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UP FRONT FOR SAFETY

Guidance Note for the Appropriate Selection of Permanent Access Equipment

Disclaimer

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1. Introduction

This document offers legal and practical information to support choosing suitable permanent access systems for working at height on both new and existing buildings and structures. Typically, this includes the use of suspended access equipment such as building maintenance units (BMUs) and powered cradles, or traversing platforms including travelling gantries and ladders.

The scope of this document is limited to permanent access equipment. Other temporary access options, such as mobile elevating work platforms (MEWPs) or water-fed poles, may be considered within a broader cleaning and maintenance strategy, but are not addressed in this guidance.

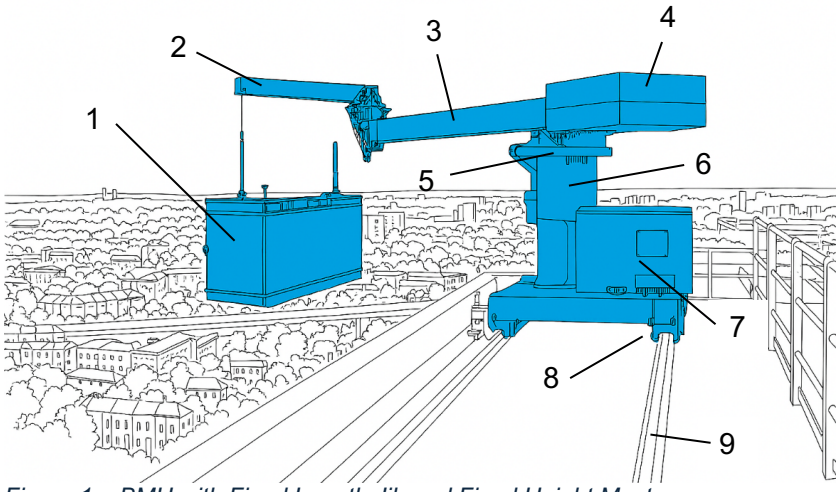
2. Terms and Definitions

2.1 Types of Equipment

2.1.1 Building Maintenance Unit (BMU)

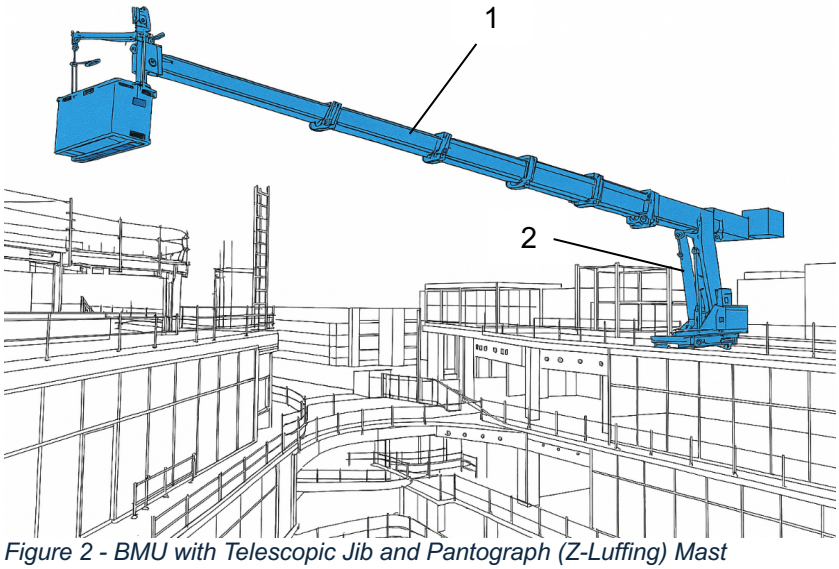
A mechanised access system designed to provide safe access to a building's façade, typically consisting of a roof-mounted trolley and hoist that suspends a work platform. It is commonly used for tasks such as window cleaning, façade inspections, repairs, and general maintenance. It can be equipped with an additional auxiliary hoist or lifting bar to facilitate glazing and cladding replacement.

Various types of BMU exist, both standard and bespoke. A few examples are shown below to illustrate the different forms; however, given the wide variety available, SAEMA recommends liaising directly with our members to determine what may be most appropriate for your building.



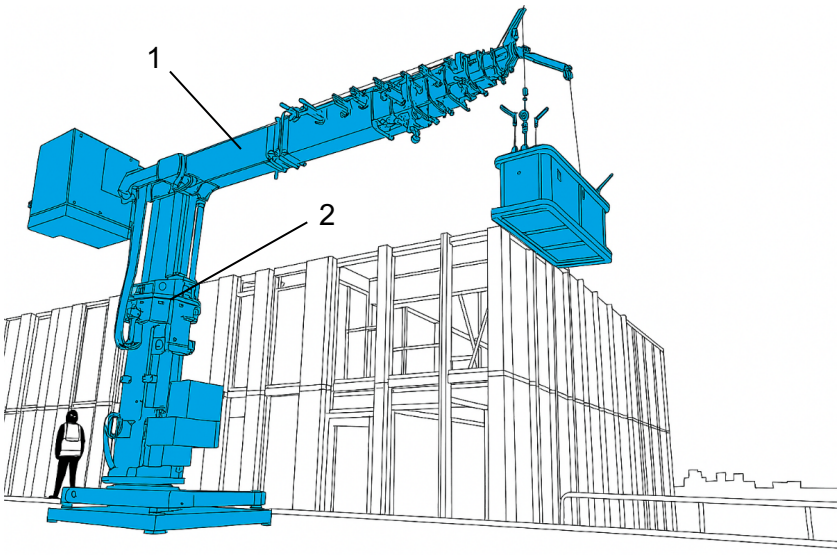
1. Work Platform (Cradle)
2. Jib Head
3. Fixed Length Jib
4. Counterweight
5. Slewing Ring
6. Fixed Height Mast
7. Hoist Unit
8. Wheel Unit
9. Track

Figure 1 – BMU with Fixed Length Jib and Fixed Height Mast



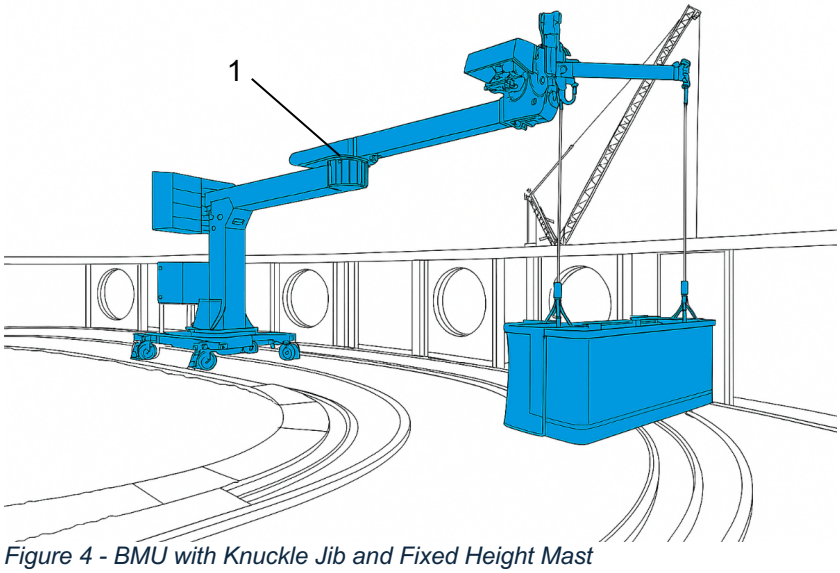
1. Telescopic Jib
2. Pantograph Mast

Figure 2 - BMU with Telescopic Jib and Pantograph (Z-Luffing) Mast



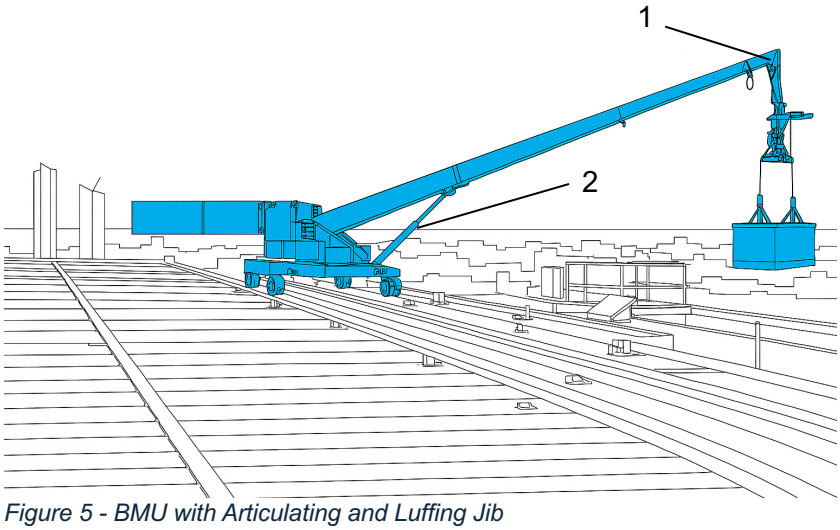
1. Telescopic Jib
2. Telescopic Mast

Figure 3 - BMU with Telescopic Mast and Telescopic Jib



1. Knuckle Jib

Figure 4 - BMU with Knuckle Jib and Fixed Height Mast

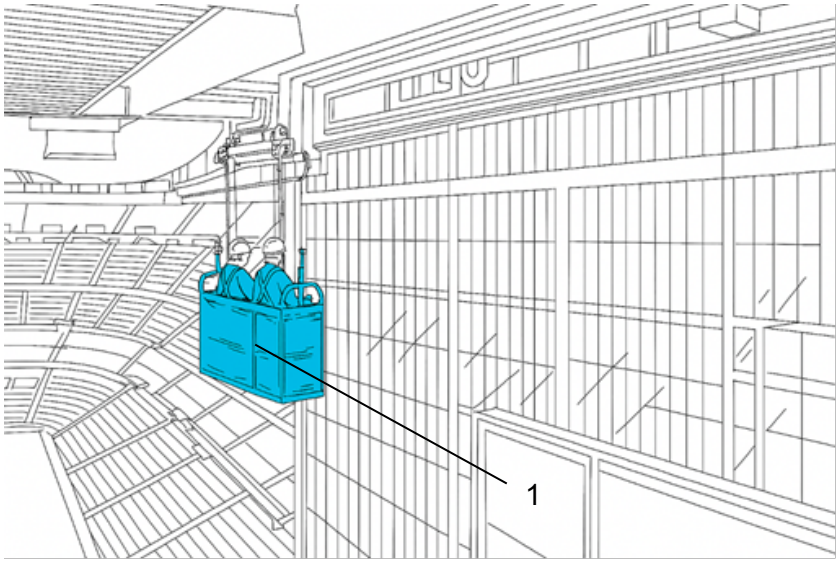


1. Articulating Jib
2. Luffing Mechanism

Figure 5 - BMU with Articulating and Luffing Jib

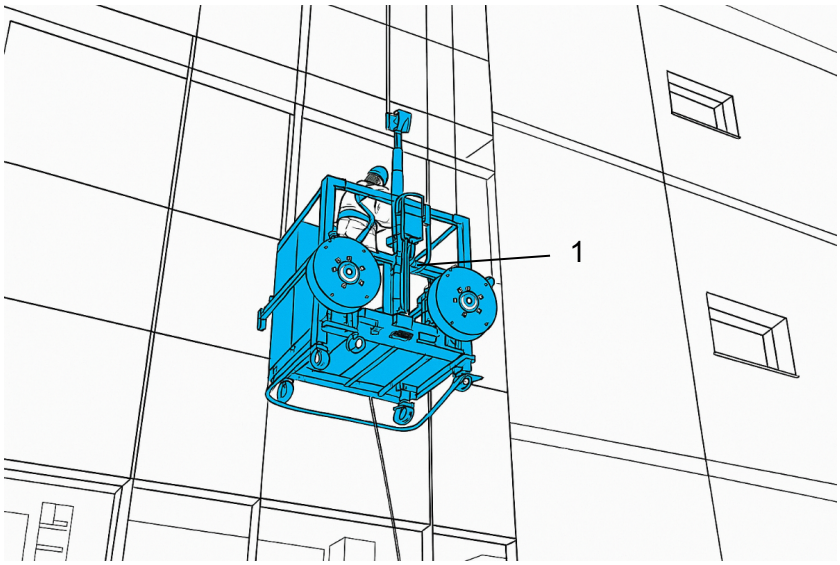
2.1.2 Powered Cradle

A motorised work platform used for accessing building façades for tasks such as window cleaning, façade inspections, repairs, and general maintenance. Unlike a BMU, where the hoist units are roof-mounted, the hoist units are fixed directly within the cradle itself.



1. Powered Cradle

Figure 5 - Two Man Powered Cradle

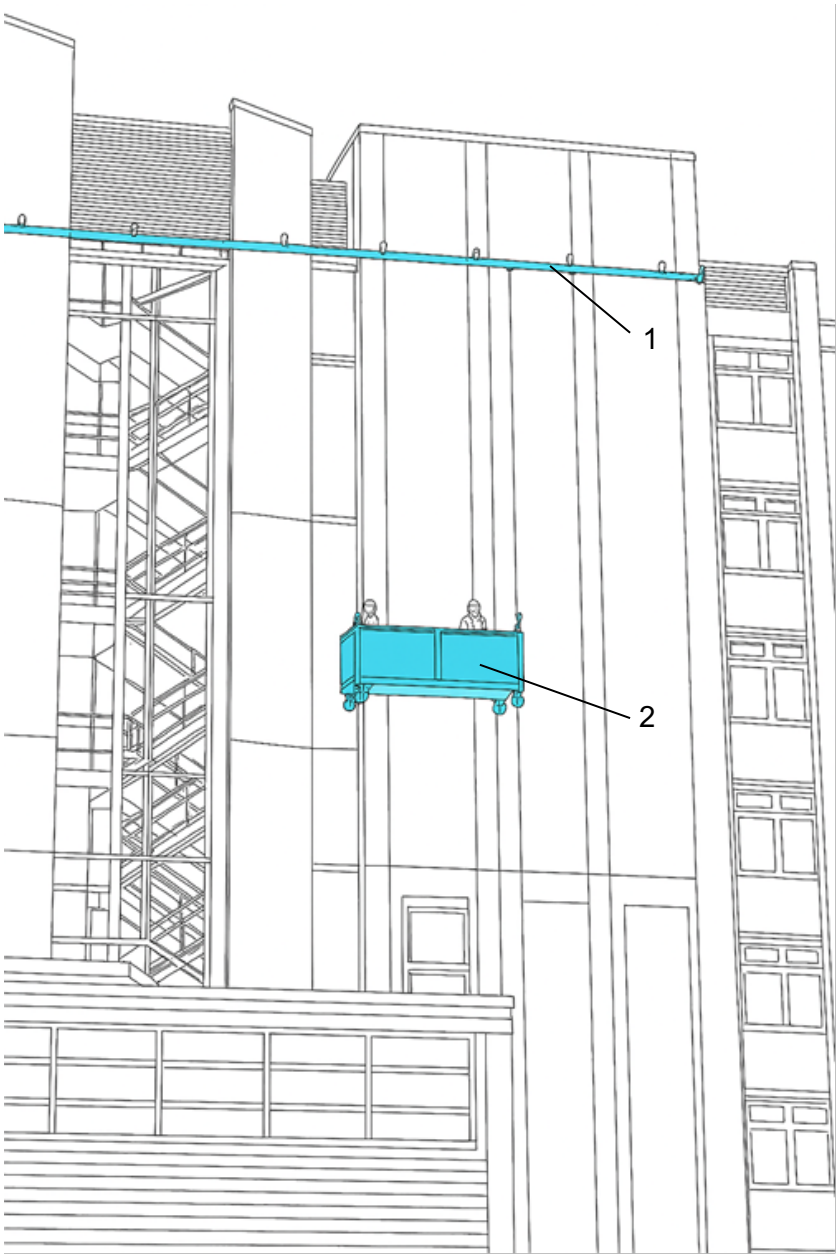


1. Powered Cradle

Figure 6 – One Man Powered Cradle

2.1.3 Monorail

A single-track, typically mounted on the roof of a building, in a soffit, or on the façade, that is designed to support trolleys that move horizontally or on an inclination. It can be used in conjunction with a powered cradle or by rope access technicians.

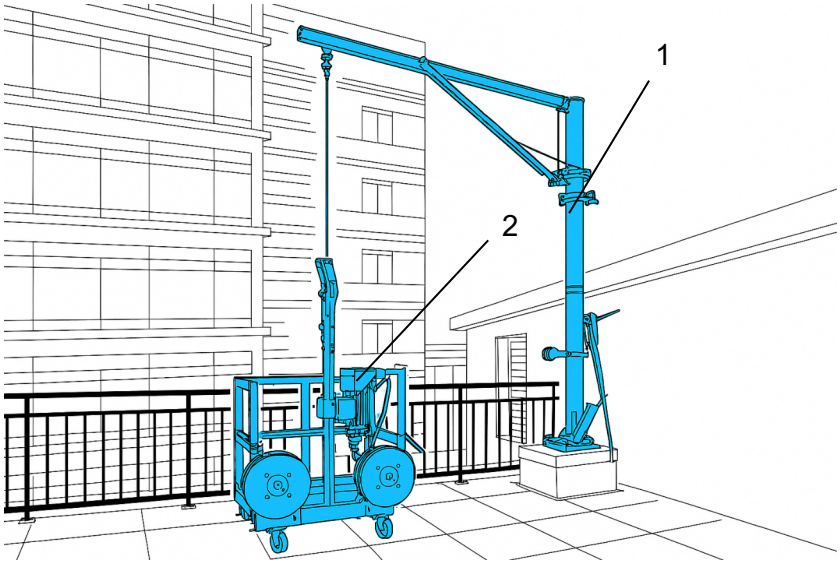


1. Monorail
2. Powered Cradle

Figure 7 – External Monorail with Two Man Powered Cradle

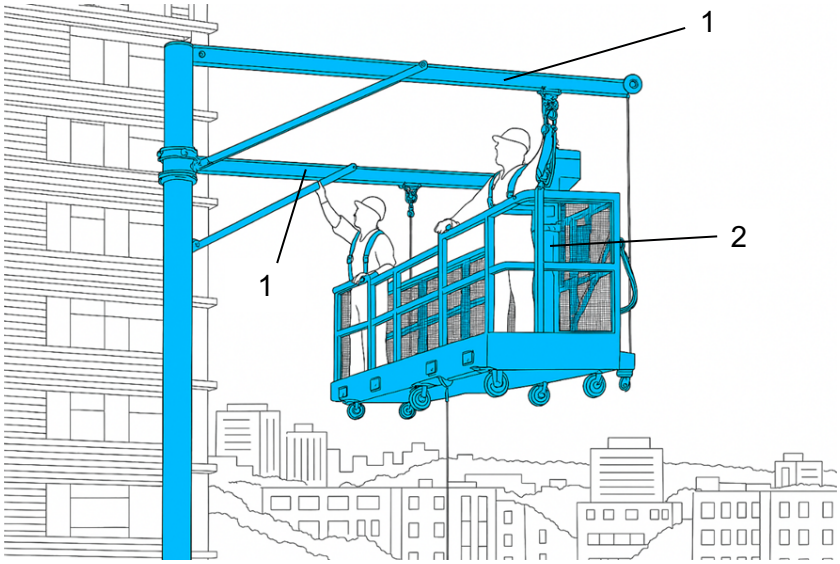
2.1.4 Davit Arm

A removable device fixed to a building's rooftop or terraces to support suspended access equipment or rope access. It consists of a vertical mast and horizontal arm that allow operatives to position cradles or ropes over the building edge for façade maintenance, cleaning, or inspection.



1. Davit Arm
2. Powered Cradle

Figure 8 – Davit Arm with One Man Powered Cradle

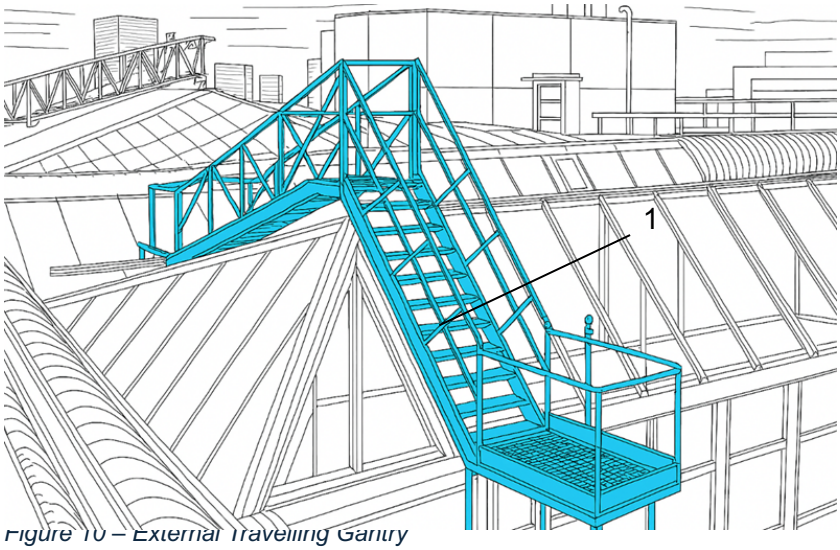


1. Davit Arm
2. Powered Cradle

Figure 9 - Davit Arm with Two Man Powered Cradle

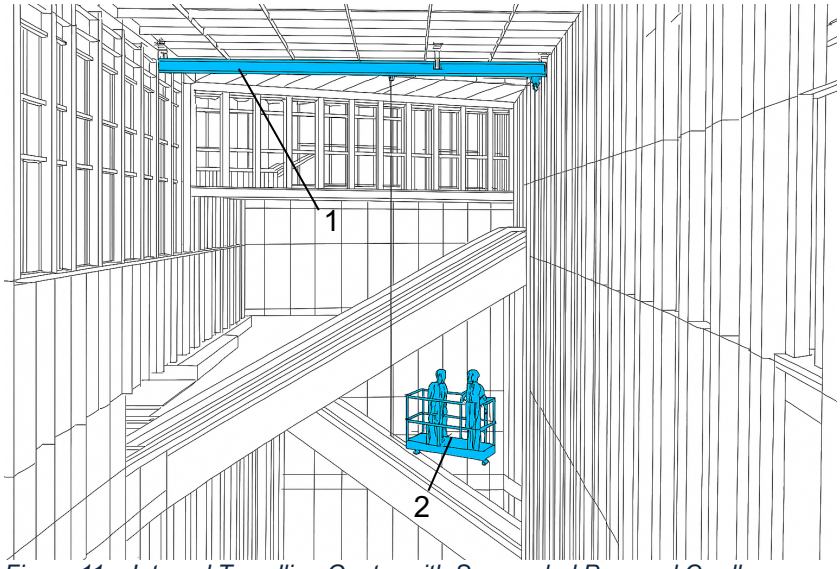
2.1.5 Travelling Gantry

A platform used to support workers and equipment while moving along the length of a building's façade. Used for tasks such as window cleaning, façade inspections, repairs, and general maintenance. It can be equipped with a suspended powered cradle or glass lifting capabilities.



1. Travelling Gantry

Figure 10 – External Travelling Gantry

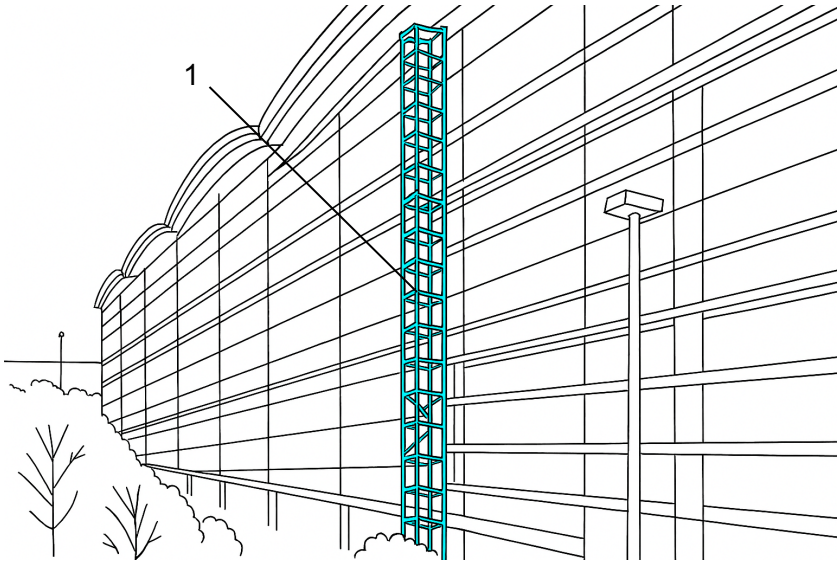


1. Travelling Gantry
2. Powered Cradle

Figure 11 – Internal Travelling Gantry with Suspended Powered Cradle

2.1.6 Travelling Ladder

A ladder mounted on a track or rail, allowing it to move horizontally along the façade of a building. Used for tasks such as window cleaning, façade inspections, repairs, and general maintenance.



1. Travelling Box Ladder

Figure 12 - Travelling Box Ladder

2.2 General Terms

2.2.1 Duty Holder

Any person or organisation with a legal responsibility (duty of care) to ensure health and safety. This may include, but is not necessarily limited to, Architects, Structural Engineers, Access Consultants, Principal Designers, Principal Contractors, Developers, Building Owners, Facilities Managers, Building Managers, and any other individuals or organisations – including Employers – who have control over the initial design of an access system or its ongoing management and safe operation.

2.2.2 Permanent Access Equipment

All types of BMU's, powered cradles, travelling gantries and travelling ladders together with their tracks, monorails, davits and suspension gear.

2.2.3 Rope Access

A specialised work-at-height technique that uses ropes, harnesses, and associated equipment to allow trained technicians to safely suspend or support themselves in order to access a building's façade.

2.2.4 Rope Access Anchorages

Eyebolts, posts, rails, monorails, davits, etc. used to support rope access equipment.

2.2.5 So Far as is Reasonably Practicable

Level of risk balanced against the cost, time and effort that is put into averting the risk.

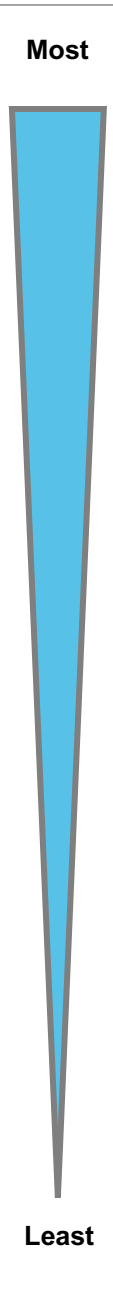
3. Developing a Strategy

3.1 Planning

The Construction Design and Management (CDM) Regulations 2015 and Work at Height Regulations 2005, both require the client and their designers to prioritise the use of 'collective protective measures' (e.g. BMUs or MEWPs) when selecting a method for work at height. These regulations state that collective measures should take precedence over 'individual protective measures' (e.g. rope access). Additionally, BS 8560:2012+A1:2018, the 'Code of Practice for the Design of Buildings Incorporating Safe Work at Height,' specifies that designers and clients should ensure safe access for cleaning and maintaining building façades, prioritising 'collective' (e.g. BMU) measures over 'individual' ones (e.g. rope access).

Table 1 - Work at Height Control Measures (Adapted from BS 8560:2012+A1:2018)

Control Measures	Examples of Control Measures
Avoids the need to work at height	• Offsite prefabrication: modular construction, precast concrete, unitized curtain walling, steelwork assemblies. • On-site assembly at ground level: steelwork assemblies. • Use of low maintenance materials and equipment: self-cleaning glass, fibre optic lighting, glass reinforced plastic/polyester mansards and chimneys. • Ground/floor-based maintenance: lowerable light systems, long-reach washing poles, items requiring regular maintenance reachable from floor/ground level. • Inclusion of temporary protection measures: offsite pre-fixed handrails/guardrails to stairs and roof edge beams. • Remote access solutions: robotic equipment.
Prevents falls: collective	• Parapets, guardrails, BMUs, powered cradles, MEWPs, scaffolds, tower scaffolds, podium steps.
Prevents falls: personal	• Rope access, anchors and anchor lines for work restraint.
Minimizes the height and consequences of falls: collective	• Safety nets, perimeter catch fans, crash decks, scaffold fans. All rigged as close as possible.
Minimizes the height and consequence of falls: personal	• Harness, lanyard, anchor or anchor line-based fall arrest methods: window cleaner anchors, ladder fall arrest systems, retractable fall arrest blocks.
Minimizes the consequence of falls: collective	• Remote soft landing systems (air bags, bean bags), safety nets fitted at low level.
Minimizes the consequence of falls: personal	• Personal injury reduction (inflating suits).
No fall protection: personal	• Ladders, step ladders, hop-ups, stilts.
No fall protection: collective	• Unguarded edges, platforms, stages, loading docks.



3.2 Considerations

Table 2 - Items to Consider when Determining a Facade Access Strategy (This List is Not Exhaustive)

Regulation Compliance	• Health and Safety at Work etc. Act 1974 • Building Safety Act 2022 • The Work at Height Regulations 2005 • Construction (Design and Management) Regulations 2015 • Lifting Operations and Lifting Equipment Regulations 1998 • The Provision and Use of Work Equipment Regulations 1998 *Note: This list is not exhaustive, please refer to Section 5 of this document*

Building / Structure Geometry and Location	• Building height
	• Façade projections
	• Inclined façade
	• Recessed facade
	• Planning constraints
	• General building constraints
	• Available space for equipment
	  ○ Available space for operation and maintenance of equipment
	  ○ Storage of equipment
	• Interface with finishes
	  ○ Hidden fixings
	• Oversailing
	  ○ water
	  ○ railways/roads
	  ○ public areas
	  ○ adjoining/neighbouring buildings and structures
	  ○ canopies
	• Exposure to external elements
	  ○ Wind
	  ○ Marine environment
	  ○ High and low temperatures
	• Building fixtures
	  ○ Radio masts
	  ○ CCTV cameras
	  ○ Light fittings
	  ○ Flues
	• Access and egress
	  ○ Access required through private office space or terraces?
	  ○ Method of positioning for next drop e.g. rope access technicians may need to use internal lifts to return to roof
	  ○ Lighting

Loads	• Imposed on roof/terrace structure • Imposed on parapet • Imposed on balustrade • Imposed on façade

Cost	• Upfront cost of hardware
	• Upfront cost of strengthening building elements to accommodate loads
	  ○ Roof/terrace structure
	  ○ Balustrade
	  ○ Parapet
	  ○ Façade
	• End user fees

	• Maintenance • Long-term cost of poorly maintained facade
Access Requirements	• Area of façade to be accessed • Frequency of cleaning/inspection • Façade warranties
Glass/Cladding Replacement	• Size and weight of panels • Location from which replacement panels can be lifted
End User	• Cleaning speeds • Availability of competent persons • Complexity of system to operate • Complexity of system to set up • Training • Working hours • Specialist trades, other than window cleaners, that may need to access the facade
Rescue Procedure	• Obstructions below work area • Access through private offices/apartments • Speed of rescue

Once the relevant information has been gathered and exchanged, the design of the access system should be carefully considered. Below is a list of questions that should be asked when determining the most appropriate strategy for access at height:

Table 3 - Questions to be Asked When Determining the Most Appropriate

Compliance & Legal Considerations	• What is reasonably practicable? • Have regulations and guidance been interpreted correctly? • Does the façade access strategy comply with the hierarchy of control specified in the Work at Height Regulations 2005 (e.g. collective over personal) and if not, why not?
Building Design & Structural Suitability	• Are there any special building features likely to affect the type of access system? • Is the construction of the building frame suitable to accept the proposed loadings? • Is the construction of the façade suitable to accept the proposed loadings?
Hazards & Risks	• Are there any specific hazards that will influence the choice of access systems? • What are the ramifications for both routine access and emergency rescue for both personnel and equipment?
System Performance & Functionality	• Does the proposed access system have the ability to access and clean a wide range of the building envelope without the need to de-rig? • What is the impact of physical contact with the building surfaces and associated wear and tear? • How simple and practical is the proposed system to operate?
Maintenance, Cleaning & Replacement Requirements	• What is the proposed cleaning cycle? • What are the requirements for glass and cladding panel replacement? Consider the added value that the chosen system could deliver in this respect.
Cost & Lifecycle Considerations	• Is there a way of minimising the cost of cleaning the façade? • What is the life cycle cost of the system proposed?

The strategy must comply with legislation, British/European Standards, and be assessed for reasonable practicability. For example, large buildings requiring frequent maintenance, will likely necessitate a BMU with collective fall protection measures.

4. Existing Permanent Access Equipment

When an existing building has a permanent access system, the rules governing its management must be observed. Buildings require maintenance throughout their lifespan, and if a permanent access system is old and has exceeded its design life, it should be upgraded or replaced in line with the legislation and guidance outlined in this document.

4.1 Replacement of Permanent Access Equipment with Rope Access

In rare cases where like-for-like replacement of permanent access equipment is deemed reasonably impracticable, a Duty Holder may consider the use of rope access for ongoing maintenance. In such instances, rope access anchorages must comply with BS EN 795, PD CEN/TS 16415, BS EN 17235, BS 8610, BS 7883, and all relevant Codes of Practice. Where components of an existing access system are proposed for use as rope access anchorages (e.g. a BMU track), it is important to note that these were not originally designed for this purpose, and a thorough review in accordance with SAEMA Publication SDN 14007 should be undertaken before proceeding.

The decision to replace permanent access equipment with rope access should not be taken lightly, as it constitutes a change of use and represents a downgrade in terms of the hierarchy of control set out in the Work at Height Regulations 2005 – from collective fall protection to personal fall protection.

4.1.1 SAEMA's Position

Under both the Construction (Design and Management) Regulations 2015 and the Work at Height Regulations 2005, clients and designers are required to prioritise the use of collective protective measures – such as Building Maintenance Units (BMUs) or Mobile Elevating Work Platforms (MEWPs) – when determining suitable methods for work at height. These regulations make clear that collective measures must take precedence over individual protective measures, such as rope access. However, SAEMA recognises that rope access may be appropriate where it is not reasonably practicable to provide a permanent access system.

It is important to note that the decision to replace permanent access equipment on an existing building with rope access will not typically meet the "reasonably practicable" threshold required by law. Cost alone is not considered a valid reason to reduce the standard of protection if the parties involved have the means to fund a safer system. Building Managers and Duty Holders should also understand that responsibility for funding appropriate access solutions does not rest solely with them, but lies also with the Building Owner, Landlord, or Tenants.

An established method of access should not be downgraded to a lower level of protection merely because it is more readily available or perceived to be more cost-effective. The method of access must be selected based on legal compliance, risk assessment, and overall suitability. The chosen solution must be justifiable and appropriate in line with these principles.

Facilities Managers must carefully allocate appropriate resource for the maintenance and inspection of permanent access equipment systems when assuming responsibility for a building. This planning should be carried out in collaboration with a SAEMA member company, who can provide expert guidance on lifecycle costs based on the age and condition of the equipment in place.

Poor, inappropriate, or non-compliant decisions can result in increased costs, ineffective maintenance, and potential legal liability for any consequences arising from those choices.

5. Regulations, Standards and Guidance Notes Applicable to Permanent Access Equipment Selection

Table 4 - Summary of Regulations, Standards and Guidance Notes Applicable to Permanent Access Equipment Selection

Applicable To							Regulations / Standards / Guidance Applicable to Façade Access Systems	Notes
Building Maintenance Unit (BMU)	Monorail & Powered Cradle	Davit & Powered Cradle	Rope Access Monorails	Rope Access Davits	Rope Access Anchors	Rope Access Deviation Rail / Points		
✓	✓	✓	✓	✓	✓	✓	Health and Safety at Work etc. Act 1974	
✓	✓	✓	✓	✓	✓	✓	Building Safety Act 2022	
✓	✓	✓	✓	✓	✓	✓	The Machinery Directive, Directive 2006/42/EC	
✓	✓	✓	✓	✓	✓	✓	The Provision and Use of Work Equipment Regulations 1998 (PUWER)	
✓	✓	✓	✓	✓	✓	X	Lifting Operations and Lifting Equipment Regulations 1998 (LOLER)	
✓	✓	✓	✓	✓	✓	✓	The Work at Height Regulations 2005	
✓	✓	✓	✓	✓	✓	✓	Construction (Design and Management) Regulations 2015	
✓	✓	✓	✓	✓	✓	✓	Management of Health and Safety Regulations 1999	
✓	✓	✓	✓	✓	✓	✓	BS 8560:2012+A1:2018 - Code of practice for the design of buildings incorporating safe work at height	
✓	✓	✓	X	X	X	X	BS EN 1808:2015 - Safety requirements for suspended access equipment. Design calculations, stability criteria, construction. Examinations and tests	
✓	✓	✓	X	X	X	X	BS 6037-1:2017 - Planning, design, installation and use of permanently installed access equipment. Code of practice - Suspended access equipment	
✓	✓	✓	X	X	X	X	BS 6037-2:2020 - Planning, design, installation and use of permanently installed access equipment - Travelling ladders and gantries. Code of practice	
✓	✓	✓	✓	✓	✓	✓	BS 7883:2019 - Personal fall protection equipment. Anchor systems. System design, installation and inspection. Code of practice	
X	X	X	✓	✓	✓	✓	BS 7985:2013 - Code of practice for the use of rope access methods for industrial purposes. Recommendations and guidance supplementary to BS ISO 22846	
✓	✓	✓	✓	✓	✓	✓	BS 8437:2022 - Code of practice for selection, use and maintenance of personal fall protection systems and equipment for use in the workplace	
✓	✓	✓	✓	✓	✓	✓	BS 8610:2017 - Personal fall protection equipment. Anchor systems. Specification	
✓	✓	✓	✓	✓	✓	✓	BS EN 795:2012 - Personal fall protection equipment. Anchor devices	
✓	✓	✓	✓	✓	✓	✓	PD CEN/TS 16415:2013 - Personal fall protection equipment. Anchor devices. Recommendations for anchor devices for use by more than one person simultaneously	
✓	✓	✓	✓	✓	✓	✓	BS EN 17235:2024 - Permanent anchor devices and safety hooks	
X	X	X	✓	✓	✓	✓	BS 8681:2024 - Personal fall protection equipment. Anchor systems. Specification for provider competence	
X	X	X	✓	✓	✓	✓	IRATA ICOP Part 3 Annex F 2013 - Safety considerations when installing or placing anchor devices for use in rope access	