

Henri Coandă International Airport Bucharest, Romania

submitted by Begoña Flores Canseco, ThyssenKrupp Elevator



Project Description

Bucharest's Henri Coandă International Airport is Romania's busiest airport. The expansion and modernization of the facility has become one of the country's largest construction projects. The airport is embarking on phase three of its EUR150-million (US\$206.23-million) development program that consists of the expansion of the departures and arrivals halls and concourse. At the end of this phase, to be completed in 2012, the terminal will have a processing capacity of 4,500 passengers per hour. Thus, the airport's capacity is expected to increase to a total of six million passengers per year.

With the existing terminal approaching maximum capacity and little expansion possible, a new terminal building (Henri Coandă 2) and hotel are planned. The new terminal will be built at the east end of the current site and consist of four halls, each capable of handling five million passengers annually. By 2023, Henri Coandă 2 should be able to handle an estimated 20 million passengers per year. The terminal will be connected to the new A3 Bucharest-Brasov motorway, railway system and M7 Metro Line.

ThyssenKrupp Elevator Romania received the contract to deliver, install and provide maintenance service for 13 elevators, 18 escalators and four moving walks. Work on the project, valued at EUR1.73 million (US\$2.4 million), began on September 30, 2010.

Installation

As one of the largest and most complex new installation and modernization projects in Romania, many challenges were posed. The airport was to remain in full operation during installation, with tight security and restrictive measures in place. Mechanical installation for all units had to be completed in a month and a half, which made for a small delivery and installation window. Also, due to the Schengen Agreement, a travel treaty to which 25 European countries currently adhere, all major civil works at the new terminal had to be complete by November 15, 2010. This made for a worksite crowded by other subcontractors, slowing down and increasing the difficulty of ThyssenKrupp Elevator's equipment installation.


To circumvent potential setbacks, work was performed in two shifts, one during the day and one at night. Installation time was reduced by up to 25% per unit once the first unit was installed as the project team learned from the experience. During the project, ThyssenKrupp Elevator became the first company in Romania to receive a license for the installation and maintenance of escalators and moving walks. This ISCIR (state inspectorate for boilers, pressure vessels,

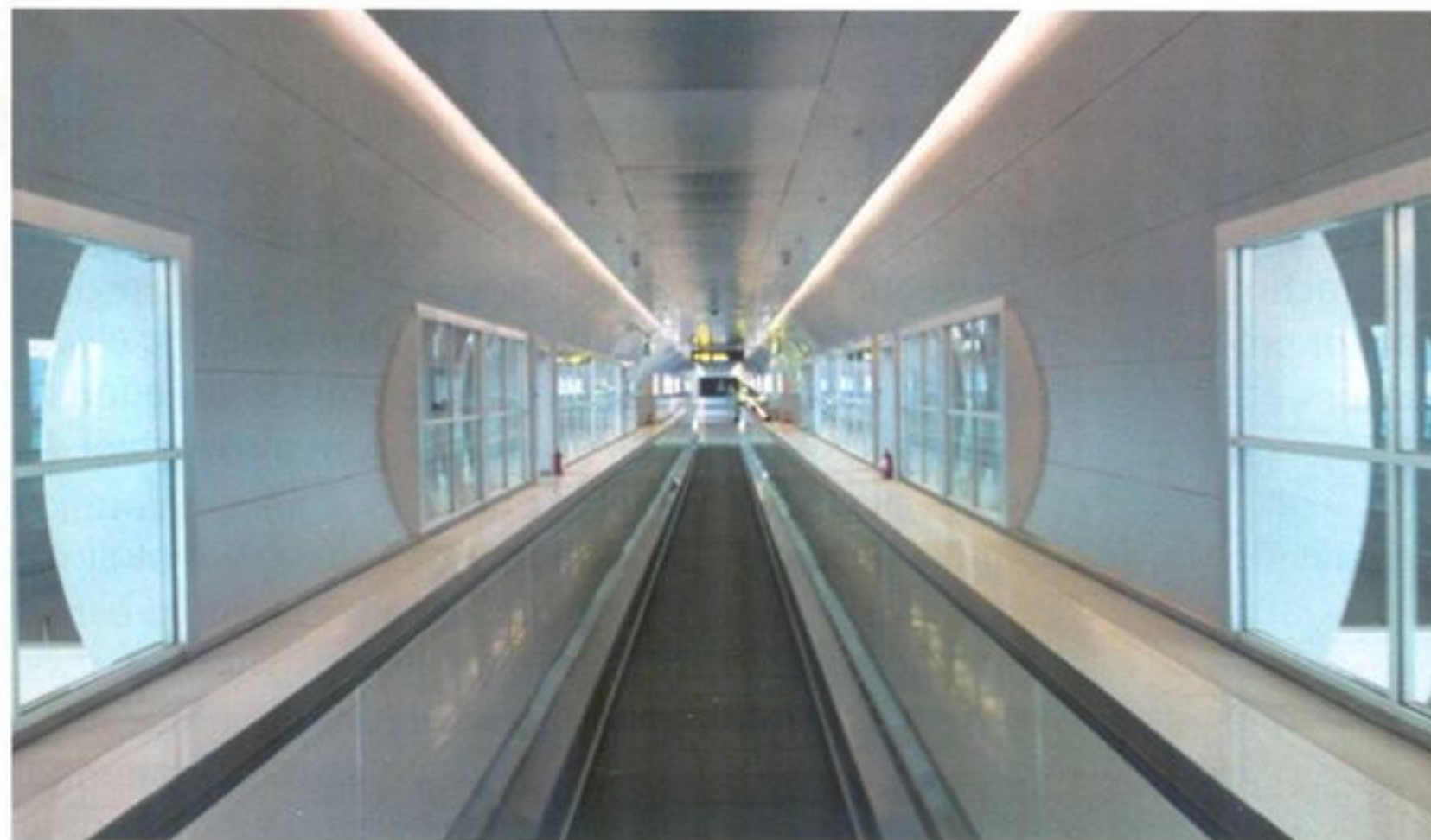
hoisting-equipment control)-issued license has since become mandatory due to an October 2010 change in law.

Energy efficiency is among one of the major goals of ThyssenKrupp Elevator's global sustainable efficiency program. All vertical-transportation units installed were equipped with an energy-efficient variable-speed system. When the units are not in use, they automatically slow down. However, when a passenger passes through a light barrier to board the unit, it accelerates to normal speed. Depending on passenger volume, this system can increase energy efficiency by 60%.

The four moving walks range in length between 75 and 29 m. Two of the units are among the longest moving walks in the country, at 74.85 and 61.8 m, respectively. They were equipped with a constant-operation programmable logic control system; variable-voltage, variable-frequency converter; and radar sensor for automatic start when a passenger is detected. A worm gear with a flanged motor was also installed, in addition to an IP54-protected control box.

Transparent rectangular safety-glass balustrades were equipped with a stainless-steel satin finish, stainless-steel handrail guides, black handrails, steel plate with black anti-friction-coated skirting panels, aluminum plain-groove floor plates and combplates, and handrail antistatic devices. Pallet demarcation lights were installed at both landings, along with combplate lighting. Pallets were painted silver, and the main truss received two layers of corrosion protection. Safety devices included handrail speed sensors, missing pallet sensors, open machinery-space safety switches, skirting safety brushes, dynamic traffic lights in the inner decking profile, brake monitoring, inspection covers and floor plates.

ThyssenKrupp Elevator's work on Henri Coandă International Airport was completed in early 2011. The new terminal extension was opened to the public on March 29, 2011. 



Specifications

- ◆ ThyssenKrupp moving walks, four units
- ◆ Length: 29-75 m
- ◆ Control system: variable-voltage, variable-frequency converter with a constant-operation programmable logic control system
- ◆ Balustrades: transparent safety glass, stainless-steel handrail guides, black handrails, steel plate with anti-friction-coated skirting panels, aluminum plain-groove floor plates and combplates, and handrail antistatic devices

Credits

Owner and developer: Bucharest Airports

Designer, architect, and project developer and management:

Romairport SRL (Astaldi Group Italy)

Consultant: IPTANA

Moving-walks supplier:

ThyssenKrupp Escalator China