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ENGINEERING & INSTALLATION BRIEF

From Design to Installation

How Bespoke GRP Access Systems Can Reduce Site Complexity

SURVEY · SCANNING · CAD · FABRICATION · INSTALLATION



THE PROBLEM ON SITE

Site conditions can complicate installation

Existing structures, congested services and restricted working areas leave little room for adjustment once delivery arrives.

TOLERANCES

Inaccurate measurements

Manual checks miss compounding offsets across existing steel and pipework.

OBSTRUCTIONS

Unforeseen clashes

Congested trays, ducts and utility lines force unplanned hot works or delays.

ACCESS

Restricted handling

Tight entry ways, live plant and height limits prevent landing standard assemblies.

PROGRAMME

Sequencing pressure

On-site modifications and return visits directly threaten critical handover windows.

Early dimensional certainty protects the critical path before materials reach site.

STAGE 01 · SITE SURVEY

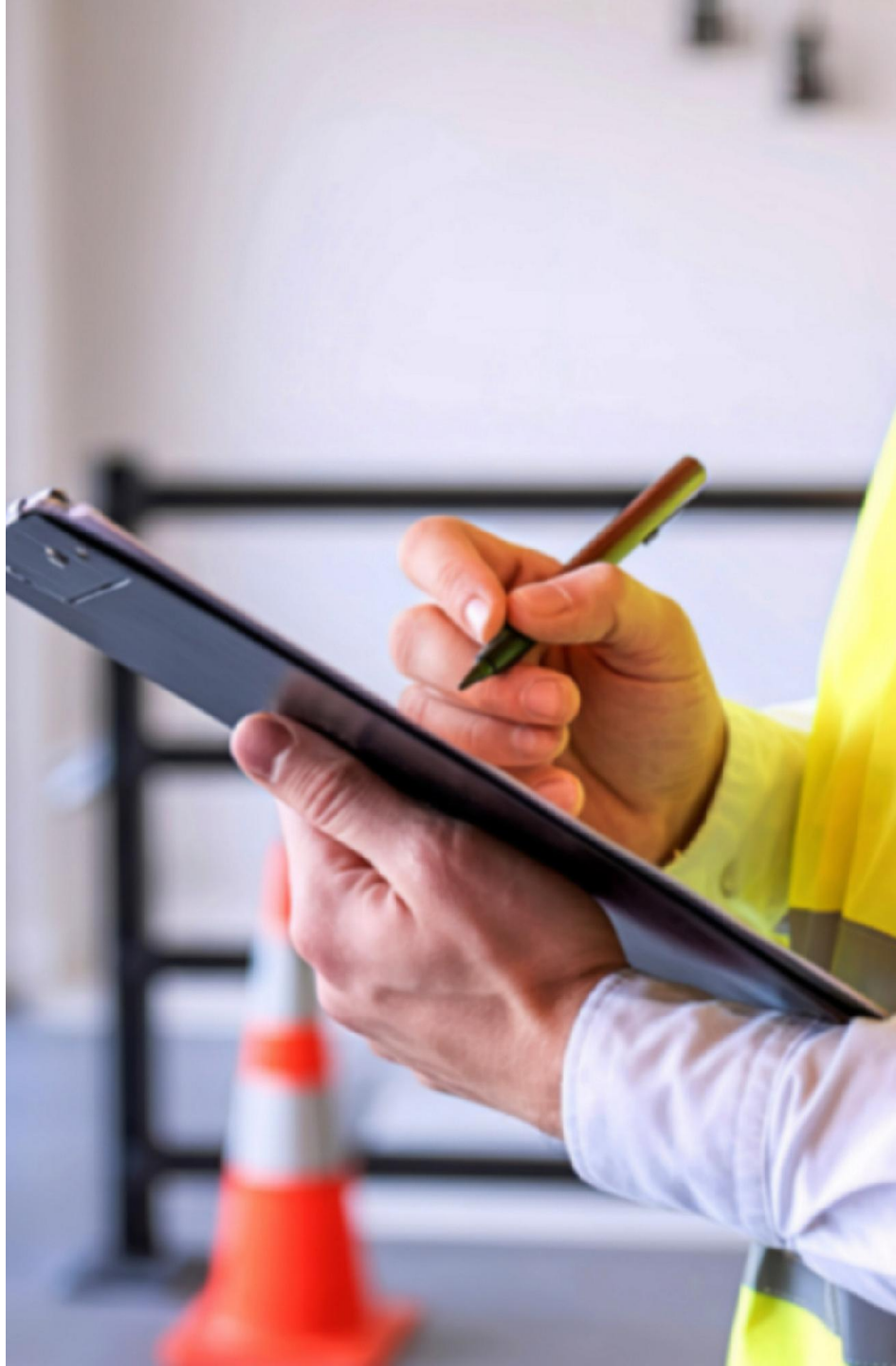
Start with an accurate site survey

A rigorous survey establishes exact site parameters before design begins, preventing costly assumptions from reaching the drawing board.

Assess dimensions and clearances. Verify structural supports, floor levels, interface points and surrounding services against base building drawings.

Identify logistics and handling constraints. Map access routes, door openings, crane radius limits and lifting equipment clearances prior to component sizing.

Site-verified parameters eliminate dimensional drift before engineering starts.





STAGE 02 · DIGITAL SCANNING

3D scanning captures complex environments

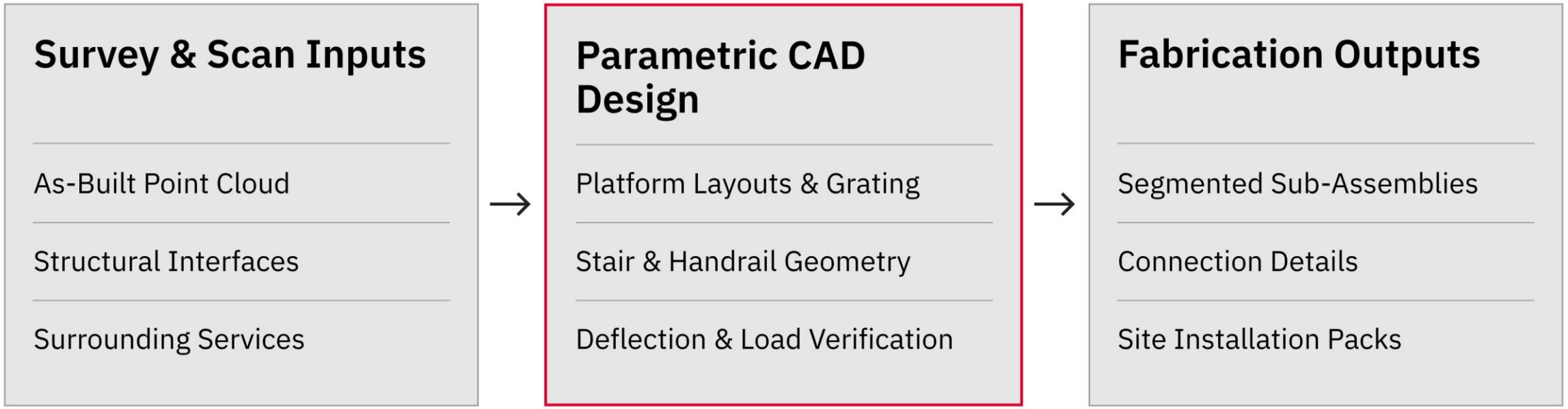
Point-cloud data provides a wider digital reference of structures, equipment and available space.

Check clearances and potential clashes; support CAD modelling and design coordination.

STAGE 03 · 3D CAD MODELLING

CAD turns site information into a workable solution

Point-cloud intelligence feeds parametric 3D CAD modelling, ensuring every GRP element is engineered for structural compliance and spatial fit.



All platform loadings, deflection tolerances, and service interfaces are verified before cutting material.

STAGE 04 · PRECISION FABRICATION

Fabrication prepares the system for site

Manufacture components

Manufacture components to the agreed design and, where appropriate, prepare manageable sections.

Plan for installation

Plan dimensions, connections and installation sequence to reduce on-site cutting and adjustment.



STAGE 05 · LOGISTICS & INSTALLATION

Plan how each component reaches its position

Bespoke engineering coordinates installation order, delivery sequencing, manual handling limitations and site contractor interfaces.

Delivery, storage & handling

Staged component drops aligned with crane or lift availability prevent laydown congestion. Sub-divided platform modules are quickly and easily installed.

Sequenced build & sign-off

Step-by-step assembly maintains temporary works stability without blocking concurrent trades. Inspection includes comprehensive handover documentation supports asset records.

Segmenting large platforms around verified access routes avoids costly crane hire and double handling.

THE END-TO-END WORKFLOW

Connect every stage of delivery

Site complexity falls when survey data directly governs design, fabrication, and installation as one continuous thread.

1.



Accurate Survey & 3D Scan

(As-Built Data)

→

2.



Parametric CAD Model

(Load & Clash Checks)

→

3.

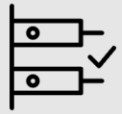


Modular Fabrication

(Pre-Fitted Sections)

→

4.



Sequenced Installation

(Fast Mechanical Fix)

A unified digital chain ensures that as-built challenges are solved long before installation teams mobilise.

PROVEN SECTORS

Applications across complex environments

Non-conductive, lightweight and chemical-resistant GRP access systems solve acute access constraints across high-risk sectors.



Data centres

Lightweight, non-magnetic raised flooring and ceiling plenum access around dense cabling.



Water & wastewater

Corrosion-proof tank covers, bridges and clarifier access stairs enduring constant chemical exposure.



Rooftop plant & utilities

Step-overs, duct walkways and electrical substation gantries meeting strict roof loading limits.

Industrial and manufacturing sites; utilities and electrical infrastructure; commercial buildings with rooftop plant. Tailored GRP systems protect workers while withstanding harsh thermal, chemical, and electrical operating conditions.

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COLLABORATION

Engage Relinea early

Bring surveying, scanning, design, fabrication and installation together around project requirements.

Contact the Relinea team

Discuss a bespoke GRP access solution.

Talk to our technical team:
www.relinea.com · info@relinea.com