

Optimised Construction

Cutting through the fog of uncertainty to deliver better outcomes



BETTER DELIVERY
we optimise construction



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Introduction >

The UK construction and real estate sector is currently the victim of a period of ongoing global and domestic instability.

This is primarily driven by the following factors:

- Global inflationary monetary policy, quantitative easing, and subsequent tightening following the Covid-19 pandemic.
- Supply chain volatility and instability in part due to the on-going invasion of Ukraine, conflict in the Middle East and wider international geopolitical concerns such as China/USA tensions, as well as the UK's exit from the European Union.
- Domestic political indecision and politicised housing targets/planning aligned to the political cycle.
- Upward pressures on capital stacks due to interest rates and cross border capital reluctance.

There are many market commentators and observers acting reactively to the current climate and spreading a fog of 'doom and gloom' across the whole industry.

Cutting through the fog of uncertainty

Whilst it is always important to look backwards and understand why events have unfolded in this way, I would like to approach things a little differently and focus on the route forwards:

- How we can cut through this fog to ensure that the entire value tree and supply chain can derive the required margins, whilst risk is distributed appropriately and proportionately.
- How to guide clients through utilising the optimal construction technology and delivery models, as well as cajoling the policy environment to evolve, suit, and regulate an industry which can be slow to adopt change.

We have been calling this approach *Optimised Construction*.

The aim of this report is not to introduce another 'buzz word' into the industry, as we all know there are enough of those. Instead, I would like to syndicate a better way of delivering schemes and show you how we have been helping our clients to optimise their projects to deliver better outcomes.

Market context >

In this turbulent market, most tender prices remain higher than feasibility models can sustain, continuing to put pressure on scheme viability when further compounded by the cost of borrowing. Even where material prices have readjusted in certain areas and the labour market has cooled, the supply chain is reluctant to pass on the full benefit as instability remains, painting an uncertain outlook. Whilst order books are reasonably healthy, there is still concern over supply chain volatility and the ability to convert fixed prices agreed at tender stage, which may impact cashflows as divergences begin to crystallise.

Ultimately, there is often a delayed fuse between macroeconomic events and their impact within the construction sector due to the adamant bond between planning and land supply, as well as the incomplete connection between inbound and outbound costs within the sector.

In a market already struggling to commoditise construction and throttled by the current economic climate, wider demand and legislative pressures threaten viability further. Revised building safety and sustainability requirements, in addition to government policy demonstrating a willingness to legislate retrospectively, has led to a conservative view on risk. In particular, legacy risk where recovery of these costs is now being sought from future pipelines.



Market opportunities and risks >

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We believe that all challenges present opportunities to evolve the industry and underwrite good business no matter how uncertain things may be. By acting from an informed position and adjusting the solution to suit, *Optimised Construction* can be delivered.

When a market is volatile or challenging, those agile enough to adapt and identify a competitive edge will likely succeed and put themselves in a strong position when a favourable environment returns:

CONTRACTORS

Innovative delivery models, aligned/transparent supply chains, and construction technology should be deployed appropriately to deliver value and better outcomes without 'buying' work.

DEVELOPERS

The market will naturally swing to lowest price tendering, therefore those that look to work collaboratively and ensure the correct construction solution is identified will inevitably reduce inherent risks within their projects. Covenant strength and contract securities will be front of mind with the indemnities market already hardening, selecting appropriate partners and driving risk mitigation in lieu of transfer is likely to be key. If a price looks too good to be true, it probably is.

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MANUFACTURERS

Those who can demonstrate the benefits case of their product or solution and ensure delivery and quality, as well as working with organisations above and below on the supply chain collaboratively, and not in isolation, are more likely to be embraced into delivery models. Again, the greater the certainty of outcomes, the more the industry will embrace further industrialisation.

CONSULTANTS

Consultants need to keep abreast of market changes and be able to advise in real time regarding any impacts. Ongoing data collection, analysis and analytics will be key in navigating the transitional period as the role of the consultant evolves in the medium to long-term with the entrance of AI, parametric design tools, and platforms.

FUNDERS

Contract securities and supply chain volatility will be paramount as year-on-year construction firm insolvencies continue to climb. Consideration could be given to alternative payment structures, such as project bank accounts, to alleviate pressures on the lower tiers of the supply chain.

OPTIMISED CONSTRUCTION =

the best available construction solution
for a given project or programme of works:

INFORMED BY



DATA

We perceive the future of viable construction delivery is one where we collectively harness real world project performance data and integrate the latest technological advancements. This, coupled with specialist knowledge, aligned behaviours, and experience, informs better decisions and outcomes.



TECHNOLOGY

Whilst the aim is to embrace industrialisation through incorporation of manufactured components, complex sub-assemblies, and encourage standardisation (where appropriate), we need to move beyond the current traditional vs “modern methods of construction” narrative. We should operate in a space where there are simply “methods of construction” which include in-situ and off-site manufactured options. Acknowledging that each construction solution has its optimal uses, combinations, delivery models, and relevant organisations which depend upon the product, tenure type, value, and location of the project being delivered.

SUPPORTED BY



KNOWLEDGE



ALIGNED BEHAVIOUR

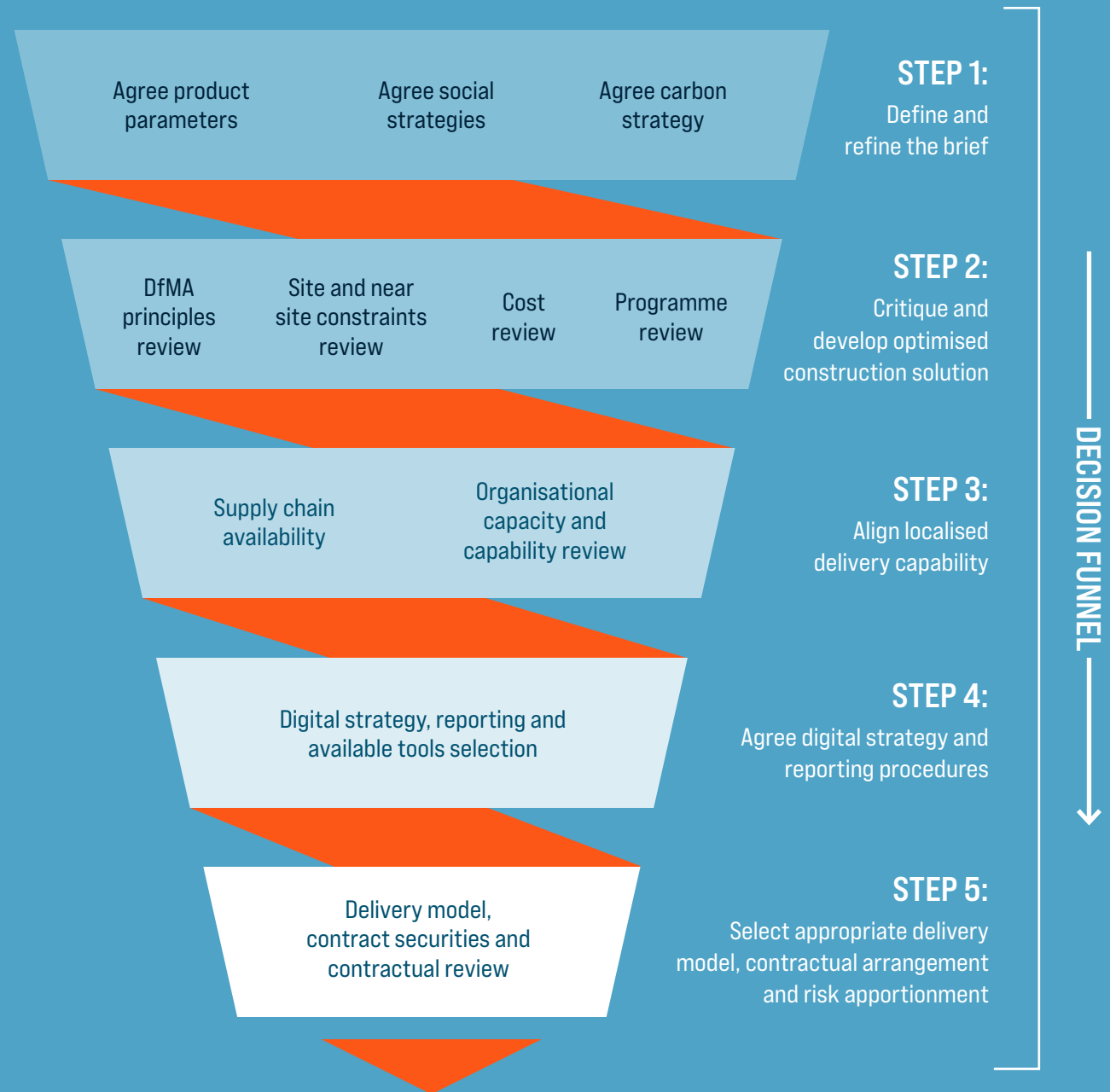
Optimised Construction is therefore a holistic approach to project delivery based on a process to identify KPIs/value drivers and what the associated “better” may look like against those. Solutions will evolve as time goes on to align with available technology, operating platforms, contractual structures, and supply chain make up. The driver will be to maintain and continually deliver viable solutions for all parties, and encourage the monitoring and recording of performance metrics i.e. time, cost, quality, IRR etc. In addition, more current metrics such as pre-manufactured value and CO₂e can be applied to improve decision making and maintain agility in evolving markets.



EXPERIENCE

The process >

Optimised Construction is a process and whilst there will be nuances to this depending on the sector it's deployed in, creating a decision funnel to better align project KPIs/value drivers with project characteristics and stakeholder organisations is paramount.

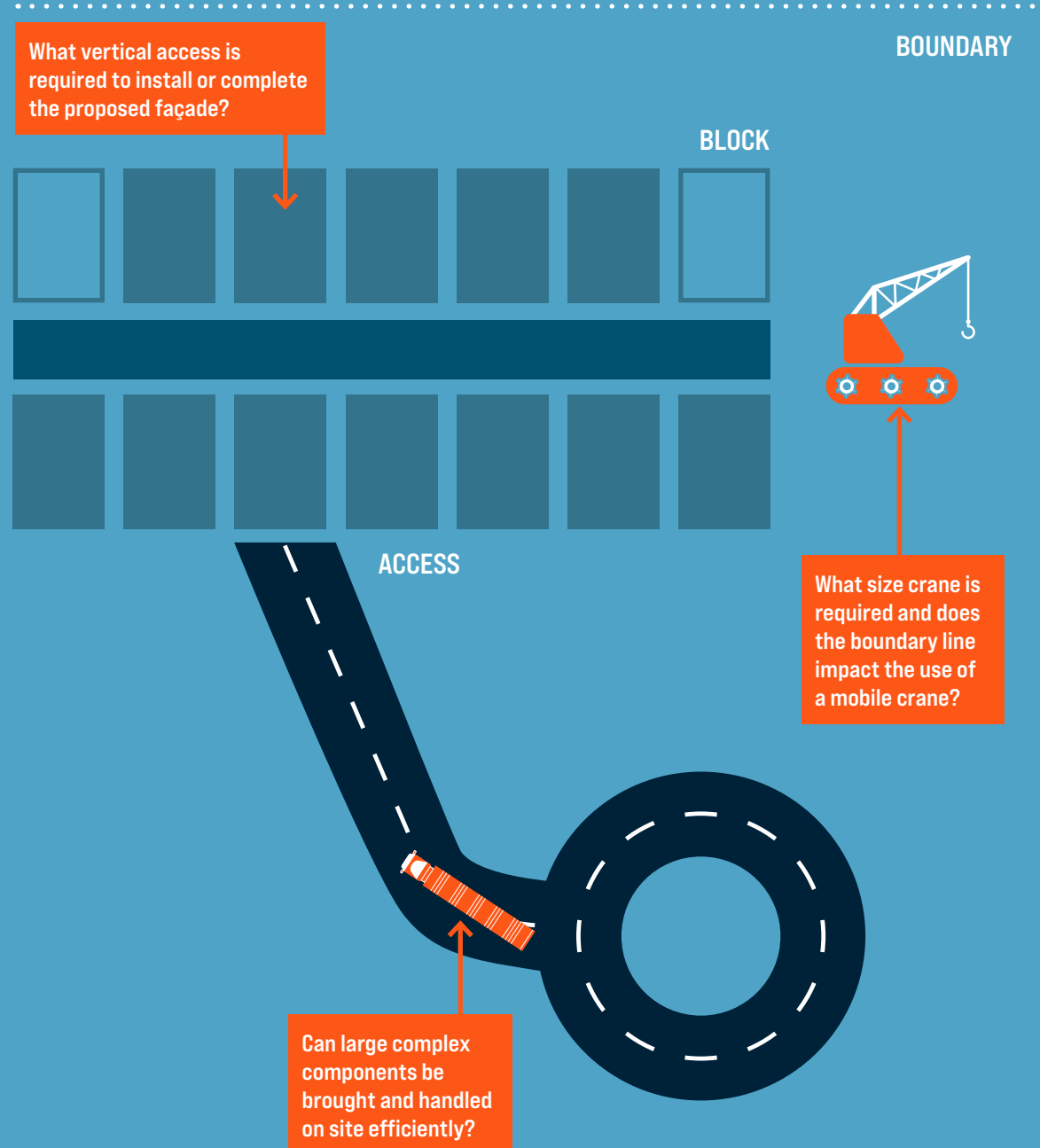


OPTIMISED CONSTRUCTION

Site and near site constraints reviews >

A high-level review identifying any inhibitors to the deployment of a system should be progressed at the outset of the project.

The review as a minimum should cover access and egress routes in and around site including swept path analysis, as well as routes to and from any proposed manufacturing facility. The review should also consider and outline on-site constraints and conditions that may impact the deployment of various solutions, including crange arrangements, vertical access, boundary constraints, and project phasing.

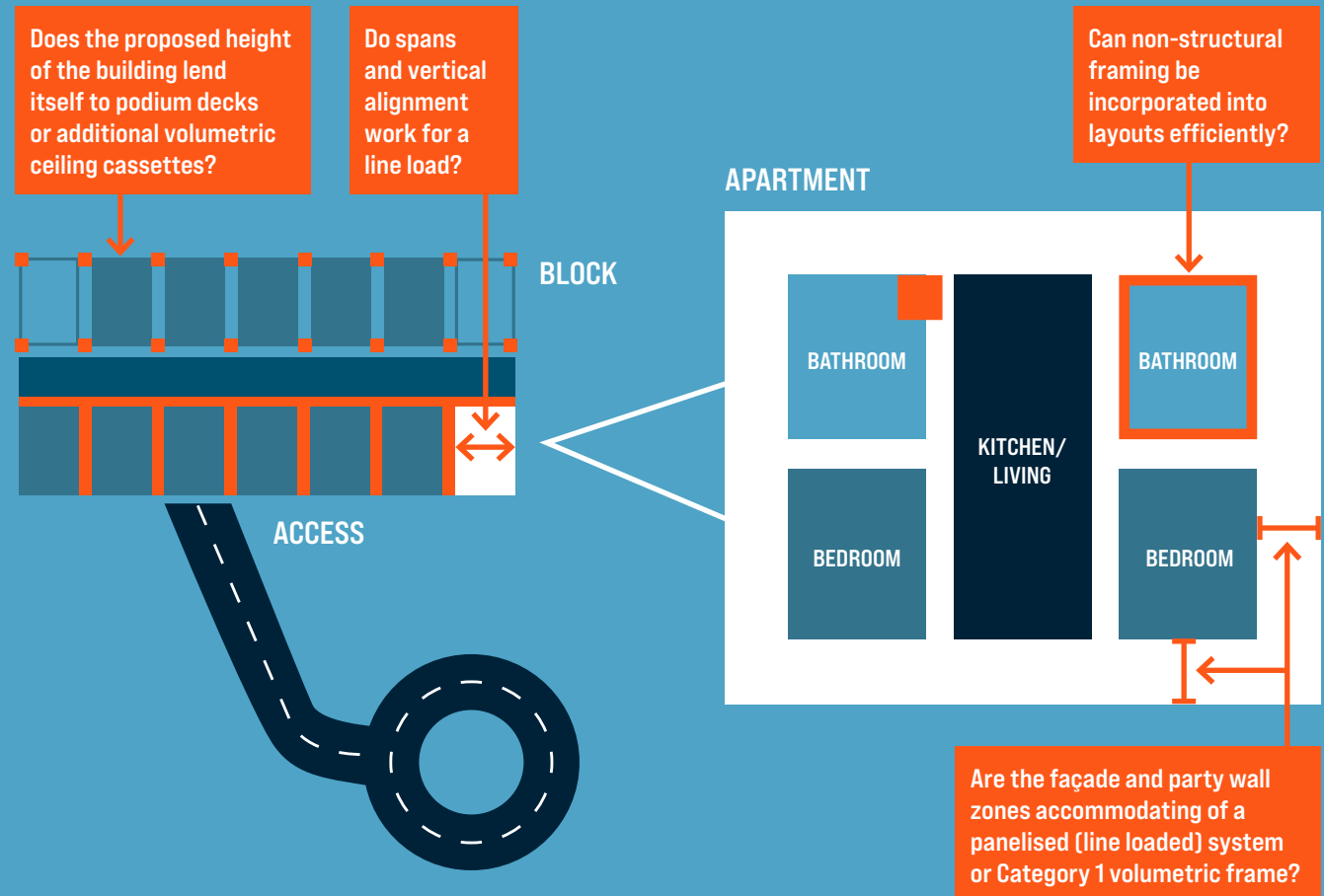


DfMA principles review >

The key to realising the opportunity to deploy a DfMA led solution is to determine if there is suitable grid and zoning alignment that lends itself to various structural and non-structural solutions.

An analysis of the proposed product against vertical alignment, structural zoning (both vertically and horizontally), services zoning, and spatial zoning for bathroom pods etc should always be considered. This would determine which system(s) are suitable for the chosen scheme and whether additional design is required which may have an impact on planning and the overall development programme.

Should a scheme design have already been progressed without considering DfMA, or have an incumbent consent, then an alignment report should be progressed identifying areas of opportunity, items for consideration or limitations with the existing design, with planning risks considered and commercially appraised.



Supply chain alignment >

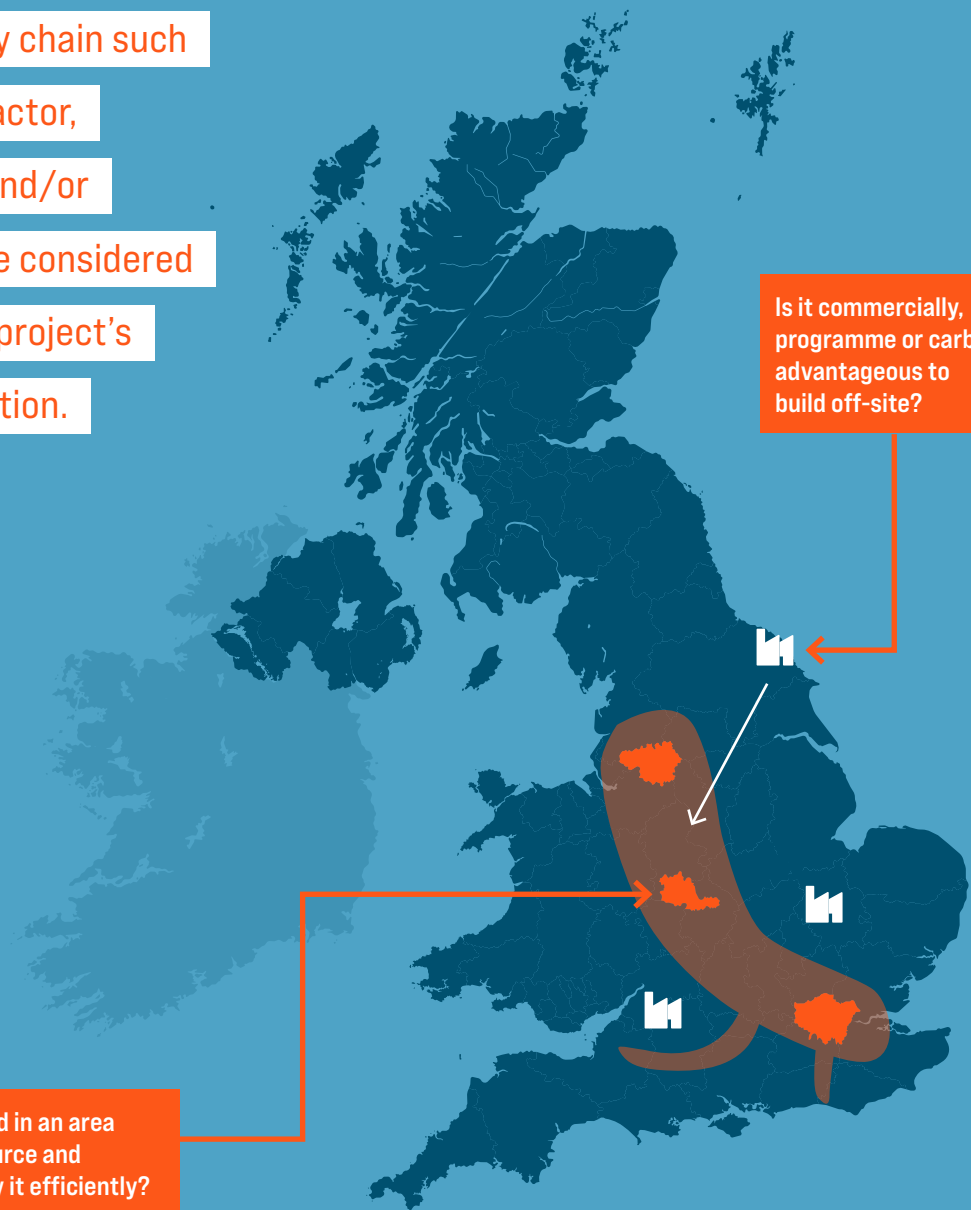
The cost of construction or the limit of acceptable construction cost can be impacted by two key factors:

- Gross Development Value (GDV) of the project which is generally higher if it lies within the North West to South East corridor and its associated arterial transport links, such as the M3, M4 etc.
- Availability (or scarcity) of labour and/or logistical constraints which can increase the cost of construction, such as delivering large schemes on the Isle of Wight and/or at the extremities of the UK.

It is therefore critical that the appropriate supply chain such as principal contractor, sub-contractors and/or manufacturers are considered depending on the project's geographical location.

Is the project being delivered in an area that has a large labour resource and organisation that can deploy it efficiently?

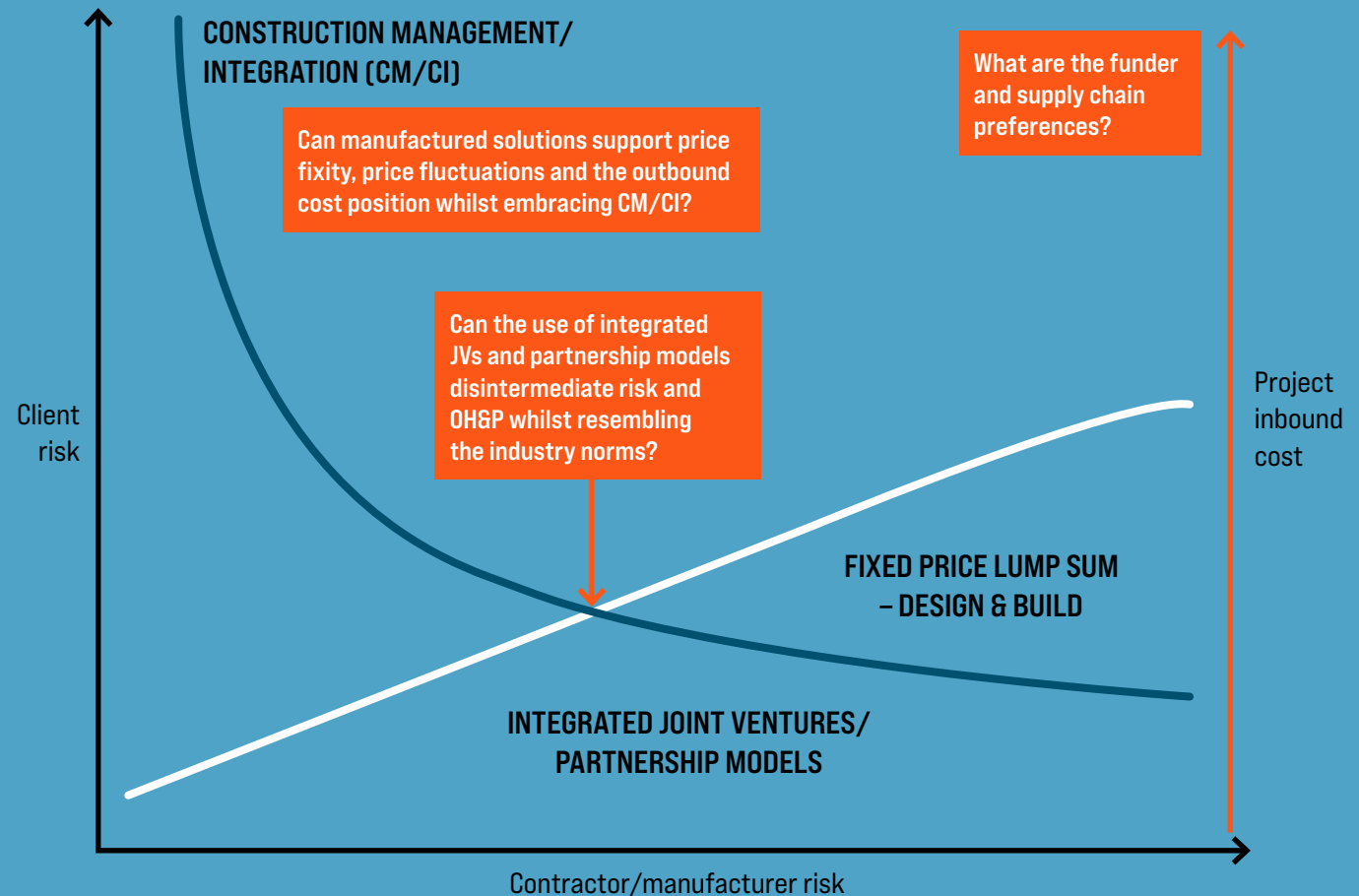
Is it commercially, programme or carbon advantageous to build off-site?



Delivery model >

There are numerous delivery models being utilised in the market with the main drivers for selection covering perceived industry norms, price fixity, perceived risk transfer, and impact on overall project cost.

The key is to embrace market norms whilst challenging whether risk has been duplicated, actually transferred, or held by the relevant party best suited to deal with it, and at an appropriate cost whilst disintermediating margin.



Programme review and commercial reviews >

As investor sentiment has curtailed, it is important that costs, cashflow, programme, and revenue are understood in more detail at the outset to understand the impacts of any solution adopted.

IMPLEMENTING THE OPTIMISED CONSTRUCTION PROCESS

Key programme and cost movements to check if it is a:

CATEGORY 1

Volumetric timber or light gauge steel frame (LGSF)

CATEGORY 2

LGSF/timber frame/cross-laminated timber (CLT)/pre-cast panel

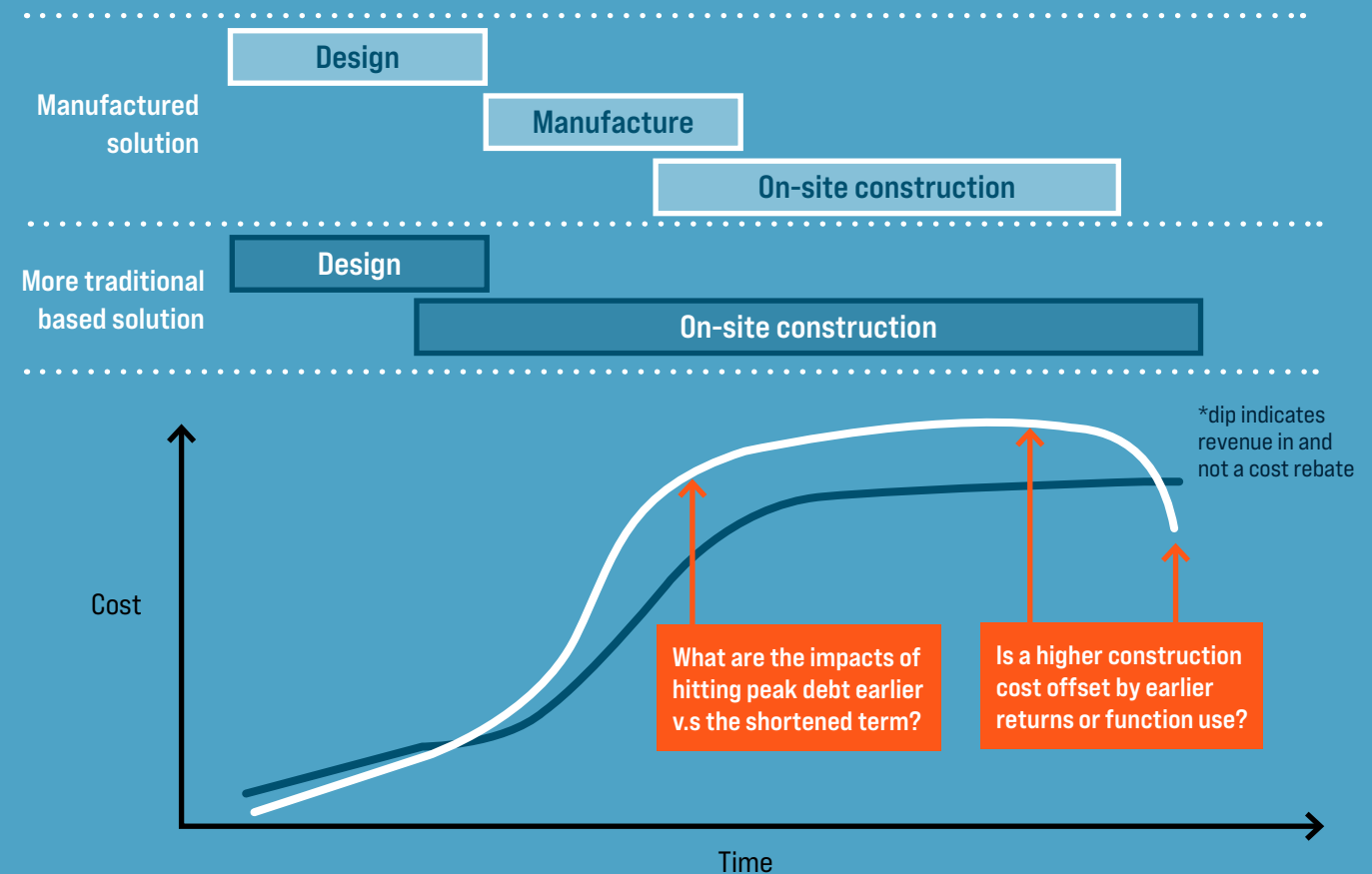
CATEGORY 3

Pre-cast or steel columns

CATEGORY 4 ONWARDS

This will materially impact:

- Overall development programme
- On-site construction programme
- Overlaps on design
- Manufacturing and on-site activities
- Construction costs
- Finance costs including peak, debt, and impact of earlier revenue, sales or OPEX model

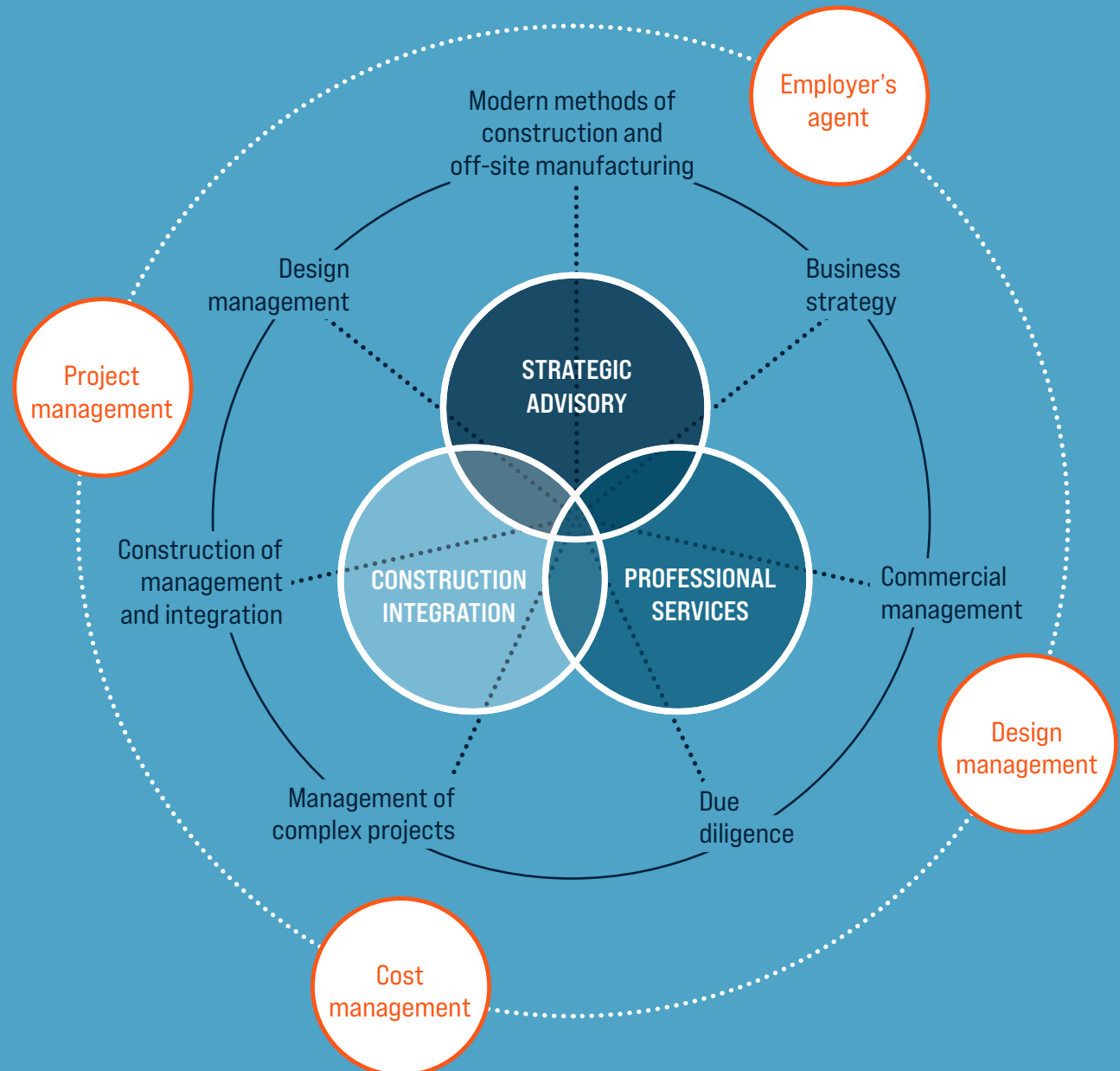


Charting a course to viability >

With cost pressures throughout the supply chain and wider economic/political uncertainty, many schemes are facing viability challenges on a scale not seen for over a decade.

Whilst a short-term view must be considered for these challenges, we shouldn't lose sight of longer-term strategy and business goals to enable businesses to emerge from this contraction stronger and more resilient. Now, more than ever, a solutions based approach to project delivery is required that addresses and offers tangible solutions to the short-term challenges and aligns with longer-term strategic business goals.

Better Delivery goes beyond the traditionally recognisable functions of professional services roles to add real value by optimising construction delivery and solving real world problems for our clients. We have shared some of the analysis we undertake to support our clients in achieving their strategic goals, as well as achieving certainty of project outcomes.





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