

Efficient fibre network builds
with end-to-end
Fibre Automation 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 Fibre Automation Services

STL introduces Fibre Automation 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

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

based on the defined BoM and 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, drilling, 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



Domain Expertise

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



Turnkey Project Execution

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



Centre of Excellence

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



Compliance

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



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.



Commitment to Service Excellence

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



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.



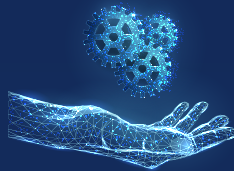
Our Key Capabilities

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



End-to-End Technology Delivery

85,000+ Fibre Route Km
Intracity, Intercity & NLD
3 Smart Cities **4** NOC **33,000** Sites
1,70,000+ Home-pass
6 Cities Neutral FTTx Network
47 Datacentres



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 & EMEA presence
1000+ Team Size
49 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



Scalability

Seamless deployment capability to scale up to 10x level. Potential for non-linear scale up



TCO Optimised Solution

Fit to the budget availability and high ROI along with significant cost savings



12x time optimization

through faster network deployment



About STL - Sterlite Technologies Ltd

STL is one of the industry's leading integrators of digital networks providing All-in 5G solutions. Our capabilities across optical networking, services, software, and wireless connectivity place us amongst the top optical players in the world. These capabilities are built on converged architectures helping telcos, cloud companies, citizen networks, and large enterprises deliver next-gen experiences to their customers. STL partners with service providers globally in achieving a green and sustainable digital future in alignment with UN SDG goals.

STL has a strong global presence in India, Italy, the UK, the US, China, and Brazil.