

# Case Study: Underground Telecom Infrastructure in Newtown



**New Town Kolkata** is a planned satellite city on the north-eastern fringes of Kolkata. The city provides the best in class urban infrastructure facility and government service delivery to its citizens while preserving the cultural heritage of West Bengal. The infrastructure facility in New Town is world class with all utility ducts being laid underground, leading to achieving the “clutter free” image of the city. All cable networks including power, water supply, cable television, fibre optic or other utility cables/ wires, etc., have been placed underground along with a systematic arrangement of ducting; in line with the provisions made in some of the best cities in the world like London or Sydney, to name a few. New Town takes pride in not having any overhanging wires or cables across the entire city. Underground ducting provisions not only reduces maintenance requirements but also improves the aesthetics of the city.

## Advantages of Underground ducting for telecom infrastructure

1

Ensures that every telecom operator is able to provide their various services to different places e.g. IT hubs, business houses, financial hubs, educational institutes, residential areas etc. in a systematic, well organized and authorized process

2

Saves the planned city from indiscriminate digging of roads by multiple telecom service providers causing hindrance of civic life.

3

Saves the city skyline from overhead telecom cable

## Underground telecom ducting in Newtown: At a Glance



### Network Layout

- Extensive underground telecom infrastructure for optical fibre
- Telecom cables follow the "Right of Way" (ROW) through assigned strip of land

### Duct Length



1267km duct length covered in the city; 560 km already utilized by telecom operators



### Distribution

- UGD laid after initial assessment of the requirement of the multiple telecom service operator (MSO)
- UGD telecom infrastructure offered to various telecom service providers as per their demand, on long term leased-rental basis

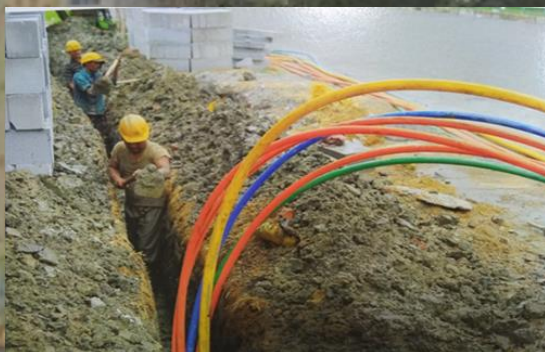
### Coverage



- Multiple PLB HDPE telecom duct of different colors
- Dedicated duct space of particular color allotted to different telecom users

With the growing residing and visiting population in New Town, a seamless internet and telecom connectivity is essential for efficient functioning & maintenance of all public infrastructure. A strong telecom infrastructure is essential at individual level as well as for institutional strengthening. Thus, in an effort to raise the standard of living in Newtown the city has ensured underground ducting for telecom infrastructure

**"Underground ducting (UGD) for telecom infrastructure" is one of the key projects undertaken in Newtown.** This project aims towards underground ducting of all telecom and internet network connections with an objective to provide assured connectivity across the entire city of Newtown.



West Bengal Housing Infrastructure Development Corporation Ltd (WBHIDCO) is a wholly owned Govt. company set up by the Government of West Bengal in 1999 for developing New Town as a futuristic city of West Bengal, having an area of about 7000 acres. A joint venture company, formed by WBHIDCO, named New Town Telecom Infrastructure Development Company Limited (NTTIDCO) was established to facilitate the development of telecommunication facilities compatible with future technology needs. NTTIDCO remained responsible for planning and executing underground telecom infrastructure for the purpose of distribution of optical fibre based communication services to be provided by the telecom service operators.

## Underground telecom ducting in Newtown: Beneficiaries



1 >

**Multiple Telecom Service Operators (MSO)** like Bharti Airtel, reliance Jio, Vodafone, Idea Cellular, Reliance Communication, Tata Communication, etc.



2 >

**Government Agencies** like West Bengal State Electricity Transmission Company Limited, Power Grid Corporation India Limited, etc.



3 >

**Internet Broadband Service Providers** like Data Hathway Cable & Data Communication, Indian Cable Net and Manthan Broadband services etc.



4 >

**Local Cable TV Operator and Broadband Service Providers** like Octagon Broadband service, Tele-2-VisionCable & Broadband Service, Insat (II) Cable TV, Hitech Visual Channel Private Limited etc.



*Each telecom provider is given a dedicated duct space of a particular colour.*

infrastructure' has been very successful in providing 24x7 internet connectivity in Newtown with minimum maintenance.

Optical fibres revolutionized the telecom industry way back in 1970 and have been the most important role player in the information age since then. Optical fibres have replaced copper wires used in core networks in countries that thought ahead when it came to communication. Because of the efficiency and the commercial viability of Optical fibres, the international telecommunications community has set up intercity fibre communications line. It was way back in 2006 when laying of the underground duct for Optical fibres cable began in New Town. The project for 'underground ducting for telecom

## Benefits of Underground ducting for telecom infrastructure in Newtown

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### Close Surveillance:



Telecom service providers who are availing dedicated duct space in underground telecom infrastructure, are under close surveillance of the authority. A proper planning followed with strong administration has made this project successful.

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### Easy Expansion:



Any expansion/augmentation of the telecom network of any telecom service provider can be done without hampering of other telecom operator's service.

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### Less Time:



As telecom infrastructure is ready for use, both telecom service provider as well as end users get the benefit of connectivity in minimum time frame.

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### No Additional Investment:



There is no additional investment required for the development of telecom infrastructure of individual telecom service provider.

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### No Infringement:



The chance of infringement with any other telecom operator service is not there at all since dedicated duct space is allotted to individual operator. The end to end connectivity can be established without facing any local hazards.

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### Low Maintenance:



Since the corridor of developed underground telecom duct infrastructure is dedicated as per ROW of the planned city, the chance of infringement with other utility services like electric supply, water supply and sewerage line etc. are very remote. Therefore, dedicated corridor of telecom infrastructure with dedicated duct space allocation to individual telecom service provider for use of optical fibre based communication system gives highest degree of stable and secure establishment of communication system with minimum maintenance expenses in New Town.

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### Safe from Natural Calamity:



The telecom service providers are not affected by any natural calamity e.g. cyclone, flood, fire etc. as their optical fibre cable is laid through underground dedicated duct space.

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### Reduced Operational Cost



The underground network infrastructure is free from thefts, burglary and any sorts of normal human interferences in normal working condition. Hence the operational and maintenance cost of the individual telecom service operators

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