AP fiber

ANDHRA PRADESH STATE
FIBERNET LIMITED

Connecting Andhra Pradesh through
High Speed Fiber Internet.

**STATE WIDE HIGH SPEED
OPTICAL FIBER INFRASTUCTURE**

APSFL
Andhra Pradesh State FiberNet Ltd.
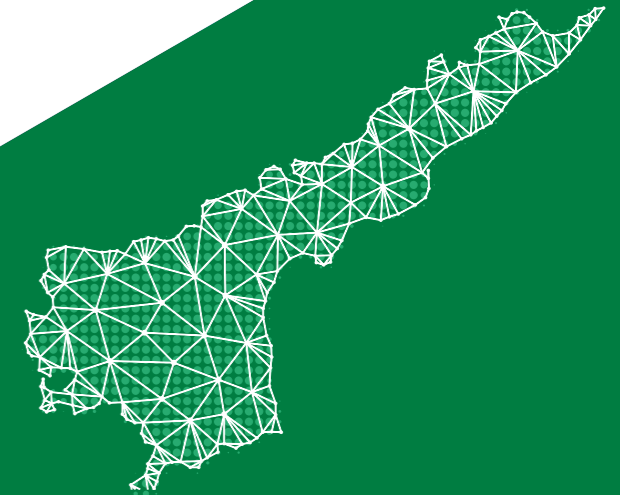
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APSFL
Andhra Pradesh State FiberNet Ltd.

Shri Y.S. Jagan Mohan Reddy
Hon'ble Chief Minister
Govt. of Andhra Pradesh

VISION OF
APSFL FOR NAVARATNALU

- **Real-Time Monitoring** of Irrigation projects using Surveillance Cameras
- Gathering feedback from citizens using period surveys

- 100 Mbps Internet connectivity to all **Rythu Bharosa Kendras**
- Use IPTV platform to transmit:
  - **Real-time prices of crops**
  - **Videos** on Agricultural best practices
  - **Weather forecasting & alerts**

- 100 Mbps **Internet Connectivity** to **APSBCL** depots and stores across AP
- **Use 14000+ surveillance cameras** for enforcement and to avoid illegal transportation of liquor
- **Awareness through Ad campaigns & Videos**

- Connect 55,000+ Government Schools for **real-time attendance** updates
- Use 4,000 **virtual classrooms** for interactive learning and training Govt. School teachers for **English Medium**

- Internet Connectivity to **YSR Health Clinics** & PHCs
- **Telemedicine capability** to tackle Covid 19 scenarios
- **e-Pharmacies** for doorstep delivery of medicines Reminders for Health checkups

Information on Government **Welfare Schemes**, their eligibility and the status of application can be provided to households on IPTV platform

Use IPTV platform for
- **Skill Development**
- **Live education** using connected studios
- **Job Notifications** on IPTV

Direct feedback from households using IPTV

Provide triple play services to all **25 lakh TIDCO** houses

VISION OF HON'BLE CHIEF MINISTER

High speed internet connectivity to all villages in the state of Andhra Pradesh & Digitalization of Gram Panchayat and Local Governance.

To bridge urban-rural digital divide by establishing *high-speed Optical fiber connectivity* in each and every village.

To facilitate the rural youth to exercise their *right to internet access* within their reach and within their means.

To promote digital inclusiveness & to provide *Triple Play Services (Internet, TV & Telephone)* to all households in the State of Andhra Pradesh with most affordable prices.
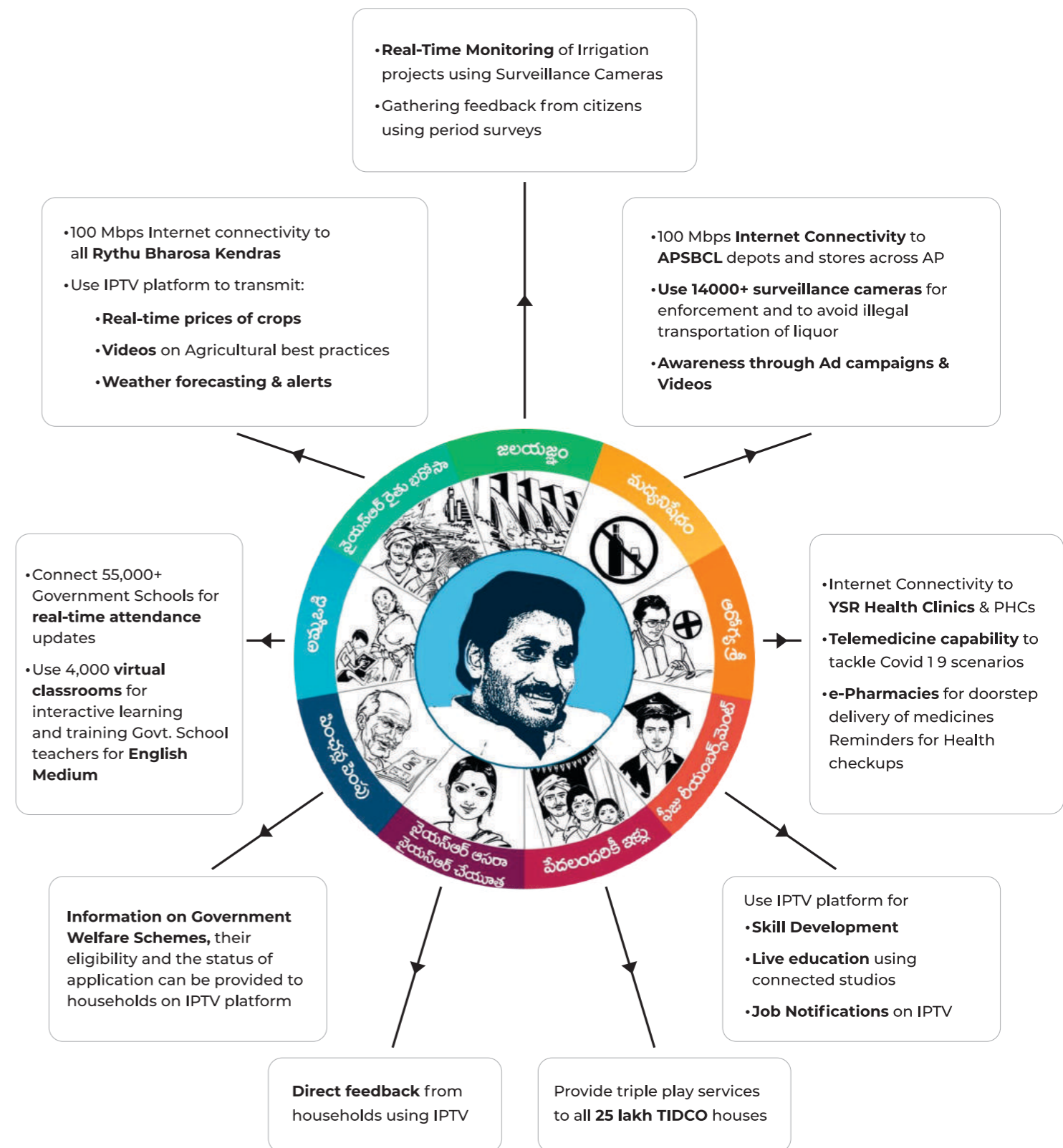
ABOUT **APSFL**

Andhra Pradesh State FiberNet Limited (APSFL) was incorporated to promote Digital inclusiveness and bridge urban-rural divide by providing affordable, high-speed broadband connectivity to households, deepening the reach of internet in the rural areas. Network infrastructure was laid out for providing triple play services (IPTV, Internet, Telephony) to households and Govt/Private Enterprises through IP MPLS (Internet Protocol Multi-Protocol Label Switching) & GPON (Gigabit Passive Optic Network) technologies.

Further, APSFL Network can also be utilised by the Internet Service Providers (ISPs) and Telecom Companies (Telcos) etc. who can utilise the information highway / bandwidth under AP Fiber Grid to enhance their services and deepen their reach. The partners who provide the last mile connectivity through AP Fiber Grid by hooking to the PoPs/NOC can immensely benefit from this system as they can provide triple play - IP TV, high-speed broadband and Telecom under a single umbrella, thus enhancing the scope for revenue generation. They will become the last mile operators, the key link between the AP Fiber Grid and the end-user.

APSFL is the first state government entity in India to become a licensed Internet Service Provider, Telecom Service Provider and IPTV provider.

APSFL has deployed unique and first of its kind network infrastructure with latest technologies to provide Triple Play Services at affordable price to households.

Currently, APSFL is delivering services to around 9.5 Lakh subscribers in the state of Andhra Pradesh.
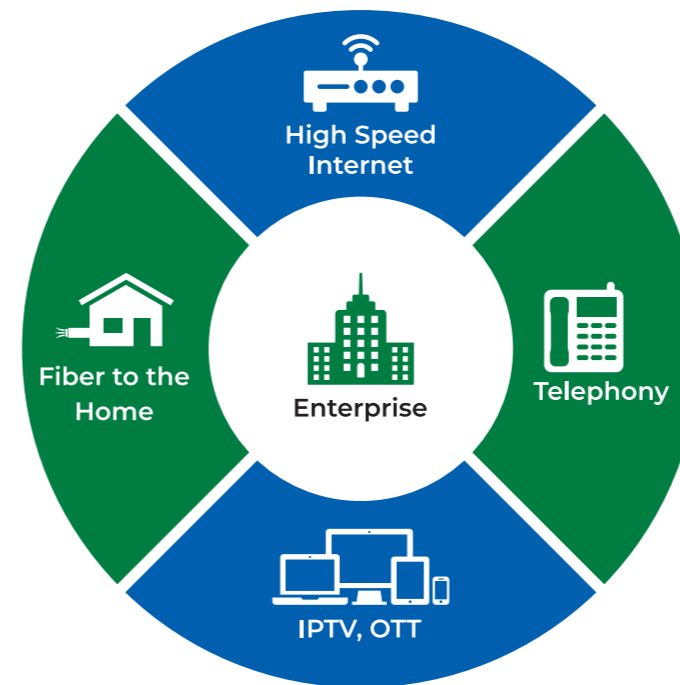
IPTV

Internet

Telephony

WHY **APSFL**

- Big challenge before policy makers – "How to penetrate broadband in Rural areas?"
- Unless this is addressed, ambitious projects like Digital India, e-Governance etc to benefit comman man may remain a distant dream.
- APSFL is addressing the challenge of converting non-consumers of internet into consumers by innovatively bundling Internet along with TV Channels and allowing customers to access internet directly on TV.
- In view of huge costs and timelines involved in building underground network, APSFL is utilizing more reliable OPGW cable on transmission lines of AP GENCO and has established aerial cable over 33 KV electric poles in ring architecture to increase reliability.

High Speed Internet

Telephony

IPTV, OTT

Fiber to the Home

Enterprise

APSFL **CORE PURPOSE**

- To provide triple play services to all households including rural and tribal regions of the state so that people can improve standard of living, self–earning opportunities, take well informed decisions with empowered information.
- To provide high speed internet connectivity to all government offices to enhance quality of services, efficiency, effectiveness and citizen happiness by taking government services to the doorstep and creating social impact by connecting Government with Citizens.
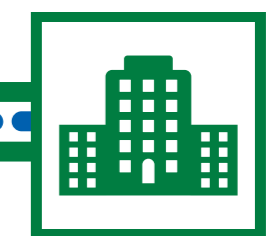
IPTV

Broadband
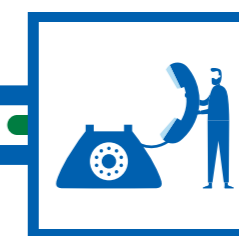
Telephone

Enterprise

BENEFITS OF **AP FIBER**

|				
Bridge urban-rural digital divide with ubiquitous access to High Speed Internet	Provide Connectivity to Village Secretariats to enable real-time assessment and evaluation	State-owned broadcasting platform to transmit Info on government schemes	14,000+ Surveillance cameras leverage APSFL's network to support law enforcement agencies	Provide expert guidance to remote, rural school through Virtual CLassrooms project
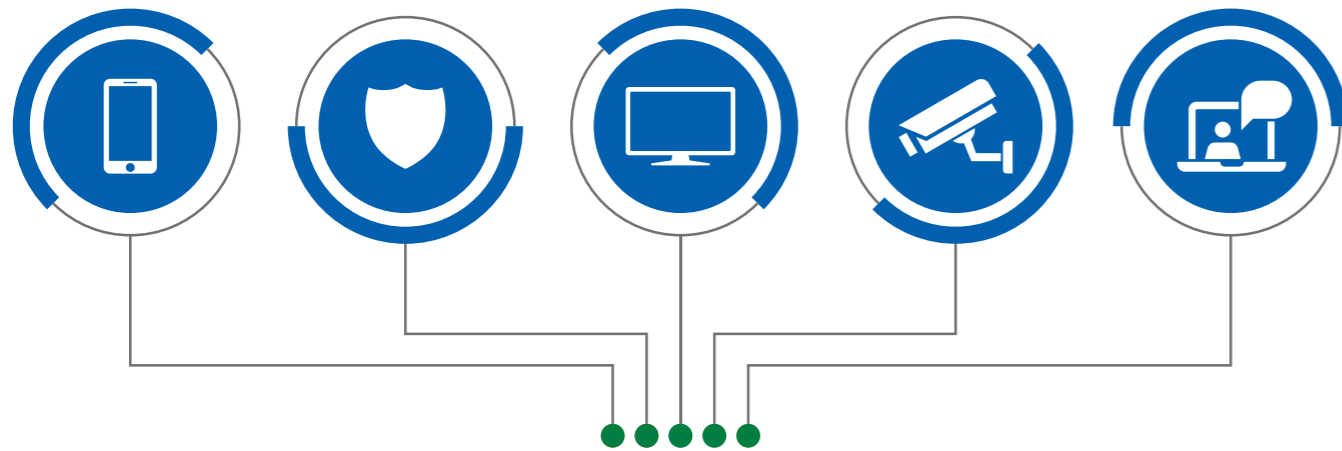
APSFL Ecosystem
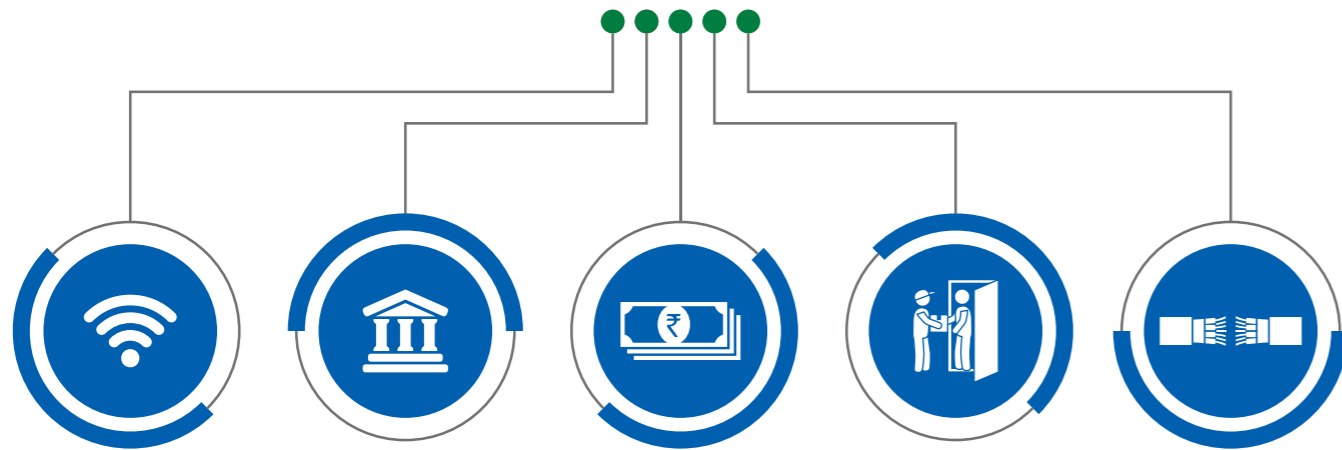
Implement'Public Wi-Fi' project to provide free high-speed broadcast to citize across state	Utilize BBNL Network at Gram Panchayat level to increase coverage, capacity and performance	Create earning oppurtunities to 30,000 LCOs & indirect employment to 90,000+ citizens	Provide doorstep delivery of various G2C service and complement VIllage Volunteers	Provide connectivity to Uncovered, Remote and Tribal Regions across the state

KEY ACHIEVEMENTS FROM PAST 3 YEARS

- First state government entity in India to adopt and roll out one of the most advanced technology in communication.
- First of its kind in the world to provide triple play services at an affordable price of ₹350 per month.
- Around 7,000+ LCOs and MSOs have already registered with APSFL as business partners to provide last mile services to all households and institutions/offices.
- APSFL's connectivity is available in Remote and Tribal regions of AP which includes ITDA Paderu, Rampachodavaram etc.
- APSFL has developed new Business Support System (BSS) by standardizing and automation business processes and increasing flexibility to offer new staff packages as per business requirement.
- The Govt. of AP desires to upgrade the existing APSWAN network to APSDWAN with the setup of Mutli Protocol Label Switching (MPLS) for Government of Andhra Pradesh Departments. APSFL has won the APSDWAN tender for providing the bandwidth services (MPLS Connectivity) to all District Collectorate (DHQ) & Mandal Revenue Offices (MHQ) which resulted in 50% savings on Government Revenue.
- APSFL is the Network backbone for many of the Government Initiatives in providing the internet connectivity which enable in the provision of Efficient and reliable service to the citizens of Andhra Pradesh in view of our Hon'ble CM vision.
- 10,000 Rythu Bharosa Kendrams, 6000+ Village & Ward Secretariats, APSDWAN are connected & integrated into APSFL Network.
- APSFL Teleconferencing System: APSFL has own unique infrastructure where 40k concurrent calls can be connected with multiple redundancy to provide the uninterrupted services. APSFL serving the teleconferencing solution to all the District Collectorates and almost all the Government Departments.
- APSFL also provisioned the Leased Line circuits to Telecom service providers for extending mobile services in tribal areas.
- APSFL has strengthened its core network and providing reliable services by integrating additional 400 route KMs of OPGW cable of AP Transco along with upgradation of district rings from 20 Gbps to 40 Gbps.
- BharatNet Phase 2 Project: APSFL has completed laying additional 14,671 Route KMs of fiber (27% of total) from May 2019 till date for connecting Mandals to Gram Panchayats.

INFRASTRUCTURE

- State-of-the-art Network Operations Centre containing the IPTV Headend, Broadband Network Gateway Servers, Caching & Peering Servers and Telecom Switches

- 24 Core ADSS Optical Fiber Cable (OFC) laid across the state using 3.7 Lakh electrical poles spanning a length of **24,000 KM** and additional **55,000 KM** OFC network through BharatNet Project connecting 11,274 Gram Panchayats in AP

- Back-end electronics – Routers, Switches & OLTs deployed at 2600 Points of Presence (PoPs) located in electrical sub-stations of AP Discoms

- Integrated network of around **80,000 KMs** connecting State Head Quarters, District HQ to Zonal HQ to Mandal HQ and Gram Panchayats.

APSFL DATA CENTER

A data center is a **facility that centralizes an organization's shared IT operations and equipment for the purposes of storing, processing, and disseminating data and applications.** Because they house an organization's most critical and proprietary assets, data centers are vital to the continuity of daily operations

At its simplest, a data center is a physical facility that organizations use to house their critical applications and data. The key components of a data center design **include Routers, Switches, Firewalls, Storage systems, Servers and Application delivery controllers.**

Data centers are often referred to as a singular thing, but in actuality they are composed of a number of technical elements. These can be broken down into three categories:

Compute: The memory and processing power to run the applications, generally provided by high-end servers.

Storage: Important enterprise data is generally housed in a data center, on media ranging from tape to solid-state drives, with multiple backups.

Networking: Interconnections between data center components and to the outside.
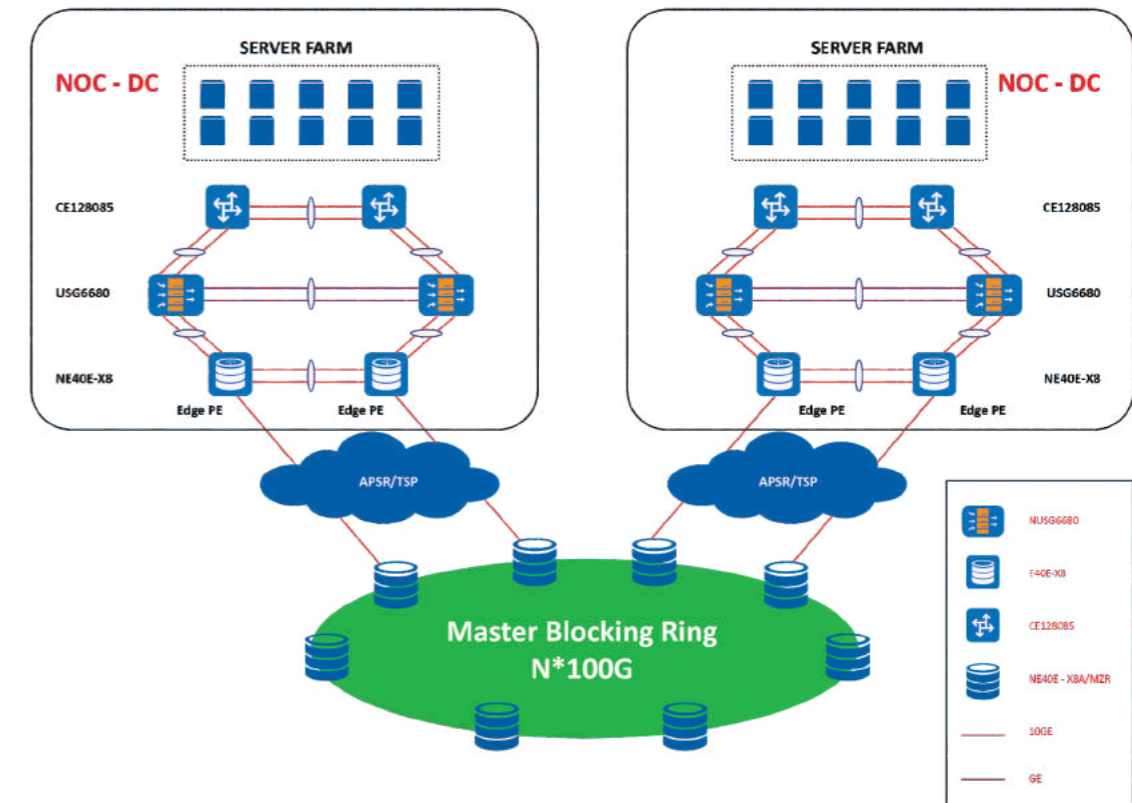
Data Center

APSFL **DC- DR ARCHITECTURE**

- In the APSFL project, we are proposing two of data center, named as DC and DR, which will deploy the servers of EMS, AAA etc. One Main Data Center with One Disaster Recovery Data Center .

- Datacenter will be at Vishakhapatnam and the replication of DC will be at Tirupathi as DR

- All applications used for the BBNL Phase II Network and customer will be hosted at DC and replication of DC will be to DR

- The logical design of DC/DR will be planned out which will include the following things in high level details.
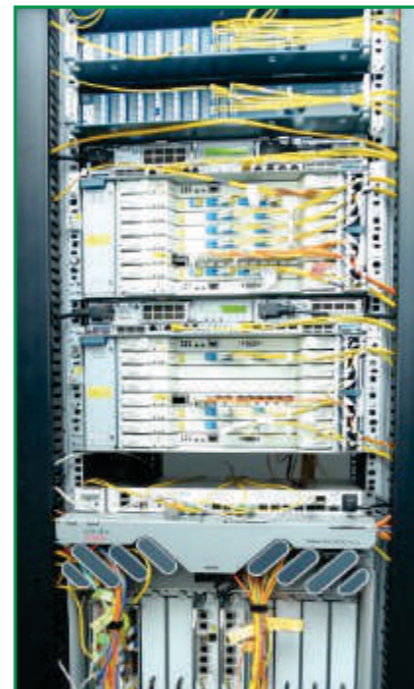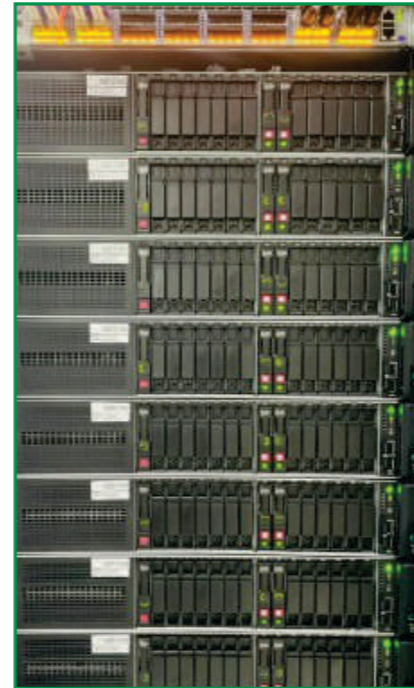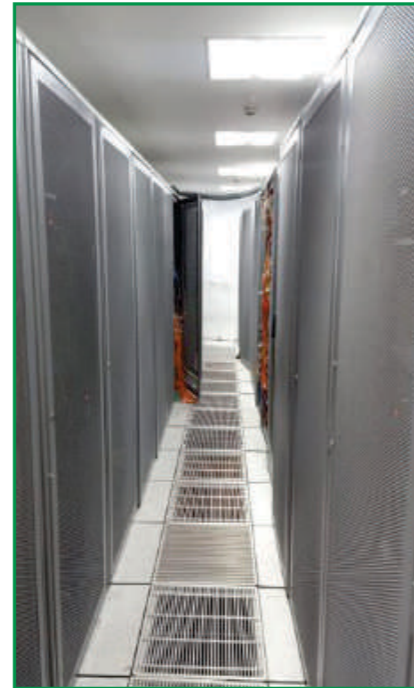
PROPOSED **DC- DR CONNECTIVITY**

ADVANTAGES OF THE
INNOVATION VALLY LOCATION

- City outcuts
- Safe construction
- APIIC IT SEZ

- Required space & Power available
- 20Km from present APSFL Datacenter
- Well approch roads for any major equipment shipments

STATE-OF-THE-ART
NETWORK OPERATION CENTER-NOC

SERVICE DELIVERY MODEL

APSFL network is based on Next Generation Network (NGN) based architecture and caters to the FTTH access needs. This architecture defines a hierarchical network transport infrastructure for enabling seamless transportation & integration of required services and various components to deliver the triple play services. APSFL's entire network can broadly be classified into 4 logical components: **NOC & Data Center, Transport Network, Access Network and Last Mile Network.**

● NOC & Data Center

APSFL's **Network Operations Centre (NOC)** comprises of network servers, routers and switches, which ingest signals from external entities such as Broadcasters, Internet Service Providers and Telephone service providers at its facility in Visakhapatnam. These signals are then encrypted for onward transmission to the trunk network.

● Transport Network

APSFL's **Transport Network** essentially comprises of Dense Wavelength Division Multiplexing (DWDM) network delivering 100G bandwidth to each DHQs in fully redundant ring architecture. The Fiber Network comprises of 24,000 KMs of aerial optical fiber cable terminating into 2600 Points of Presence (PoP) in DHQ, ZHQ, MHQ, SS PoPs across the state. A PoP contains network equipment to distribute the encrypted signal in last mile.
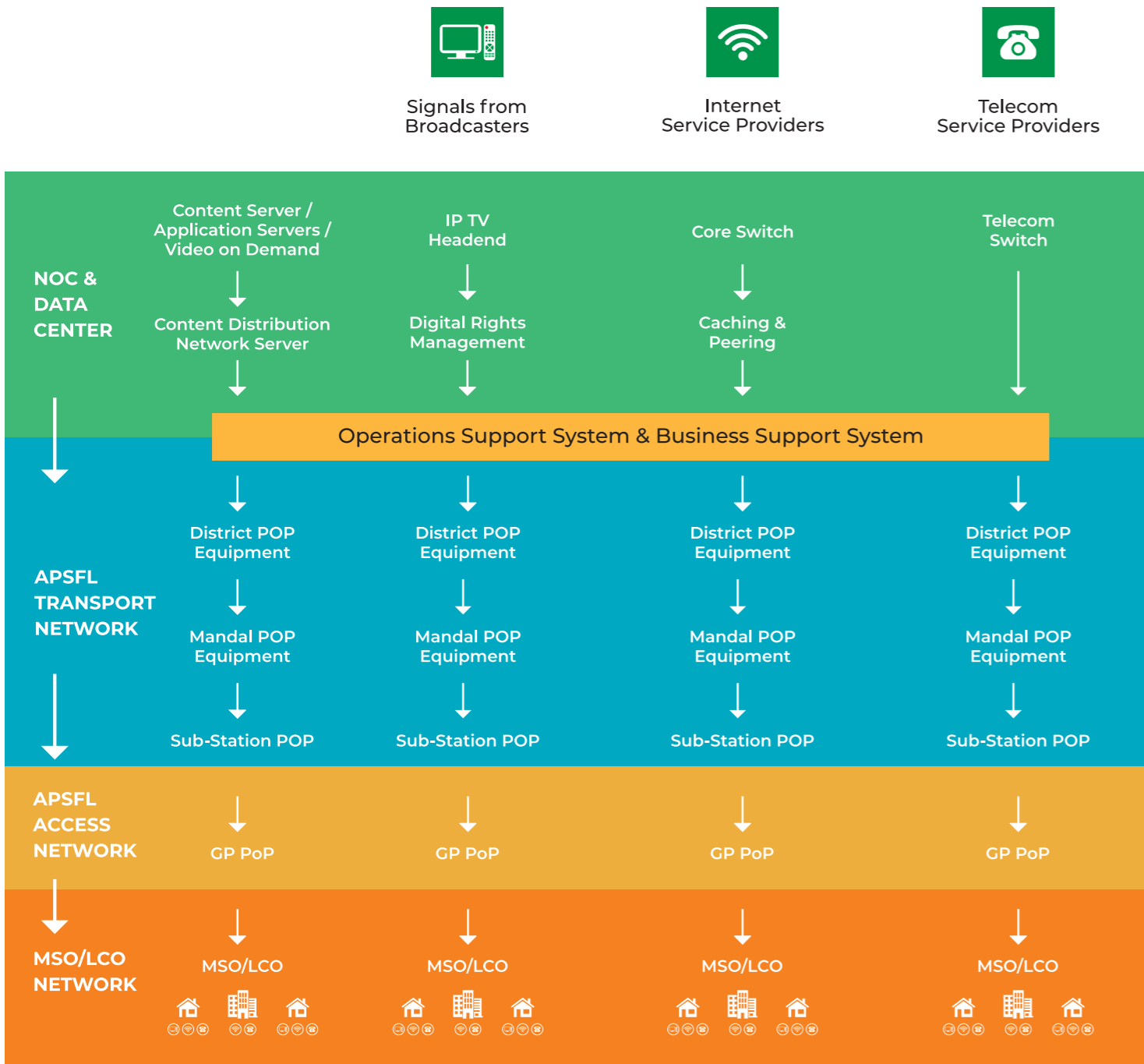
● Access Network

APSFL's **Access Network** comprises of Gigabit Passive Optical Network (GPON) technology with Optical Line Terminals (OLTs) present in each of the PoPs. Additional 55,000 KMs of Optical Fiber cable with 11,274 Gram Panchayats as PoPs will be added through BharatNet project.

● Last Mile Network

APSFL's **Last Mile Network** are cable operators (MSOs & LCOs) and empanelled fibre laying agencies who provide and maintain last mile connectivity to households, government offices and other private enterprises by interfacing with the closest POP equipment, using a 2/4/6-core fiber cable.

INTERFACES FROM **EXTERNAL SERVICE PROVIDERS**

Signals from Broadcasters

Internet Service Providers

Telecom Service Providers

NOC & DATA CENTER	Content Server / Application Servers / Video on Demand	IP TV Headend	Core Switch	Telecom Switch
	Content Distribution Network Server	Digital Rights Management	Caching & Peering	

Operations Support System & Business Support System

APSFL TRANSPORT NETWORK	District POP Equipment	District POP Equipment	District POP Equipment	District POP Equipment
	Mandal POP Equipment	Mandal POP Equipment	Mandal POP Equipment	Mandal POP Equipment
	Sub-Station POP	Sub-Station POP	Sub-Station POP	Sub-Station POP

APSFL ACCESS NETWORK	GP PoP	GP PoP	GP PoP	GP PoP

MSO/LCO NETWORK	MSO/LCO	MSO/LCO	MSO/LCO	MSO/LCO

Triple Play Services

CONNECTIVITY **STATUS**

• Presently, Provided connectivity to approximately **9.5 Lakh Subscribers** in the state.

• Provided Triple Play Services in **9,500+ villages** across **660+ Mandals** thus far.

• Connected more than **40,000** enterprise connections which includes:

1. Zilla Parishad
2. Village & Ward Secretariats
3. Rythu Bharosa Kendram
4. APSDWAN
5. PR & RD Department
6. Primary Health Centre's
7. AP State Housing Corporation Ltd
8. AP Social Welfare Schools
9. Airtel
10. ITDA Rampachodavaram
11. Department of Post Offices
12. AP Mineral Development Corporation
13. AP State Ware Housing Corporation Ltd
14. Enterprise Individual Connections
15. AP Skill Development Corporation
16. Department of registrations and Stamps
17. ITDA Chintoor
18. Andhra Pradesh MedTech Zone Limited
19. Reliance Jio.

9.5 Lakh Subscribers in State

9,500+ Villages has Triple Play Services

40,000 Enterprise Connections

Total Mandals: 679

APSFL Covered Mandals : 660

Total villages: 28,000

APSFL Covered Villages: 9,500+

APSFL SERVICES

Consumer Sales – Intro

1. First of its kind in India providing Triple Play Services (Internet, TV & Telephone) to all households at most affordable prices.

2. APSFL's TV service do not consume internet data. High demand from the rural households – achieved 9.5 lakhs subscribers in 3 years.

3. A host of Digital Value Added Services are being delivered through this network to the end users i.e. households, offices/enterprises in partnership with the Multi System Operators (MSO's) and Local Cable Operators (LCO's).

4. Around 7000+ LCO's and MSO's have already registered with APSFL as business partners to provide last mile services to all households and institutions/offices. Onboarding LCOs and MSOs allow rapid penetration of APSFL's triple play services leveraging their innate market experience and capabilities.

Services To Households :

APSFL provides Triple Play Services (Internet, IPTV & Telephone) to all households, thereby converting all TVs (including CRT TVs) into Smart Tvs.

Internet: High Speed Internet connectivity – 15 Mbps to 100 Mbps.

IPTV: Access to 315+ TV Channels, OTT Apps, Govt. Apps, Games, Video Conferencing, Browsing Apps, Video on Demand (Content on Education, Jobs, Health, Agriculture etc)

Telephone: No rentals. Calls free within APSFL Network in Basic Package. Unlimited Calling in higher packages.
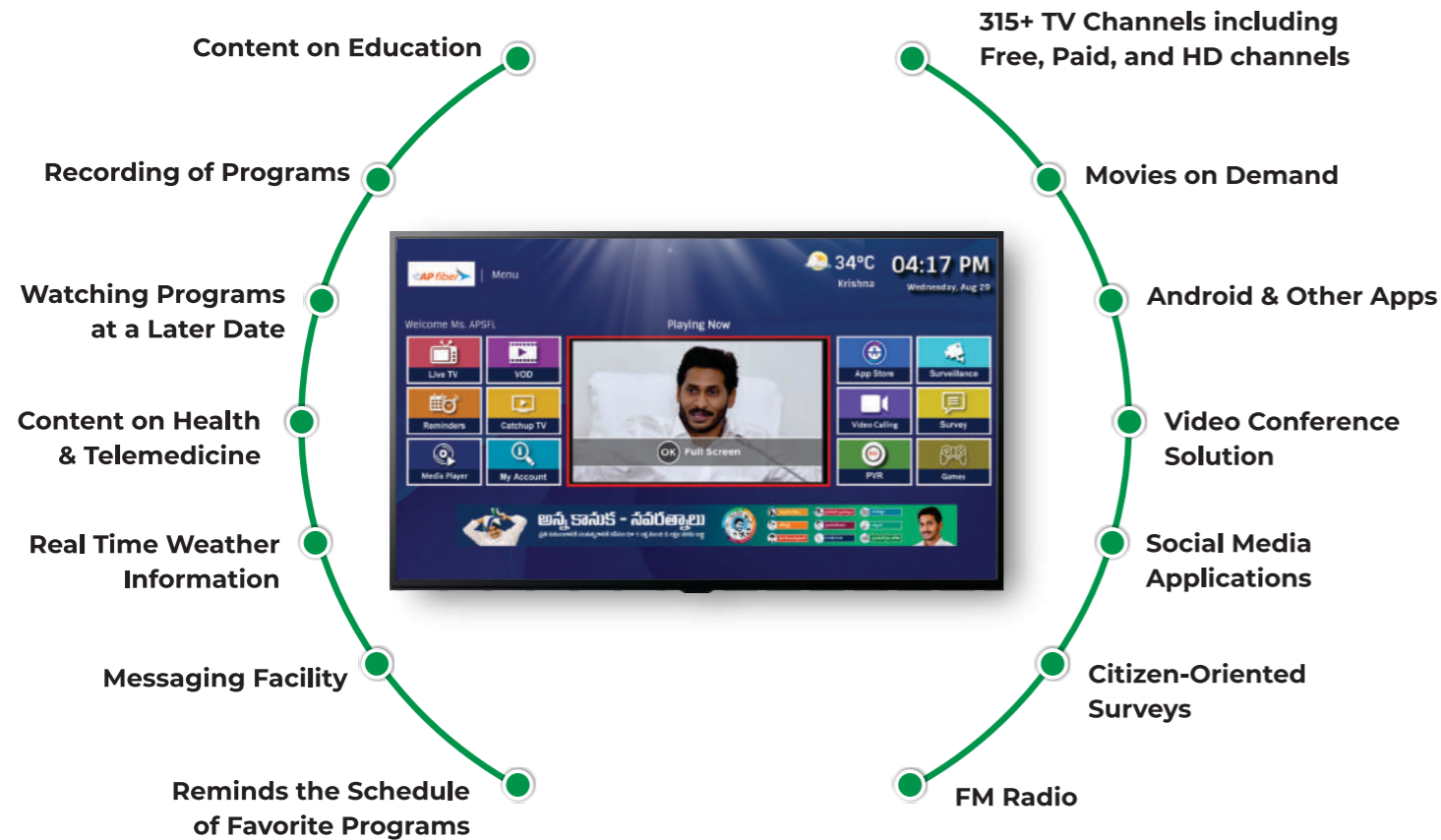
HOME BASIC	HOME ESSENTIAL	HOME PREMIUM
200+ Channels | 20 Mbps Speed 150 GB FUP Limit | 2 Mbps Post FUP Unlimited On-Net Calling ₹ **350** (Incl. 18% GST)	240+ Channels | 30 Mbps Speed 300 GB FUP Limit | 2 Mbps Post FUP Unlimited Local Calling ₹ **449** (Incl. 18% GST)	245+ Channels | 50 Mbps Speed Truly Unlimited* Unlimited Local & STD Calling ₹ **599** (Incl. 18% GST)

Unlimited Local & STD calls (Incl. BSNL Landlines) @ just ₹ **99**/month (GST Extra)

OTT APPS AVAILABLE:

ZEE5 | SONY liv | aha | voot | hungama Play

AP Fiber's IPTV – More than Cable TV :

- Content on Education
- Recording of Programs
- Watching Programs at a Later Date
- Content on Health & Telemedicine
- Real Time Weather Information
- Messaging Facility
- Reminds the Schedule of Favorite Programs
- 315+ TV Channels including Free, Paid, and HD channels
- Movies on Demand
- Android & Other Apps
- Video Conference Solution
- Social Media Applications
- Citizen-Oriented Surveys
- FM Radio

APSFL Landing Channel :

All the Government Advertisements covering the Welfare schemes launched by our Government, Hon'ble CM Video Conferences and Events are being telecasted in our APSFL Landing Channel in order to serve the important information to the Citizens of Andhra Pradesh covering 16-18 Lakh views per day which in turn reaches to 4 million eye balls.

APSFL IPTV platform offers advertisers immersive and proven impact of traditional television advertising with the added bonus of being able to enhance it with interactivity. It also offers the addressability and accountability of advertising in the Internet world, targeting the individual homes with personalized advertising with more accuracy.

AP Fiber - Advantages To MSO/LCO :

AP Fiber offers MSOs/LCOs its network to reduce maintanance overheads by 100% i.e, Zero maintenance cost


- Real time monitoring of network
- Dedicated call center
- Trouble ticketing
- Service support for maintenance of networks & CPEs
- Training for maintenance of networks & CPE
- Access to larger area of operations
- Reduced dependency on Telcos for connectivity between different geographical areas (City to City)

|		
Fiber	Installation	Maintenance
Headend	Power charges	Technical support
Content	Sourcing	Production
Telecom	Dependency	Redundancy
Support	Call Centre	CPEs

AP Fiber - Services To MSO/LCO :

Converting MSOs to MSPs (Multi Service Provider) & LCOs to LMOs

- Broadcasters packages at rate contract
- Internet
- Free basic fixed phone
  - Free calling within the network (ONNET)
  - Chargeable calls outside the network (OFFNET)

The Transition :

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MSO/     →     MSP/
LCO            LMO
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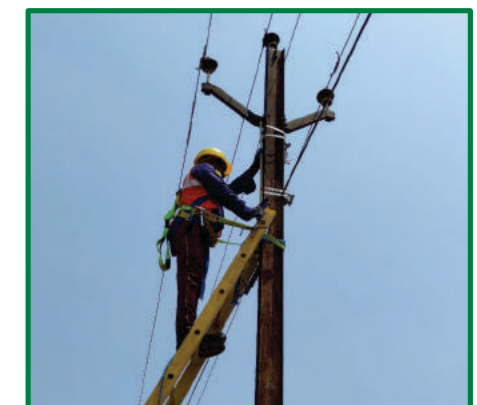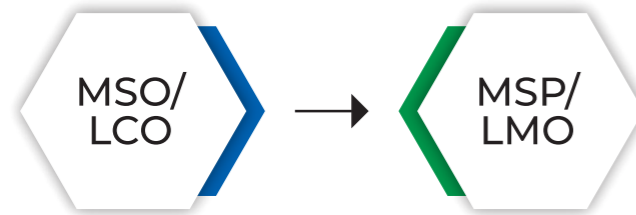
Generate revenue by getting access to premium services such as

- Broadcasters (Rate contract packages)
- AD Servers
- Content on demand
- Internet
- Video Conferencing
- Telephony
- Supply of CPEs to MSO
- OTT Platforms

APSFL Local Channels :

APSFL has incorporated around 30 local channels across the state of AP which in turn providing the below privileges

1. APSFL has provided the opportunity for the employment to the vendors (to maintain their livelihood) .

2. Created the platform to view and enjoy the different channel programs locally to the customers across the state to attain the customer satisfaction.

3. Enhancement of the Market to acquire the more business and exploring the opportunities across the state.

Subscribers APP :

"

The basics of business is to stay as close as possible to your customers—understand their behaviour, their preferences, their purchasing patterns, etc.

5 Touch Point Approach by APSFL :

- Mobile Application (Android & IOS Platforms)
- Web Based Self Care Portal
- Call Center
- Local Cable Operator(LCO/LMO)
- Marketing Team

Enhancing customer Experience with APSFL Customer Mobile App by competing with Global operators like Airtel ,RJIO and TATA's

APSFL Subscriber
Mobile Application facilitates :

- Choosing of Subscriptions by choice
- Complaint Management with Unique Service Request Ids
- Instant Selection and activation of Ala carte Channels
- Near Realtime Bandwidth Utilization statistics
- Purchasing of Internet Bandwidth Topups with instant activation
- Renewal of Basepack by customer himself
- Invoice Tracking
- Service request tracking
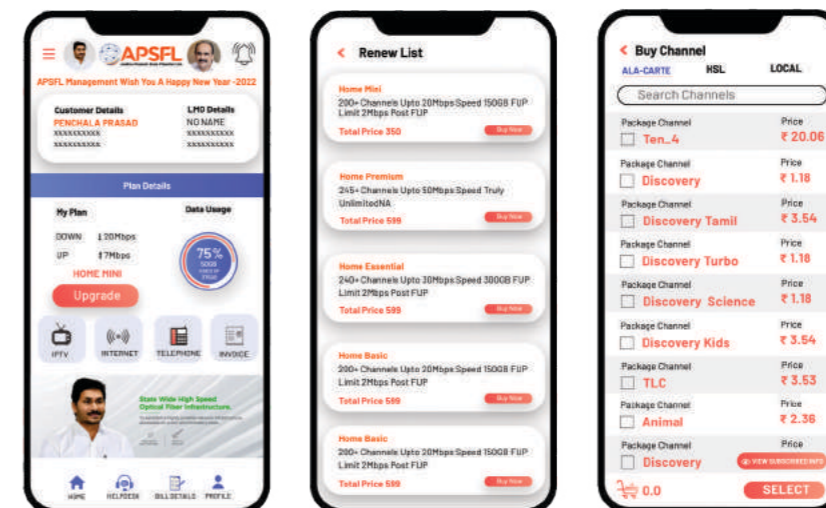
Enterprise Sales Intro :

- Enterprise Sales denotes the IT infrastructure that midsize and large organizations use which includes Government and Private Institutions to provide the connectivity among users, devices and applications.
- The goal is to support the Organizations Objectives by consistently delivering the digital services reliably and securely.
- Connected **40,000+** Government & Private offices throughout AP.
- APSFL's connectivity is available in Remote and Tribal regions of AP including ITDA Paderu, Rampachodavaram etc.
- **14,000+** Cameras connected & integrated into APSFL Network.
- **2,700** schools connected for Virtual Classrooms.

Services to Enterprises :

APSFL provides following services to Government and Private Enterprises in the state:

| Enterprise Broadband | Internet Leased Line | MPLS VPN Services | Teleconference Services | IVRS Services | Virtual Classrooms | CCTV Surveillance |

APSFL Enterprise Clients :

APSFL Enterprise Connectivity Status :

To meet our Hon'ble CM Visionary towards the Digitalization of Gram Panchayat and Local Governance, APSFL is glad to inform that AP fiber is associated with the following Major Government and Private Enterprises for the provision of Internet Connectivity.

Sl.No	Enterprise Projects		About the department
1	Village & Ward Secretariats		The Government has brought in a system of Village & Ward Secretariats with the objective of bringing governance closer to the public & ensuring to receive the government offered benefits for the qualified ones.
2	Rythu Bharosa Kendram		Rythu Bharosa Kendras (RBKS) are all set to emerge as the one-stop solution for the farmers, be it purchasing seeds and pesticides or selling their produce.
3	APSDWAN		AP Software Define Wide Area Network connecting to all Mandal Revenue officers , Collector Offices under ITE & C Department. APSFL has won the bid and providing the MPLS Connectivity. Through this project , Government has obtained 50% savings.
4	PR & RD Department		APSFL received work order from PR & RD for MPLS connectivity to their offices. Dept. Step towards Smart Andhra Pradesh initiative focuses on improved resource-use efficiency, empowered local self-governance, access to assured basic amenities . This section provides complete information on initiatives taken by the government for bridging the urban-rural divide by upgrading the standard of living of people in rural areas. Information about programmes, schemes, employment opportunities, Panchayati Raj institutions, development authorities, drinking water, sanitation, road construction, electrification of villages and food supply etc. is provided.

Sl.No	Enterprise Projects	About the department	
5	Primary Health Centre's		The aim of the Government is to provide Universal Health Coverage to BPL families.
6	AP State Housing Corporation Ltd		APSFL providing the connectivity to APSHCL offices in all districts. APSHCL aims for Navaratnalu Pedalandariki Illu.
7	AP Social Welfare Schools		The main objectives of the Social Welfare Department are Educational Advancement, Socio-Economic Development, Welfare and Protection of Scheduled Castes.
8	ITDA Rampachodavaram		The main objective of the department is to provide the Internet and Telephone Connectivity to Village Secretariats where internet not available & uncovered villages and habitations in ITDA Regions.
9	Department of Post Offices		Post Offices opted APSFL for the connectivity where the BSNL exchange has been removed.
10	AP Mineral Development Corporation		The Andhra Pradesh Mineral Development Corporation Ltd., was incorporated on 24th Feb., 1961 as a wholly owned undertaking of the Government of Andhra Pradesh for the development of mineral resources and promotion of mineral based industries in Andhra Pradesh including exploration, exploitation, conservation, processing, beneficiation and conversion into value added products.
11	AP State Ware Housing Corporation Ltd		APSFL providing the connectivity to APSWC locations in all districts.

Sl.No	Enterprise Projects	About the department	
12	Enterprise Individual Connections		Providing APSFL connectivity to individual customers.
13	AP Skill Development Corporation		Aims to eliminate the poverty and create decent work for all by investing in the social capital through employment-oriented and industry aligned skill development and livelihood generation.
14	Department of registrations and Stamps		IGRS AP, also known as Inspector General of Registration & Stamps, Andhra Pradesh, is responsible for levying the stamp duty and registration charges during the time of transaction and registration of the property.
15	ITDA Chintoor		The main objective of the department is to provide the Internet and Telephone Connectivity to Village Secretariats where internet not available & uncovered villages and habitations in ITDA Regions.
16	Andhra Pradesh MedTech Zone Limited		Andhra Pradesh MedTech Zone Limited (popularly known as AMTZ) is an enterprise under the Government of Andhra Pradesh, a 270 Acre zone, dedicated for Medical Device Manufacturing.
17	Reliance Jio		APSFL providing internet connectivity to Jio Tower Locations wherever there is no network coverage from their end.
18	Strengthening the Telco's Network & Coverage		APSFL is providing fiber connectivity to Telco's towers such as Airtel to strengthen their network and extend coverage primarily in rural areas including tribal regions. APSFL providing MPLS connectivity to Airtel Tower Locations wherever there is no network coverage from their end.

APSFL - Major Projects

Connectivity to APSDWAN Project

APSFL is providing MPLS VPN services to state-owned Andhra Pradesh Software Defined Wide Area Network (APSDWAN) for providing services to Collectorates, MRO/MPDO Offices in the state.

Connectivity to Raithu Bharosa Kendras

To enable farmers to know real-time information and become one-stop procurement centers for farmers, Government of Andhra Pradesh has established Raithu Bharosa Kendras across the state. APSFL is connecting all **10,000+ RBKs** with 100 Mbps Internet, Wi-Fi.

Village/ Ward Secretariats

APSFL is the network backbone for many of the prestigious government initiatives such as Village/ Ward Secretariat System. APSFL is providing high speed internet connectivity to all **15,000+ village and ward secretariats** thereby enabling efficient and effective service delivery to citizens of Andhra Pradesh.

Digital Village Library

Digital Village Library is one such initiative of Govt. of Andhra Pradesh which aims to bring the world of information to the fingertips of the rural citizens. The Digital Village Libraries shall be set up in each village with six computers and access to unlimited internet at free of cost. To this purpose, the infrastructure of the BharatNet project, being established, shall be effectively utilized as a backbone network for bandwidth provisioning. The libraries will facilitate the concept of Work From Home, in the villages, which has become the new norm in the testing times that we are living in. The facility helps the youth to access the content of education and skill development for free of cost and enables the primary, secondary and graduate students to access content for common entrance examinations. It also helps the neo-literates and semi-literates of the rural side to improve their digital literacy skills.
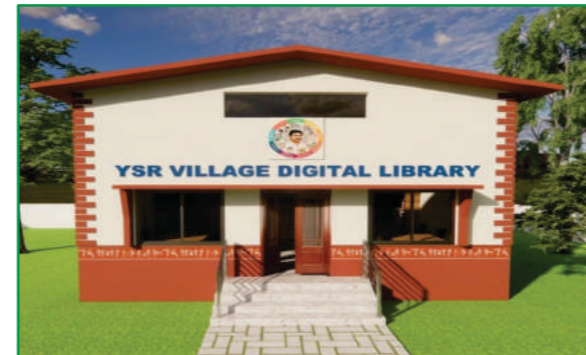
YSR Jagananna Colonies

1. Government of Andhra Pradesh is implementing the flagship programme "Navaratnalu-PedalandarikiIllu" scheme to provide Houses to all the eligible poor in the State. As part of that, Govt., have issued House site "pattas" to the eligible HHs in layouts named as YSR Jagananna Colonies.

2. APSFL has received the request from Government of Andhra Pradesh to provide the Internet and Telephone connectivity to connect 19 lakhs + new households at 17005+ YSR Jagananna Colonies/layouts in a phase manner.

3. In view of Domestic/Enterprise connections enhancement , APSFL intends to create digital highway by deploying Optical Fiber Cable to YSR Jagananna Colonies from its nearest existing POP or OLT Sub Station for Internet and Telephone connectivity.
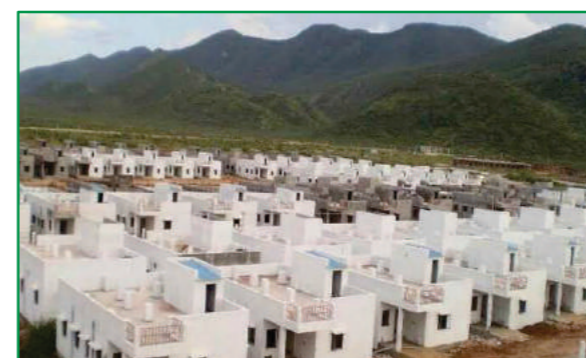
Other Projects

Bharatnet Project Phase-2

BharatNet is a flagship project of Government of India (GoI) funded by Universal Service Obligation Fund, Department of Telecommunications, Ministry of Communication to provide affordable, high speed broadband connectivity at all Gram Panchayats (Gps). It forms the first pillar of Digital India Program and has the mission to prepare India for a knowledge future by making technology central to enabling and bridging the digital divide.

Andhra Pradesh State FiberNet Limited (APSFL) is selected as the State Implementation Agency' on behalf of GoAP and has undertaken the responsibility of Design, Implementation and Management of BharatNet Phase-II Project in the State of Andhra Pradesh with project scope of laying 55,000 KMs of Optical Fiber Cable to connect 11,274 Gram Panchayats.

BharatNet Phase-II network creates digital infrastructure in the State of Andhra Pradesh by providing optical fiber connectivity to each Gram Panchayat. The network shall also provide a massive enhancement to APSFL's existing network which can be used to provide multiple services to the citizens. An equivalent evaluation of the benefits accruing from this enhancement are as follows:

Coverage

BharatNet Phase-II will cover 11,274 GPs across Andhra Pradesh, enabling coverage to 88% households with an average distance of 1Km or less

Capacity

BharatNet Phase-II network can accommodate 1.5 Cr subscribers across the State, with an (average) maximum speed of 150 Mbps+ (10x enhancement)

Performance

Ring network architecture is deployed till GP level, and will ensure network uptime of 99.9%, providing a stable platform for critical services such as e-Governance, healthcare, education, etc.

AP Surveillance Project

The project was envisaged to deliver policing services that are on par with leading Smart Cities and provide citizen friendly, holistic, integrated, and responsive CCTV based surveillance. This project leverages the state-wide fiber optic network infrastructure established to setup Surveillance cloud which can be utilized effectively for security, traffic control, real time monitoring, cleanliness and other governance purposes.

The surveillance cloud project will involve setting up of IP based security surveillance cameras across various locations covering all districts in AP and shall be monitored through Command & Control Centres at State & District levels, Mobile Centres, Viewing Centres, and Handheld smartphone devices.

Scope of Work for the project includes setting up of

• Installation of 14770 new cameras (Full HD) & integration of 5159 existing cameras.

• Inclusive of approx. 4500 ANPR cameras for Traffic Enforcement.

• Facial Recognition System by 1000 cameras.

• Red Light Violation Detection System for 1000 locations (lanes).

• Advanced Video Analytics for about 2000 cameras.

• Command & Control Centers to monitor, analyze and act on data.
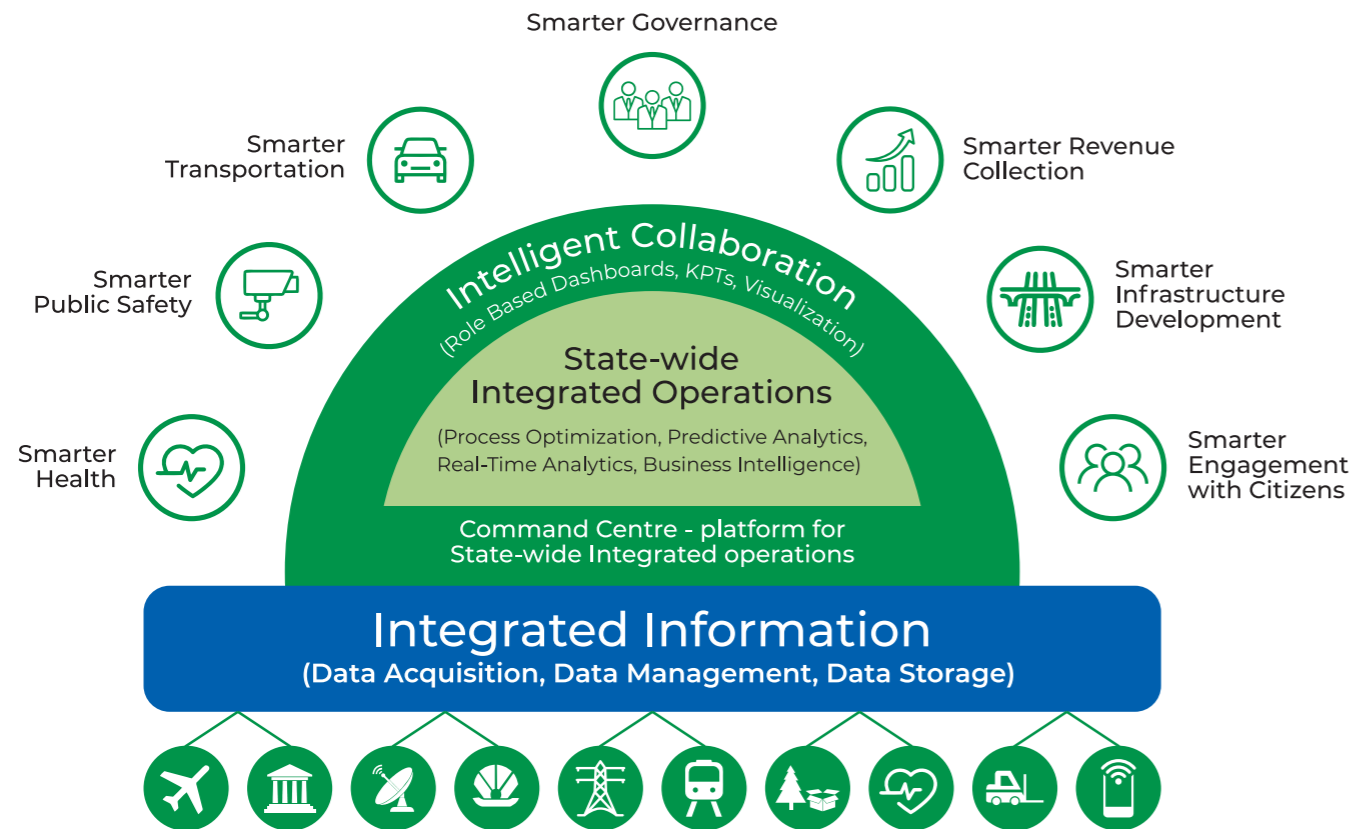
Virtual Classrooms Project

By introducing technology enabled education, Department of School Education (DSE) aims to improve and enhance the education standards in Government Schools at Andhra Pradesh. To meet this objective, Andhra Pradesh State Fibernet Limited (APSFL) has been accorded the Administrative Sanction to implement the Cloud based Virtual Classroom project in 4000 schools using AP Fiber Network as Backbone Connectivity in identified Government/Municipal Schools to enhance the learning skills and knowledge levels of the students by providing qualitative Digital/ Multimedia Content. Best, knowledgeable and competent Teachers will handle classes on specific subjects as per the pre scheduled time table.

Connectivity in Tribal Regions

Andhra Pradesh comprises of Scheduled areas (around 8% of total area) with around 6% of total state population living in tribal regions. Many of the tribal habitations still do not have access to telecommunication services. Due to presence of APSFL's network across the state, APSFL is providing Triple Play Services to households in these areas through Local Cable Operators and providing internet connectivity to Village Secretariats, Schools, Anganwadis, Health Centers, Telecom Towers etc in ITDA Seetampeta, ITDA Parvathipuram, ITDA Paderu, ITDA Rampachodavaram, ITDA Chintoor, ITDA KR Puram etc. This will immensely improve the access to Government Services through Village Secretariats, Digital Education, Telemedicine, Agriculture subsequently improving the quality of life for people in these regions.

APSFL **Service Assurance**

1. Under the Essential Service Act, APSFL aims to serve the services (at 24x7) to the customers without any interruption.

2. In order to provide the uninterrupted services to our clients, APSFL has introduced own FRT(Fiber Rectification Team) Team throughout all districts in AP for the immediate restoration of the service.

3. APSFL has also separate OCC and Service Assurance Team located at Head Office, Vijayawada which is the first point of contact of all registered LCOs / MSOs and all Enterprise Customers.

4. Through this Customer Care, APSFL supports the LCOs/MSOs against their queries and APSFL will ensure to provide the uninterrupted services to all the Government and Corporate Prestigious Projects throughout all districts.

5. APSFL Customer Care is available all 365 days to support in the resolution of both technical and non-technical issues to our registered vendors and customers.

6. APSFL Customer Care will accept/register the issues/complaints through direct phone calls, mails and even whats app msgs and ensure to solve the issue at the earliest to attain the customer satisfaction.

Livelihood

APSFL takes its pride in the fact that it has provided the platform of direct/indirect livelihood to 50,000 families across the state.

APSFL - **Road Map for Future Goals**

1. Targeting to provide triple play connectivity to 20 Lakh households and 3 lakh government/private offices.

2. APSFL is planning to launch high revenue packages and activate other revenue streams and reduce costs to become self-sufficient by end of FY 2021-22.

3. Through BharatNet Phase 2 project, APSFL is planning to expand its reach to all Gram Panchayats in the state by completing the project by end of FY 2021-22.

4. APSFL will also actively contribute in government digital initiatives in the state such as Smart Cities, Safe Cities etc.

5. APSFL is also targeting to enhance existing telecom infrastructure in the state by providing fiber connectivity to Telecom towers.

6. APSFL is also planning to connect all uncovered, remote and tribal regions across the state of Andhra Pradesh.