



Hotel Felix Olbia, Sardegna

Wireless Infrastructure & Networking Project in a Hospitality Environment

The technology project involved the construction of complete coverage wireless & networking infrastructure of the 4-star superior hotel Felix Olbia, located in the center of Olbia.

◆ BACKGROUND

Felix Olbia is a brand new 4-star superior hotel conceived as a smart hotel in the center of the city of Olbia. It is located at a social crossroads, on Aldo Moro Avenue, a vibrant natural shopping center. The structure is built of innovative and environmentally sustainable materials and processes, made 'intelligent' by home automation devices present in all environments.





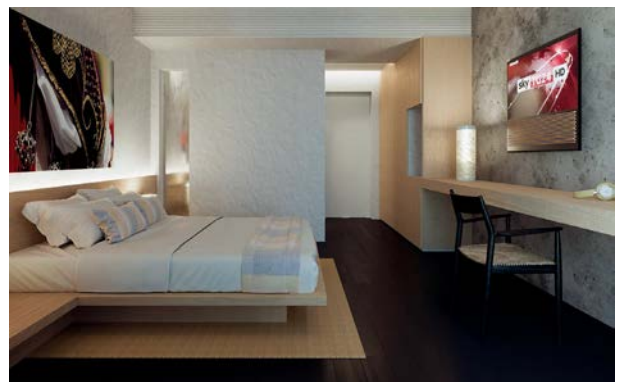
Felix Bistrot restaurant

▼ BACKGROUND

The hotel has 60 rooms furnished in a modern Sardinian style and equipped with every comfort. There are air conditioning, smart LCD TV, and free WiFi connection in all the rooms. You can also find a Jacuzzi and a large panoramic terrace with solarium in the SPA rooms



The hotel has a top-floor restaurant, two swimming pools and a spa with a sauna, Turkish bath, jacuzzi and emotional showers. The poolside restaurant serves continental breakfast and Italian and Mediterranean dishes. The hotel also has a multifunctional meeting room that can accommodate up to 60 people.





Solarium area

▼ CHALLENGE

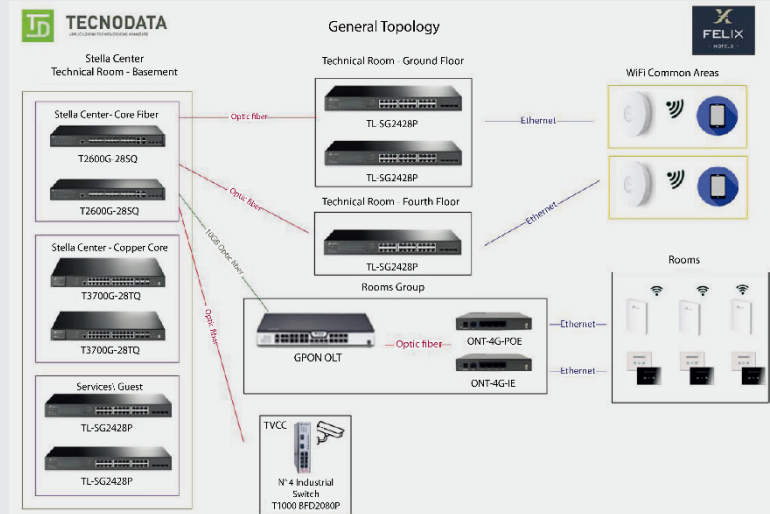
Felix Olbia requires a WiFi network spread throughout all areas of the structure, which could guarantee guests a seamless browsing experience both in the rooms and in the most crowded areas. Services such as "room control," "IPTV," and voice-activated services requested by customers can be delivered over the IP network. Felix Olbia required stable and efficient IP, that could integrate with different technologies. They had to adapt to different traffic safety and optimization configurations.

Technological innovation must combine with well-preserved rooms' aesthetics and focus on energy conservation.

The application scenarios of this project include:

- Reception
- Restaurants and Bars
- Rooms
- Meeting room
- Public areas





Network topology, general scheme

▼ SOLUTION

The design evaluation ultimately selected the TP-Link Cloud Managed Omada SDN solution.

A hybrid GPON/ Ethernet network has been built, TP-Link devices completely manage the Ethernet part, including IP switches and a WiFi network implemented using Omada Access Points. The uplinks are connected by 10GB, as shown in the following figure:

- **Gigabit Ethernet / 10Gigabit Ethernet structured cabling:** Planned to construct all distribution backbones, that support external video surveillance network. It utilizes the copper distribution network necessary for the connecting of services (public areas, offices, reception) IP telephony, Computers, Fiscal Banks, SmartTV, WiFi, Video Surveillance, etc.

- **GPON FTTR fiber to the**

room:

Widely distributed in each group of 3 rooms, it allows you to bring services such as WiFi, IP TV, IP telephony and room control.

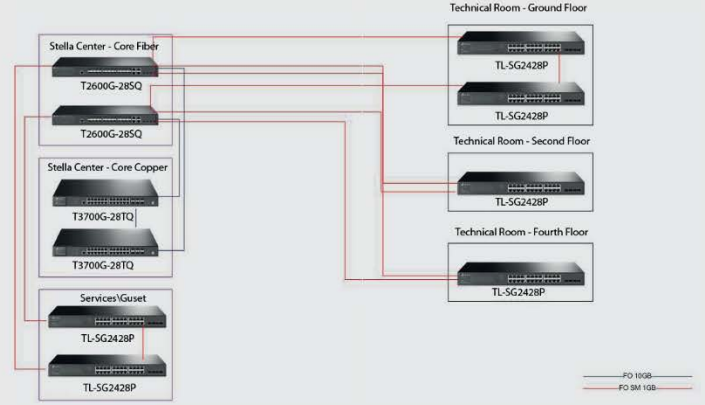
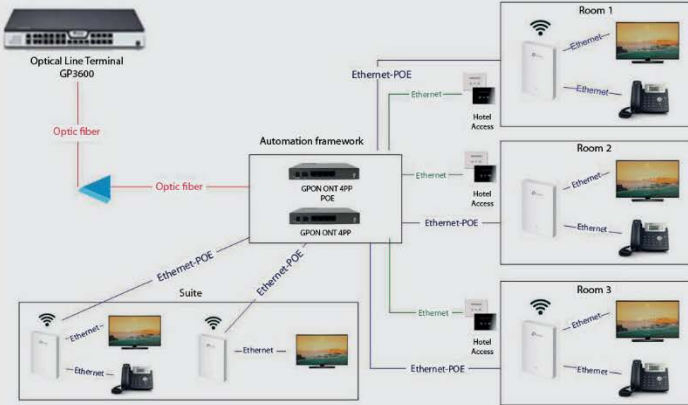
The core of the LAN network was built with **T3700-28TQ** switches and connected with 10Gbps uplinks to the **T2600G-28SQ** (fiber center) switches. The redundant 1Gbps uplink to the **TL-SG2428P** peripheral switch starts here. The network can support large amounts of traffic due to the guests' navigation at peak times and the multicast traffic deriving from the IPTV network.



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Rooms WiFi Solution

FELIX
HOTELS



Network topology, wireless room solution scheme and wired network scheme

▼ SOLUTION

An **EAP235**-Wall Access Point is installed in each room to connect the room's IPTV and IP telephony. Guest WiFi, IPTV networks and VoIP networks are on separate and isolated logical networks.

In high-density public areas, all the potential of **WiFi 6** has been implemented: higher speed, better performance in crowded places, and

lower energy consumption. The project involved installing TP-Link **EAP620 HD** and **EAP660 HD** WiFi 6 access points for WiFi coverage in public areas. Centralized network management is achieved through **Omada Cloud Controller Software**, which allows configuring the entire network in a scalable and straightforward manner.



The project was carried out by: **TP-Link Gold Partner Tecnodata**

