

# Envelope Maintenance Systems - Mechanically Based

## The Problem/Challenge

**Cleaning and maintaining glazing** to elevations at high level in a safe manner.

## The Risks

Falls from height due to **unsuitable systems or inappropriately designed building fabric**. Systems of work that require high levels of supervision for their effectiveness are susceptible to human error. Falling objects can endanger people.

## The Solution

**Early consideration of cleaning options** should be made in relation to building form, scale and site constraints.

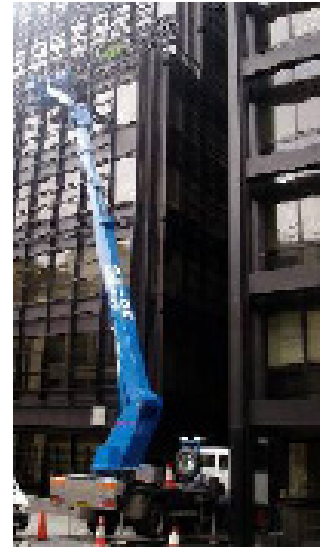
**Careful selection** of engineered mechanical systems is needed to ensure that the required cleaning and maintenance tasks can be undertaken.

## The Benefits

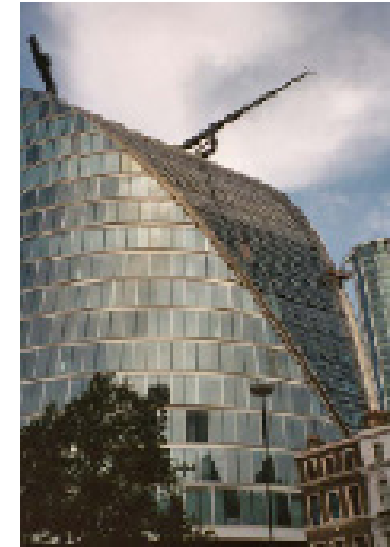
**Economic and safe maintenance systems** appropriate to the scale, form and type of building. Provide the client with long-term maintenance strategy and **budgetary considerations**. If possible provide a **safe working platform** in line with the Work at Height Regulations hierarchy.

## Key Points

**Review** relevant viable options for mechanical systems at an **early stage**. Mechanically assisted work placement systems require early discussion with **specialists**. Non-manned **robotic systems** eliminate work at height but **can limit design solutions**. Mechanical systems are best suited to large areas with little geometrical complexity. Any access from the **ground**, including cherry pickers and MEWPs require stable hardstanding and **influences landscaping**.



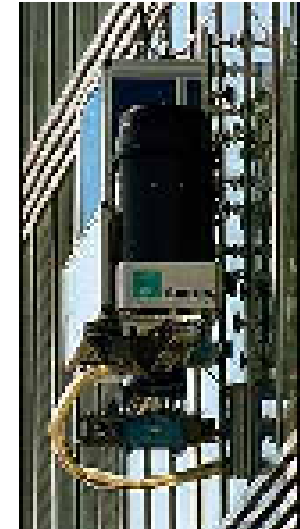
MEWP



BMU



Cradle



Robotic