

## Case 1: Argentina Pre-connected Project

### Project Background

- Pre-connected cable is a new product emerging in the market in recent years. It is convenient and quick to install. Once this product comes on the market, it is chased by operators.
- In December 2016, Telecom Argentina Pre-connecting Project invited bidding. Electroson, HUAWEI, YOFC and other suppliers participated in the bidding.
- From June 2020 to now, 5 batches of the pre-connected products have been used in the network construction of Telecom Argentina.



### Project Difficulties

As the country farthest away from China, Argentina has been exposed to the influence of the western countries. In this regard, it is quite demanding on the technology and customization of products. The main challenges are as below:

- The equipment installation scenarios are required to be suitable for overhead, pole-mounted and underground manholes. The waterproof and dustproof grade of the pre-connected connector is required to be IP68.
- The field sets a high bar for the connection tension between the connector and the optical cable which shall be at least more than 200N considering the harsh installation environment.
- While the performance standard is met, the project requires quick supply with the cost controlled.

## Case 2: Peru Pre-connected Project

### Project Background

- **Background:** Optical Networks Group, the largest regional ISP in Peru, has deployed a large number of conventional FTTH networks and planned general contract project of over 300k lines, including expansion and new areas. Optical Networks is currently working with YOFC to adopt the YOFC pre-connected solution for both expansion and new cell construction.
- **Customer pain points:** The traditional construction method of FTTH leads to high cost, low efficiency and high maintenance difficulty.



### Project Design

The project adopts overhead laying and multi-level unequal ratio splitting. YOFC pre-connected outdoor HUB/SUB/END FAT cascades, with pre-connected cascaded distribution cable and pre-connected drop cables, to achieve rapid entry into the home.



### Customer Value

Compared with traditional ODN program, the construction efficiency is improved by 30%

The pre-connected cable is plug and play, which is more convenient for users to activate

Reduce the number of fusion points, lower OPEX by 80%



Yangtze Optical Fibre and Cable Joint Stock Limited Company

Stock Code: 601869.SH 06869.HK  
 ADD: No.9 Optics Valley Avenue, Wuhan, Hubei, China (P.C.: 430073)  
 Tel: 400-006-6869 Email: 400@yofc.com en.yofc.com

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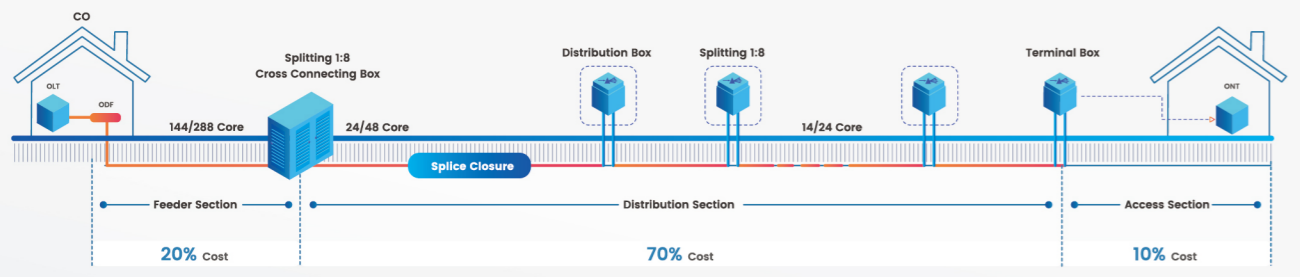


## YOFC F.ODN Pre-connected Solution

Yangtze Optical Fibre and Cable Joint Stock Limited Company

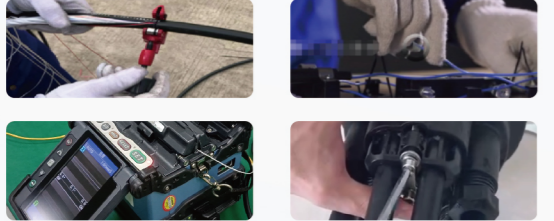
## Background

The traditional construction method of FTTH leads to **high cost, low efficiency and high maintenance difficulty**.



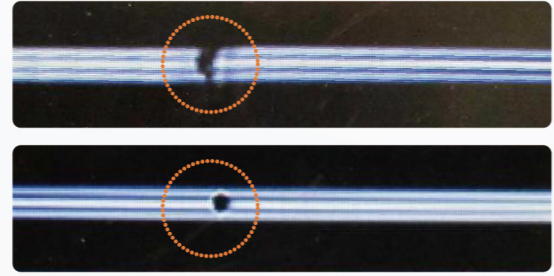
### Construction: High Cost, Low Efficiency

Installation procedure:  
Open box » Cable stripping and fixation » Splicing  
Coiling the fibre » Sealing » Closing box



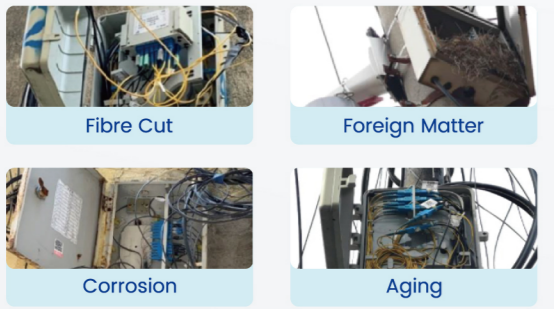
### Project Quality: Difficult to Guarantee

The splicing quality is uncontrollable, requiring professionals.



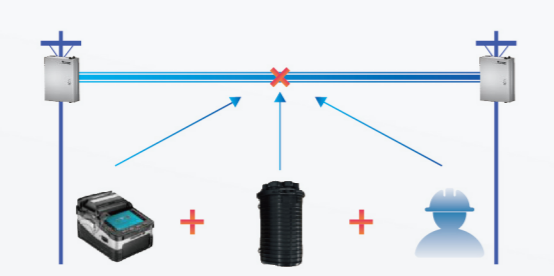
### Daily Management: Uncontrollable

More than 50% of the box damage in the current network is caused by abnormal box doors.



### Maintenance: Large Difficulty, Long Time

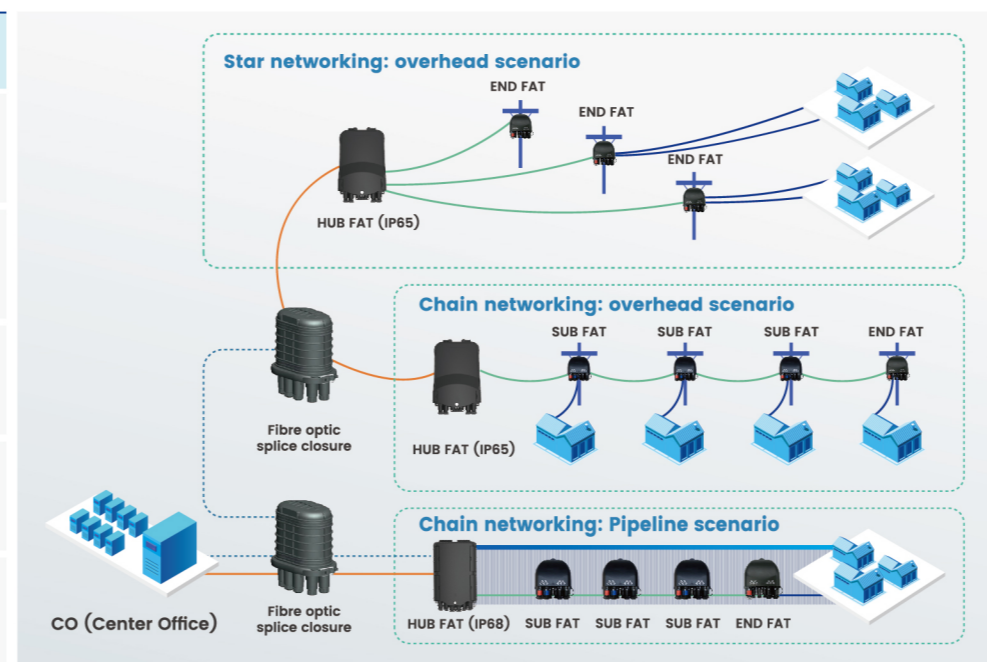
Add splice closure for fusing and repairing the fibre cut.



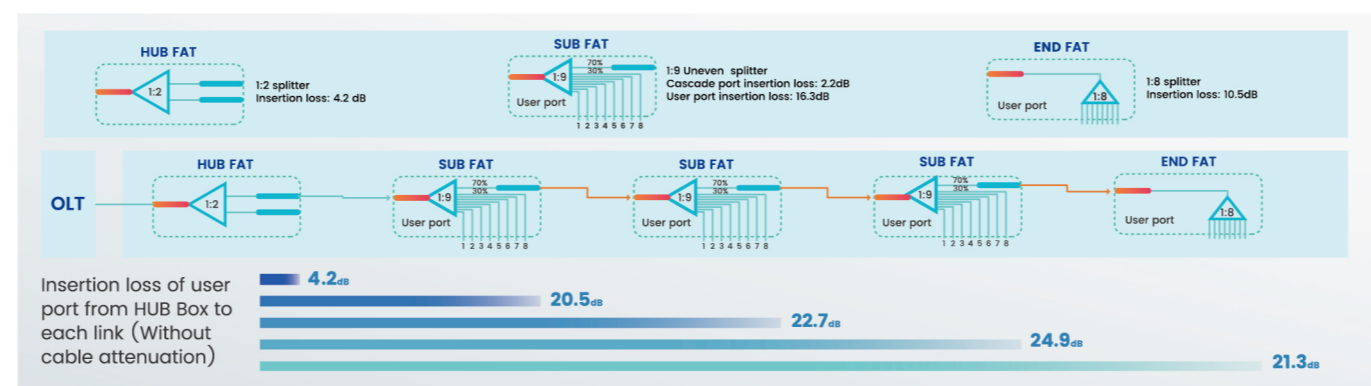
**YOFC proposed the F.ODN pre-connected solution, and developed a series of core products including HUB FAT, SUB FAT, END FAT, 36/24/12F MPO cable and single-core pre-connected cable. The whole process of this solution adopts pre-connected products to meet IP68 protection requirements. The connectors of all boxes are exposed, no need to open the boxes during construction. The pre-connected cable is plug and play on site, the box and cable are completely decoupled. It can be constructed in parallel and the construction is simple.**

## YOFC F.ODN Pre-connected Solution

Product	Function
HUB FAT	Primary splitting point of the link
SUB FAT	Cable access point of link cascade
END FAT	Drop cable access point at the end of link
YOFC-ONEClick pre-connected distribution cable	Optical cable for cascading between boxes
YOFC-ONEClick pre-connected drop cable	Pre-connected drop cable to the user home



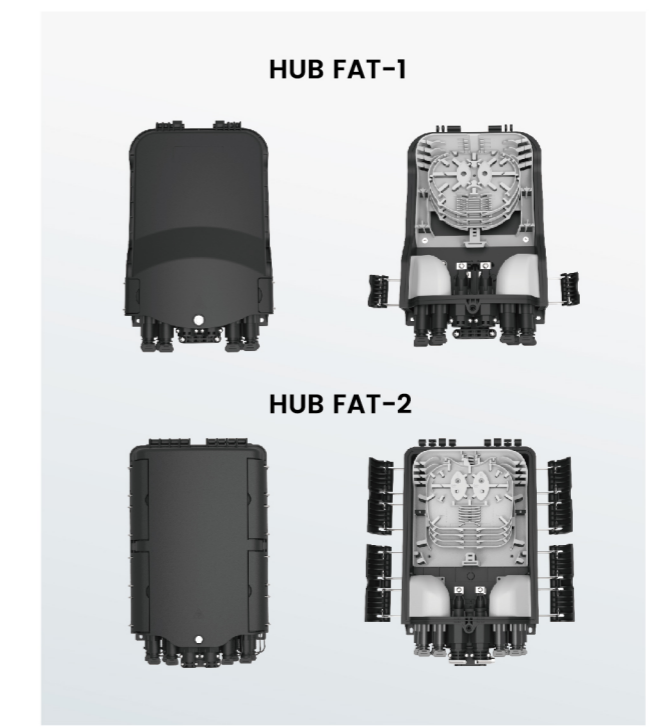
## Multi-level Splitting and Optical Power Meet the Requirements



## Highlights

- Compared with traditional ODN, the F.ODN pre-connected solution stands out with following highlights:
  - The fully sealed products can be less exposed to the risk of damage as we don't need to open the box repeatedly.
  - The products adopt minimalist design. The box is easy to carry, and the pre-connected cable is plug and play.
  - Fully pre-connected design and minimalist installation greatly improve the efficiency.
  - Pre-connected cables are used for cascading, plug and play in the whole process, making the operation easier.
  - After a fault occurs, the box or cable can be quickly replaced. The network fault recovery efficiency is increased by 90%.
  - The whole construction process requires low skills and few tools. Therefore, the labor cost is lowered by 60%.
- Originality direct insertion self-locking, strong tensile resistance, convenient operation, plug and play.
- Removable structure design to support pipeline traction deployment. After the deployment is completed, it can be easily assembled into the required connector type.
- After inserting the cable into the box, pull it down for 2 minutes with a pulling force of 200N, and the insertion loss change of connector shall not exceed 0.2 dB.

## Introduction of YOFC F.ODN Products



Item	Specifications-1	Specifications-2
Dimension(mm)	319.3*200*97.5	376*210*97
Number of Pass Through Cable Port (pcs)	1	1
Number of Branch Cable Port (pcs)	2	2
Diameter of the Pass Through Cable Port (mm)	Φ8-Φ16	Φ8-Φ16
Diameter of the Branch Cable Port (mm)	Φ8-Φ14	Φ8-Φ14
Number of Pre-connected Cable Ports (pcs)	8	8
Splicing Capacity (Max)	96	48
PLC Micro Splitter	1x2	1x2
	1x4	1x4
	1x8	1x8
PLC Bare Fibre Splitter	1x2	1x2
	1x4	1x4
	1x8	1x8
IP grade	IP65	IP68

Item	Specifications	
	SUB FAT	END FAT
Dimension(mm)	171*179*66	171*179*66
Number of Pre-connected Adaptors (pcs)	10	9
Splitter	1x2 FTB Splitter+ 1x8 PLC Splitter 1x9 PLC Splitter	1x8 PLC Splitter
IP Grade	IP68	IP68



Item	Specifications	
	Pre-connected Distribution Cable	Pre-connected Drop Cable
Cable	Fibre Type	G.657.A1/A2/B3 Single Mode
	Cable Attenuation	≤ 0.4 dB / km @1310 nm ≤ 0.3 dB / km @1550 nm
	Outer Diameter	5.0±0.2mm
Connector	Connector Type	RSC (Reinforced SC) RMPO (Reinforced MPO)
	Insertion Loss (dB)	RSC: Max. 0.3 dB RMPO: Max. 0.35 dB (Premium Grade) Max. 0.7 dB (Standard Grade)
	Return Loss (dB)	Min. 60 dB @ 1310&1550nm
Length (m)	50, 100, 150, 200, 250, 300 (Support Customization)	