days is the registration granted and what is the scope of operation?

Within 7 days of application in Saral Sanchar the firm/company will get registration for APP Provider with registration number (e.g., **PMWANI-MUM-16122020-APP000011**). The APP Providers need to use this registration number to sign-up in the Central Registry.

Once successfully registered, the APP Providers will have permission for PAN India operations.

How does the APP Provider sign up at the Central Registry?

All the prospective APP Providers need to sign up at Central Registry portal(<https://pmwani.gov.in>). For the signing-up the registration number allotted to APP Provider's by the Saral Sanchar Portal will have to be used.

First-time Signup require:

- Registration Number (assigned through Saral Sanchar Registration)
- Registered email address
- Registered Mobile Number

Email and mobile number given during the registration at Saral Sanchar Portal for user verification through OTP

After the verification of OTP the signing-up at central registry completed and will prompt for creation of password for login to Central Registry portal for respective APP Provider.

After signing-up at the Central Registry, what should the APP Provider do?

APP Provider now needs to arrange and deploy the APP Provider software which provides the function to perform KYC of the user, discovery of PM-WANI access points and user-friendly interface for the user to access broadband services as per PM-WANI framework and test it with a PM-WANI compatible Access point.

Who can provide me the PM-WANI Compatible APP Software?

App Provider can develop or procure any PM-WANI certified App software. C-DOT can provide the PM-WANI compatible APP software.

After deployment of APP software, what does the APP Provider need to do?

APP Provider needs to apply for provisional certification of the APP software.

After verification APP Provider will be Provisionally Certified for next course of action.

What is the next course of action for the APP Provider after provisional certification?

After provisional certification by Central Registry, APP Provider need to upload at least one Public Security Certificate obtained from any Certificate Authority.

From where can the APP Provider arrange the security certificate?

Security Certificate needs to be arranged from Licensed CAs in India. The details are available at http://cca.gov.in/licensed_ca.html

What are the things to be taken care of when buying a Security certificate?

The Security Certificate should comply with the following:

- Certificate should be of type **.cer**
- Content should be in the format of **X509**
- Expiry date must be greater than the present date

What is the next step after addition of security certificate in CR for the APP Provider?

After the successful uploading of valid Security Certificate, APP Provider will get the interface for Authentication URL addition.

How is the App Provider certified by the PM-WANI CR?

After Provisional certification, the APP Provider need to formally certified the APP at certification.C-DOT will send a mail to the provisionally certified App Provider for offering the APP for final certification. The pre-requisites for certification will be Test Schedule and Test Procedure (TSTP) which will be shared with the App Provider. The App Provider need to offer the APK file for final certification.

What is the security compliance that needs to be followed by the APP Provider?

Following security conditions are defined in the framework and the same need to be complied by APP Providers:

- a) The user data privacy will be ensured by APP Providers. Complete user data and usage logs will be stored within India.
- b) Subject to terms and conditions of the Registration, the APP Provider will take all necessary steps to safeguard the privacy and

confidentiality of any information about a third party to whom they provide the service.

What is the Business Model of App Provider

App Provider's main investment will be creation of backend system for KYC based authentication, OTP based verification through some SMS gateway, WANI token handling module and log storage for LI compliance. The App can be developed by an entrepreneur or a white label App can be taken from market and customized with own logo etc. There are providers who offer "software solution deployment" as service as Platform as a Service (PaaS) providers. To run the backend either own server and bandwidth can be installed or again taken from a cloud provider. In case of cloud operations, the software solution will be hosted on some cloud service provider's system on rental basis.

Overall, APP Provider needs to arrange the following infrastructure:

- Own infrastructure to host solution or Cloud Infrastructure
- SMS Gateway Account (and Bulk SMS Pack)
- Domain Name
- SSL (Secure Sockets Layer) Certificate

A typical cost for a cloud operation model is provided as below.

Typical Cost (in Rs.) for APP Provider

Item	Investment Cost per annum	** Cost of Capital 12% per annum	Total per annum
Cloud Cost inclusive of Hardware/OS/Bandwidth/storage (Recurring cost as service)	100000	12000	112000
APP Software Stack (Recurring cost as Service)	30000	3600	33600
SMS Gateway with SMS Pack and SSL Certificate (Recurring cost) and Domain Name	10000	1200	11200
Miscellaneous and unforeseen cost	60000	7200	67200

Total Cost of APP is deployed on a cloud model		224000	
Breakeven cost per month for App Provider		= 224000 / 12 18666	
<p>*Opportunity cost of entrepreneur's skill and time is not included.</p> <p>** Cost of capital rate of interest on the capital employed/invested in the business by the entrepreneur.</p> <p>Disclaimer: These costs are indicative and may vary based on market dynamics. Entrepreneurs are requested to use this only as a guidance and C-DOT does not take any responsibility in this regard.</p>			

What will be the earning of APP Provider?

App Provider's earning is only by offering Advertisement and Location based services after collaborating with the advertisers, local agencies/shops etc. APP Provider can also earn additional revenue by offering various solutions on the APP platform- for example analytics and survey for various agencies. Revenue generation can be achieved based on various innovative ideas an entrepreneur can implement in the App.

Based on the typical costs above, the entrepreneur will have to generate a revenue of Rs 18,667 per month to cover all the costs, including 12% return on capital employed in the business by the entrepreneur, from services like advertisement etc. provided to users on the App to achieve break even for the business.

Other Booklets of PM-WANI

- **PDO Booklet** https://pmwani.gov.in/assets/landing-page/booklets/Booklet_PDO_English.pdf
- **PDOA Booklet** https://pmwani.gov.in/assets/landing-page/booklets/Booklet_PDOA_English.pdf

Annex I: List of DOT Field Officers

STATE/UT	Authorized person Name	Designation	Email Id	Telephone No.
Andaman and Nicobar Islands	Sh. Rakesh Kumar Sharma	DDG (Tech.)	ddgt.wb-dgt-dot@gov.in	033-24402027
Andhra Pradesh	Sh. G V Rama Krishna	DDG (Tech.)	ddgt.vjap-dgt-dot@gov.in	0866-2496499
Arunachal Pradesh	Sh. Rajesh Kumar Maheshwari	DDG (Tech.)	ddgt.shillong-dot@gov.in	9422217211
Assam	Sh. G K Sutar	DDG (Tech.)	ddgt.as-dgt-dot@gov.in	361-2736999
Bihar	Sh. A.K. Sinha	DDG (Tech.)	ddgt.br-dgt-dot@gov.in	612-2506139
Chattisgarh	Sh. R.K. Singh	DDG (Tech.)	ddgt.mp-dgt-dot@gov.in	755-2555854
Dadra and Nagar Haveli and Daman and Diu	Sh. Roshan Lal Meena	DDG (Tech.)	ddgt.gj-dgt-dot@gov.in	9414001115
Delhi (Gurgaon, Ghaziabad, Noida, Faridabad)	Sh. Y.K. Singh	DDG (Tech.)	ddgt.dl-dgt-dot@gov.in	011-26484080
Goa	Sh. Vikram Malviya	DDG (Tech.)	ddgt.mh-dot@gov.in	9425001499
Gujarat	Sh. Roshan Lal Meena	DDG (Tech.)	ddgt.gj-dgt-dot@gov.in	9414001115
Haryana	Sh. O.P. Manhas	DDG (Tech.)	ddgt.hr-dgt-dot@gov.in	1722538060
Himachal Pradesh	Sh. Brij Mohan Setia	DDG (Tech.)	ddgs.hp-dgt-dot@gov.in	0177-2625065
Jammu & Kashmir	Sh. Kailash Chandra Panday	DDG (Tech.)	ddgt.jk-dgt-dot@gov.in	191-2470133
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Uttar Pradesh (West)	Sh. Anupam Varshney	DDG (Tech.)	ddgt.upw-dgt-dot@gov.in	9868130902
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