



# manntech

The pioneers in advanced German  
engineered facade access systems

[www.manntech.com](http://www.manntech.com)



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Manntech is recognised globally for advanced, German high quality engineered building maintenance units, pioneering many of the facade access systems seen in the industry today.

With over 60 years of experience, Manntech have the longest history of innovation in delivering end to end building access solutions for the world's most complex architectural structures.



## Bespoke Solutions

The Manntech brand is synonymous with the design and manufacture of high quality, bespoke solutions made for purpose to suit complex facades worldwide. Our customised facade access solutions are exclusively developed to meet the various requirements of specific architectural challenges. These unique solutions are conceived and tailored to the requirements of the building in terms of the design aesthetic, the technical parameters and the practical access requirements for the maintenance of the building.

Manntech have a wealth of experience in developing bespoke access solutions for buildings with numerous architectural features where standard systems are not an option. This includes staggered height constructions, facades with numerous protrusions and recesses and systems for sloping or spherical roofs.

We are regularly involved with numerous 'landmark' projects where the architectural integrity of the building is paramount, demanding that the access solutions meet the same high standards of technological innovation to preserve the clean lines of the building structure. This often means drawing on all of our expertise and experience to deliver an access solution integrated into the contours of the building without losing functionality.

Some of our landmark projects include the Pylon of the Erasmus Bridge in Rotterdam, which provides access to all facades for painting, the World Trade Centre in Abu Dhabi where Manntech have four high angle climbing machines garaged neatly inside the buildings and the mega tall Shanghai Tower.



### Custom solutions for a unique building

#### The World Trade Centre, Abu Dhabi

The pinnacle of our complex, customised range can be found in action at The World Trade Centre in Abu Dhabi. With two towers of 58 and 88 stories respectively and a total floor area of 550,000m<sup>2</sup>, Manntech's solution was the only proposal that could meet the high expectations of architects Norman Fosters. They demanded that the Building Maintenance Units (BMUs) must leave the building's design unspoiled without sacrificing any efficiency in operation.

These challenges were met with a number of unique access solutions including four BMU systems which are all completely concealed when not in use. To complement the unique curvilinear shape of the building, Manntech also developed a custom-built twin track on a roof slope of 55 degrees in order to effectively maintain the high energy-performance panels.





## Refurbishment and replacement of aging access systems

Manntech's range of products are designed and engineered to last long term and many of our systems can still be seen in use decades after installation. Ongoing maintenance is still an important factor in ensuring the optimum performance and safety of any machine and, in a fast-moving world, the original solution may no longer suit the current needs and uses of the building. Manntech can replace your original facade access equipment to optimum functionality, allowing you to mitigate the risks of having an untrained company provide maintenance. With the input of our team across the world this is a valuable asset to have in your corner. Your equipment, your people and your property are all too valuable to leave the service in the hands of unqualified providers.

Providing access solutions for aging skyscrapers is one of the largest growing aspects of Manntech's services worldwide. Older systems are more problematic, requiring building owners to spend more money annually to keep these old systems running. At some point, a decision must be made as to whether the current system is still efficient and fit for purpose or whether it is time to replace the existing facade access equipment with the benefit of the most recent technological advances. Manntech will work with you to deliver a modern building access system which better serves your needs and also offer extra functionality which had not previously been available to keep your building pristine for many years to come.



**The Manntech range of products leverages our wealth of experience in designing integrated solutions for the world's tallest and most complex structures. Designed specifically for use on buildings with facades of high to very high complexity, Manntech's custom, made to order products are fully customisable for every unique project.**

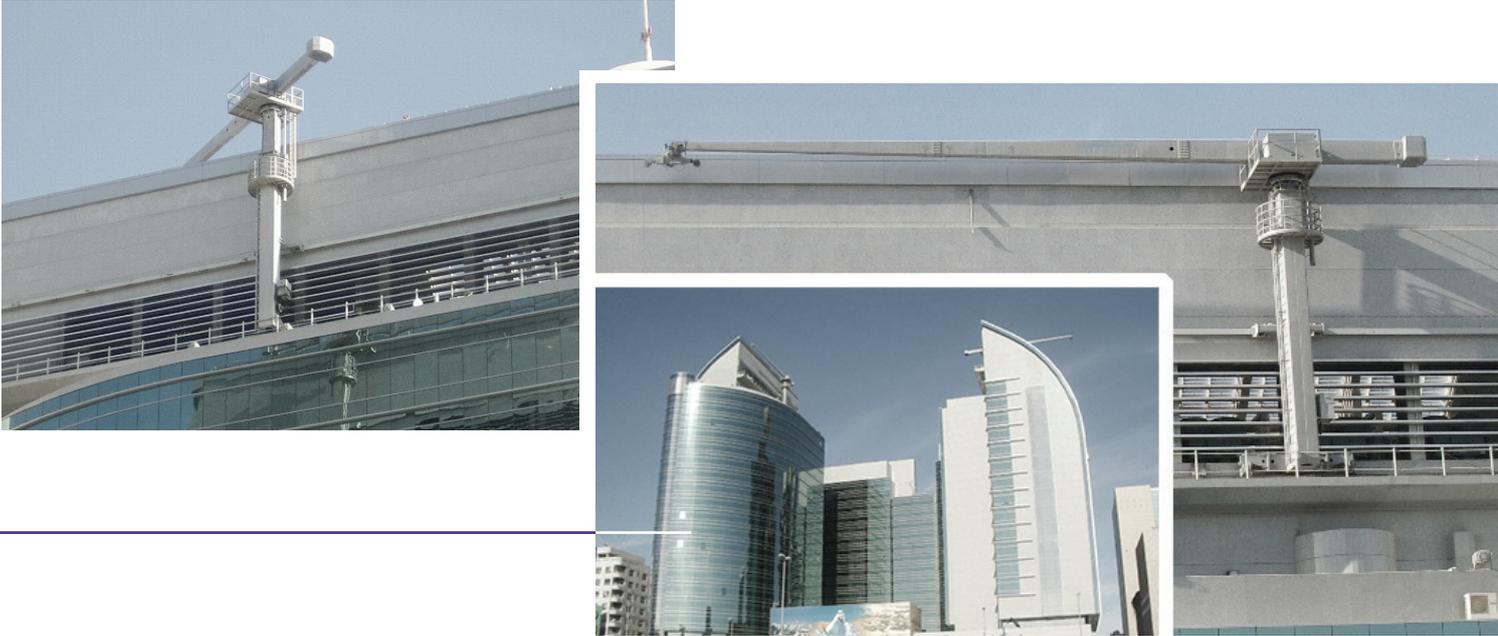


## Building maintenance systems

Our building maintenance systems for complex projects are often characterised by a long jib with slewing head for standard reaches exceeding 40+ metres. In practice, a single unit of this type positioned correctly on the building can service the entire building complex including all its terraces and annexes.

Typically, the systems either run on horizontally laid tracks or they are anchored to the building in a stationary position. They are also often made to telescope vertically to an operating position that clears all roof obstructions, while parking below and between the obstructions in order to be hidden from sight.

### BMU with vertical track along parapet

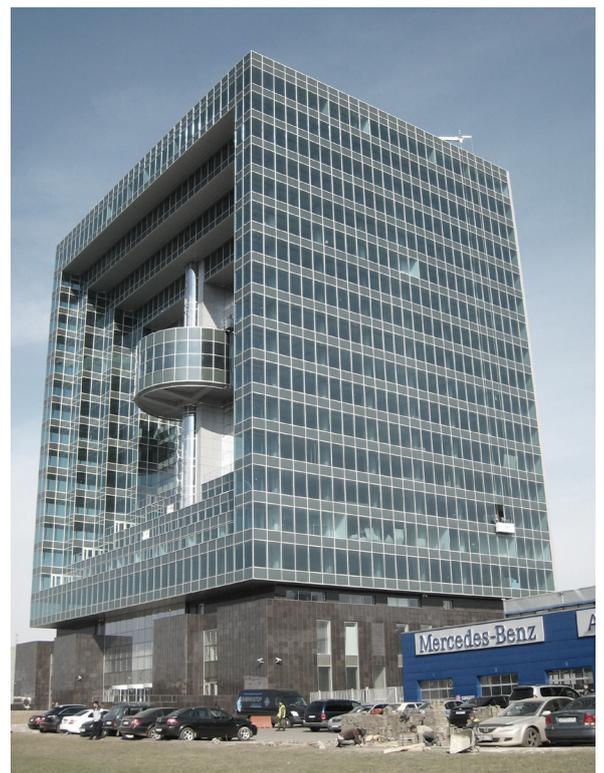


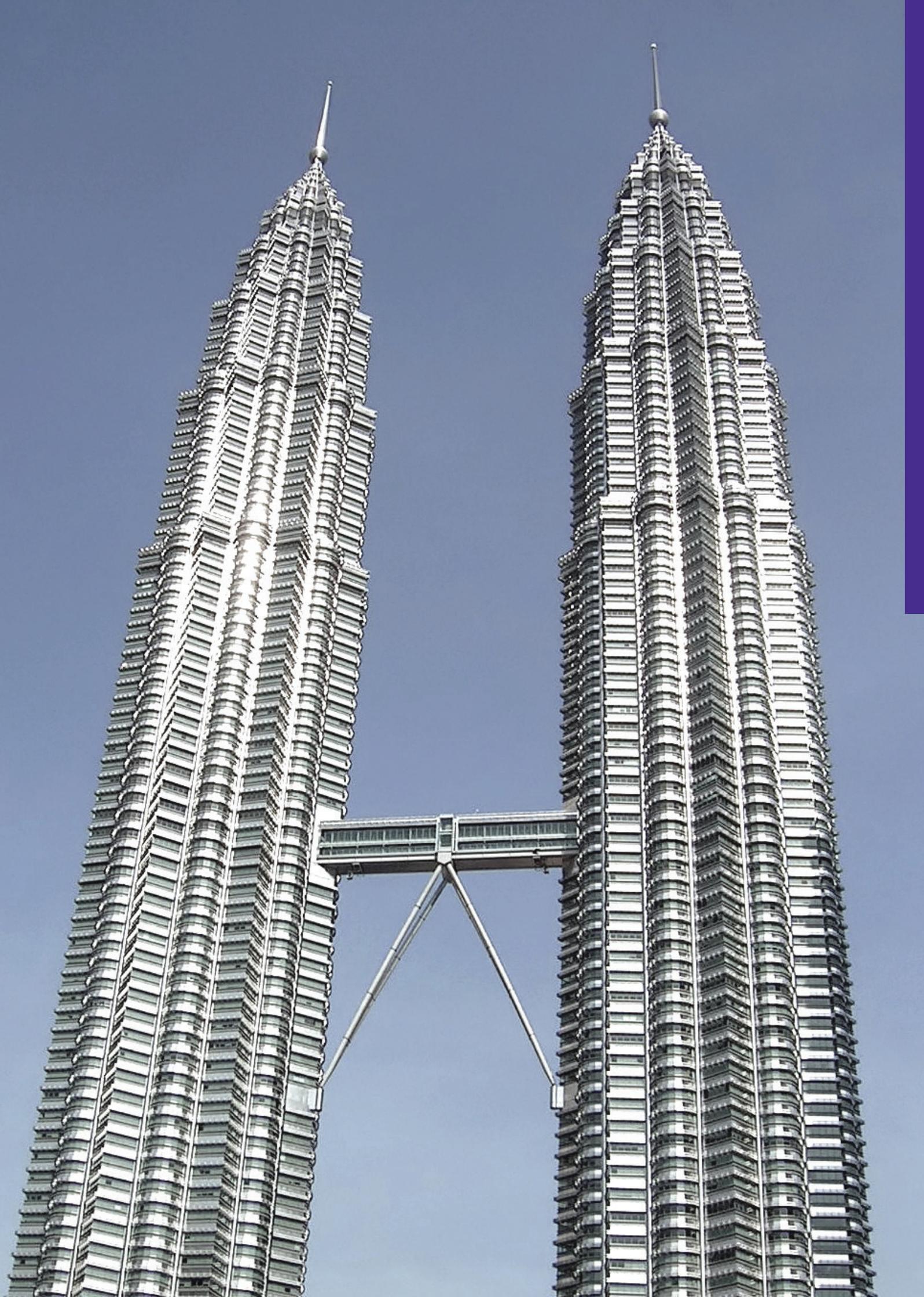
Telescopic slewing mast and maintenance platform for hidden parking position

### BMU for use on roofs with load bearing concrete runway

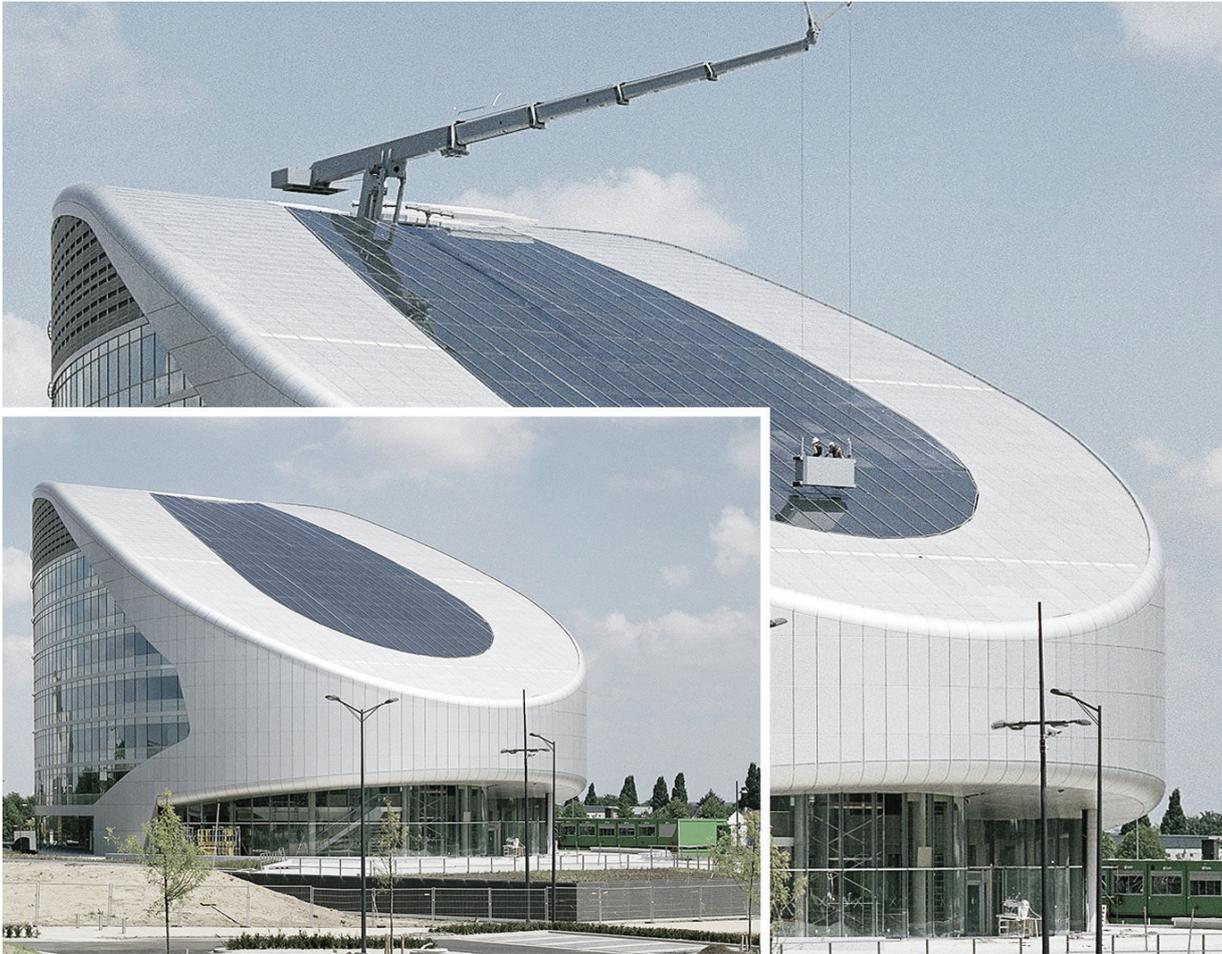


Luffing jib and coupling bar for slewing head alignment





# Telescopic jibs



Lowering device  
on 4 stage  
telescopic jib



Low profile construction with double telescopic jib, track system integrated in green roof system



4 stage telescopic jib and vertical telescope mast, completely retractable on the roof



Lowering device, 3 stage telescopic jib and satellite cradle for reaching recesses in building



4 stage telescopic jib, slewing device and telescopic mast. Unit assembled at factory for testing and mounted on building roof

## The Manntech Approach

Designers, consultants, constructors and building owners are often faced with complicated facade challenges. Whether your building is mega-tall, unusually shaped or features intricate facades such as protrusions, slopes, recesses or curves, Manntech's designers have a solution.





## Tackling mega-tall buildings

Due to our extensive experience in working with some of the world's most celebrated buildings, it's not surprising that super and mega-tall buildings come second nature to Manntech. In fact, we thrive on implementing creative solutions for these structures. For example, the vertical height of a super-tall building might need to be serviced by a single drop BMU with a very large capacity hoist.

When deciding which solution to apply, we consider a variety of factors, such as the design of the roof, cleaning cycle, building footprint, BMU placement options, glass replacement strategies and emergency retrieval plans.

Where the solution requires a large capacity hoist to cover the building from top to bottom, Manntech has worked with several hoists over 500 metres, such as the Shanghai Tower and the Lotte Tower in South Korea. Other mega-talls might be best serviced by a multi-zone approach with combinations of machines, such as deployed on Abu Dhabi's World Trade Centre or the Salesforce Tower.

## Navigating through difficult or tight spaces

When it comes to final building roof architecture, Manntech's designers often have to navigate around very tight spaces.

This might be the result of pre-planned features, such as a visual design extension at the top of the building, like the glass shards at the top of London's 'The Shard', or the steel framing on Singapore's 'Reflections'. It may also be the result of unplanned alterations, such as late changes to roof-mounted heating and ventilation systems.

Utilising smart-logic controllers, Manntech designers are able to program launch sequences so that machines automatically navigate their way out of tight conditions. This programmed approach also reduces cycle times, as well as minimising the risk of collision.





## Manoeuvring machines through negative or reverse positions

Working around deep building recesses, shelves and large overhangs presents a unique set of façade maintenance challenges. By assessing the building's access requirements, Manntech can meet these challenges with innovative tailored solutions.

For example, the Torre Caja in Madrid features a sizeable arch on top of the main building, which requires access from above. Manntech designers used an articulated jib design to launch from the rooftop and make its way underneath the arch.

Two other examples include the very large soffits of the Venetian Casino in Macau, and The Peninsula Hotel in Hong Kong, which Manntech services through the deployment of upside-mounted BMUs, suspended from tracks in the soffits.



## **No structure too unusual**

Throughout our long history, we have solved access solutions for all sorts of unique structures. Whether it is an exceptional concept like the disc-shaped Aldar HQ in Abu Dhabi, or the world renowned Sydney Harbour Bridge, Manntech have provided bespoke access systems to the world's most unique structures.

We have also provided external access systems for other built structures. For bridges, Manntech have designed under carriageway access gantries, pylon maintenance systems and arch maintenance systems. We have also developed custom systems for unique structures like Ferris wheels, monuments and in the case of industrial clients, manufacturing infrastructure.



## A leading approach to quality and service

Aside from product features, which help us address your project's unique circumstance, there are many other reasons why Manntech is the vendor of choice for the world's leading developments.

### It starts with the design

Using our reference library of thousands of successful jobs and sub-assemblies, the Manntech design engineers create solutions tailored to the variables of your project.

This includes the structural heights, shape and nature of exterior surfaces, maintenance cycles, building loads, operational safety, roof access, slopes, protrusions and concealment options.

With the latest 3D software installed, we model the interface of our equipment enabling you to integrate solutions into your Building Information Model (BIM). Critical structures are designed using Finite Element Analysis (FEA) to manage stresses, loads and weight optimisation. Our shared challenge is to ensure your work of art maintains its masterpiece status well into the future.

### After Sales Support

As part of the Alimak Group of companies, Alimak Service provide world-leading product and customer support services to the owners and users of Manntech's vertical access equipment across the globe.

With service support centers in 100 countries and 700 employees, Alimak Service provide a full range of service, parts and training solutions to ensure the highest levels of product uptime and operator safety over the total lifecycle of the equipment.

Through Alimak Service, our customers will receive the high-quality spare parts and services of the Manntech brand that they have come to expect, with the added benefits of an increased geographical footprint, added capabilities and even more timely support.

## Introducing Alimak Service

**ALIMAK SERVICE**

A global leader in vertical access service solutions



### SERVICE SOLUTIONS

Comprehensive range of service contracts, maintenance programmes and repair solutions



### GENUINE SPARE PARTS

Genuine spare parts prolong machine life and maximise performance



### ASSET MANAGEMENT

Remote monitoring, service solutions and expert after sales professionals combine to provide full equipment lifecycle and customer oriented solutions



### TRAINING

Class room and eLearning training to support the safe operation, maintenance and installation of equipment



### INSPECTIONS, SAFETY AND COMPLIANCE

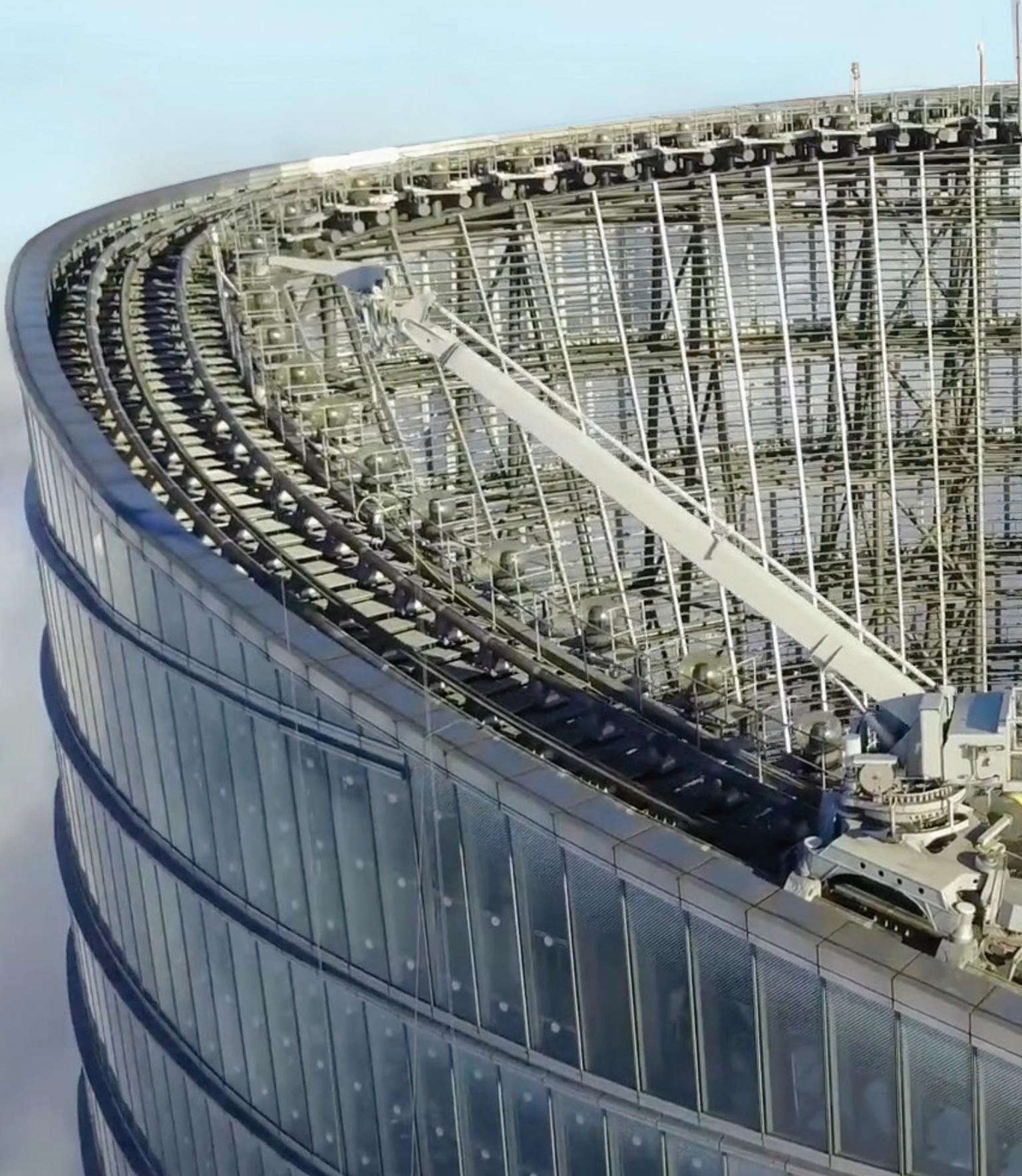
Routine inspection programmes to ensure equipment is kept safe and compliant



### REFURBISHMENT SOLUTIONS

Bring new life to an aging machine with a cost effective refurbishment or upgrade

**More people rely on our machines than any other for the cleaning, maintenance and preservation of their buildings. With over 60 years of experience, Manntech's reliable systems are found on many rooftops, still performing flawlessly after decades of service.**





## Europe Region

### Western Europe and Latin America

Calle de la Venta, no 19  
28880 Meco, Madrid, Spain  
Phone: +34 9188 77000  
Fax +34 9188 60514

### United Kingdom

6 Baddow Park, West Hanningfield,  
Chelmsford, Essex. United Kingdom  
Phone: +44 1245 477708  
Fax: +44 1322 228419

### Russia and East Europe

3Pl. Tverskaya Zastava, Office 240  
Moscow, Russia, 125047  
Phone: +7 499 250 8975  
Fax: +7 499 250 2729

### Nordic Region

P.O. Box 720 SE-931 27  
Skellefteå Sweden  
Phone: +46 910 870 00

### Germany

Mannesmannstrasse 5 D-82291  
Mammendorf, Germany  
Phone: +49 8145 9990

### France

1 Rue de la Procession  
93217 La Plaine Saint Denis  
Phone: +33 1 494 666 666

### Netherlands

Postbus 6042 4780 LA Moerdijk  
Phone: +31 168 3895 00

## Asia Pacific Region

### Australasia

182 Normanby Road  
Southbank, Vic 3006, Australia  
Phone: +61 3 9673 4444  
Fax: +61 3 9673 4400

### Hong Kong

Flat 04A, 11th Floor, Eastern Centre  
1065 King's Road, Quarry Bay  
Hong Kong SAR  
Phone: +852 2802 2221  
Fax: +852 2824 9626

### China

Rm.606 Tong Sheng Tower  
No. 458 FuShan Road  
Shanghai, China 200122  
Phone: +86 21 5465 2455  
Fax: +86 21 6467 7507

### South East Asia

33 Gul Circle, Singapore 629570  
Phone: +65 6305 3500  
Fax: +65 6862 1933

## Middle East

### United Arab Emirates

PO Box 33654  
Dubai, UAE  
Phone: +971 4 511 8200  
Fax: +971 4 511 8300

Abu Dhabi Commercial Mussafah  
ME 12, Building 232, Office M1  
Abu Dhabi, UAE

Phone: +971 4 511 8200  
Fax: +971 4 511 8300

## The Americas

### North America

216 North Avenue East  
Cranford, NJ 07016, USA  
Phone: +1 908 325 6587  
Fax: +1 908 967 6042

For more information email us at [info@manntech.com](mailto:info@manntech.com)

