

BlueTel Networks Infrastructure

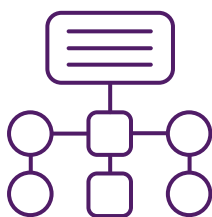
Infrastructure Overview

BlueTel's Outside Plant (OSP) department manages the full lifecycle of our underground fiber infrastructure, including ducts, manholes, fiber cables, and related passive assets that support Points of Presence (PoPs), customer circuits, and internal backbone connectivity.

With in-house expertise across design, planning, building, and operations, BlueTel delivers comprehensive infrastructure solutions that integrate terrestrial, cross-border, subsea landing, and DCI networks, including last-mile lead-in construction and cabling from manholes to customer or data centre colocation spaces.

Our hybrid approach, leveraging both greenfield builds and existing infrastructure, enables significant optimisation of deployment timelines and cost efficiencies. This document outlines our capabilities and core strengths.

Network Planning & Design



- End-to-end design and planning of fiber routes, duct alignments, and manhole placements.
- Feasibility studies, site surveys, and infrastructure optimization.
- Engineering design for new routes, diversions, and expansions.
- Assessment of duct space availability and future-proofing efforts for underground plant.
- Integrated planning that spans cross-border interconnects, subsea landing integration and DCI paths.

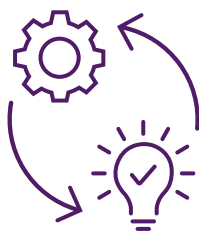
Regulatory Consultation & Applications



- Direct coordination with LTA, IMDA, JTC, NParks, PUB and other agencies.
- Preparation and submission of mandatory permits and clearances.
- Managing LTA Road Opening requirements.
- Advisory on regulatory constraints for both new developments and existing infrastructure utilization.

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Project Execution & Implementation



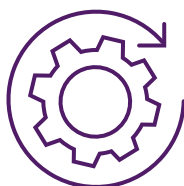
- Full turnkey project management, from civil works to fiber activation.
- Overseeing trenching, duct installation, manhole construction, and fiber laying.
- Fiber splicing, termination, labeling, and documentation.
- Stakeholder coordination with building owners, data centers, contractors and regulatory agencies.
- Flexibility to deploy greenfield builds or integrate with existing infrastructure to optimise cost and deployment time.

Testing & Commissioning



- OTDR, power meter, and end-to-end fiber performance testing.
- Acceptance testing for customer circuits and internal backbone connections.
- Verification against engineering specifications and quality standards.
- Delivery of test reports, as-built drawings, and asset records.

Preventive Maintenance & Monitoring



- Routine inspections of manholes and fiber routes.
- Patrolling and monitoring of third-party excavation activities near network routes.
- Early intervention when risks are detected.
- Scheduled manhole upkeep and condition checks.

Corrective Maintenance, Repairs & Troubleshooting



- Rapid fault localization using OTDR and field tools.
- Repairing fiber cuts and infrastructure defects.
- Emergency coordination with contractors and agencies.
- Post-incident analysis and preventive recommendations.

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Operational Governance & Compliance



- Internal management of IMDA 9-step earthwork requirements.
- Oversight of excavation notifications and risk mitigation.
- Assurance of safety practices.

Key Strengths



In-house design-plan-build-operate expertise, ensuring seamless delivery across all phases.



Integrated terrestrial, cross-border, subsea landing, and DCI capability, including lead-in and MH-to-colocation cabling.



Flexible deployment through a combination of greenfield builds and existing infrastructure to achieve time and cost efficiencies.



Strong regulatory experience ensuring timely approvals.



Proven rapid-response and island-wide maintenance capability.



Proactive asset protection to safeguard customer services.



High reliability supporting BlueTel's carrier-grade and mission-critical services.