FTTH CASE STUDY

'Overcoming the last drop with a high quality spliceless solution'

Gautam Lunkad

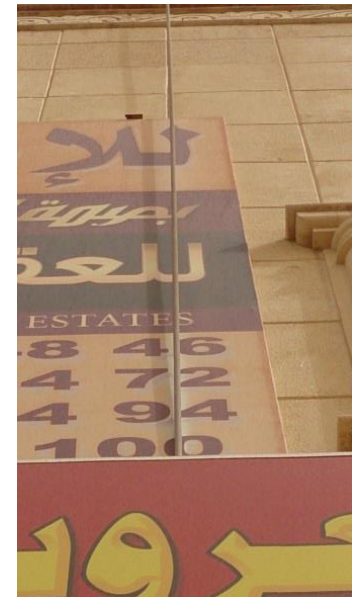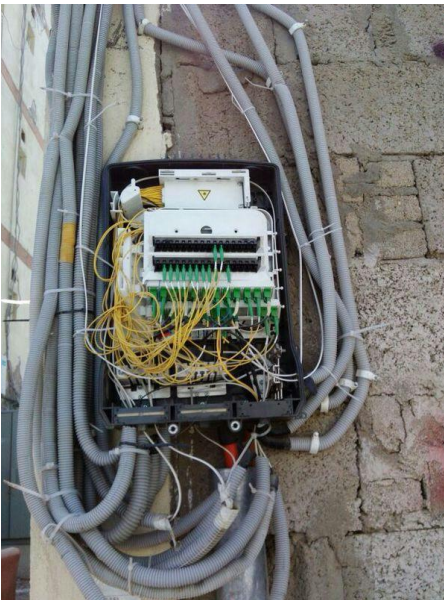*Director*

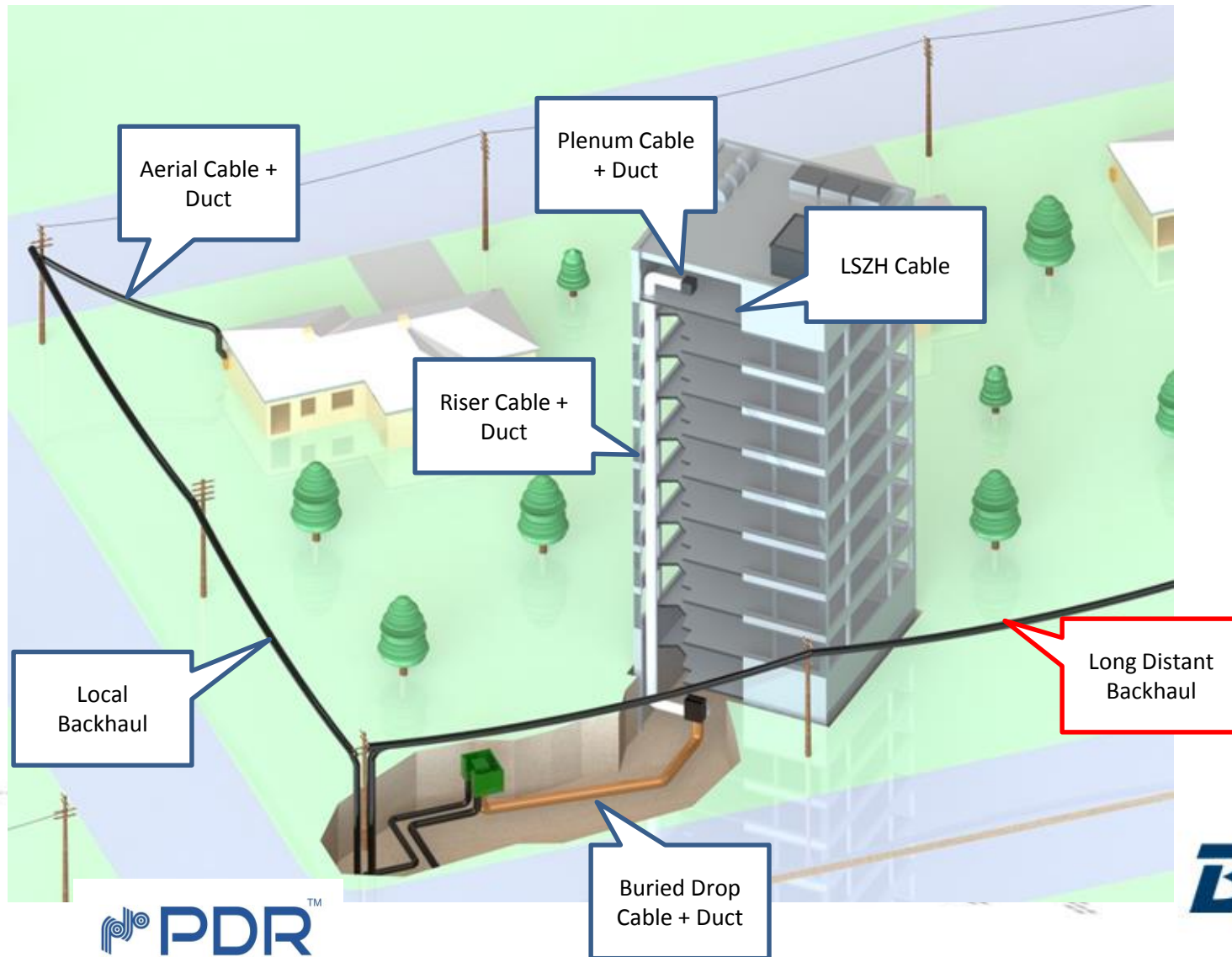*PDR Videotronics (I) Pvt. Ltd.*

IT'S A JUNGLE OUT THERE !!

FTTH DEMAND IS GROWNG FAST: The need for change is here

- The business largely appears to work with low quality/cheap products
- High warranty failure rates with many products not lasting >12 months
- Frequent downtime

FTTH: Access + Premises ("the last mile")

Lets take a look at the current solution - CONNECTION

Connecting the customer CPE/Gateway

- Internal trunking deployed inside the home (usually PVC pipe or wall duct)
- Trunking required due to selection of lower cost fiber cable
- Requirement to pull the cable through the trunking (fiber damage)
- Time consuming and not very pleasing to the eye
- Customer not always approving of time inside the home

<< Time consuming, unsightly & potential fiber damage for each install >>

Lets take a look at the current solution - SPLICE

Fiber termination within the home and boundary box

- Highly trained splice engineer required at both ends (or same person)
- Expensive splice machine with high usage expectations
- Finite limit on number of available engineers and/or splice teams/equipment
- Highly time consuming and potentially excessive time within the home
- Potential for high losses on one or both end of the splice connection

<< Time consuming, high level of labour/skills & equipment for each install >>

Lets take a look at the Spliceless installation

Key points to a Spliceless installation

- Adoption of a ruggedised FTTH fiber optic cable
- Pre-terminated leads factory tested for high performance
- Hand held ready-made cables in pre-determined lengths
- Zipable microduct to transition outdoors to indoors
- Removal of all blowing and splicing equipment for EVERY installation
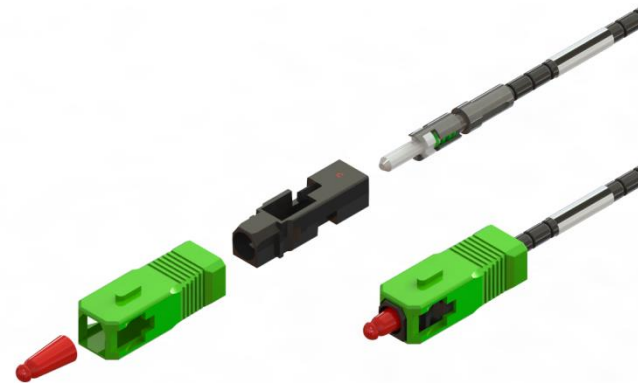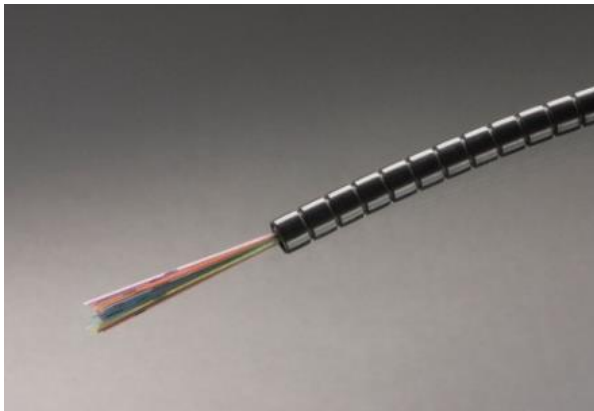
<< Improving the Ease, Speed and Quality of EVERY installation >>
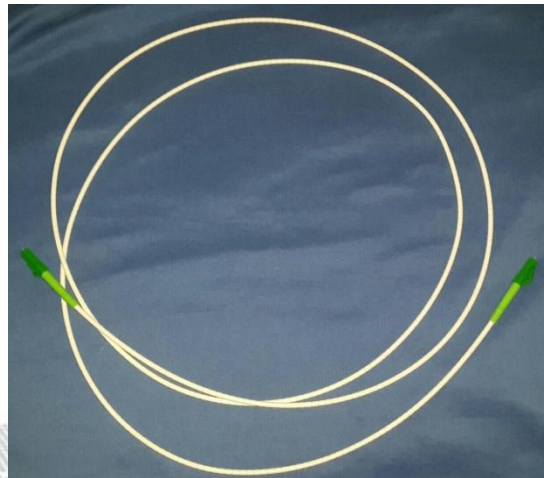
Lets take a look at the Spliceless installation

**FTTXFLEX** : Ruggedised FTTH designed fiber optic cable

- Small foot print 3mm dia cable
- Flexible design.
- Hard polymer plastic and UV protection
- Kink resistant and proven track record.
- Combined with Plug&Play Quikpush connectorisation

Lets take a look at the Spliceless installation

READY-MADE FTTH LEADS : Produced in India

- Supports SC Quikpush connectorisation
- High performance factory polishing and termination
- EVERY unit tested and issued serial number
- Made to measure as per customer requirements. Completely removes the requirement for splicing in the field

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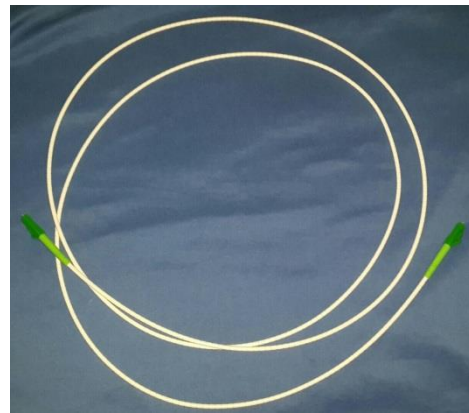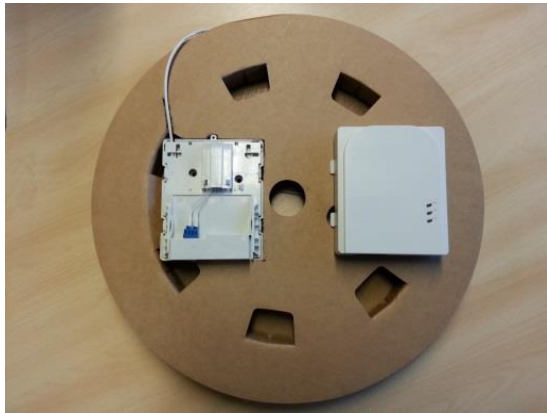
QuickPush Cable Assemblies

Pre-terminated FTTXflex cable

- SC connectors snap on after pushing through micro-duct or small openings
- No splicing or cleaving
- Lower cost than mechanical or SOC connectors
- Use with or without micro-duct
- Reels from 20FT-1000FT

Eliminates specialist installation equipment and skills

– Saves money

– Reduces installation risk

– Enables real world large scale installation
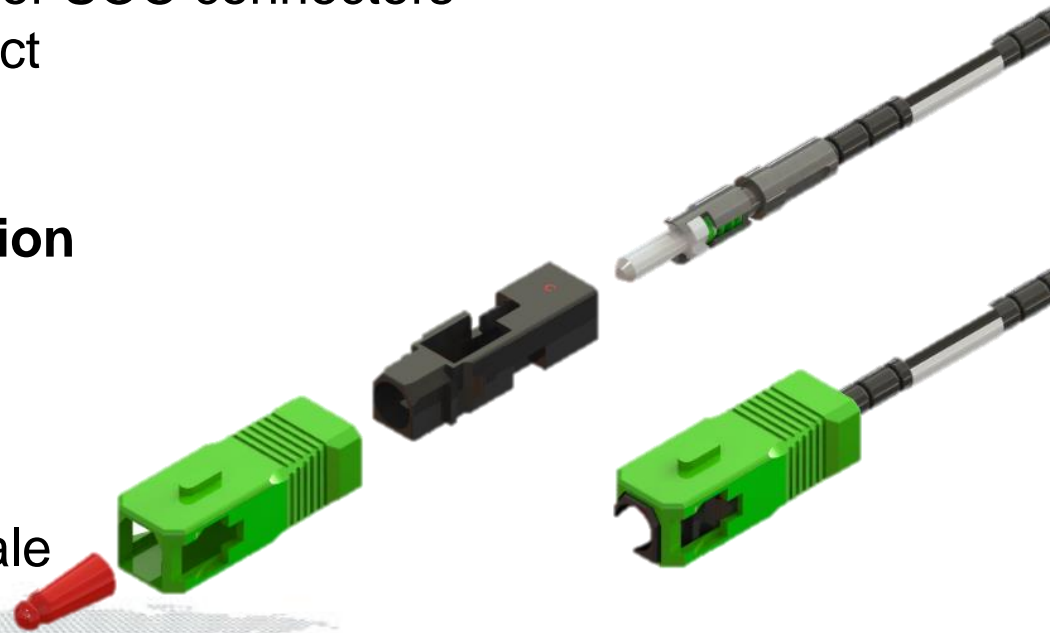
FTTXFlex : Pushable fiber optic cable Solution

FTTXFLEX   : De-skills the FTTH Last Drop installation

- Pushable fiber is the best option for the multiple short distance installations
- Step change in install techniques sees the removal of air blown equipment
- Pushable fiber can be extended up to 150m without any equipment
- No skilled labour or requirement to train/re-train existing installers
- Huge advantage as labour accounts for up to 80% of the FTTH cost
- Potential to remove in-field fusion splicing when combined with Quikpush Connector
- Up to 5 times quicker to install compared to air blown installs

Practical Application

How has using these products in the real-world improved the installation experience for the field technician, installation company and the customer

MDU Installation : The Problem

- **How to cost effectively bring the fibre into the building and into the apartment**

- **Considerations for ensuring:**
  - Professional cable management
  - Reduced equipment footprint
  - Timely installation

- **There is not always 100% customer uptake, so further consideration for managing:**
  - **Meet short term demand (PtP) <u>OR</u>**
  - **Provide for future customers (Splice)**

- **Finding the optimum solution when planning for a variety of In-Building designs is the challenge**
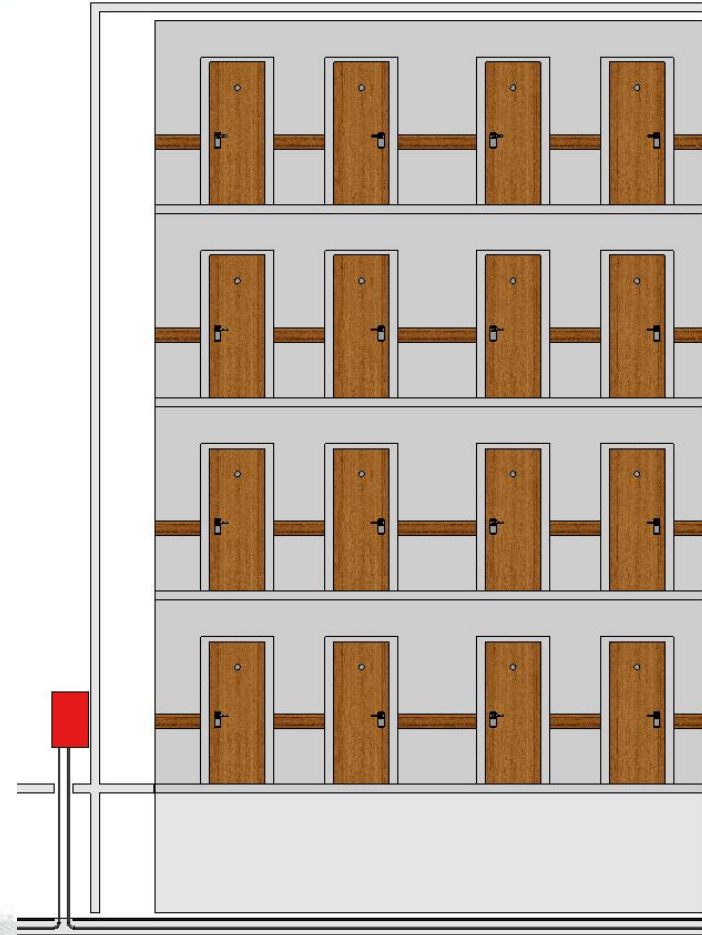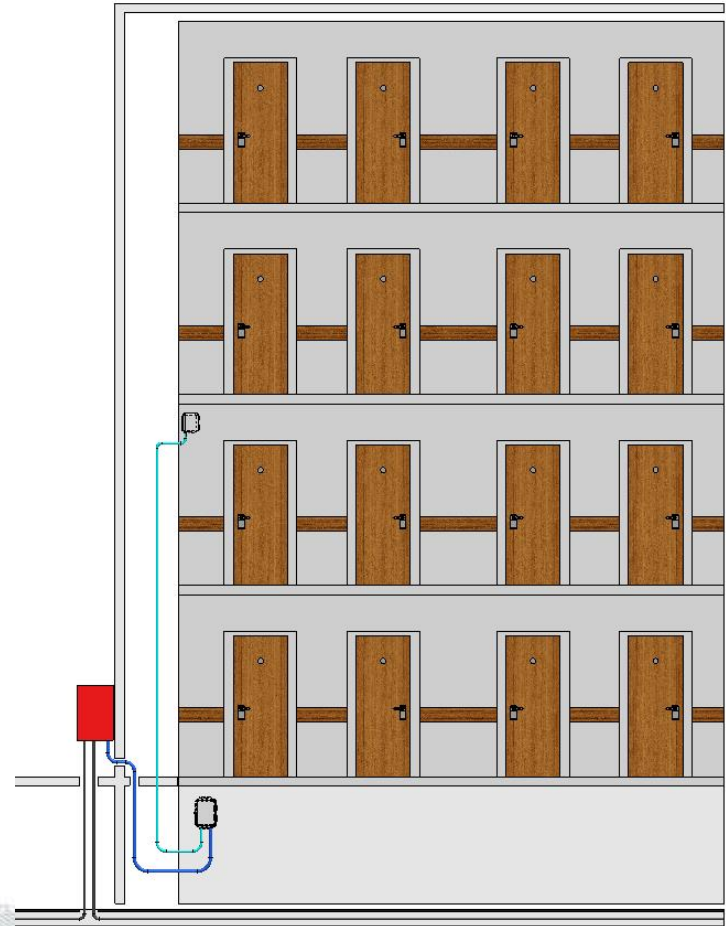
MDU Installation : Step 1

1. Connecting the ODB into the IDB/IDF located in the building
2. Breaking out with a Pre-Terminated Fttxflex Lead
3. Removing need to splice in the field with 'plug & play' solution
4. Brings the Point of Failure inside the building and away from damage
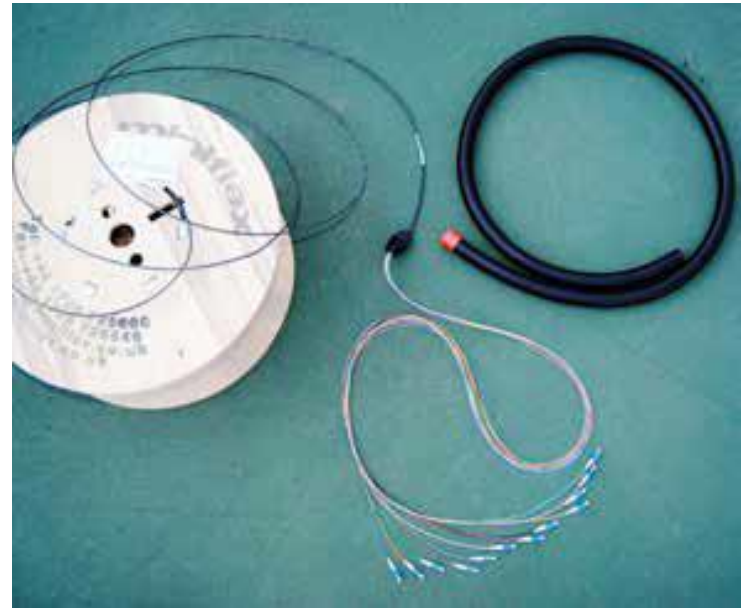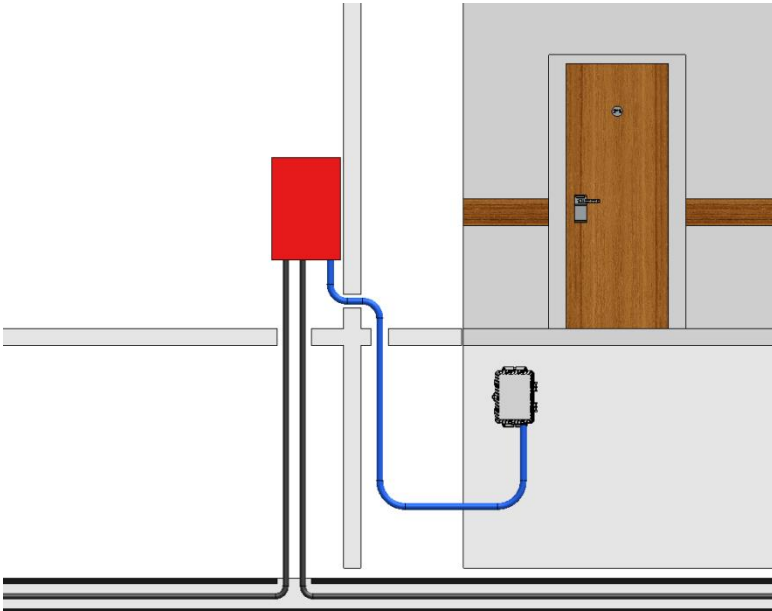
MDU Installation : Step 2

- Rather than using traditional PtP connection from the ODB to apartment
- Introduce Floor Level Box

1. Take the IDB to Floor Level box
2. 'Pushable' pre-connectorised Fttxflex from the IDB to the Floor Splice box
3. LSZH Riser Rated solution if needed

- Providing Plug & Play solution
- Future Proof and Scalable
- Speeds future connections by 5x
- De-skills installation requirement

MDU Installation : Step 3

- Pre-connectorised Fttxflex reel for 4-5x faster installation and removing all engineer skills during the installation process

1. Hand-push through existing conduits
2. Or install directly onto building without the need for additional conduits
3. Quikpush used inside apartment

- Providing Plug & Play solution
- Fast and unobtrusive inside apartment
- Speeds future connections by 5x
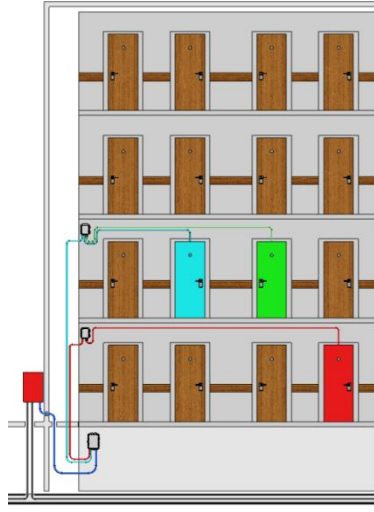- Deskills installation requirement
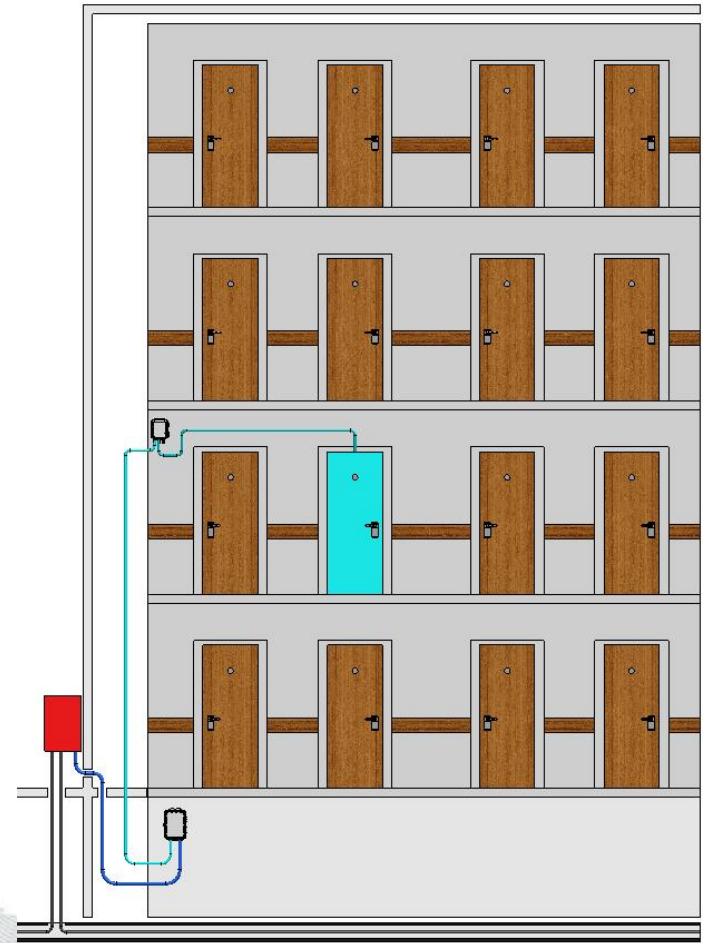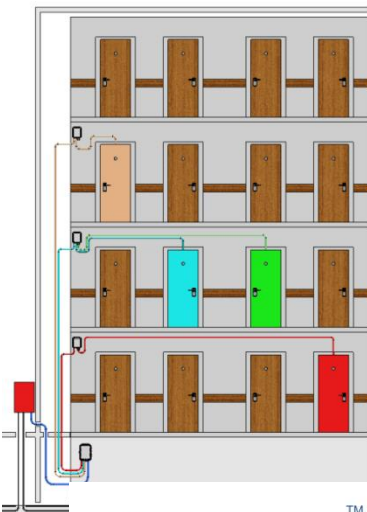
MDU Installation : Step 4
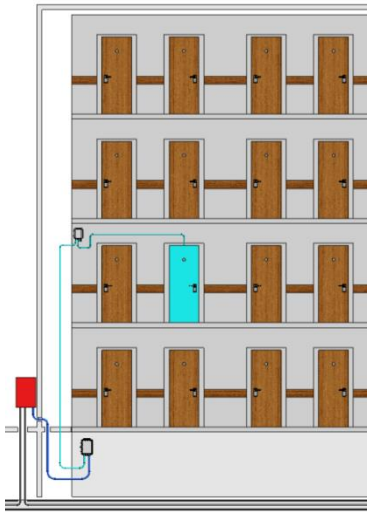
Phase 1

1st apartment on the ground floor installed

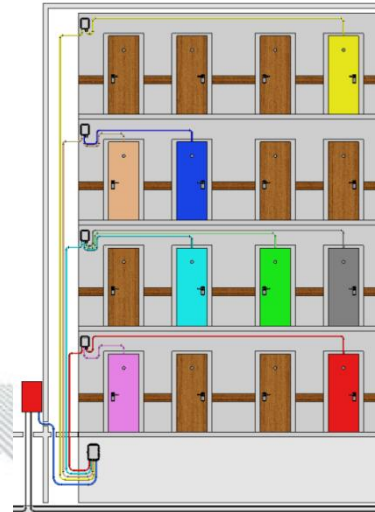Ready for future plug and play for new customers

Phase 2

2nd customer on the existing 1st floor now connected
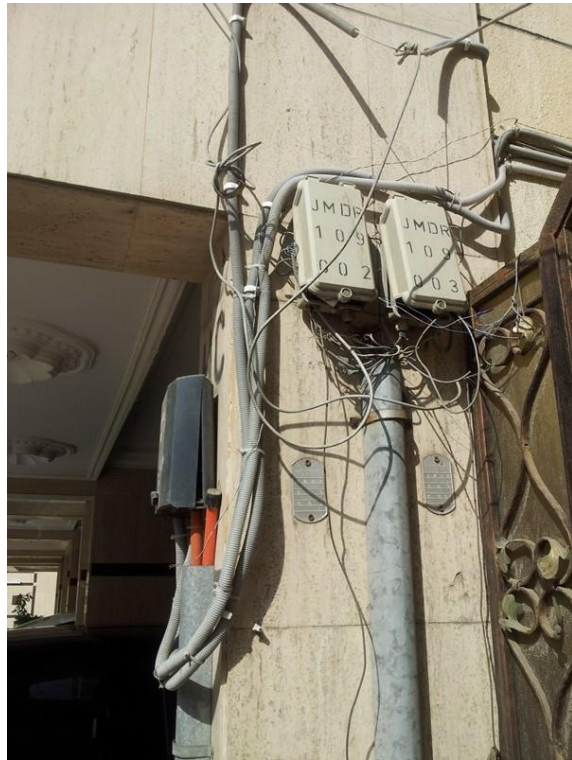
New customer on ground floor installed and future proofed

Phase 3

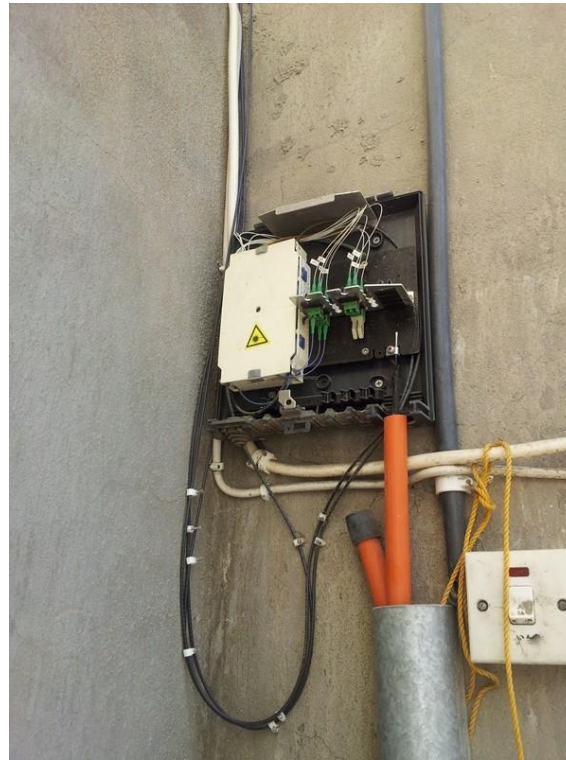2nd floor has a new customer and floor is ready for future plug & play new customers

Phase 4

Finally 3rd floor has new a customer and additional customers on the other floors
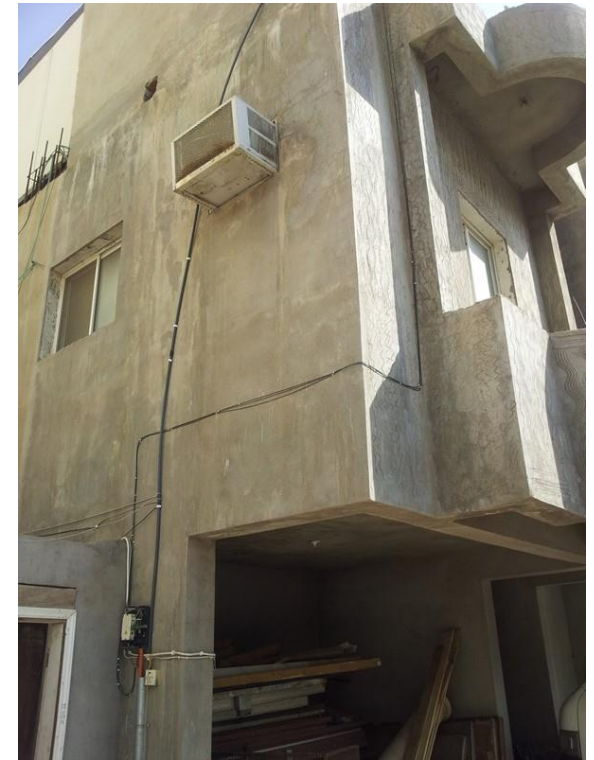
PDR™

Bicsi®

Step 1

- Remove the traditional low quality flexihose

- Fttxflex direct from the ODB without duct

Step 2

- Splice pigtail onto flex as standard

- Connect into the ODB with slack management

Step 3

- Fttxflex P-clipped to the exterior wall

- No requirement for external microduct

PDR™

Bicsi®

Step 4

- FttxFlex enters the customers building
- Tight bend performance & no internal duct

Step 5

- Splice to customer ATP
- No need to use additional pigtail
- Minimises the time inside the customers home
- Leaves a very professional installation

CONCLUSION

- Installation time less than proven less than 30 minutes when using Fttxflex
- Increases team productivity by 20-50%
- Increases contractor earning potential !!

THANK YOU

We kindly invite you to join us at the demonstration table where we can highlight some of the key points of discussion and discuss any technical and commercial questions you may have