

# Plug & Play Multiservice System



**TELECOM  
& SECURITY**

be able with cable

**fait**  
*dal 1953*

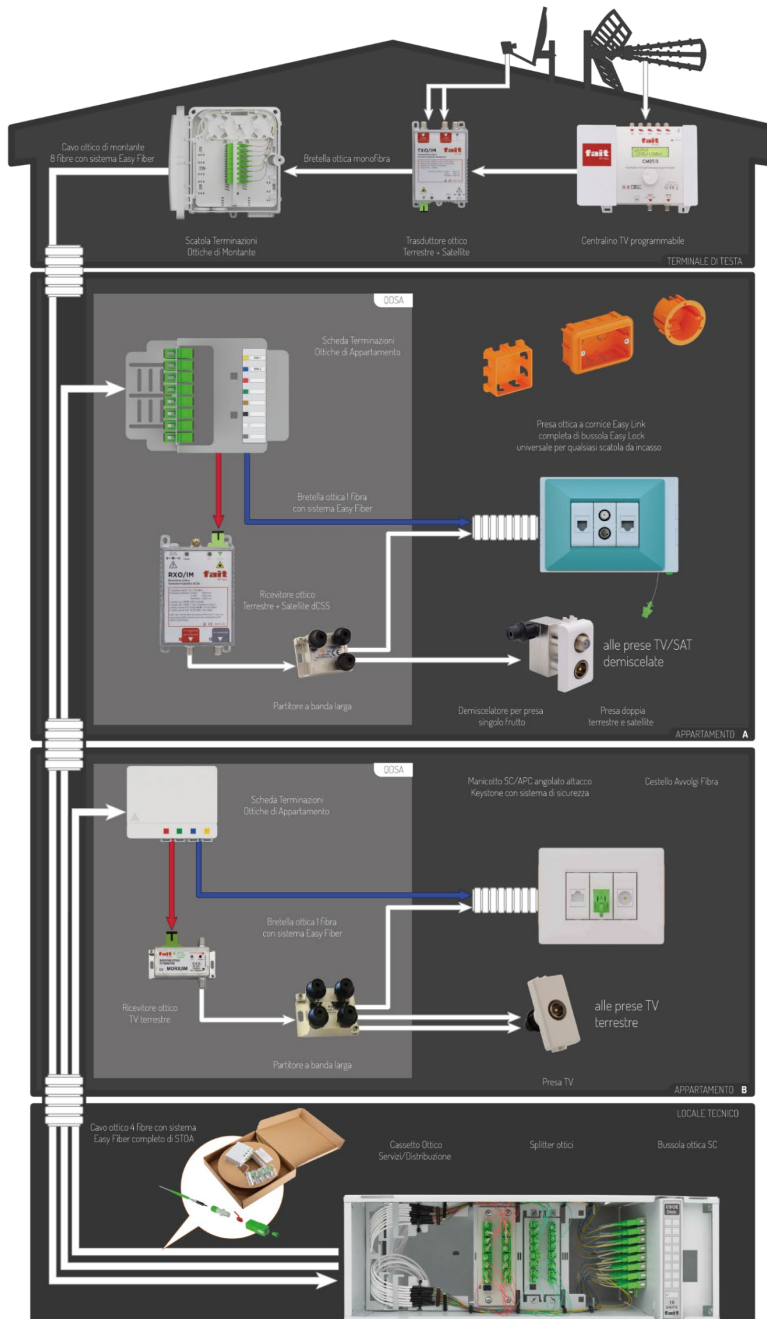
# Multiservice System

The **fiber optic Multiservice System** is a system capable of managing all the universal services for users living in buildings, such as, for example, ultra-broadband connectivity with data and voice services, centralized terrestrial and satellite TV, video door entry systems, video surveillance, etc.

**The construction of the Multiservice System is mandatory in Italy for all buildings with a building permit application presented after July 1st, 2015**  
Article 135 bis of Presidential Decree 380/2001

## Main elements of the Multiservice System:

1. Head terminal
2. Optical apartment cables (4 fibres) and riser cables (8 fibres)
3. Apartment optical services distribution board (QDSA)
4. Optical Star Center of the Building System (CSOE)



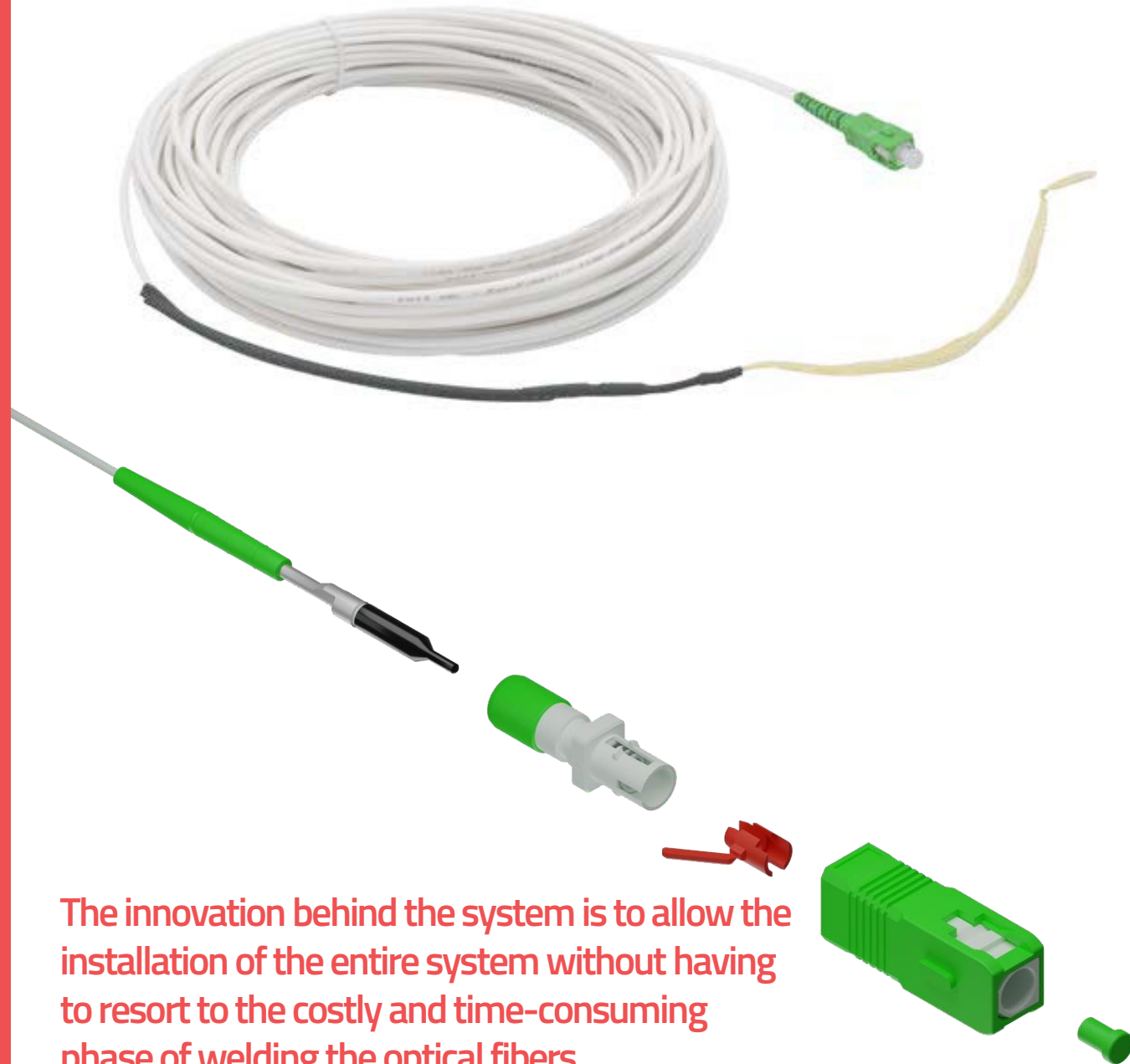
# Easy Fiber system

All Multiservice System components are designed and engineered to be compatible with our Easy Fiber pre-connected cabling system.

All Easy Fiber patch cords are equipped with a minimal pulling system, which allows them to be threaded through even very small pipes.

After the threading phase, by removing the protective sleeve, the factory pre-installed connector cores are uncovered; by adding mechanical components in a few seconds, standard SC/APC connectors are obtained without the use of any specific tools or equipment.

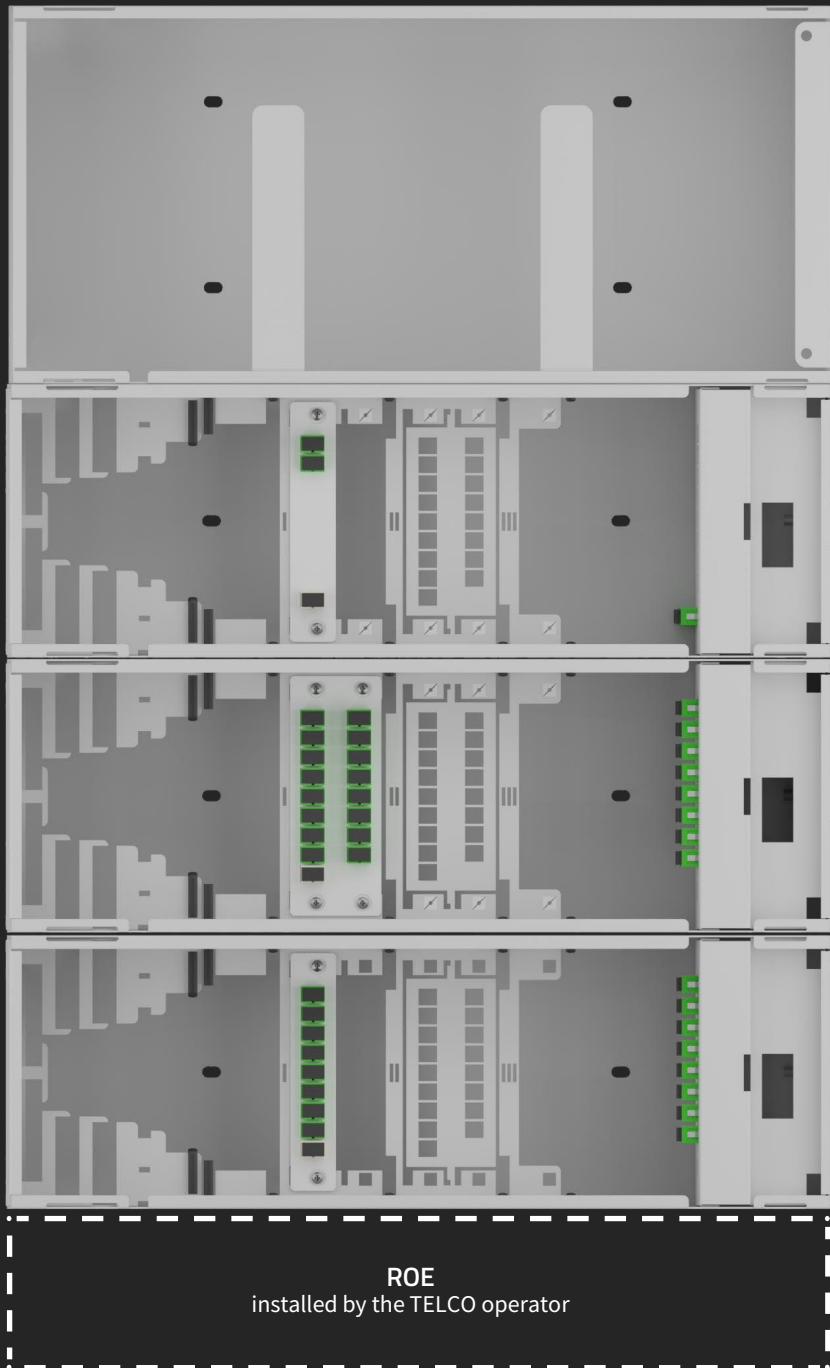
[Watch the video](#)



The innovation behind the system is to allow the installation of the entire system without having to resort to the costly and time-consuming phase of welding the optical fibers.

# 01

Optical Distribution Center



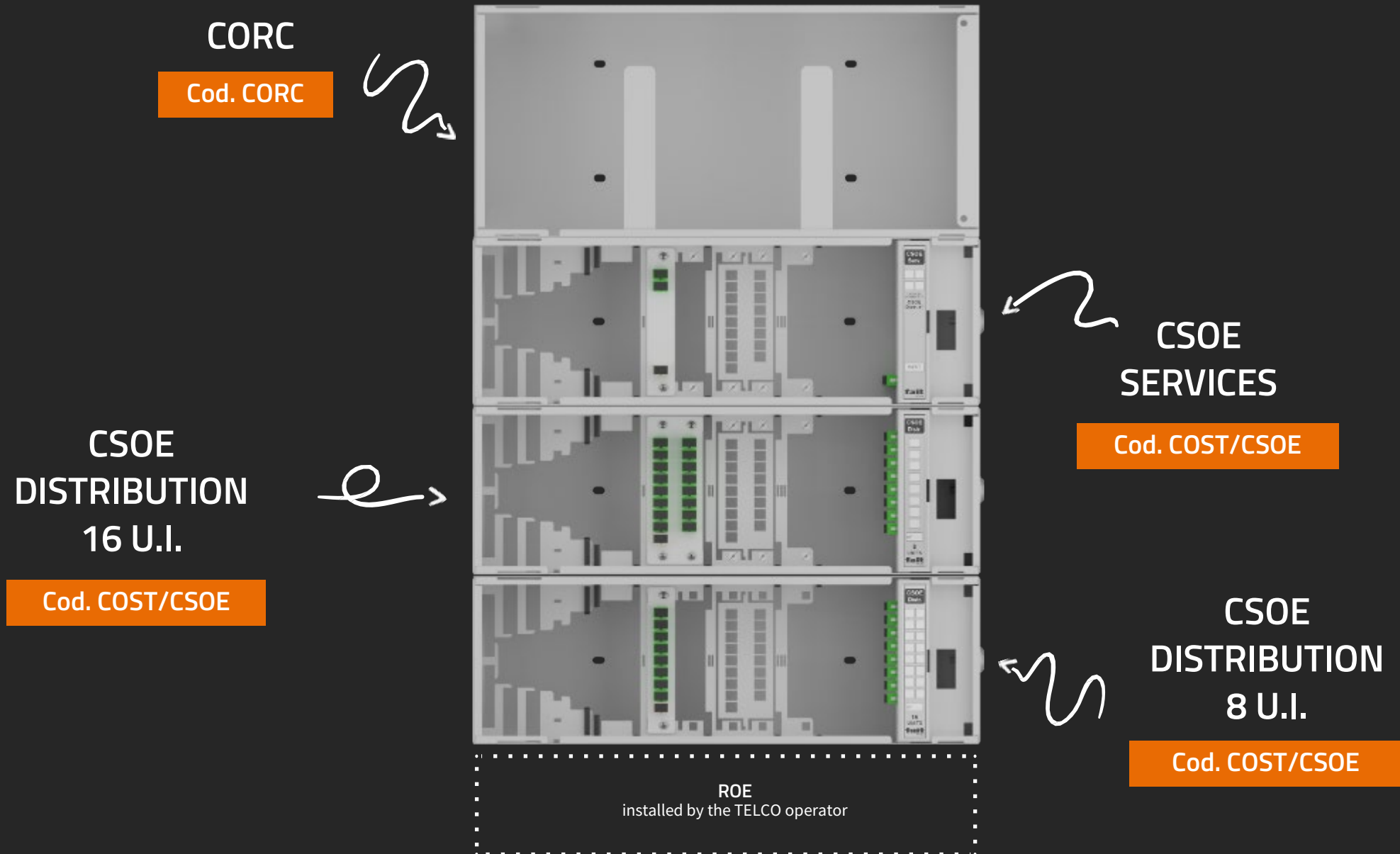
## The **Optical Distribution Center** is the heart of the Multiservice System

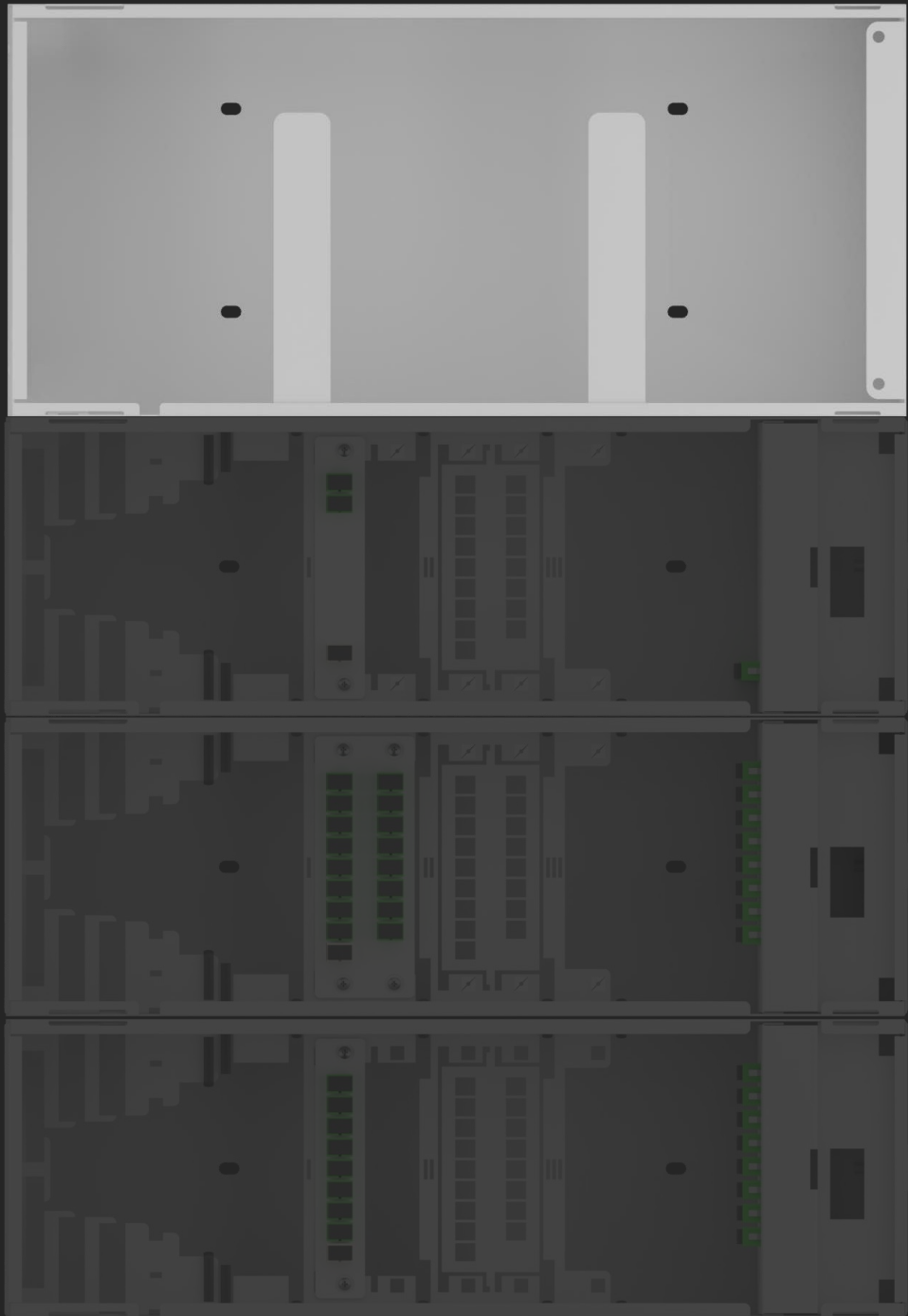
The Optical Distribution Center (CSOE) represents the **point of attestation** of the optical fibres that connect the building units for the various services and is also the flexibility point of the building, where any service operator (telecommunications, television...) can access these fiber optic connections.

It is realised by overlapping several drawers to distribute all the signals to the flats.

[Watch the video](#)

# CSOE – Optical Distribution Center





## CORC | Optical Cable Drawer

At the top of the Optical Distribution Center, it is necessary to have a container that houses the excess part of the pre-connected optical patch cords.

## CORC | Optical Cable Drawer

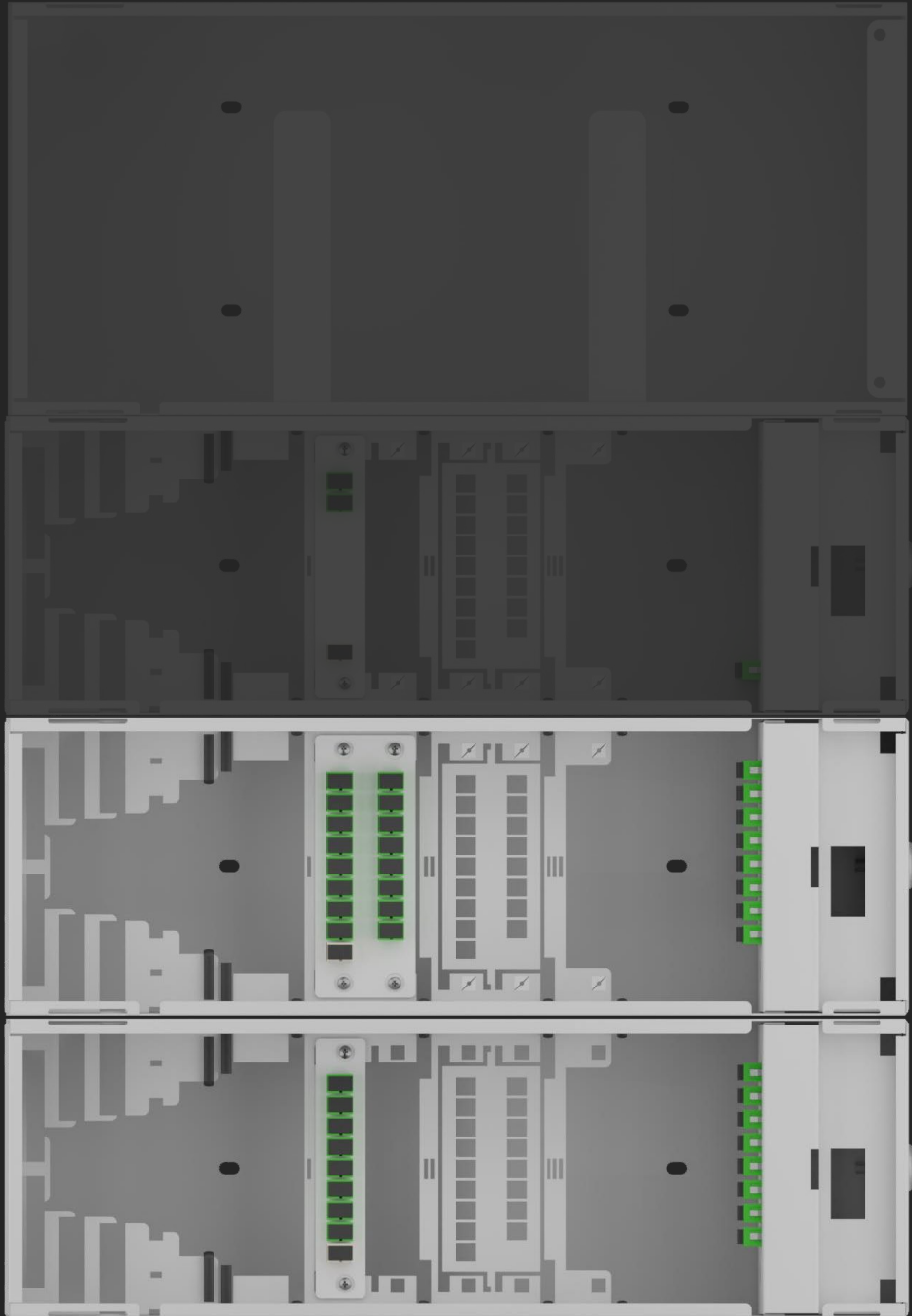
### CSOE Services

It contains the optical terminations of the 8-fiber cable coming from the system head and the 2-output splitters, each of which distributes the signal to two Optical Distribution Center (CSOE).

For example: with 5 distribution boxes, 3 splitters with 2 outputs must be inserted and one of the outputs of a splitter is not used (in this way the system is completely equalised).

In addition, the two SC/APC sockets reserved for 5G provision are located in the CSOE Services.





## CORC | Optical Cable Drawer

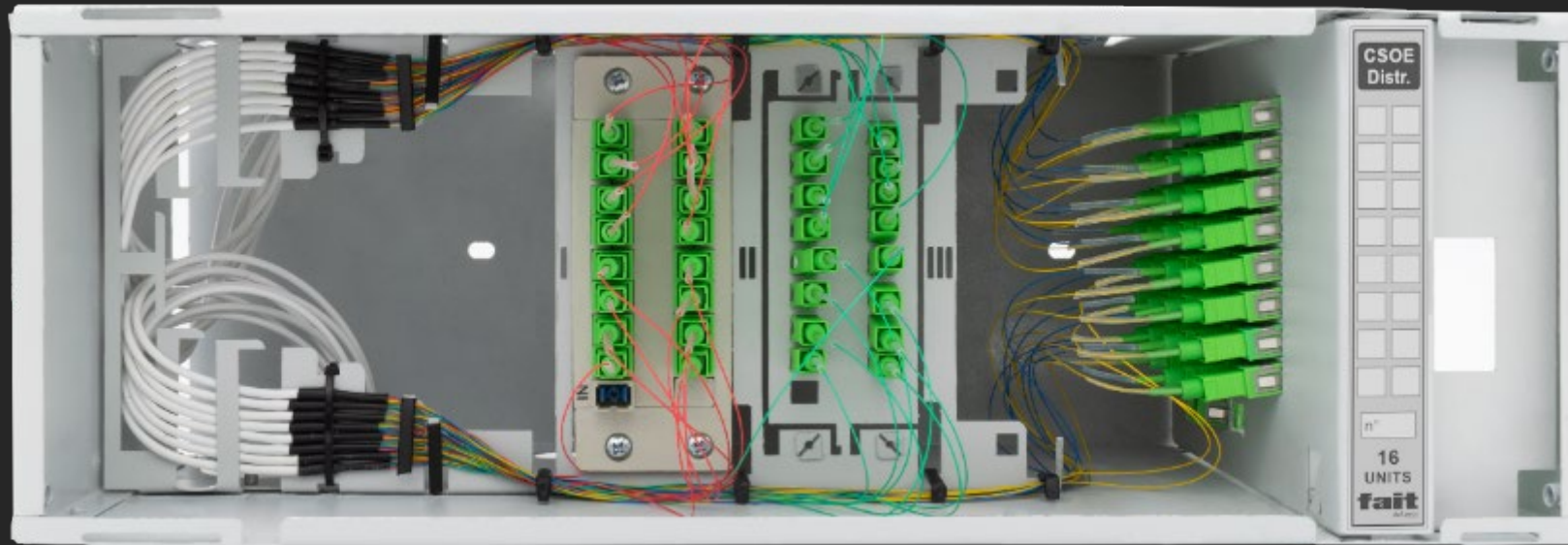
## CSOE Services

### CSOE Distribution

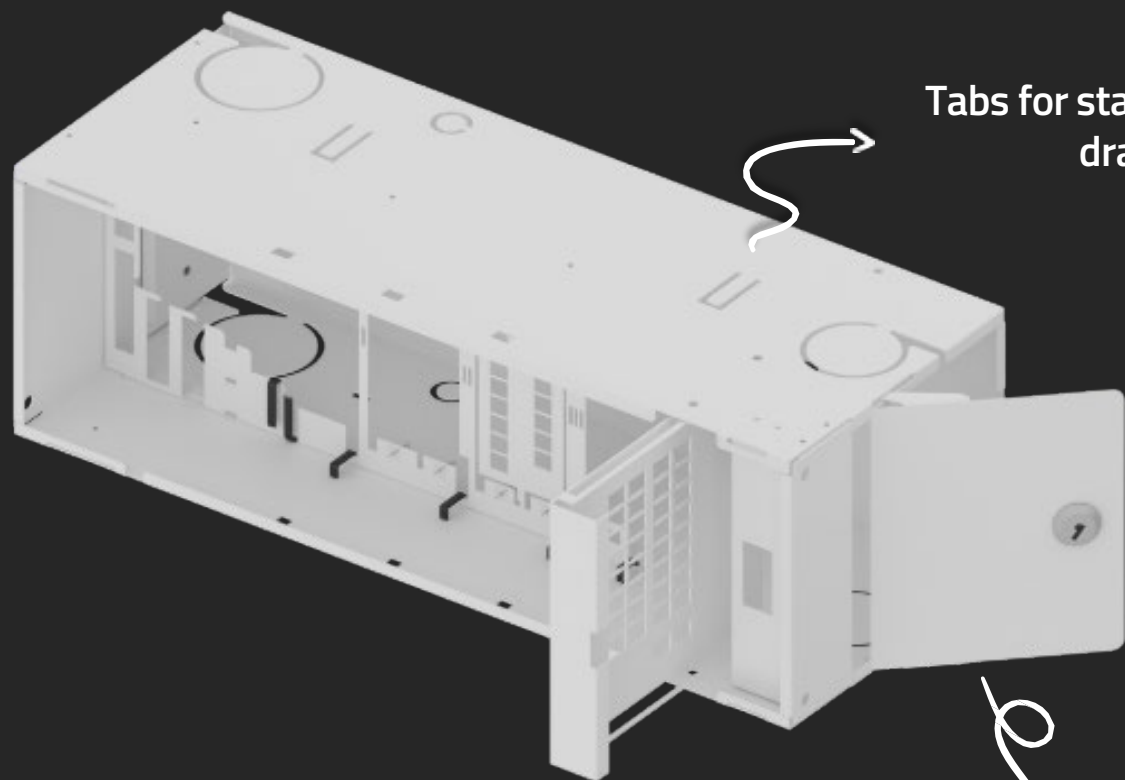
It receives signals from the CSOE Services and distributes them to the flats via multi-fiber cables.

Each CSOE distribution box can connect up to 8 or 16 flats.

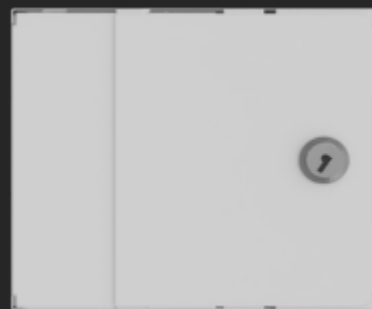
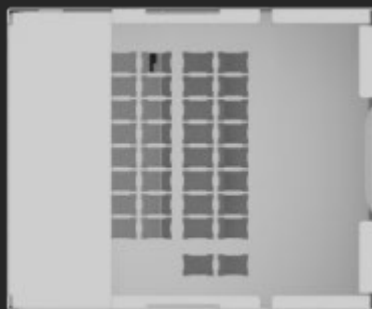
The front compartment (installer side), with a security key, contains the 8 or 16-output splitters for terrestrial TV and satellite service, and the side compartment (operator side), also with a security key, contains only the SC/APC sockets reserved for FTTH service.



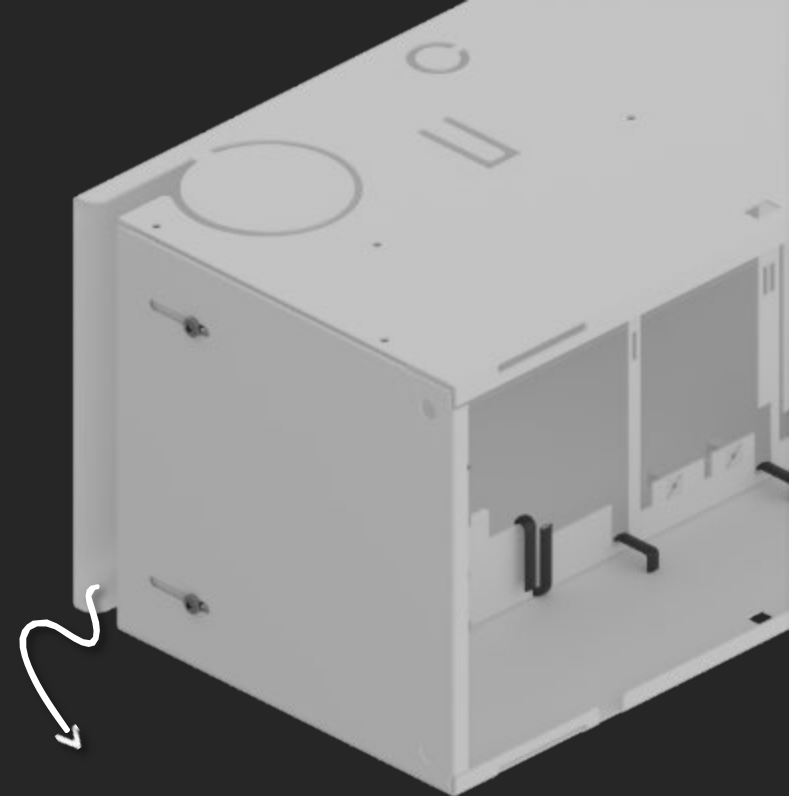
In the case of a number of flats equal to or less than 16, it is possible to use a single drawer as both CSOE Services and CSOE Distribution.



Tabs for stacking multiple drawers

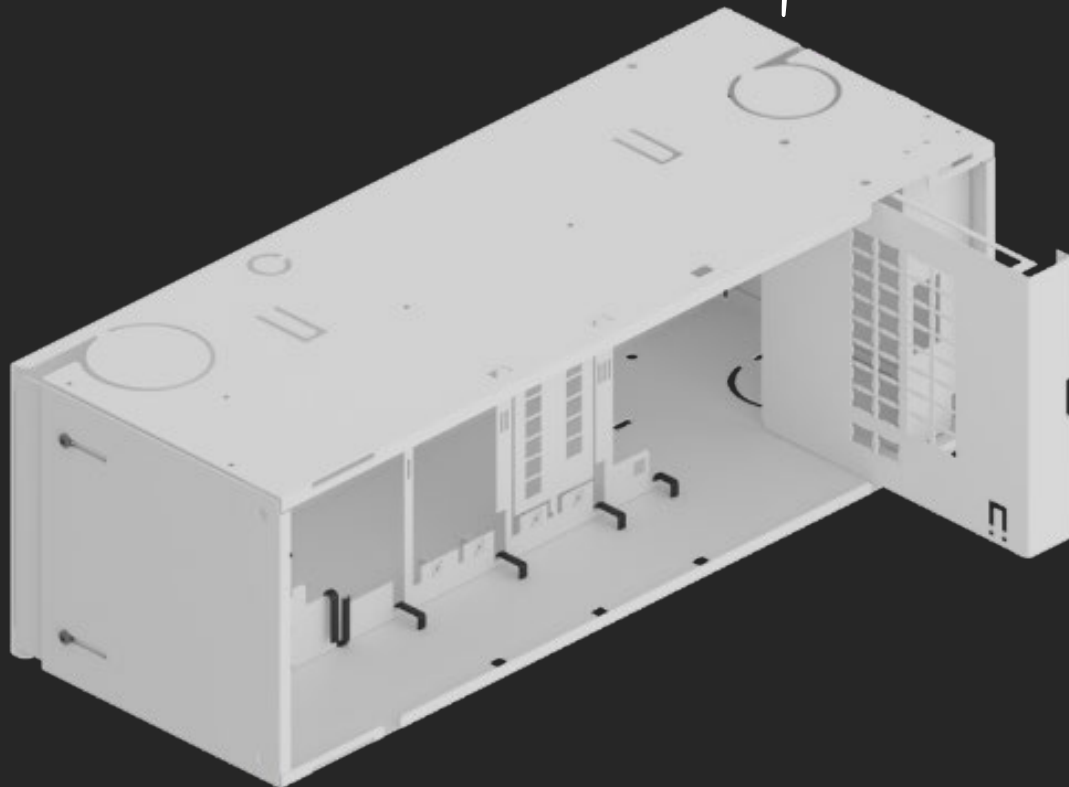


Separated operator compartment

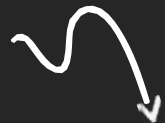
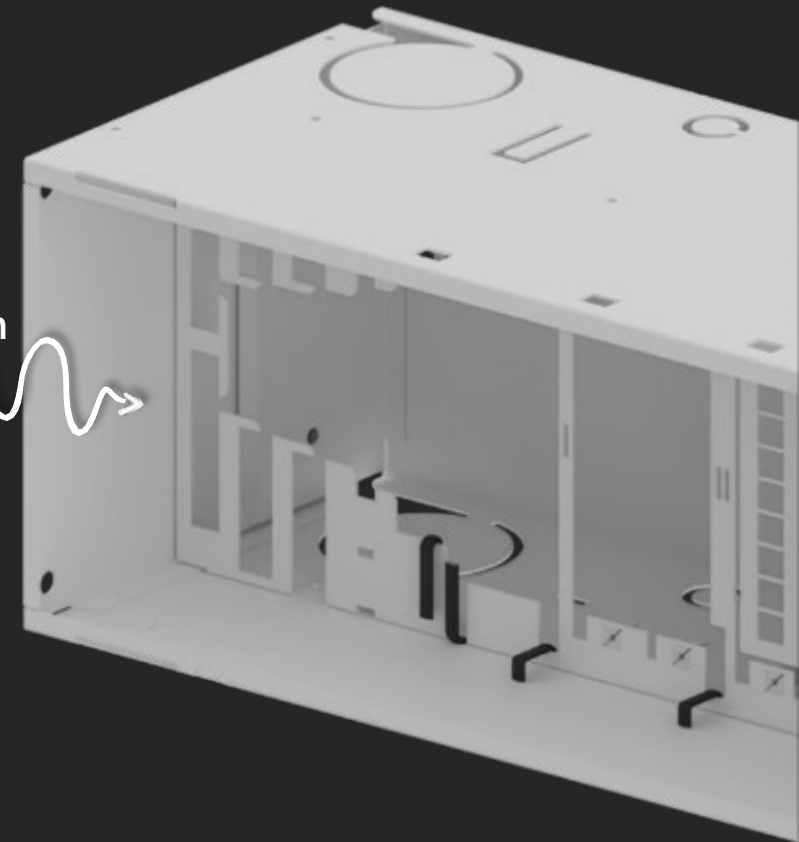


Movable bulkhead for side cable entry

Foldable plugs for cable routing



Cable brackets system



Removable slide sleeve holder

# Inside the CSOE

## 2-output optical splitters

They are used in the CSOE Services to divide the optical signal of a service into 2 outputs to be sent to 2 CSOE Distribution drawers.



Cod. PO2/SA

## 8 and 16 output optical splitters

They are used in CSOE Distribution to divide the optical signal of a service into 8 or 16 outputs to be sent to 8 or 16 flats.



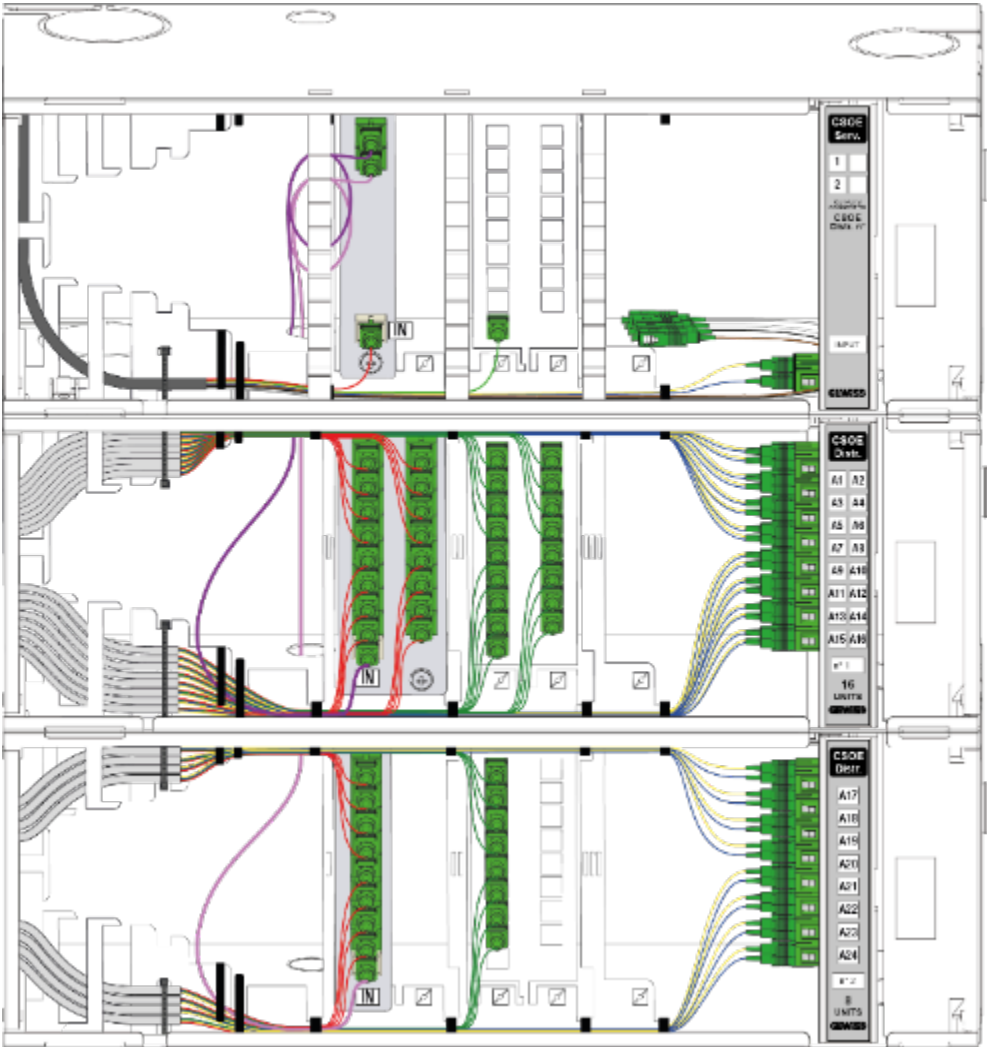
Cod. PO8/SA



Cod. PO16/SA

The 8-output splitters have the same insertion loss as the 16-output ones to ensure perfect equalisation of the system in any configuration.

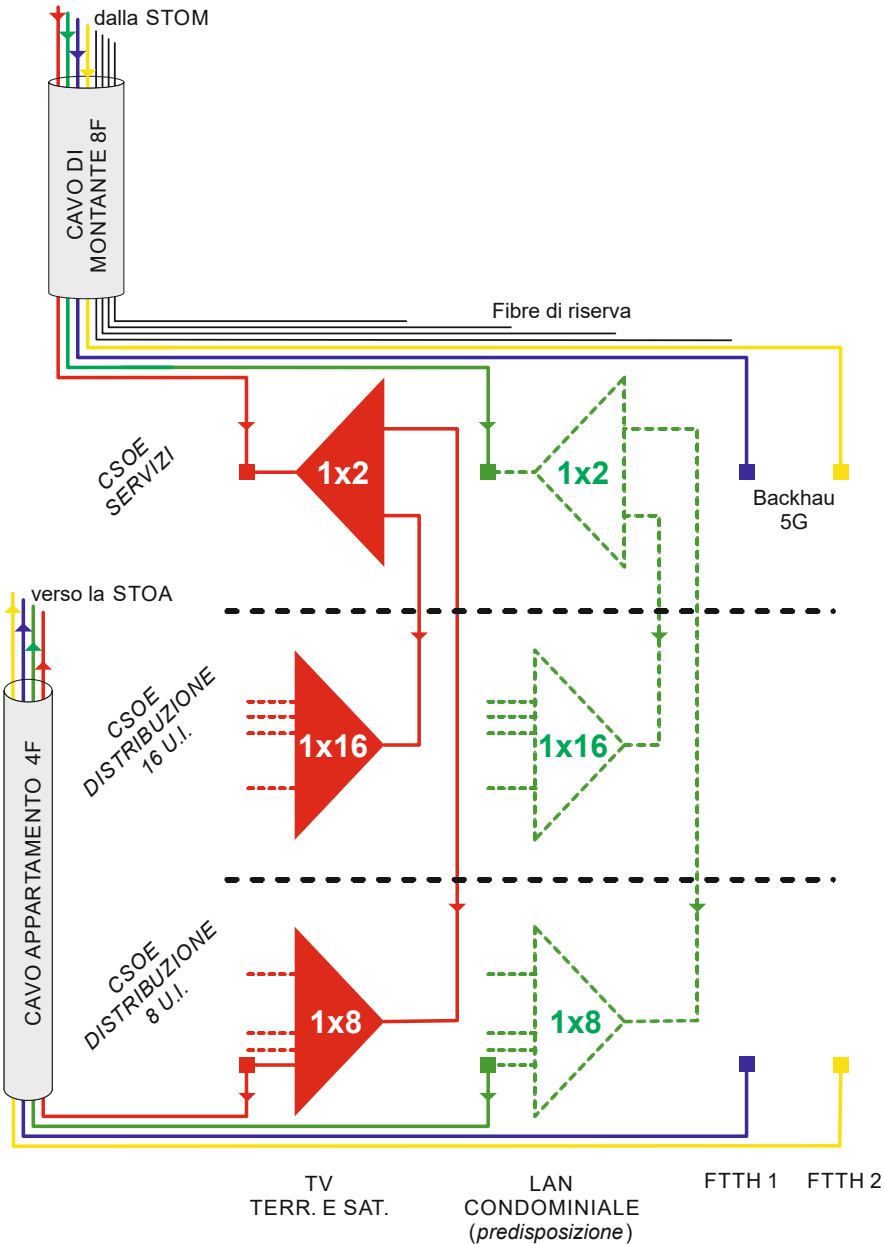
# Example of a CSOE of up to 24 flats



CSOE Services

CSOE Distribution 16 flats

CSOE Distribution 8 flats





# Practical example of a CSOE



# 02

What to install into the  
apartments



# Easy Fiber Optical Cable for apartment with STOA

The multi-fiber cable (at least 4 single-mode fibers) connects the STOA (Optical Termination Box for Apartment) installed in the apartment, to the CSOE (Optical Distribution Center) installed in the technical room

## An example of using the 4 fibres for the apartment:

- 1 fiber is dedicated to the terrestrial and satellite TV service (the user can choose the desired orbital position from those available in the system);
- 2 fibers reserved for the FTTH service(1 fibre for technical and evolutionary redundancy)
- 1 fiber for additional services (video door entry, video surveillance, meter reading, electric vehicle recharge control, etc.)



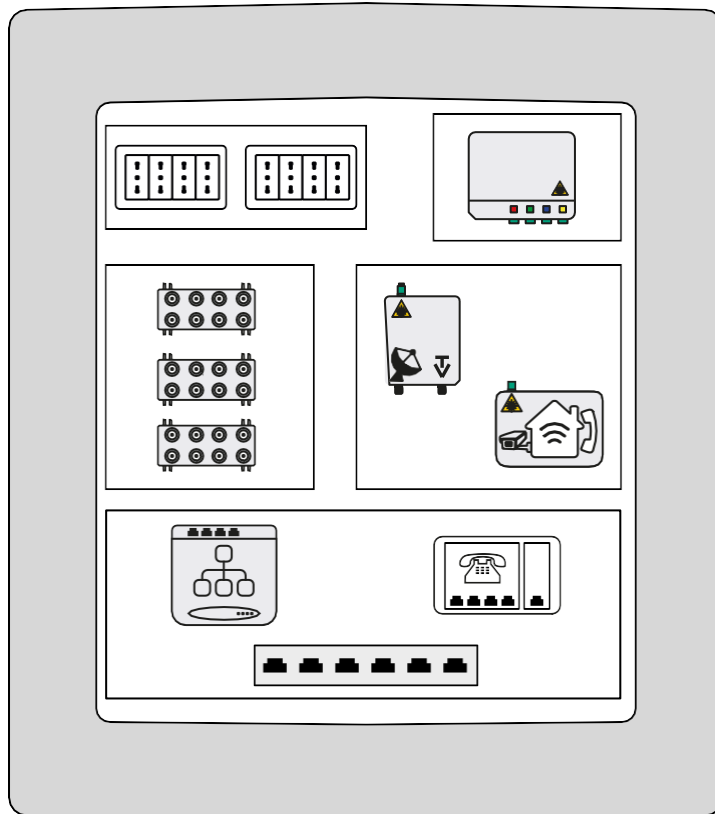
Code	Lenght
EF4/15	15 m
EF4/20	20 m
EF4/25	25 m
EF4/30	30 m
EF4/40	40 m
EF4/50	50 m
EF4/65	65 m
EF4/80	80 m
EF4/100	100 m
EF4/120	120 m
EF4/140	140 m

Customised sizes are available to order

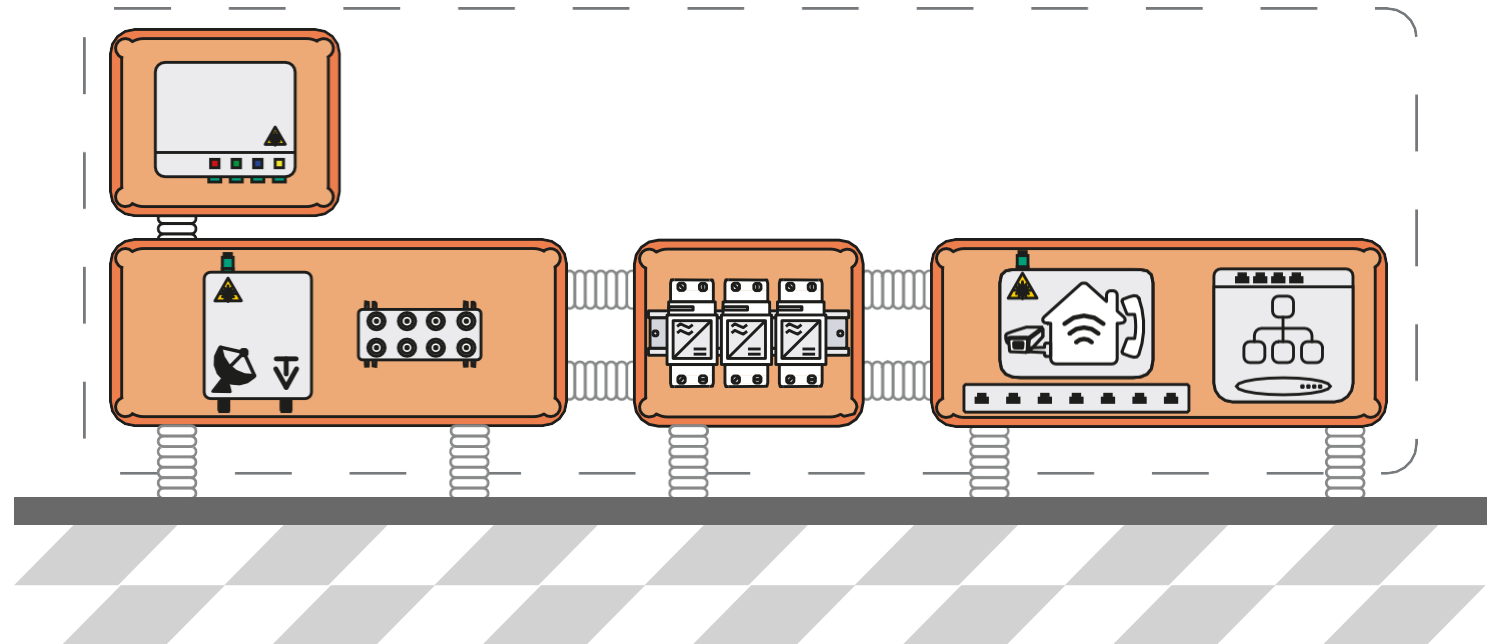
## QDSA: Apartment Services Distribution Panel

The QDSA contains the distribution equipment for the communication systems.  
It may also contain the optical fiber termination of the multi-service STOA (Apartment Optical Termination Box)

Example of  
concentrate QDSA

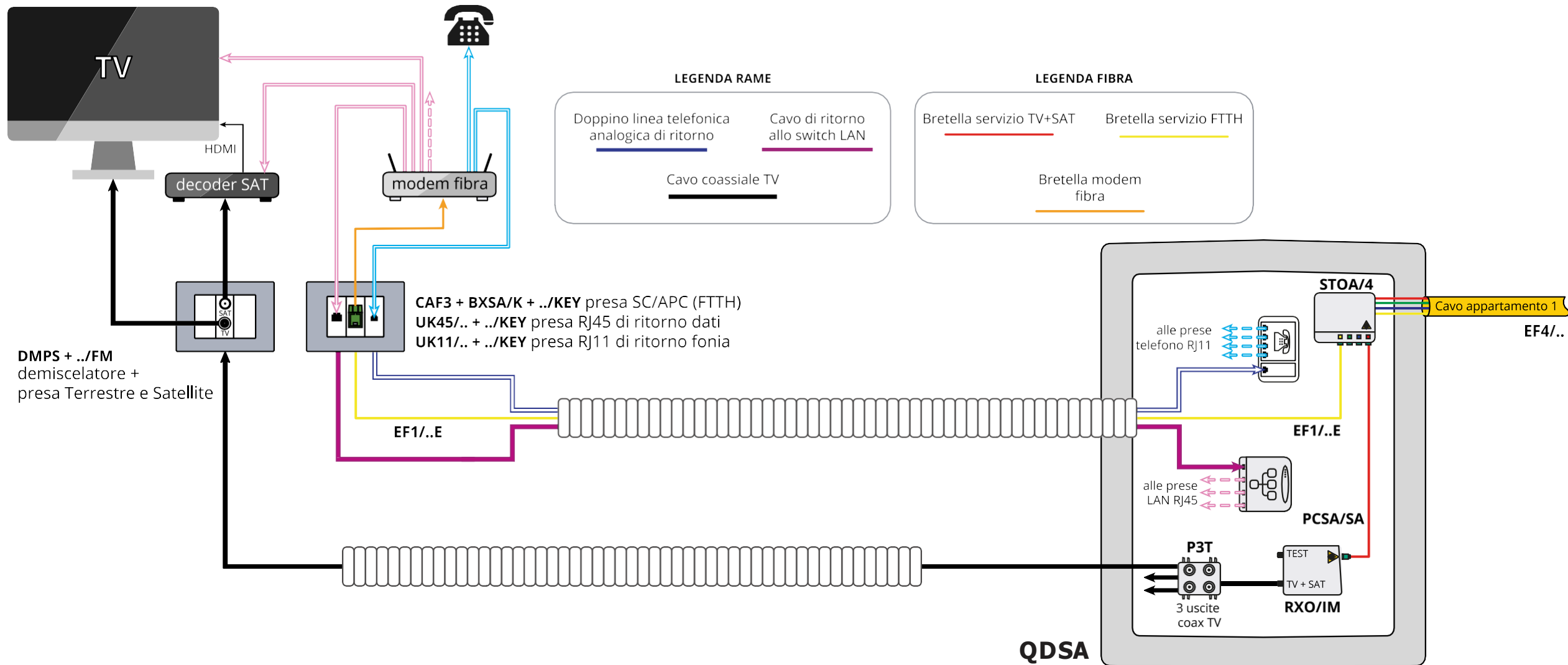


Example of  
distributed QDSA



## Example of apartment network

The fiber modem is connected to the optical outlet near the main TV location to provide connectivity and phone voice both to devices in the vicinity and, via return cables to the QDSA, to the entire apartment



## FTTH sockets

It is advisable to install an optical socket for connection to the fiber modem inside the flat (near the main TV, TV decoder, gaming console, home PC, etc.).

### Easy Link

For pre-existing constructions - [Watch the video](#)

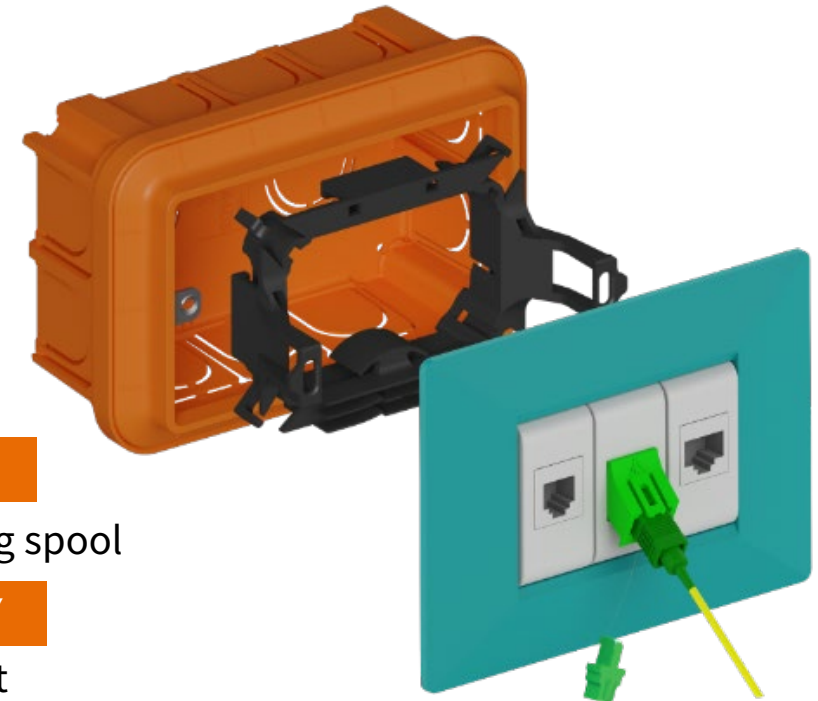


Cod. EASY LINK PLUS

Optical wall box

### Easy Key:

For new construction - [Watch the video](#)



Cod. CAF/3

Fiber wrapping spool

Cod. EASY KEY

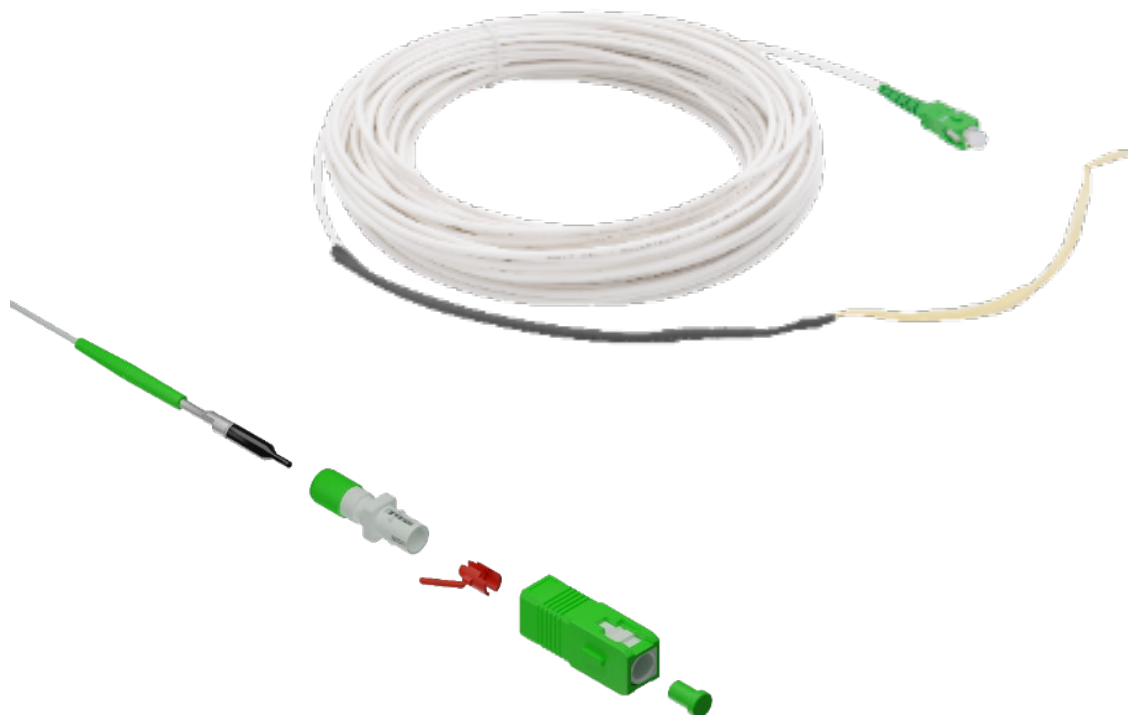
Easy Key outlet

Cod. ../EK

Faceplates compatible with all civil series are available (refer to the Telecom & Security price list/catalogue).

# Easy Fiber Monofibre Optical Patch Cord

For the connection between the STOA in the QDSA and the Easy Link or Easy Key optical outlets



Code	Lenght
EF1/10E	10 m
EF1/15E	15 m
EF1/20E	20 m
EF1/25E	25 m
EF1/30E	30 m
EF1/35E	35 m
EF1/40E	40 m

*Customised sizes are available  
to order*

*The extra length of the peelable cable is very useful to be able to easily accommodate several metres of extra lengths in the Easy Link optical box or in the fibre wrapping spool (CAF).*

# TV optical receivers

Cod. MORX/IM

Only terrestrial



Optical receivers are placed in the QDSA of each apartment and convert the optical signal from the Optical Distribution Center into RF signal by distributing it in coaxial through the splitters to the various socket points.

Cod. RXO/IM

Terrestrial+Satellite dCSS



# 03

Head Terminal

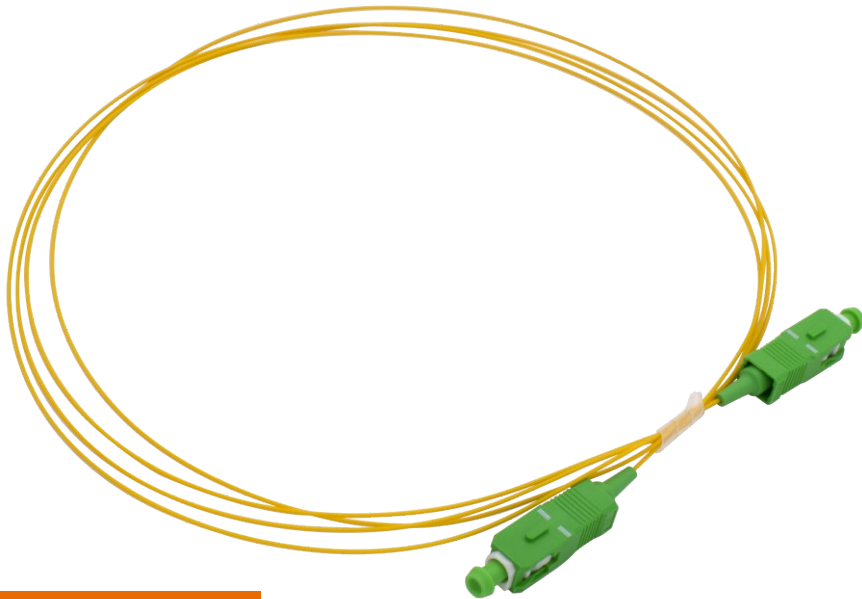




## In the attic

### STOM: Optical Riser Termination Box

It contains the optical terminations of the riser cable connected to the CSOE and allows the connection of the electro/optical conversion equipment of the signals received from the antennas via the PCSA/SA single-fiber optical braces.



Cod. PCSA/SA



Cod. STOM/812



# Optical 8 fiber riser cable with Easy Fiber system

The optical riser cable (8 single-mode fibers) connects the CSOE (Optical Distribution Center) in the technical room to the STOM (Optical Riser Termination Box) in the attic

### Use of the 8 fibers of the riser cable:

- 2 reserved for 5G backhaul service;
- 1 dedicated to condominium terrestrial and satellite TV service;
- The remaining 5 fibers are dedicated to condominium terrestrial and satellite TV service (each fiber can serve up to 32 apartments).



Code	Lenght
EF8/20	20 m
EF8/35	35 m
EF8/50	50 m
EF8/65	65 m
EF8/80	80 m
EF8/100	100 m
EF8/120	120 m
EF8/140	140 m

Customised sizes are  
available to order

## Building TV system



Cod.TGD45

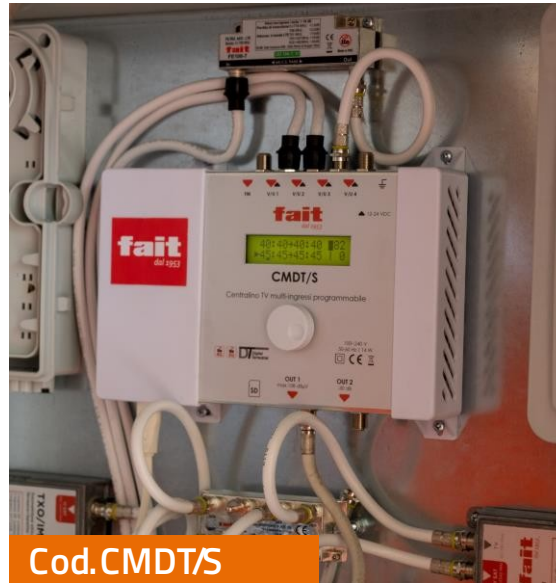
UHF Antenna

Cod.T83

VHF Antenna



Cod.P100A



Cod.CMDT/S



Cod.CVU/WB

In the case of Multiservice System, the head terminal is made in the traditional way (coaxial).

TV signals are received by the antennas and amplified and equalized by a switchboard with programmable filters.

Satellite signals are received by the dish and focused in the LNB wideband with the two coaxial outputs of the two horizontal and vertical SAT polarizations.

# Building TV system



## Cod. TXO/IM

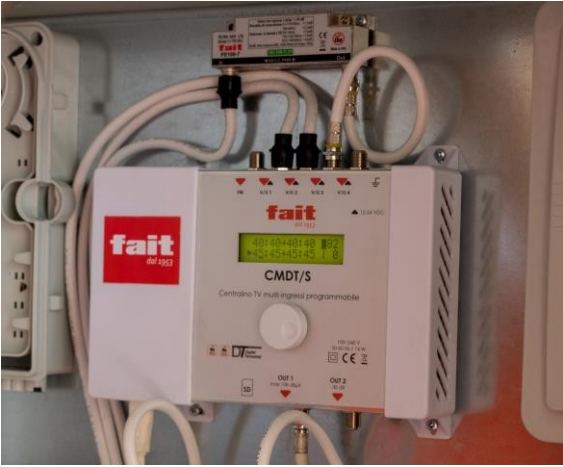
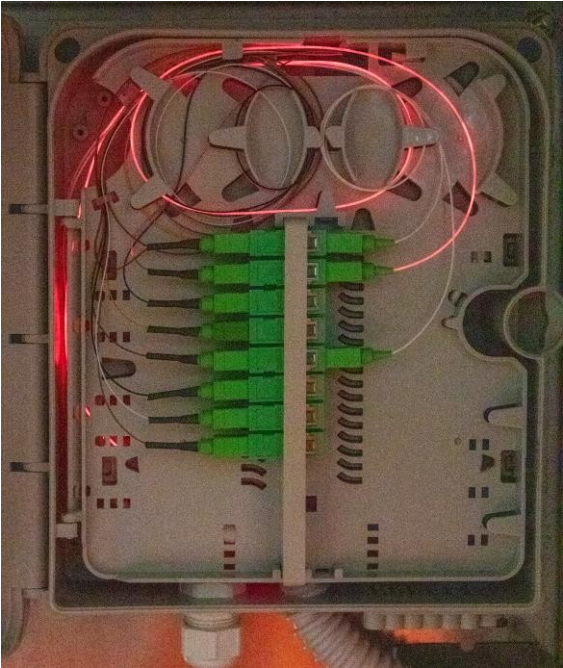
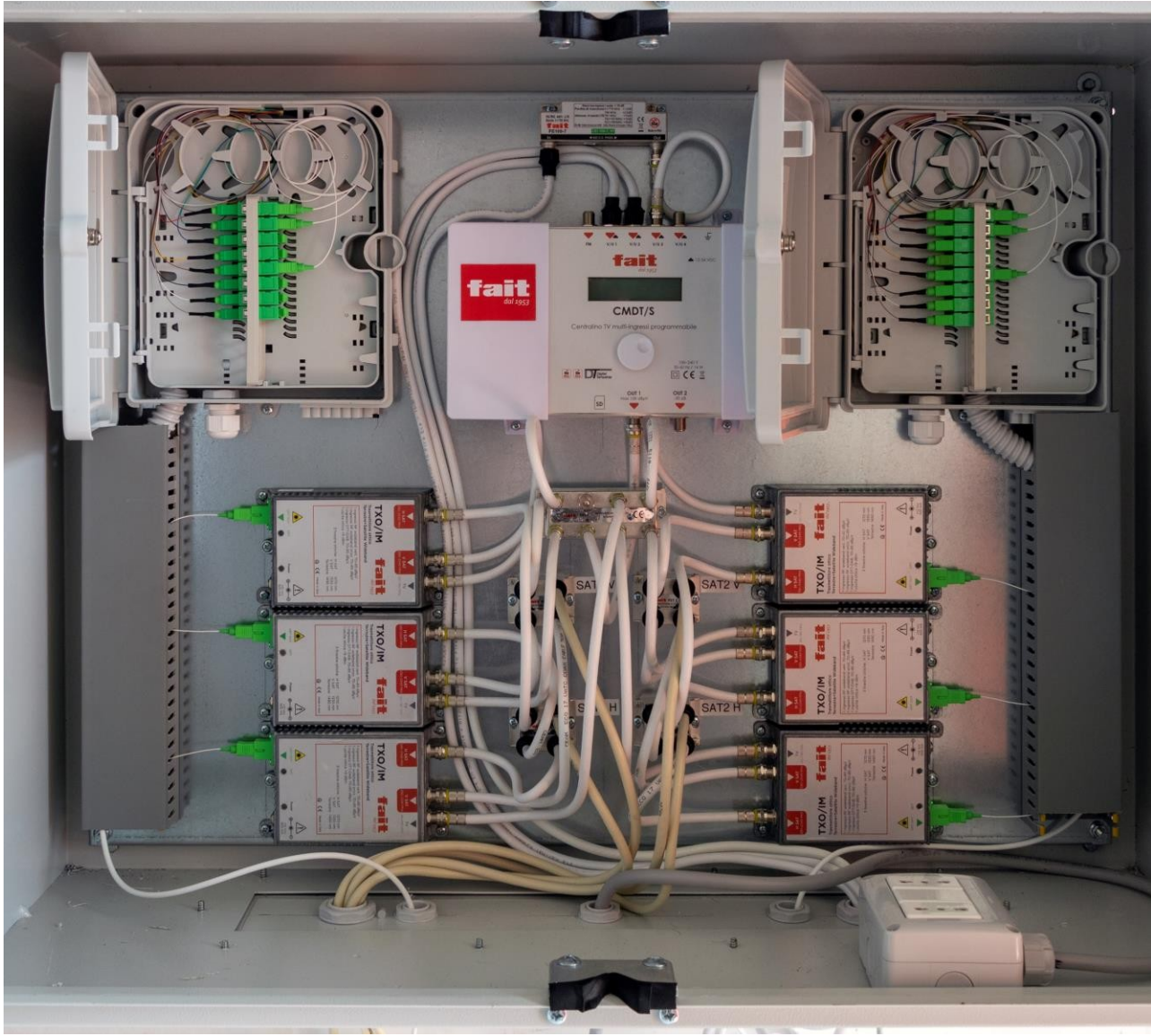
It is the optical transmitter located on the head of the system that converts the signals from the terrestrial TV switchboard and the LNB wideband of the dish to optical and sends them to the **Optical Distribution Center** of the building through 1 fiber of the riser cable.

**One transmitter can serve up to 32 apartments.**

Depending on the number of apartments, the number of transmitters needed must be calculated, e.g., 40 apartments require 2 transmitters and 2 fibers of the riser cable turned on.



Practical example of Head Terminal



# 04



Included Free  
Services

# Free Services for the Multiservice System

We are able to put the same contractor hired by the client in a position to carry out the work optimally, as **we offer a range of services free of charge** without any additional costs other than those of the materials we supply:

- First on-site inspection together with the contractor
- Plant design
- Estimation of necessary materials
- Final testing
- We guarantee the installation by taking charge of carrying out adjustments of the active components and checks of the optical connections (repairing any problems where necessary) and issuing a comprehensive final testing document.
- Issuing of System Certification

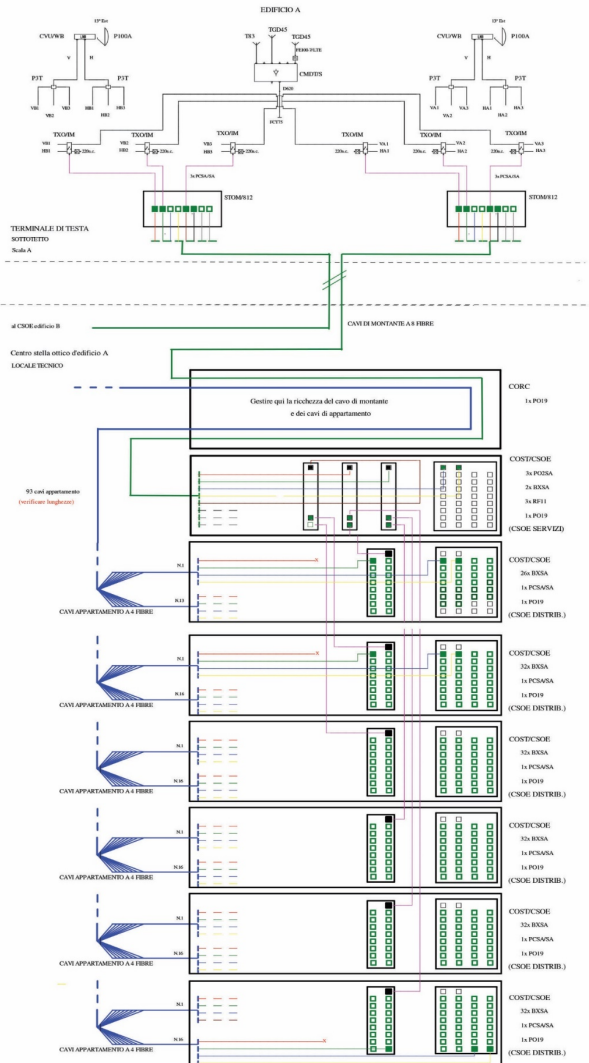


	Cod. Id. Collaudo _____ (anno) _____ / _____ (n°Pratica) _____	 1/6
<b>REGIONE SICILIANA</b> <b>AZIENDA OSPEDALIERA</b> <b>DI RILIEVO NAZIONALE E DI ALTA SPECIALIZZAZIONE</b> <b>GARIBOLDI • S. LUIGI • CERRÒ • ASCOLI • TOMASELLI</b> <b>(LR. 11-4-95 N. 34)</b> <b>CATANIA</b>		
VERBALE RELATIVO ALLA FORNITURA DI ATTREZZATURE/ARREDI SPECIFICATI NELL'ALLEGATO ORDINE N° _____ PER L'ACQUISTO DI _____ CONSEGNALE ALL'UNITÀ OPERATIVA DI _____ PRESSO IL PRESIDIO OSPEDALIERO: _____ REPARTO DI DESTINAZIONE: _____ CODICE / DESCRIZIONE STANZA: _____ CENTRO DI COSTO: _____ VALORE FORNITURA (IVA ESCLUSA) _____		
CHE LA SUDDETTA DITTA HA PROVVEDUTO ALLA CONSEGNA ED INSTALLAZIONE DEI PREDETTI BENI: <input type="checkbox"/> IN DATA _____ CON DOT. _____ DISPONIBILE (SI) (NO) _____ <input type="checkbox"/> IN DATA _____ CON DOT. _____ DISPONIBILE (SI) (NO) _____ <input type="checkbox"/> IN DATA _____ CON DOT. _____ DISPONIBILE (SI) (NO) _____ <input type="checkbox"/> IN DATA _____ CON DOT. _____ DISPONIBILE (SI) (NO) _____ <input type="checkbox"/> IN DATA _____ CON DOT. _____ DISPONIBILE (SI) (NO) _____ <input type="checkbox"/> IN DATA _____ CON DOT. _____ DISPONIBILE (SI) (NO) _____ <input type="checkbox"/> IN DATA _____ CON DOT. _____ DISPONIBILE (SI) (NO) _____		
TIPOLOGIA ACQUISIZIONE: <input type="checkbox"/> ACQUISTO <input type="checkbox"/> VISIONE <input type="checkbox"/> SERVICE <input type="checkbox"/> NOLEGGIO <input type="checkbox"/> _____ <input type="checkbox"/> APP. NUOVO <input type="checkbox"/> APP. GIÀ IN USO <input type="checkbox"/> APP. IN VISIONE <input type="checkbox"/> APP. IN COMODATO <input type="checkbox"/> _____		
CHE OCCORRE ACCERTARE, ALLA PRESENZA DI UN RAPPRESENTANTE DELLA DITTA, L'AVVENUTA CONSEGNA/INSTALLAZIONE ED IL REGOLARE FUNZIONAMENTO DELLA/E ATTREZZATURA/E (E/O ARREDI) IN ARGOMENTO. <b>SI RENDE NOTO CHE LA HOSPITAL CONSULTING S.P.A., IN QUALITÀ DI RESPONSABILE DEL SERVIZIO DI INGEGNERIA CLINICA PRESSO QUESTA AZIENDA OSPEDALIERA, HA IL COMPITO DI EFFETTUARE IL COLLAUDO TECNICO.</b> <b>L'ESITO POSITIVO DELLE VERIFICHE È CONDIZIONE NECESSARIA PER IL PAGAMENTO DELLE SPETTANZE.</b>		
<small>* Il numero di protocollo sarà assegnato dal Settore Provveditorato.</small>		

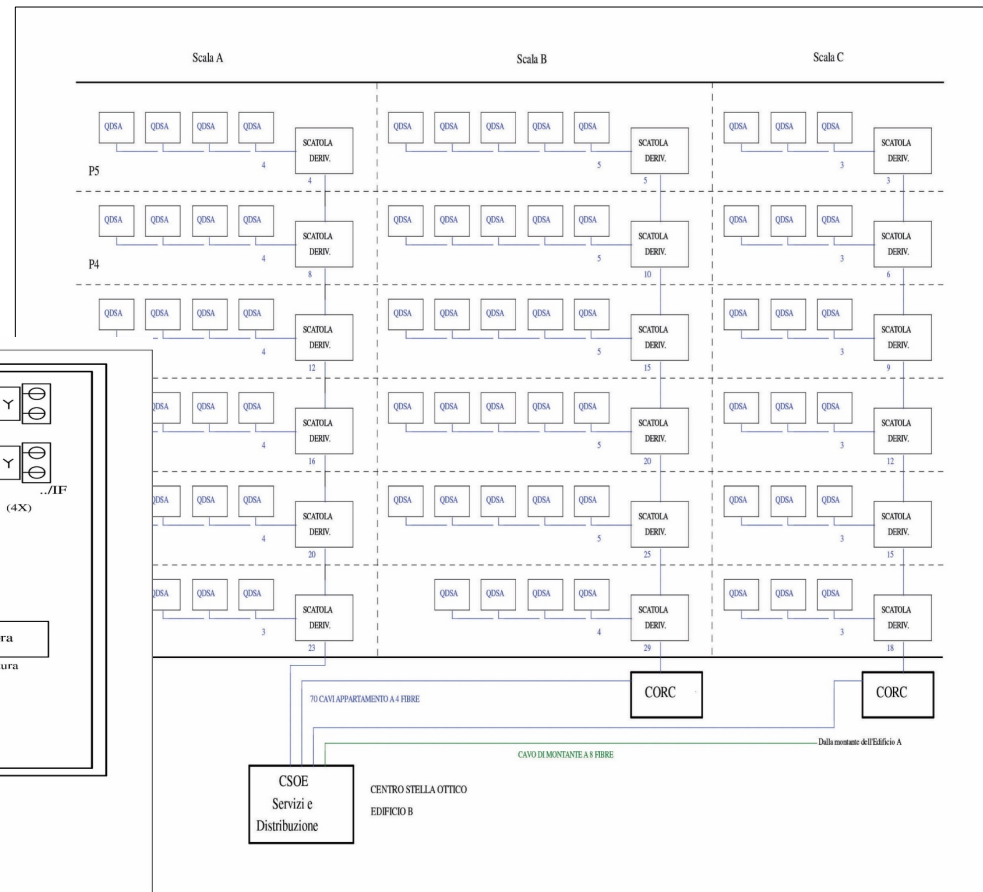
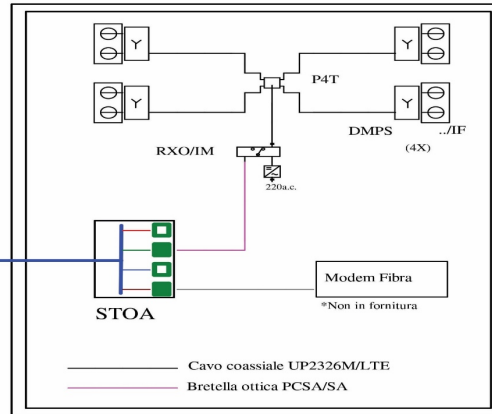


# Project Examples

Committente: - -



Committente: - -



## Example of a quote

faiT		OFFERTA MATERIALI		dal dd/mm/yyyy	
<b>faiT</b> dal 1953 FAIT S.R.L. Via Trionfale, 11060 - 00135 Roma (RM) Tel. +39.06.30612203 Fax +39.06.30614096 www.fait.it - e-mail: fait@fait.it P.Iva 03878561009		Cliente _____ Ragione sociale _____ Cap _____ Città _____ Tel. _____ Fax _____ E-mail _____ Cell. _____			
Rif. Offerta	SP21_140				
Descrizione Offerta:	Impianto Tv - Sat Multiservizio				
Articolo	Descrizione	Qtà	Prezzo unitario	Importo Totale	
<b>APPARECCHIATURE ATTIVE PER LA RICEZIONE DEI SEGNALE DEL DIGITALE TERRESTRE E SATELLITARE: TERMINALE DI TESTA</b>					
P104A	PARAB. ALLUM. Ø 105 CM CONF. CARTONE SINGOLO	2	€ 147,00	€ 294,00	
CVUWB	CONVERTITORE 2 USCITE WIDEBAND	2	€ 45,00	€ 90,00	
P3T	PARTITORE SATELLITE/TERRESTRE 3 VIE	4	€ 8,00	€ 32,00	
TXOIM	TRASMETT. OTTICO TERR. + SAT WB IMPIANTI MULTIS.	6	€ 745,00	€ 4.470,00	
PCSA/SA	CORDONE OTTICO SC/APC-SC/APC 1 MT	6	€ 7,00	€ 42,00	
T83	ANTENNA VHF 7 ELEMENTI B. 3"	1	€ 40,50	€ 40,50	
TGD45	ANTENNA UHF DIGIT. TERR. 37 ELEMENTI	1	€ 65,00	€ 65,00	
A2160	ANTENNA UHF DIGIT. TERR. 15 ELEMENTI	1	€ 24,00	€ 24,00	
FE100-7/LTE	FILTRO LTE BANDA TERR. 0-790 MHZ NORMA CEI	1	€ 85,00	€ 85,00	
CMDTT/S	CENTRALINO TV MULTI-INGRESSI PROGR. 120 DB	1	€ 422,00	€ 422,00	
D620	DERIVATORE SAT-TERR. 6 VIE - 20 DB	1	€ 14,00	€ 14,00	
FC775	RESISTENZA DI CHIUSURA 75 OHM	1	€ 0,30	€ 0,30	
Z1618M	CAVO COAX Ø 6,7MM, MATTASSA 100 MT	100	€ 0,95	€ 95,00	
<b>ZANCHERIA: SOSTEGNI PARABOLA E ANTENNE</b>					
AC760/E	SUPPORTO 46 CM PER PARABOLA	2	€ 34,00	€ 68,00	
D35	PALO INNESTO H 3 MT Ø 35 MM	1	€ 50,00	€ 50,00	
D40	PALO INNESTO H 3 MT Ø 42 MM	1	€ 67,50	€ 67,50	
ZN1011	ZANCA DOPPIA REGOLABILE	2	€ 37,50	€ 75,00	
<b>COLLEGAMENTO DAL CSOE AL TERMINALE DI TESTA</b>					
STOM/B12	SCATOLA OTTICA MONTANTE + 8 BUSSOLE SC/APC	2	€ 64,00	€ 128,00	
EF8/35	BRETTELLA OTT. BF G657A2 ECA EASYFIBER 35MT	1	€ 240,00	€ 240,00	
EF9/50	BRETTELLA OTT. BF G657A2 ECA EASYFIBER 50MT	1	€ 255,00	€ 255,00	
<b>CENTRO SERVIZI OTTICI EDIFICIO: CSOE</b>					
CORC	CASSETTO OTTICO RICCHEZZA CAVI	2	€ 160,00	€ 320,00	
COSB/CSDOE	CASSETTO SERVIZ/DISTRIBUZIONE FINO 16 UI	13	€ 277,00	€ 3.601,00	
PO2/SA	CASSETTO SPLITTER OTTICO A 2 VIE SC/APC	6	€ 48,00	€ 288,00	
PO16/SA	CASSETTO SPLITTER OTTICO A 16 VIE SC/APC	11	€ 95,00	€ 1.045,00	
PCSA/SA	CORDONE OTTICO SC/APC-SC/APC 1 MT	11	€ 7,00	€ 77,00	
RF11	REGGIFIBRA PER CASSETTO OTTICO 4 PEZZI	2	€ 12,00	€ 24,00	
BXSA	BUSSOLA OTTICA SC/APC	330	€ 3,00	€ 990,00	
CO19	ATTACCHI CASSETTO OTTICO PER RACK 19"	15	€ 10,00	€ 150,00	
<b>COLLEGAMENTI DAL CSOE AI QUADRI DISTRIBUZIONE SERVIZI APPARTAMENTO: QDSA</b>					
EF4/65	BRET OTT. 4F G657A2 ECA EASYFIBER 65MT+STOA	37	€ 190,00	€ 7.030,00	
EF4/80	BRET OTT. 4F G657A2 ECA EASYFIBER 80MT+STOA	16	€ 210,00	€ 3.360,00	
EF4/100	BRET OTT. 4F G657A2 ECA EASYFIBER 100MT+STOA	39	€ 240,00	€ 9.360,00	
EF4/120	BRET OTT. 4F G657A2 ECA EASYFIBER 120MT+STOA	26	€ 265,00	€ 6.890,00	
EF4/140	BRET OTT. 4F G657A2 ECA EASYFIBER 140MT+STOA	45	€ 290,00	€ 13.050,00	
<b>COMPONENTI NEI QDSA</b>					

SC/APC-SC/APC 1 MT	163	€	7,00	€	1.141,00
ERR. + SAT DCSS IMPIANTI MULTIS.	163	€	295,00	€	48.085,00
LITE/TERRESTRE 2 VIE	60	€	7,00	€	420,00
LITE/TERRESTRE 3 VIE	60	€	8,00	€	480,00
LITE/TERRESTRE 4 VIE	43	€	9,00	€	387,00
PRESA DOPPIA	472	€	10,00	€	4.720,00
ECP COMP.TICINO MATIX®	472	€	9,90	€	4.672,80
TRIPLA SCHERMAT.	4720	€	0,75	€	3.540,00
SC/APC-SC/APC 10 MT	163	€	9,00	€	1.467,00
SC/APC ATTACCO KEYSTONE	163	€	12,00	€	1.956,00
FIBRA PER SCATOLA 503	163	€	6,00	€	978,00
ONE COMPAT. TICINO MATIX®	163				



# Field training

We also offer a specific and customised training service free of charge by providing an operational working group on WhatsApp.

Our engineers, technicians and testers participate in the group together with the personnel of the installation company and the construction management, so that any critical issues can be dealt with and overcome in real time via messages, video calls and live demonstration videos of every single phase of the installation.

If necessary, we intervene directly in the field (training on the job).

In addition, when ordering materials, we provide

**free of charge:**

- Set of demo optical patch cords with Easy Fiber system to practice before proceeding to the system installation phase
- Entry level optical kit for doing checks and measurements during the cabling phases.



# 05

Size of a  
Multiservice System



## General table for the Multiservice System Optical Distribution Center according to the number of apartments

UP TO 16 APARTMENTS		STANDALONE CSOE (SERVICES + DISTRIBUTION)		1 SERVICE TV TERR. + SAT
APARTMENTS	N. OF 8-WAYS SPLITTERS	N. OF 16-WAYS SPLITTERS	OPTICAL DISTRIBUTION CENTER CONFIGURATION SUMMARY	
UP TO 8	1		1 CSOE WITH 1 8-WAYS SPLITTER	
FROM 9 TO 16		1	1 CSOE WITH 1 16-WAYS SPLITTER	

OVER 16 APARTMENTS		CSOE SERVICES + CSOE DISTRIBUTION			1 SERVICE TV TERR. + SAT
APARTMENTS	N. OF CSOE	N. OF 2-WAYS SPLITTERS	N. OF 8-WAYS SPLITTERS	N. OF 16-WAYS SPLITTERS	OPTICAL DISTRIBUTION CENTER CONFIGURATION SUMMARY
FROM 17 TO 24	3	1	1	1	1 CSOE SERVICES WITH 1 2-WAYS SPLITTER 1 CSOE DISTRIBUTION WITH 1 8-WAYS SPLITTER 1 CSOE DISTRIBUTION WITH 1 16-WAYS SPLITTER
FROM 25 TO 32	3	1		2	1 CSOE SERVICES WITH 1 2-WAYS SPLITTER 2 CSOE DISTRIBUTION WITH 1 16-WAYS SPLITTER
FROM 33 TO 40	4	2	1	2	1 CSOE SERVICES WITH 2 2-WAYS SPLITTERS 1 CSOE DISTRIBUTION WITH 1 8-WAYS SPLITTER 2 CSOE DISTRIBUTION WITH 1 16-WAYS SPLITTER
FROM 41 TO 48	4	2		3	1 CSOE SERVICES WITH 2 2-WAYS SPLITTERS 3 CSOE DISTRIBUTION WITH 1 16-WAYS SPLITTER
FROM 49 TO 56	5	2	1	3	1 CSOE SERVICES WITH 2 2-WAYS SPLITTERS 1 CSOE DISTRIBUTION WITH 1 8-WAYS SPLITTER 3 CSOE DISTRIBUTION WITH 1 16-WAYS SPLITTER
FROM 57 TO 64	5	2		4	1 CSOE SERVICES WITH 2 2-WAYS SPLITTERS 4 CSOE DISTRIBUTION WITH 1 16-WAYS SPLITTER



**fait**  
*dal 1953*