Project and O&M
OFC Infrastructure Developer, Creator and Service Provider
Vision

We are a customer focused company that values our customers as the foundation of our business. We facilitate our customers to build remarkable values based on information and communication services innovation.

We strive to give our client’s competitive edge in their respective industries. Through the provision of market leading communication products. We are dedicated to enhancing their service levels, improving their workplace efficiencies and increasing their productivity levels.

Mission

We strive to provide the most reliable and superb communication solutions that exceed customer needs, enabling us to be a preferred data solution partner.

We will be continues to be an independent company to create, develop and maintain the specialised city based Telecom Optic Fibre Cable Network and to be a part of our nation requirement to enhance economical growth path.
First Company in India to have complete City based Underground OFC Network in Surat

1992: Started as a CATV Operator
2001: Diversified from CATV business to Infrastructure business
2008: Developed own Under Ground OFC infra in the Surat City.
2009: UG OFC work at Vapi, Silvassa and Dadra
2010: Expansion of Network at Ankleshwar Jhagadia GIDC and Ahmedabad
2011: Ventured into internet retail broadband business with brand name "AIRLINK"
2012: Network Integrator of the India’s First Safe City Project in Surat on Dedicated Fiber
2013: Complete data solution provider and repositioned to become pioneer in EDS business
2014: Public Offering Clearance from SEBI / BSE / NSE. Applied NLD and Class-A ISP License

Preface

CLASS “B” ISP
Enterprise Data solutions
City Surveillance System
Turnkey Project of OFC OSP and O&M/Gas/Power

Lateral Growth from OFC Company to Complete Network Solutions Company
Core Strengths

- Ability to plan, design and build Optical Fiber Network with latest technology.
- Network integration capability scales our efficiency to work for active network.
- The dedicated maintenance team to maintain uptime of any size of network.
- Having own tools, machineries and skilled resource curb the dependencies.
- Expertise to develop smart, safe and secure infrastructure solutions.
- Fully operational NOC, Project, O&M Support, System and Network integration capability, Field team and portfolio of complete enterprise data products define our path to become Enterprise Data Solution company.

USP

- RK Infratel is the unique Telecom Infrastructure Service Provider Organization in place with complete expertise.
- More than 21 years of rich experience comprising of various project execution and planning.
- Owned Machineries for OFC Infrastructure Roll-Out, Operation & Maintenance.
- Adopting industry best practices to continuously groom processes to get effective workflow.
- Customer satisfaction is on highest priority and continuously enhancing on technology front.
- Tied up with various outsource agencies to procure resources for mitigate critical issues and large scale project execution.
- Central monitoring system for entire network in place with timely escalations to serve the Customers in better way.
- Building up NOC and customer relationship management to proactively support and Maintaining optimum network uptime.
Business Activities

- Owning, Installing, Commissioning and Maintaining OFC Network.
- Integrated Campus Solutions encompassing Network, Data Centre and Cameras for Buildings, Universities, Office Campuses, Factories and SEZ's.
- CCTV Surveillance Projects, Network, IBMS and Systems.
- Network and System Integration.
- Enterprise Data Solutions | Essential Supplies.
- OFC Turnkey Project.
- Telecom OSP Project.
- OFC Network O&M for Intra-city and Intercity for Telecom Companies.
- Last Mile Customer link Delivery and In-building Solutions.
- Underground Infrastructure Solutions for Oil/Gas/Power Sector.
- Gas Distribution Infrastructure Projects in Cities.

Internet Connectivity

Wireless Connectivity

VPN Branch office Connectivity

Wired Connectivity
Key Business Areas & Products/Services on UG OFC Network

Key Business Areas
- Telecom Sector
- Internet Service Provider
- Cable TV Service
- Government Sector
- Semi Government Sector
- Municipal Corporation
- Police Department
- Corporate / SME Sector
- Industrial Sector
- Banking Sector
- Broadband Users

Products & Services
- OSP Project
- OFC O&M Service
- Trunkey Project
- Duct on Lease
- Dark Fiber on Lease
- City Surveillance Project
- Public Service
- Internet Leased Line (ILL)
- End to End Connectivity (P2P)
- Wi-Fi Connectivity
- Data Centre & Etc...
Benchmarks

✓ Provided 300+ km underground optical fiber network for 100+ Locations connectivity to Surat police for “safe city” Surat CCTV surveillance project for the period of 5 years.
✓ Provided 250 km optical fiber network for 78 locations connectivity to Ahmadabad Municipal Corporation for CCTV surveillance project in Ahmadabad for the period of 3 years.
✓ Started fully own subsidiary Broadband Internet Services in Surat with brand name of ‘AIRLINK’ in 2011. Presently having more than 25000+ retail broadband & 800+ enterprise customers.
✓ Having More than 1000Kms+ own Underground OFC Network in Major cities of Gujarat.
✓ Covered entire Surat city by UG, OH, MPLS and Wimax network.
✓ Leasing more than 300 Kms dark fiber to TATA Teleservices Ltd. and TATA Communication Ltd. in Surat.
✓ Completed In building & OSP work for more than 1000 building in NCR for TCL in India.
✓ 850 Kms- OFC O&M of TCL at Jaipur-Delhi-Mohali–Panipat-Punjab Route.
✓ Leasing more than 50 Kms duct to Idea Cellular Ltd. in Surat.
✓ 210 Kms - OFC O&M of Airtel Intracity Route in Surat.
✓ 520 Kms - OFC O&M of pipeline route of GAIL India Ltd. in Gujarat.
✓ 1500 Kms - OFC O&M of Vodafone Haryana NLD Route.
✓ Exclusivity of Underground OFC network in Sachin SEZ.
Solution Provided

• Planning, Design and Implementation of Network (Active and Passive).
• Physical Survey to identify cross junction and understand criticality.
• Identification of hardware and systems to effectively fit the budget of local governance authority.
• Directed and advised the concerned committee for technical aspects of the project.
• Complete execution of project in given timeline as System and Network integrator.
• Maintaining the same network to serve the object of project for long term.

Our Technology

• Redundant Fiber Ring Network.
• Multiple Connectivity on Fiber.
• Customize Solution according to Requirements.
• No bandwidth limitations.
• Highly Reliable & Secured Data Circuit.
• Centralized Control & Command Center.
• Technology Integration Service.
## Apparatus

<table>
<thead>
<tr>
<th>Particulars</th>
<th>Qty.</th>
</tr>
</thead>
<tbody>
<tr>
<td>HDD Machine</td>
<td>4</td>
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<tr>
<td>Splicing Machine</td>
<td>30</td>
</tr>
<tr>
<td>OTDR</td>
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<tr>
<td>Optical Power Meter</td>
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<tr>
<td>Laser Source Meter</td>
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<td>Blowing Machine</td>
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<td>Cable Locator</td>
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<tr>
<td>GEN Sets</td>
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<tr>
<td>Tunable Laser Source</td>
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<tr>
<td>Vehicles for transporting</td>
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</tbody>
</table>

- CLASS “B” ISP
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Project Management Services as a specialized service that provides its clients end-to-end project management services encompassing the entire life cycle of OFC infrastructure implementation starting from site survey to site integration.

Project Management helps complete compliance and ensures that all issues are strictly managed and controlled to the required specifications. In addition, R.K. Infratel Ltd’s Project Management Services also includes supply of skilled manpower for Project Management activities on basis time and expenses. Project Management teams are extremely focussed on complying with the safety and environment aspects of the projects.
Services Offered

- Route Survey & Design
- Preparation of BOQ
- RoW Permission
- Horizontal Directional Drilling (HDD)
- Trenching, Ducting & Backfilling
- Aerial Cabling
- Supply of Material
- Cable Blowing / Pulling
- OFC Fusion Splicing
- Acceptance Testing
- In Building & Last Mile Connectivity

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Below inputs are required for route survey of the new project:

- ROW
- Demarcation
- Soil Strata
- Existing Underground Utilities
- Road / Rail / Bridge / River / Canal Crossings
- Others Criticalities
- BOQ Estimation

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Surveyed Route with DGPS Clients / Customers
Marking of Rocky, RCC and normal soil terrain
Marking for crossing locations
Plan HDD, Trenching and Boring Route
Marking of offset availability
Geographical co-ordination for UG OFC Deployment
Jointing Location
Assessment of required materials
Identifying Critical points
Demarcation of RoW
Supply of Material

Essential supplies of materials as stated below for project execution is also managed

- HDPE Ducts, GI, PVC Pipe
- Optical Fiber Cable (6F, 12F, 24F, 48F, 96F, 144F & more)
- Fiber Joint Closures
- Fiber Management System
- Fiber Patch Cord
- Pigtail / Adaptor
- Pre Cast Chambers
- Route Markers
- Couplers
- End Plugs
RoW Permission
State Highway, Railways Departments, Road & Building, Municipal Corporation, Irrigation Department, Panchayat, National Highway authorities, Cantonments.

Trenching & Ducting
Our in house team is expert in Cable Blowing work with OUR ownership Cable Blowing Machine for execution of work on targeted time.

Cable Blowing
Commit to deliver Quality solutions to our Client. So we focused to maintain actually depth & good quality of work as per Telecom standard.

Aerial Cable
At places where open trenching is not possible due to very narrow roads and due to delay in obtaining RoW, aerial cabling will be adopted as a temporary solution.

Duct Integrity Test
After backfilling ducts shall be tested for integrity. by closing one end of duct and passing compressed air at 5-6kg/cm² from the other end. When the pressure reaches about 5kg/cm², the inlet of the duct is closed. Fall in pressure should not be more than 50% in 1(one) hour.
HDD (Horizontal Directional Drilling)

- Adapting industry best practice for OFC laying
- Overcomes challenges of congestion at any open trenching.
- Effective and Quality execution, enables project completion on time.
- Fully owned machinery and in house execution team.
Best Practice

- Maintaining splicing loss less than 0.05 dBm
- Fiber would be neatly coiled without kinks
- Minimum bending radius of 80mm would be ensured.
- Joint closure would be sealed properly before it is taken out of the controlled.
- Environment free from dust particles and air-conditioned splicing van.
**OTDR & LSPM Test**

- **OTDR (Optical Time Domain Reflectometer)** is used for measuring fibre length, locate fibre fault, find fiber losses.

- An OTDR injects a series of optical pulses into the fiber under test. It also extracts, from the same end of the fiber, light that is scattered or reflected back from points along the fiber.

- The strength of the return pulses is measured and integrated as a function of time, and is plotted as a function of fiber length.

- **Optical Laser Sources** offer greater flexibility and higher accuracy for installing and maintaining multimode datacom networks and LANs as well as for maintaining and repairing single mode fibers in communication, telecommunications, and CATV-multimedia networks.

- Link Test is carried out on entire section terminated at both ends after completion of tasks to ensure the losses are within permissible limits on all fibers.
OFC Infra Operation And Maintenance

- Handling Operation & Maintaining Project of Telco’s NLD or Backbone OFC Route in PAN India.
- More than 30 FRT Team members can simultaneously work on an O&M Project.
- Proactive & preventive work carried out by O & M Team.
- Maintaining SLA & Daily or monthly Base Reporting.
- FRT team has a supervisor, splicer, assistant splicer, patroller and a helper for every range of defined by customer.
<table>
<thead>
<tr>
<th>Service Description</th>
<th>Metric</th>
<th>Total</th>
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<tbody>
<tr>
<td>Underground Fiber Optic Network in Surat</td>
<td>Kms</td>
<td>350+</td>
</tr>
<tr>
<td>Underground Fiber Optic Network in Vapi/Silvassa/Bhilad /Dadra</td>
<td>Kms</td>
<td>40+</td>
</tr>
<tr>
<td>Underground Fiber Optic Network in Valsad to Talasari</td>
<td>Kms</td>
<td>60+</td>
</tr>
<tr>
<td>Underground Fiber Optic Network in Ankleshwar/Jaghadia</td>
<td>Kms</td>
<td>72+</td>
</tr>
<tr>
<td>Underground Fiber Optic Network in Ahmedabad</td>
<td>Kms</td>
<td>35+</td>
</tr>
<tr>
<td>Overhead Fiber Optic Network in Surat</td>
<td>Kms</td>
<td>450+</td>
</tr>
<tr>
<td>PoP Locations in Gujarat</td>
<td>Nos.</td>
<td>100+</td>
</tr>
<tr>
<td>Wireless Base Station installed in Gujarat</td>
<td>Nos.</td>
<td>80+</td>
</tr>
<tr>
<td>Wireless Radio Installed</td>
<td>Nos.</td>
<td>100+</td>
</tr>
<tr>
<td>Customer Premise Equipment installed in Surat City</td>
<td>Nos.</td>
<td>450+</td>
</tr>
<tr>
<td>End to End Connectivity on wireless Long Distance</td>
<td>Nos.</td>
<td>80+</td>
</tr>
<tr>
<td>Building cover in Surat city by Overhead OFC network</td>
<td>Nos.</td>
<td>4000+</td>
</tr>
</tbody>
</table>

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City Surveillance System

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R K Infratel | OFC Network Presence - Gujarat

Corporate Office
Present Network
Proposed Planning

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Surat Metro Ethernet Network
Surat Wireless Network

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Present OFC UG Network – Ankleshwar and Jhagadia

Legend
- Existing Route
- Proposed Route
- Railway Track
- River
- Major Road
- Landmark

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Accreditation

ISO 9001-2008 Certified
ISO 9004:2000 NSIC-SMERA Certificate
License of Infrastructure Provider IP-1
Class B ISP
License of Infrastructure Provider IP-1
Class B ISP

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Business Partners

For Security Surveillance Products

- Honeywell
- Panasonic
- Hikvision
- Huawei

For Storage & Server Products

- IBM
- HP
- Dell
- NICE

For Fiber & Cat-5&6 Cable & Accessories

- TE Connectivity
- Sterlite
- Molex
- Dura-line

For Network Products

- HP Networking
- Netgear
- Raychem
- NFS by R&M

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Clients

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Turnkey Project of OFC OSP and O&M/Gas/Power
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