FTTH Council Europe

Optimising Your Solutions for Fibre Deployment in Diverse and Challenging MDU Environments

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Webinar

- 30-40 minutes presentation
- 15-20 minutes Q&A

- Please write your questions in the question box of the webinar system
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- The slides will be available for download after the webinar
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- Slides and information about the availability will be sent to registered attendees by email

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Webinar

Moderator:

Rong Zhao

Chair Deployment &Operations Committee

FTTH Council Europe

Presenter:

Jose-Luis Gonzalez

CommScope

Patrick Faraj

Corning

Creating a brighter future

Optimising your solutions for fibre deployment in diverse and challenging MDU environments

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Speakers

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Current situation

Importance:

- + 50% European population lives in MDUs, in cities this is even +70%
- Broadband access is rapidly becoming a must-have utility

Complexity:

- Diversity of MDU Architectures
- Different local regulations
- No one size fits all solution

How to optimise your Total Cost of Ownership?

What is Total Cost of Ownership?

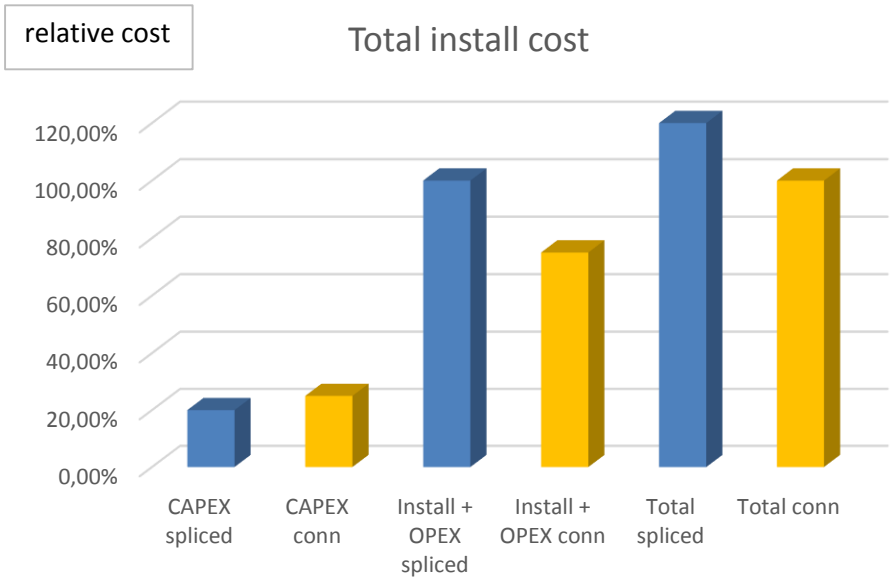
Main cost elements of TCO for fibre roll out in an MDU

- Material cost (CAPEX)
- Installation cost
- Maintenance cost (OPEX)

Parameters heavily influencing TCO

- Size of the MDU
- Type of chosen deployment architecture
- Take rate / business case
- Spliced vs connectorised techniques

Spliced or connectorised architectures?



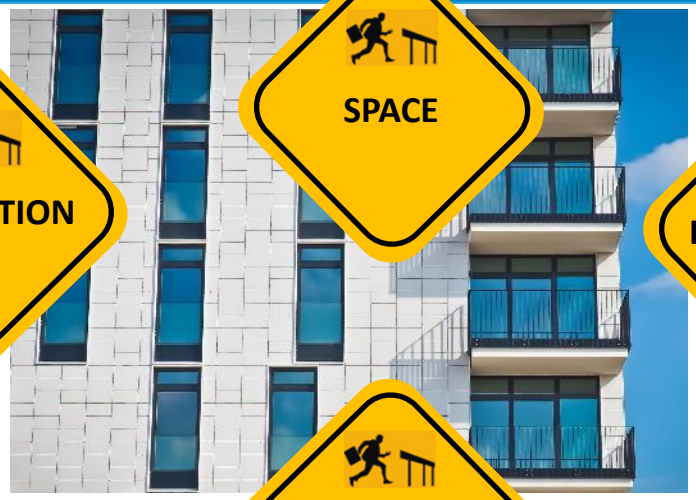
- Spliced architectures
  - Products typically cost less (lower CAPEX)
  - Need specialised splicing technicians
- Connectorised architectures
  - No need for scarce, costly skilled labour
  - Faster roll out and customer connection
  - Higher CAPEX, but lower install cost

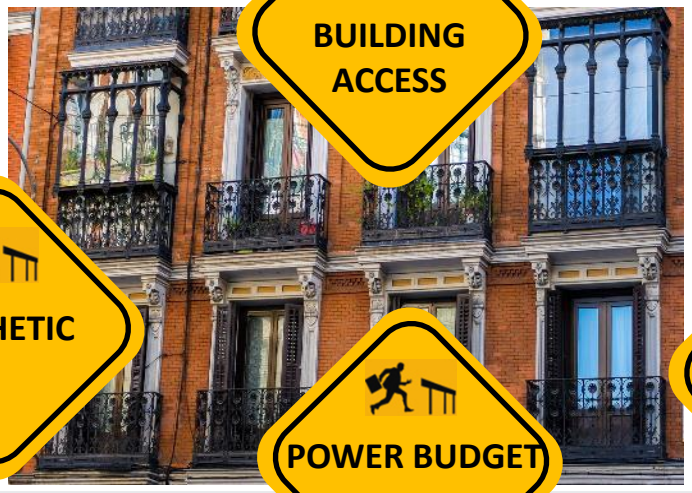
In this example, TCO for connectorised applications is substantially lower

Factors that have influenced MDU topologies over the past years

- Typically, spliced topologies are soon discarded:
  - Higher installation cost
  - Lack of testing / demarcation points
  - Often poor cable management
- STAR or RISER topologies:
  - Star topologies were valid for small MDUs but for medium-high rise provoque very easily congestion in risers
  - Riser cable topologies were soon adopted in médium-high rise building
- SPLICED or CONNECTORISED floor elements:
  - Spliced floor boxes are often cheaper in material, but typically more expensive in installation and more complex/risky to deploy
- PRECONNECTORISED drops:
  - Despite the extra cost in material, it typically has benefits in installation costs and robustness

MDU Challenge: Old vs New, High vs Small





CHALLENGES AHEAD

SPACE

REGULATION

DEPLOYMENT SPEED

RIGHT of WAY

BUILDING ACCESS

SKILLED LABOUR

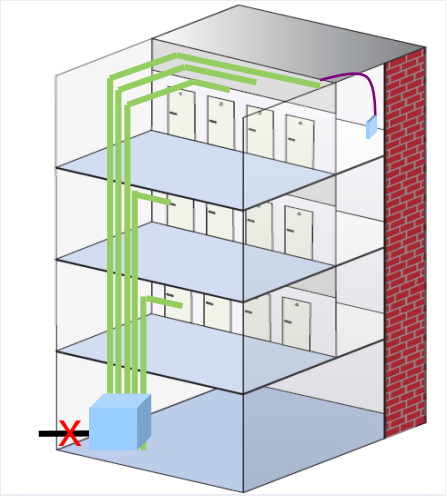
AESTHETIC

TEST POINTS

POWER BUDGET

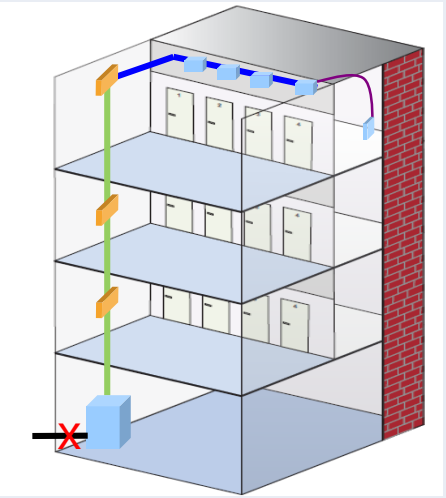
Typical MDU Architectures

Direct Drop



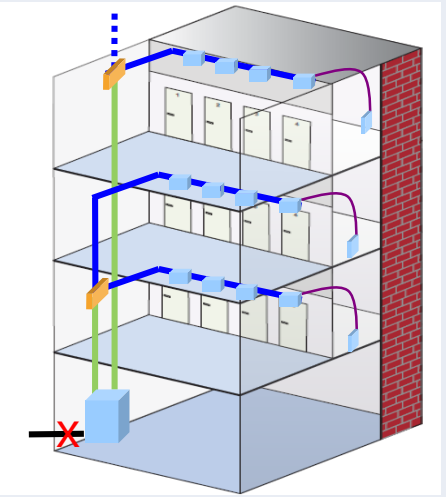
- **Small MDUs**
- Sometimes called HomeRun
- Low initial cost
- Constraints with pathway space for all the drops
- May be spliced or pre-con

Riser



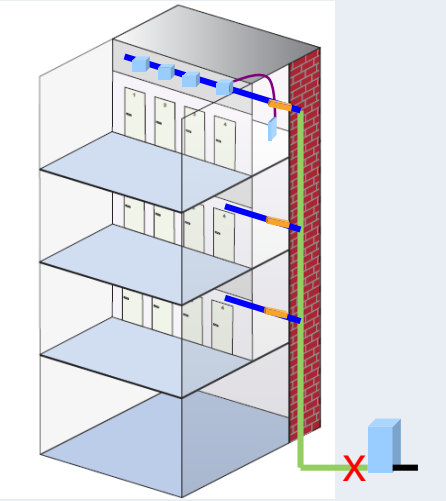
- **Medium-Large MDUs**
- Typically needs a riser shaft inside the building
- May be spliced (midspan) or pre-con
- One terminal per floor
- Multitude of test points available (pre-con case)

Multi-Riser



- **Large-High Rise MDUs**
- Sometimes called “Satellite Architecture”
- May be spliced or fully pre-con
- One floor terminal serving multiple floors

Outdoor



- **Small to Medium MDUs**
- Typically façade installation
- May be spliced or fully outdoor pre-con
- Can solve cable pathway challenge

Right Solution for Your MDU Environment

Key Decision Factors

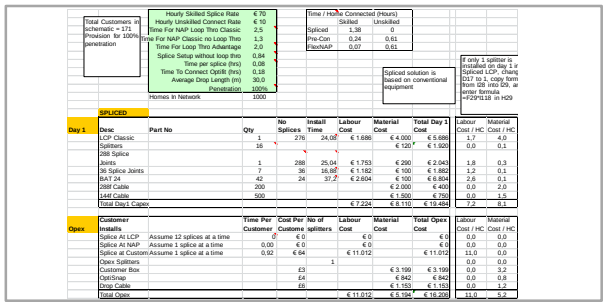
- Greenfield vs. Brownfield
- Building type
- Nb of floors
- Nb of living units/floor
- Take rates
- Contractor cost
- Splice cost
- Labour skill level
- Material cost
- Drop lengths
- Single vs. multi-riser cables
- Installation time
- Centralised/distributed splitter

Tool Applications

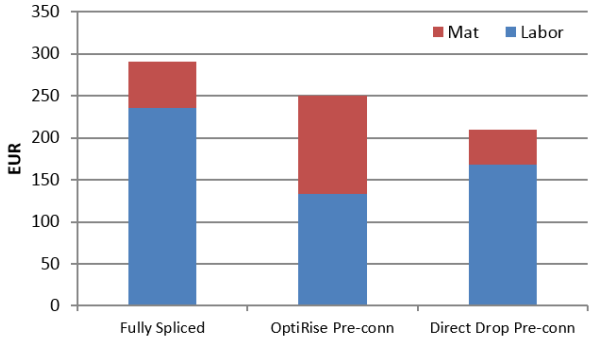
- Modelling
- Optimisation
- Cost Relationships
- Design Decisions
- Solution Decisions

MDU Cost-Modelling Tool

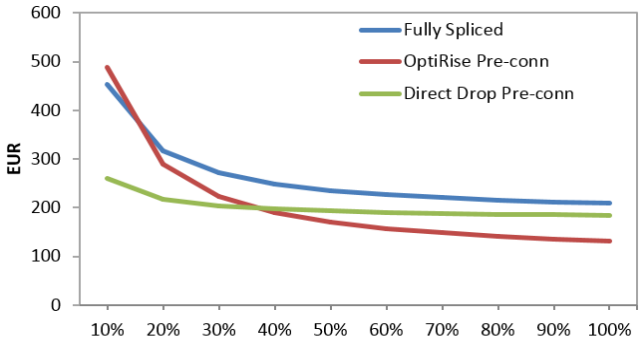
EXCEL-Based Modelling Tool



TCO per Customer Connected (25% take rate)



TCO/customer versus take rate

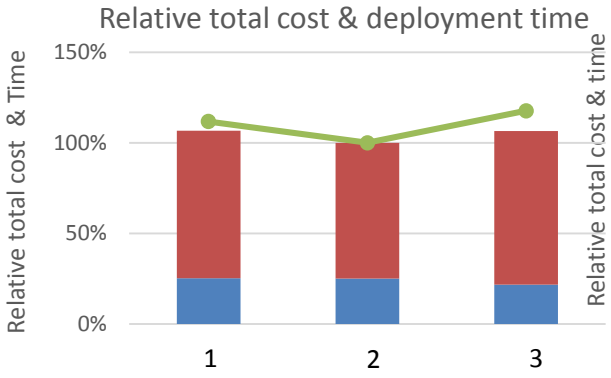


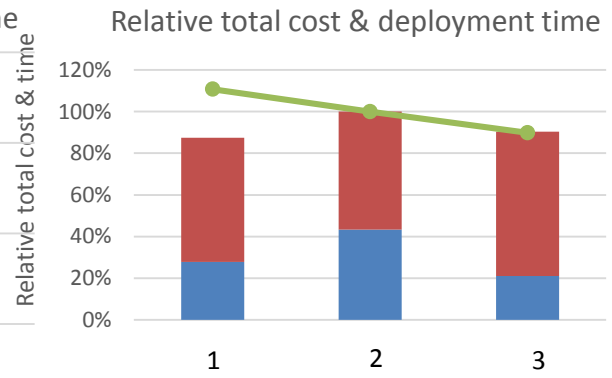
Impact of MDU size on TCO

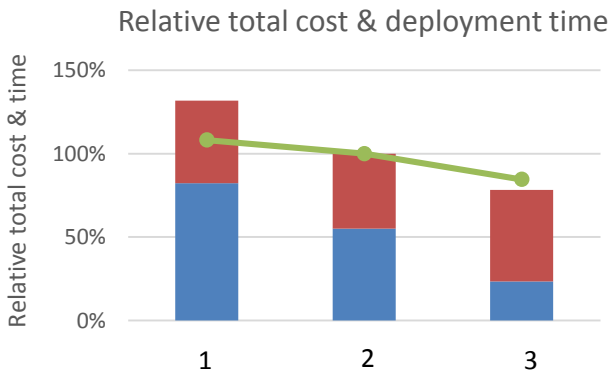
Low rise
8 units

Medium rise
40 units

High rise
120 units







Architectures

1. Mid-size span access with floor box on each floor, HC defined as drop and outlet
2. Direct drop to each apartment
3. Pre-connectorised riser cable

Relative labour cost per MDU
Relative material cost
Relative time per MDU

Solutions that help minimise TCO

Horizontal

Riser

Building Access

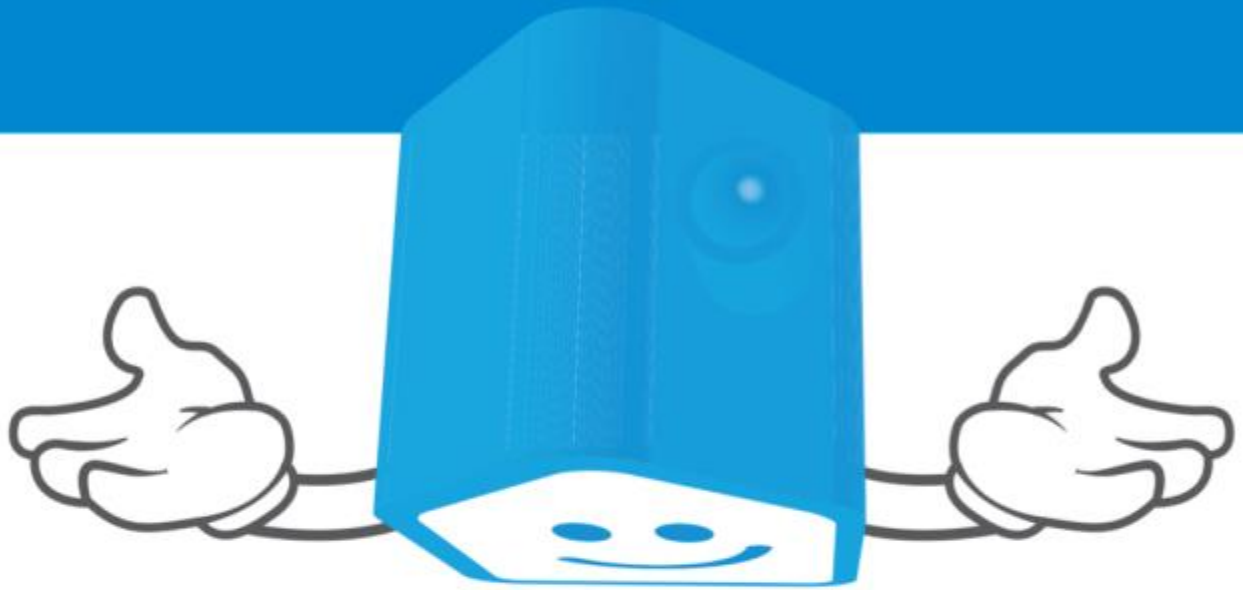
Conclusion

How to optimise your TCO?

- Knowledge of different cost elements and inter-dependencies
- Make use of different modelling techniques in order to identify what is best for your network in terms of design and solution choices
- Select best available solution / architecture depending on specific situation
  - Size and type of MDU
  - Availability (and cost) of skilled resources
  - Required speed of roll-out
  - Consider initial CAPEX, but also installation & OPEX costs

  For more information, download the complete white paper:
  http://www.ftthcouncil.eu/documents/Publications/DO_White%20paper_2016_Optimising%20Fibre%20Installation%20Inside%20the%20MDU.pdf

QUESTIONS?



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