

Aerial Optical Fiber Access Network



Aerial Fiber to the X network

About this DOC :

Proposal of ABADIS DYNAMIC TECHNOLOGY

On 9 August 2024

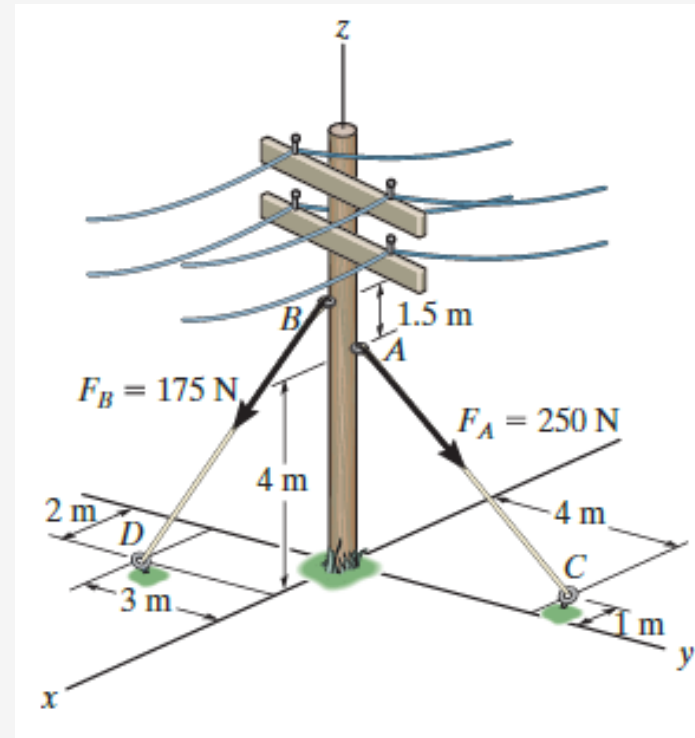
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Comparison of Aerial Optical Fiber Cable Networks and Aerial Microduct Networks

- **List of Technical Parameter Differences Between Aerial Cable Networks and Aerial Microduct Networks:**
 - 1. Due to mechanical constraints of utility and streetlight poles in Iran, the number of aerial optical fiber cables that can be installed on these structures is typically limited to two.
 - 2. The inability to effectively manage the installation of multiple cables along a single route, combined with the high long-term costs of maintenance and fault detection, is further exacerbated by cable congestion.
 - 3. The use of aerial cabling limits the potential for future infrastructure expansion to accommodate emerging capacity demands.
 - 4. Deploying multiple cables along a single route results in a several-fold increase in network implementation costs.
 - 5. In some areas, branching from existing routes is either prohibitively expensive or technically unfeasible.
 - 6. Due to the limitations of ADSS cables, branching at high numbers and short spatial intervals is not feasible.
 - 7. Repairing faults involves high costs and extended timeframes.
 - 8. The requirement to maintain fiber optic cable continuity when crossing aerial obstacles results in low installation speed and high costs.
 - 9. Lower mechanical strength and durability of the cable compared to micro-duct systems.

Comparison of Aerial Optical Fiber Cable Networks and Aerial Microduct Networks

- Due to mechanical constraints of utility and streetlight poles, the number of aerial optical fiber cables that can be installed on these structures is typically limited.



Comparison of Aerial Optical Fiber Cable Networks and Aerial Microduct Networks

- The use of aerial microducts eliminates the need for multiple cable installations, requiring only a single micro-duct along the intended path.



Comparison of Aerial Optical Fiber Cable Networks and Aerial Microduct Networks

- The inability to effectively manage the installation of multiple cables along a single route, combined with the high long-term costs of maintenance and fault detection, is further exacerbated by cable congestion.



Comparison of Aerial Optical Fiber Cable Networks and Aerial Microduct Networks

- With the use of aerial microducts, the management and control of network installation, maintenance, and fault detection becomes significantly easier , faster and cheaper.



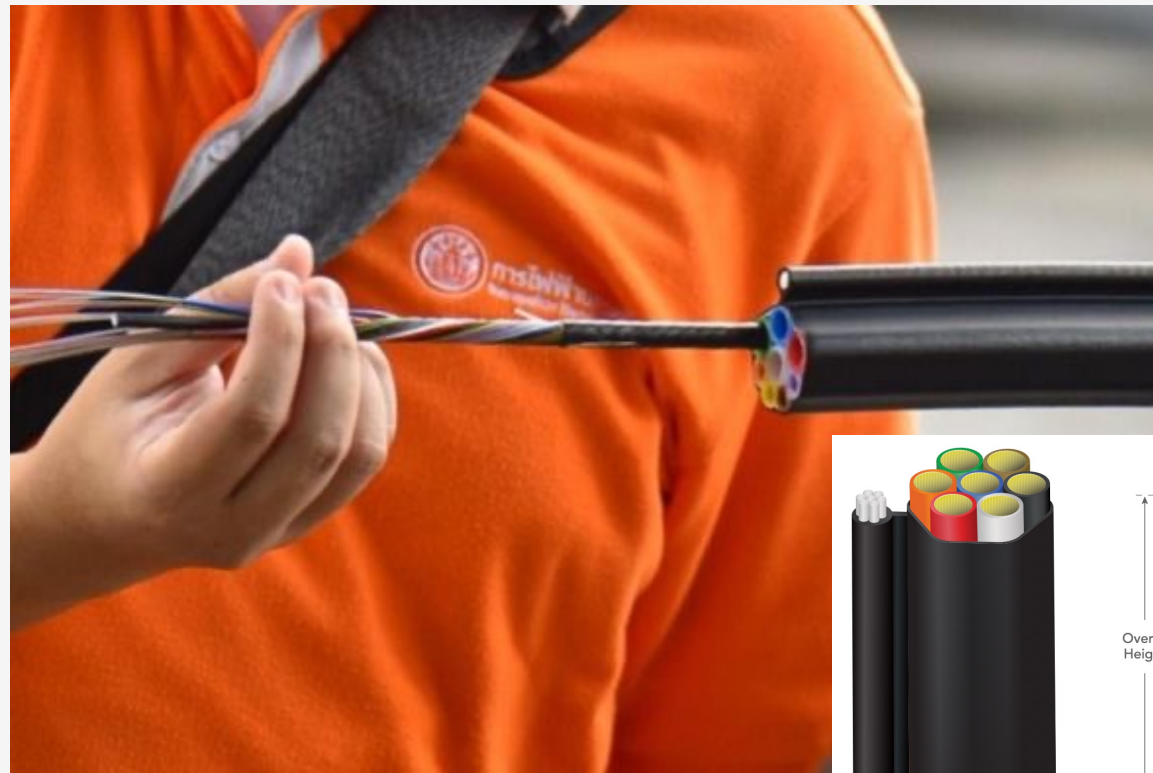
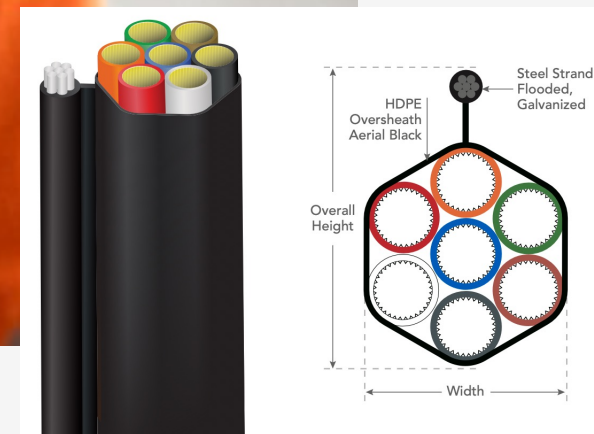
Comparison of Aerial Optical Fiber Cable Networks and Aerial Microduct Networks

- The use of aerial cabling limits the potential for future infrastructure expansion to accommodate emerging capacity demands.



Comparison of Aerial Optical Fiber Cable Networks and Aerial Microduct Networks

- The use of aerial microducts enables network expansion at a significantly lower cost, with much greater speed and ease.



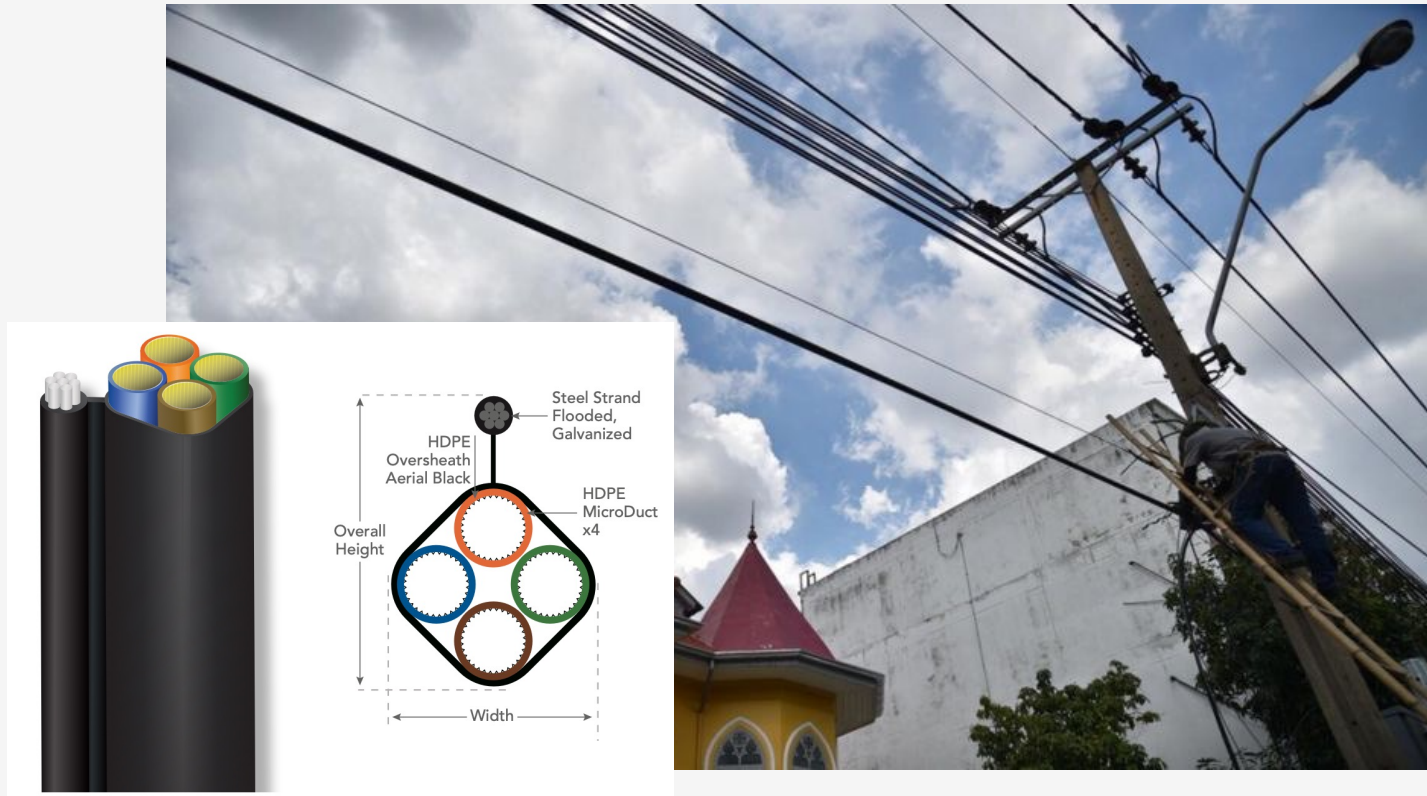
Comparison of Aerial Optical Fiber Cable Networks and Aerial Microduct Networks

- Deploying multiple cables along a single route results in a several-fold increase in network implementation costs .



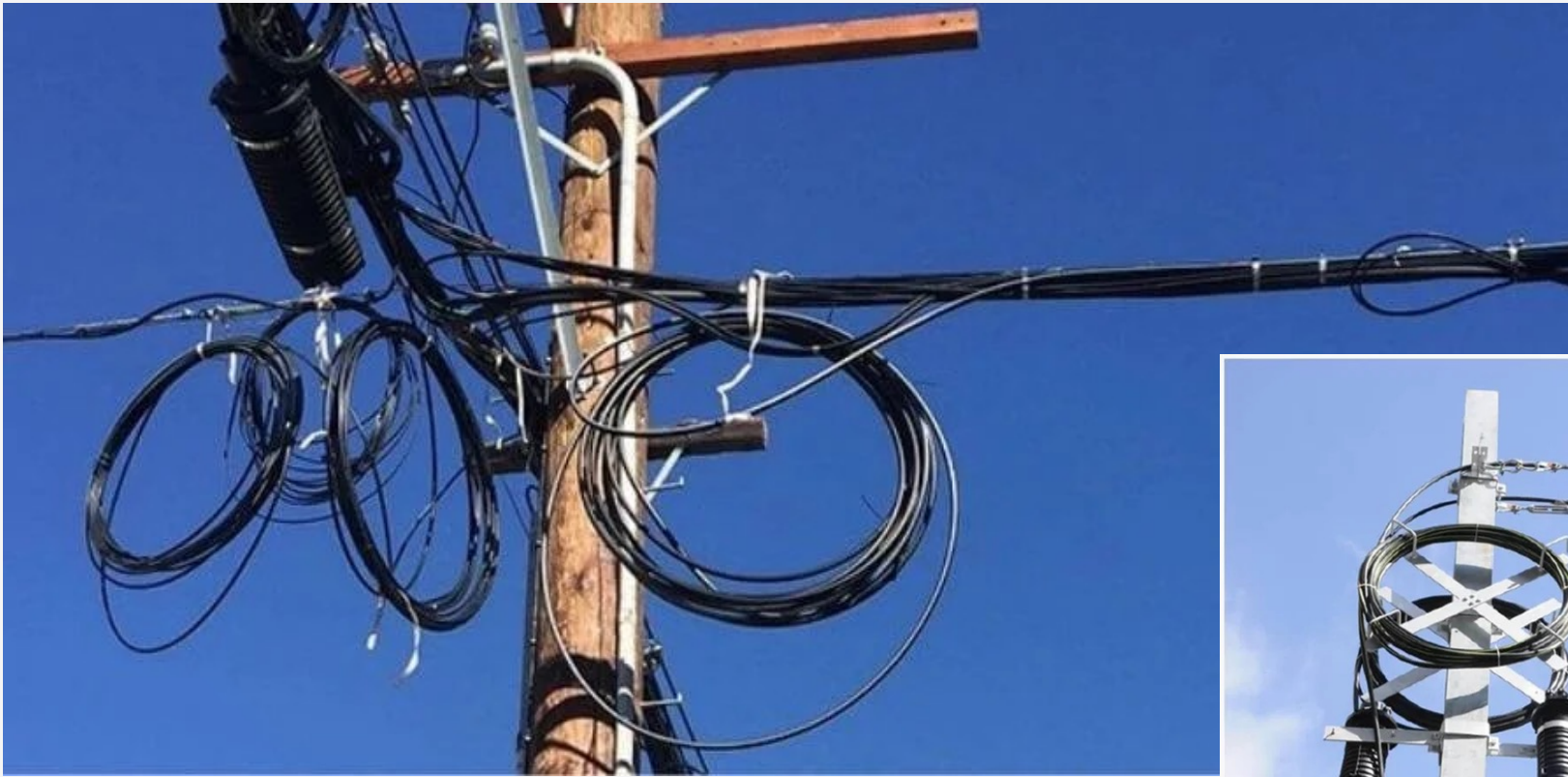
Comparison of Aerial Optical Fiber Cable Networks and Aerial Microduct Networks

- With the use of aerial microducts, only a single micro-duct is installed along each route, eliminating the need for re-cabling and the associated costs for different paths and independent cables.



Comparison of Aerial Optical Fiber Cable Networks and Aerial Microduct Networks

- In some areas, branching from existing routes is either prohibitively expensive or technically unfeasible.



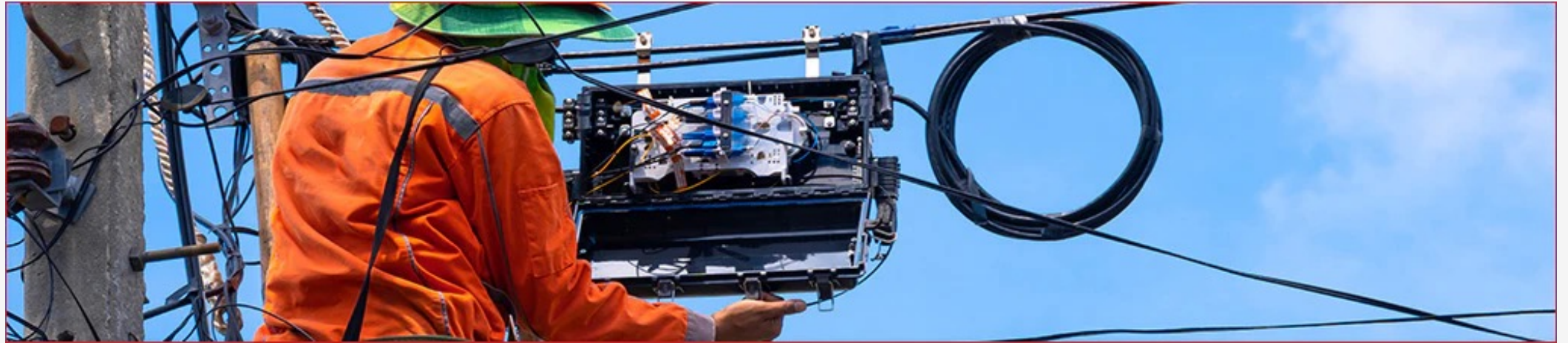
Comparison of Aerial Optical Fiber Cable Networks and Aerial Microduct Networks

- With the use of aerial microducts, new branches can be created at any point along the route with minimal cost.



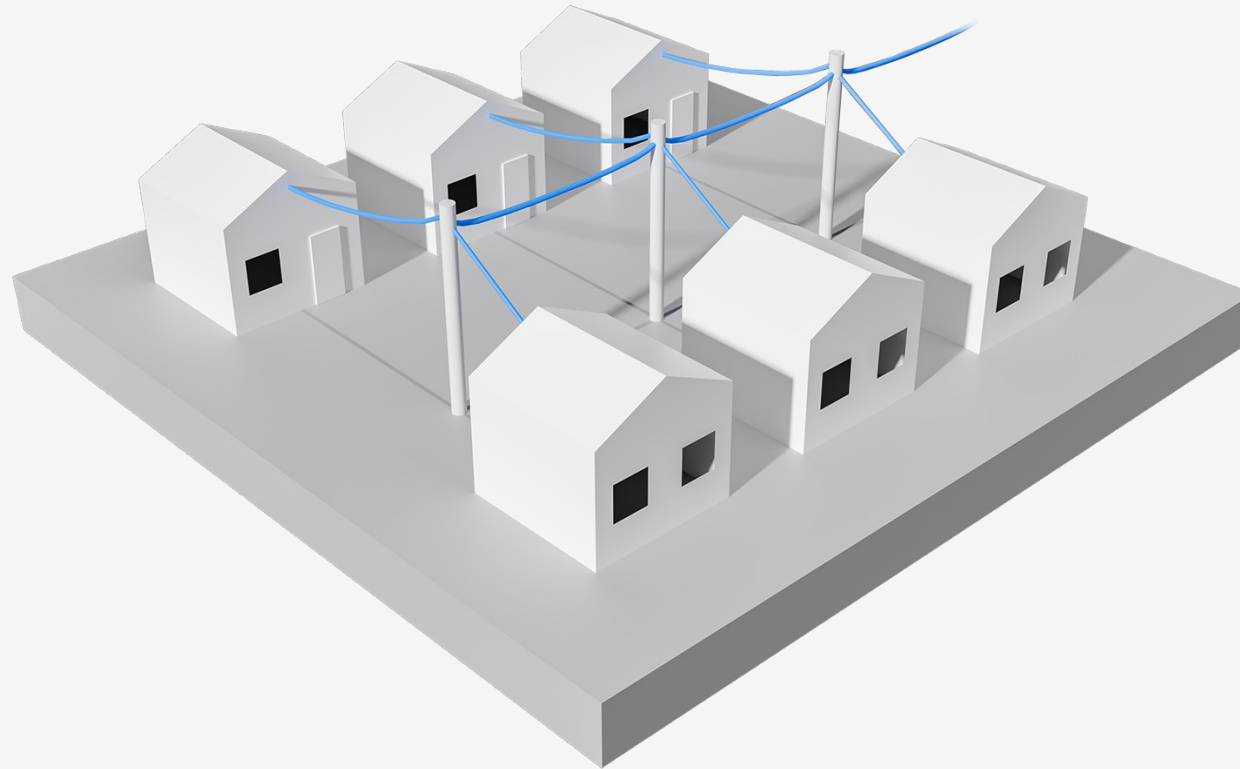
Comparison of Aerial Optical Fiber Cable Networks and Aerial Microduct Networks

- The limitations of ADSS cables prevent high numbers of branches and short spatial intervals, as a single high-capacity cable is used instead of multiple lower-capacity cables



Comparison of Aerial Optical Fiber Cable Networks and Aerial Microduct Networks

- The use of aerial microducts allows for the creation of more branches along the route, covering a greater number of points..



Comparison of Aerial Optical Fiber Cable Networks and Aerial Microduct Networks

- Repairing failures in the aerial cable network requires high costs and a long time.



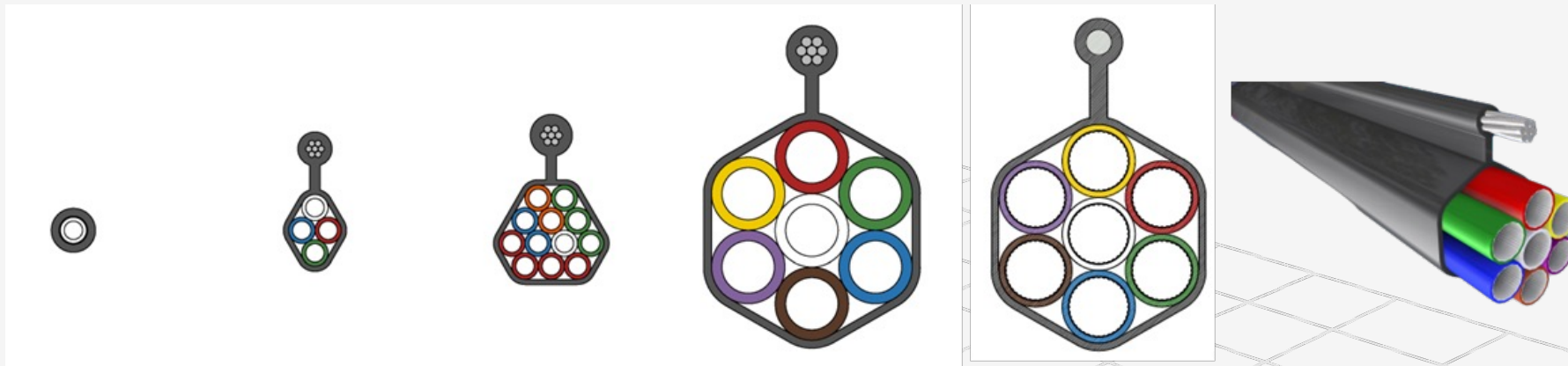
Comparison of Aerial Optical Fiber Cable Networks and Aerial Microduct Networks

- The use of aerial microducts enables much faster and more cost-effective network repairs, while allowing for the easy replacement of all existing micro cables along the route



Aerial Microduct Specifications

- 1 Ability to withstand environmental forces induced by snow and wind
- 2 Resistance to the effects of UV radiation
- 3 Ability to withstand 40 bar air pressure during cable blowing
- 4 Resistance to the effects of electric fields generated by power transmission lines
- 5 The very low weight and minimal cross-sectional area of the microducts reduce the force exerted on power and lighting transmission poles



Advantages of the Proposed Design

1 Operational Experience in Thailand:



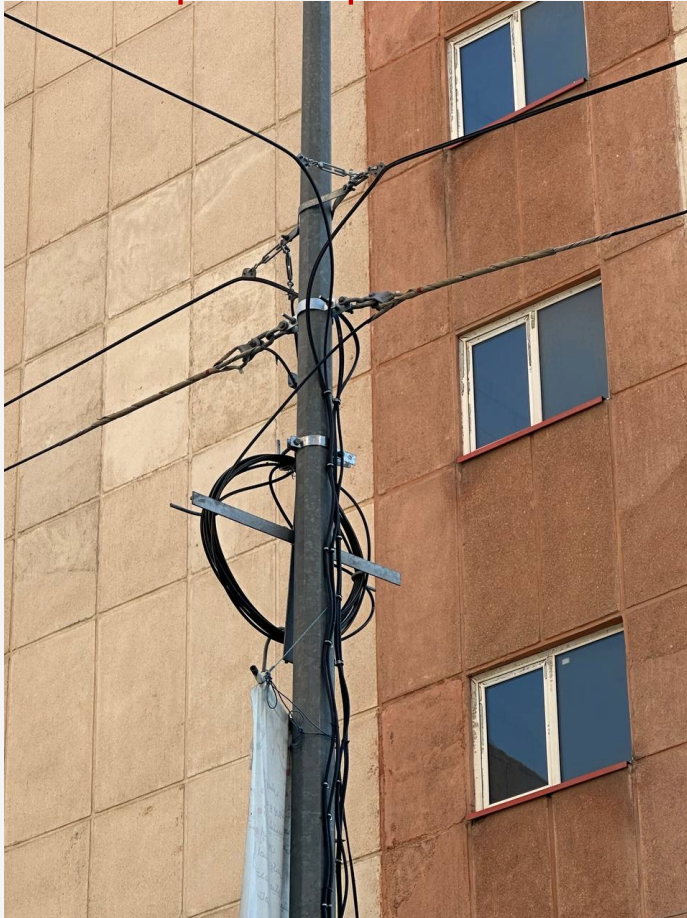
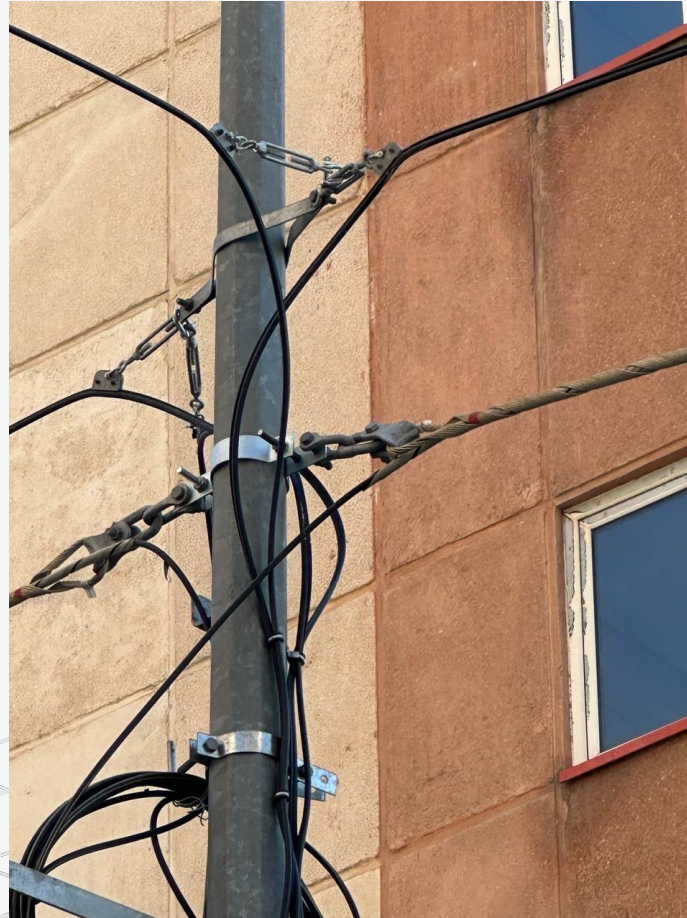
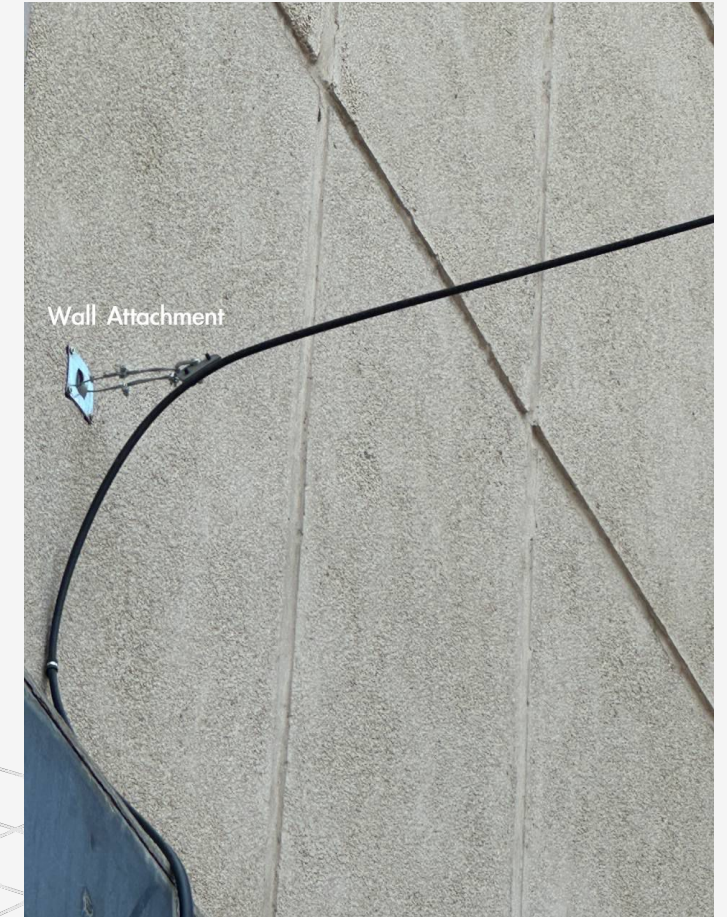
Advantages of the Proposed Design

- 1 Significantly greater network capacity and coverage capability
- 2 Lower implementation cost
- 3 Reduced implementation time
- 4 Lower maintenance costs and faster fault recovery
- 5 High ease of scalability.
- 6 Capability to meet all requirements of Tavanir and the network operator



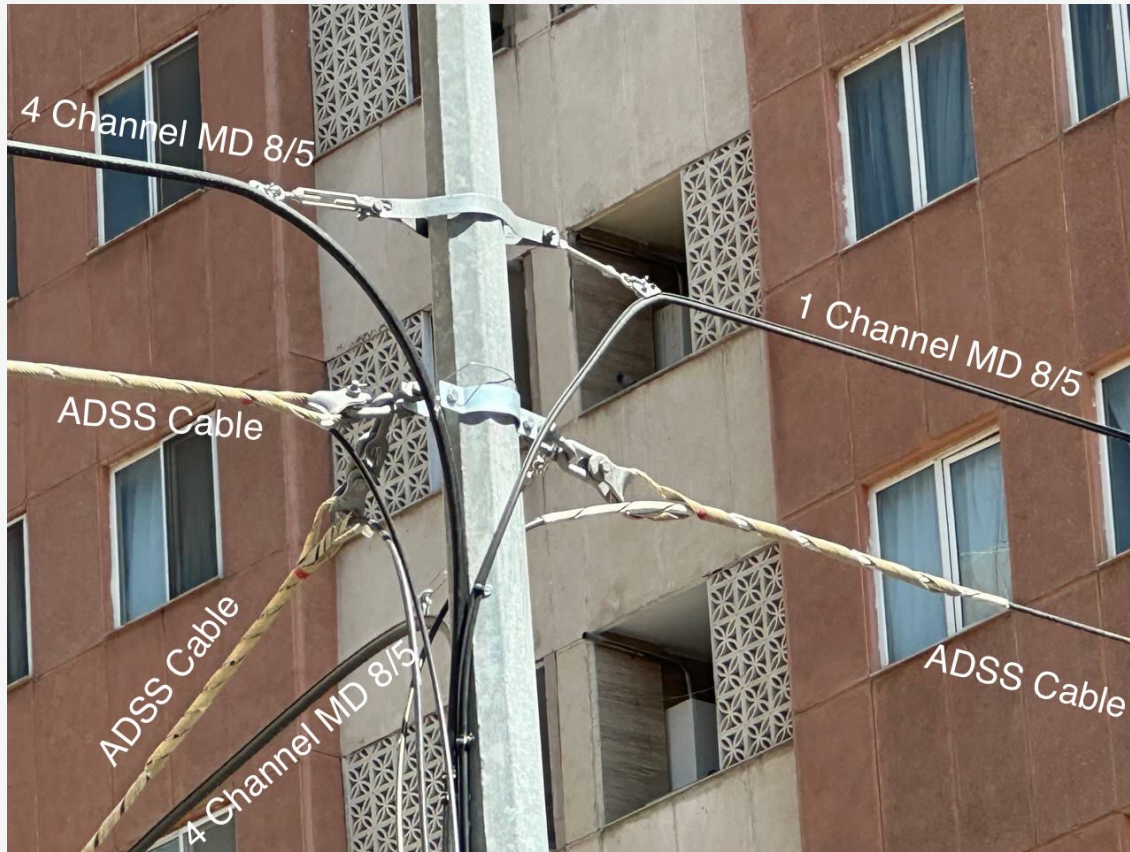
Aerial Microduct of MTN Project In IRAN

- Aerial micro-duct with high flexibility and simpler connections than aerial cable enables complex implementations in FTTH networks.



Aerial Microduct of MTN Project In IRAN

- The appearance of the network created by aerial micro-duct is no different from ADSS cable networks.



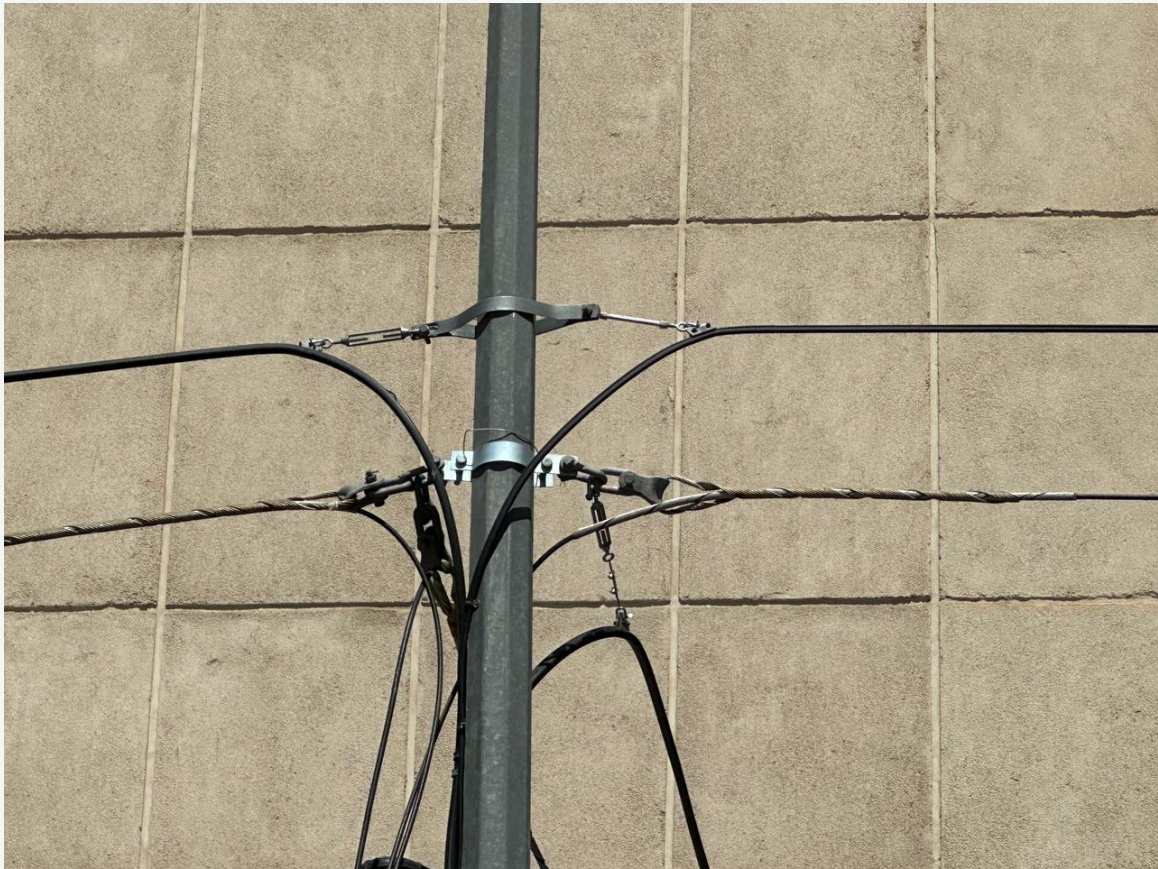
Aerial Microduct of MTN Project In IRAN

- Smaller and simpler tools and equipment are used when implementing an air microduct network.



Aerial Microduct of MTN Project In IRAN

- The appearance of the network created by aerial micro-duct is no different from ADSS cable networks.



Aerial Microduct of MTN Project In IRAN

- Air micro-duct network connections are much easier and more convenient to install on power and lighting transmission beams.



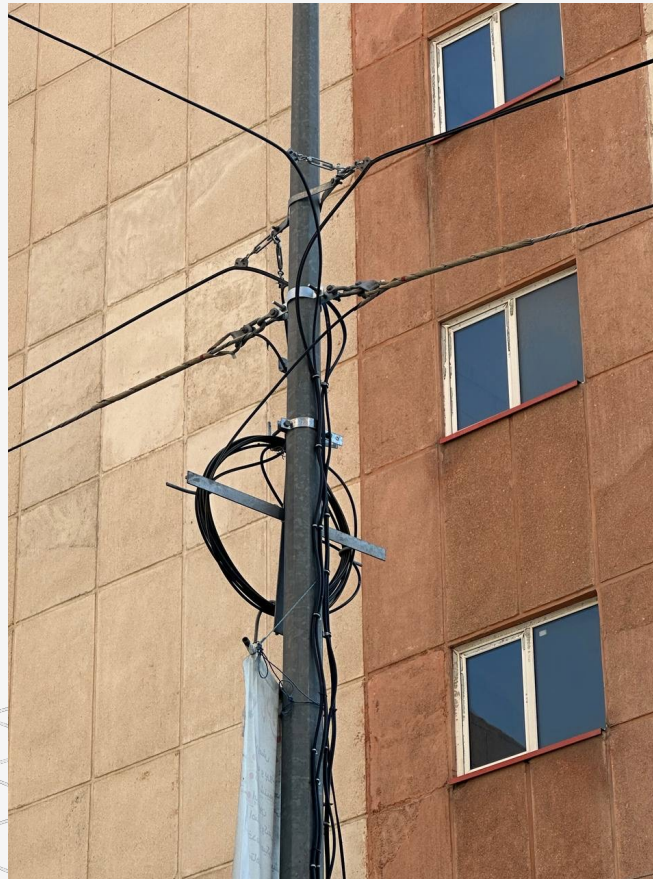
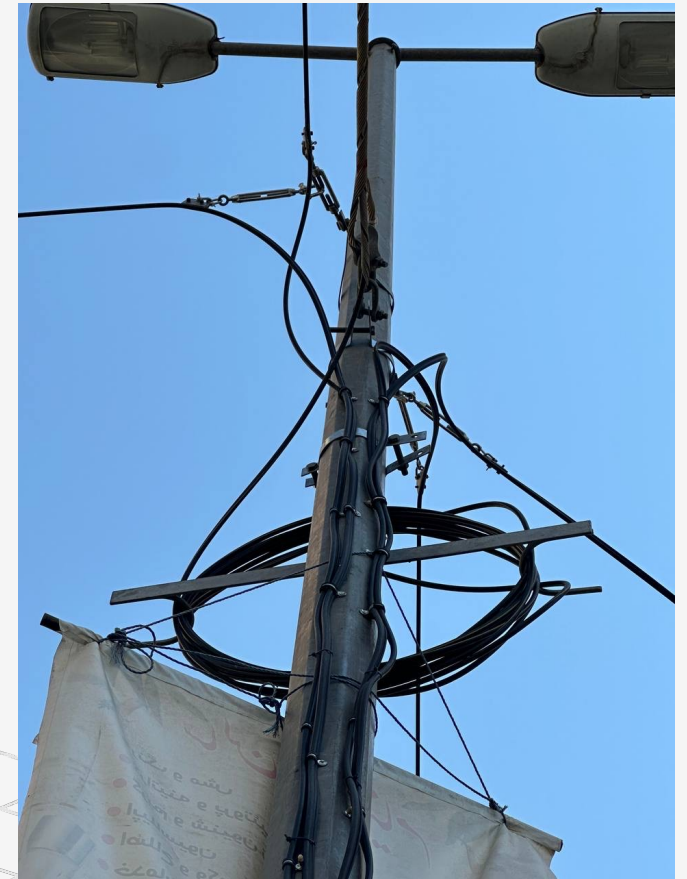
Aerial Microduct of MTN Project In IRAN

- The network created by aerial micro-duct easily allows for branching.



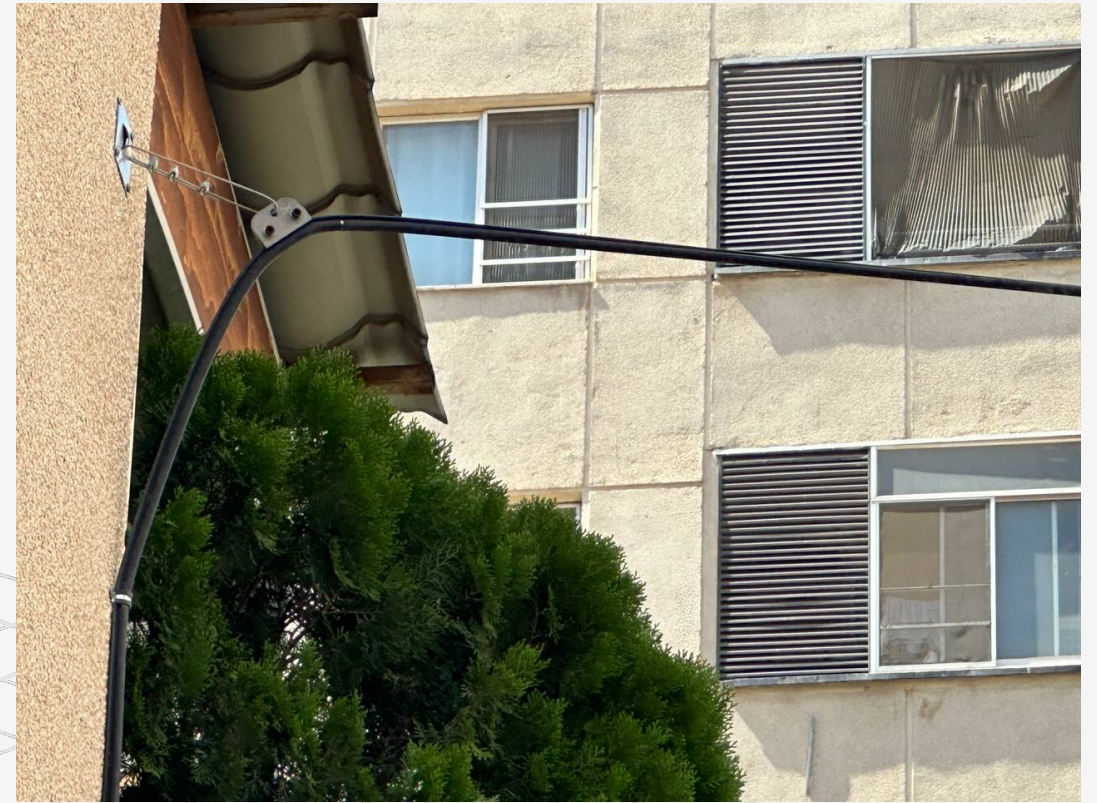
Aerial Microduct of MTN Project In IRAN

- In the aerial micro-duct network, there is no need for an outdoors bulky support cable loop install



Aerial Microduct of MTN Project In IRAN

- The possibility of connecting to the aerial micro-duct network when branching into buildings is easily possible by observing the appropriate height.



Aerial Microduct of MTN Project In IRAN

- The possibility of connecting to lighting and power transmission beams and any other type of beam for aerial micro-ducts is provided easily and with minimal facilities.



Aerial Microduct of MTN Project In IRAN

- The network created by the aerial micro-duct is a neat looking network that does not clutter up urban furniture.



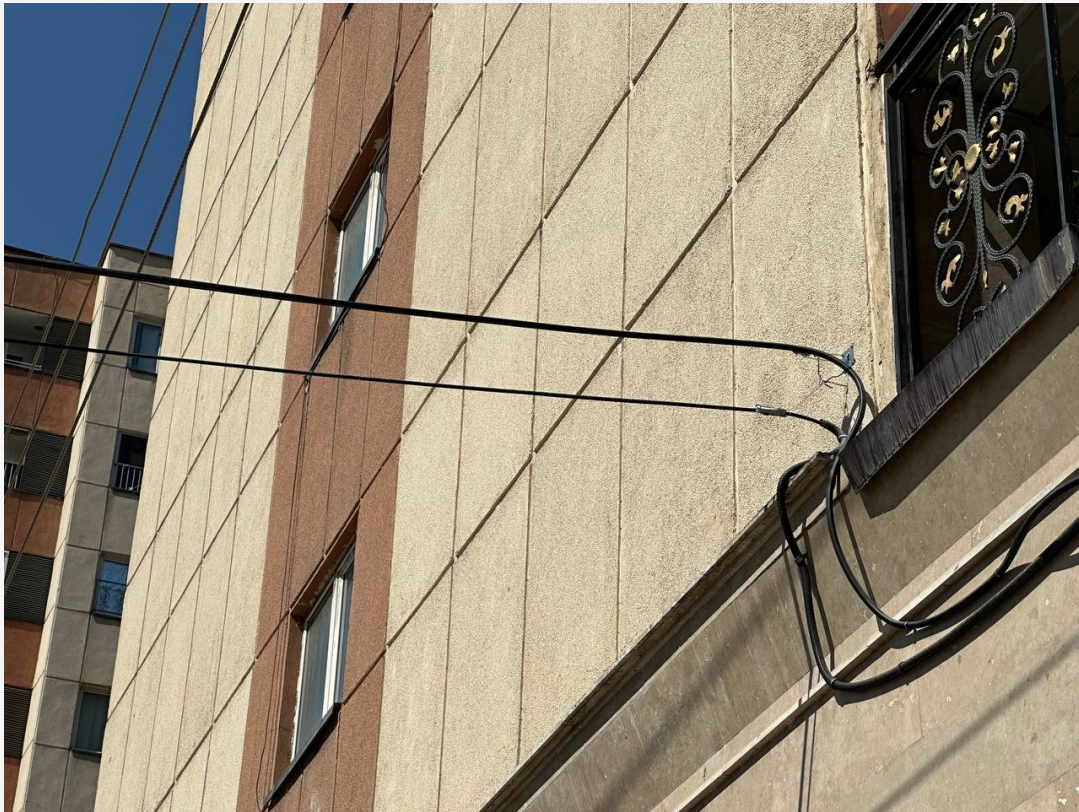
Aerial Microduct of MTN Project In IRAN

- Branching is easy at any point in the network.



Aerial Microduct of MTN Project In IRAN

- Super aerial micro-duct with 4 to 7 times the capacity has the same appearance as aerial cables



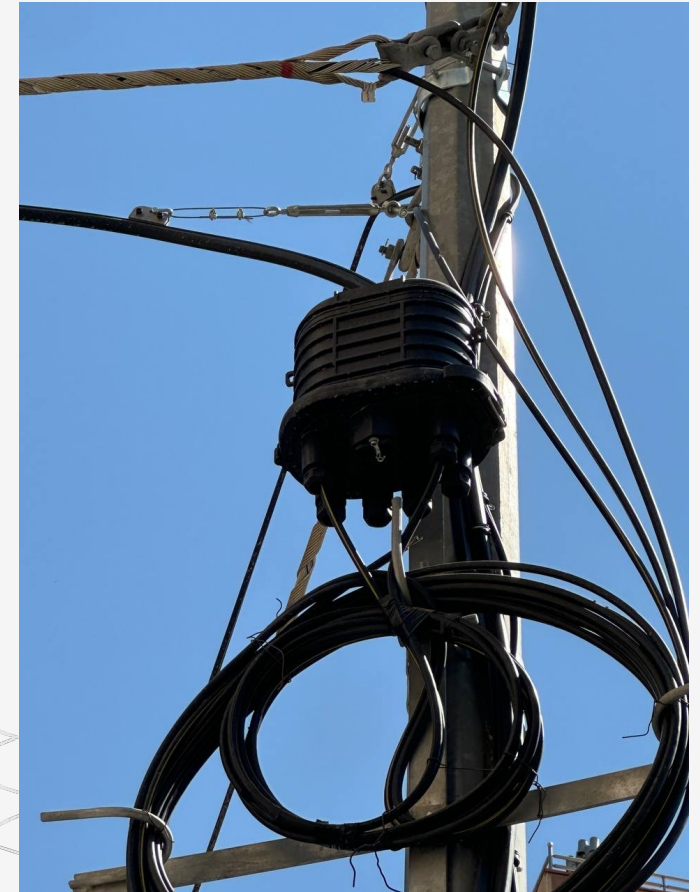
Aerial Microduct of MTN Project In IRAN

- There is no need to use a backup cable loop when branching from the aerial micro-duct network.



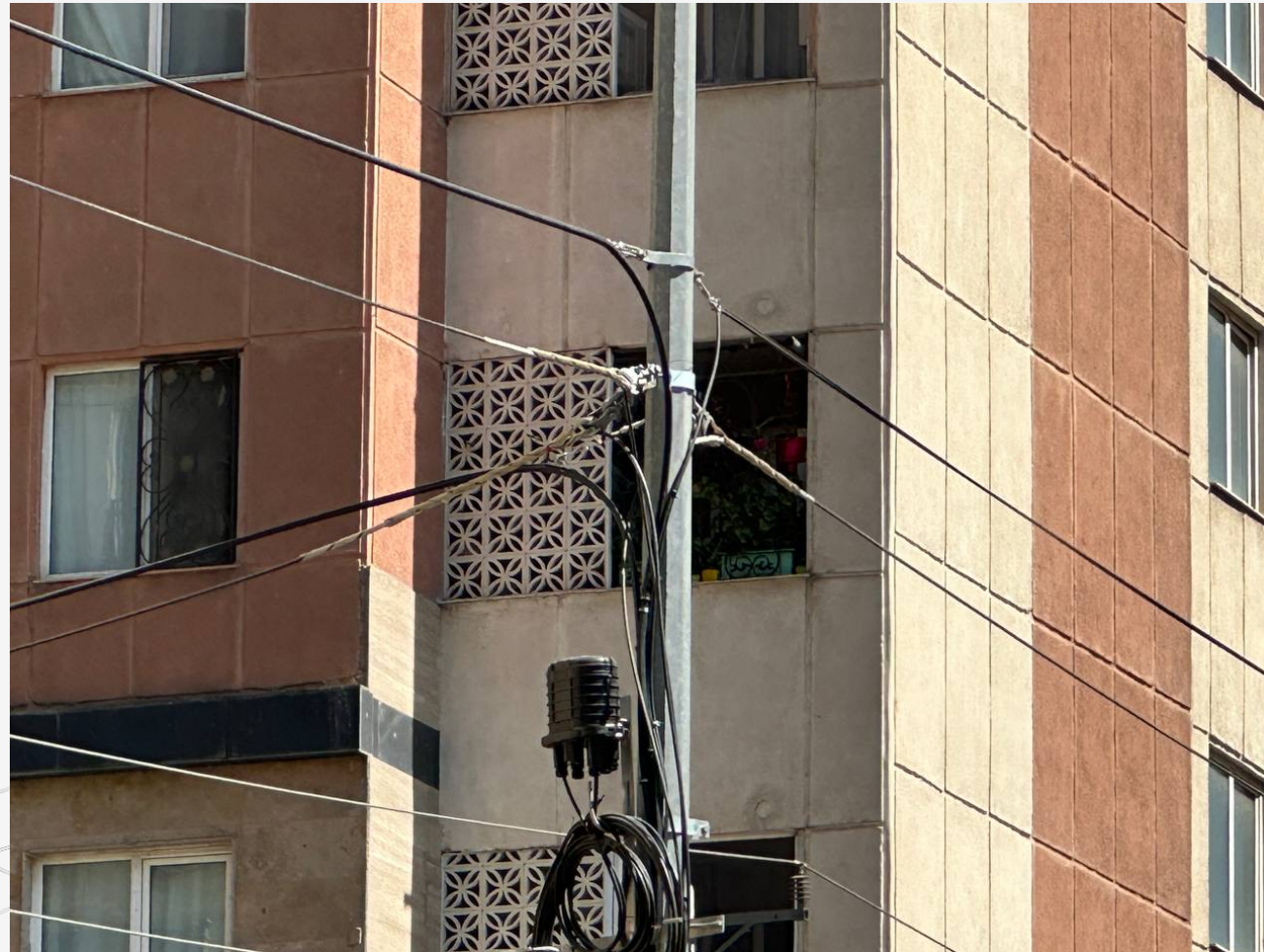
Aerial Microduct of MTN Project In IRAN

- In aerial micro-duct networks, there is no need to use optical cable joints with the ability to be installed at height.



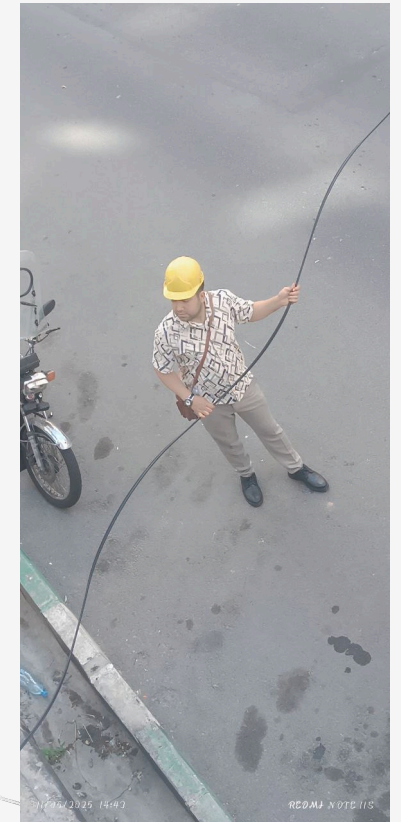
Aerial Microduct of MTN Project In IRAN

- The super Aerial micro-duct produced by this company is capable of withstanding bends exceeding the ETSI standard.



Aerial Microduct of MTN Project In IRAN

- Network implementation can be done quickly using the right tools.



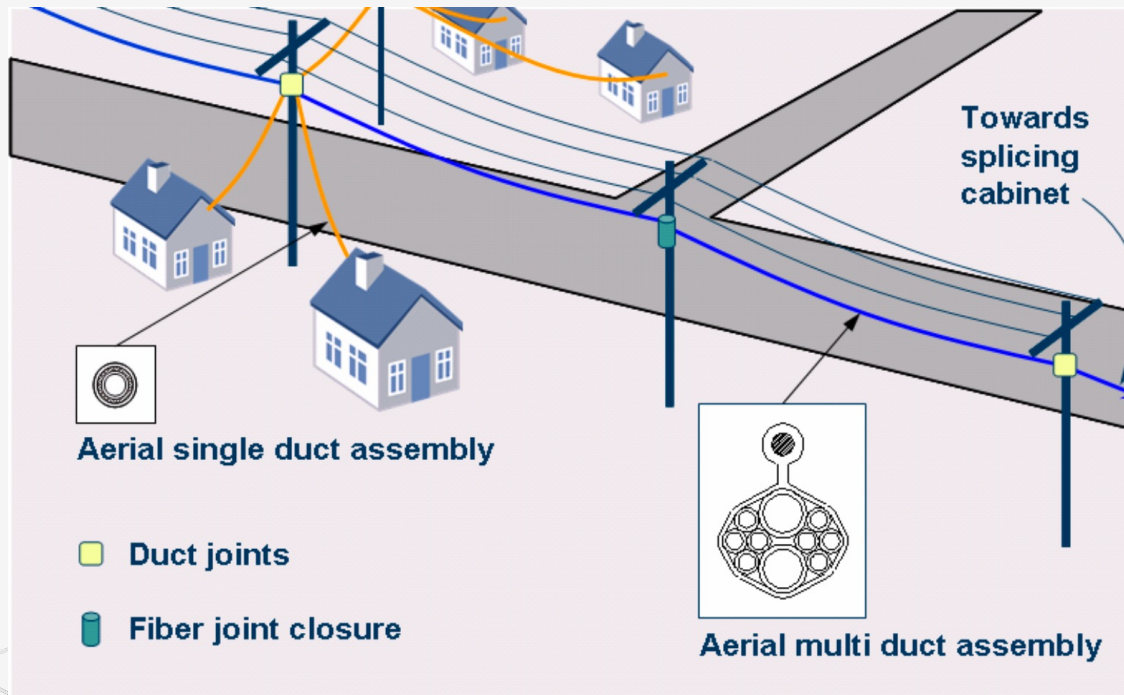
Aerial Microduct of MTN Project In IRAN

- Network implementation can be done quickly using the right tools.



ABADIS DYNAMIC TECHNOLOGY hereby declares its readiness

ABADIS DYNAMIC TECHNOLOGY Company hereby declares its full readiness to design, supply materials,, and execute the aerial MicroDuct network project



ABADIS DYNAMIC TECHNOLOGY

Aerial FTTX solution



Aerial FTTX solution

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