

ITI and TCIL can act as System Integrator for the projects.

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Private 5G NETWORKS





Why Voice !

A consortium for Indian Private 5G Networks

“Voice”, as a platform has taken the initiative to integrate various subsystems developed by Startups and SMEs to provide a complete end to end system that will open up opportunities in Utility companies, Railways, Mines, Oil and Gas as well as Defense applications. Collectively this would be a large market that can resurrect domestic telecom design & manufacturing industry.

Private 5G networks

Enterprise Communication, in future will require reliable high performance, high bandwidth & low latency 5G networks that are device, media and protocol agnostic. Converged core will connect mobiles as well as wired devices offering common management and provisioning interface.

These Private 5G Networks, would converge Voice, Data, IOT & M2M communication within the enterprise and will open up a plethora of applications to address diverse customer requirements.

Private networks are already being deployed in a wide range of industries for indoor and outdoor applications but “Private 5G Networks” will accelerate the process as every industry including mining, ports, automotive, durable goods and chemicals would need them for their digital transformation that would include IOT & M2M applications. Voice and Data Communication may be peripheral use cases.

Campus Deployments



Campus deployment as an extension of the enterprise PABX where Private 5G can support mobility requirements within large campus of an integrated factory with Residential blocks, Hotels, Hospital & Institutions where some staff is on the move. Off shore drilling rigs, construction and mining sites are potential customers. Once high speed low latency network is established, it would double up for IOT & M2M applications for plant monitoring maintenance and predictive alerts regarding impending fault.

Ships and Islands



Ships / Islands and Forest guards need quick deployment of complete networks that may be backhauled on Satellite / UHF or VHF where such 5G based private networks would be an ideal choice for basic communication.

Submarines & Industry 4.0

Submarines & Industry 4.0 would need it for communication as well as predictive fault alerts by use of appropriate sensors and AI algorithms. Time-Sensitive Networking (TSN) and Real-Time Based decision making is rapidly finding role in several mission-critical applications across many industries, including manufacturing, oil and gas, aerospace, and transportation that will require such 5G networks.

Tactical Deployments



Battery powered, Tactical Deployments mounted on vehicle in a compact single box for quick deployment of wired and wireless service could be an ideal communication box for Disaster Management Teams or for defense setups. These could be housed in jeeps or ships with onboard gensets and can cover 5 to 7 Kms radius. Deployment of half a dozen such Mobile Communication Systems can cover a larger area seamlessly communicating between each other as part of Tactical deployment. UN peacekeeping forces or troops stationed in any part of the world can be customers for such applications. IOT devices tightly intertwined on the 5G network will help identify, locate threats and protect critical assets as well as enhance predictive preventive maintenance of critical equipment and services.

Railways / Metro / Airports



Utility companies, Railway stations, Airports & Accident sites where this network would support all legacy communication including communication on Quad cable, E&M, BWT & even Magneto Trunks. Railway accident relief trains can provide immediate voice and data communication that will work seamlessly with their laid out communication system. Railways could use it for specialized Train Control and Communication System (TCCS).

Effective replacement for imported Tetra based communication systems with 5G based high bandwidth low latency communication. Metro projects, Airports, Disaster management teams will find them cost effective and far more efficient. PTT and broadcast communication modes developed to address these requirements.

Disaster Management

Disaster Management to cater to emergency services & rapid deployment of GSM network. Wherever existing GSM network is destroyed due to natural calamity such as hurricane & earthquake. These private networks can quickly set up reliable communication system that can be used by all agencies working at the site viz NGO, Red Cross, Paramilitary, Army, State departments, Fire service thus Security agencies including Police & National Security Groups. They will find immense applications to extend emergency services during natural disasters or man made crisis like terror strikes where need of the hour would be to provide voice, video text and high speed low latency data services.

Mines & Construction Sites



Construction sites & Mining sites in far flung areas with no existing telecom networks could deploy these private networks to cater to immediate communication needs within the private campus. Oil rigs, Oil wells and large construction sites or mining areas could be ideal customer for such applications. They would need high speed low latency 5G networks to use IOT devices for automated / robotic or remote managed applications that are sensitive & mission critical.

In-building Solutions

In-building solution to enhance mobile coverage in the building thereby releasing load on the Macro BTS Network. Local Switching and Intelligence will provide enhanced coverage & additional subscriber density. This would also help effective use of scarce spectrum as each private cell would reuse the same spectrum band.



Rural & Greenfield deployments

Greenfield deployments in Rural areas by providing cost effective & quick deployment methodology that can help local youth to manage and run these networks on commercial basis like the GPAX operators. This will create jobs and entrepreneurs who would ensure upkeep and maintenance at remote locations. These private networks can also be used for temporary deployment in a Games village or for a temporary holiday camp over a few kilometers that can be powered by solar energy.

Advantage **Voice** consortium

1. Totally Indian Design and Control. Docker based deployment architecture hence will run on industry standard computing platforms.
2. Integrated Management & Provisioning dashboard. Service based scalable architecture where compute power can be increased for specific modules based on customer needs.
3. Converged core that seamlessly supports wired as well as wireless devices on 5G / 4G as well as Wi Fi based radiating network for voice data video IOT as well as M2M. This redundancy and always available.
4. Cost effective and customizable for specific needs since design control is with domestic players who can tweak it to meet customer specific requirements.
5. Seamless interconnect with specialized enterprise communication legacy channels like E&M, FXS, FXO, PTT & Magneto, to the present day 5G devices.
6. Simple to operate, provision & manage like any enterprise PABX.
7. Voice consortium is committed to support and move on to build Artificial Intelligence and Edge computing capabilities on these networks thus move these platforms into the 6G technology.

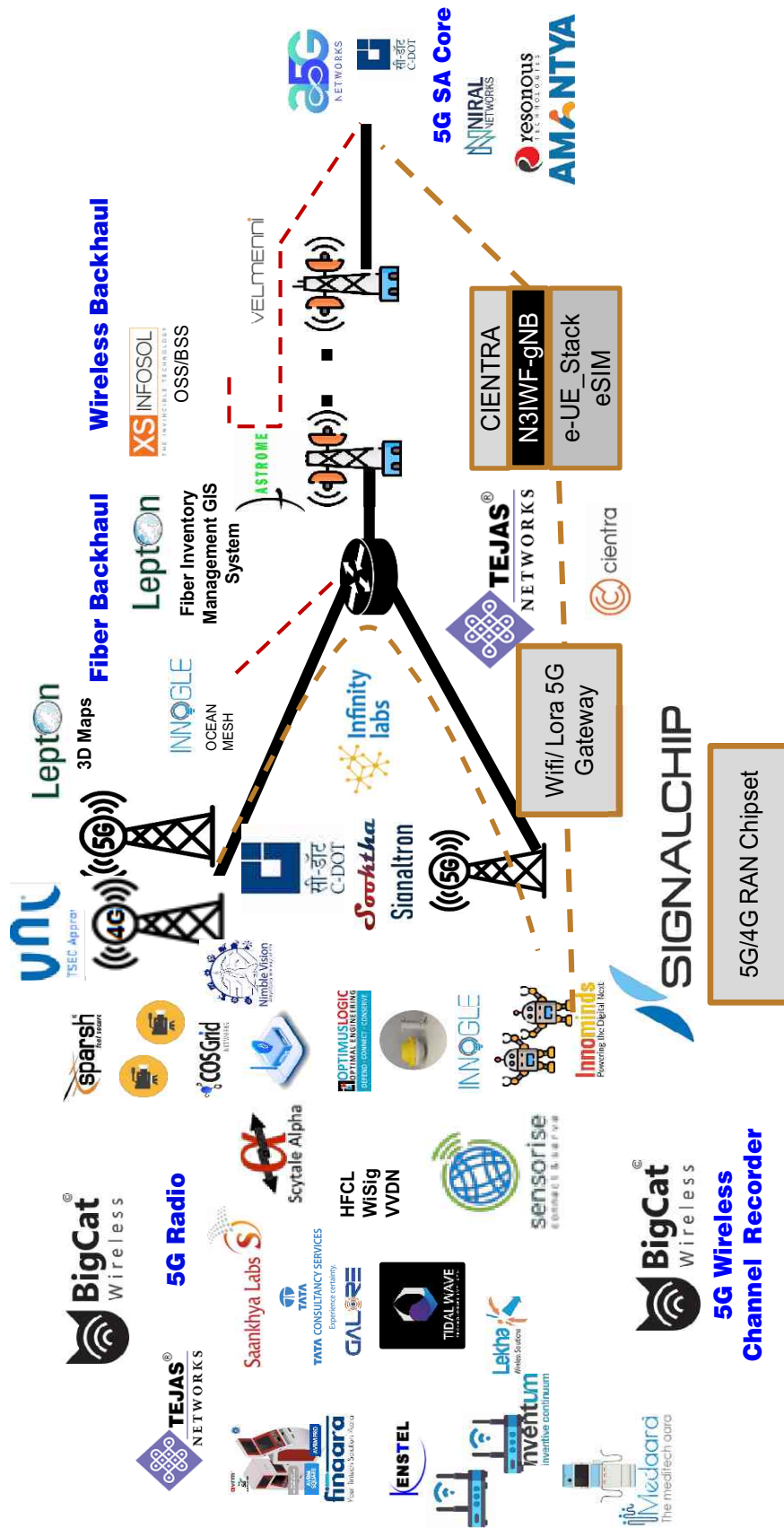
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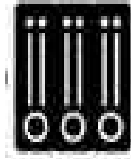
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4G CORE



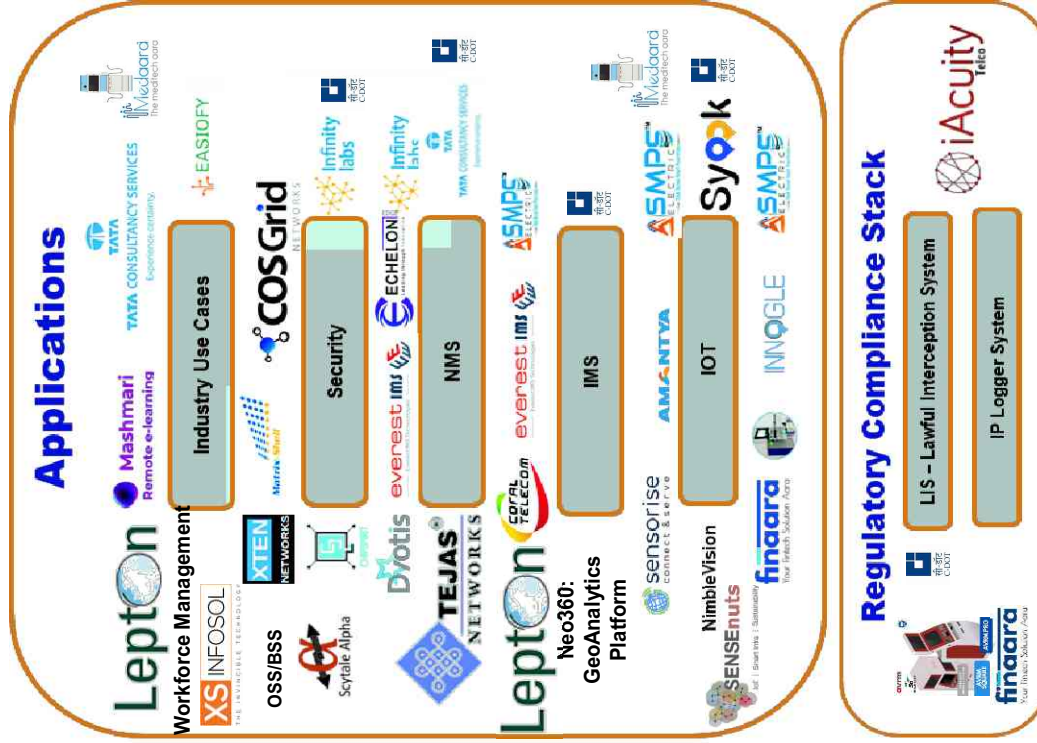
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