

## Shanghai Tower

Shanghai

### Case Study



#### Manntech develops zone-based cleaning system for total facade coverage of Shanghai Tower

This 128 storey megatall skyscraper is the world's tallest building by height to the highest usable floor (Level 127, 587.4m). It also has the world's highest observation deck within a building or structure (Level 121, 561.25m) and the world's fastest elevators at a top speed of 20.5 m/s. It is the tallest building in Asia and the world's second-tallest building by height to architectural top.

Shanghai Tower also represents a remarkable and innovative achievement in many other areas. It features a unique double layer of two transparent curtain walls which provide natural heating and cooling. The outer wall is designed to offer protection from the heat of the sun, while the inner layer provides a bright, light-filled interior space.

The building access solution needed to match the vision and technological innovation of the architects in order to provide comprehensive building access to all areas of this distinctive and ground breaking structure. For the second tallest building in the world, **Manntech** developed a zone-based cleaning system to provide full facade coverage within very limited space. Seven identical Building Maintenance Units (BMUs) were specially designed and manufactured which were almost entirely unique to this project. The fully powered BMUs with davit arms are capable of providing all the required functionality, combined with a compact design and the ability to navigate through the very limited space available.

The roof of the building presented a particular challenge due to the need to navigate numerous slopes and angles. Manntech rose to meet this challenge with the world's first ever 3D climbing BMU, which is capable of changing both climbing angle and traversing direction at the same point on the track.

Manntech were selected for this project due to our ability to offer innovative, practical and high-value solutions for unique access challenges.

### Facts and Figures

**Commencement:**  
2011

**Completion:**  
2014

**Building Height:**  
632 metres

**Floor count:**  
128

**Access solution:**  
▶ 8x special Type 6

**Outreach:**  
▶ 7 units: 8 metres  
▶ top BMU: 11 metres

**Building Type:**  
Hotel and office

### For more information

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