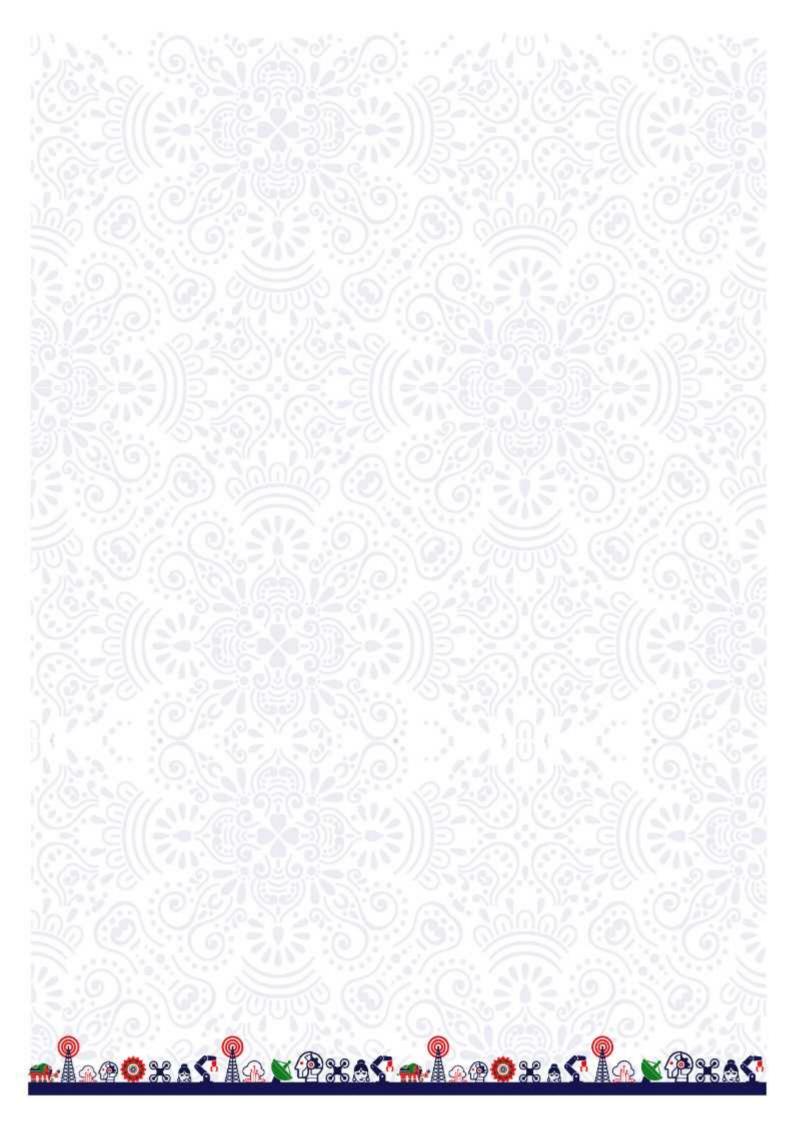


## **New Digital Universe**

**IMC 2022 - Glimpses** 







IMC 2022 - Glimpses





### **Foreward**

India Mobile Congress - Asia's largest technology forum - where voice, data and a billion minds converge. IMC, since its inception, has established itself as a leading forum for bringing together industry, government, academia, and other ecosystem players to discuss, deliberate, demonstrate and display the latest in the world of TMT.

India Mobile Congress 2022 was scheduled from October 1, 2022 to October 4, 2022, and was inaugurated by the Hon'ble Prime Minister of India, Shri Narendra Modi. IMC 2022 attracted the biggest names in the TMT space all over the world and was bigger and better.

The pivotal conference held at Pragati Maidan, New Delhi, focused on the evolutionary path of dynamic network technologies with a special focus on 5G, and what it holds for businesses and individuals for the future through ground-breaking industry applications and meaningful dialogues among thought leaders of the TMT industry who are shaping our connected world.

IMC 2022 paved way for India's 5G revolution through pivotal launch of the 5G services, promotion of entrepreneurship, facilitation of supportive regulatory & policy frameworks and increase in the number of technology exports by the country. The landmark event also gave impetus to grass-root manufacturing with the notion of 'Sabka Digital Saath, Sabka Digital Vikaas' and our Prime Minister's vision of India becoming a developed nation by 2047 and goal of being the global leader in 5G technology.





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Inauguration of India Mobile Congress 2022 and Launch of 5G Services

by Shri Narendra Modi Hon'ble Prime Minister





























# Executive SUMMARY

india Mobile Congress (IMC) 2022 the largest digital event in India and Asia organized by the **Department** of Telecommunications (DoT) and Cellular Operators Association of India (COAI) was held from 1st to 4th October 2022 at New Delhi. Recognizing the immense benefits of digital technology advancement, the 6th edition of IMC-2022 with the theme of 'New Digital Universe' had the objective of promoting India as a communication leader globally.

inaugurated by Hon'ble Prime Minister Shri Narendra Modi on Saturday, 1st October 2022 at New Delhi IMC 2022 brought together stakeholders across the ICT industry to debate, discuss, disseminate and demonstrate the encless potential of 5G. Aligned with Hon'ble Prime Minister's vision of ensuring that benefits of digital technology to the remotest corner of India as envisioned in Antyodaya the event focused on ideating how to democratize 5G in India across sectors like healthcare, education, agriculture, animal husbandry, industrial manufacturing, environment and worker safety apart from promoting Atmanirbharta in communication sector.

The event also showcased how India is championing technology fostering international regional cooperation inspiring inclusive & sustainable development promoting entrepreneurship and innovation through startups driving foreign and local investments amongst others. IMC 2022 brought together leading thinkers entrepreneurs innovators and government officials to discuss and showcase unique opportunities emerging from the rapid adoption and spread of digital technology which is expected to contribute 0.5% of GDP in the coming years through the advent of 5G.

The inauguration session was also graced by Shri Ashwini Vaishnaw Hon'ble Minister for Communications Electronics & Information Technology and Railways, Shri Devusinh Chauhan Hon'ble Minister of State for Communications, Shri K Rajaraman

Secretary Department of Telecommunications along with other government officials. Mr. Mukesh Ambani Chairman of Retance Industries, Mr. Sunil Bharti Mittal Chairman of Bharti enterprises, Mr. Kumar Mangalam Birla Chairman of Aditya Birla Group also participated in the inaugural session along with other industry stakeholders,

The inauguration session had participation of Shri Bhupendra Rajnikant Patel, Hon'ble Chief Minister of Gujarat from Ahmedabad, Shri Eknath Sambhaji Shinde, Hon'ble Chief Minister of Maharashtra from Mumbai, Shri Naveen Patnaik, Hon'ble Chief Minister of Odisha from Bhubaneswar, Shri Yogi Adityanath, Hon'ble Chief Minister of Uttar Pradesh and Shri Vinai Kumar Saxena, Lieutenant Governor of Delhi connected remotely.

During the course of the four days the event was also graced by Shri Piyush Vedprakash Goyal Union Minister of Commerce and Industry, Shri Mansukh Laxmanbhai Mandaviya Hon'ble Union Minister of Health and Family Welfare, Shri Pralhad Venkatesh Joshi Union Minister of Parliamentary Affairs Coal and Mines, Shri Rajeev Chandrasekhar Minister of State for Electronics & Information Technology and Skill Development & Entrepreneurship, Shri Bhanu Pratap Singh Verma, Minister of State for Micro, Small & Medium Enterprises and Secretaries as well as senior officials from various ministries and public departments of Government of India.

IMC 2022 was one of its kind technology events held in person after two years which attracted over one lakh attendees including students; more than 1,300 CXO's over 6,900 government delegates, over 1,900 representatives from start-ups and MSMEs, more than 350 speakers and 239 exhibitors.



















### **Event Summary**

Asia's largest Tech Event

100,210 Attendees



94 Buse-case Demo

150
GOVT. DEPTs.
Participated



15.4Mn Video Views



START-UPS





26k sqm

239

Exhibition area

Exhibitors

#IMC2022

750 Mn

Social Media Impressions



**33,008** Tweets



**54,187** IMC 2022

App downloads



(Print, Electronics)



Hon'ble Prime Minister Shri Narendra Modi gave his vision and guided the nation, stressing that today's meeting is global but its ramifications and directions are local. He said India's tremendous progress in the 21st century begins today. The nation and telecom industry are giving 130 billion Indians a great gift of 5G today. 5G is the start of a limitless vista of possibilities.

"With 5G India is setting an international standard in telecom technology"

He also highlighted the government's efforts on developing the four pillars under Digital India.

- Cost of the device
- Digital connectivity
- Cost of data
- Digital first

Hon'ble Prime Minister appealed the leaders of the telecom industry to unleash every aspect of 5G to bring about a revolution in the country. The address closed with congratulatory wishes to the citizens of India on the launch of 5G and the goal of making India a global leader in technology.





Shri Ashwini Vaishnav, Hon'ble Minister for Communications, Electronics & Information Technology and Railways heralded I October as a day to be marked as a golden day in the history of Telecom Industry in India. He highlighted the reforms undertaken by his Government under Honourble PM Shri Modi's guidance who has categorized the 'Telecom Sector' as a 'Strategic Sector', emphasizing the importance of telecom in the growth story of India.

He highlighted that INR 35,000 Crore rupees have been sanctioned so that the 5G technology could reach to every village of the country.

He was proud to demonstrate India's 5G technology and optimistic about India's telecom technological leadership in the next years.





Shri Devusinh Chauhan, Hon'ble Minister of State for Communications acknowledged the day as a historic day for our country. Highlighting the reforms made in the industry, he attributed the success of the sector to Hon'ble Prime Minister's vision of ease of living for the citizens, ease of doing business for the industry and promoting Atmanirbharta which had led India to become a 4G enabled country earlier, and now ushering a new era with launch of 5G. He communicated his confidence in the launch of 5G, which will propel India to new heights and will be pivotal for the growth of India in the years to come.





Reliance Industries Chairman, Mukesh Ambani noted that our revered Prime Minister Shri Modi shares the aim of India being a developed nation by 2047 and that every government action and policy is carefully crafted to achieve this goal. He believes 5G stands for five goals that could transform our nation which includes inexpensive high quality education and skill development, affordable high-quality healthcare, digitalization and intelligent management of agriculture, commerce and other industries, economic efficiency in making India an innovation hub and shift to AI in all sectors.

It will lead to the acceleration of growth by building a 40-trillion-dollar economy by 2047 and "Inclusion in Development" by raising India's per capita income from \$2000 to \$20000 by 2047. 5G will accelerate "Sabka Digital Saath Sabka Digital Vikaas" in India.

By December 2023 Mr. Ambani projected nationwide 5G connectivity.

Delhi Kolkata Mumbai and Chennai will have Jio 5G before Diwali.





Sunil Bharti Mittal, Chairman of Bharti Enterprises congratulated and praised Shri Narendra Modi for his interest in and ambition to use emerging technology for national progress.

He said traffic moved to villages and residences during the pandemic yet the nation's heartbeat never stopped. He also praised Make in India and Digital India mission for making India worldwide electronics manufacturing hub and providing acceleration to India's Digital Dream. He hoped more unicorns from India with 5G.

Airtel will launch 5G services in eight cities on 1 October 2022 and nationally by March 2024.





Aditya Birla Group Chairman, Kumar Mangalam Birla said 5G is a gamechanger that shows India's global prowess and reinforced telecom technology's role in India's economic progress. He praised the Hon'ble Prime Minister of India Shri Narendra Modi for his vision and leadership which helped India become a global power and for supporting the telecom industry throughout the pandemic and for the industry's innovative communications reforms.

He predicted that the digital economy would add a trillion dollars to India's \$5 trillion economy in the years following 5G's deployment. He predicted that 5G would significantly improve services in areas like Industry 4.0, automated manufacturing, smart cities, smart cars, smart homes, immersive gaming and other creative business and consumer solutions. Immersive education remote health care and intelligent agriculture can accelerate inclusive growth and prosperity in rural India with 5G.

Vodafone Idea has created the 5G ecosystem 5G use cases for Indian enterprises and consumers and acquired 5G spectrum through a well-designed auction.





As 5G heralds a new era for growth, IMC hosted a Digital India Conference of State IT Ministers to charter a roadmap of future ready communication ecosystem through enabling legislations. The conference was held for 3 consecutive days at IMC with key dignitaries including Shri Ashwini Vaishnaw, Hon'ble Minister for Communications, Electronics & Information Technology and Railways, Government of India, Shri Devusinh Chauhan, Hon'ble Minister of State for Communications, Shri Rajeev Chandrasekhar Hon'ble Minister of State for Electronics & Information Technology and Skill Development & Entrepreneurship, Shri Alkesh Kumar Sharma, Secretary, MeitY, Shri K. Rajaraman, Chairman & Secretary DoT and IT Ministers from various States and UTs.

99

Rs 26,000 crore approved to install new 25,000 towers in next 500 days

Support extended for Special assistance to States for capital expenditure worth Rs 2000 crore



#### Key Highlights Inauguration of IMC 2022 by Hon'ble **Prime Minister** Shri Narendra Modi Use-cases Launch of 5G for Nation building services in India (EduTech, HealthTech, by Hon'ble Prime Minister AgriTech, Launch Shri Narendra Modi **Environment)** Launch of Indigenously Digital India developed Conference of 4G/5G products State **IT Ministers** Installation of 100 5G Launch of TSuM, labs across the country Launch of TTDF by Shri Ashwini Valshnaw announced by Shri Ashwini Vaishnaw Hon'ble Minister Hon'ble Minister for Communications for Communications Electronics & Electronics & Information Technology Information Technology & Railways & Railways India Global IMC 2022 **Connect-Buyers Awards** Sellers meet IEEE Indigenously certification developed 4G/5G solutions program on 5G and loT International Conference "Towards Advanced 5G and 6G"

### Key Launches

Union Minister of Parliamentary
Affairs Coal and Mines Prahlad Joshi
launched QoSec Mining Solutions
developed by Sensorise

Union Minster Mr. Ashwini Vaishnaw
launched Sensorise SenselT Energy MAID
it is Make in India loT solution launched
under Atmanirohar Bharat drive

03 HFCL announced launch of 5G 8T8R
Macro Radio Unit

04 Mavenir announced 2G 4G and 5G Open RAN Made in India radios

05 STL launched Multiverse - India's first Multicore fibre and cable

STL unveiled 5G cosmos to help telcos fiberize their networks

07 Lava unveiled its first 'affordable' 5G smartphone Blaze 5G

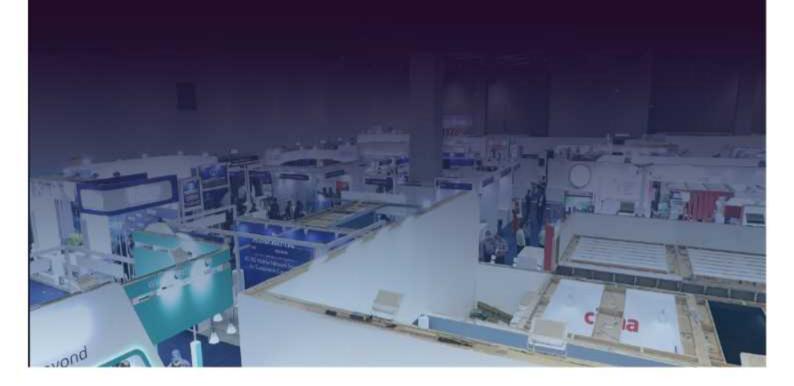
Keysight extended MoU with IIT
Madras to enable testing beyond 5G
into 6 research

Media Tek will roll out 5G routers and Wi-Fi solutions in collaboration with Invendis

Anritsu India Pvt. Ltd. launched
Rubidium state of the art RF MW
Analog Signal Generator

Qualcomm hosted exhibits of its technologies and partner use cases such as 5G technologies 5G Wi-fi IoT auto devices and many more

Tejas Networks demonstrated end to end 5G/ 5G network based indigenous products



### Day wise attendees

	Day 1	Day 1	Day 2	Day 3	Day 4	Total
Categories	Hon able PM - Inaugration Program	(Including PM Program)				
Student & Academia	395	5,195	5,085	12,063	10,745	33,086
Chief Executive's	276	276	256	607	232	1,37
Start-Ups & MSMEs	238	507	321	761	312	1,90
Delegates	1,434	2,034	416	987	467	3,904
Government	872	929	777	1,843	3,365	6,914
Media	317	473	199	472	103	1,247
Visitor	NA	6,857	6,857	16,266	14,560	44,540
Exhibitors	NA	1,811	1,811	1,811	1,811	7,244
Total	3,532	18,082	15,722	34,811	31,595	1,00,210



### Day wise conference

Day 1 1-Oct-22 Day 2 2-Oct-22 Day 3 3-Oct-22 Day 4 4-Oct-22 Total

lotal Number of Sessions

20

No. of Speakers

112

Na of Participants otal Number Sessions

No. of Speakers

No of Farticipants

4.175

Total Number of Sessions

25

No. of Speakers

124

No of Participants

,625

Total Number of Sessions

4

No. of Speakers

4

No of Participants

112

(2)

Total Number of Sessions

80

No. of Speakers

366

No of Participants

13,566























## Highlight of Day

## Launch of 5G in India at the inauguration of the 6<sup>th</sup> edition of India Mobile Congress 2022 by the Hon'ble Prime Minister of India Shri Narendra Modi.

Recognizing the importance of the communiction sector in nation-building Hon'ble Prime Minister Shri Narendra Modi graced the industry's marquee event. After inaugurating the exhibition at Pragati Maidan in New Delhi he visited telecom operator and technology provider pavilions to see industry innovation firsthand.

At Reliance Jio's pavilion the Hon'ble Prime Minister was briefed on the indigenous end-to-end 5G technology created by a team of young Jio engineers. In addition he observed the show 'True 5G' gadgets and experienced the use case with Jio Glass. The Honorable Prime Minister saw remote diagnostics technology that connects doctors and patients. Community clinics can close the country's doctor-patient ratio using technology. This would increase access to quality OPD consultation from their local health center resulting in prompt medical treatments and better quality of life across India.

Hon'ble Prime Minister was explained about the indigenous end-to-end 5G technology developed by a team of young Jio engineers at Reliance Jio's pavilion. The company showcased agritech, healthtech, edutech solutions which has a potential to significantly contribute towards upliftment of India.

To promote start-up culture and encourage the youth to develop Make in India hardware and software solutions for 5G the Hon'ble Prime Minister visited few startup pavilions including Nav Wireless Technologies, Kenstel, Resonous and Nivetti S.

The Hon'ble Prime Minister unveiled the C-DoTdeveloped 5G Non-Standalone (NSA) Core at the pavilion. C-DoT 5G NSA Core at BSNL Chandigarh and 5G Radio Access Network showed end-to-end 5G calls. The Honorable PM was shown a novel use case of remote medical sup

port by making video calls to Primary Health Centers in Bhran Kala village of Haryana and Matiana village of Himachal Pradesh utilizing the 5G NSA system and start-up e-health technologies. 5G allows catastrophe alerts/flash messaging on DD news/All India Radio/mobile phones. Bharati Airtel presented the Hon'ble Prime Minister with many use cases pertaining to health and agriculture starting with 5G con nected a mbulance which can remotely link doctors to patients to check their vitals in real-time and respond quickly to make the most of the golden hour. Moving on to Ambu Pod a "Rural Mobile Clinic" which provides live medical consultations to distant communities. Remote locations in India will receive fast safe and efficient medical treatment via the 5G network. The next use case was Smart Farming where a 5G connection can connect lakhs of sensors and relay real-time data to improve agricultural productivity. Farmers will receive real-time crop fertility moisture and other data from sensors and AI cameras in the fields.

Hon'ble Prime Minister Shri Narendra Modi remotely drove a car in Sweden from the Ericsson pavilion using the newly rolled out 5G technology. Qualcomm showcased various ideas and technology to Hon'ble Prime Minister by Indian Startups under the Make In India campaign. Vodafone Idea limited demonstrated its SmartAgri initiative to Hon'ble Prime Minister. The Hon'ble Prime Minister virtually interacted with SmartAgri beneficiary farmers from Madhya Pradesh and Maharashtra on live Vi 5G network.

The key sessions conducted on Day I were Digital Billion : How to make it a reality, Technology infusion in Indian Army for future warfare, Built-In India - Open Wifi Networks (TIP), Skilling India for the new 5G paradiam, The Digital India Conference of State IT Ministers, Digital enablement through policy intervention, Towards Advanced 5G and 6G - An International Conference organized by DoT & TSDSI, Power of AI in 5G enterprise suite, Conversational Al: Elevate customer experience, Journey towards new possibilities for 5G use cases, Decoding metaverse, Cloud: Opening the realms of next generation operating models for Telcos. The sessions highlighted the government's role in enabling 5G, the emerging trends and how the potential of Digital Bharat can be unlocked.



## 5G set to become a connectivity fabric for the country

The event covered the introduction of enterprises from the TSuM TTDF and VoICE consortiums. Shri Ashwini Vaishnaw Hon'ble Minister for Communications Electronics & Information Technology and Railways stated that the government will create 100 5G laboratories and institutes around the country and turn at least 12 of them into telecom incubators to educate students and promote R&D. In addition the government will give basic facilities and resources for students to experiment with various 5G use cases while industry experts have been tasked with providing technical knowledge and environment.

Key sessions conducted on Day 2 included Affordable devices: Future proofing India's Digital Success, The Security: A business priority in a connected world, Gati Shakti - Revolutionizing India's digital infrastructure, Open RAN: Building Innovation and Vendor Diversity in the marketplace, 5G test beds: From the lab to the field, Automated Networks for 5G workloads, Network as a Service (NaoS): new business models in a 5G era, Preventing spam - How blockchain is driving the RegTech revolution, Data Privacy & ethics: Doing the right thing, Regulatory and Spectrum: Bedrock for Digital Innovation, The Digital India Conference of State IT Ministers, Towards Advanced 5G and 6G - An International Conference organized by DoT & TSDSI and India Global Connect Buyers Sellers meet (TEPC).

Among other key highlights KPMG report '5G driving the next growth wave for Digital India' was launched.

This paper assists ICT organizations in repurposing reengineering and repositioning their products for a business environment that is becoming increasingly complicated and demanding. It offers a 5G road map and implementation recommendations.

### FOR A SUCCESSFUL 5G ROADMAP AND IMPLEMENTATION THE FOLLOWING KEY ASPECTS COULD BE CONSIDERED:

For Operators:

In the 5G monetization journey resilient networks and routes to market are essential. Safeguarding margins by reducing the cost of ownership and becoming a connected enterprise via the cloud where traditional settings are transformed and made nimble.

For Government:

A forward-looking strategy that enables affordable services and compatible devices and accelerated architectural deployment that connects the world from the last mile. In addition strong regulations and defense architecture against cyberattacks and bringing privacy to life are of paramount importance adding dedicated steps in this regard will amplify connectivity and self-reliance.

The Draft Telecommunication Bill 2022 is a step in the right direction as it consolidates the legal framework replacing existing laws with future-ready legislation and aims at reducing ambiguity and promoting ease of doing business. The industry bodies enterprises as well as government should consider brainstorming and building consensus on operationalizing this framework.

### 100 start-ups exhibited at IMC 2022













## Investment and Funding Opportunity in Digicom Startups/MSME



Shri Ashwini Vaishnaw Hon'ble Minister for Communications Electronics & Information Technology and Railways talked about the Telecom bill and told that according to recent interactions with the Telecom leaders four main points were observed as a voluntary undertaking credit penalties straightforward language and clearly defined spectrum. He emphasized organizing a roundtable with the experts and leaders for better implementation of the bill and promised to launch 100 5G labs and institutes across the country. He requested the Telecom leaders to help convert a minimum of 20 of these to incubator level for the students to test different 5G use cases and encouraged people to make India a leading country in 6G tech in the future.

Shri K. Rajaraman, Secretary, Department of Telecommunications talked about the relentless efforts of Department of Telecommunications to take forward the dream and vision of Atmanirbharta and enabling all the industry players especially with focus on startups, MSMEs and ecosystem players. He stated that under the guidance of the Hon'ble ministers, DoT brought together many initiatives under Telecom Startup mission which will enable the activities and facilitations required with all the departments and industry.





Yezdi Nagporewalla the CEO of KPMG in India said "5G will be a catalyst to India's path of reaching 20% digital GDP (by 2025). Today amongst others digital transformation initiatives through the smart factory remote healthcare and digital school are real and functioning. With 5G many of these initiatives will achieve scale and acceleration. The Indian telecom market offers the right ingredients to have its justifiable impact. This impact could range up to 0.5% of incremental GDP growth due to elements of flexibility low latency and expansive connectivity all of which will have a positive impact on businesses and their users (direct and indirect)."

























### Industry captains see the 5G launch as a big step for consumers and businesses

Key sessions conducted on Day 3 included Global CEO conclave: Steering India to the new digital universe, Global CTO Conclave; Building a connected ecosystem for the next Techade, Atmanirohar Bharat: Road to self-reliance, Ease of doing business - Perceiving India's \$5 Trillion vision, India EU Partnership Project Session (ETSI-TSDSI), Industry 4.0. Catalyzing the digital transformation, 5G accelerating the enterprise digital transformation, Cloud gaming: Creating experiential transformation, Harnessing the power of small-scale industries for the new digital universe and Emerging Trends in Broadcasting Sector which highlighted the various government initiatives and discussed the emerging technologies.

The key takeaway from CXO Conclave was that the 5G is covered with technology built in India. There are 4 main pillars- people technology operators and government. We must digitize procedures and provide the groundwork for a vibrant industry. As India becomes an export powerhouse for digital solutions cooperation with startups scalability affordability and sustainability of digital solutions and infrastructure will be key over the next several years. Further the proliferation of 5G and some of the emerging technologies like IoT ALAR/ VR etc. become mainstream and a data explosion is expected in the country. To efficiently handle this requires a significant network and the 5G ecosystem.

In this age of hyper-modernization, consumerism, and macroeconomic expansion, the world around us is in a perpetual state of evolution and transformation. The needs of customers, companies, corporations, and governments are growing rapidly, with technology is at the forefront of addressing real-world issues. As more and more people in India adopt a lifestyle that is enabled by digital technology daily, the country has emerged as the market with one of the largest and fastest-growing populations of digital consumers. Similarly on the business front, while the level of adoption may be different, the entire spectrum of the corporate bandwagon from large conglomerates to SMEs is emerging as the epicenter of the digital revolution.

Telecommunication being at the bedrock of this transformation is currently concentrating on shifting from teleo to techno by growing its business emphasis, cloud and managed services, edge computing, unified communications. Network as a Service, and citizen involvement with 5G use cases. However, companies are yet to determine the ramifications of a shift toward more opex-centric models and the effect of functions on the telecom operator industry.



### **Awards**

The IMC Awards are highly coveted accolades, given to the best businesses, innovations and institutions. With an eminent jury comprising of technology experts and distinguished doyens from the industry, the Awards this year promise to recognize the latest and the best of the ICT and TMT industry, and in turn put up a spectacular and memorable show.



Best Digital Customer Experience Management Technology/ Platform/Solution Route Mobile



Best SME in Telecom Ecosystem

Amantya Technologies Private Limited



Best Made in India Telecom Innovation
Tejas Networks Ltd



Sustainable Growth Award for organization in Telecom Ecosystem

**Tata Communications Limited** 



Most Innovative Network Transformation Initiative
Nokia Solutions & Networks India Pvt Ltd

Keysight Technologies is a leading technology column of the contemprise and service provider customers accelerand secure the world. Keysight's solutions optimized products to manufact to

Most Innovative Approach to Network Security

Keysight Technologies, India





Most Innovative Telecom System Integration **HFCL Limited** 



Most Innovative Telecom Software/ Solution **Red Hat** 



Most Innovative Enterprise 5G use case deployed in the year

**Dimension NXG Private Limited** 

Most Innovative Telecom Software/ Solution **Mavenir Systems Private Limited** 



Most Innovative Enterprise 5G use case deployed in the year

Innogle Technologies Pvt. Ltd.



Best Exhibit design of the year Sterlite Technologies Limited



Best interactive exhibiter of the year **Ericsson India Private Limited** 



























## Highlights of Day 04

#### IEEE Certification Program on 5G and IoT

The fourth day also featured a certification program on 5G and IoT organized by IEEE and covering topics such as 5G, Network Architecture, Network Slicing, RAN SPLIT, 5G Test Bed, 5G Use cases and upcoming 6G wireless superseding 5G. Academics, researchers, students, independent technology enthusiasts and industry professionals participated in the program. The certification program was separated into three sessions led by Naru Pradeep from CDOT on All about 5G, Anand Mohandas from CDOT on Technology enabler to go beyond 5G and Dr. Vishal J. Rathore from CDAC on Sensor networks and IoT Proposals respectively.

Shri Prahlad Joshi, Union Minister of Parliamentary Affairs Coal and Mines, Shri PK Mishra Principal Secretary to the Prime Minister and Shri Amit Khare Advisor to the Prime Minister, Shri Tarun Kapoor, Advisor to the Prime Minister graced the event on the fourth day. Visitors were given a preview of cutting-edge technology and India's transition to a 5G future on the fourth day.

## Keynotes



Shri K Rajaraman (IAS) Chairman DCC & Secretary(T), Ministry of Telecommunication



Shri V. L. Kantha Rao IAS Additional Secretary (T) - DoT



Shri A K Tiwari Member(Technology), Department of Telecom



**Shri Anand Singh** IAS Jt. Secy.(Telecom.) - DoT



Shri Alkesh Kumar Sharma IAS, Secretary - MEITY



Shri Amit Agrawal Additional Secretary - MEITY



Shri. Abhishek Singh IAS, Managing Director & CEO, Digital India Corporation (DIC) - MEITY



Dr. P. D. Vaghela IAS, Chairman - TRAI



Shri Pravin Kumar Purwar CMD - BSNL



Shri. V. Raghunandan Secretary - TRAI



**Alex Rogers** President - Technology Licensing (QTL) and Global Affairs, Qualcomm



**Abhijit Kishore** C00 - VI



**Ajoy Menon** Senior Managing Director & Cloud-First Lead, Advanced

Technology Center, Accenture



Akhilesh Tuteja Partner and Head, KPMG in India



**Anand Bhaskar** Managing Director, Service Provider Business, Cisco India & SAARC



**Ankit Agarwal** Managing Director, STL

## Keynotes



Arvind Nevatia Chief Enterprise Business Officer, vi



Azhar Sayeed

Chief technologist,
Global Telecommunications,
Red Hat



Denis Ng
Director Technology,
ProseTechnologies, India Pvt Ltd



Devin Brinkley Engineering Lead, Project Taara



Dharmender Khajuria

Head - Network Partnerships,
Bharti Airtel



Dr. Durga Malladi SVP & GM, Cellular Moderns & Infrastructure, Qualcomm Technologies, Inc.



Magnus Ewerbring
Vice President, CTO APAC,
Ericsson



Gen. Manoj Pandey

Chief of Army Staff,
Indian Army



Hari Om Rai

Chairman/CEO/Ca-Founder,
Lava International



Jason Phipps Sr. VP Global Customer Engagement, Ciena



Kumar Vembu

MD and Co-founder &
CEO and founder, Angel Investor,
Zoho Corporation & GOFRUGAL



Landolt Fritz SVP - S&BD, Huber + Sunber



Ludvig Landgren

Head of Digital Services,
Market Area South East Asia,
Oceania and India, Ericsson



Mahesh Krishnaswamy

Director & Project Lead,
Project Tagra



Manish Goel

Director,
Field System Engineering,
Clena



Mathew Oommen President, Reliance Jio

## Keynotes



Michael Tadault Chief Technologist Telco, Red Hat Asia Pacific



Narendra Narayana Managing Director & President, India, Rakuten Symphony



Nunzio Mirtillo Head of Market Area, South East Asia, Oceania & India, Ericsson



Panch Chandrasekaran
Director,
Segment Marketing, ARM



Puneet Sethi SVP & GM, Radio Access Networks Business Unit, Mavenir



Rajesh Agarwal
Secretary,
MSDE



Rajesh Chainani CTO and Managing Director, Service Provider Architectures, APJC, Cisco



Randeep Sekhon CTO, Bharti Airtel



Sanjay Malik Senior Vice President, Head of India Market, Nokia



Satish Dhanasekaran
President & Chief Executive Officer,
Keysight Technologies



Shri Y.G.S.C. Kishore Babu DD(GS.R.I.), Department of Telecommunication (DoT)



Sunil Gopinath
CEO, Rakuten India



Vinay Ravuri CEO | Founder, EdgeQ



Vinayak Godse CEO, DSCI



Vineet Sirpaul Sr. Vice President, Space World



Vishy Ramaswamy

Vice President,

5G & Digital Solutions,

Tata Communications

# Speakers

Abhayications, Abhay Savargaonkar, VP, CSP GBC Head of technology, Nokia	Atul Gupta, Partner and Head, KPMG in India  Atul Lall, Vice Chairman & MD, Dixon Technologies	
OBC Redu di technology, Nokia		
Abhishek Shukla, Director & Regional Head, Telco Media and Entertainment, Red Hat India & South Asia, Red Hat	Atul Sachdeva, EVP, Bharti Airtel	
Ajay Chitkara, CEO – Airtel Business, Bharti Airtel	Ayush Gupta, Director, KPMG in India	
Ajay Jain, SVP – Networks, Bharti Airtel	Azhar, Sayeed Chief technologist, Global Telecom munications, Red Hat	
Ajay Nijhawan, Director & Head Networking & Com- munication sales, Intel	Badri Gomatam,Group Chief Technical Officer, STL	
Akanksha Saxena, Director, KPMG in India	Bala Shanmugakumar, Head of Business Solutions – Telecom, L&T Smart World and Communications	
Akhilesh Kumar, Deputy DG Department for Promo- tion of Industry and Internal Trade(DPIIT)	Bala Shanmugakumar, L&T Smart World and Communications, L&T Smart World and Commu- nications	
Akhilesh Tuteja, Partner and Head, KPMG in India	Balram Sharma, Regional Sales Head - India, STL	
Akshaya Moondra, Chief Executive Officer, Vi	Bejoy Pankajakshan, EVP - Chief Technology &	
Alekh Tiwari, Partner, KPMG in India	Strategy Officer, Mavenir	
Alok Shukla SVP - Product, Bharti Airtei	Berjesh Chawla, MD and Lead - Communications Industry, Accenture Accenture	
Amit Chaudhary, Business and Practice Head Cyber Security & IP, Bharti Airtel	Bharat Chaddha, Partner, KPMG in India	
Amit Mathur, Head Data Regulation and Data Architecture, Reliance Jio	Bhuvnesh Sachdeva Vice, President - Product Development, HFCL	
Amit Satpathy, EVP – Head IoT Enterprise Busi- ness, Vi	Bradley Mead, Head of Network Managed Services, Ericsson	
Anjali Hans, SVP-Public Policy & Regulatory, Vi	Bryan Tan, Director - Meta Connectivity Ecosystem Meta Platfor, Inc.	
Anku Jain, Managing Director MediaTek India, MediaTek	C B Velayuthan, Global MD, Equinix	
Ankur Agrawal, Senior Vice President, Sinch	Chaitanya Gogineni, Partner, KPMG in India	
Anuj Agrawal, VP Sales APAC, Radian Arc	Chetan, Hebbalae Connectivity Technologies and Ecosystems Manager, Meta	
Anurag Vats Senior Vice President and Business Unit Head-Telecom Lepton Software	Daniel Lin, Business Development Manager , Medi- aTek	
Arnob Roy, COO, Tejas Networks	Debashish Bhattacharya, Sr DDG, Broadband India Forum	
Arun Dudee, CTO, Dehaat	Deepak Virmani, MHA	
Arnob Roy, COO, Tejas Networks	Dev Tyagi, Co-Founder Boston and CSMO,	
Ashwini Bakshi, Chief Sales Officer, STL	Boston India	

# Speakers

Digvijay Sharma, Senior Director - India North, SAARC, Local DC and Blue Planet, Ciena	Jayanta Dey,Executive President - 5G Business , HFCL	
Diwaker Uppal, Director, KPMG in India	Jeanette Whyte, Head of Public Policy, APAC GSMA  Jeetender Singh, CFO, VVDN Technologies	
Dr K K Raman, Partner, KPMG in India		
Dr. Anju Sharma, Principal Secretary, Gujarat Skill	Jobi George, Director - Protocol Carrier Accep-	
Dr. NS Kalsi, Chairman, NCVET	tance R&D, Keysight Technologies	
Dr. Rajendra Bangal, Registrar, Mahrashtra Uni-	Julian Gorman, Head of Asia Pacific, GSMA	
versity of Health Sciences  Faisal Ghazaleh, Vice President for Middle East,	Kailash Narayanan,President - Communications Solutions Group, Keysight Technologies	
Africa and India, Infovista	Kamal Ballout, Head of Nokia Enterprise, MEA, Nokia	
G S Rao, Senior Director, Business Development, Qualcomm India Pvt. Ltd. , Qualcomm	KG Purushothaman, Partner and Head, KPMG in India	
Ganesh Lakshminarayanan, CEO – Enterprise Busi- ness Bharti Airtel	Koel Chakrabarty, Director, Syste Engineering, Ser- vice Provider Business, Cisco India & SAARC, Cisco	
Gautam Billa, Vice President – International Sales Engineering, Ciena	Laurence Feijt, Director of Partner sales, Telco, Media and Entertainment (TME), Red Hat Asia	
Gilles Garcia Senior Director, Product Marketing, Data Center and Communications Group, AMD	Pacific, Red Hat  Lt. Gen Dr. SP Kochhar AVSM** SM, VSM, ADC, KIGA.,	
Gopalkrishnan R, EVP Technology Enterprise, Vi	Director General, Cellular Operators Association of India (COAI	
Gulshan Khurana, EVP-Transmission & Core Plan- ning – Technology, Vi	Mahalingam Ramasamy, Managing Director , Netcon Technologies India Pvt Ltd	
Hardeep Saini, Senior Director, Engineering, Qual- comm	Mahipal Singh, Vice President Regulatory Affairs , Reliance Jio	
Hariprasad Gangadharan, Vice President and Head of Silicon Engineering, EdgeQ	Mandar Kulkarni, Chief Product Officer-Cloud, Reliance Jio	
Harish Laddha, CEO - Emerging Business, Bharti Airtel	Maneesha Garg, Co-Head, Managed Services Management, KPMG in India	
Harpinder Matharu, Senior Director, Product Mar- keting, Data Center and Communications Group,	Manish Gangey, Head - R&D, Bharti Airtel	
AMD	Manish Sinha, CMO, STL	
Harsha Razdan, Co-Head for Clients & Markets, KPMG in India	Marshal Correia, Vice President and General Manager, India, South Asia, Red Hat	
Heera Gupta, President Network and Service Oper- ations Reliance, Jio	Mathan Kasilingam, EVP – Technology Security, Vi	
Jagbir Singh, CTO, Vi	Milind Pathak Group Chief Business Officer, Route Mobile	
Jaideep Redkar, President, Head of Global supply chain, Prose Technologies India Pvt Ltd	Mohan Rao Goli, Corporate VP and CTO, Saung Research	

## Speakers

Mombasawala Mohmedsaeed, Manager - SEO, Keysight Technologies	Pramod Goel, Senior VP – Sales & Acquisition iBus Networks  Pranav Arora, MD and Lead – Applied Intelligence Accenture in India, Accenture	
Monika Gupta, Vice President, Capgemini		
Dr K K Raman, Partner, KPMG in India	Prateek Joshi, Head- Devices, Innovations & 5 Bharti Airtel	
Murali Ranganathan, Meta Connectivity technol- ogies and Ecosyste Manager, Meta Platfor, Inc.	Prateek Pashine, Enterprise Head, Relaince Jio	
Mysore Madhusudhan, Executive Vice President, Collaboration and Connected Solutions, Tata Com-	Praveen Arora, Vice President, Internet of Thing (IoT), Tata Communications	
munications	Praveen Cherian, Chief Executive Officer -Global Services Business, STL	
Narendra Narayana, Managing Director & Presi- dent – India, Rakuten Symphony	Priyanka Anand, Head of People, Market Area	
Neeraj Vyas, Head of DGS Digital Business Solutions, Southeast Asia, Oceania & India, Ericsson	South east Asia , Oceania and India, Ericsson	
Nick Parmar, Vice President CCS-Cloud Commu-	Puneet Sethi, SVP & GM, Radio Access Networks Business Unit, Mavenir	
nications product, Tata Communications  P Balaji, CRO, Vodafone India	Radhey Sarda, SVP & Head Advanced Technolo- gies, Reliance Jio	
Pankaj Mohindroo, Chairman, ICEA	Raghavan Sampath, Director Business Develop-	
Pankaj Sharma, Country Head, Edgecore Networks	ment, MediaTek	
	Rahul Hakeem, Partner, KPMG in India	
Parag Kar VP, Government Affairs, Qualcomm	Rahul Rekh, Partner, KPMG in India	
Parag Naik, Co-Founder & CEO, Saankhya Labs	Rahul Vatts, Chief Regulatory Officer, Bharti Airtel	
Pawan Kumar Kolahal, Head of New Business & Enterprise, Market Area Oceania Asia & India, Ericsson	Rajeev Mehta, EVP-Channels & SOHO – Enterprise , Vi	
Peter Weimann, CTO, HFCL	Rajen Vagadia, VP, Qualcomm India Pvt Ltd & Pres disent Qualcomm India, Qualcomm	
	Rajesh Chainani, Cisco	



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## **Exhibitors**

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Adapt Loggers	Coral Telecom Ltd.	
Adiuvo Diagnostics Pvt. Ltd.	COSGRID NETWORKS	
Agram Agro Tech	DIC-Digital India Corporation	
Aheesa Digital Innovations Pvt. Ltd.	DIGICROP SOLUTIONS PVT. LTD.	
Dimensions NXG Pvt. Ltd. (Ajnalens)	Digitos Technologies Pvt. Ltd.	
Al Testified Pvt. Ltd.	Dirghadhi Technology Pvt. Ltd.	
Amantya Technologies Pvt. Ltd.	DSCI-Data Security Council of India	
Anritshu India Pvt. Ltd.	Dtown Robotics Pvt. Ltd.	
Arivation Fashiontech Pvt. Ltd. (Arista Vault)	Dyotis Technologies Pvt. Ltd.	
Arkin Labs Pvt. Ltd.	Echelon Edge Pvt. Ltd.	
Artelus	Eigen Technologies Pvt. Ltd.	
Astrome Technologies Pvt. Ltd.	Eikonsem Services Pvt. Ltd.	
Astromeda Space Pvt. Ltd.	Electro Rent India Pvt. Ltd	
Awpara Technologies Pvt. Ltd.	Elena Geo Systems Pvt. Ltd.	
Bagmo Pvt. Ltd.	Enhanced Communications & Technologies Pvt. Ltd.,	
BKC Aggregators Pvt. Ltd.	Eranext Auto Pvt. Ltd.	
Bigcat Wireless Pvt. Ltd.	ESDS Software Solutions Pvt. Ltd	
BigOHealth Pvt. Ltd.	Evelabs Technologies Pvt. Ltd.	
Birla Cable Ltd.	Evigway Technologies Pvt. Ltd.	
Blockstar Labs Pvt. Ltd.	Fastech Telecommunications (INDIA) Technologies Pvt. L	
Blue Arcus Technologies Pvt. Ltd.	FIMO India Maufacturing Pvt. Ltd.	
C2C marketing Pvt. Ltd.	Finaara Technologies Pvt. Ltd.	
CDAC-Centre for Development of Advanced Comput	ing Fitnano Technologies Pvt. Ltd.,	
CEQU Labs Pvt. Ltd.	Frog Cellsat Ltd.	
ChipSpirit Technologies Pvt. Ltd.	Galore Networks Pvt. Ltd.	
Check Point Software Technologies Pvt. Ltd.	Gen Elek Technologies	
Cientra Techsolution Pvt. Ltd.	GO IP Global Services Pvt. Ltd. (SYROTECH)	
CLOUDCONNECT COMMUNICATIONS PVT. LTD.	Gramepay	
Cognitensor Technology Pvt. Ltd.	Graylogix	
COGNITICA AI PRIVATE LIMITED		

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## **Exhibitors**

High Commission of Canada	LOGITRON TECHNOLOGIES PRIVATE LIMITED	
I2SAGE TECHNOLOGIES PVT. LTD.	MARQUISTECH	
iAcuity Fintech Pvt. Ltd.	MATRIX SHELL TECHNOLOGIES PVT LTD	
I-cube Access Global Pvt. Ltd.	Matrecomm Technologies Pvt. Ltd.	
IDRBT-Institute for Development & Research in Bo	inking Technology MASHMARI	
IISc-Indian Institute of Science, Bangalore	MMMUT-Madan Mohan Malviya University of Technology	
IIT- Indian Institute of Technology, Chennai	MyGov	
IIT-Institute of Technology, Delhi	NABSTRACT TECHNOLOGIES PRIVATE LIMITED	
IIT- Indian Institute of Technology, Hyderabad	NAV WIRELESS TECHNOLOGIES PRIVATE LIMITED	
IIIT-The International Institute of Information Tech	formation Technology, Hyderabad Nano Comtel	
Indly	NeGD-National eGovernance Division	
InstaCash	NIELIT-National Institute of Electronics & Information Technology	
ILOGITRON TECHNOLOGIES PRIVATE LIMITED	NICSI-National Informatics Centre Services Incorporated	
INDIO NETWORKS PRIVATE LIMITED	Niral Networks Pvt. Ltd.	
Infinity Labs Ltd.	Nivetti Systems Pvt. Ltd.	
INFORMATION TECHNOLOGY DEVELOPMENT AGENC	Y (ITDA) Nivox Technologies	
INNOGLE TECHNOLOGIES PVT. LTD.	NIXI-National Internet Exchange of India	
INVAS TECHNOLOGIES PVT. LTD.	NMS WORKS SOFTWARE	
INVENDIS TECHNOLOGIES INDIA PVT. LTD.	Nreach Online Services Pvt. Ltd., (Xo Xo Day)	
ITI LIMITED	NUNAM TECHNOLOGIES INDIA PVT. LTD.	
KANHHA CABLES PVT. LTD.	Nxtgen Datacentre and Cloud Technologies	
Kenstel Communications Pvt. Ltd.	Optimus Logic Systems India Pvt. Ltd.	
KHUSHI COMMUNICATIONS PVT. LTD.	Orangewood Research & Advancement Ltd.	
KRATIKAL TECH PVT. LTD.	Parry Technology India Pvt. Ltd.	
LEKHA WIRELESS SOLUTIONS PVT. LTD.	PEPPERMINT ROBOTICS	
Leeway Sof-Tech Pvt. Ltd.	Planys Technologies	
LinkeZ Technologies Pvt. Ltd.	POWER GRID CORPORATION OF INDIA LIMITED	
LIVEON TECHNOLABS PRIVATE LIMITED	Pragyogik Technologies Pvt. Ltd.	
LivNSense Technologies Pvt. Ltd.	PRECISION ELECTRONICS LTD.	
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LOGICBOOTS PRIVATE LIMITED	Prophaze Technologies	

·Lagoras Las Lagoras Alagoras Las Lagoras

## **Exhibitors**

PRP Services Pvt. Ltd.	SYSTEM INFRA SOLUTIONS PVT. LTD.	
QPI AI INDIA PVT. LTD.	Taqbit Labs Pvt. Ltd.	
Quickproto Research Labs	TCIL-Telecommunications Consultants India Ltd.	
QUNU LABS PRIVATE LIMITED	TCoE India-Telecom Centers of Excellence I	
RAILTEL CORPORATION OF INDIA LTD.	TEC-Telecom Engineering Centre	
RAPHE MPHIBR PVT. LTD.	TECHXR INNOVATIONS PRIVATE LIMITED	
RESONOUS TECHNOLOGIES PVT. LTD.	Techie Amigos	
ROHDE & SCHWARZ INDIA PVT. LTD.	TELIMART INDIA PVT. LTD.	
ROSMERTA TECHNOLOGIES	TIDALWAVE	
SAMRIDDHI AUTOMATIONS PVT LTD (SPARSH CCTV)	TRISPACE TECHNOLOGIES (OPC) PVT. LTD.	
SANKO TECHNOLOGIES SDN. BHD.	TSDSI-Telecommunications Standards Development Society Indi	
Scytale Alpha Pvt. Ltd.,	Tubelight Communications Pvt. Ltd.	
Sensorise Digital Services Pvt. Ltd.	UDYOGYANTRA TECHNOLOGIES	
SENSORISE SMART SOLUTIONS	UIDAI-Unique Identification Authority of India	
Signalchip Innovations Pvt. Ltd.	UIET infity (Menthosa, UIET, Punjab University)	
SIGNALTRON SYSTEMS PVT. LTD.	Ushva Clean Technology Pvt. Ltd.	
Simnovus Tech Private Limited	Uttarakhand - (ITDA, Dehradun)	
Skyware Automation Pvt. Ltd.	VELMENNI RESEARCH AND DEVELOPMENT PVT. LTD.	
SMPS CONTROL PRIVATE LIMITED	VERIS-DIGICRED TECHNOLOGIES PVT. LTD.	
STPI-SOFTWARE TECHNOLOGIES PVT, LTD.	Vi Innovations Pvt. Ltd.	
Sooktha Consulting Pvt. Ltd.	Vista Information Systems	
SPVSS Pvt. Ltd.	Vizzbee	
STARGAZE MEDIALABS PVT. LTD.	VOICE OF INDIAN COMMUNICATION TECHNOLOGY ENTERPRISES	
Sunfox Technologies Pvt. Ltd.	VT LABS PRIVATE LIMITED	
Suvaca Technologies Pvt. Ltd.	Vyorius Drones Pvt. Ltd.	
Synergy Telecom Pvt. Ltd.	WISIG NETWORKS PVT. LTD.	
Syook	XS INFOSOL PVT. LTD.	



### Few Use cases Exhibited



AgroW Smart solution measures various parameter such as soil moisture, leaf temperature and controlling irrigation characteristics.	Airtel
5G powered Jio Krishi IoT Devices such as weather station, soil testers, etc, can simultaneously aid in data driven farming methods for precision inputs on soil moisture, temperature and chemical composition	RJIO
Jio's Cattle IoT device which can monitor eating, activity levels, rumination and detect early signs of diseases.	RJIO
Spraying Pesticides and Inspection using drone	RJIO
Monitoring of various environment parameters for precision agriculture	Nokia
Showcase of an agricultural drone for fertiliser spray and crop monitoring	VIL
Digital Farming Platform to Simulate different phases of crop cultivation, Irrigation requirment, Soil Nutrient Composition, Indication of Plants infect- ed with Pest & bugs, Indication of crop stress condition through posters	TCS
Kadalcompass devices fixed in the fishing and researchers vessels to protect ocean workers life in real time, Realtime Profitable fishing Zone (Fish type suggestion) without by-catch and Overfishing, mining real time granular data for ocean researchers	Innogle



## AR/VR & Metaverse

Cloud Gaming demonstration deep dives into how mobile operators can take on mobile cloud gaming and better utilize network slicing	Ericsson
Immersive, Real-time 3D experiences using Holographic Communication that provides a greater sense of spatial awareness, proximity, and presence.	Ericsson
An immersive experience using VR headsets	Airtel
With Virtual Reality Technologies, powered by Jio True 5G, the future of the web and shopping can become 'Phygital' in the Metaverse	RJIO
5G Cloud gaming that can be played without downloading application	Airtel
Connected Workforce at remote location can get expert advice from a central location by wearing a headend device which is having headphone, camera to capture sites situation and guides the person.	Airtel
Preparing the next generation of skilled Indians with Augmented Reality powered by Jio Glass and Jio True 5G	RJIO
Showcasing the immersive experience of great Indian Monuments like statue of Unity, Kashi Vishwanath temple (at Airtel booth )& Taj Mahal (Nokia booth)	Nokia



xperience of immersive Metaverse collaborative environment using VR glasses and hand gestures	Nokia
With ultra low latency and high bandwidth of Jio True 5G, Garners will now have OTT like service on Jio Cloud Gaming wherein they will be able to access high quality Games from anywhere without the need for expensive hardware or separate purchase of costly game titles	RJIO
Jio Glass and the power of Jio True 5G, India is all set to welcome a new generation of Mixed Reality Experiences that is scalable and accessible for wide audiences and consumers.	RJIO
This use case showcases how users can get high resolution and life like experience of any tourist/ historical/ adventure locations & events from anywhere via 360° VR (virtual reality).	VIL
This gives an immersive real-time gaming experience that allows the gamers to play seamlessly and without any lag thereby helping improve heir gaming response time and action speed.	VIL
Vearable holographic computer powered by artificial intelligence, will pro- ride immersive experience for Education and Tourism	Ajna Lens
mmersive and Interactive Experience 360 degrees of freedom controller which connects with smartphones to provide immersive and interactive experience like other high end devices (Oculus/Hololens).	TechXR
Real time remote retinal screening (Ophthalmoscope, Fundus and OCT), diagnosis (with Artificial Intelligence to assist), prescription and counselling.  Edu Tech	Artelus
Connected Schools with Mixed Reality-based remote education, AI/ML based learning	RJIO



simply using a smartphone.

Smart office, 5G enabled services like Cloud

Smart Retail with Cloud-based integration with 3D scans of industrial/consumer goods for retail sales, education & training

Gurushala platform is a Cloud Classroom covering syllabus of Classes 6 to

12. Students can access the platform from their village schools or homes

Airtel IoT is built to massively simplify the digital transformation journey of enterprises.

**RJIO** 

VIL

Nokia

**Airtel** COLORDA ON DAKO BON - DAKO ON DAKO BON - DAKO XONDA ON DAKO BOO



pling for Health Applications

This demonstrates an urgent medical assistance intervention for a critical Ericsson patient / accident victim while being taken to hospital in an ambulance. Ambulance is fitted with latest medical equipments and feed of the ambu-**Airtel** lance is sent to the hospital with test results, photos of medical equipment to control the device. Even ambulance can also be tracked. Jio will bring remote diagnostics, for example Robotic Tele Radiology, to the RJIO remotest parts of India. Radiologists and medical specialists can operate Robotic Radiological Devices remotely using haptic controllers as camera feeds relay live patient feed and haptic feedback with no latency Timely assistance with 5G enabled connected ambulances **RJIO** Remote-assistance, digitization of heavy medical records, Video-based **RJIO** emergency services Smart Health ATM, Clinical diagnosis for more than 90 parameters within Superceuticals minutes. The treating doctor can view CT/MRI on a mobile in a traditional DICOM Easiofy viewer and also in Augmented Reality Mode Nokia Remote diagnose & consultation of all eye related diseases like Glaucoma, Retina imaging, dry eye etc, Monitoring of Heart Health parameter using wearable devices Smart Healthcare with private 5G Tele-consultation through Virtual Clinics TCL & Kiosks; e-ICU Solution an ambulance showcases how to utilise the golden time to commence VIL diagnosis, get expert views and infrastructure ready at hospital for emergency procedures while the patient is en-route to hospital in an emergency. Al based Yoga Training using video and camera a cost-effective Qual-YogiFi comm Technologies based EdiFi device, connects to standard TV to provide a large-screen immersive experience locally while also linking with the back-end cloud system A flexible transoral robot with a teleoperated configuration for swab sam-TCS pling for Health Applications Geriatric / Pregnant woman / Rural 5G/4G based Health diagnostics -Astromeda Smart textile based health monitoring systems for telehealth applications A flexible transoral robot with a teleoperated configuration for swab sam-

COLORDED LA CAROCALA CAROLA CALOROLA CA



Demonstrate how 4K HD video cameras streaming through 5G network and integrated with a real-time analytics platform and AI capabilities can help improve public safety in our cities.

VIL

Centralized operations for traffic monitoring, smart grids, IoT based utilities to improve efficiency and wastage control.

**RJIO** 

Cities enabled with smart utilities, infrastructure enablement for connected public transport, traffic management, public safety and security.

**RJIO** 

Retrofit solution using AI/ML, IoT, 5G for smart cities and industrial automation to monitor water supply tank and Provides Water Pressure, Flow and Quality details on Web & App Dash boards

Nimble Vision

Various Nodes are deployed for measuring various parameters related to Air, Water, Energy, Smart spaces etc. The various parameters will be displayed on Centralized Dashboard.

IIIT Hyderabad

Various types of drone with various payload capacity, Short: Surveillance BHARAT: Manportable Surveillance, NEERAJ: VTOL Fixed Wing Drone

Raphe m Fiber

Monitoring Traffic and Crowded Public place using Live video feed from the drone, will be processed through real time video analytics to perform operations such as object identification, number plate recognition and the output will be shown on a separate display.

Arkin Labs Private Limited

Urban Aviation Infrastructure Management which offers state of the art algorithms for Strategic and Tactical Deconfliction for Aerial Vehicles while maximizing safety and efficiency

Vizbee

Effective and efficient parking and traffic management solution for Smart City

Spvss Pvt Ltd

5G Camera Bank & ATM Surveillance Solution with Shockproof Camera & Mobile NVR and 90 Days Storage

Sparsh

AMRs can utilize navigation algorithms, LiDAR sensors, vision technology and virtual map sharing to detect objects, think on their own and move autonomously through facilities.

**Ericsson** 

Smart Energy Management platform sends electricity consumption data to a centralised platform.

**Airtel** 

With efficient use of surveillance cameras, sensors, and AI, the advanced Airtel 5G network can work with facial recognition for law enforcement to identify and track criminals or missing people. Video Analytics can overhaul the future of crime detection

**Airtel** 

Digitization of Water Infrastructure Optimize wastage caused due to leakages, overflows and pilferages

**Ushva Clean** 

Sensorise is launching SenselT Energy MAID an IoT device for frugal and reliable energy distribution automation

Sensorise



Containerised Prototype of Connected Factory that demonstrates fully functional assembly lines using autonomous robots and auto guided intelligent vehicles performing tedious manufacturing operations.

Nokia

Making Factories Safe and Efficient with Robotic-Powered Logistics

Airtel

IoT Autonomous Mobile Robot, 5G ready Industry 4.0 solution automates the transportation of raw materials from the production floor to warehouse without any manual intervention using AMR

VIL

Jio True 5G enables High Density and Ultra Low Latencies for massive machine to machine communications, thereby enabling collaborative robots to operate autonomously, precisely and efficiently across manufacturing setups

**RJIO** 

A digital twin of a construction site enables video based remote supervision and helps ensure worker safety through real-time monitoring.

VIL

Automating mining systems, including enabling private 5G and radios in mines

**RJIO** 

Robotics Arms for Manufacturing to automate the process of placing goods into pallets.

TCS

Driving the Future of Safer and Sustainable Mines, an integrated worker safety solution that detects proximity, mitigates blind zone accidents, and avoids collision avoidance while reducing GHG emissions by use of artificial intelligence and machine vision technologies. The solution prevents fatal injuries while saving millions of dollars in losses and insurance claims in Mining Industry.

LivNSense Technologies Private Limited

Surveillance Robots used to detect unwanted movement and motion to provide autonomous and remote supervision, patrolling and security to maintain a safe environment.

Peppermint

5G Auntonomus Rover, LiDAR based Point Map generation and autonomus navigation, IoT enabled remote monitoring and control, Inbuilt PAS with video calling facility

Menthosa



### Indigenous Telecom Product & Services

Jio end-to-end 5G portfolio spans across radio, 5G core & Automation platforms together with OSS/BSS and network services, which enable operators to evolve to new 5G capabilities.

**RJIO** 

In addition, the jio 5G stack with its Standalone (SA) capabilites is uniquely positioned to implement innovative 5G use cases with deployment options at the edge as well in the public/private cloud.

4G Packet, 5G NSA solution, Applications such as - Al / ML, WayFinder, Robotic Arm, Networks - Optical DWDM, GPON, Router, NMS, Security Solutions- QKD, PQC and Cyber security, Disaster management solution- Integrated CAP, Collaboration platforms - Samvad / VC (CDOT Meet), IoT / M2M

**CDoT** 

-LOSONAC LONGEN CANONAC LONGEN CANONAC ALONG CONTRACTOR CONTRACTOR



### **Indigenous Telecom Product & Services**

"WiFi 7 (8Tx8R) & 6 Indoor and Outdoor CPE, WiBAS 26 GHz FWA device E-Band Radio, L2 Switch (40G Capacity), Hololens for Immersive experience in Education, Skill development, Tourism, Remote Assistance, 5G 8Tx8R Radio unit in n78 Band, Fiber Duct, PON Devices"

HFCL

"6912 Fibre Fibre Cable, 8-16 Pair Copper cable, Closure Mounting and assessories for cable Mounting"

STL

Single Photon Detector Chipset, World first HTS SPD chipset

**QPIAI** 

Indigenous Quantum Secure VPN solution using indigenous QRNG and proprietary software that can be used to provide secure video conference between two parties **QuNu Labs** 

Agumbe Chipset (India's first 4G/5G event), India's first 5G/NR chips, 5G NR RU, 5G/NR Ultra-compact O-RU, 5G/NR gNodeB, 4G/LTE eNodeB, 4G/LTE Ultra-compact, eNodeB, 4G/LTE Compact NIB, 4G/5G BBU/DU System

Signalchip

"Made In India Point to Point Optical Wireless Communication (OWC) LiFi / FSOC (Free Space Optical Communication) Solution"

Nav Tech Wireless

Low Power RU (n78),Band 41 RU,Macro RU(n78),Outdoor WiFi AP,Data Center Server,Franhaul Low-PHY IP and High-PHY Ips

VVDN

5G RU (n78), Braodcast RRH, 5G RU (n1), 4G RRH(B1), 48 Tbps OTN Core Switch, 76Tbps DWDM Transport, 300 Gbps Aggregation Switch/Router Tejas+ Saankhya Labs

Smart Pole, Marine Vessel Tracking Network

Tejas+ Saankhya Labs

1 Tbps Router, Cyber Security Software to inspect packets of the existing network, 650 Mbps Router, 24 Port Layer 2 Switch, 4 Port PoE/PoE+ switch

**Nivetti** 

Cloud Native 5G Core Network [Stand Alone]

Resonous

Made In India "KCP-5G-510 Outdoor 5G CPE Solution

Kenstel

Drone at surface/underwater simultaneously coordinate with an underwater sensor network and the global communication network Planys Technologies

1) 5G NR Radio Unit

2) Vyapi 4G Network in Box

Lekha Wireless





trading)

### **Indigenous Telecom Product & Services**

RF Combiner, Splitter, Light weight SISO & 2x2 MIMO IBS solution (just do

Different size of feeder and Leaky cables. Manufacturing plant in Jaipur

Kanha cables

Synergy

GSM/GPRS/3G/4G/LTE Antennas, Wi-Fi Antennas (2.4/5.8GHz), 433 MHz 865/868/915 MHz Antennas, Multiband combo antennas

**Telimart** 

Testing lab for 3G/4G, now setting up lab for 5G Core element testing at Pune. Will work in co-ordination with NCCS to act like an accredited lab.

**Matrix Shell** 

Extreme 6G MIMO

**IIT Hyderabad** 

LTE Base Station, NBIoT Gateway

Sooktha

Indigenously designed 5G Phone

Lava International

LTE-R, 4G/5G Private Network, Picocell , Wireless Channel Scanner and, Recorder, MIMO Band 28 PA Big Cat Wireless

1st mobile phone getting built ground-up, with 100% local design and product ownership on hardware, software and manufacturing.

Optimus Logic

5G RAN, 5G NIB, 5G Core

**Amantya** 

A unique solution to transform conventional IoTs to 5G IoTs without a 5G Radio

Cientra

**5G Enterprise Core** 

Niral Networks

Innominds UE (processing the Remote Controller Signal), IISc's Remote Controlled Robot , IISc's 5G gNodeB (PC+USRP device)

Innominds +IISc

NMS/IoT Monitoring Platform

Echelon Edge





### Indigenous Telecom Product & Services

**5G SDWAN CPE** 

### **Infinity Labs**

PM-WANI compliant Access Points Enterprise Grade WiFi APs

Indio Networks

GigaMesh: World's first Multi Link E band Radio providing automatic Link alignment, Gigasat: Flat Panel Satellite terminal in Ku/Ka band for LEO/MEO/GEO constellations

**Astrome** 

Software driven LTE and 5G Radio Access Networks for Public and Private cellular networks

**Tidal Wave** 



### **Transport & Logistics**

This demonstration allows people to drive a small vehicle that is in Stockholm over a commercial 5G network. Ericsson

Asset Tracking Unit (these can be fixed on any device provides 100-150 m accuracy by mobile tower triangulation, it is 3 cell battery powered). The tracker location is visible on the dashboard.

**Airtel** 

AGV is able to move from one location to another and picking the requisite product and to place the same. Robots at both the ends are placed to pick and drop the things.

**Airtel** 

Robotics for Warehouse automation

**RJIO** 

The 5G Ready IoT solution enables complete visibility, control and management of EVs and its battery & its health parameters in real time

VIL

Fleet Management, Dash Camera System based on SDM625, will provide High quality live videos and telematics data on demand

Lightmetrics

Intelligent M2M IoT connectivity solutions to Mining sector with Multi-network M2M SIMs (QoSim) and cloud-based lifecycle management portal (SenseLCM). Sensorise

Assisted Car Driving for Physically Disabled Persons with Remote control of Power, Windows, Wipers, AC, Interior Lights and Remote monitoring of In-Cabin Air Quality & Temperature

Vi Innovations

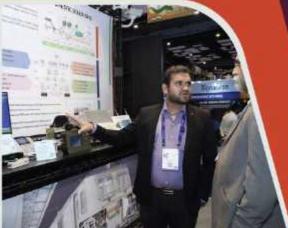
Vehicle Location Tracking Devices with Emergency Button, AIS018 Speed Limiting Devices, Software Platform for Intelligent Transport Management for STUs, Mining, Ambulances Rosemerta





### Inauguration of the VoICE Atmanirbhar Pavilion, comprising of 22 member companies which demonstrated 19 product launches

















## 5जी से और आसान होगी दूर-दराज के इलाकों में जिंदगी

क नई निवासी प्राप्ता की पहिल्ले क्षाम हुई देश में लीकार को इसी का कारण है नवा । प्रश्नास्त्री मोद को ने पाति केदन में प्रीप्ता में माने माने 100 प्रश्ना के की प्राप्ता है। माने प्राप्ता की निवास करने निवास की निवास

#### 🚇 चूर-दराज के बच्चों को 📗 व्यकाई में मिलेगी मदद

प्रकार में मिलनी महिंद प्रवास जिये ने सार्ग के में ने वार्य के मान के पान की मान्यत्र प्रमान और अधिकार के प्रेम काम अध्या नहातें के प्रक्रित में कीना सार्म किया नार्म के में का की पान करने किया नार्म के में का की पान करने के जीए पर पिता हुए-पान के प्रकृति का कामनी ने पान काम के प्रकृति का कामनी ने पान काम के प्रकृति के मान्ये मान्ये की पान की पान की मान्ये मान्ये की मान्ये की पान की मान्ये मान्ये की मान्ये की पान की मान्ये मान्ये की मान्ये की मान्ये की पान की मान्ये की पानने का मान्ये की मान्ये की पान पान की मान्ये की पान मान्ये की पान पान की मान्ये की पान मान्ये की पान पान मान्ये मान्ये मान्ये की मान्ये की मान्ये की मान्ये क्षेत्र करित

## भजदूरों की सेफ्टी की होगी निगरानी

कि होगी निगरानी पेडलोन-आदिल में हेने में हात्य में मूर्ट के निगरित हुने में मूर्ट में मूर्ट के निगरित हुने में मुद्राज में मूर्ट को निगरित हुने में मुद्राज में मूर्ट को निगरित के लिए मुद्राज में मुद्राज को निगरित हुने में मुद्राज को मुद्राज है। का ही है में उनका में मीडित है। है हिन्दी में उनका में मीडित है है है हिन्दी में उनका में मीडित है है है है है में उनका में मीडित है है है है है में उनका में मीडित है है है है है मार्ट में मुक्त है। मार्ट महाना महर मार्ट मीडित हमारी मार्ट में मार्ट मार्ट में मार्ट में मार्ट में में मीडित मार्ट में मार्ट में मुद्राज में में मीडित मार्ट में में मार्ट में मार्ट में में मीडित मार्ट में में मार्ट में मार्ट में में मीडित मार्ट में में मार्ट में मार्ट में में मीडित मार्ट में में मार्ट में मार्ट में में मीडित मार्ट में में मार्ट में में मार्ट में

#### a शहरों में एवरदेल पहुंचा 🛮 4 शहरों में आएण जियो

रपाटेल के पंतरण मुख्या विका में 3 महती में 5वी की मुख्यान का रंपना किया। हमार्थी विकास पूर्वा, प्रीमी, प्रोमीलक्षा, प्राथमानी, प्राप्ता, के स्वाच्या का मार्थी, प्राप्ता, के स्वाच्या की निर्माणियाँ मेरी करत कार्यान के निर्माणियाँ भी करत कार्या कार्या कार्या के भी करता कार्या कार्या कार्या के मेरी कार्या कार्या कार्या कार्या

## प्रधानमंत्री नोदी ने इन्ये की भूकाशक के ब्रेके घर एक साथ तीन राज्यों के स्टूडेंट्स से ब्रास्थीत भी वर्षे । क्षेत्रा उठ्यक्षिमा भी जल्द का की बेक्सी भी दीनकीं करने वेक्सी ने अहिंदिया ने क्खा कि उसकी उसी सोक्स कर के बहुए की नाम कर की कहारी, जीतिन इसकी सम्पर्धन कर के अहिंदी हुन्य मानन विद्वात है के कि इसके 24 करोड़ जीत बहु है है का उन्हें सीच के स्वार भा बहु बहु

रिताराम इक्स्ट्रीज के केमनित নিয়েলৰ ব্যৱস্থান সং কাৰণিক।
কুলা বালগাঁ প বালিকাৰ পা বিশ্বন কিবা কি পালকাৰ বিশ্বন বিশ্বন বিশ্বন কি পালকাৰ বিশ্বন বিশ্বন ২০০২ কৰা বুলি বাল দি কাৰ্য কৰা কুলা কৰা কৰা পিছাৰিকা পা বিশ্বন কৰা কৰা বিশ্বনা কৰা কৰা বাংলাল কিবাৰ

अमने 30 विशे का सूर्ये अनीतिकेद परिकारक और वेरटरीका केट्रेंट भी जान ही और इन करें navbharatgold.com पर।

#### प्रधानमंत्री ने इस खास चश्मे से परखीं 5जी की खबियां

प्रशित में द्वार में विद्या स्वेताल महिला के तीन हिला स्वेताल महिला कर है। यह से तीन हिला से महिला है जो का महिला है। यह से तीन हिला महिला है कि तमा के तीन हिला महिला है कि तमा के तीन है कि तमा के तमा है कि तमा के तमा

#### **अक्टार्ट्ट** 'मानों सच में घूम आए मंगल ग्रह पर'

क्षणिया के मान के पान के पान में पान की मान किया के मिल किया की मिल किया किया की मिल किया की मिल किया



Reliance Jio showcased a virtual reality use case in the classroom where a teacher could teach a class of students without being physically present and using immersive models of body organs like a heart to help students visualise better.

#### Vodafone Idea demonstrated an industrial

use case around worker safety in an under-construction metro tunnel by having cameras and sensors in place to automatically determine when a worker was not wearing safety equipment. It also showcased a holo lens based application where an employee could create a digital twin for the PM to oversee construction at the site from the dias.

### A Vision of the Future

Rharti Airtel Reliance lio and Vodafone Idea showcased India centric 5G use cases at the India Mobile Congress as Prime Minister Narenda Modi launched 5G services in India.

Airtel's showcase had a school girl from Varanasi join the Prime Minister in a conversation through a hologram on stage at the India Mobile Congress, using high-speed 5G connection

### without any lags. અમદાવાદ-ગાંધીનગરમાં અને ज्ञमनगरमां ५**G सेवानो आ**रंभ

प्रक्रिय को क्षेत्र में मित्र में व्यवस्था के प्रक्रिय कार्य के प्रक्रिय कार्य कार्

#### PM interacts with construction workers of Delhi Metro Tunnel

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#### Hon'ble PM makes the first call on Vi 5G Live network from India Mobile Congress



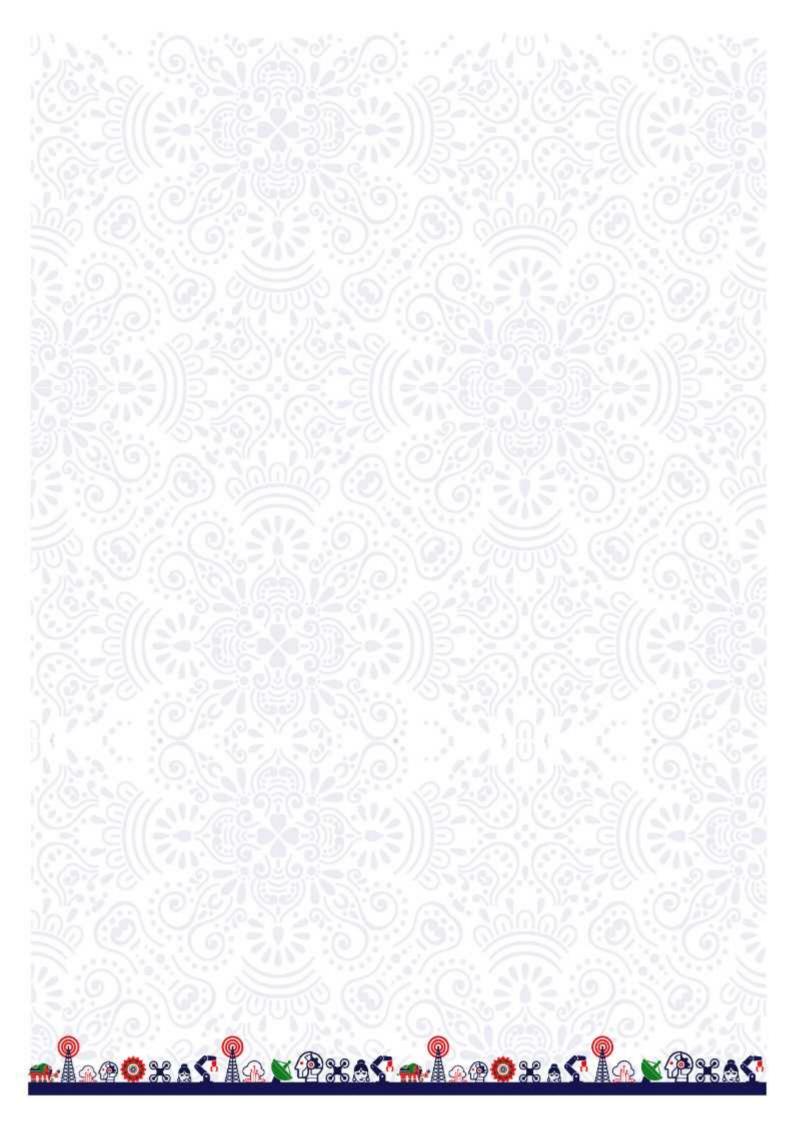
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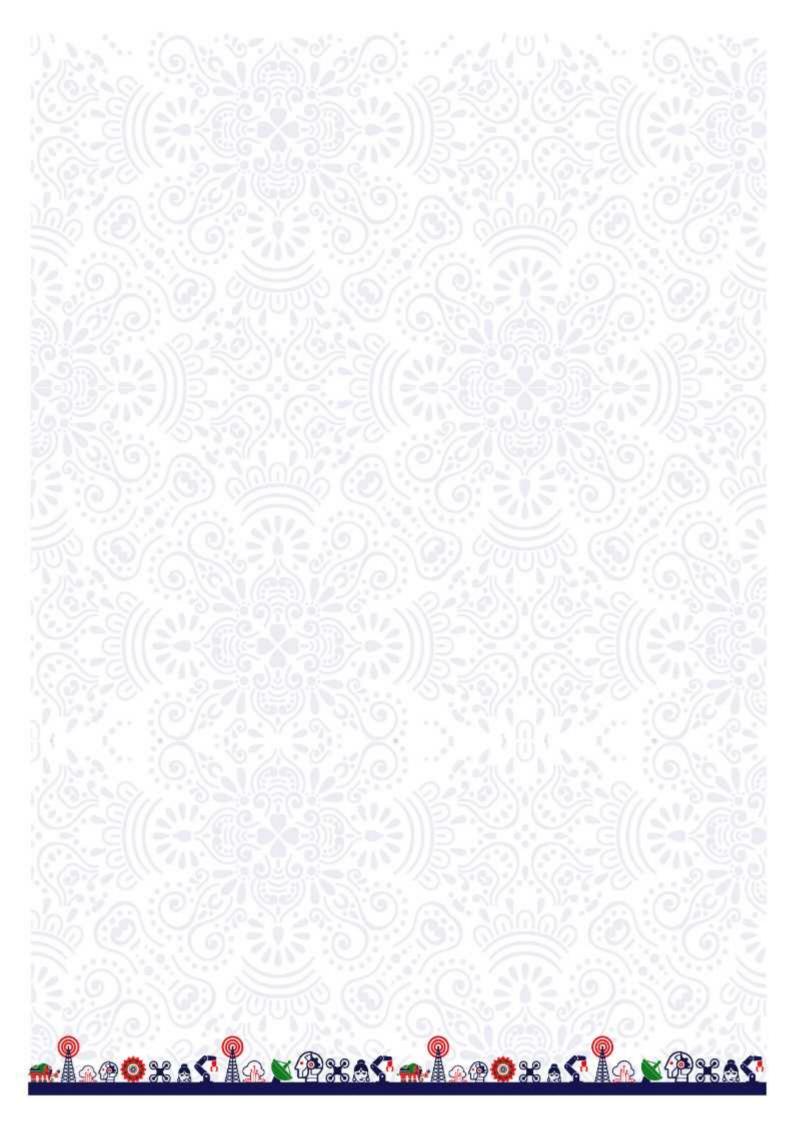
for the Horrble PM with a Worker at the site.

Using high-speed withs-involvationary 4G network. Visionizationed to the Horrble PM how 5G technology combe used in India 6e Worker Safety and Efficiency in supervisions of critical tomorranic minimum is such as turned, underground working sites, makes site. With a 3D Digital Patin of a Delph Matter turned site control on Ny 5G, Harble PM was able to siew it remody to real-time, and residen the working conditions and well-being of the workers deplayed that the site. Along with the Horsbe PM of MC or Vi 5G international was their Names Mangalam Birts, Chairman, Adilya Birts Group. Taking on the consistent Set Komer Mangalam Birts, Chairman, Adilya Birts Group. Taking on the consistent Set Komer Mangalam Birts, Chairman, Adilya Birts Group, and "Vi stands communication before the fined in innovative technology, and service offerings to valve 1.3 billion Indiano, on an accelerated poemey lawants individual and arillective growth."









## Organised by



The Department of Telecommunications (DoT) operates under the Ministry of Communications, Govt. of India and primarily works towards providing a secure, reliable affordable and high quality converged telecommunication services anytime, anywhere for an accelerated inclusive socio-economic development.

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