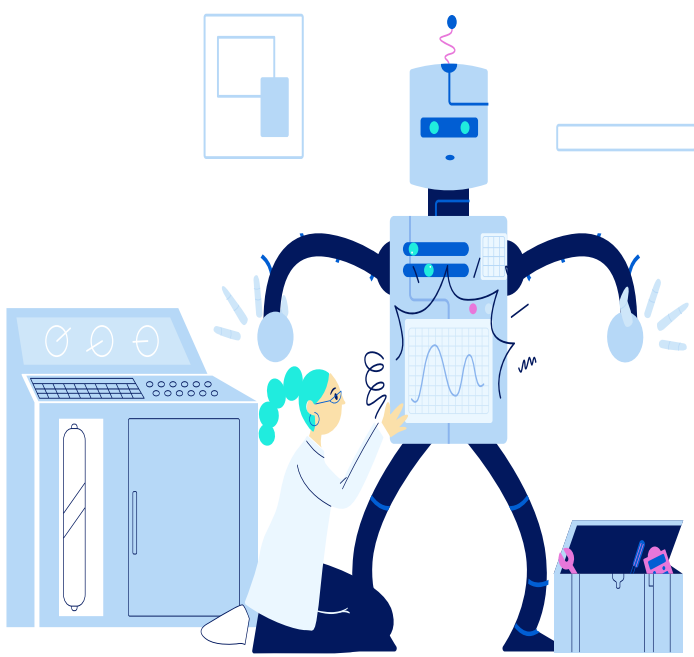
5G in India

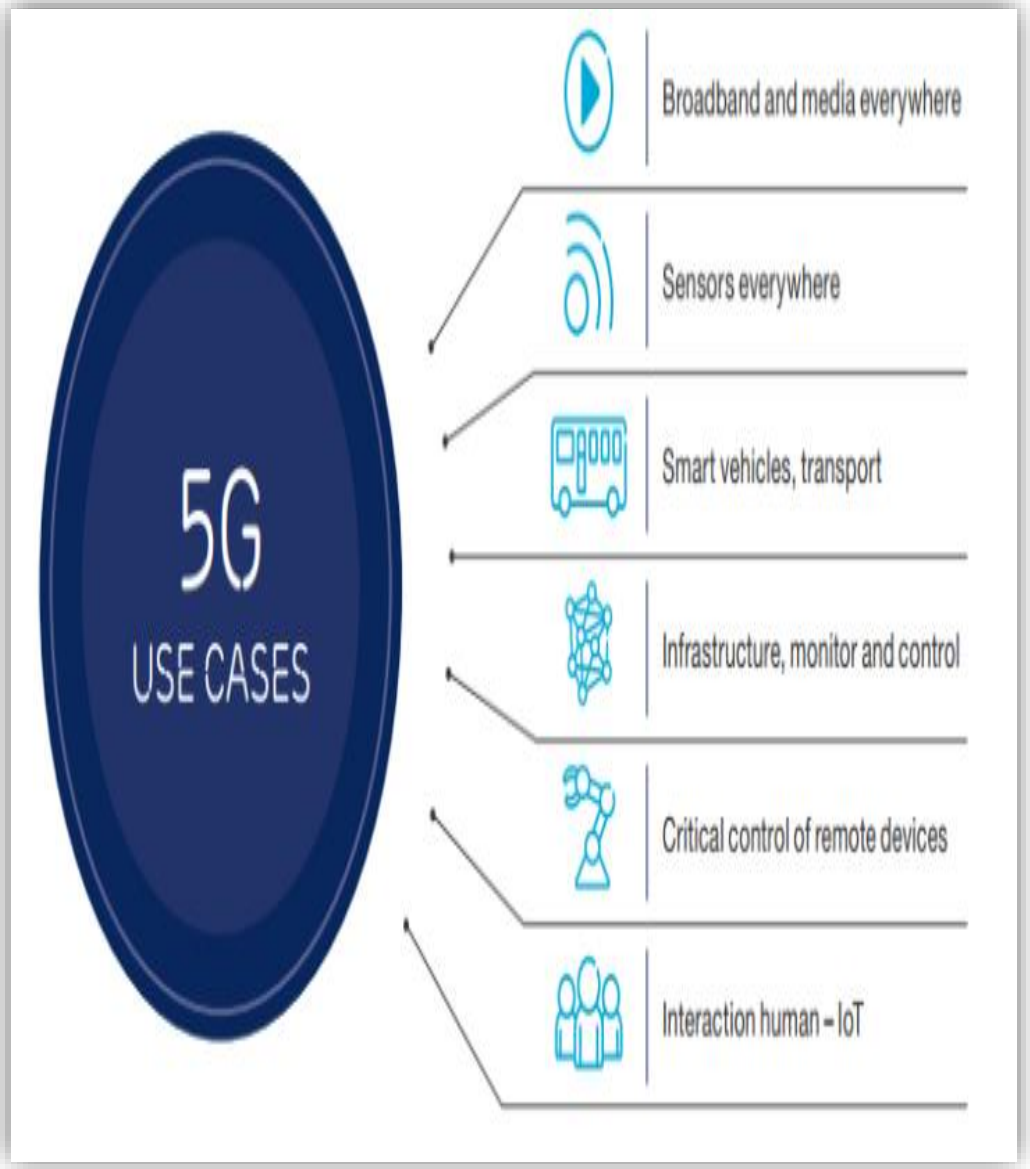
Taking India's digital transformation and connectivity to new heights, the **Prime Minister, launched 5G services on 1st Oct 2022.**

5G-NEXT GENRATION WIRELE TECHNOLOGY

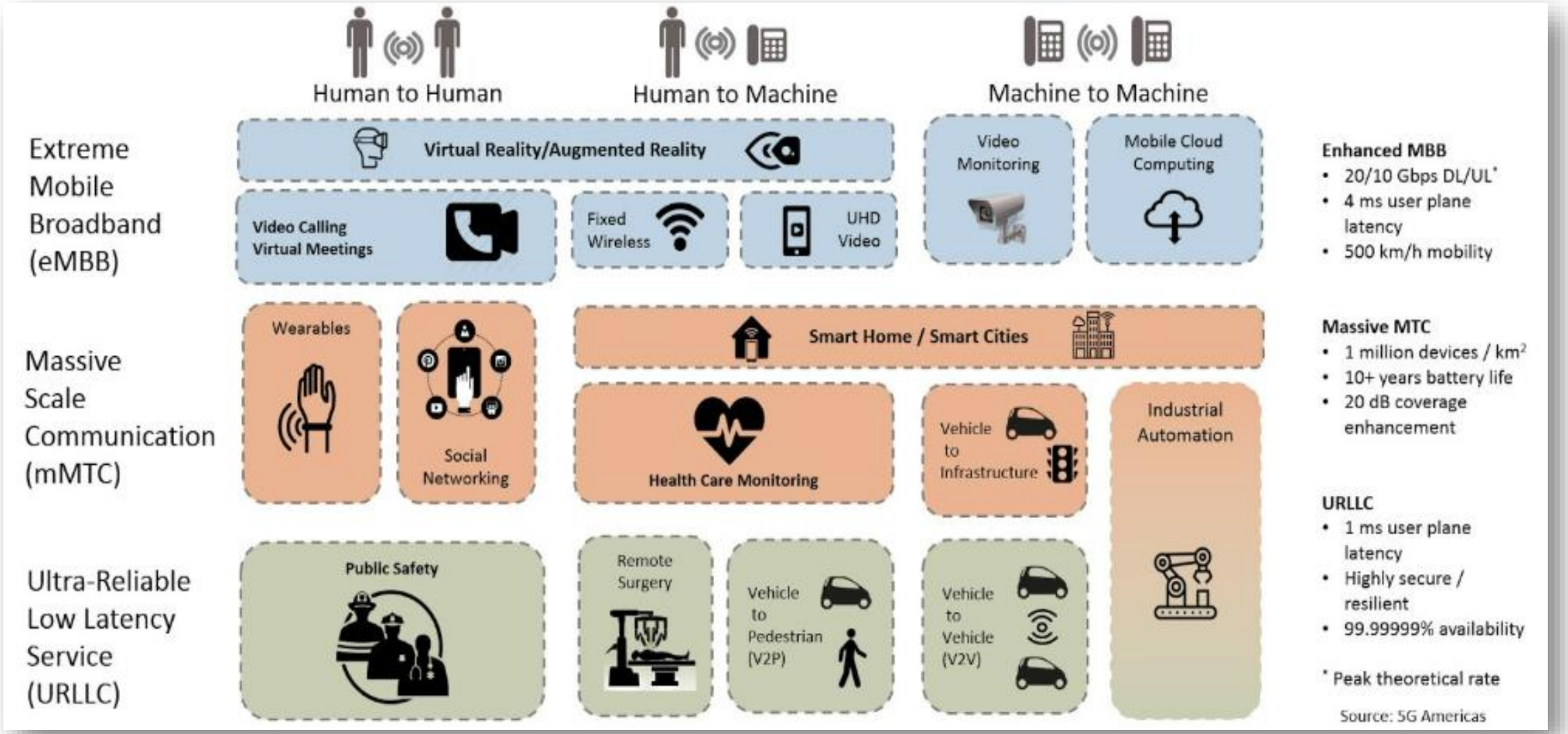
Features



- ENHANCED MOBILE BROADBAND
- ULTRA RELIABLE, LOW LATENCY
- HIGH USER DENSITY
- MASSIVE MACHINE TYPE COMMUNICATION
- Accurate Positioning



5G USES CASES SUMMARY



TRANSPORT

A

CONNECTED VEHICLES

Intelligent Transportation, Connected & Autonomous Vehicles, Vehicle platooning, Remote Driving, Fleet Management

B

E-TOLLING

Automated payments through high-speed moving vehicles

C

NAVIGATION SERVICES

Precise ground-based navigation services for unmanned vehicle/drones

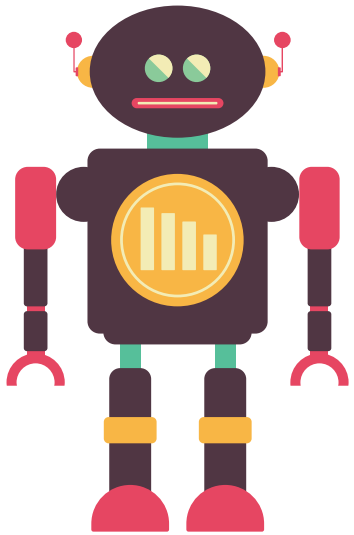
DISASTER MANAGEMENT & SAFETY

Save Precious Lives

A

Rescue Services

Improved emergency rescue services



B

Remote Monitoring

Remote operations & monitoring for safety of construction workers, mining workers etc

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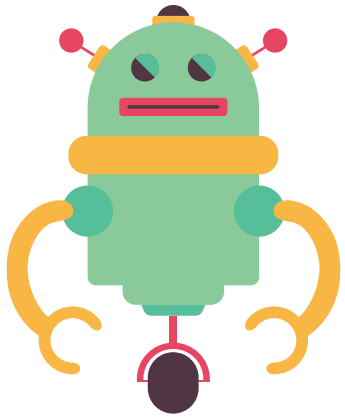
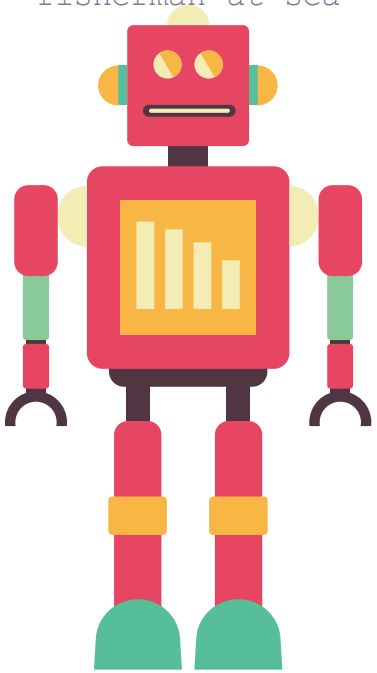


C

Mission Critical

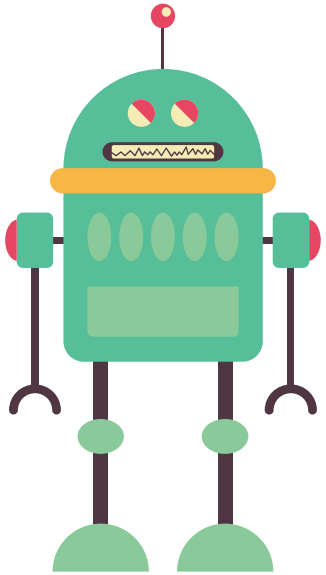
Public safety network and mission critical services for fisherman at sea



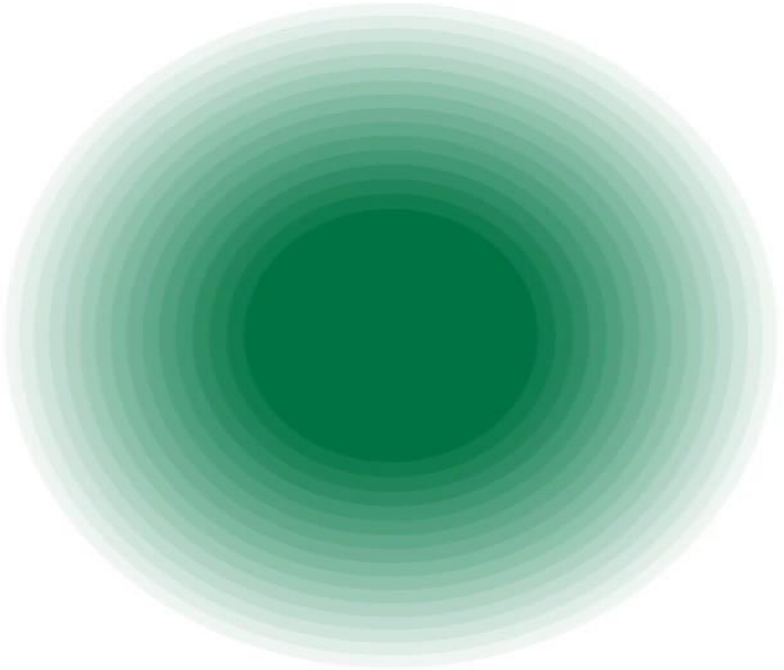
D

Remote Monitoring

Remote management of Mines . Highway safety



SMART APPLICATION FOR SMART CITY



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EDUCATION

POTENTIAL USE CASES AND APPLICATION VERTICAL WISE

Sl. No.	Sector	Use cases	Ministry[16]
1	Smart Cities, Communities, Homes	Intelligent Transport, Infrastructure Mgmt, Lighting, Logistics, Precision Navigation, Resource Management, MRO[17]	Ministry of Housing & Urban Affairs
2	Smart Homes and Campuses	Immersive Gaming, Connected Appliances& Modern Home & Integration, Intrusion Detection, Smart - Energy, Water, Fire Alarms), Micro & Indoor Navigation; Service Bots	Ministry of Housing & Urban Affairs
3	Connected Healthcare	Smart Ambulance, Emergency Service Bio-Connectivity, Real-Time Bio-Connectivity through Wearables, Robotics, Wearable Telemetry, Transmission of HD Images, New Edge -Tele-Consultation, Block chain Use Cases In Healthcare, Volumetric Analysis of Scans And Reports; Smart Rehabilitation, Assisted Living, Geo-fencing	Ministry of Health & Family Welfare
4	Education and Skill Development	AR, VR, MR based Learning and Training, Smart Classroom, Enhanced Viewing Experience In Broadcast & Immersive Learning	Ministry of Education; Ministry of Skill Development & Entrepreneurship
5	Power	Smart Grids, Resource Management, Remote Diagnostics, MRO, Smart Energy (Generation, Trading, Distribution, Metering, Services), Advanced Metering Infrastructure (AMI), SCADA / EMS, Substation Automation, Micro-Grids	Ministry of Power
6	Agriculture	Precision Farming; On-Ground Insurance Models; Remote Diagnostics Of Soil, Yield, Pests, Quality; Health Monitoring For Livestock (Connected Cows And Calving); Indoor Farm Monitoring,	Ministry of Agriculture and Farmers' Welfare
7	Fintech	Near Real-Time Financial Markets, Fraud Detection, Enhanced Customer Experience,	Ministry of Finance
8	Automobile	Connected Cars, Enhanced Safety, Remote Diagnostics, Assisted / Autonomous Driving, Fleet Monitoring and Precision Navigation, V2X (Vehicle To Everything), Immersive Infotainment,	Highways ; Ministry of Railways
9	Industry 4.0	Industrial IoT, Robotics And Increased Automation; Smart Factories, Smart Construction, Quality Control, Digital Twins	Ministry of Heavy Industry & Public Enterprises
10	Retail, Food Quality, Food supply-chain integrity	Haptic Experience of Online Shopping, Inventory Management And Control,	Ministry of Consumer Affairs Food & Public Distribution
11	Sports And Events	On-Line Sports Training With Millisecond Analytics; Enhanced Viewing Experience In Broadcast & Immersive Entertainment; Crowd Management, Holographic Collaboration	Ministry of Youth Affairs & Sport
12	Logistic Hubs Such As Sea- Ports, Airports, Warehouses, Resource Management	Resource Tracking, Automated Inventories and Control, Diagnostics, Fleet Movement, Safety, Remote Management of Mines	Ministry of Mines; Ministry of Jal Shakti, Ministry of Commerce; Public & Private Ports, Airports
13	Railways	Rail-Track Safety, Trackside Systems For Video Analytics, Intelligent Transport, Resource Management	Ministry of Railways
14	Tourism	AR, VR, Immersive Experience	Ministry of Tourism
15	Smart water and sewage/ Sanitation	Water management, Water Quality, Safety	Ministry of Jal Shakti
16	Telecom	FWAs- Rural, Urban broadband connectivity; Underserved areas Broadband PCO	Department of Telecom

Startup Pilot details -State Government initiatives after 5G Conference

Startup	State	Department	Project Details and Location
Perkant Tech Private Contact-Saniya Jeswan Mob-8226008918	Uttrakhand	Health Department	Health screening systems for the Char dham yatra to ensure pilgrim safety and health screening
Nayan Technology Contact-Mr.Jayant Ratti Mobile-9899398646	Delhi/Uttrakhand	PWD/Traffic Police	AI model combined with CCTV footage and physical logbooks of security guards and other workers , will give real time reports of damages to road and footpaths discolouring of pavemnts and theft of iteams like decorative lights or steel sculptures.
Easiofy Contact-Ms. Noor Fatima Mob-995849937	MP	Health Department	Vidisha District Hospital.ImagiXAI is the platform name. Its cloud based AI enabled image analysis platform
	Arunachal Pradesh	Health Department	Bakin Pertin General Hospital & Training Center,Pasighat.ImagiXAI is the platform name. Its cloud based AI enabled image analysis platform
	Nagaland	Health Department	Naga Hospital Authority, Dimapur.ImagiXAI is the platform name. Its cloud based AI enabled image analysis platform
	Manipur	Health Department	District Hospital, Senapati.ImagiXAI is the platform name. Its cloud based AI enabled image analysis platform
	Mizoram	Health Department	District Hospital, Serchhip.ImagiXAI is the platform name. Its cloud based AI enabled image analysis platform
	Meghalaya	Health Department	District Medical &Health Officer,South Garo Hills District, Baghmara.ImagiXAI is the platform name. Its cloud based AI enabled image analysis platform
	Tripura	Health Department	Indira Gandhi Memorial Hospital, Agartala.ImagiXAI is the platform name. Its cloud based AI enabled image analysis platform
TechXR Contact-Mr. Prashant Mishra Mobile-8889500018	Madhya Pradesh	Education	CM Rise school, Natheri,CM Rise School, Vidisha,Subhash Government Higher Secondary School, Bhopal,
	Arunachal Pradesh	Education	Government College of Nursing, Pasighat
	Uttarakhand	Education	Government Inter College, Champawat,
Nav Technology Contact-Mr. Prashant Gandhi Mobile-9819503295	Assam	AMTRON	Connected 4 Locations in Guwahati for ASWAN Network (one installation on the Carnival Island which was used for G20 Meet in Feb'23 and another across the Brahmaputra River having Aerial distance of 6.5 Kms.)
	Gujarat	BSF/Education	1-At BSF NADABET Complex Stadium for TCGL - in the Middle of Rann at Pakistan Border. 2-Dharoi Dam: Connected Dharoi Dam for Seismological Department, 3-DST (GFGNL's BharatNet Horizontal Connectivity) 4-Connected Sachivalay with State Data Centre for GSWAN (for GIL). 5-Schools at Mithavi Rana and Kanji Gram Panchayat under Completion (GFGNL's BharatNet Horizontal Connectivity)
	Uttrakhand	ITDA	Connected ITDA Hq. with the Secretariate at Dehradun.
	Ladakh	Education	Connected Institutes HIAL and SECMOL of Mr Sonam Wangchuk

100 5G Use case Labs for Higher Educational institutions

States/Union territories to facilitate the development, experimentation of 5G applications in various socioeconomic verticals

The Government would be funding 80% of CAPEX for the Lab Setup and 100% of OPEX expenses for the next 4 years. The institution to contribute 20% of the CAPEX

To build competencies and engagement in 5G technologies in students and academic fraternity.

To enable projects at UG and PG level for students using 5G environment.

To encourage academia-industry engagement

To Provide local access to 5G test setup for Startups and MSMEs around

Making Indian academia & startup ecosystem 6G ready

5G Use Case Labs : SHORTLISTED INSTITUTES IN HP

1. National Institute of Technology Hamirpur
2. Indian Institute of Technology Mandi

C-DOT's IOT Platform

C-DOT has developed a oneM2M standard based IoT platform - CCSP .C-DOT Common Service Platform

- CCSP (IoT platform) as is based on oneM2M standard, allows any IoT application to discover and interact with any IoT device. Also, it reduces fragmentation , increases reusability.
- Benefit of deploying standard based IoT platforms in the IoT ecosystem is that the application provider does not have to modify the IoT Application to use specific APIs of the IoT platform provider , when it goes from one deployment to another deployment across locations/city/state etc..

State is requested to explore one M2M standards based common service platform to caters the common requirements of M2M applications across various verticals/ industry like transport, health

CCSP Advantage & State Onboarding

- M2M features based on the collaborative efforts of the experts from around the world, thus the common problems being faced in IoT industry will be addressed faster.

- It benefits the procurement agencies by offering the ability to commission multistage projects without locking into a single technology or vendor from the outset.

State may register through the link on COI Portal (https://coi.cdot.in) or may contact below

Contact :

For Technical Clarifications : Anupama Chopra – anupama@cdot.in

For Financial Clarifications : Ravinder Ambardar – aravi@cdot.in

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National Broadband Mission

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Thank You

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