



## Customer

ELCITA (Electronic City Industrial Township Authority)

## Challenge

Customer needed an efficient solution that can

- Rugged & proven in challenging outdoor environment
- Offers nested protection scheme for media (fiber) failures
- Easily fan out & introduce new services in extended perimeter range (km)
- Easily introduce new services
- Upgrade to new technologies
- Significantly reduce capital and operating expenditure

## Solution

- TJ1400-7 2RU GPON OLT supports multiple service interfaces and technologies
- TJ2100N is a solar powered, versatile ONT product customized for rural deployment
- TJ2100W Wireless Access Point
- TJ1400P-M1 Ethernet Access Switch



## Challenges faced

The customer required a cost-effective solution for reliable bandwidth connectivity to run various smart city services. The solution had to be simple yet robust & scalable, so that it can be extended easily as per customer requirements. The solution should handle these complexities along with capabilities to easily introduce new services, upgrade to new technologies or scale to higher capacities.

## Tejas Networks Solution

Tejas solution for ELCITA project includes TJ1400-OLT (Optical Line Terminal), TJ2100N ONT (Optical Network Terminal), TJ1400P access switches and TJ2100W WiFi Access Point.

- TJ1400-OLT is one of the densest GPON realizations in the industry today in a small form factor with

# Tejas Networks builds smart city infrastructure for India's first industrial township in Electronic City

ELCITA (Electronic City Industrial Township Authority) is Karnataka's first Industrial Township Authority. over 902 acres, Electronics City is amongst the largest industrial parks of Bengaluru, and hosts the campuses of leading tech companies, along with a large number of small and medium sized ones. ELCITA has worked with a local ecosystem of partners including Tejas Networks to build a smart city network infrastructure. The network was built using advanced GPON and Carrier Ethernet products from Tejas Networks

myriad service interfaces and multiple technology options for cost-effective traffic backhaul.

- TJ2100N is a versatile ONT product that is available in ruggedized, portable enclosures for remote installation in rural areas and can also be solar powered in power constrained environments.
- TJ1400P-M1 portfolio of Layer2+ switches is suited for realizing an efficient access layer for enterprise, campus and industrial networks, support <50 ms convergence.
- TJ2100W WiFi Access Point launch a "wi-fi hotspot" in the neighborhood thus significantly improving mobile coverage.

The entire network is divided into three access nodes with TJ1400-7 OLT placed at each node. TJ2100N ONT and TJ1400P-M1

switches are placed at the street poles to provide smart city services across the township.

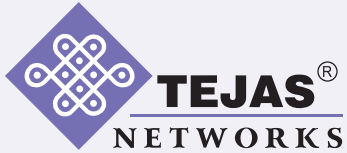
## Why Tejas Networks

Plug and Play provisioning of CPE: TJ2100N ONT and TJ1400P-M1 can be easily added or removed as per customer needs.

Comprehensive OAMP Functions: Tejas GPON product supports advanced fault, alarm and performance management complemented by a powerful visual interface for alarm notifications, fault localization and SLA reporting developed using modern web technologies.

Protection from fiber cuts and equipment failures : Tejas GPON solution supports protection for fiber cuts, splitter damage, CPE and OLT port failures.

Carrier-class Management: Tejas GPON is



### Results

Tejas solution connects more than 100 poles and 200 video cameras across E-City township

“ We are delighted to partner with ELCITA to build a smart city infrastructure to realize ELCITA’s vision of making Electronic City a futuristic model for the rest of India. Our PoE switches and GPON ONTs are used across the E-City campus to provide services like e-Governance, Smart Lighting, Smart Water Management, Smart Parking, Smart Surveillance, Waste Management, Digital displays and Traffic Management. ”

**-Mr. Arnob Roy,**  
Co-founder and COO,  
Tejas Networks

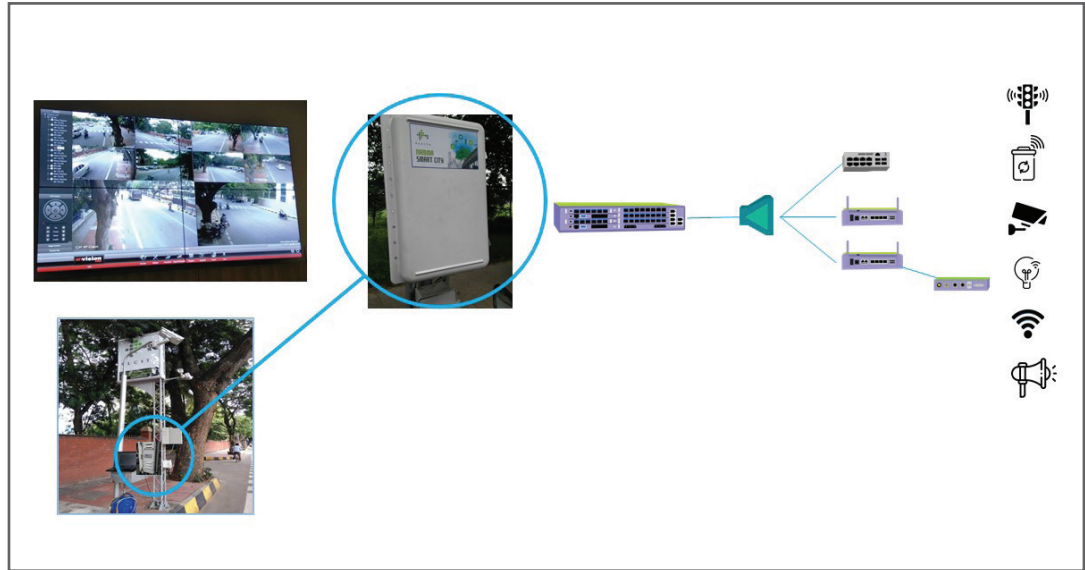
available as a fully managed, end-to-end solution for FTTH/FTTB services with a complete range of end-user ONT and switch devices. These devices come with a diverse set of customer ports such as Fast Ethernet, Gigabit Ethernet, POTS, RF Video and WiFi (802.11n) to address multiple deployment scenarios in the access.

PoE capability : Tejas ONTs and Switches have PoE capability and can act as the Power Source Equipment (PSE) to power end devices

Solar Powered: TJ2100N can be solar powered and is available for installation in remote areas with erratic power supply in easily portable, ruggedized enclosures with batteries, solar panels and charging units.

Ruggedized products : M1 switches are extremely rugged and can withstand extreme temperature and moisture (-40 degC to 75 degC) with tolerance to high vibration, shock, EMI/EMC, and surge.

Future Ready Products: TJ1400-OLT can be upgraded to advanced, emerging, high-capacity NG-PON1/TWDM PON technologies through a simple software upgrade. This will enable TJ1400-OLT to be used for emerging applications beyond home broadband including high-speed



business connectivity (> 10 Gbps) and 4G/5G mobile backhaul. TJ 1400-OLT also supports emerging protocols such as OTN for high-speed transport applications.

Environmental impact: TJ1400-OLT has designed in many power saving features to lower the carbon footprint of the product. TJ1400 is designed using new generation FPGAs for reducing static power, and clock enable/gating logic to reduce dynamic power in FPGAs.

### Results

Tejas GPON ONTs and Ethernet switches are deployed across more than 100 poles across E-City with Tejas ONTs backhauling video, providing Wi-Fi, supporting public announcement systems and integrating IOT devices into NOC. Currently they are used for Video surveillance, Public announcement system, Smart lighting and smart waste management. The same infrastructure will be extended later to provide other smart city services with no change in network.



Software Enabled Transformation

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