

## C-DOT Satellite Wi-Fi (C-Sat-fi®): To Connect the Unconnected

### Object of C-Sat-fi

1. Integration of VSAT Technology with C-DOT BBWT Wi-Fi Terminals to provide an efficient and cost-effective digital connectivity in remote and unconnected areas.
2. Performance testing of voice, video and data for concurrent user access.

### Introduction

Wi-Fi is a proven and cost-effective technology to provide last mile broadband connectivity and proliferate digital connectivity in least time and investment. Due to its operation in free spectrum (ISM band) and a very well-developed ecosystem of hardware/software and user equipment (Mobile/Laptops/Tables etc.), Wi-Fi is the most suited technology to provide connectivity in rural and unconnected areas.

Satellite Communication can play a big role in India's ambition to transform itself into a country empowered by digital technologies. In India, Satellite technology is especially suited for far flung and difficult terrain areas like North Eastern States, Leh, Ladakh, Andaman & Nicobar Islands, Lakshadweep, etc. It would be extremely useful in areas where laying optical fiber cables or installing mobile towers are difficult and next to impossible.



Recent development and deployment of High-Throughput Satellite (HTS) technology in Ku & Ka band through USOF, the bandwidth available for communication need has increased many folds and cost of bandwidth has reduced tremendously. ISRO has already launched GSAT-19, GSAT-29, GSAT-11 and GSAT-20 (upcoming) satellites in Ku & Ka band which has made 100 of Gbps of total bandwidth for our communication need. ISRO is also planning to launch more satellites to increase the bandwidth capacity in coming year.

*With this background, merging of both Wi-Fi for access and Satellite technology for backhaul makes most sense to provide digital connectivity in our country.*

### Application Area of Satellite based Broadband

- Connectivity in Rural and difficult terrain
- Connectivity in Disaster conditions
- M2M and IoT connectivity

### C-DOT Technology

C-DOT's indigenously designed **Wi-Fi Terminal** to provide hotspot and horizontal connectivity to citizens in a village. C-DOT has designed and developed broadband products which are suitable to integrate with any VSAT technology for C-DOT Satellite Wi-Fi (C-Sat-Fi) Solution.

**C-DOT Service Switch** to provide local connectivity distribution with the support of multiple VLAN installed at POP location.



configuration with single satellite backhaul deployed to cover large area village i.e. Harish Tal village. Bandwidth provision can be different depending on the requirement in each village.

***Voice calling services are tested using TSP's softswitch installed in the network. Data access such as web access and video streaming are tested on the system on user mobiles and laptops which are connected over C-DOT Wi-Fi and satellite backhaul. Simultaneous access to network through multiple clients is tested successfully.***

C-Sat-Fi is most suitable for Voice as primary and Data as Secondary service for the hilly and difficult terrain / aspirational villages of India and all around the world with similar topography.

### Some Testimony



Field Deployment at Hilly Terrain of Nainital and Tripura