

**Telecom Engineering, Inc.
Telecom International Services, Inc.**

Fiber Optic Network Experts

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Testimonials:

"As a Project Manager for a medium sized CLEC, I hired Telecom Engineering to engineer, install, and provision a 6 node OC-48 network. Their knowledgeable team took care of the entire project, from site surveys to design engineering, procurement, installation, provisioning and documentation. Their design team took care of all of my drop requirements and provided me with a road map for future expansion. The process was smooth and on schedule. I am considering using their team for other future projects."

*Fazil Bhimani
President
Lightnet Networks*

Introduction:

Telecom Engineering, Inc. / Telecom International Services, Inc. is a global provider of professional engineering, management, installation, testing, provisioning, and monitoring services of telecommunication networks. Over the past seven years, we have engineered and installed systems valued at over \$27,000,000 onto 7,400 km of fiber optic cable networks. We have installed and provisioned over 400 SONET and DWDM nodes for new and existing (live) networks.

Services Brief:

Turn-Key telecommunication projects, from design to provisioning and customer hand off.

- Engineering, installation, provisioning, testing, and documentation of telecom networks
- Engineering and expanding existing networks with live traffic
- Detailed itemized project estimates
- Expertise in fiber optic, SONET, SDH, PDH, DWDM , CWDM, EDFA, PON, IP, VoIP networks
- Project management and coordination
- Telecommunication network documentation, site drawings, equipment/rack layouts
- CO / POP engineering and construction
- Copper and fiber cabling, DS1, DS3, Ethernet, DC power, fiber jumper
- Outside plant fiber cable engineering and construction
- Power and battery plant engineering and construction
- Engineering and installation of wireless networks
- Network testing includes BER tests and DC voltage and power tests
- Fiber Characterization testing and reports
 - power meter span loss
 - OTDR traces
 - back reflection & return loss (ORL)
 - dispersion reports, chromatic and polarization mode (PMD)
 - connector loss measurements
 - optical spectrum analysis (OSA)

- Hands on and class room training with topics including fiber optics, SONET, DWDM, EDFA, WAN, cabling, testing, installing and provisioning networks
- On staff experienced telecom engineers and technicians
- 24 x 7 x 365 network monitoring and technical support

Technology Experience Brief:

- Complete SONET OC-3 to OC-192, STM1 to STM64 design, installation, testing, and provisioning
- Total (turn-key) fiber network design, installation, and testing
- DWDM, WDM, CWDM design, installation, and testing
- FT1, DS1, DS3, IP, GigE, LAN/WAN design, installation, testing, and provisioning
- CO design and construction
- DC Power design and installation
- LAN / WAN Networks design and installation
- Wireless networks 802.11a/b WiFi design and installation
- Certified with Cisco 15454, Cisco 15600 and Nortel Optera SONET/SDH equipment

Our Products:

Our telecom products list:

- 4, 8, 16, 32 wavelength passive and active DWDM systems
- Cross band WDMs 1310/1550 nm
- 4 and 8 wavelength passive CWDM
- Bi-directional couplers
- Optical amplifiers (EDFA)
- Optical amplifier protection switch
- Return loss meter adapter
- New and Refurbished Cisco 15454 equipment
- Software products:
 - BERCalculator - calculates bit error rate (BER) given test results
 - Fiber Network Designer - helps design fiber optic network spans
 - F-Intermod - calculates RF intermodulation products

Equipment Experience:

Our engineers and technicians are experienced with the following manufacturer's equipment:

3M	Digital Lightwave	Nortel Networks
ADC	Fluke	Siecor
Alcatel	Fujitsu	Sunrise
Alcoa Fujikura	Hendry	Symmetricom
Carrier Access Corporation	JDS Uniphase	T-Berd
Cisco Systems	Lorain Products	TIP
Corning OCA	Newton	Trompeter