



On-site retrofit and modernisation of a 36-year-old BMU at the first leaning office tower in the world

The ICON Tower, also known as Europe’s Gate in Madrid, Spain, is a marvel of architectural innovation. These iconic twin towers, designed by Philip Johnson and John Burgee, boast a unique 15-degree inclination and reach a height of 113.8 meters. Maintaining the facade of these inclined towers presents a significant challenge due to their complex shape.

Innovative Retrofit and Modernisation Approach

CoxGomyl was tasked with retrofitting the 36-year-old Mannesmann Building Maintenance Unit (BMU) to ensure complete facade access, enhance cleaning efficiency, and integrate modern safety features.

- **Modernisation of the Existing BMU:** A complete electrical system overhaul, modern safety devices, replacement of wire ropes, retrofitment of the cradle and spindles, and track upgrades.
- **Overcoming Challenges:** The lack of original BMU drawings and technical data necessitated extensive on-site measurements. CoxGomyl’s engineering team then designed and rebuilt the necessary parts for modernisation. Additionally, the electrical system was entirely redesigned, installed, and tested by the team.
- **Expertise in Facade Systems:** CoxGomyl’s vast experience in resolving issues with complex facades proved invaluable in this project. Their expertise allowed them to address the challenges posed by the inclined facade of the ICON Tower.

Environmental Impact and Sustainability Benefits of Retrofit and Modernisation

By opting for on-site retrofit and modernisation, CoxGomyl significantly reduced the carbon footprint associated with this project. This approach resulted in significant CO2e reductions and more circular offering due to several factors:

- **Reduction in Raw Material Usage:** Retrofitting the existing BMU minimised the need for new materials, contributing to a more sustainable solution.
- **Decreased Manufacturing Emissions:** Modernising on-site reduced the emissions that would have been generated by manufacturing a new unit.
- **Extended Equipment Lifespan:** The retrofit extended the BMU’s operational life, promoting long-term sustainability and reducing waste.

Proven Track Record and Long-standing Customer Relationship

The client selected CoxGomyl due to their 20-year relationship and 15 years of maintaining the existing BMU. CoxGomyl’s successful replacement of the BMU of the neighbouring tower further demonstrated their expertise. Their proven track record and experience in complex facade systems ensured the successful modernisation of the ICON Tower’s BMU, enhancing its lifespan, safety, and efficiency.

Facts & Figures

Commencement	December 1989
Completion	1996
Building Height	114m
Building Type	Office
No. of BMUs	1 BMU (2 trolleys + 1 central hoist)
BMU Type	Custom Solution

