• **Leaders in manufacturing of telecom equipment and optical fiber cables:** Has collaborated on equipment manufacturing and services with major MNCs from US, Europe and China

• Comprehensive telecom and security surveillance network solutions provider: As one of the largest **telecom project implementation company**, have implemented several telecom turnkey projects, including laying of over 100,000 KM OFC network

• Diversifying in new business verticals of Railways, Defense and Smart cities. Participated in large RFPs in new business verticals

• Fast growing company with revenue of US$ 325 Million (FY 14) and US$ 390 Million (FY 15)

• Competent Talent Pool of 2,400 people on roll employee and managing a workforce of over 4,000 people in contracts across Indian geography

Leading technology enterprise with state of art manufacturing, project management, incubation and investment management, new products and innovation capabilities

## Comprehensive Offerings for Modern Day Industry

### Manufacturing
- Optic fiber cables
- Transmission equipment
- Broadband equipment

### Microwave Products and Solutions
- **Dragon Wave HFCL JV:**
  - 4G IP radio Backhaul Solutions
  - 2G/3G Hybrid Backhaul Solutions

### Value Added Services Platforms
- **NexG TV:** Mobile TV
- **Polixel:** Security Solutions
- **Digicall:** BPO
- **Oneclick:** CRM technologies
- **Koovs.com:** e Commerce (Listed on LSE– AIM)

### Comprehensive Project Implementation
- Radio & Fiber networks
- Access networks
- 2G/3G/4G Wireless networks
- Broadband networks

### Power Solutions
- **Exicom Tele-Systems:**
  - Integrated Telecom Power Units
  - Switch Model Power Supplies
  - Energy Management Systems
  - Battery Management Systems
  - Solar Power Solutions

### New Initiatives
- **Railway Solutions**
- **Defense & Security**
- **Smart City Solutions**
Regional Offices: Himachal Pradesh (Solan, Shimla); Haryana (Karnal); Punjab (Chandigarh); Delhi; UP West (Merut); UP East (Luchnow, Benaras); West Bengal (Kolkata); Orissa (Bhubaneshwar); Rajasthan (Jodhpur, Jaipur); Madhya Pradesh (Bhopal, Indore); Chattisgarh (Raipur); Maharashtra (Mumbai, Pune, Nagpur); Gujarat (Ahmedabad); Tamil Nadu (Chennai); Karnataka (Bangalore); Andhra Pradesh (Hyderabad); Goa; Bihar (Patna); Jharkand (Ranchi); Uttranchal (Dehradun); Assam (Guwahati); Kerala (Kochi)
Business of Manufacturing
### State-of-the-Art Manufacturing Facilities

<table>
<thead>
<tr>
<th>Location</th>
<th>Solan – Himachal Pradesh</th>
<th>Goa</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Covered Area (sft)</strong></td>
<td>60,000</td>
<td>125,000</td>
</tr>
<tr>
<td><strong>Products</strong></td>
<td>Optical products</td>
<td>Optical Fiber Cables - high precision - narrow tolerance band - upto 288 fibers</td>
</tr>
<tr>
<td></td>
<td>Wireless products</td>
<td></td>
</tr>
<tr>
<td><strong>Capacity</strong></td>
<td>4 SMT Lines with Automatic Optical Inspection facilities</td>
<td>6 Million fiber km/annum</td>
</tr>
</tbody>
</table>

- **Accreditations:** **ISO 9001-2000, 9002 & 140001**
- Compliant with IPC-A-610 Process Flows (Standard for PCB assemblies)
- New factory set up in **Chennai, Tamil Nadu (for OFC)**
- Supply Chain, Inventory and Operations management norms in place for optimum production
Comprehensive Project Implementation Capabilities
Single-window solutions for execution of telecom projects - ‘concept to completion’: including, system installation and integration services for network implementation

Bouquet of Services: Feasibility studies, Choice of media survey, Design, Planning and Engineering supply, Laying of optical fiber cables, Installation, Commissioning, Network Maintenance

Examples of Work Done

- Constructed >100,000 km of Optical Fiber Cables network for different customers in India
- Constructed >25,000 BTS sites for mobile networks for different operators
- OFC laying & Tower work for 4G & FTTH network for a Pan India Telecom Operator
- Constructed >3,500 km Optical Transport Network Project for Railtel
- Turnkey implementation of CDMA mobile network for Delhi & Mumbai for 800K subscribers
- National Radio Spectrum Management
- GSM network in Left Wing Extremist (LWE) areas of 6 states
Our Customers

**Telecom/Cellular Operators**
- Reliance Industries Limited
- Mahanagar Telephone Nigam Limited (MTNL)
- Bharat Sanchar Nigam Limited (BSNL)
- Reliance Communications Limited
- Tata Teleservices
- Bharti Airtel Limited
- Aircel Cellular Limited
- Videocon/Quadrant Televentures Limited

**Government of India**
- Indian Space Research Organization
- Department of Defense
- Indian Railways: Railtel Corporation of India Limited

**Energy Sector**
- Gas Authority of India Limited
- Indian Oil Corporation
- Hindustan Petroleum Corporation Limited
- Bharat Petroleum Corporation Limited
- Power Grid Corporation of India Limited

**Customers in other Countries:**
- UK
- Poland
- Qatar
- South Africa
- Oman
- Jordan
- Sri Lanka
- Nepal
- Bangladesh
- Myanmar/Burma
Strong Project Management Skills

Pan India Presence

High Quality Manpower

Experience of business success across India’s Geo-Political Environment

High growth > 20% per annum

Advantages HFCL:
- Wide diversity of customers served
- Large labour workforce management capabilities
- Vast experience in managing costs
- High quality products and services
- Skilled in adapting cutting edge technologies
- Pan India 24x7 Service Network
Smart City Journey in India

Safe+
- CCTV surveillance
- Video Management
- Video Analysis
- Automatic Number Plate Recognition (ANPR)

Safe++
- Video Based ANPR & Red Light Violation Detection
- e-challan & Collection
- Speed Violation Check
- GIS integration

Smart
- Street Lighting
- Waste Management
- Connectivity – Wi-Fi
- E-Governnance
- Utilities
- Environment
- Education & health

Components

Leverage
- Command Centre (Screen Augmentation)
- Green Data Centre (Server Augmentation)
- Network
## HFCL Group Capabilities

<table>
<thead>
<tr>
<th>HFCL Group Capabilities</th>
<th>Web Applications</th>
<th>Digital wallet</th>
<th>SMSs</th>
<th>Kiosks</th>
<th>Emails</th>
<th>Service Helpdesk</th>
<th>Mobile devices and Apps</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Command &amp; Control Centre</th>
<th>Data Centres</th>
<th>Disaster Recovery</th>
<th>Video Walls</th>
<th>Office hardware such as PCs, printers etc.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Optical Fibre</td>
<td>City Wi Fi</td>
<td>GPRS</td>
<td>WiMAX</td>
<td>ZigBee</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Surveillance cameras (PTZ/ Fixed Cameras)</th>
<th>ANPR System Kit</th>
<th>Variable Messaging System</th>
<th>Traffic Sensors</th>
<th>Utility management- SCADA Sensors – RTU’s, FRTUS</th>
</tr>
</thead>
<tbody>
<tr>
<td>GPS devices</td>
<td>Kiosk</td>
<td>Parking sensors</td>
<td>Fire Sensors</td>
<td>Water logging sensors</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Pollution Sensors</th>
<th>Solid and sewage mgmt. sensors</th>
</tr>
</thead>
</table>

**HFCL Group Capabilities**

- Web Applications
- Digital wallet
- SMSs
- Kiosks
- Emails
- Service Helpdesk
- Mobile devices and Apps
- Surveillance & Integrated Command and Control App
- Citizen engagement & Customer information System
- Command & Control Centre
- Data Centres
- Disaster Recovery
- Video Walls
- Office hardware such as PCs, printers etc.
- Optical Fibre
- City Wi Fi
- GPRS
- WiMAX
- ZigBee
- Passive Infra - Routers, switches, gateways
- Surveillance cameras (PTZ/ Fixed Cameras)
- ANPR System Kit
- Variable Messaging System
- Traffic Sensors
- Utility management- SCADA Sensors – RTU’s, FRTUS
- GPS devices
- Kiosk
- Parking sensors
- Fire Sensors
- Water logging sensors
- Pollution Sensors
- Solid and sewage mgmt. sensors
Our experience & Case studies

- **Pan India** - Turnkey work for laying approx. 125,000 kms of Optic Fiber Cables (OFC) & Tower work for 4G & FTTH network for major Telecom Operator.

- **Ludhiana City Surveillance** – 1500 cameras and functionality of Number Plate Reading, Video Management Software, Red Light Violation Detection in place. Implementation in progress.


- **Airports Authority of India (AAI)** – 13 Airports - Airport surveillance with video analytics & face recognition

- **High Security Prison Services : Tihar Jail** - Monitoring & recording at central security control room with feeds to officials

- **UIDAI (Aadhaar)** - Monitoring & Recording at Central Security Control Room.

- **Wroclaw City : City Monitoring & ITS** - More Than 1200 IP cameras installed; OFC based IP network back-bone

- **Poznań City : City Monitoring & Surveillance** - 300 pcs of IP Speed Dome PTZ and fixed camera
Associated Businesses
Need of the Hour: Growing mobile internet usage (~27% CAGR FY07-14), is pressurizing existing backhaul networks

Of 243 Million Internet users (Jan 2014), 90.5% are Wireless Subscribers (Source: TRAI); to increase to 519 Million by 2018 (Source: Morgan Stanley)

JV offers comprehensive service and support program:

- **Manufacturing** of a range of point to point Microwave Radio Links (Microwave and IP radios upto 23 Ghz)

- **World Class Services**: designing, sizing, planning, survey, supply, installation and commissioning, O&M services for deployment and maintenance of next generation backhaul network

- **Presence across all circles** in India promises real time 24x7 customer support

- **Focus on increased capacity and reduced cost per bit** - addition of higher order modulations, and improved compression capabilities
• Leading manufacturer of **SMPS based Power Plants** for telecom applications

• Pioneer and a leader with **~70% market share** of the BSNL and MTNL requirement

• State of Art Manufacturing facility at Gurgaon, India

• **Developing a range of new products** - energy efficient, cost effective Passive Infrastructure solutions:
  - Greenest & Most Intelligent Integrated Telecom Power Unit in the Industry;
  - Hybrid Outdoor Telecom Power Solution;
  - High Efficiency 3KW Rectifiers

• **Power Solution & Turnkey Services** for BTS Sites and large applications: End to end turnkey implementation services, Maintenance & AMC Services, Site O&M

**Solar power initiatives:** Over 1000 projects ranging from 1 KW to 100 KW (mid size) implemented successfully

Weblink: [http://www.exicomtelesystems.in/](http://www.exicomtelesystems.in/)
<table>
<thead>
<tr>
<th>Security &amp; Surveillance (Polixel)</th>
<th>Polixel offers cutting edge fully integrated security and surveillance systems to global clients.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proprietary Software and Systems for Security Management: Border and Immigration Control; City, Site and Identification level security.</td>
<td></td>
</tr>
<tr>
<td>Focus on: Goods detection; Motion detection; Boom barriers; Fire Prevention Systems; CCTV; UVSS; BMS; Access Control Systems; Perimeter Fencing Systems; Parking Management Systems.</td>
<td></td>
</tr>
<tr>
<td>30 in Poland and 50 people employed in India. Team in Poland, primarily consists of highly skilled software R&amp;D professionals adept in development of software in Advance Technology domain of Security Surveillance (various aspects of Video Analytics, Face Recognition, M3S VNS – video surveillance system)</td>
<td></td>
</tr>
<tr>
<td>Ongoing R&amp;D to develop newer solutions: The team is currently involved in further developing cutting edge comprehensive solutions for:</td>
<td></td>
</tr>
<tr>
<td>• Integrated traffic management systems (highway as well as city level controls);</td>
<td></td>
</tr>
<tr>
<td>• Long range border surveillance systems: Long range cameras, general cameras, video analytics, etc.</td>
<td></td>
</tr>
<tr>
<td>Weblink: <a href="http://www.polixel.in/">http://www.polixel.in/</a></td>
<td></td>
</tr>
</tbody>
</table>
HFCL Promoters have focused towards investing in and incubating a series of next generation telecom and associated service platforms, aiming to generate long term value propositions: invested and managing >USD 60 Mn towards development of these ventures
DigiVive Services Private Limited, a wholly owned subsidiary of Media Matrix Worldwide Limited–listed on Bombay Stock Exchange; >USD 16Mn promoter’s equity invested

Targeted towards mobile internet users; Current subscriber profile is well distributed across demographics; >19 million “nexGTv” app downloads (Feb’14); >1.5 Million Subscribers

Weblink: http://www.nexgtv.com/

nexG Devices is a Multi brand & Multi product distribution company with current focus on Telecom devices. Pan India sales reach through a network of 196 distributors, 25 warehouses.

Has exclusive tie ups with telecom service providers like Aircel, to bundle its products with Aircel products and sell through nexG distribution channels. Suppliers like Micromax, Lava are developing exclusive products for nexG distribution channels.

• **Services:** Import LC; Import activities and custom clearance; Warehousing and Local logistics; Sourcing for various product lines; Pan India After sales service solution
• **Support:** Multilanguage BPO, Customer relationship and Knowledge management solutions offered through other group verticals. On line trouble shooting by remote access on smart phone and other smart devices
Digicall (BPO) and One Click (Technology Arm)

Digicall is a wholly owned subsidiary of Media Matrix Worldwide Limited.

>5000 BPO seats with Operations across 10 major cities of India, including Mumbai, Delhi-NCR, Pune, Ahmedabad, Hyderabad and Bangalore

Focused on becoming the next generation contact center of choice, Digicall has made significant investments (~USD 16Mn promoter’s equity invested) to modernize infrastructure & technology over the last 2 years.

**Services Offered:** Inbound Support, Back Office Support, Web Services, Outbound Support, Accounts Receivables

**One Click:** Pioneering design - fully integrated solution, enabling telecom operators to deliver uniform experience across multiple touch-points: contact centers, stores, as well as the web

Currently developing customized platforms for ‘Internet of Things’ ready services

Awarded the **Aegis Graham Bell award, 2012-14**, for Innovation in customer care


Weblink: [http://digicall.in/](http://digicall.in/)

Weblink: [http://oneclick.info/](http://oneclick.info/)
Developed on the fundamentals: Use of technology to power the consumers’ fashion needs, Koovs started in 2011 in collaboration with Lord Waheed Ali from the United Kingdom.

**In March 2014, Koovs got listed on the London Stock Exchange – AIM.**

Koovs started its fashion category in Jan ‘13 and has since gained significant momentum to be regarded as India’s leading online Fashion Retailer (among the top five fashion ecommerce websites in India).

Committed to extend its fashion credentials by bringing both established (strong international brands) and new designers to the consumer in India through exclusive design collaborations.

Riding the Indian e-tailing revolution, Koovs’ focuses on:

- Latest international trends at affordable prices: 70% of private label product is under the consumer-critical price point of £20 (2000 Indian Rupees)
- Koovs’ own label is designed in London and made in India for Indian customers and accounts for majority of the sales
- 1 new trend every month (12 in a year): The customers have always something new to look forward to
- Developing ‘delivery and price’ promises for the consumer that are reliable, affordable and price-worthy.
HFCL GROUP

Defence Division
HFCL proposes to bring strong capabilities in Defence based on smart technologies, innovation and fool-proof security to the national needs.

To develop Force Multipliers that will contribute to provide an edge to our Armed Forces.

Assist in building a robust indigenous defence industrial base.

Strategically diversify into Defence and establish itself as a credible player with focus on State-of-the-Art technology.

Be a preferred partner for ToT from global OEM & setup manufacturing facilities in India.

Be an intrinsic part of the global defence equipment supply chain.

Undertake maintenance, repair and overhaul of defence equipment.

Work in partnership with global primes to meet offset requirements.
Licences received for Defense equipment manufacturing:

- Electronic Warfare - NIC Code 26515
- Radars - NIC Code 26515
- Airplanes - NIC Code 30301
- Weapons & Equipment - NIC Code 30400
- Night Vision Systems - NIC Code 26700
- CBRN Equipment - NIC Code 30400
- Electronic Fuses - NIC Code 25200
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