CASE STUDY | BUILDING

GIOIA 22

Communication System for Service and Emergency Management – Torre Direzionale "Gioia 22" – Porta Nuova Garibaldi – Milan

Brief profile of COIMA SGR - COIMA specializes in the investment, development and management of Italian real estate assets on behalf of institutional investors, with an integrated ESG impact approach.

COIMA Holding controls operating companies including COIMA SGR, investment and asset manager, that in total manage 27 real estate funds with more than EUR 8 billion of investments; COIMA REM, development and property manager, that in over 40 years have developed and managed more than 5 million square meters; and COIMA HT which operates in the field of technology in order to support the digital activities of the company.

COMMEND ITALY

PROJECT DETAILS

Customer
COIMA SGR – Milan (Italy)

Technical Data
- 6 x Intercom Server GE800 located in basement, lower and upper floors, connected with each other; redundant power supply;
- 4 x Intercom terminals EE980 at each operator station
- 59 x Intercom terminals WS211VD, vandal-proof, for emergency calls
- 12 x Intercom terminals, EF862A, vandal-proof, for elevator roofs
- 15 x Intercom Terminals WS212VD for elevator pits
- 2 x Intercom terminals EE320AR elevator machine room
- 54 x wall-mount Intercom stations WS800PD for technic rooms
- 9 x Intercom terminals WS800VD, vandal-proof with keypad for pedestrian access and driveways
- 8 x vandal-proof modules with video camera WSCM50V for pedestrian access and driveways
- 7x customized Intercom terminals with video camera for entrances and driveways
- 3 x vandal-resistant Commend bollards with Intercom terminals and video camera for pedestrian entrances
- 1 x interface to BMS Siveillance Siemens

THE CHALLENGE

The Gioia Tower 22, also called "Splinter of Glass", is part of the Porta Nuova project. It is a 120m high skyscraper located along Via Melchiorre Gioia. The whole project has been realized by COIMA SGR, Italy's leader in investment, development and management of real estate assets on behalf of institutional investors. The building has 26 floors above ground and 4 undergroud floors for a total gross area of 68,432 sqm.

This project stands out for its unprecedented standards of technological innovation and environmental sustainability. Keeping this in mind, the company's internal communication system had to enable easy and reliable serivce and emergency communication between the control room, the reception and

- Quiet spaces
- Information and help points
- Elevators (cabin, roof, pit, machine rooms)
- Elevator landings (fire brigade communication)
- Technical rooms
- Pedestrian accesses
- Driveway accesses
- Pedestrian and driveway accesses to the parking lot

System Architecture
Based on the standards of the IEC 62820 series describing Building Intercom Systems and providing guidelines for their usage (Part 3-2: Application Guide – Advanced Security Building Intercom Systems – ASBIS), it was decided to use digital Intercom terminals. The connection between the Intercom Terminals and the Intercom Server has been realized with a star network with digital lines (via telephone wiring – twisted pair or similar – without the use of active switches).
The primary power supply of the Intercom Server is provided by the 220V mains, while a uninterruptible power supply provides backup power for the entire sytem: with this solution (without the use of active switching equipment) it is therefore sufficient to power only the Intercom Servier in order to ensure the operability of the entire system.

Technical Characteristics / functions rif IEC 62820

- The hardware architecture is based on distributed and interconnected server
- High energy efficiency
- High availability and functional reliability
- Automatic and dynamic volume adjustment based on background noise
- High intelligibility coefficient – Speech Transmission Index (TSI) minimum greater than 0.7
- High audio quality
- Hands-free communication in Open-Duplex mode
- DSP-based background noise cancellation
- Link monitoring and always-on microphone speaker functionality
- Call priorization and automatic queuing of an unlimited number of calls
- Fast and efficient communication
- Caller identification
- Possibility of recording events, door openings, scheduled activities, etc.
- Interface with centralized supervision system – Siemens Surveillance BMS for management and diagnostics

THE SOLUTION

Commend Italia was able to deliver a system that fully complies with the relevant standards, in particular IEC 62820, as well as other customer requirements.
Six GE800 Intercom Servers were installed on three different levels to allow Intercom terminals in the respective zones to be connected to the relevant server. The three groups of Intercom stations were then interconnected using the cyber-secure Commend IP-Bridge technology, which enables the use of a copper pair connection without passing through a network switch.

The operator stations have been equipped with the EE980 Control Desk, featuring a large 7" display, with OpenDuplex® audio quality in eHD quality for natural hands-free communication at high volume levels. The touch screen display can be customized according to the user's needs by adding, for example, specific function keys or direct call keys. The display allows the visualization of video streams from the IP cameras at the entrances. The EE980 IP terminals, like the GE800 Servers, are connected by using the Commend IP-Bridge technology.

WS211VD SOS terminals have been installed at "quiet spaces" to allow direct calls to the appropriate operator station and to receive voice announcements.
The Commend terminals are extremely robust and protected against shock, dust and humidity (degrees of protection IK09 and IP66) and guarantee excellent speech quality at 16 kHz under all noise conditions. Thanks to specific features such as DSP-based background noise and echo cancellation, IVC and OpenDuplex®, Commend guarantees excellent speech intelligibility (STI - Speech Transmission Index - of 0.96 on a maximum scale of 1.00 - measured in the laboratory). Therefore, the SOS terminals are ideal for the use in any environment.

Digital terminals (EE320AR - EF862 - WS212VD) have been provided for the management of service communications with the elevator shaft (pit, elevator roof and machine room), while WS800PD devices with full keypad have been installed in the technical rooms to ensure a wide extension of communications.

The access communication to the tower was managed with WS800VD digital terminals in different configurations (standard installation, with custom terminal, installed on column) equipped with IP camera: also in this case, the secure connection through telephone pair allows wide availability of the system, making it possible for rescue teams to use a "global and secure" communication terminal outside the building. Cameras at the entrances have been directly connected to the LAN network considering that, in case of an event, the video function is of secondary importance compared to the audio communication.
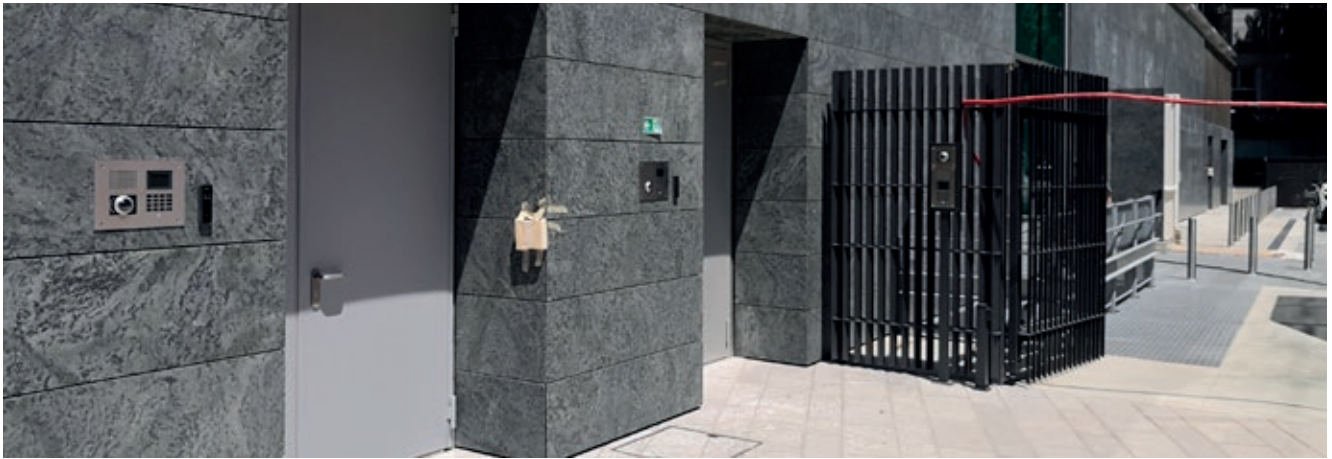
The entire intercom system has been connected to the Siemens Siveillance BMS system for management and diagnostics.

Going beyond the requirements and achieving excellence was a "must have" and Commend Italia's solution made it possible to do so: in fact, the products supplied are all tested and certified with extremely high MTBF values (MTBF stands for Mean Time Between Failures, a reliability parameter applicable to mechanical, electrical and electronic devices).
Some special features of Commend systems have been particularly appreciated, such as:

– Loudspeaker/microphone monitoring - ensures operational continuity of the intercom terminal and reduces the need for manual functionality checks;
– Monitoring of the network connection of each individual terminal;
– Audio Monitoring - programmable user security feature for automation of system actions (e.g., emergency call) based on predefined noise levels;
– Dynamic background noise suppression eliminates all ambient noise;
– IVC - intelligent volume control based on changes in ambient noise; and many more.

The experience and professionalism of the Commend Italia team is a further guarantee of success because it is not enough to have the best product in the world. It's necessary to have the competence to configure, manage and exploit it at its best.

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CUSTOMER

COIMA SGR – Milan (Italy)

Technology is an integral part of our daily lives.
We believe that technology can be a tool with which we can achieve sustainability, health and wellness goals, while paying attention to using it responsibly as a tool to serve people. We have chosen Commend products to continue to pursue this principle, thus guaranteeing the best possible performance (today and in the future) in internal communications, both in daily life and in the management of any emergency situation.
We believe that the technology, flexibility and quality of Commend products fully meet the health, safety and welfare needs of the people who work and live in our modern buildings, and that they comply with all applicable regulations.

COMMEND COMMUNICATION AND SECURITY SYSTEMS

Can you imagine a system that millions of people rely on every day and where every word counts? That's the world of Commend! Secure and reliable communication is our passion.

Commend is a global market leader with more than 50 years of experience in voice transmission. We provide integrated video as well as other interfaces to external systems in compliance with legislation and international standards. Commend is the obvious choice wherever secure communication systems are required.

One of our local representatives will be happy to provide further information.

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