



**TATA**  
CONSULTANCY  
SERVICES

# Fiber Network - Plan and Design Services

Communications, Media & Technology



The telecommunications industry is evolving at breakneck speed, with the advent of 5G, Next-Generation Access (NGA) technologies, and rising demand for fiber-based networks. However, the journey is fraught with challenges. Telecom enterprises are battling with inaccurate, non-constructible designs and poor program governance. Besides they risk low throughput, unpredictable ROI, and major cost and schedule overruns.

To achieve scalability with speed and certainty, telecom enterprises need digitally-enabled design tools. They need the power of data and automation. Tata Consultancy Services (TCS) offers a design and engineering led solution TCS Fiber Rollout as a Service (TCS FRaaS™) platform. TCS FRaaS™ allows telecom enterprises to use the design-led approach for fiber rollout. It is a solution for end-to-end digitization of construction activities.

## Overview

Construction activities take up a large portion of investments and timelines associated with fiber network rollout and its planning and design needs a rethink. Currently, planning and design is largely vendor-led with extensive manual dependencies, design errors, discrepancies, low throughput, unpredictable ROI, overruns in terms of cost and schedule expectations. This leads to several preventable inefficiencies that break down fiber network margins and delay implementation. Telecom operators must proactively explore process digitization, design automation, and operational agility to bring construction processes into the digital era.

To achieve the degree of scalability, speed, and certainty required, telecom operators need digitally-enabled design tools, bringing the power of automation. Tata Consultancy Services (TCS) offers a design and engineering led solution to address the challenges faced when telecom operators use the conventional construction-led approach for fiber rollout.

## Our Solution

TCS' plan and design services for fiber networks includes the following salient features:

- **Optimized and Constructible Design:** Detects defects early in the lifecycle, leading to lower constructions costs; manages multi-stakeholder dependencies spread across design and construction teams, power companies, EHS compliance bodies and so on via integrated workflows.
- **Process Excellence :** Digitizes the entire E2E process across all stakeholders; defines and deploys metrics that matter to improve process outcomes --design accuracy, speed, cost per home passed pre-empts construction-related delays through joint field walkouts.
- **Automation and Technology Infusion:** Automates design and field survey processes using TCS' tailor-made solutions; simplifies collaboration among design and field engineering through TCS' unified collaboration platform.
- **Outcome-based Approach:** Ensures end-to-end ownership of all tasks involved in plan and design phase such as field survey, approvals from authorities, supporting construction; augments design expertise with recognized local specialists who bring localized knowledge and also have existing relationships with construction contractors.

## TCS FRaaS™ enables Process Standardization and Digitization across the value chain of FTTx Plan and Design

### Workflow Manager

- Workflow Automation across multiple stakeholders

### Metrics and Dashboard

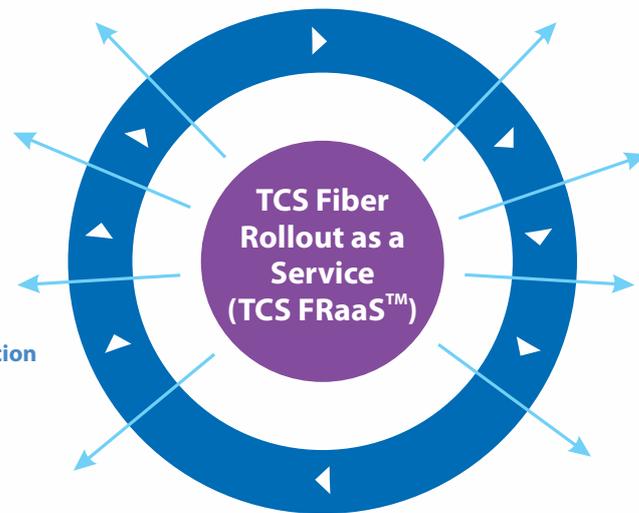
- Single source of truth for all stakeholders

### Document Manager

- Document repository and version control system

### Network enablement, Installation & Fault Repair

- Remote network enablement
- Order provisioning & service assurance of work order
- SCM Inventory tracking



### Plan and Design Automation Suite

- Integrated workbench for automating plan and design activities
- As-build & redlining real-time update

### Defect Manager

- Comprehensive defect management tool

### Field Force Application

- Digital data capturing through handheld device across key stakeholders

### Workforce Manager

- Real-time SW-centric workforce alignment & tracking

## Benefits

TCS' fiber network solution provides the following benefits to CSPs:



**Speed and Scale enhancement:** Witness two times faster design delivery speed and gain a definitive market advantage.



**Zero Defect Design:** Minimize errors and deliver over 99% right first-time designs, accelerating time to market.



**Committed Cost Savings:** Unlock up to 30% cost reduction, improving the business bottom line and freeing investments for future value add.



**Rich Customer Experience:** Utilize TCS' proven track record and 100% customer satisfaction index, informing our solutions.



**E2E Program Governance:** Enable 360-degree program governance with seamless collaboration, streamlining construction projects.

## The TCS Advantage

- **Software Centric Approach:** As one of the world's leading software service providers, TCS delivers superior efficiencies across the fiber rollout lifecycle, by harnessing advanced technologies, Business 4.0™ principles, and industry best practices.
- **Strong Domain Experience:** Backed by years of experience in network rollout and engineering, TCS offers a comprehensive and differentiated service framework. Our multiple Centers of Excellence (CoEs) across telecommunications, business processes, and GIS focus on network planning and design innovation.
- **Ready-to-use Hosted Platform:** TCS FRaaS™ allows quick process standardization and digitalization across the network planning and design value chain. As a cloud-based platform, TCS FRaaS™ offers scalable design throughput encompassing all the auxiliary functions of the rollout, leading to faster time to market. It offers a proven track record of exceeding industry benchmarks around throughput, quality, and costs. The solution digitizes E2E processes, applying automation and outcome-based delivery to ensure maximum ROI. The key modules of TCS FRaaS™ are Plan and Design Automation Suite, Defect Manager, Field Force Application, Workflow Manager, Document Manager, Network Enablement, Installation and Fault Repair.
- **A Wide Partner and Stakeholder Network:** Customers can access TCS' deep alliances with technology and field partners, helping to rapidly generate construction blueprints with a high right first time ratio.

## How We Help Our Customers

One of our client was looking to accelerate fiber rollout but faced challenges around scalability, certainty, and cost control. TCS' solution addressed all of these three tenets, delivering significantly shorter timelines, improved quality, and increased speed to revenue for the customer. Designs for 1.4 million premises have been successfully completed in less than two years, along with over 95% right first-time rates. For another client in the UK, we optimized the network route which led to a reduction in route cost by 23% and total cost savings of £850,000.

## Awards & Recognition



### To know more

Visit the [Communications, Media & Technology](#) page on [tcs.com](#)

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Blog: [Next Gen CMI](#)

### About Tata Consultancy Services Ltd (TCS)

Tata Consultancy Services is an IT services, consulting and business solutions organization that delivers real results to global business, ensuring a level of certainty no other firm can match. TCS offers a consulting-led, integrated portfolio of IT and IT-enabled infrastructure, engineering and assurance services. This is delivered through its unique Global Network Delivery Model™, recognized as the benchmark of excellence in software development. A part of the Tata Group, India's largest industrial conglomerate, TCS has a global footprint and is listed on the National Stock Exchange and Bombay Stock Exchange in India.

For more information, visit us at [www.tcs.com](#)

### IT Services Business Solutions Consulting

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