

Efficient fibre network builds  
with end-to-end

# Smart Deployment Services



# We are at a decade-long network creation cycle

The network creation cycle is triggered by large-scale 5G rollouts, rural connectivity projects, FTTx, and data centre build-outs. Fibre connectivity is the backbone of network infrastructure and build-out cycles. OFC will provide higher bandwidth and speed for not just current but also emerging technologies. The networks are envisioned to create superfast digital highways, accelerate the digital revolution and connect billions of humans. Considering the vision of an integrated multimodal connectivity infrastructure, extensive fiberisation cannot be ruled out. These megatrends will push the demand for optical fibre not just in India(11.4% CAGR) but globally (4.3% CAGR) as well. A concerted effort has to be made for integrated planning and coordinated implementation of infrastructure connectivity projects.

# We see a paradigm shift in our way of life

In the world of communications technology, optical fibre has become the “elixir of life”. With the world gravitating towards hyper-connection, fibre will be a dominant force in future networks. Fibre connectivity is required for billions of homes, businesses, and devices to drive digital transformation, offering equal access to information and improving traditional processes. Massive fiberisation, aided by automation, will transform the world into a digitally empowered society capable of redefining how we live, work, travel, and consume information.



# Multi-layered fiberisation projects are complex

There is a need to operate a reliable network with minimal interruptions, and sustained network quality with better availability. The multi-layered fiberisation projects are complex and are primarily driven by unorganised players with unskilled labour and a lack of proper planning. As a consequence, a multitude of problems arise, slowing down the fiberisation and the digital inclusion projects.



**TIME-CONSUMING FIELD SURVEYS**



**MULTIPLE APPROVALS**



**MANUAL PLANNING**



**LEGACY OPERATIONS**



**COMPLICATED ROW**

Challenges create room for opportunity. Through automation and an innovative approach to fiberisation, we can eliminate these problems.

# Hyperscale fiberisation requires an innovative approach

By placing technology, innovation, and automation at the centre of robust fibre-supported backhaul and last-mile solutions, we deliver on the promise of seamless high-speed connectivity and increased reliability for an enhanced network experience.



# STL's Smart Deployment Services

STL introduces Smart Deployment Services, the ultimate automation in end-to-end design, planning, and deployment of the fibre network. With customisable inputs, robust backend intelligence, and comprehensive outputs on geospatial and engineering designs, we deliver a sophisticated and optimal network, suited to the most granular requirements of the customers.

## Our 7 stage gate approach *delivers the ultimate efficiency in fibre deployment*



1

### Modernise survey data

collection through 360 photogrammetry survey using Camera, Drone, and LiDAR

2



### GIS database for visualization

visualization and integration of identified demand points

3



### Design network topologies

ring, linear, mesh, star

4



### Integrate network architecture

comprising backhaul, access, and sub-access (centralized, point-to-point, decentralised)

5



### Generate BoQ and BoS

automatically based on the designed network

6



### Automated dashboards

integrated analytical tools achieve faster decision-making, effective governance, quality control.

7



### Achieve Overall Equipment Effectiveness

Introduce OEE and modeling into an unstructured and dynamic environment for fibre deployment (trenching, ducting, and cabling).



# Engineering a robust fibre deployment life cycle



Survey



Planning & Design



Deployment

## Survey

We have modernised the survey data collection method (geospatial information and co-ordinates) through **Photogrammetry 360-degree** survey done using a Camera, Drone, and LiDAR. With the help of **STL Field Force** (an application capable of handling various tasks in the process of - Survey, RoW Tracking, Execution Update, QA/QC, AT, and O&M), **Digital As Build Automation** is enabled and all the information collected from the field is collated into a database. This database is integrated with GIS, WebGIS, and Tableau for the visual representation of the projects progress. The analytical reports and dashboards convert this information into the insides of the project. The application is hosted on an STL cloud server and has a web interface for administrative work like dynamic forms and workflow design as per project deliverables. **A satellite base augmentation system (SBAS)** is used for error correction as it has sub-meter level accuracy in coordinates and geo lat-long.

## Planning and Design

Our in-house tools (**Converged Network Planning Tool** and **In building Design Tool**) address the need of planning and design of the network. The CNPT tool can combine and merge different planning tools to create one holistic solution with the underlying philosophy of optimising the design (Identification of common paths to redesign with diversification) to bring cost-effectiveness. A structured approach to planning eases further execution management and tracking of deliverables. The tool provides the design of a multilayer (CORE/AGGREGATION/ACCESS) transport network for Intracity and NLD, Network Topologies (MESH, Ring, Star, Linear), and Sub Access FTTx, along with the associated BoQ and BoS for cost and deployment time estimations.

## Deployment

We stand at the cusp of technological upgrades from manual to automation. We have accelerated the deployment process with a high-end solution in horizontal and vertical drilling using specialised Bits, Vertical Augers, and Augmented Trenchers. With the introduction of OEE concept and modeling in an unstructured and dynamic environment, we seamlessly monitor and control the fibre deployment process efficiency. Field teams are enabled with "Help to Doer" through near real time progress dashboards and actions with continued focus on enhancing efficiency and reducing performance variability. A unified and centralized CCC (Command Control Center) provides dedicated support to the on-ground team.



# The STL Advantage



## Compliance

We streamline processes and enable compliance with government regulations and industry standards.



## Turnkey Project Execution

Stage wise delivery with 360 degree robust operations with a high degree of efficiency.



## Commitment to Service Excellence

Adhering to the highest quality standards through our SLA-governed deliverables.



## Domain Expertise

10+ years of experience in managing digital networks. Our deep fibre understanding enables us to do effective management of fibre lifespan.



## In-house Digitisation and Automation Tools

Our in-house tools include Converged network planning tool and Field force. Robust program and process management. Automated workflow orchestration.



## Centre of Excellence

Our CoE facilitates innovation and continuous research, regular upskilling, learning modules and inhouse training programs.



## Cutting Edge Technology

Digital and new age tools like Geo technical survey, cloud based technology, Drone, LiDAR, street view, GPR (ground penetrating radar). Leading industry GIS based service delivery platform for real time updates.



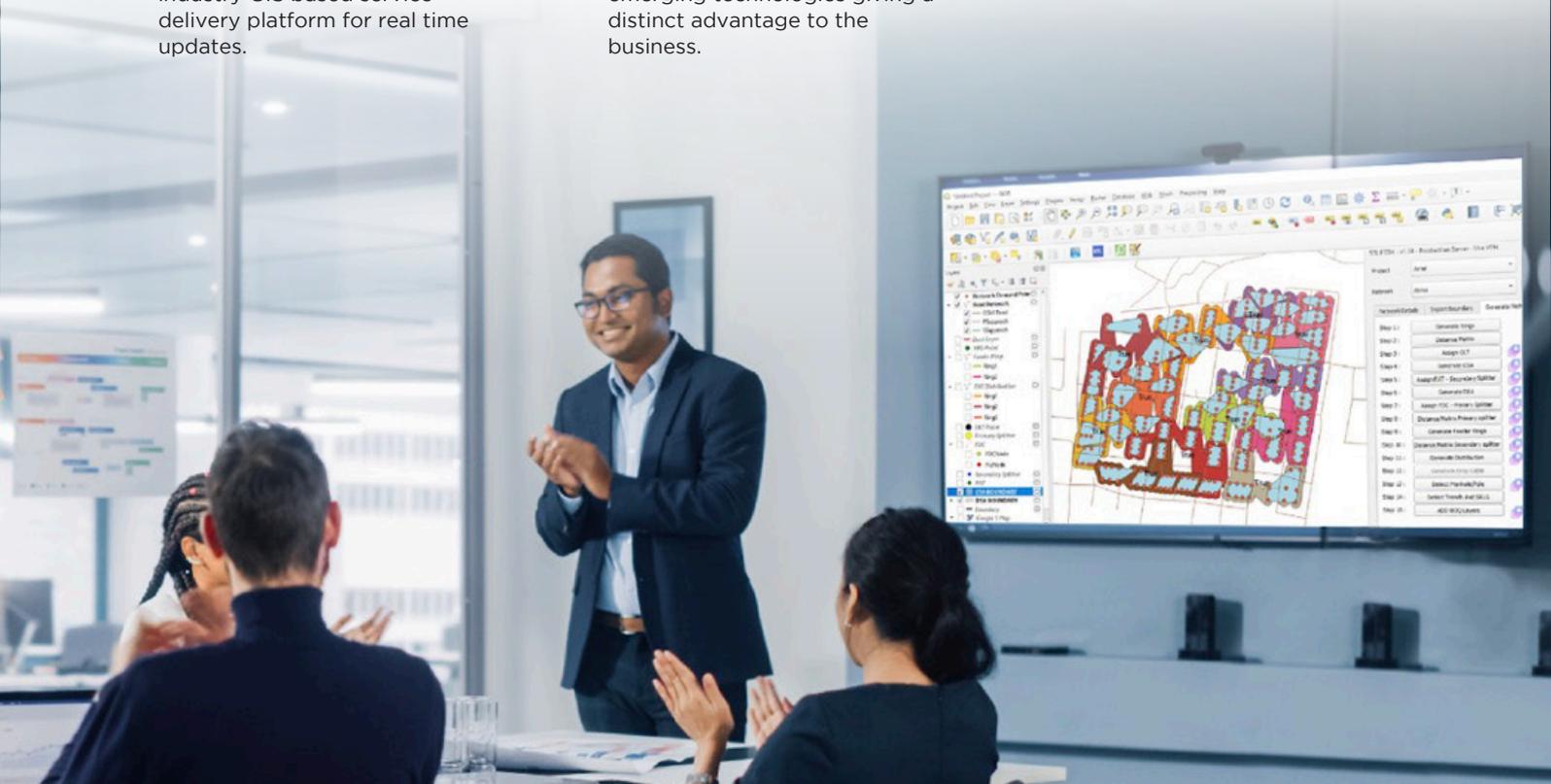
## Enhanced Customer Experience

Our people-process matrix delivers upto 30% productivity. Our agility and flexibility facilitate fast adoption of emerging technologies giving a distinct advantage to the business.



## Right first-time Solution

Minimising civil and optical non-conformance. Following engineering guidelines. Minimising the reworks in cable routes.



# Our Key Capabilities

10+ years of designing, building and managing secure networks fuelled by our foundational capabilities.



## End-to-End Technology Delivery

**1,00,000+** Fibre Route Km  
Intracity, Intercity & NLD  
**3** Smart Cities **4** NOC  
**33,000** Sites  
**2,50,000+** Home-pass  
**6** Cities Neutral FTTx Network  
**47** Data centres



## Enabling Tools and Technology

**Survey**  
Street View Survey  
Photogrammetry, LiDAR  
**Project, Process Management**  
Bhoomi, Field force, Signavio, EPM  
**Design & Planning**  
CNPT, AutoCAD, ArcGIS  
**Supply Management**  
Smart Digital Inventory Management, SAP



## Multi-faceted Talent pool and Skillsets

PAN India & UK presence  
**1000+** Team Size  
Vendor-recognized certifications in **PMP, ITIL, PRINCE, FOA etc.**  
**4,19,000** Training hours across technology design and delivery

# Benefits

We deliver miles after miles of flawless fibre roll outs



**100% process automation**



**5x speed in survey**



**4x reduction in fibre cuts**



**Upto 10x scalability**



**TCO optimised solution**



**12x time optimization**





#### About STL - Sterlite Technologies Ltd

STL is a leading global optical and digital solutions company providing advanced offerings to build 5G, Rural, FTTx, Enterprise, and Data Centre networks. The company, driven by its purpose of 'Transforming Billions of Lives by Connecting the World', designs and manufactures in 4 continents with customers in more than 100 countries. Telecom operators, cloud companies, citizen networks, and large enterprises recognise and rely on STL for advanced capabilities in Optical Connectivity, Global Services, and Digital and Technology solutions to build ubiquitous and future-ready digital networks. STL's business goals are driven by customer-centricity, R&D and sustainability. Championing sustainable manufacturing, the company has committed to achieve Net Zero emissions by 2030.



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