



CoxGomyl deliver a highly engineered building access system for Expo 2020 Dubai

## Facts & Figures

<b>Commencement</b>	March 2018
<b>Completion</b>	January 2020
<b>Building Height</b>	140m
<b>Floor Count</b>	N/A
<b>No. of BMUs</b>	2 Gantries
<b>Outreach</b>	78m
<b>Building Type</b>	Commercial



As an industry leading facade access solution provider, CoxGomyl have been tasked with overcoming the numerous challenges presented by the Al Wasl Plaza Trellis, the focal centrepiece of the Expo 2020 Dubai for its 200 participants and an estimated 20 million visitors.

The unique dome structure by Adrian Smith + Gordon Gill Architecture is located in the central plaza area. Spanning 130 metres and reaching 67 metres in height, the Trellis has been conceived to echo the design of the Expo 2020 Dubai logo and is defined by a shell frame structure with steel pipes forming a complex pattern of rings varying in shape and size. The Trellis serves as the main venue for all of the Expo's major events and as a hub connecting the various themed areas. The translucent facade surface will also provide the canvas for projections which will create an immersive 360 degree experience, visible. To guests from both inside and outside the dome.

Bearing in mind the practical and aesthetic importance of the central Plaza Trellis, an effective facade access solution was vital to the success of the Expo as a whole. The building access system needed to be capable of navigating the complex geography of the building while also providing easy and convenient access for a wide range of cleaning and maintenance tasks on both the interior and exterior facade surfaces. This includes access for the structure itself as well as the all-important projection equipment, LED lighting and advertising materials.

CoxGomyl's expert team developed a highly engineered track system for a remarkably large traversing gantry system which will meet all of the specific requirements of this challenging project. The tracks have been specially developed to follow the complex forms of the steel frame structure and minimise the visual impact on the Trellis. This involved designing tracks with both horizontal and curving, sinusoidal forms while also delivering seamless synchronisation of the drive mechanism between the varying track layouts. The exterior of the building is served by a system of four separate tracks with two operating on a rack and pinion drive and two specifically designed to follow and complement the sinusoidal sections with a friction drive mechanism. Similarly, the interior of the dome is accessed by a system comprising of three tracks; two with rack and pinion drives and one with friction drive for the curving sinusoidal sections. At 78 metres and 69 metres respectively, this is one of the longest gantry systems developed by CoxGomyl and also among the biggest in the world.

A strong history of successfully deployed facade access solutions along with our team's demonstrated engineering expertise during the consultation process made CoxGomyl the ideal choice of facade access provider for this challenging project.