



Advanced Facade Access Solution at Europe's Gate, Madrid

The Puerta de Europa towers, also known as Europe's Gate in Madrid, Spain, are a marvel of architectural innovation, being the world's first inclined towers. These iconic twin towers, designed by Philip Johnson and John Henry Burgee, rise to a height of 113.8 meters with a 15-degree inclination. Their unique structural design includes a central concrete axis, a subterranean counterweight system to manage the inclination forces, and triangular structural elements on the facades to prevent deformations. CoxGomyl was commissioned to update the Building Maintenance Unit (BMU) to integrate modern safety devices, enhance cleaning cycles, facilitate glass replacement operations, and ensure complete facade access.

Facts & Figures

Completion	March 2023
Building Height	113.8m
Building Type	Commercial
No. of BMUs	1
Outreach	3.9m
BMU Type	5000 Series

Innovative Solution for Complex Needs

The Puerta de Europa towers required a modern solution to maintain striking facades. CoxGomyl delivered an innovative facade access system that included the longest cradle ever constructed, measuring 34 meters. The new system featured three roof carriages, with the central carriage housing the hoist unit and a hydraulic platform to minimise the cradle's visibility when parked. The cradle had telescopic extensions and a guiding system to adjust to the varying facade lengths, as well as a mobile articulated arm for glass panel replacement.

Overcoming Engineering and Logistical Challenges

Designing this complex access system to support the unprecedented cradle length was a significant engineering feat. Limited information about the building's structural design necessitated extensive testing to validate the facade's structural members. The CoxGomyl team conducted special tests at our production facilities to ensure the new cradle did not exceed the mullion guides' strength.

The project also required meticulous coordination for the rigging operation in one of Madrid's main avenues, a critical urban transport hub. To minimise disruption, the operation began at night and concluded in the afternoon, showcasing CoxGomyl's capability in executing complex logistical operations efficiently.

CoxGomyl was selected for this project thanks to our unmatched expertise in designing innovative facade access systems. Our ability to provide a customised solution that met the specific needs of the Puerta de Europa towers was pivotal in our selection. The facade access team from ARUP, with offices in Spain, the UK, and Italy, collaborated as consultants, contributing to the project's success.

