Why Yacht Builders Underestimate Cycle Time

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Custom programmes plan for an idealised yard. The real one looks different — here is the gap.

The Promise and the Reality

The Plan

01

A launch date is established

02

Engineering milestones are agreed

03

Procurement timelines are defined

04

Production durations are estimated

The programme appears logical, structured, and achievable.

The Reality

Yet as construction progresses, reality slowly diverges from the plan.

14 months → 17 months

The vessel expected to move through production in 14 months requires 17.

40 weeks → 52 weeks

The project expected to occupy a bay for 40 weeks remains there for 52.

Management meetings become increasingly focused on recovery plans rather than execution. The question is not why delays occur — the question is why they occur **so consistently** across the industry.

The Fundamental Planning Error

Most yacht builders estimate cycle time based on **technical work content**. The assumption appears reasonable — if the work requires 50,000 hours, then the schedule should reflect the time needed to complete 50,000 hours.

What Builders Calculate

Engineering Hours

Lamination Hours

Joinery Hours

Mechanical Installation

Electrical Installation

Testing & Commissioning

The Critical Insight

Yachts are not delayed by **work**.

They are delayed by **interruption**.

However logical the calculation appears, it misses the single most important variable in any complex build programme.

The Difference Between Build Time and Cycle Time

Build Time	Cycle Time
The period required to **physically perform** a task.	The **total duration** required to complete it — including all interruptions.

The distinction is critical. Consider a practical example:

The Example

A technical team may require **three days** to install a system.

However, the actual cycle time may become **ten days**.

Most schedules account for build time. Very few accurately account for cycle time.

Why Three Days Becomes Ten

- → Drawings are revised
- → Components are delayed
- → Access is restricted
- → Another trade occupies the workspace
- → Quality issues require rework

The Hidden Multipliers: Design Evolution

HIDDEN MULTIPLIER #1

Unlike serial production, **custom yacht projects continue evolving during construction**. Each change appears manageable in isolation. Collectively, they create significant disruption.

Owner Modifications

Requests arrive mid-build, requiring re-engineering of completed work.

Interior Selection Changes

Material and finish decisions shift after procurement has commenced.

Systems Upgrades

Technology improvements prompt specification revisions during installation.

Specification Evolution

Regulatory or classification requirements introduce late-stage changes.

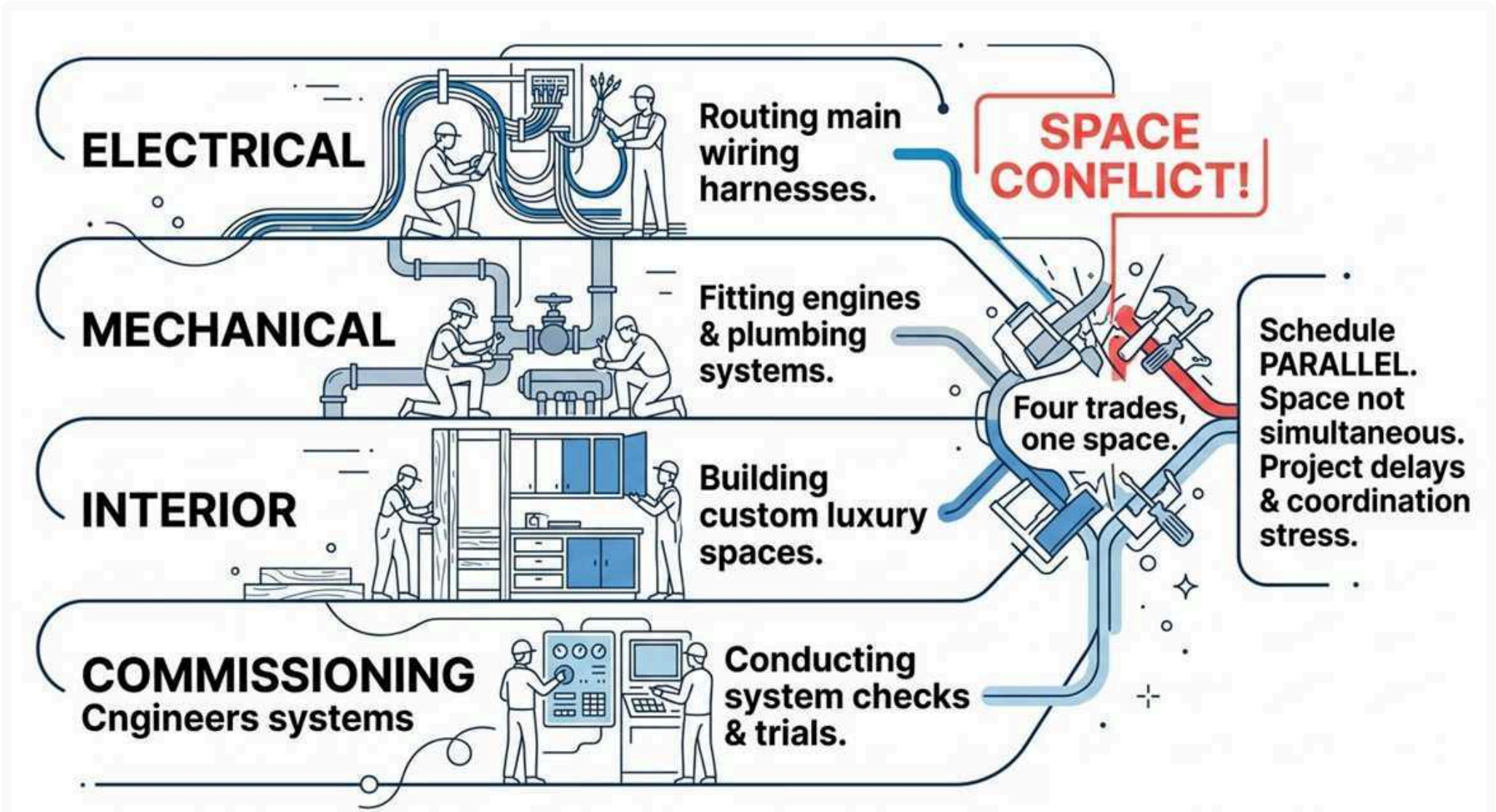
⚠ Design evolution is the most pervasive hidden multiplier in custom yacht construction. It is rarely captured in full within the original programme.

The cumulative effect of design evolution is rarely visible in any single change order. It is only apparent when the programme is reviewed in its entirety — by which point recovery is already difficult.

The Hidden Multipliers: Resource Conflicts

HIDDEN MULTIPLIER #2

A yacht is one of the most complex products built by hand. Multiple trades often compete for the same physical workspace — and the schedule may show parallel activities that the vessel simply cannot permit.



The vessel rarely permits the parallel activities that the schedule assumes. Physical space is the constraint that planning software cannot fully model.

The Hidden Multipliers: Procurement Variability

HIDDEN MULTIPLIER #3

The yacht industry relies heavily on **specialist suppliers**. A single delayed item can create cascading disruption throughout the programme — often disproportionate to the value of the component itself.

Custom Manufactured

Bespoke components with no off-the-shelf alternative

Imported Internationally

Cross-border logistics subject to customs and freight delays

Long Lead Times

Specialist items ordered months in advance with limited flexibility

> "The impact is often disproportionate to the value of the component itself."

A single missing fitting, sensor, or custom-fabricated bracket can halt an entire installation sequence — holding back trades, consuming bay time, and compressing downstream activities into an ever-tightening window.

⊗ Procurement variability is frequently underweighted in risk registers. Its downstream cascade effect is rarely modelled in full.

The Hidden Multipliers: Rework

HIDDEN MULTIPLIER #4

Few schedule models adequately quantify rework. Yet rework remains one of the **largest contributors to programme extension**.

Direct Impact

Time and resource required to correct the defect itself.

Secondary Disruption

Downstream activities displaced, delayed, or compressed as a result.

Access Conflicts

Rework teams re-entering spaces already handed over to subsequent trades.

⚠ The issue is not only correcting defects. It is the secondary disruption created throughout downstream activities — which is rarely captured in schedule recovery plans.

Rework is the hidden multiplier that compounds all others. A design change creates rework. A procurement delay creates rework. A resource conflict creates rework. Each feeds the next, and the cumulative effect on cycle time is substantial.

The Cost of Underestimating Cycle Time

Many shipyards focus primarily on delivery dates. The larger impact is financial — and it compounds across every extended programme.

Reduced Throughput

Fewer yachts delivered per year. Revenue capacity is constrained not by demand, but by production velocity.

Increased Overhead Absorption

Fixed costs remain active for longer periods, eroding the margin on every extended project.

Working Capital Pressure

Cash remains tied inside unfinished inventory, limiting the yard's ability to invest and grow.

Reduced Capacity

Production space becomes occupied beyond planned durations, blocking new programme starts.

Margin Erosion

The project remains profitable on paper while becoming progressively less profitable in reality.

What Leading Shipyards Measure Differently

High-performing yards increasingly monitor **operational flow** rather than solely production progress. These indicators reveal programme risk long before a missed delivery date appears.

What They Measure

Waiting Time

Rework Frequency

Engineering Change Impact

Resource Congestion

Material Availability

Decision Response Time

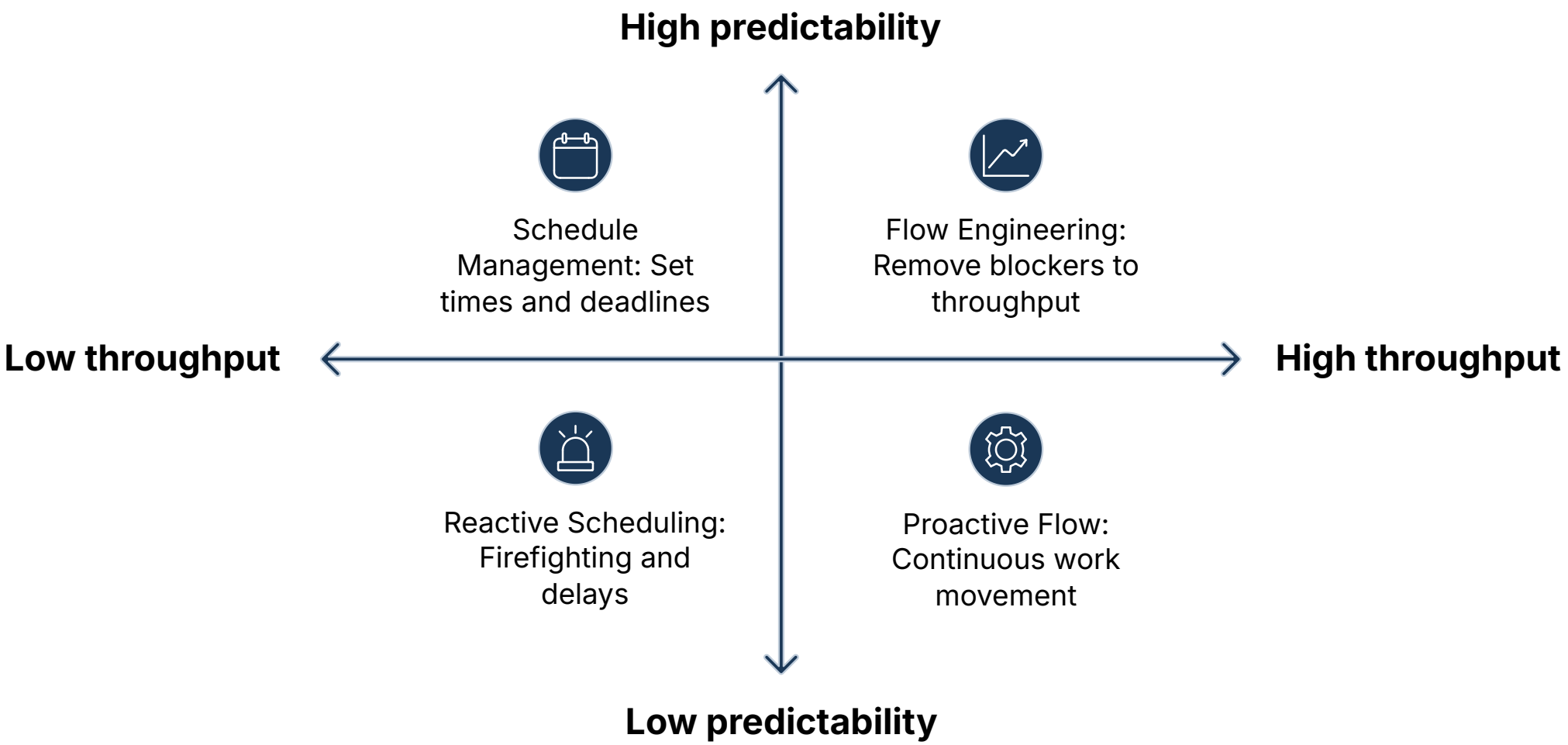
> "The objective is not to accelerate labour. The objective is to **eliminate friction**."

The shift from measuring outputs to measuring flow is the defining characteristic of operationally mature shipyards. They understand that the schedule is a symptom — and that the root causes live in the spaces between activities.

Yards that measure these indicators consistently outperform peers on delivery reliability, margin retention, and throughput capacity.

From Scheduling to Flow Engineering

The industry's next performance advantage will not come from larger facilities, additional labour, or more sophisticated planning software. It will come from understanding how work actually moves through the organisation.



This reframing is deceptively simple — but its implications are profound. When the question changes, so does everything that follows: the metrics tracked, the conversations held, the interventions made, and the results achieved.

Schedule Management

"When should this activity happen?"

Focuses on dates, milestones, and progress against plan. Reactive by nature — problems surface only after they have already impacted the programme.

Flow Engineering

"What prevents this activity from happening?"

Focuses on friction, constraints, and the conditions required for work to proceed. Proactive by nature — problems are identified and removed before they impact the programme.

Final Thought

> Most yacht builders do not underestimate labour. They underestimate **interruption**.

The gap between planned cycle time and actual cycle time is rarely caused by technical complexity alone. It is created by the countless small frictions that accumulate throughout the build process.

1

Identify the Frictions

Measure waiting time, rework, congestion, and decision latency.

2

Remove the Frictions

Engineer the conditions that allow work to flow without interruption.

3

Gain Predictability

Deliver consistently — and gain the most powerful competitive advantage a yard can possess.

The shipyards that learn to identify and remove those frictions gain something more valuable than faster delivery. They gain **predictability**. And in yacht construction, predictability is one of the most powerful competitive advantages a yard can possess.

About the Author

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Yacht Production Leadership

Led large-scale production operations and factory expansions.

Transformation Programmes

Advises organisations on converting complexity into measurable performance.