

Satyaspeak
"Making It Happen"
World Wi-Fi Day Keynote Presentation
Sharda University, Greater Noida, India
20th June 2018

"Converting Unemployment into Intrapreneurship through Rural Wi-Fi Hotspots"

(Inspired by Dr. Abdul Kalam's "PURA" Prof. C.K. Prahalad
 "BOP" Vision & Govt's. "Digi Gaon" Mission)

Satya N. Gupta, NGNguru
Country Managing Director, BlueTown (India)
Hon. Secretary General, NGN Forum Delhi

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Agenda

- ☐ Impact Video of Rural Wi-Fi Hotspots
- ☐ "First Mile" - The Missing Link of Digital Bharat
- ☐ "Making It Happen" - Confluence of National-mode Programs
- ☐ RURBAN India-Digital Bharat through "Make-Skill-Start-Stand Up" India
- ☐ Bluetown Wi-Fi Access Network- "Hotspot-as-a-Managed Service"
- ☐ Everything On the Tower (EOT)- A Great "Make In India" Opportunity
- ☐ DigiGaon Job Factory - Creating 1 Million Rural Wi-fi Intrapreneurs
- ☐ Way Forward---Extra Mile- "People-Panchayat-Public-Private Partnership"

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Digital Bharat- Challenges and Opportunity

✓ Missing Links-

- Only 1.16 Lakh GPs completed by March, 2018 (Just 40%)
- Broadband Subs. only 165M (Rural 20M. only)
- Broadband Speed only 512Kbps (Available in Urban only)
- Digital Divide- No Broadband Connectivity to Rural masses

✓ Challenges-

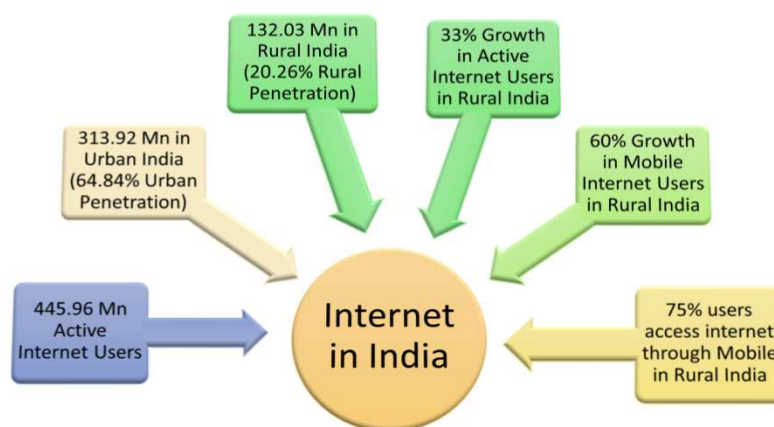
- How to treat Rural Broadband Access i.e. "Last Mile" as " First Mile"
- How to "Home-deliver" the "Broadband services" to Rural masses
- How to enable "Digital- India" to Include "Bharat" i.e.. across "Nation"

✓ Way Forward-

- "Extra Mile" through People-Panchayat-Public-Private Partnership

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Digital Bharat- A Reality Check!



*Internet Access in Rural India is primarily on Handheld device & technology is 2G
(Nowhere near Broadband)*

Source: TRAI and IAMAI

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Digital India Mission of Govt.

“To create an inclusive knowledge society through proliferation of affordable and high quality Broadband services across the Nation”



- NOFN (National optical Fiber Network), named 'BharatNet' plans to connect 2.5 Lakh Gram Panchayats with 100 Mbps connectivity by Dec. 2016 (Moved to March, 2019)
- 1 Lakh Gram Panchayats connected up-to March, 2018
- Missing link is "Home/Hand Delivery" of Broadband access to Rural masses

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Why Wi-Fi? : A killer technology to bridge 'Digital Divide'

1. ***Ubiquitous*** – Each smart device (including Mobile Phones) is Wi-Fi enabled.
2. **Uses unlicensed spectrum (ISM Band) which is free.**
3. All IP Technology which is very efficient and future proof which is based on open and ever evolving standards of IEEE (802.11x).
4. **Plug-n-Play ecosystem.**
5. **Low Power consuming and Low Cost** – overall infra cost about 10% of licensed mobile infrastructure.
6. **No need of Frequency Planning.**
7. **NINENP (Non- Interfering, Non-Exclusive, Non-Protected)** – Free for All.
8. **Current Hotspots in India – 36,000 (mushrooming everywhere).**
9. Potential to deliver 4G and 5G type services through upgradation.
10. **Ideal futuristic platform for IoT, M2M and E-Health.**

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Wi-Fi & its future role in India – Enabling “Broadband for All”

Draft - National Digital Communications Policy (NDCP-2018)

GOALS 2020	STRATEGIES
<ul style="list-style-type: none"> i. Provide Universal broadband coverage at 50 Mbps to every citizen ii. Provide 1 Gbps connectivity to all Gram Panchayats of India by 2020 and 10 Gbps by 2022 iii. Enable 100 Mbps broadband on demand to all key development institutions; including all educational institutions iv. Enable fixed line broadband access to 50% of households v. Achieve ‘unique mobile subscriber density’ of 55 by 2020 and 65 by 2022 vi. Enable deployment of public Wi-Fi Hotspots; to reach 5 million by 2020 and 10 million by 2022 (Currently only 36K) vii. Ensure connectivity to all uncovered areas (Broadband for All on Demand) 	<ul style="list-style-type: none"> • Establishing a ‘National Broadband Mission – Rashtriya Broadband Abhiyan’ to secure Universal Broadband Access • Implementation of the following broadband initiatives, to be funded through USOF and Public Private Partnerships: <ul style="list-style-type: none"> i. BharatNet – Providing 1 Gbps to 2.5 Lakhs Gram Panchayats upgradeable to 10 Gbps ii. GramNet – Connecting all key rural development institutions with 10 Mbps upgradeable to 100 Mbps iii. NagarNet – Establishing 1 Million public Wi-Fi Hotspots in urban areas iv. JanWiFi – Establishing 2 Million Wi-Fi Hotspots in rural areas • Implementing a ‘Fibre First Initiative’ to take fibre to the home, to enterprises and to key development institutions in Tier I, II and III towns and to rural clusters: • Facilitating Fibre-to-the-tower programme to enable fiberisation of at least 60% base stations thereby accelerating migration to 4G/5G/Wi-Fi

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BlueTown Rural Wi-Fi Innovation- Tailor made for Bharat

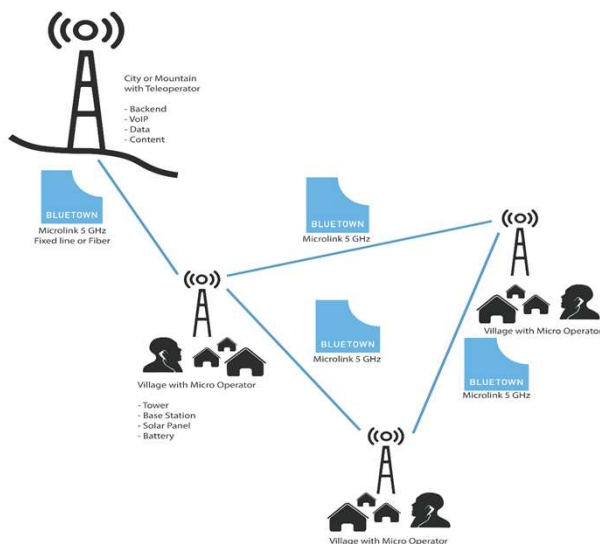
- A BLUETOWN initiative, partnering with Govt. and Telcos in converting 2.5 Lakh Gram Panchayats into public hotspots with an innovative Wi-Fi solution (5L-Low Cost, Low Power, Low Maintenance, Local Control, Local Content) which in turn could upscale to about 6.5 Lakh deployments across Rural India by using the modules & equipments locally sourced/manufactured.
- This Wi-Fi access solution shall compliment the BharatNet (NOFN) project driven by the Government of India which aims to provide Broadband connectivity to masses in Rural India by bridging the missing Last-mile access link.
- BLUETOWN Wi-Fi innovation has potential to create about 1Mn Blue-Collar *Intrapreneurs* in Rural India; thereby creating 1Mn jobs and opportunities for more through multiplier effect (3X).



Connecting the unconnected

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Bluetown Rural Broadband Access Solution



- BLUETOWN Wi-Fi platform is connected to existing infrastructure (mast, fiber), through a partnership with local infrastructure and service providers, like BSNL.
- Users connect to the BlueTown Hot-Spot via Wi-Fi access around 0.5 km range via traditional smartphones or laptops.
- Wi-Fi access can be extended to downstream Villages (around 4 lakhs) by creating a Mesh network using unlicensed upper Wi-Fi band (5GHz).
- BLUETOWN partners with VLE's (village level entrepreneurs) to take care of the Hot-Spot, selling prepaid broadband coupons as BLUETOWN/ISP agent; thereby generating local Intrapreneurs opportunities.

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e-Services delivered to Rural masses using Wi-Fi Hotspot

- **Broadband Access (Internet)**
 - Data Transfer, e-mails
 - High Speed Internet access
 - Local content & Caching
 - Social Networks (Facebook, Whatsapp, Skype, Viber)
- **Government to Citizen Service (G2C)**
 - E-Health (video conferencing with Doctors, telemedicine, Training of doctors can be done remotely)
 - E-Education (audio visual content, Interaction based educational content, online library, E-Books)
 - E-Governance (various government services can be extended to the users, Government records, updates of government services)
- **Business to Citizen (B2C)**
 - Agriculture Information (like what seeds are best for what type of soil, what fertilizers can be used)
 - Weather forecast especially for the farmers (so that farmer can plan accordingly)
 - Entertainment (Online content can be made available, YouTube, Movies etc.)



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Broadband Dialtone- Telephony over Wi-Fi as Last Mile Access

- In some remote & rural villages (36,000) even the Telephony access (like 2G) is not available
- In case a public Wi-Fi 'HotSpot' is created in a village, in addition to Broadband access it can also provide voice services as a Value-add/Apps (OTT)
- Last Mile Access on Wi-Fi can be used by NGN core to deliver IP based voice as a Fixed Mobile Convergence (FMC) through IP-PSTN Interconnect/Application also known as Unlicensed Mobile Access (UMA)
- This can make voice calls in rural areas very cost-effective(almost free) as it will use License-free Spectrum and the All-IP cost efficient infrastructure



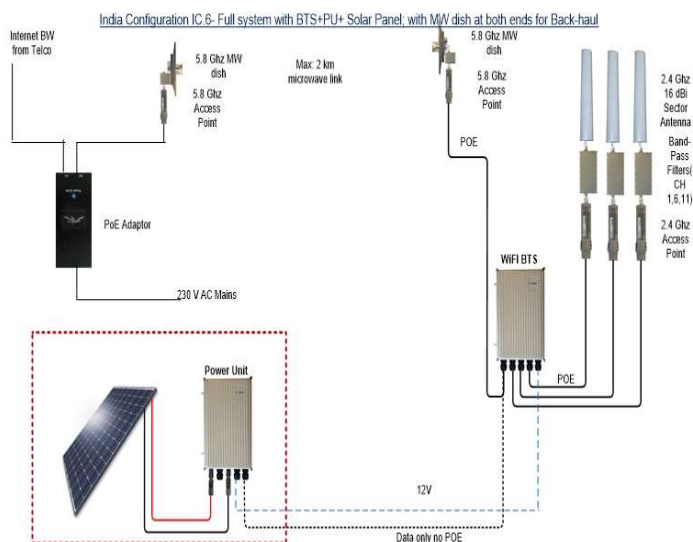
Connecting the unconnected

1/9/2019

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Innovative Network Architecture for Rural Wi-Fi HotSpot



- Complete system with solar power supply and battery pack & Backhaul on 5 GHz (Wi-Fi)
- For Population >2000
- 5 AP's, 3 Filters, 3 Antennae, 1 BTS, 1 Power Unit (including Solar Panel), 2 MW Dish, 5 meter mast
- Total One time CAPEX for this solution – INR 3.0 Lacs (USD 4.5K per setup (including installation & commissioning); based on local sourcing/manufacturing of majority of equipment from India and using existing infrastructure of Telcos

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Using Multiplier effect of an idea whose time has come - Archimedes Principle

“Give me a rod
(mast) long enough
strong enough- and
I will change the
lives of the rural
folks”



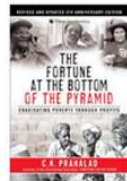
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Another great Idea-Business case for Rural Connectivity

The Fortune at the Bottom of the Pyramid by C.K. Prahalad



An idea can change the world...

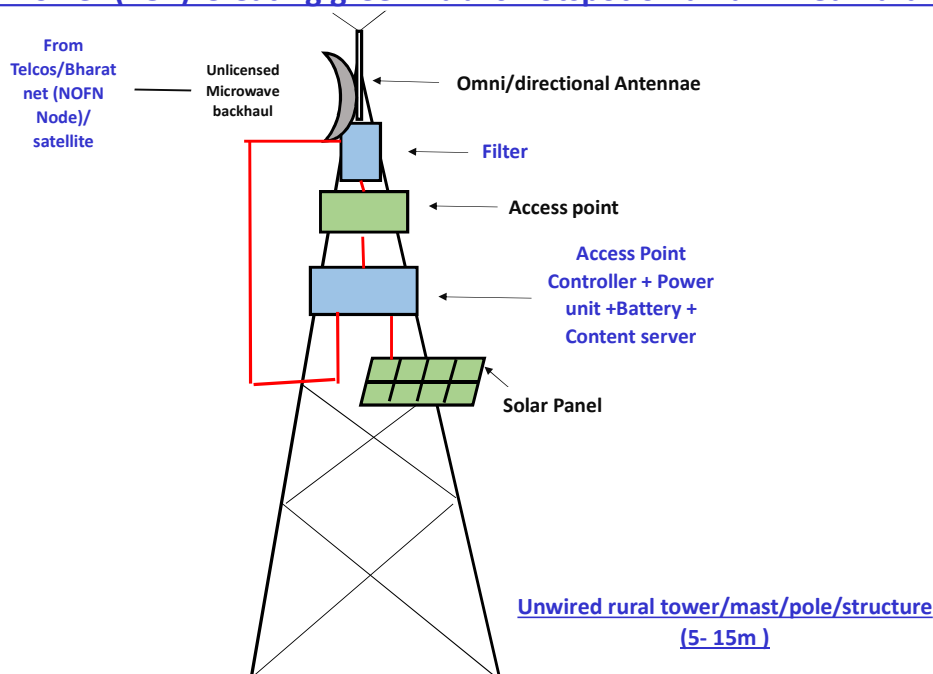


THE FORTUNE AT THE
BOTTOM OF THE PYRAMID
Revised and Updated Fifth Anniv. Edition

from C.K. PRAHALAD

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Everything On Tower (EOT)-Creating green Public Hotspot on an unwired Rural Tower



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Bluetown Business Case : Hotspot-as-Managed Service

Salient Features:

- POCs Conducted in India at Arian, Dadiya & Tilonia (Barefoot College)
- Associated with BSNL & BBNL (Bharatnet), Railtel, Local vendors
- Range of Wi-Fi (mast 5-15 meter Height) - 0.5 Kms achieved
- System could support up to 90 concurrent users with 3 Access Points
- With Backhaul Bandwidth limited to 10 Mbps users could experience speeds of 2 Mbps on their smartphone/handheld devices
- A real example of People-Panchayat-Public-Private Partnership and unlocking the potential of existing public Telco infrastructure
- An Open tender for Managed Hotspot service providers was won from BSNL for 4 states of Eastern India on Revenue share basis, converting Capex need into Opex and bringing in the concept of Anchor - Beneficiary to make the business model sustainable and profitable.
- More than 1000 APs deployed at rural Tourists sites, Educational institutions, LWE and remote areas in states of Jharkhand, Bihar, Assam and A & N and mass deployment undergoing.



CMD BBNL (now Secretary Telecom) experiencing a video session through Wi-Fi Hotspot from rural roadside



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BLUETOWN Innovative Business Model-Recognition in India

BLUETOWN was awarded the **Aegis Graham Bell Award** for ***“Rural Broadband Access- Most Innovative Business Model”*** on 27th November 2015, New Delhi



www.bellaward.com

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Contd....

BLUETOWN Recognition in India

- **BLUETOWN** was awarded the **SCTE award** under the category ***“Watch out 2016”*** on 22nd January 2016 at the **Convergence India 2016** event



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Strategic Partnerships in India -TCIL



- MOU signed between BLUETOWN & TCIL (Telecommunications Consultants of India Limited)
- TCIL is a Govt. of India undertaking and have been providing Telecom consultancy & turnkey project execution services to various telecom operators, bulk users and others in India and 80 other countries.
- The objective of the MOU is to participate jointly in projects of common interest in India & abroad



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Strategic Partnerships in India –ESSCI (NSDC)



- BLUETOWN have signed an MOU with ESSCI (Electronics Sector Skills Council of India) on 30th November 2015
- This MOU facilitates co-operation between ESSCI and BLUETOWN to train VLE (Village Level Entrepreneurs) by creating NOS (National Occupational Standard)



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BLUETOWN in news in India



BLUETOWN'S ACHIEVEMENTS IN 2017

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2017 was a year of extraordinary commitment, support, and achievements for BLUETOWN. In this booklet, we give you a brief insight into our projects and achievements from the past 12 months. Read the 2017 Achievements here



BLUETOWN TO CONNECT 1 MILLION PEOPLE IN RURAL JHARKHAND, EASTERN INDIA

© 29. December 2017

BLUETOWN and our partners, BSNL and GolP, have signed a multimillion-dollar agreement with Jharkhand State Government in India to roll out last mile Wi-Fi solutions to connect the masses in rural areas in the state of Jharkhand. The agreement is...

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BLUETOWN in news in India

Contd....

Danish firm Bluetown offers low-cost, local internet to hinterland in India

Mansi Taneja
mansi.taneja@draindia.net

New Delhi: Denmark-based firm Bluetown plans to offer wi-fi solutions in India, especially in rural areas, under which one can access specific internet content without an active data connection.

This will be extremely critical in areas where network connectivity is low. The company works through 3G — low cost (works on free band of 2.5 Ghz), low power (only 20 watts of power required), low maintenance, local cloud and local content.

"The local cloud will keep users connected to local content, even if the internet connection is interrupted," Satya Gupta, country managing director, Bluetown India, told DNA Money.

"Since we use local cloud, the content gets saved locally. It is part of BTS and put in a box in the tower. There can be pre-loaded local government content which can be accessed besides the cached content which gets saved



Satya Gupta

while accessing the internet. Also, the content keeps updating automatically when the internet connection is on," he said.

However, this comes at an extra cost of Rs 50,000 or the state government/telecom firm/content owner can pay lease charges.

The company has got a contract from BSNL for installing 15,000 wi-fi hotspots in Jharkhand, Assam, Bihar with an investment of \$80 million over a period of 3-5 years.

Bluetown is in discus-

CONNECTING PEOPLE

■ The local cloud will keep users connected to local content, even if the internet connection is interrupted

■ The content keeps updating automatically when the internet connection is on

■ The firm has got a contract for installing 15,000 wi-fi hotspots

to work in even the most rural parts of the world, powered 100% by solar energy and comes with rechargeable batteries as a backup for 24/7 performance. Also, users can charge their mobile devices at a specially designed charging station and extra features such as a streetlight and webcam can easily be added. The base station is delivered as a turnkey installation. It connects to the internet by existing infrastructure via fibre or microwave link, satellites, drones or balloons," he said. The company has already installed such solutions in Africa and Latin America.

Once the system is installed, users are up and running within minutes. Multiple base stations can be set up in a mesh of access points and the masts connect via a microwave link designed to operate at a distance of up to 20 kilometres.

This makes it easy to cover a larger area or connect several villages starting from the same internet connection, he said.

According to him, about 70% of India's population, equivalent to 857 million people, lives in rural/remote areas. And as per estimates, about 500 million users are yet to be connected by internet.

"Our solution is designed

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Contd....

BLUETOWN in news in India

BLUETOWN was in news in India when the first POC deployments were done in Ajmer, Rajasthan, Telecom Secretary Mr. Rakesh Garg visited our site



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BLUETOWN in news in India

- **BLUETOWN sites in rural Ajmer was visited by Mr. N Sivasailam (Add. Secy. Telecom/CMD BBNL) and he experienced the BLUETOWN wi-fi himself on his smartphone**



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BLUETOWN in news in India

Datawind, Bluetown show interest to set-up VNO biz in India

By PTI | 1 Apr 2016, 07:55PM IST

Post a Comment

READ MORE ON » VNO | Suneet Singh Tuli | Datawind | BSNL | Bluetown

NEW DELHI: Aakash tablet maker Datawind and Denmark's Bluetown are interested in offering telecom services as virtual network operators (VNOs) and will apply for the licence once the government notifies new rules.

While Canada's Datawind is planning pan-India operations, Bluetown through an Indian arm will look at Bihar, Jharkhand, North East, Haryana and Rajasthan.

Inter-ministerial panel Telecom Commission earlier this week had paved the way for VNOs, who will be providing telecom services in partnership with a local operator. VNOs will lease bandwidth from operators to sell voice and data services to customers, like a retailer, under its own brand name.

VNOs will also be able to provide own billing plans and are expected to push tariff war in the market.

"As per reports, government will put VNO licence in place within a month. We will apply for a pan-India permit and expect to start operation within six months," Datawind President and CEO Suneet Singh Tuli said.

He said Datawind has already operated as VNO in the UK, Germany and Australia during 2007-11.

"We are rolling out wi-fi and broadband projects in partnership with BSNL. VNO opens an opportunity for us to decide on our own tariff. Our focus is on rural broadband. With VNO we will providing calling service in over-the-top format.

"We will look at VNO permit in Bihar, Jharkhand, North East, Rajasthan and Haryana to begin with in partnership with companies like BSNL," Bluetown Country Managing Director Satya N Gupta said.

The VNO, however, will not be allowed to set-up equipments to directly connect network of other network or a non-partner. They will be dependent on their partner for connecting with various networks.



"As per reports, government will put VNO licence in place within a month. We will apply for a pan-India permit and expect to start operation within six months," Datawind President and CEO Suneet Singh Tuli said.

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time such business model was not allowed.

VNO players are expected to reduce marketing and sales costs of telecom companies struggling in the sector, besides sharing some operational expenses too.

Both the companies are looking at partnering BSNL. When contacted, BSNL Chairman and Managing Director Anupam Shrivastava said it is a huge opportunity for the state-run firm and VNOs can help in selling telecom services.

"We have huge bandwidth resources. BSNL can supply in bulk. We only lack in marketing and servicing customers where VNOs can help us," Shrivastava added.

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BLUETOWN (India) in Danish Media



BLUETOWN CHOSEN AS A 2018 RED HERRING TOP 100 EUROPE WINNER

© 24. April 2018

April 17, 2018, Amsterdam, Netherlands – Red Herring announced its Red Herring Europe award winners this evening at the Top 100 forum, recognizing Europe's leading private companies and celebrating these startups' innovations and technologies across their respective industries. Red Herring...

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BLUETOWN (India) in Danish Media

THE DANISH IT COMPANY BLUETOWN HAS LANDED A MILLION ORDER TO CONNECT THE CITIZENS OF INDIA'S RURAL AREAS. CEO PETER IB EXPECTS A TURNOVER OF DKK ONE BILLION IN THE COMING YEARS.

Summary from Berlingske Tidende (danish media)

12.500 solar-powered Wi-Fi hotspots in Indian villages within the coming 3 years. This is the result of the million order that BLUETOWN in cooperation with partner company Goip has successfully settled with the state-owned Indian telecommunications company BNSL.

"We have to raise the capital and thereby grow the business in cooperation with BNSL. The potential for success is huge. For a relatively young company, this order is a scoop", says Peter Ib, CEO of BLUETOWN.

BLUETOWN has its headquarter in Copenhagen and offices all around the world, counting Tanzania, India, San Francisco, Peru, Ghana and Dubai with a total of 65 employees.

With the new agreement, Peter Ib expects a turnover of a couple of DKK hundred million at the Indian market. The objective is to utilize the agreement to its fullest extent and thereby obtain a DKK 500 million turnover. This requires BLUETOWN to obtain a capital injection of approximately DKK 100 million. In 2016, 500 hotspots will be established in secluded Indian villages and in the course of three years, the number will count 12.500 hotspots. Within the next five years, the ambition is 25.000 hotspots all around India.

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BLUETOWN (India) in Danish Media

"The telecommunications industry is a huge, global market with high revenue. We expect a turnover of DKK one billion in 2018 or 2019. It's a risky and unknown terrain, but we have succeeded in ways that people didn't imagine to be possible - for example with the order in India", says Peter Ib.

Connecting the unconnected in the world's poorest areas

Since 2012, BLUETOWN has invested DKK 50 million in the development of Wi-Fi hotspots to developing countries. Some may regard BLUETOWN as philanthropy, but this is not the case according to Peter Ib. BLUETOWN operates as a profitable business with focus on innovation, sustainability and improvement of the information flow in poor, rural areas.

"The timing is perfect. The market is changing and the traditional telecommunications industry based on GSM is being outpaced by cheaper, lightweight technologies suitable for these areas", states Peter Ib.

The Indian order means that BLUETOWN's Indian country office will be expanded from six to twenty employees. It was the Indian country manager, Satya. N. Gupta, who made BLUETOWN aware of the growth potential of the Indian market a few years ago.

"The Indian Premier Minister Narendra Modi had begun the execution of the reform program 'Digital India', which among other things encompasses internet access to 650.000 villages", says [Satya N. Gupta](#).

In cooperation with Satya N. Gupta and Goip, BLUETOWN is taking the lead in the development and improvement of the Indian IT infrastructure.

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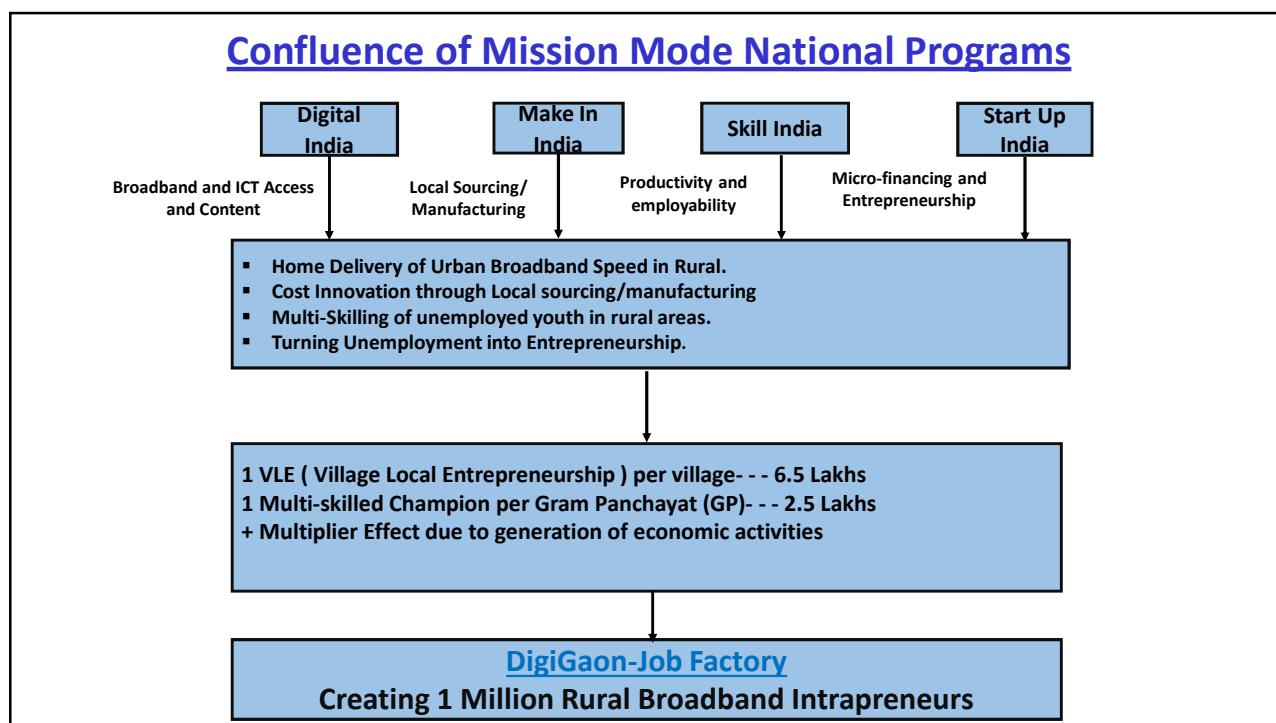


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Smile on the faces of first time users of Wi-Fi in rural Jharkhand



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Digital India/Skill India/Start-up/Stand-up India

- While planning to create Wi-Fi hotspots in rural areas under Digital India; we would need skilled manpower also to operate & maintain these hotspots
- Every village would require at least 1 VLE (Village Level Entrepreneur) for sales and recharging of broadband services and upkeep & operation of the Hotspot system. In addition at each Gram Panchayat one multi-skilled entrepreneur will be required.
- There is a need for creation of about 10 Lakhs Wi-Fi hotspots in 6.5 lakhs villages of India to cover the rural masses.
- Therefore about 1 million “Village Level Entrepreneurs” across the country need to be created to operate, maintain & manage the rural Wi-Fi Eco-system.
- These will be selected out of unemployed local youth who will be skilled as VLE’s through various schemes of Govt. under Skill India & supported through MSME/ Entrepreneurship Policy 2015 and funded through MUDRA/MSME Scheme/MPLAD Fund/Standup India Fund.

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Rural Wi-Fi Hotspots-Great Opportunity to Create Jobs

- More than half of modules used in rural broadband access solution are off- the-shelf available in India
- Most of the modules can be sourced from India itself and rest can be manufactured locally through Small and Medium Enterprises (MSMEs).
- The modules which are already being manufactured locally are omni-directional and sector antennae, filters, outdoor cabinet, power control and converter unit, solar panels, connectors and cables, Mast and Li-ion Batteries.
- The BTS (AP Controller) is the only specialized module in the solution which can also be easily manufactured in India as the volumes grow
- There are discussions with various Vendors/Manufacturers (including BSNL, ITI, TCIL, MSMEs) to have the BTS also manufactured/ Co-create in India
- 100% of the rural setup could be sourced from India within a year thereby creating a demand for around 2 Billion USD worth of local equipment during next 5 years

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Rural Wi-Fi Hotspots-Scale and Scope for “Make in India”

Project Projections - Next 5 years (2B USD Opportunity)

	Nos.	UNIT Capex(INR)	UNIT Material Cost (INR)	UNIT Labor Cost (INR)	Work Man-Days @ Rs 250/day
Gram Panchayat (GPs)	2.5 lakhs	3.0 lakhs	2.5 lakhs	0.5 lakhs	5 Crore Man-Days
Village	4.0 lakhs	2.0 lakhs	1.5 lakhs	0.5 lakhs	8 Crore Man-Days
TOTAL	6.5 lakhs	15,500 Cr.	12,250 Cr.	3,250 Cr.	13 Crore Man-Days

	Total Capex (INR)	Material Total Cost(INR)	Locally Manufactured (80%)
Total for GPs	7,500 Cr.	6,250 Cr	5,000 Cr.
Total for Villages	8,000 Cr.	6,000 Cr	4,800 Cr.
GRAND TOTAL	15,500 Cr.	12,250 Cr.	9,800 Cr.

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“Job Factory”- Realty Check of Job Challenge in India

- Presently Indian economy is creating only 5.5 Million jobs a year, less than half of incremental addition to unemployed educated youth
- India to have skilled workforce of 500 Million by 2022 with 13 millions youth entering the job market every year (Skill India Mission, ASSOCHAM)
- At the current rate of growth (@7.2%) there will be acute shortage of Jobs even for skilled/employable youth
- Therefore need for creation of Intrapreneurs by multi-skilling and empowering/funding the youth at grass-root level to make them “Job-creating/giving” instead of “Job-seeking”

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Some more numbers (for Rural India)

- On average every Gram Panchayat covers 3 Villages
 - Under NOFN project 2.5 Lakh Gram Panchayat's to be connected with Optical Fibre (100MBPS)
 - There is need to convert all the Gram Panchayats and villages into Public Hot-Spots for hand-delivery of Broadband services to rural masses
 - For 6.5 Lakh villages to be covered around 10 lakhs Wi-Fi Hot-Spots required
 - Depending on the size of the village VLE*/Micro-Operators will be required to manage the Hot-Spot setup to provide Broadband access to the public
 - With around 1 Million VLE/Micro-Operator (Rural Broadband Intrapreneurs) whole of our hinterland (Bharat) can be served with Broadband services
- (*VLE - Village Level Entrepreneur)

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Skillset Required for Rural Broadband Intrapreneur (VLE)

Skillset	Scope	Activities
TECHNICAL SKILLS	Responsible for last mile Operations and Maintenance of Electronics, electrical equipment and their inter connectivity	<p>Electronics Skill:- Installation, Commissioning & Maintenance of electronics equipment : Operational Knowledge of Wi-fi, Networking, Level 1 (L1) support.</p> <p>Electrical Skill:- Installation, Commissioning & Maintenance of electrical equipment such as Power Interface Unit, Battery Bank, Solar Panel etc.</p> <p>Computer Skill:- Computer/ Laptop operations, Knowledge of Smartphone, Internet, Knowledge of application software and Hardware.</p> <p>Connectivity :- OFC, GPON Connectivity - Level L1 support, Tower, Antenna, Cabling, Connectors, Hardware (Passive & Active) Connectivity.</p>
OGANISATIONAL SKILLS	“Organisation Skills is concerned with the study of what people do in an organisation and how that Skill affects the performance of the organisation.”	<ul style="list-style-type: none"> • Following organization guidelines, processes & procedures. • Facility Management skills. • Liaison with Gram Panchayat, Sarpanch and other Village Head. Security of the Installations/site. • Basic knowledge of accounts. • Maintenance of Records (Health, Technical)

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Skillset Required for Rural Broadband Intrapreneur (VLE)

Skillset	Scope	Activities
SOFT SKILLS	Soft Skills involves several elements which differentiate them from all the other forms of communications.	Understanding of customer requirements. Customer Handling. Correspondence and Relationship with customer, customer care and complaint handling. Customer satisfaction
ENTREPREUNERSHIP SKILLS	Understanding of business skills. By utilization of innovative ideas must be able to generate profit. Further enhancing the business by provisioning of various services.	<ul style="list-style-type: none"> • Entrepreneurship skills, selling skills, Services provisioning and Providing, Prepaid Charging plans. • Knowledge of products and servicing. Should be capable of running the Hot-Spot as profit centre.

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Action Plan to Create Rural Broadband Intrapreneurs

- NSDC (National Skill Development Corporation) a Govt. of India Initiative was launched in Oct 2009
- NSDC has a mandate to skill 150 Mn resources by 2022; and is currently working in 366 districts (27 states & 5 UT's)
- NSDC provides strategic support and funding to partners
- ESSCI (Electronic Sector Skill Council), TSSC (Telecom) and IT-ITES Skill Sector Council under “Skill India” mission of Govt. , in addition NIELIT of DEITY are also engaged in developing multi-skills in ICT domain.
- These are created to ensure adequate availability of multi-skilled manpower to boost growth and productivity in the Electronics, IT and Telecom Sector
- Bluetown is tying up with these kind of institutions and many others in Govt. like CSC 2.0 and Private sector and NGOs (e.g. Barefoot College, Tilonia) engaged in Rural development as well as various Start-ups and Entrepreneurs funding agencies of Govt. like MUDRA, SIDBI Venture, Ministry of Skill Development and Entrepreneurship to create the skilled manpower as Intrapreneurs for Rural Broadband

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Way Forward

- ☐ Deploy more and more Managed Hot-spots in Rural areas on Managed Service (Revenue-Share) as well as Capex/ Funded basis by using existing infrastructure to provide carrier grade public Broadband access.
- ☐ Provide VGF (Viability Gap Funding) for rural access network in line with National Backbone Network (NOFN) and mobile telephony in NE/LWE areas as well as Funding of rural micro Intrapreneurs.
- ☐ Involve local bodies (GPs, Municipalities) as stakeholders.
- ☐ Facilitate “ Make in India” of Wi-Fi Access Point Controllers, Lithium-ion battery packs and other modules.
- ☐ Create Social Enterprises like: DigiGaon-Job Factory
- ☐ Let us “Make It Happen” together (USOF, PSUs, Industry, Local Bodies)
- ☐ Move Extra Mile - PPPPP (5Ps)- People, Panchayat, Public (Govt.), Private (Industry) Partnership

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Next Step - “Mission”

- Establishment of **“Social Enterprises”** at national level consisting of like-minded social entrepreneurs supported by the related agencies of Central , State Govt., PSUs, Corporates, MSMEs, Skill Development agencies and rural development NGOs with a single point Mission to enable **“Delivery of Urban Broadband speeds in Rural”** in a cost effective, timely and sustainable manner and creating at least **“One Intrapreneur Per Village”**.

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Creating Livelihood



"Bringing Awareness Through Knowledge Exchange"



“DigiGaon-Job Factory”

An NGNguru “5P” Initiative for Social Enterprise inspired by
 Prof. Yunus “Grameen”, Dr. Kalam’s “PURA”, Prof. Prahalad
 “BOP” Vision & Govt. “RURBAN” Mission

sg.ngnguru@gmail.com, +91 9910327489

Visit www.saamcorpadvisors.com for downloading various Papers by NGNguru including the Book titled “Making The Business of Rural Broadband Happen”

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Thank You