

COVERAGE SYSTEMS

Is Bankasi Towers, Turkey

Powerwave Technologies Delivers Wireless Coverage System for One of Istanbul's Tallest Office Buildings

Coaxial Wireless Solution Keeps Costs in Check for 52-Story High-Rise Project

In the late 1800s, the term “skyscraper” was assigned to a building that reached just six floors high; over the last century, through a precise balance of economics, engineering and construction, architects have pushed the limits to stretch buildings ever higher. While these large networks of steel, concrete and glass are amazing from the outside, so too is the intricate networking done inside to provide high-rise denizens with all that’s needed in today’s fast-paced, technology-savvy world.

Among the tallest buildings in Turkey is the 52-floor IsBank Tower 1, part of the Is Bankasi Towers Complex located in Levent – a main business district in Istanbul. Looming 194 meters high (638 feet including the flag pole), several details of the impressive building resemble New York’s Trump Tower, which was designed by the same firm – Swanke Hayden Connell Architects.

The 50,795-square-meter facility includes an 800-seat theatre, an exhibition gallery, a reception hall, and 30 floors of office space equipped with the latest technology. When the building opened in 2000, wireless coverage was sparse, and the high-rise needed to be retrofitted from lobby to penthouse with a more robust wireless infrastructure. This tall order was assigned to Powerwave Technologies.

Today’s wireless deployments generally leverage fibre optics-based solutions. However, after considering Turkey’s affordable labor costs and the existing wireless infrastructure, the Powerwave team determined a coaxial-based solution was the most cost-effective and efficient option for the project. To work around challenges posed by neighboring base stations outside of the building and existing systems already installed within the building, Powerwave’s team devised an indoor Distributed Antenna System (DAS) to improve access to wireless voice and data services.

The dual-cell site solution divided the building into two regions – Floors -5 through 13 and Floors 14 through 42. The first cell site relied on the existing base station, while repeaters connected to this original base station provided coverage for floors 14 and above up.

“The beauty of this project – aside from it being an all-coaxial solution – is that it isn’t just a pure repeater solution, but instead a repeater plus base station design,” said Kamyar Yabandeh, business manager, Global Wireless Solutions, Powerwave Technologies. “Drawing on our vast experience using repeaters in very complex environments worldwide, we were able to keep costs at a minimum for the operator by leveraging existing infrastructure, without having to install additional base stations throughout the complex.”



COVERAGE SYSTEMS

Is Bankasi Towers, Turkey

Wireless Solution for High Rise Office Building

The indoor multi-band system consists of OMNI and panel antennas, RF splitters, RF channel selective GSM 1800 repeaters and coaxial cables ranging from 1/2-inch to 7/8-inch in thickness.

The DAS design called for antennas placed on every floor to ensure that signal quality remain constant throughout the building. Adding to the complexity of the project, the coaxial cable for each antenna – which, depending on the level layout ranged from two to eight antennas per floor – had to melt into the environment to maintain building aesthetics. The installation crew tackled this challenge working diligently to cable between the floors, ceilings and walls to maintain overall attractive aesthetics.

From the day Powerwave received the order, the team worked swiftly to quote, design, install, optimize and test the high-rise project – completing all work within the given 12-week timeframe. The IsBank Tower 1 was Powerwave's first turnkey project completed in the EMEA region.

“The In Bankasi project is a good example of how businesses working with a limited budget can still implement a stellar wireless infrastructure as all-coaxial solutions are still a viable option today depending on the region, building conditions and overall project parameters,” said Yabandeh.

About Powerwave Technologies

A global leader in end-to-end wireless coverage and capacity solutions, Powerwave Technologies, Inc. offers cutting edge wireless infrastructure to address the demands of enterprise and commercial customers. Powerwave offers a comprehensive suite of solutions, including Antennas, Base Station Solutions and Coverage Solutions. Powerwave's product line supports all wireless network protocols and frequencies including Next Generation Networks in 4G technology such as WiMAX and LTE. Powerwave solutions, products and services also help wireless operators and OEMs reduce capital and operating expenses, speed rollout of services, improve coverage and capacity, and reduce environmental impact. For more information, visit us at www.powerwave.com. Powerwave, Powerwave Technologies and the Powerwave logo are registered trademarks of Powerwave Technologies, Inc.



Worldwide Corporate Headquarters
1801 East St. Andrew Place
Santa Ana, CA 92705 USA
+1 714 466 1000
+1 714 466 5800 FAX
www.powerwave.com

Main European Office
Knarrarnasgatan 7 8tr.
164 40 Kista, Sweden
+46 8-540-822-00
+46 8-540-824-91 FAX

Main Asia-Pacific Office
23 F Tai Yau Building
181 Johnston Road
Wanchai, Hong Kong
+852 2512 6123
+852 2575 4860 FAX