

Christ the Redeemer, Rio de Janeiro

- No lubrication
- Reduced energy consumption
- Low noise levels
- Environmentally Responsible

Challenge: Improve access to a world-famous mountaintop monument without detracting from the natural setting or the monument itself



Artist drawing of elevator hoistway (bottom right) and escalators to monument.



Tourists riding the escalator down toward the elevators. The Gen2 hoistway is at top left.

Since 1931, the open arms of the 38.1 meters (125-foot) Christ the Redeemer monument have beckoned millions of visitors to the summit of Corcovado mountain to enjoy the spectacular views of Rio de Janeiro, 710 meters (2,343 feet) below.

To reach the monument, most visitors would take a scenic train ride up the mountainside, through tropical Brazilian foliage with views of the mountain and city below. At the end of the ride, however, visitors had to climb a series of steep staircases—220 steps in all—to reach Corcovado’s summit. Those unable to make this final, difficult ascent missed experiencing the statue up close and the sweeping, breathtaking views of Rio and the Atlantic Ocean.

The Solution: Otis and the Gen2™ elevator

In 2000, the not-for-profit Roberto Marinho Foundation of Rio de Janeiro led a three-year, 9.6 million real (US \$4 million) effort to restore and revitalize the Christ the Redeemer monument and the surrounding visitors’ area. This included improving access to the monument itself.

The monument’s summit location, in the middle of the largest urban forest in the world, presented the Foundation with significant technical and environmental problems as well as the probable heavy visitor use of the new equipment. The Foundation studied nearly two dozen arrangements for moving visitors to the summit before selecting the Otis solution. Initial proposals included the use of moving sidewalks or the use of only elevators or only escalators.

Then, Otis launched the Gen2™ elevator.

The Gen2 system, the first ever to use flat, polyurethane-coated steel belts to lift the elevator car, was selected over traditional hydraulic-powered elevator technology. The Gen2 system needs no lubrication, eliminating the chance of oil spills in the park. Moreover, its permanent magnet (PM) machine technology reduces energy consumption by as much as 40 percent, an especially important benefit in Brazil where the energy crisis has caused power rationing. The Gen2 system also has a very low level of noise.

The three panoramic elevators, equipped with clear sliding glass doors, are installed near the train’s arrival and departure platform. Each carries up to 13 passengers 30 meters (90 feet) to a visitors’ area. There, Otis high-technology escalators move riders to the summit. Both the elevator tower and escalators are designed to follow the contours of the north side of the mountain. Without the requirement for a machine room, the height of the elevator hoistway is lower than a conventional elevator system, and the hoistway can be concealed among Corcovado’s trees. The system is nearly invisible from the city below.

Speaking about the decision to use Otis’ Gen2 elevators and escalators, Silvia Finguerut, Foundation general manager of historical and environmental patrimony, expressed her confidence in Otis.

“I am completely sure we are executing the best solution,” Finguerut said. “Otis for sure is the most well-known, established elevator enterprise in Brazil. We know we have a good partner working with us.”

