MERIT

# Offsite Construction Market Entry

One connected model of delivery for the project-based manufacturer

February 2026

# Offsite Construction at a Glance

Factory-manufactured components assembled on site, blending manufacturing precision with construction flexibility

## Reduced Construction Timeline

Parallel processing replaces linear sequencing, enabling earlier project completion.

**Traditional**


**Offsite Construction**


## Separated Skillsets

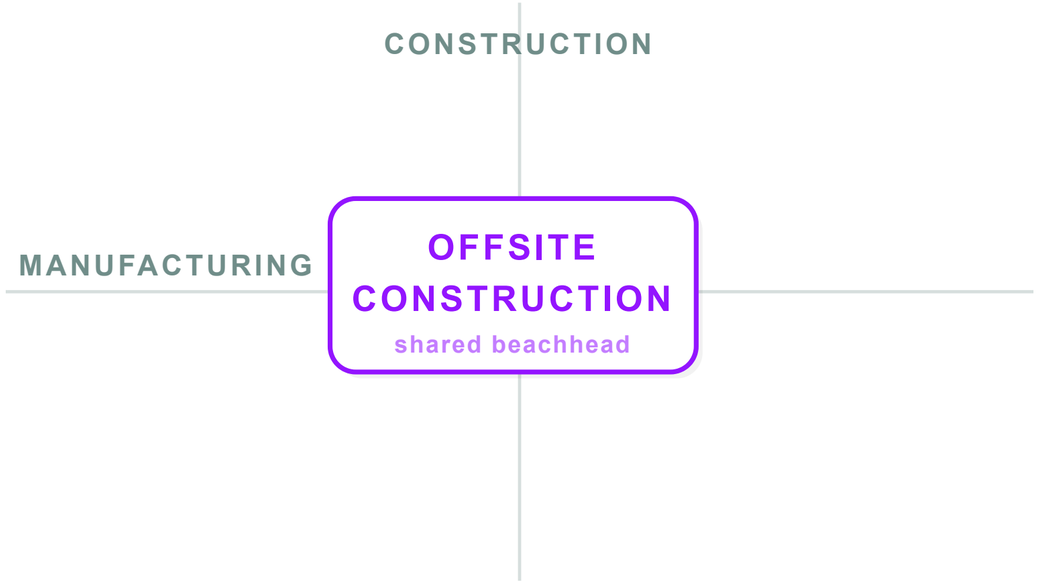
Traditional tradespeople must master every phase on site. Offsite splits these into complementary specialists: factory fabricators who build components to tight tolerances in a controlled environment, and site crews who focus on fast, accurate installation. Both sides deepen their expertise through repetition.

## Controlled Environment

Factory-controlled conditions improve safety, enable precision assembly, ensure consistent quality, and eliminate weather-related delays.

## Where Two Industries Meet

A shared beachhead into both parent industries



# Offsite Systems: Scope Finding

Nine structural system types across building and infrastructure applications, forming the initial product scope

REGIONS N. America Europe Asia-Pacific Australasia Latin America Africa | Buildings Infrastructure

### Window & Door Systems

Long established as externally manufactured components. Fenestration has been factory-made for decades.

### Structural Systems

Factory-fabricated frames, trusses and engineered timber. A growing, underserved market.

### Access Systems

Stairs, balustrades, balconies and mezzanine structures. Widely prefabricated, reducing on-site labour and programme risk.

### HVAC & MEP Systems

Mechanical and electrical modules are an emerging area of prefabrication, driven by labour shortages.

## Light Gauge Steel

Cold-formed steel studs and tracks assembled into wall panels and floor cassettes. Widely used in multi-storey residential and commercial construction.

NA EU ANZ

Structural walls | Structural floors

## I-Joist

Engineered timber joists with OSB webs and LVL flanges. Lighter and more dimensionally stable than solid timber, suited to floor and roof structures.

NA EU ANZ

Structural floors | Structural roofs

## CLT

Cross-laminated timber panels built up from alternating layers of structural timber. Used for walls, floors and roofs in low to mid-rise construction.

EU NA ANZ

Structural walls | Structural floors | Structural roofs

## Timber Frame

Factory-assembled wall panels and floor cassettes using timber studs and engineered board. The prefabricated variant of the dominant residential framing method, most established in the UK and Europe.

EU ANZ

Structural walls | Structural roofs

## Steel Roof Truss

Factory-fabricated steel trusses for long-span roof structures. Common in commercial, industrial and agricultural buildings across multiple regions.

NA EU ANZ AF LATAM

Structural roofs

## Pre-cast Concrete

Concrete elements cast in a controlled factory environment and transported to site. Used across building sub-structures and civil infrastructure.

NA EU APAC ANZ LATAM AF

Sub-structure | Structural walls | Structural floors

Sub-structure | Bridge structures | Water defences | Tunnel structures

## Volumetric

Three-dimensional factory-built modules containing finished structure, services and internal finishes. Craned into position and connected on site.

EU NA ANZ APAC

Structural walls | Structural floors | Structural roofs

## Timber Roof Truss

Engineered timber trusses for residential and light commercial roofs. Produced at high volume with precision cutting from digital models.

NA EU ANZ

Structural roofs

Sub-structure | Bridge structures | Tunnel structures

*as disposable formwork*

## Structural Steel Beam

Hot-rolled and fabricated steel sections for frames, beams and columns. Used across commercial, industrial and infrastructure applications.

NA EU APAC ANZ AF

Structural walls | Structural floors

Bridge structures | Water defences | Tunnel structures

# Offsite Systems: Market Size & Employment

Global estimates by system type, sourced from multiple market research providers[1–5]

| System | Market share | Value / yr | Employees | Companies | CAGR |
|---|---|---|---|---|---|
| Pre-cast concrete | 40% | $161-175B | ~160,000 | 4,500-5,500 | 6-7% |
| Timber frame | 12% | $39-48B | ~48,000 | 1,800-2,200 | 3-10% |
| Light gauge steel (LGS) | 10% | $32-40B | ~40,000 | 1,200-1,500 | 5-7% |
| Structural steel frame<br>lower labour intensity | 10% | $40B | ~32,000 | 800-1,100 | 3-4% |
| CLT / mass timber panels | 8% | $32B | ~32,000 | 150-250 | 12-15% |
| Volumetric modular<br>higher labour intensity | 8% | $32-36B | ~38,000 | 600-800 | 6-8% |
| I-Joist / engineered floor | 6% | $14-24B | ~24,000 | 150-300 | 5-7% |
| Timber roof truss | 4% | $11-16B | ~16,000 | 2,000-2,500 | ~5% |
| Steel roof truss | 2% | $8B | ~6,000 | 400-600 | 5-7% |

**Total Market Value**

**~$400B / yr** ~6.5% CAGR

**Total Employees**

**~396,000**

Addressable headcount across all systems: the primary TAM metric for per-seat licensing

**ICP: Fabricated Structural Systems**

All nine systems share a common delivery model: project-based sales, factory production, and site installation, spanning building and civil infrastructure applications.

| | |
|---|---|
| **~$400B**<br>Industry value | **12-15k**<br>Companies |
| **~396k**<br>Addressable seats | **~$475M**<br>ARR at $100/seat/mo (illustrative) |

Employee figures adjusted for relative labour intensity by system type. CAGR figures are indicative estimates derived from the same sources.

# Typical Offsite Construction Workflow

From client enquiry to site handover, across a consistent four-stage project structure

### Sales and Estimation

Initial client engagement, project scoping, and cost estimation, culminating in a priced proposal, agreed scope, and preliminary bill of materials (BOM).

Estimator, Sales lead, Client

- Quote / Proposal
- Scope of Work
- Preliminary BOM
- Schedule commitment

### Design and Procurement

Detailed engineering, BIM modelling, and material procurement. Fabrication drawings and shop documentation produced for the factory floor.

Structural engineer, Drafter, Procurement manager

- Fabrication drawings
- Full BOM
- Shop documentation
- Purchase orders

### Fabrication

Offsite manufacturing of structural components in a controlled factory environment, with quality control checks at each production stage.

Factory manager, Production supervisor, QC inspector

- Manufactured components
- QC records
- Assembly instructions
- Logistics plan

### Installation (Most commonly carried out by the construction team)

On-site assembly of prefabricated components. Some companies provide full installation services; others deliver components only.

Site foreman, Installation crew, Project manager

- Installed structure
- As-built documentation
- Punch list sign-off
- Project close-out

Key Insight: The pre-construction phase is critical and data-intensive, requiring coordination across sales, engineering, and manufacturing teams.

# The Current Tool Stack

Replace the commodity layer, integrate with the specialist tools that stay

| | | |
|---|---|---|
| **Excel / Spreadsheets**<br>All stages | The connective tissue of every stage, and the source of most data loss. No workflow automation, version chaos across teams, and zero real-time visibility into project state. | Replace |
| **FabTrol / Strumis**<br>Fabrication | Standalone production tracking for structural fabrication: material release, work orders, QC, and shipping logs. Valuable on the shop floor, but siloed from sales, estimating, and project management. Progress data never reaches the people who made the commitments. | Replace |
| **Moducore**<br>Offsite ERP | Built for offsite production with CPQ and factory tracking. Project intelligence stays trapped in the system — historical performance data does not feed back into estimates, procurement, or HR. No cross-project learning mechanism. | Replace |
| **Sage / QuickBooks / Xero**<br>Finance | Project costs are manually re-entered at job close, giving finance a lagging, incomplete picture throughout execution. Integration means job costing flows from Merit OI automatically, with no double-entry. | Integrate |
| **Revit / Tekla / AutoCAD**<br>Design & Procurement | Powerful for drawing production and BIM, but outputs stay locked in the design tool. BOMs and fabrication drawings are manually transferred, introducing errors at the most critical handoff. | Integrate |
| **Buildertrend**<br>Sales / Site | Adequate for residential project tracking, but disconnected from design data and shop floor reality. Gives the illusion of progress visibility without the substance. | Replace |
| **Autodesk Construction Cloud**<br>Project Management / Site | Strong document management and project coordination for the site phase, but construction-centric by design. Factory production is invisible to it, and estimating lives in entirely separate systems. It solves information distribution only downstream of where margin is actually won or lost. | Replace |
| **Procore**<br>Installation | Excellent for site document control, but factory-blind. Merit OI covers site tracking, document control, and progress reporting within the same integrated platform that runs your factory, closing the gap between what is built and what is recorded on site. | Replace |
| **MS Project / Smartsheet**<br>Project planning | Static plans that go stale the moment they are published. No live factory capacity data, no connection to resource availability. Schedules are aspirational, not operational. | Replace |

**Positioning:** Merit OI is a connected model of your delivery chain, replacing the commodity tools that silo data, with medium-term ambitions to integrate with the specialist systems (design, finance) that stay in place.

# Why No Existing Tool Covers This

Each competitor is a vertical slice: designed for one function, one context, one phase. None orchestrate across the full delivery lifecycle. None carry the organisational memory that turns completed projects into competitive advantage.

| Competitor | Category | CPQ / Quoting | Project Management | Factory & Production | Site & Install | Business Intelligence | Org. Learning |
|---|---|---|---|---|---|---|---|
| *Excel / Whiteboards* | Status quo | → | → | → | ✗ | ✗ | ✗ |
| **Procore** | Construction PM | ✗ | ✓ | ✗ | ✓ | → | ✗ |
| **Sage / Viewpoint** | Construction ERP | ✗ | ✗ | ✗ | → | → | ✗ |
| **Epicor / JobBOSS** | Manufacturing ERP | ✓ | → | ✓ | ✗ | → | ✗ |
| **Offsight** | Offsite production | ✗ | → | ✓ | ✗ | ✗ | ✗ |
| **Moducore** | Offsite ERP | ✓ | → | ✓ | → | → | ✗ |
| **Merit OI** | **Business OS** | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |

✓ Designed for this → Data flows, not orchestrated ✗ Not covered

**The platform gap:** Every competitor here is a tool: built for one function, context or phase phase. At the organisational level Merit OI is a Business OS. The delivery pipeline shown above is one dimension. HR, operations, and inventory run on the same shared process network, so every function learns from the same organisational memory.

# Who Feels the Pain

The roles who live the gap every day. **ICP: Structural fabrication manufacturer · 30–400 employees**

## VP of Operations

The throughput owner

80–400 employees

*"By the time I compile a capacity picture from multiple disconnected systems, it's already obsolete. Our monthly close takes 15+ days. I'm navigating with a rearview mirror, not a dashboard."*

### CURRENT TOOLS

Spreadsheets | Procore | Sage

### KEY PAIN POINTS

- 49% of firms forced to transfer data manually between applications, introducing high error rates and latency (FMI/Autodesk)[14]
- Mid-sized fabricators average a 14-day month-end close — vs 4.8 days for top performers (Numeric/APQC)[15]
- Over 50% of labor time is classified as waste; craftspersons spend only 30% of time on actual building (CII)[16]

MES implementations in fabrication shops deliver positive ROI within 12–18 months.[7]

## Project Manager

The handoff coordinator

40–300 employees

*"35% of my week — 14+ hours — goes to chasing drawings, BOMs, and delivery dates. Without a central source of truth, coordinating handoffs is like herding cats."*

### CURRENT TOOLS

Buildertrend | Smartsheet | Email / Teams

### KEY PAIN POINTS

- 13 hours/week spent by construction professionals searching for project data (Autodesk)[8]
- 52% of rework caused by poor project data and miscommunication (Autodesk)[8]
- 14% of all construction rework globally is caused by bad data (Autodesk)[8]

Digital transformation increases productivity 14–15% and lowers costs 4–6% (McKinsey).[9]

## Sales / Estimator

The commitment maker

30–200 employees

*"A single spreadsheet error throws off an entire quote. You win the job, then immediately worry about delivery and the true cost. Everything I know about past jobs lives in my head or a file no one else can find."*

### CURRENT TOOLS

Excel | Autodesk CC | Email

### KEY PAIN POINTS

- 83% of construction firms say improving estimating accuracy is their biggest priority (KPMG)[10]
- 99% of specialty contractors experience margin erosion during construction; average fade is 5% of project value (Dodge/Procore)[17]
- 29% of firms cite inaccurate estimates as a primary cause of margin erosion (Dodge/Procore)[17]

Integrated estimating linked to shop capacity — bid 2–3x more projects with the same headcount.[11]

# Merit Operational Intelligence

Built to close the digital gap in offsite construction

## The Status Quo

**2nd lowest digital adoption (McKinsey)[13]**

| Sales & Estimation | Design & Procurement | Fabrication | Installation |
|---|---|---|---|
| Excel, Sage, Spreadsheets | Revit, Tekla, AutoCAD | Generic ERP, Excel, Paper | Procore, MS Project, Paper |

### The right information never reaches the right person

Revised drawings travel by email. Updated BOMs sit in shared drives. Change orders reach some stakeholders and not others.

### Delivery dates are set blind

The factory production queue is invisible to sales and project management. Commitments are made without knowing what the shop floor can absorb.

### Every project starts from scratch

Whether a project overruns or performs well, there is no mechanism to understand why. Historical data stays locked in disconnected systems.

## Merit OI

One system across the whole workflow

| Sales & Estimation | Design & Procurement | Fabrication | Installation |
|---|---|---|---|
| Sage, Merit OI | Revit, Tekla, AutoCAD, Merit OI | Merit OI | Merit OI |

### The right information, to the right person

Documents are uploaded against specific process steps and available to all who need them. Required documents gate stage progression.

### Commitments the factory can keep

Resource planning models people, skills, and factory throughput in real time. Sales can commit to dates the shop floor can actually meet.

### Intelligence that compounds

Every completed project builds institutional knowledge. Historical data informs future estimates, and margin predictability improves with every job.

# What Merit OI Delivers

Merit OI gives offsite structural fabricators one connected workflow that generates deterministic cost and delivery forecasts at the point of spec, replacing the fragmented tool stack that causes margin leakage and turning every completed project into sharper estimates, more reliable commitments, and an institutional advantage that compounds.

THE ENTRY POINT

### One connected workflow

Excel, standalone ERPs, and disconnected PM tools replaced by a single platform. The right information reaches the right person at each stage. Sales commits to dates the factory can actually keep.

THE MEDIUM-TERM PAYOFF

### Execution becomes measurable

Every executor's experience, delivery record, and calendar are tracked in one place, enabling assignment by merit rather than familiarity. Material and inventory inputs are rated by speed, cost, and post-delivery quality, so procurement improves with every order placed.

THE COMPOUNDING ADVANTAGE

### Every project makes the next one sharper

Accumulated performance data feeds the whole organisation: procurement identifies which suppliers to favour, HR benchmarks salaries against delivery performance, and operations identifies which process variants produce the best margins. Institutional knowledge no competitor can replicate by switching software.

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