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BIF

BROADBAND INDIA FORUM

"Think Tank for Digital Transformation"

CELEBRATING



WORLDTM Wi-Fi Day

20th June 2019 | Constitution Club of India, New Delhi

CONNECTING THE UNCONNECTED: Unleashing Wi-Fi Full Potential





About Broadband India Forum (BIF)

BIF is an independent Policy Forum and Think Tank that is devoted to the cause of proliferating broadband in India in a technology-neutral and all-inclusive manner. We work closely with the Government and the Regulator in this mission.

Registered as IPTV Society, its brand - BIF was formed in October 2015 and is a fairly nascent but dedicated Forum with participation from all stake holders, including Technology Providers, Telecom Operators, Internet Service Providers, Value-Added Service Providers, Satellite Operators and service providers, MSO, startups and professional entities as well as seasoned Industry professionals who are familiar with different technologies, operations, regulations and policies.

Some key highlights about BIF:

- **Guided by experts:**

The Forum's senior leadership team includes renowned and respected professionals from background of Industry, Regulator and Government. BIF is greatly privileged to have a distinguished Panel of dignitaries & experts as **Honorary Principal Advisors**.

- **A thought leader** working towards creating a Digital India:

BIF seeks to be a thought leader and a credible and effective voice to help propel the nation to achieve the country's ambitious vision of creating a Digital India.

To achieve this, BIF works to promote the rapid development of policies to promote affordable and high speed ubiquitous broadband throughout the country.

- BIF functions through its Hi- Level Committees on various subjects like 5G,SatCom & Broadcasting, New Technologies & Innovations, Policy & Licensing, Content & Applications, Infrastructure, Privacy, Trust & and Security etc. BIF has **14 Hi-level Committees**.
- **Other significant activities of the Forum broadly relate** to coordination, promotion and formulation of expert opinion on topical subjects related to Broadband; act as a credible and reliable platform for Industry, Government, Regulatory and Standards agencies; spearhead independent and non-partisan work in several areas related to policy, regulation and standards; conducting conferences, seminars and knowledge events; writing research papers and white papers in collaboration with reputed research institutes such as ICRIER, IIM Bangalore and Counterpoint Research; running awareness campaigns within the highest echelons of Government's policy makers on several issues; releasing media articles on issues currently pertinent to telecom in India such as Make in India, EMF radiation, Net Neutrality, Internet Telephony, SatCom Liberalization & Reforms, V band, GST, Wireless Fiber etc, and conducting R&D Projects as part of an overall Consumer Awareness Program.
- BIF has published White Papers & Reports on almost all Telecom related subjects.

Please visit the BIF website: www.broadbandindiaforum.com for more information.



BIF CELEBRATING WORLD WI-FI DAY

CONNECTING THE UNCONNECTED: Unleashing WiFi Full Potential

World Wi-Fi day is a unique and global initiative to help bridge the Digital divide. It is organised by Wireless Broadband Alliance under the leadership of Connected City Advisory Board (CCAB).

There are around 3 billion people around the world with no Internet access. A sizeable number of them are in India itself. Based on a World Bank study a 10% increase in broadband penetration in a country results in ~1.3 % increase in the GDP growth. A BIF-ICRIER joint study of 2017 has shown that for India the indices are starkly more impressive. The Report has found out that a 10% increase in Mobile Internet Penetration has resulted in a GDP increase of almost 3.3% for India. Therefore the significance of Broadband penetration is more in India, something that has been amply recognised in the NDCP-2018 and is fundamental to the Hon'ble Prime Minister's Digital India vision.

The Role of Public Wifi is very important in spreading broadband penetration. While cost of Mobile Broadband has come down dramatically, post arrival of a new entrant in the market, it is still more viable to have Public Wifi from ubiquitous broadband perspective. Consistent download capacity for heavy downloads requires availability of consistent and large quantity of spectrum for mobile broadband. This is where Public Wifi plays a very significant role. Hence its utmost significance in bridging the 'digital divide' cannot but be undermined.

India unfortunately is lagging behind as compared to other economies in terms of number of Public Wifi hotspots. Based on a global average of 1 Wifi hotspot for every 150 persons which is being revised to 1 in 20 persons, India should have had 80 lakh hotspots. Though we have 3.5 lakh Public Wifi hotspots thanks to Govt initiatives, we are barely at about 5% of the benchmark requirement. So, we have a long way to go.

Thanks to TRAI recommendations regarding liberalisation of the Public Wifi model and the unique WANI standard for interoperability between hotspots and Govt's acceptability & approval of the same, the fruits of these are beginning to show which is evident from Govt's recent announcement confirming a sizeable number of inter-operable hotspots, thereby enabling 'roaming' while moving from one public Wifi hotspot to another. BIF made a significant contribution through its Public Policy & Regulatory interventions to TRAI & DOT in this regard.

The importance of Public Wifi liberalisation can be understood from the fact that we need to proliferate Public Wifi hotspots everywhere across the country in a very short span of time. This would not be possible with a limited number of players. We need veritably a huge army of entrepreneurs to go and set up Public Wifi hotspots everywhere. Hence Public Wifi liberalisation is a key requirement for meeting the hotspots target as enunciated in the NDCP and BIF supports the same fully.

The Gazette Notification by the Department of Telecommunication (DoT) to license exempt 605 MHz in the 5GHz band in line with developed economies like US, UK, Korea, etc was a hugely welcome step forward to obviate the bandwidth crunch for creation of Public Wi-Fi hotspots, thereby leading to

increase in total unlicensed spectrum available for Public Wifi by almost 6 times. A report by Analysys Mason on Public Wi-Fi says: Free and de-licensed spectrum availability has been a major driver of Wi-Fi take-up across the world, leading to global economies of scale and mass production of Wi-Fi equipment which drove down the cost of Wi-Fi (access points, chipsets) devices thereby reinforcing the virtuous cycle. With this GN of October 2018, India joined the global bandwagon in making adequate spectrum available for this very important service.

The National Digital Communications Policy 2018 has in its Policy document has given due recognition to the role of Public Wifi by liberalising Public Wifi by targeting a creation of 5 Mn Wi-Fi hotspots by 2020 and 10 Mn by 2022.

Broadband India Forum which is dedicated to the cause of liberalization and advancement of broadband in the country for socio-economic inclusion, had organised a Conference to highlight the significance of de-licensing of 5GHz for Public Wi-Fi and its overall impact on the economy on 5th February 2019. The Conference highlighted the key aspects of Public Wi-Fi to the number of small players, especially in rural and semi-urban areas to boost the broadband availability to the masses and also the socio-economic impacts from Public Wi-Fi to the nation. Some of the key findings of this Conference was how this additional bandwidth would fuel bandwidth hungry applications, real time video streaming (outdoor use cases) to be effectively served by outdoor Wi-Fi hotspots. The increase in the number of broadband users and the increase in data consumption will enhance the data downloads and will massively benefit the Telcos and the carriers thereby boosting the revenues.

Broadband India Forum celebrates this important World Wifi Day together with Wireless Broadband Alliance which is dedicated towards this year's theme of working towards 'Connecting the Unconnected' on 20 June 2019 at Constitution Club of India, New Delhi. We have the proud privilege and honour to announce that the event shall be graced by Smt. Aruna Sundararajan, Secretary Telecom and Chairperson, National Digital Communications Commission who has kindly consented to be the Chief Guest at the Celebrations. We are inviting large numbers of professional from Govt., the regulator, the industry and other stake holders from the Broadband Ecosystem to participate in the event.



CELEBRATING



20th June 2019 at the Constitution Club of India, New Delhi

CONNECTING THE UNCONNECTED: Unleashing Wi-Fi Full Potential

PROGRAMME

Time : PM	Programme
3:00-3:30	Registration & Networking Tea
3:30- 3:45	Welcome & Introductory Address: Mr. MF Farooqui , Former Secretary (Telecom), DoT & Chairman, Broadband India Forum
3:45-4:00	Keynote Presentation 1: Mr. Satya N Gupta , Chairman-India and BIMSTEC, Asia, Bluetown
4:00-4:15	Keynote Presentation 2: Mr. Kartik Raja , CEO & Co-Founder, Phimetrics India & Mr. Chandra Ramamoorthy , Chief Product Officer & Co-Founder, Phimetrics India
4:15-4:25	Address by: Mr. Vivek Banzal , Director CFA, BSNL
4:25-4:40	Special Address by Special Guest of Honor: Mr. Vipin Tyagi , Executive Director, C-DOT
4:40-5:00	Special Address by Chief Guest: Shri Sanjay Shamrao Dhotre , Hon'ble Minister of State for HRD, Communications & Electronics & IT, Government of India
5:00-5:10	Q&A Session
5:10-5:20	Vote of Thanks & Concluding Remarks: Mr. TV Ramachandran , President, Broadband India Forum
5.20	Networking Hi Tea

SPEAKER'S PROFILE



Shri Sanjay Shamrao Dhotre

*Minister of State for Communications, Electronics & Information Technology and Human Resource Development
Government of India*

Shri Sanjay Shamrao Dhotre, an eminent parliamentarian with decades of contribution at grass root level, is a distinguished engineer, agriculturist and advocate. Vocal against injustice, he relentlessly engaged in the issues of agriculture sector, farmers' issues and rural development. He has been an elected Member of Parliament, successfully representing Akola Constituency (Maharashtra) since 2004. He was also a Member of Legislative Assembly (MLA) from Murtizapur (Akola District) during 1999-2004. Since beginning, Shri Dhotre was very active in student movements and was a student representative and General Secretary of Amaravati Engineering College, Nagpur University.

His parliamentary contributions include the work as a Member in various Standing Committees (Information Technology, Estimates, Railways, Rural Development, Agriculture), Consultative Committees (Agriculture, Defense), Business Advisory Committee and Indian Council of Agriculture Research.

Shri Dhotre, held several distinguished positions and was awarded for his outstanding contributions by Maharashtra Govt. Industry Award for Excellent Performance (1987) and Late Shri Vasantrao Naik Memorial Award for Outstanding Work in Agricultural Sector (1999). He was the former Vice Chairman of Maharashtra Council of Agricultural Education & Research Pune (MCAER), Govt. of Maharashtra.

His contributions were well acknowledged at the grass root level in cooperatives, government institutions on issues of rural development and agriculture as the main stay. He was a Director in Gram Vikas Cooperative Ginning & Pressing Factory, Member in Maharashtra State Employment Selection Board and an invitee member of Board of Studies (Department of Farm Structures), Dr. Panjabrao Deshmukh, Agricultural University. He was an Executive Council Member of Dr. Panjabrao Deshmukh Krishi Vidyapeeth. He won accolades as a five term elected Director from amongst the Farmers' shareholders of Maharashtra State Seeds Corporation Limited, Akola.

In his long political journey, Shri Dhotre, held several party positions in Bharatiya Janata Party as District President, Akola (1999-2004), Secretary Maharashtra Pradesh Bharatiya Janata Party (2013-2016) and Party Whip Maharashtra BJP Parliamentary Party (2013-2016).

His areas of interest include Technology for Change, Water Conservation, Infrastructure & Community Development, Environment and Climate Change, Sustainable Agriculture for marginal Farmers.

Mr. M F Farooqui

Chairman, Broadband India Forum

Mr. MF Farooqui is the Chairman of Broadband India Forum

Mr. Farooqui has retired as secretary, department of telecommunications (DoT) and chairman telecom commission.



Prior to the current assignment, he served as secretary, department of heavy industry, government of India. He also played a key role in Tamil Nadu government in increasing the footprint in the industry sector as principal secretary, department of industry.

Mr. Farooqui also served as special secretary in the ministry of environment and forests and was instrumental in shaping up critical environmental and climate change policies in the ministry.

During his career, he worked as Joint Secretary in the Department of Economic Affairs, Ministry of Finance, Government of India. In mid-nineties he worked as Consul General of India in Jeddah, Saudi Arabia. He has also worked as chief executive and member, secretary, Chennai Metropolitan Development Authority (CMDA).

Mr. Farooqui is a 1978 Tamil Nadu cadre IAS officer and holds Masters degrees in Physics and Business Administration.



Mr. Vipin Tyagi

Executive Director, C-DOT

Presently, Mr. Tyagi, as Executive Director & Chairman of the Board, is heading C-DOT, which is engaged in development of various projects at the frontier of Telecom technology in the areas of Optical communications, Next Generation Networks and Wireless technologies. C-DOT is also playing important roles in 'Make in India' and 'Digital India' programs launched by Govt. of India, Department of Telecommunications. Digital communication infrastructure required for smart cities and smart buildings is also being innovated by C-DOT.

Mr. Tyagi is an innovation and Business Leader from Information Technology and Telecommunication Industry for over 35 years. He had founded and led a Company out of New Delhi for 12 years as Board Member and Global CEO. He has headed global business in India, Japan, Australia, USA and Europe. He has actively worked towards Research and Development of large systems, Organizational Development and creation of high performance teams. In October, 2009, Vipin decided to promote National level R&D and joined C-DOT.

Some of the notable projects are :

India's first 100 Gigabit per wavelength commercial grade optical fiber link in 2015 while at C-DOT.

Innovative Access product for providing internet based services to illiterate and technology unaware rural population through a product called GYANSETU in 2015.

India's first Indigenous Gigabit Passive Optical Network (G-PON) development & deployment while at C-DOT, 2010.

World first Broadband Network based Video on Demand System with ATM Switches, Video Servers and set-top boxes for TV sets with global delivery teams in 1997 while at Network Programs.

India's biggest and most successful project for development of electronics switching systems for rural India and towns while at C-DOT. 1986 – 1993.

India's first Large Scale Message Switching Systems Development, while at ECIL, 1984.

Development of over 50 Products in area of Enterprise and Telecommunications Industry.

Achievements :

- Launch of Broadband Products developed by C-DOT aimed to enable Digital Broadband Connectivity by

Hon'ble MOC&IT at C-DOT Delhi in July, 2015 during Digital India week.

- Launch of "GyanSetu" and MAX-NG, C-DOT's Next Generation Network (NGN) technologies as part of Good Governance Day in December, 2014.
- Inauguration of C-DOT Terabit Router & Fiber to the Desk (FTTD) by Hon'ble MOC&IT in October, 2014.

Awards : In Leadership of Mr. Tyagi

- Received Excellence Award from Minister of State (Communication) for development of Digital Switching System.
- C-DOT won three AEGIS GRAHAM BELL AWARDS for "C-DOT Wi-Fi Terminal" in the Innovative Telecom Product Category, "C-DOT GIS based Fibre Fault Localization System" in the Innovative Managed Services Category and "C-DOT Green Power Supply Unit" in Green Telecom Category
- C-DOT won the Frost & Sullivan's Award for C-DOT's "Customizable Service Management" Project under Process Innovation Leadership Category in the Service sector of Project Evaluation and Recognition Program in Nov, 2016.
- C-DOT won the National Intellectual Property (IP) Award in April 2016 under the category of "R & D institution/organization for Patents" on outstanding innovators, organizations and companies in the fields of patents, designs, trademarks and geographical indications.
- C-DOT's GPON was awarded the "Most Innovative Product" at IESA (India Electronics and Semiconductor Association) Technovation Awards in Feb. 2016.
- C-DOT GyanSetu was awarded the "Recognition of Excellence" award at ITU Telecom World, Budapest, Hungary in October, 2015.
- C-DOT received "Certificate of Merit" Award by ELCINA-EFY Awards 2014-15 in Sept. 2015 for Green Power Supply Unit.
- C-DOT received an Award by ELCINA-EFY Awards for Excellence in Electronics for 2011-12.
- Received fellowship program from IEEE-SA in 2017.
- Received Eminent Engineer Award by IET in recognition to unfailing commitment to excellence in field of Electronics & Communication.
- C-DOT received "Certificate of Merit" by ELCINA-EFY Group for excellence in electronics 2016-17.
- Received INDO-AFRICA ICT Awards 2017 hosted as 3rd Indo-Africa ICT Expo 2017 in Nigeria for Excellent R&D Innovation in Telecom Sector.

Mr. Vivek Banzal

Director- Consumer Fixed Access, BSNL

Mr. Vivek Banzal, Indian Telecom Service Officer of 1987 batch joined as Director (CFA), in BSNL Corporate Office on 18.10.2018. He is Bachelor of Engineering in Electronics, Master of Engineering in Computer Science and MBA. He has more than 31 years' experience of handling Computer and Telecom Network. He started his career as customer service and solution engineer in computer industry. After joining Telecom Department, he executed first digital satellite ground station project for telecom in India.

His quest for innovation and process re-engineering was tested when competition began in Telecom Sector



in India at Indore in fixed line segment in 1997. He is known for successful implementation of innovative ideas, during his stint in fixed line segment, with start of wire-line broadband in India. Later he worked in customer mobility with same flavour in planning, engineering, rollout, network upgrade, O&M, marketing and retail chain management. He had planned and implemented, number of innovations in various customer centric activities in Mobile Network in Gujarat. Few of them were replicated in other Circles later on.

As Director (CFA), BSNL, he is responsible for formulating and implementing policies for Fixed Line and Broadband network in BSNL. The FTTH project is also handled by CFA vertical. The modernization of fixed Line network and the IT enabling for BSNL as a whole falls within his jurisdiction.



Mr. T V Ramachandran

President, Broadband India Forum

Mr. T V Ramachandran, widely known in the telecoms industry as 'TV', has played a key role in Mobile Telecommunications in India since it was first introduced in 1994. He was the 1st CEO of one of the earliest cellular ventures in India - Sterling Cellular Ltd (Essar Cellphone), Delhi – the predecessor of what is today Vodafone Delhi.

TV was the first Chairman of the India Interest Group of GSM MoU Association and has been closely involved with GSM activities all through the years. TV then moved on in 1997 to establish and lead the industry body – Cellular Operators' Association of India (COAI) and led it for 12 years – to the position of being one of the most credible and vibrant professional bodies that became accepted as the effective voice of the industry.

Since Jan 2015, TV has set up his own Consultancy firm and advises several firms as well as industry bodies.

Also, currently, he is President of the Broadband India Forum, the only Indian body exclusively focused on growth of Broadband; Member of the Global Advisory Body of the Panel of the Institution of Engineering & Technology, London, on Internet of Things.

TV has a Master's in Physics (specialisation in Wireless & Electronics) from Madras University and is also Honorary Fellow of the Institution of Engineering & Technology (IET) London & Honorary Fellow of the Institution of Electronics & Telecommunication Engineers (India).

Mr. Satya N. Gupta

CEng. DIISc. DRP, IRSSE(VR)

An International expert in NGN technologies, Regulation, Interconnection and Broadband with 38 years experience in all aspects of Telecom, including 25years with Govt. and Regulator, Mr. Satya N. Gupta is publicly recognized as an Analyst, Author, Advocate and Advisor on ICT related Policies, Projects and Business. After his postgraduation from IISc. Bangalore, he joined ministry of Communication in 1981 and Ministry of railways in 1983. He is recipient of Minister of railways award for outstanding performance for the digitalisation project.



A triple master in Electronics Design Technology, IT Management and Telecom Policy and Regulation, he is globally known as “NGNguru” he is a trainer and coach for telecommunication technologies, policy and regulation and a Regulatory advocate. Author of “Everything over IP- All you want to know about NGN”. He also authored a concept called “Job Factory- Converting Unemployment into Intrapreneurship”. His recent research based work, “Extra Mile- Walking the Talk on Rural Broadband Business”, brings out the innovative business models. He has also established and mentoring a consulting startup named SAAM Corp advisors providing Govt. Affairs as Managed Service.

He is recently appointed as the Secretary General of ITU-APT Foundation of India. Additionally he is Vice-President and Trustee of PTCIF and Co-chairs BIF committee on Rural Digital Infrastructure. He founded NGN Forum in India to spread awareness and capacity building in the field of emerging technologies. As a member of Expert panel of Commonwealth Telecom Organisation, he conducts training programs in the



Mr. Kartik Raja

Co-Founder & CEO, Phimetrics India

Mr. Kartik Raja is the Chief Executive Officer & Co-Founder of Phimetrics India and Qosi France. Kartik has extensive experience in telecom working across US, Asia, Middle East and Europe. He has worked in companies such as McKinsey, Motorola and Arthur. D. Little. He founded an analytics company called Redpill solutions which was later sold to IBM. Kartik is passionate about building a telecom startup in India and building products that help improve the digital experience of consumers. Kartik holds an engineering degree and an MBA from Chicago Booth School of Business.

Mr. Chandra Ramamoorthy

Chief Product Officer and Co-Founder of Phimetrics India

Mr. Chandra Ramamoorthy, is the Chief Product Officer and Co-Founder of Phimetrics India and Qosi France. Chandra has extensive experience in telecom having worked at Booz & Company for nearly 7 years across India and the Middle East. Chandra has also held several leadership positions in his 5 year tenure at Bharti Airtel, India. Chandra started his career as a software engineer at Microsoft. Chandra holds a computer science engineering degree from Anna University and an MBA from IIM, Ahmedabad.



BIF Members

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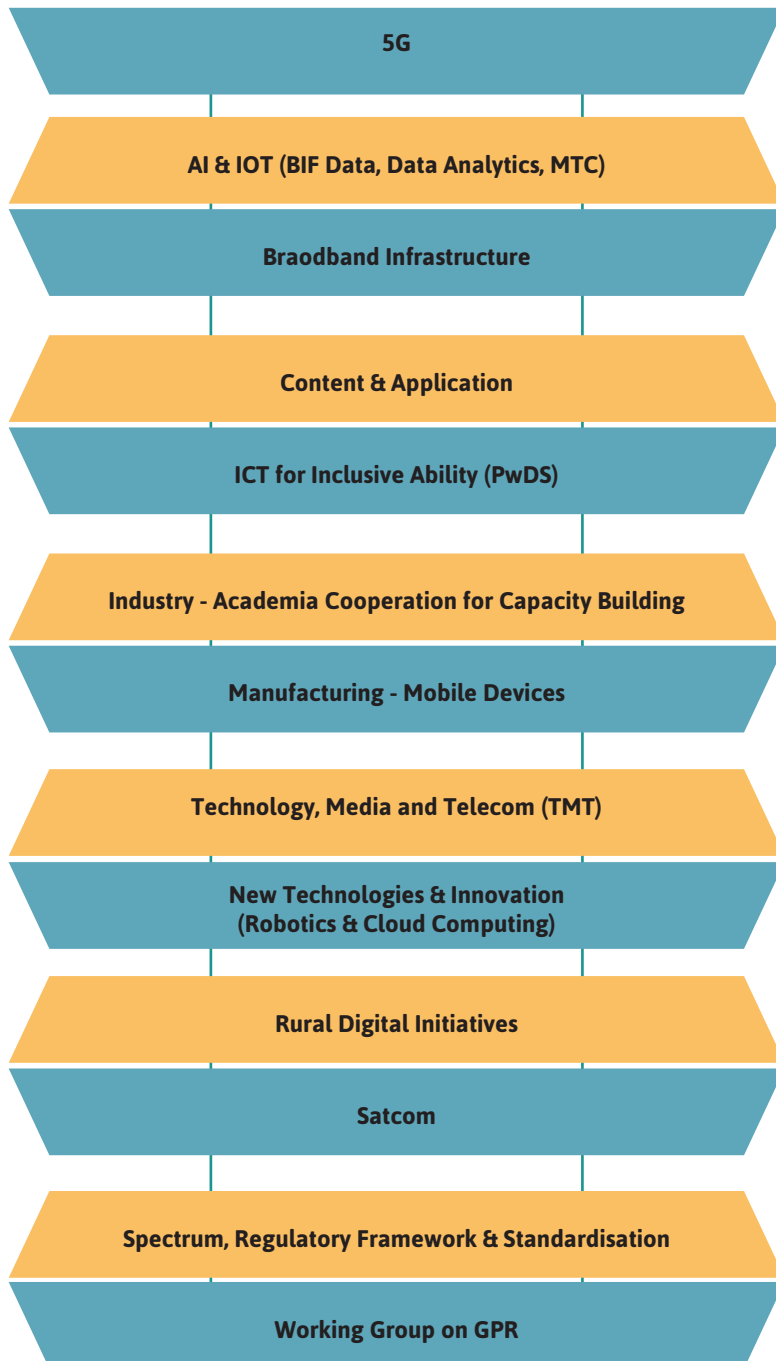
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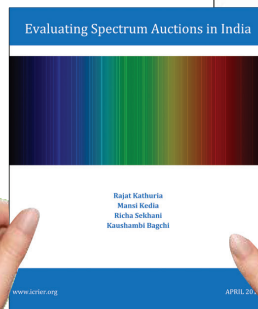
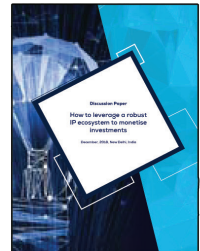
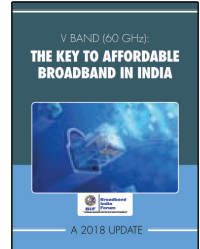
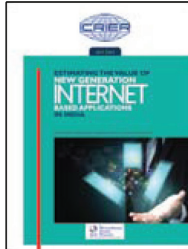
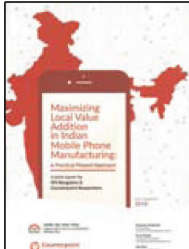
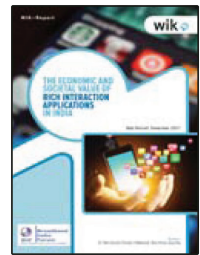
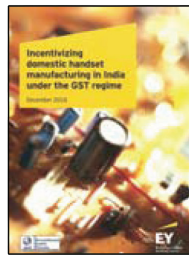
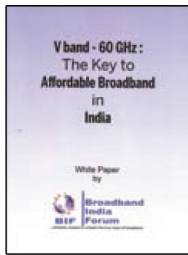
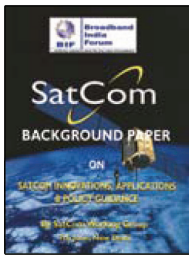
Startup & Professional Members



BIF Hi Level Committees



BIF Publications



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