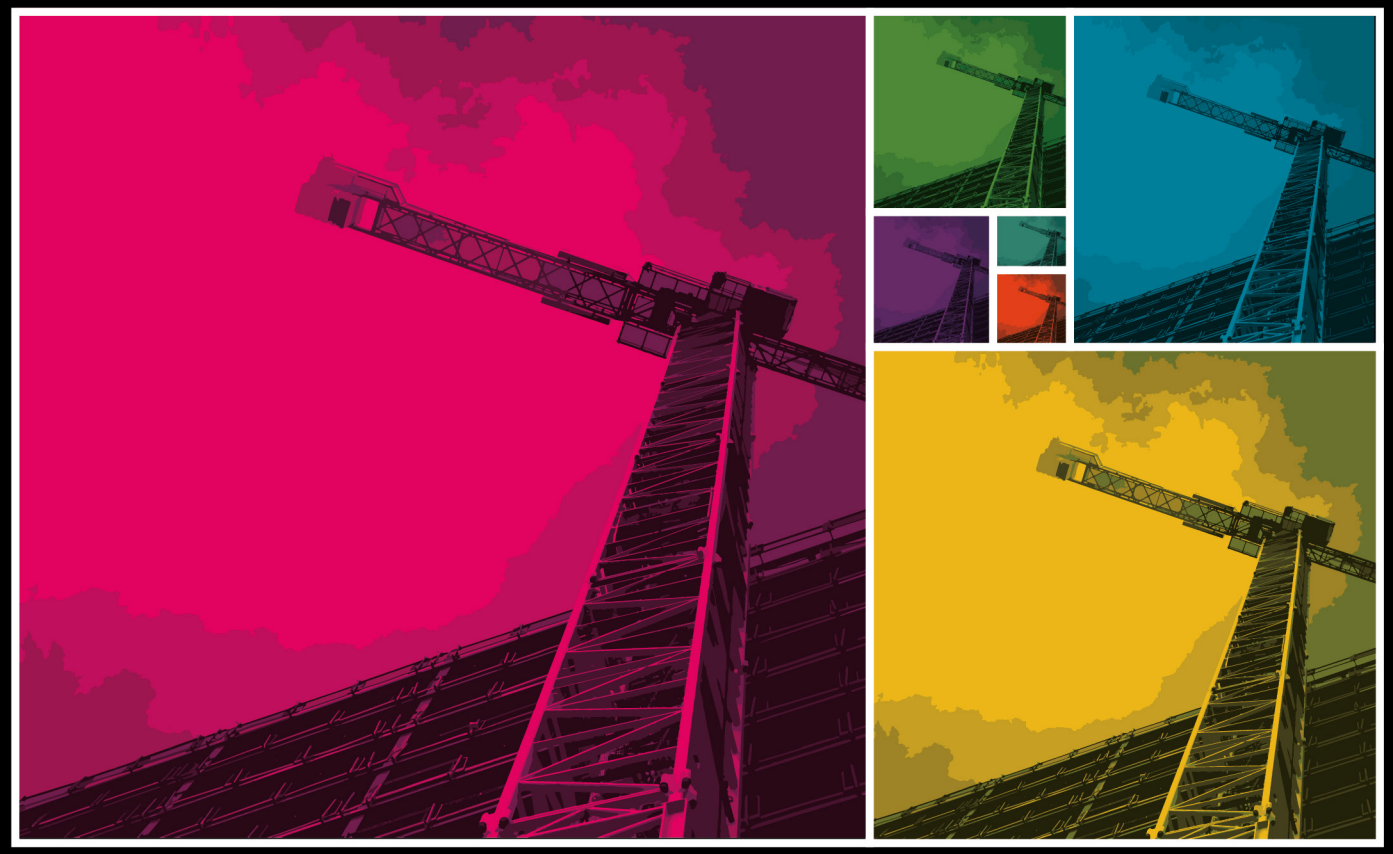

PLATFORMS IN THE WILD

Platforms deployed by UK Tier 1 Contractors
April 2023

AKERLOF

EXECUTIVE SUMMARY

Despite its reputation for adopting innovation slowly, the construction industry has been quick to embrace the concept of 'platforms'. By leveraging commonality of design, components, process or relationships across aggregated portfolios of work, platforms enable a manufacturing-led approach that offers the nirvana of delivering customisable components, elements or buildings at scale, consistently better, faster and greener.

The ambition to realise this potential has been firmly driven by Government, enshrining platforms within policy such as the Construction Playbook and Transforming Infrastructure Performance Roadmap to 2030. The latter outlined a vision of how platform approaches could drive a new market, "*generating greater societal outcomes by enabling a disaggregated manufacturing industry that creates stable and inclusive employment where jobs are most needed*".

To help "*educate, empower and enable organisations to understand and deploy product platforms successfully*" the Construction Innovation Hub last year published the first edition of the Platform Rulebook. This review builds upon the principles outlined within the Rulebook, providing further guidance to support Tier 1 contractors in their uptake and adoption.

As the largest contractors, Tier 1s hold scale and influence, simultaneously representing both good and bad industry practice. Leaders in innovation and technological adoption, Tier 1s continue to be mired by fluctuations in workload and inconsistent profits. With a median pre-tax net profit of 2.1% across the Top 100 main contractors since 2016, being a Tier 1 is a risky business.

Platforms offer the potential to reduce this risk profile and deliver enhanced competitiveness however, as quid pro quo they require adaptation to established business models and ways of working. Most Tier 1s operate a 'loosely coupled system' with individual business units operating with autonomy: making adjustments to harmonise activities and solutions across divisional boundaries is not without its challenges.

For some, the pipeline is too shallow or diverse to warrant investment into this alternative approach. Instead, emphasis on maintaining common processes, procedures and ways of working is enough.

For those market leaders with large portfolios, the adoption of a platform strategy offers promise. It relies however upon establishing a clear vision and robust commercial plan to drive forward the organisation in a common, consistent direction.

To begin this journey the Rulebook outlines two key steps:

» To aggregate and assess the **Demand** profile, defining the potential scale of opportunity (**the What**)

» To **Develop** a platform strategy that defines the intended outcomes (**the Why**) and how these will be realised (**the How**)

Early adopters that have successfully taken these forward steps have done so as part of a long-term plan, looking beyond the horizon of projects and financial reporting cycles but with the recognition that pay-back on investment is not immediate. This strategic approach anticipates movements within government clients towards a platform based approach, not least in refreshing their requirements and procurement plans.

With such changes afoot, the urgency of adaptation for Tier 1s is ever-present.

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CONTENTS

INTRODUCTION

How we deliver our buildings is regularly cited as inefficient and unproductive; too often focussed upon bespoke outputs delivered in project silos. With an established case for change, the government announced its commitment to Modern Methods of Construction (MMC) in 2017 with the presumption in favour of offsite construction. In December 2020, the government expanded on this setting out specific proposals relating to *"A Platform approach to Design for Manufacture and Assembly (P-DfMA)"*.

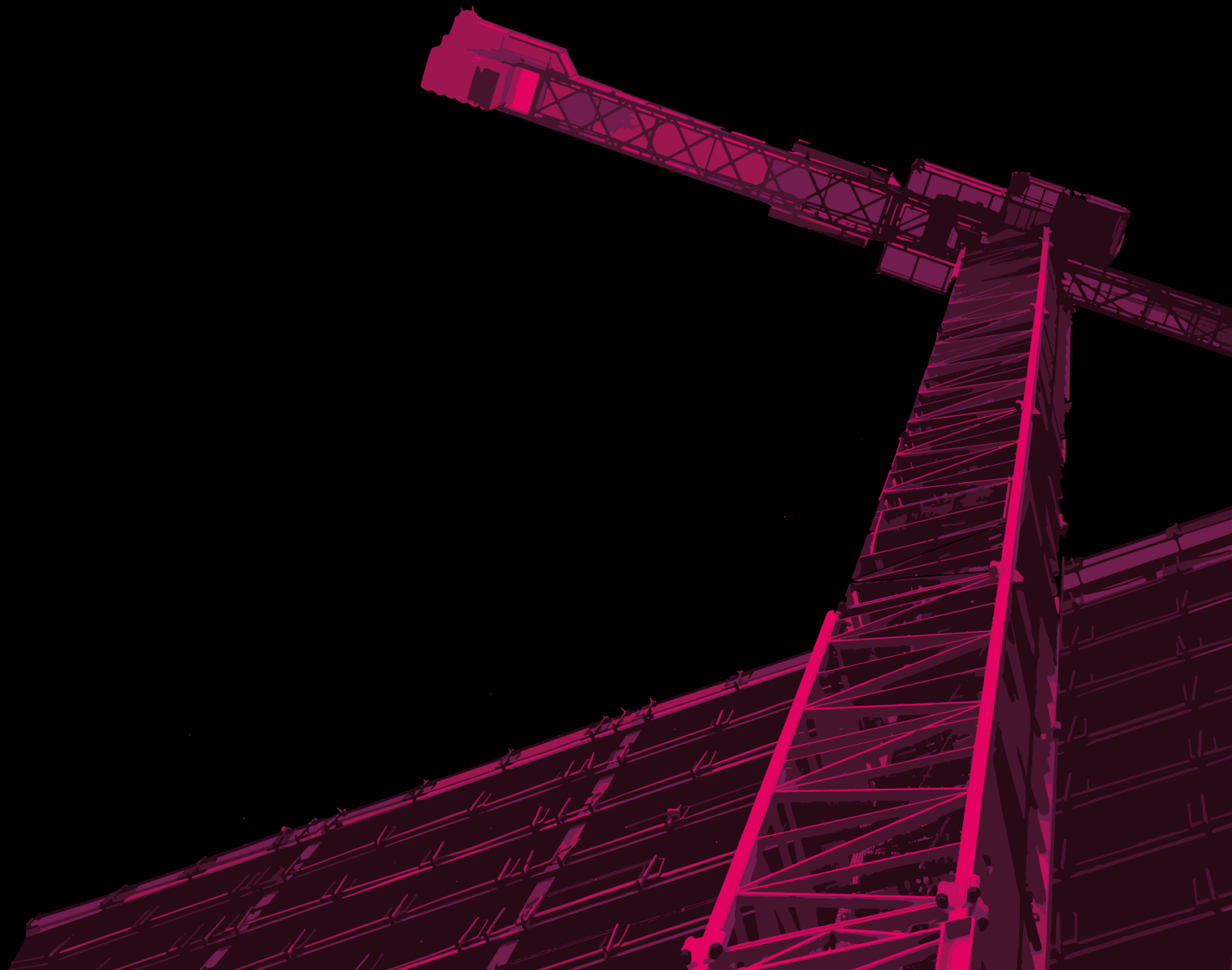
With this backdrop, the Construction Innovation Hub established a programme to establish a clear route for industry and clients to adopt a platform approach, enabling both to meet the evolving needs of future infrastructure.

Last year's publication of the *Platform Rulebook* was a key step in this journey, intended to educate, empower and enable organisations to understand and deploy product platforms successfully. Consultation with industry has highlighted however the need for further details, expanding upon both the 'What' and 'How' in developing platform strategies for deployment.

This report has therefore been written to support this need, with a specific focus towards those with the greatest size - the Tier 1 main contractors. Within the review, we outline the principles of how they may seek to leverage their scale through a platform-based approach, in seeking to deliver improved outcomes.

We begin by repeating several platform fundamentals.

PLATFORM PRINCIPLES



Platforms are varied in form but typically share several common features:

1. **a set of common (low variety) core assets (typically components, processes, knowledge, people or relationships)**
2. **a complementary set of peripheral components that exhibit high variety.**
3. **and stable interfaces that act as a bridge between the common core asset and variable peripherals, permitting innovation in the core and peripherals.**
4. **A set of rules/standards governing how components can be integrated[iv].**

PLATFORM FUNDAMENTALS

By applying the principles of common components, processes, knowledge and relationships platforms have been successfully applied in manufacturing to deliver mass customised products and solutions at a reduced cost, faster and with lower risk. Seeking to offset issues such as low productivity, poor predictability and industry fragmentation, construction has regularly been encouraged to follow suit.

In 2017, Bryden Wood issued a seminal paper[i] that brought this into closer focus; laying the challenge as to whether the adoption of a platform-based approach could be applied in construction to stimulate a market capable of delivering high quality, low-carbon assets and unlock:

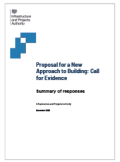
» Economies of scale and product development efficiencies (economies of scope)
» Whole-life value.
» Enhanced residual asset value and
» Mass customisation, adapted to a client's needs.

This vision articulated the government's strategic aim to leverage benefits across government spending by using standard, repeatable processes, designs and components.

Subsequent policies such as the Construction Playbook[ii] and Transforming Infrastructure Performance: Roadmap to 2030[iii] have reaffirmed the commitment towards "procurement of construction projects based on product platforms comprising of standardised and interoperable components and assemblies".

The latter identifies the aspiration ***"to generate greater societal outcomes from its pipeline by enabling a disaggregated manufacturing industry that creates stable and inclusive employment where jobs are most needed".***

"The government will use its purchasing power to drive adoption of Modern Methods of Construction"



"We will use a set of digitally designed components across multiple types of built asset - a single component could be used as part of a school, hospital, prison building or station"

"We will procure projects based on product platforms"

"A mandated approach: in the next two years the government will set out a requirement for platform approaches to be adopted"

2017

Delivery Platforms for Government Assets

2018

Platforms: Bridging the gap between construction + manufacturing.

2019

CONSTRUCTION INNOVATION HUB

Established to drive innovation + technological advances in UK construction + infrastructure

2020

Platform Design Programme: Defining the Need

2021

The Product Platform Rulebook

2022

BENEFITS

A platform-based approach is typically adopted to create a variety of products, on a reduced cost base. By sharing components and processes across a platform, companies can develop distinct products and solutions efficiently, whilst maintaining economies of scale and scope.

By shifting the horizon from individual projects to programmes, platforms offer the potential to leverage the re-use of knowledge, relationships and process to:

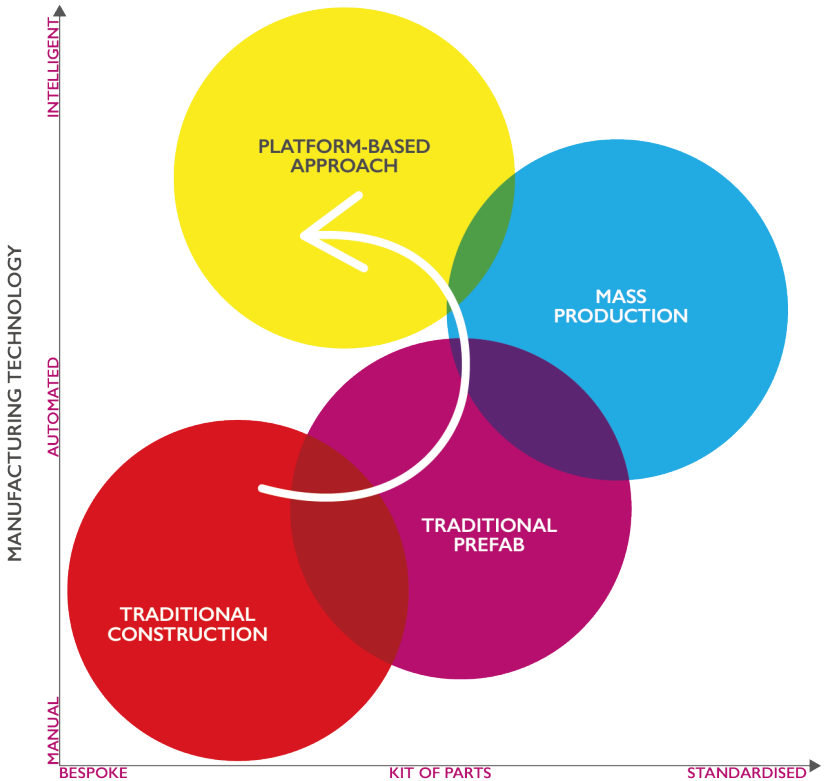
» Offset learning curves.
» Mitigate repeat work and instead enable focussed effort of all parties towards areas that add real value.
» Reduce complexity and instead enhanced predictability and certainty of time, cost and quality.
» Facilitate feedback loops that support continuous improvement as opposed to repetitious reinvention.

Furthermore, through continuity, platform principles offer a new paradigm to construction by enabling a manufacturing-led approach.

This affords the potential for:

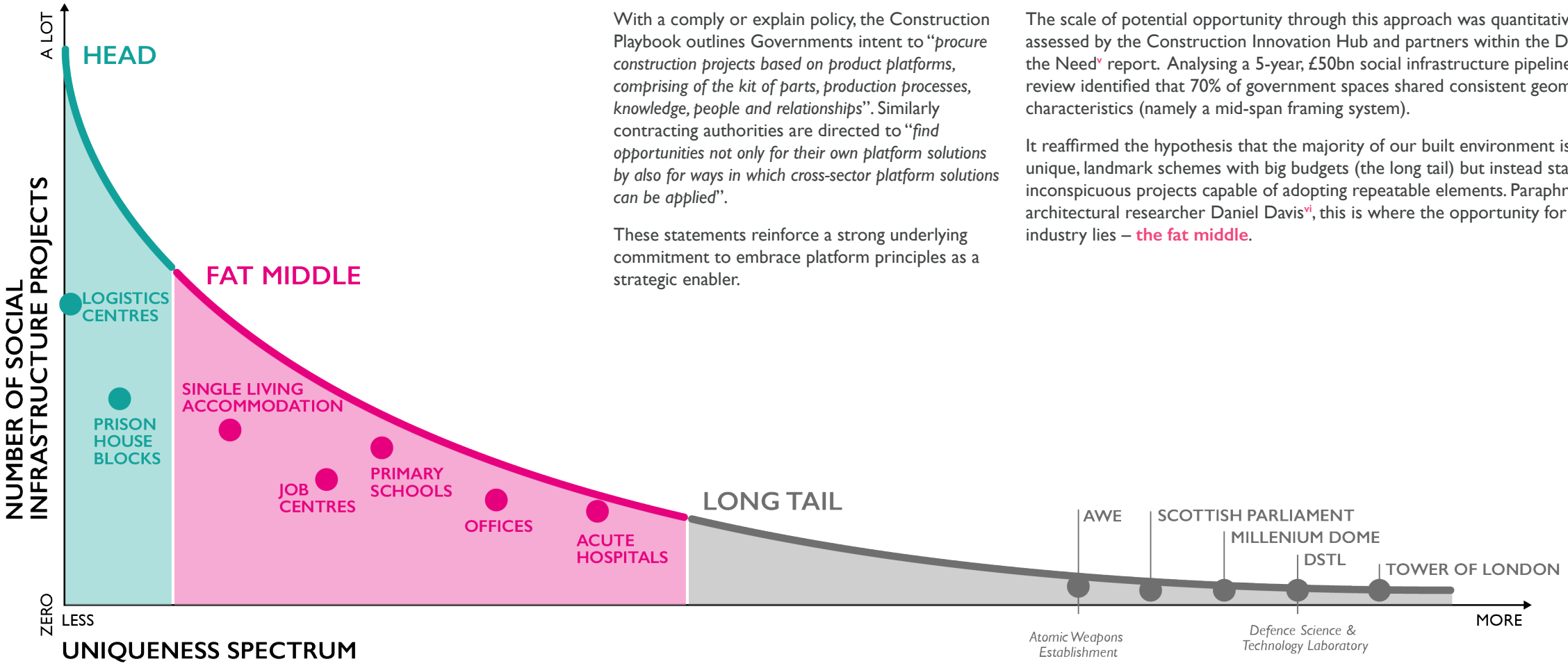
» Improved productivity, efficiency and predictability
» Reduction of on-site safety risk and labour congestion
» Enhanced quality control, with reduction of defects (due to manufacturing controls, quality assurance and techniques)
» Testing and commissioning in cleaner, protected facilities rather than on-site
» Reduction in waste
» A greener approach, with a reduction in carbon footprint and impact on the local environment
» Greater predictability and lower maintenance costs from the use of shared manufactured components and assemblies

In a highly competitive contracting market, this model creates opportunities for improved certainty, diminished risk and waste and an enhanced, distinct value proposition that affords an edge.



Adapted from graphic created by Oliver David Krieg at Intelligent City

FAT MIDDLE OVER LONG TAIL



Adapted from original by danieldavis.com

With a comply or explain policy, the Construction Playbook outlines Governments intent to "*procure construction projects based on product platforms, comprising of the kit of parts, production processes, knowledge, people and relationships*". Similarly contracting authorities are directed to "*find opportunities not only for their own platform solutions by also for ways in which cross-sector platform solutions can be applied*".

These statements reinforce a strong underlying commitment to embrace platform principles as a strategic enabler.

The scale of potential opportunity through this approach was quantitatively assessed by the Construction Innovation Hub and partners within the Defining the Need[v] report. Analysing a 5-year, £50bn social infrastructure pipeline this review identified that 70% of government spaces shared consistent geometrical characteristics (namely a mid-span framing system).

It reaffirmed the hypothesis that the majority of our built environment is not unique, landmark schemes with big budgets (the long tail) but instead standard, inconspicuous projects capable of adopting repeatable elements. Paraphrasing architectural researcher Daniel Davis[vi], this is where the opportunity for our industry lies – **the fat middle**.

CHALLENGES

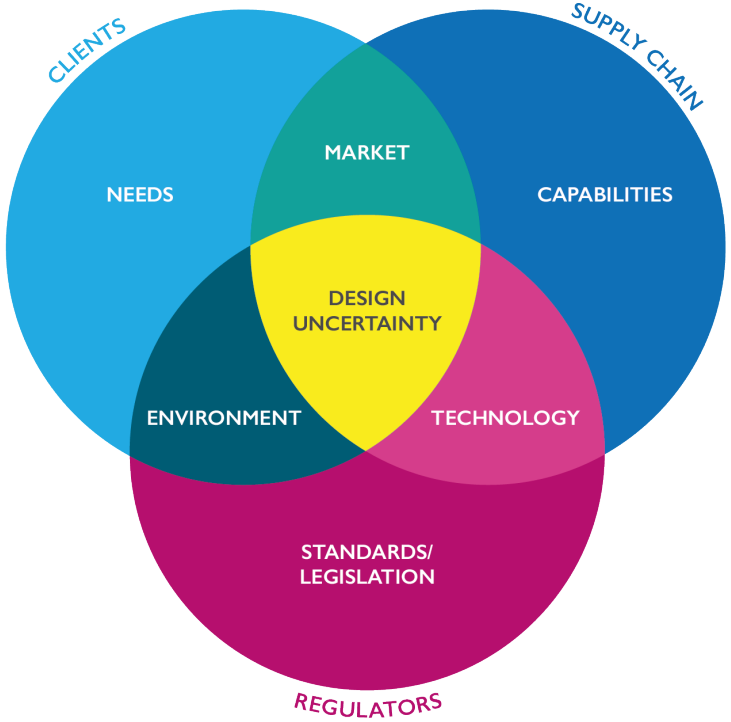
Despite this opportunity, platforms are not a silver bullet. They are instead a strategic choice, requiring a clear vision and measured application to ensure they are appropriate to the context in which they are applied.

The complexities and challenges associated with defining and implementing a platform-based approach are not to be underestimated. Platform strategies require careful consideration of factors such as:

» the demand pipeline,
» variety in client needs
» the speed of change in requirements and standards,
» the supply chain capability & appetite
» organisational and behavioural dynamics

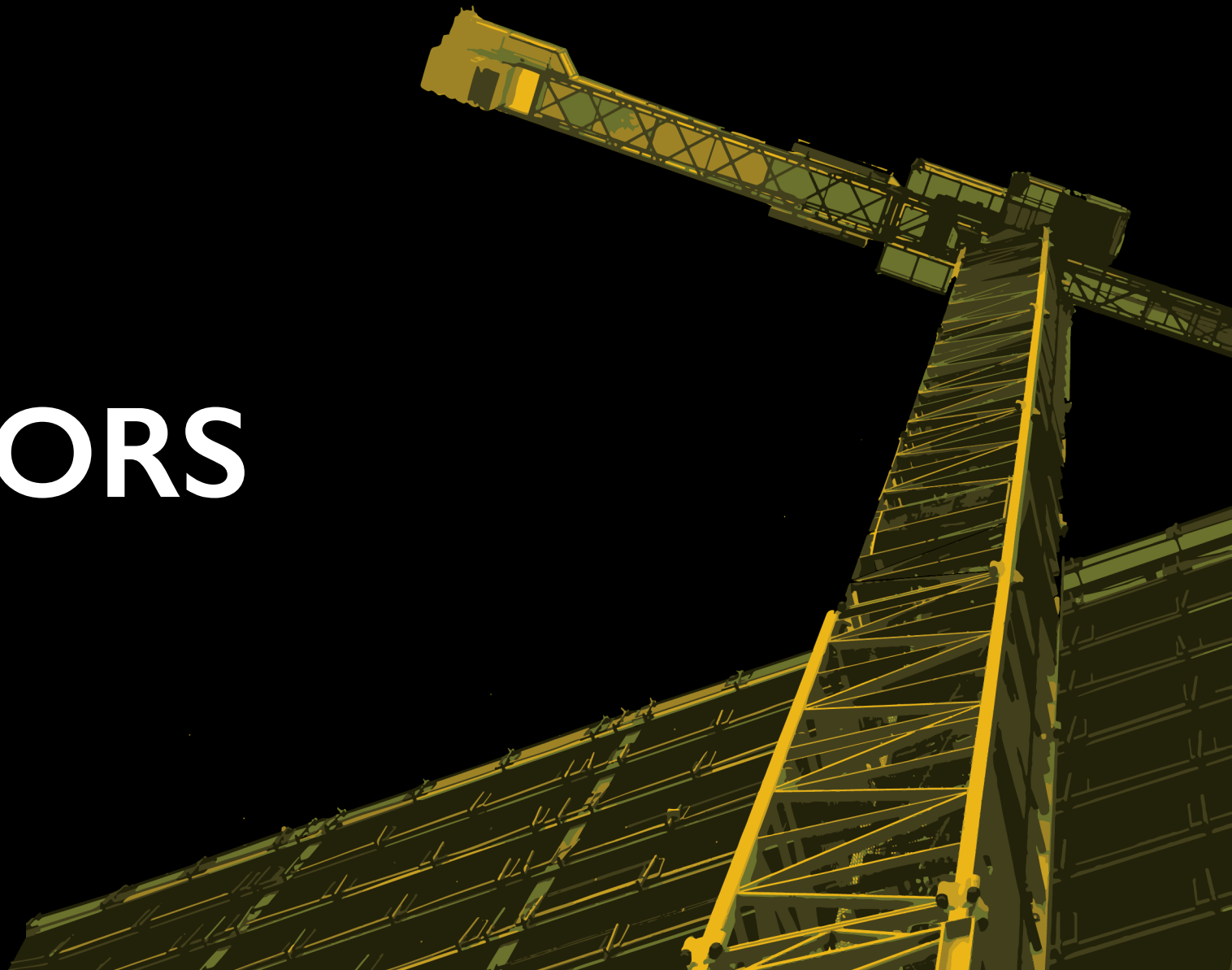
Focus and discipline are critical to ensuring that the adoption of a platform strategy is not beset with the same issues (e.g. loss of productivity, wasted, cost overruns) it is intended to address.

Recent experiences with IT integration - the UK's nine largest contractors having collectively sunk £451m into developing software [vii] – suggest that a considered change management approach is more than warranted.



Adapted from Nadadur et al, 2012 'Strategic Product Design for Multiple Global Markets'

TIER I CONTRACTORS



MARKET LANDSCAPE

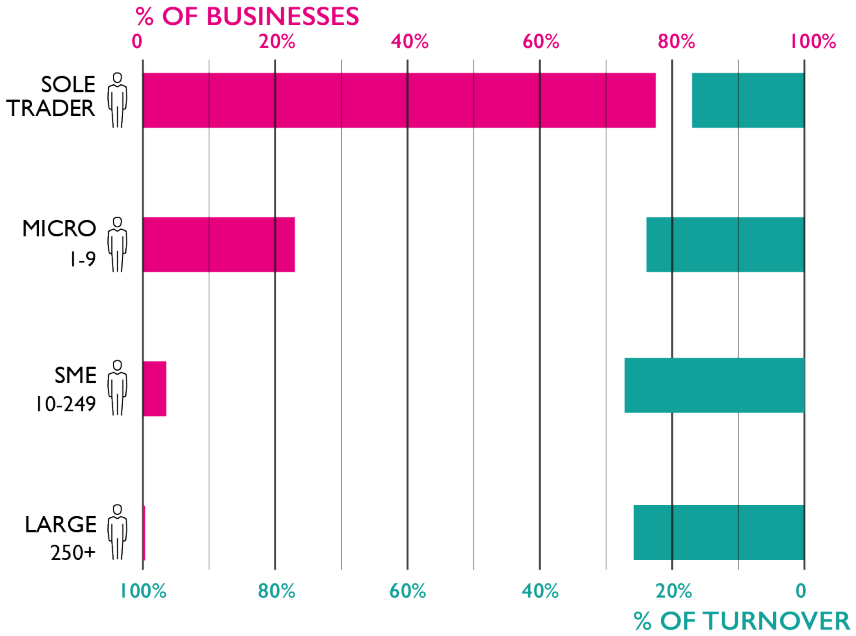
TIER 1 MARKET

Tier 1 Contractors are the largest main contractors within the construction industry.

Tier 1s are apex organisations, with significant influence on both their ecosystem but also the broader industry. Often engaged to deliver high profile projects, Tier 1s have traditionally set the standard for technology and innovation in construction.

The UK's largest Tier 1s are big ….at the top of the tree sits Balfour Beatty, a FTSE 100 listed organisation that, in 2021, posted a total group revenue of £8.28bn.

Following behind, as the largest privately owned contractor, is Laing O'Rourke, with a £3.5bn revenue recorded for 2022. Recognisable brands such as Kier, Mace, Morgan Sindall, BAM, and Skanska all sit in this higher echelon, with multi-national coverage and organisational scale.

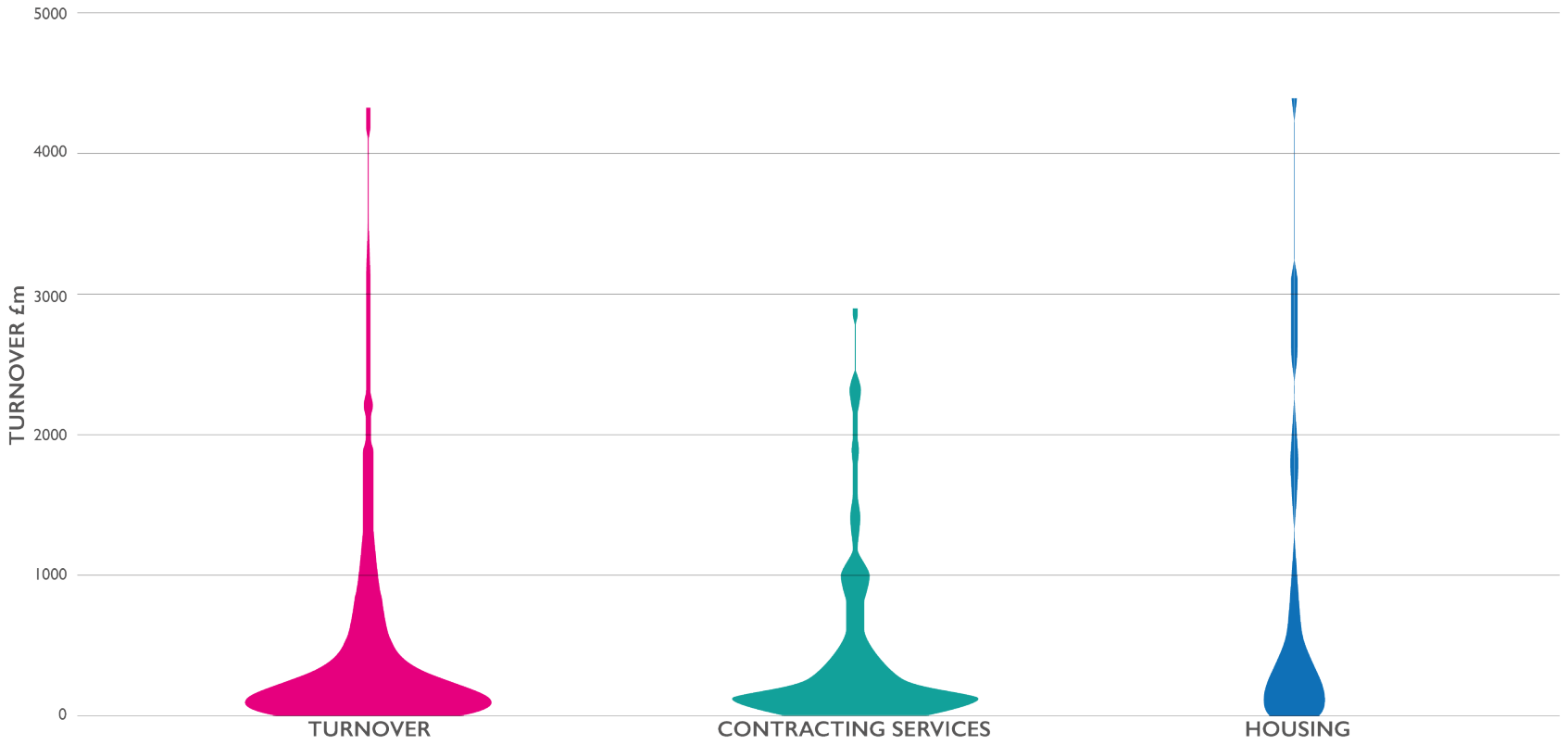


BEYOND THE HEADLINES

As significant as these headline figures are, they do not necessarily reflect the full picture. Most of those at the top of the turnover leaderboard are diverse organisations, with portfolios extending beyond domestic infrastructure and building to include property development, facilities management and housing divisions alongside overseas operations. Balfour's UK regional construction business, for example, represents less than 10% of Group turnover.

In drawing this distinction, less than 13 organisations have contracting arms that breach the £1bn mark, many of which are boosted by their involvement in large-scale infrastructure projects.

Reaffirming the fragmented nature of our industry, the majority of the Top 100 contractors have construction divisions that turnover less than £500m per annum.



Turnover Profile of Top 100 Contractors (Source – published annual reports)

MODERN METHODS, BUT AN OLD STORY

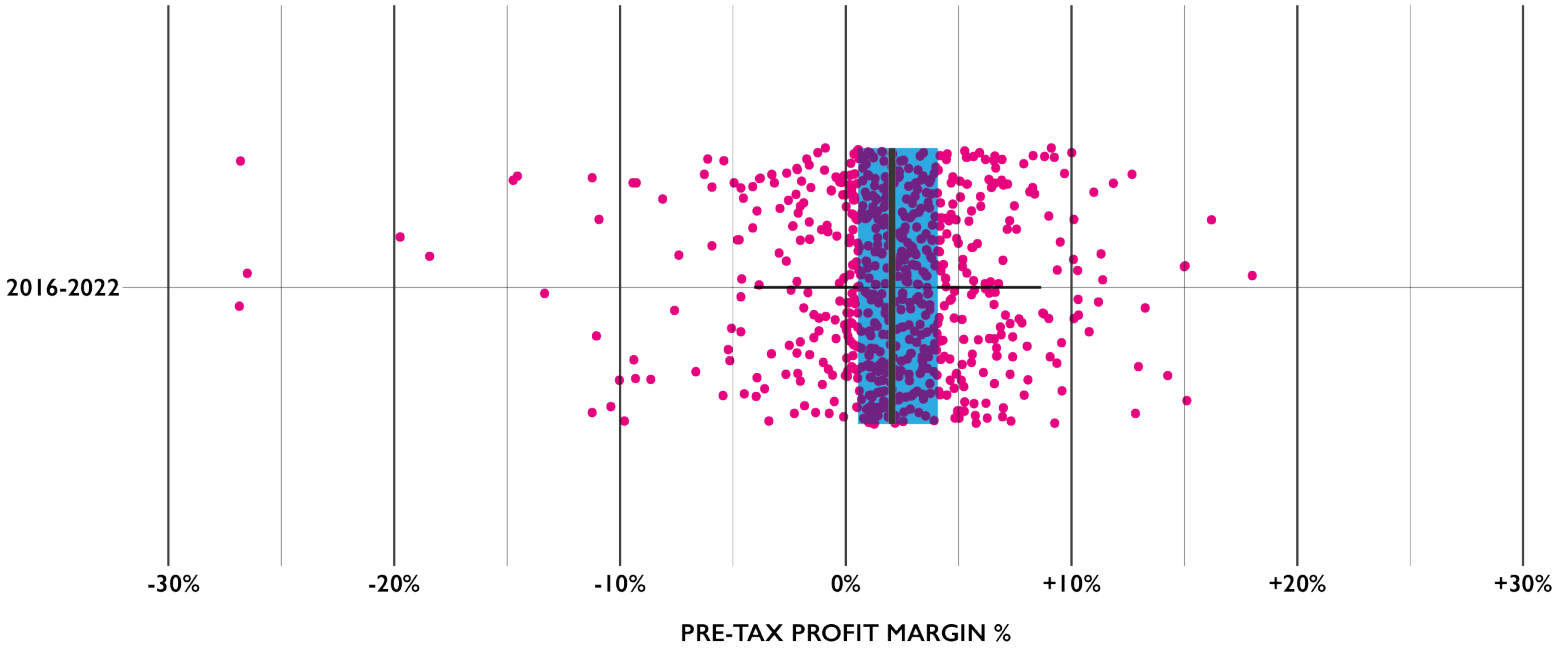
Analysis of recently published accounts confirms[viii] an age-old pattern – contracting rarely delivers profit and certainly not consistently. The median pre-tax net profit of the Top 100 Contractors since 2016 is 2.1%*.

Pre-Tax Profit Margins for Top 100 Contractors between 2016 – 2022 (Source: Annual reports, CN and Building)

With light capital investment in their asset base, this slim margin can still deliver a 10% plus return on capital expended (ROCE), however, this is viewed by many as a further flaw in the business model.

A quarter of a century ago, in his watershed report *Re-Thinking Construction*[ix]", Sir John Egan outlined a deep concern that *"[the construction industry] has low profitability and invests too little in capital, research and development and training*". Current accounts do little to suggest this pattern has fundamentally altered.

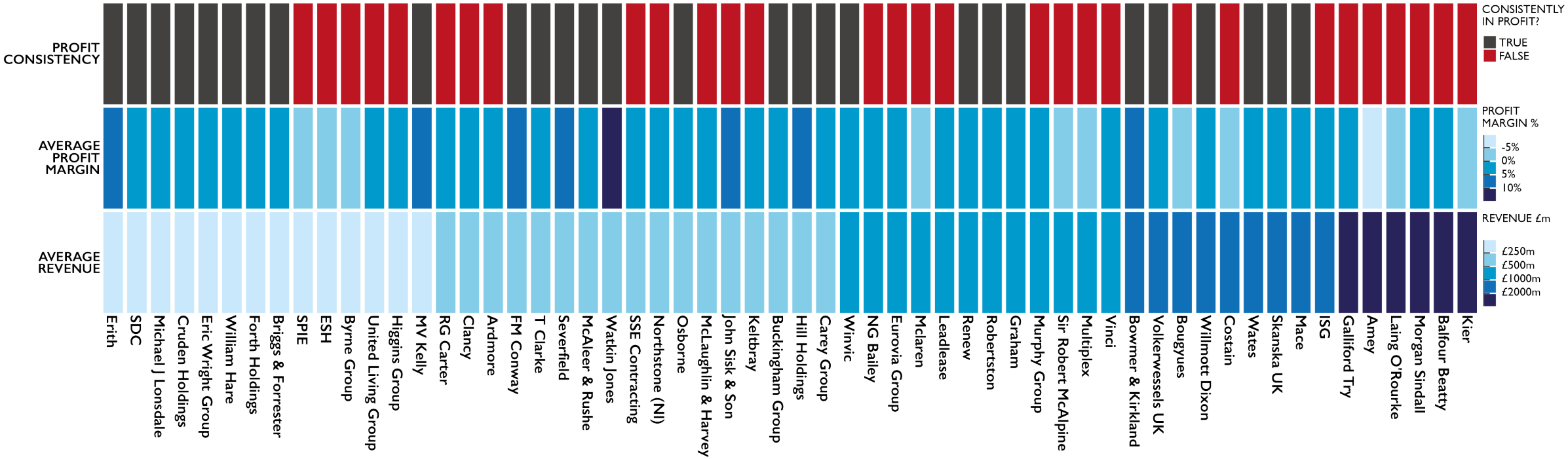
* Adding to this tale of woe, the KPMG report *Construction Barometer: Recovery in Sight?*[x] recorded a low in 2013, with the top 14 contractors averaging profit of only 1.2%. If we also narrowed our focus to the Top 14, the average would have been 0.5%



CONSISTENTLY INCONSISTENT

On the contrary, less than half of the Top 50 contractors were able to sustain a consistent profit, year-on-year across a 5-year period. None of the Top 7 achieved this benchmark.

Source: Annual reports, Construction News and Building



Note: We are aware that within the Top 50, there are a minority of subcontractors listed (e.g. NG Bailey, T Clarke, M J Lonsdale etc). Whilst not Tier 1s we left them in, for fear that the pattern may otherwise only have got worse.

PIPELINE ROLLER COASTER

"One of the most important things we can do is to prepare, maintain and publish comprehensive pipelines of current and future government contracts and commercial activity".

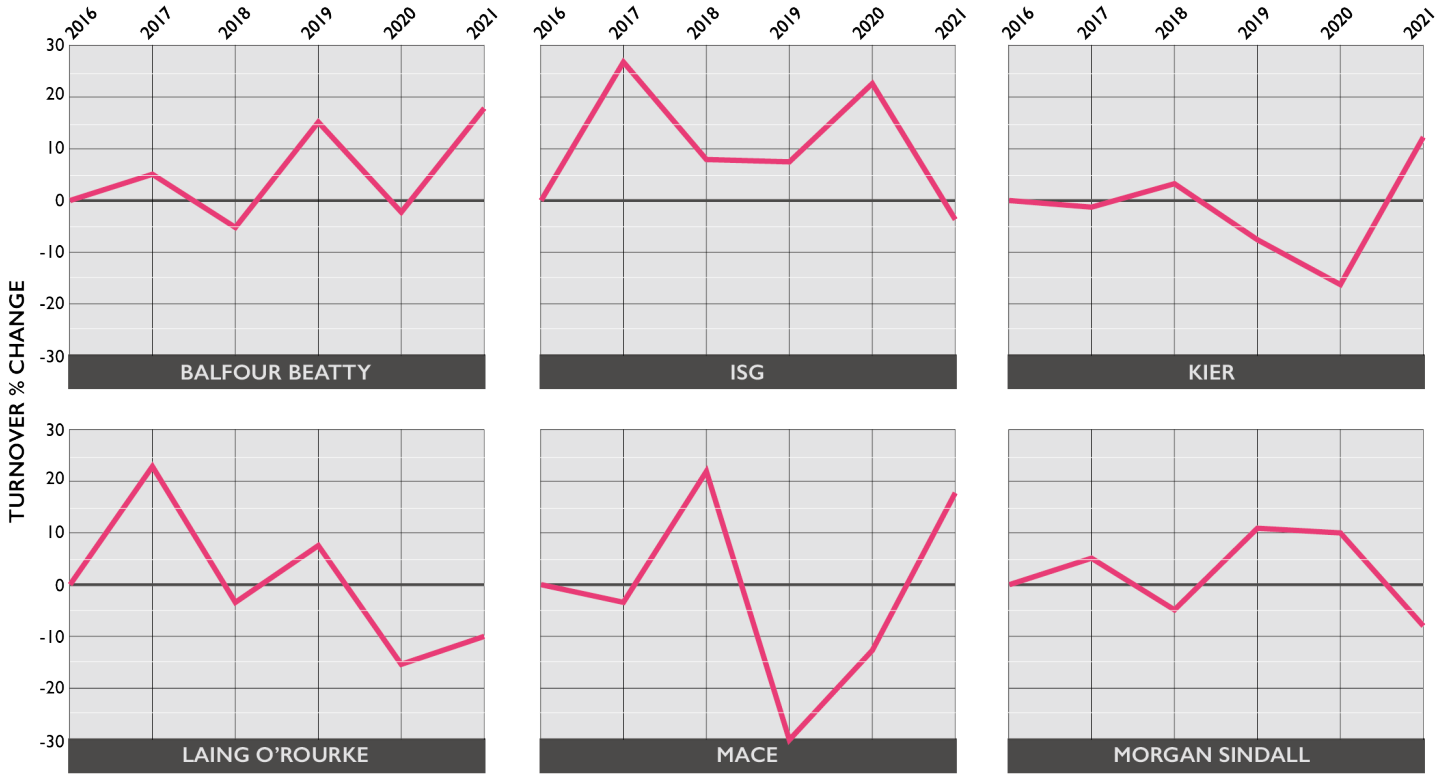
To enable the market to plan, invest and ultimately become productive and profitable, much has been made in recent years regarding the need for clear visibility of pipeline. Whilst the construction sector has configured itself to be both flexible and resilient to cyclical fluctuations, the shift to a manufacturing led approach demands greater predictability.

Free market economics determine that workload will fluctuate however the scale of change navigated by Tier 1s across financial years is significant. The start and completion of projects demand constant resource management and coordination to maintain continuity, with large-scale schemes often stretching the elasticity of organisations beyond healthy limits.

Volatility in turnover with a pattern of inconsistent performance and profit creates internal inefficiencies. Externally, it shakes investor confidence; accordingly the market capitalisation of Tier 1 contractors is often far lower than organisations of scale in other industries.

Kier, the UK's largest regional building contractor, has a turnover ten times bigger than Moonpig's for example …. and yet its market capitalisation is 30% less.

Note: Whilst variations in turnover are a key industry issue, not all fluctuations can be blamed upon clients or external factors. In the mid 2010s, the overriding majority of businesses set "2020 Visions" that outlined ambitious growth trajectories. Recent industry reports[xi] suggest that a growth culture continues to prevail in many boardrooms today. With secured pipelines often reported at between 1.5–3 times turnover, some variations are planned and self-imposed.



Source: Individual annual reports[xii]

RISK PROFILE

Whilst consistency of pipeline is a persistent challenge it is certainly not the only one that a contractor has to contend with. Analysis of annual reports highlights the following as significant risks for Tier 1s:

» **Health and Safety** – taken by organisations as their licence to operate; heightened by the pandemic, this has more recently been extended to reflect responsibilities in respect of both sustainability and wellbeing.

» **Economic** – the macro-economic environment and its impact both upon businesses in general and the markets in which they operate

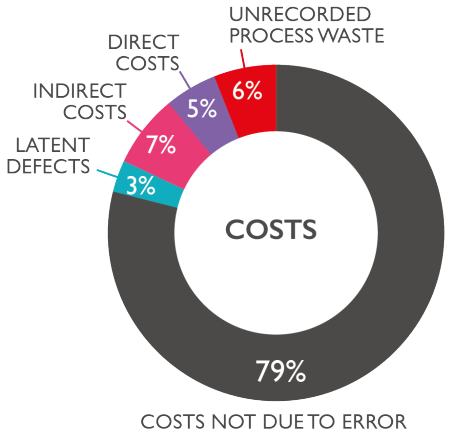
» **Financial** – the financial status of businesses and their ability to maintain adequate funding or financial liquidity

» **People** – the attraction, development and retention of staff and skills

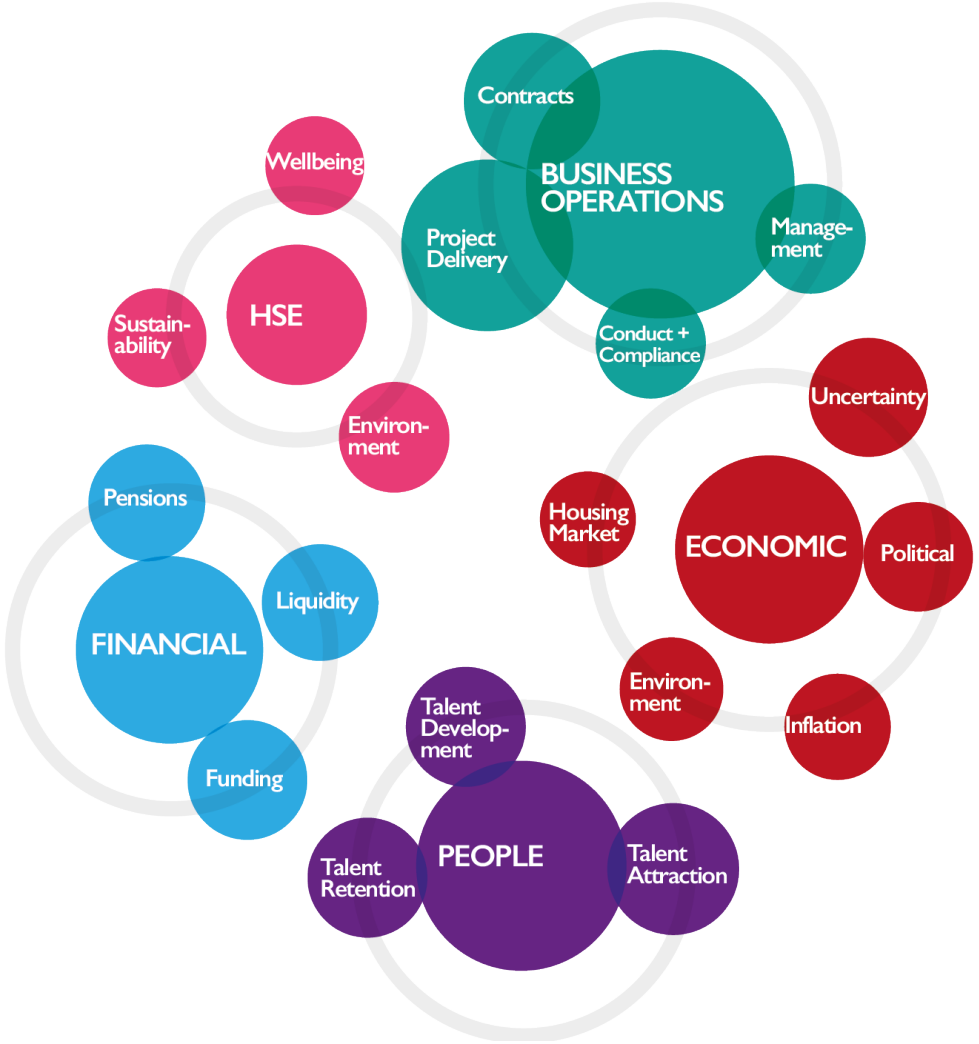
» **Business Operations** – the risk associated with project delivery, controls and contract management.

Unsurprisingly, the risk profile of project delivery is flagged as a fundamental business risk. Whilst archives of the construction press are filled with high-profile project failures that have created a bottom line impact, the focal point for this review remains the 'fat middle'.

The Get it Right Initiative suggest that the direct cost of avoidable errors is in the order of 5% of project value, with total costs (measured and unmeasured) ranging between 10 and 25%. Tackling this waste is a real opportunity where the application of platforms can deliver an improved outcome.



The Cost of Error - Source: The Get It Right Initiative (GIRI)



Summary of 'Principal Risks and Uncertainties' between 2015-2022, as per published annual reports of Top 10 Contractors (size reflects regularity of identified risk)

LOOSE COUPLINGS….
COORDINATED BY COMMITTEE

To embed platforms requires consideration beyond exclusively what is technically viable but should also consider what is organisationally possible.

Within the automotive industry, original equipment manufacturers (OEMs – the equivalent of Tier 1 contractors) have wrestled to adapt their internal organisational construct to successfully apply a global platform-based approach. Designing a business structure that maintains coordination and consistency across unique, variable markets, business units and teams is challenging.

Dimensions of strong commonality strategies

100 years ago, Alfred Sloan, famously implemented a framework labelled as 'Coordination by Committee'[xiii] to afford local autonomy within General Motors. Split into divisions, each division ran as a company within a company with operations "coordinated in policy and decentralised in administration". Whilst the automotive industry has evolved, construction typically continues in this vein.

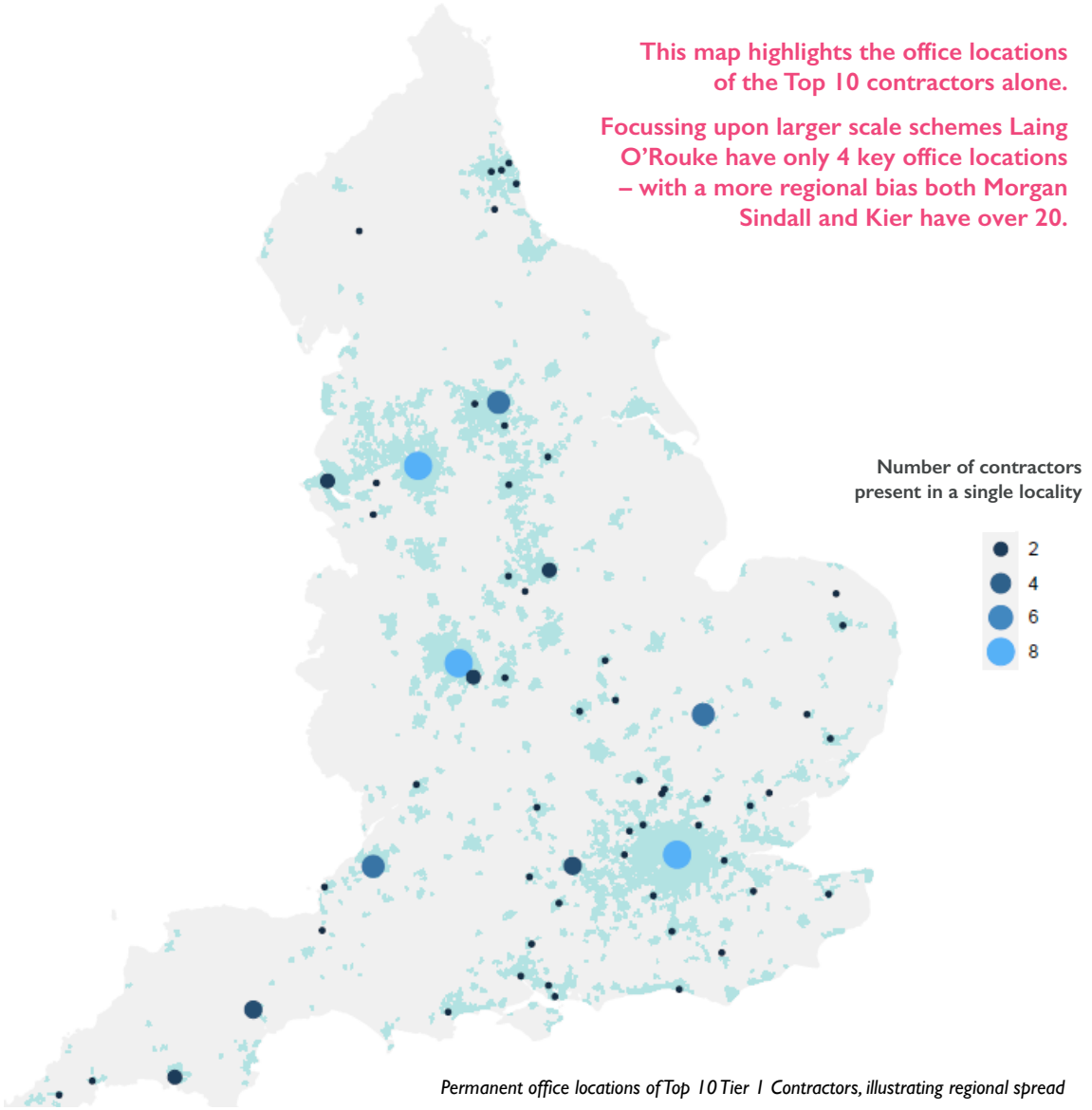
Most Tier 1 contractors follow a similar model, with a mix of independent, major projects and regional business units often only bound together by centralised services, executive governance and policy.

This approach has been described as a "loosely coupled system"; with tight couplings at an individual project and regional level combined with loose couplings between business units. It has evolved to afford contractors flexibility to adapt to the volatility of work opportunities, procured locally as individual projects.

These loose couplings enable unique challenges to be addressed swiftly, with business and project autonomy that buffers against whole system impact. They can also create however inconsistencies and blind spots that overlook the potential for economies of scale.

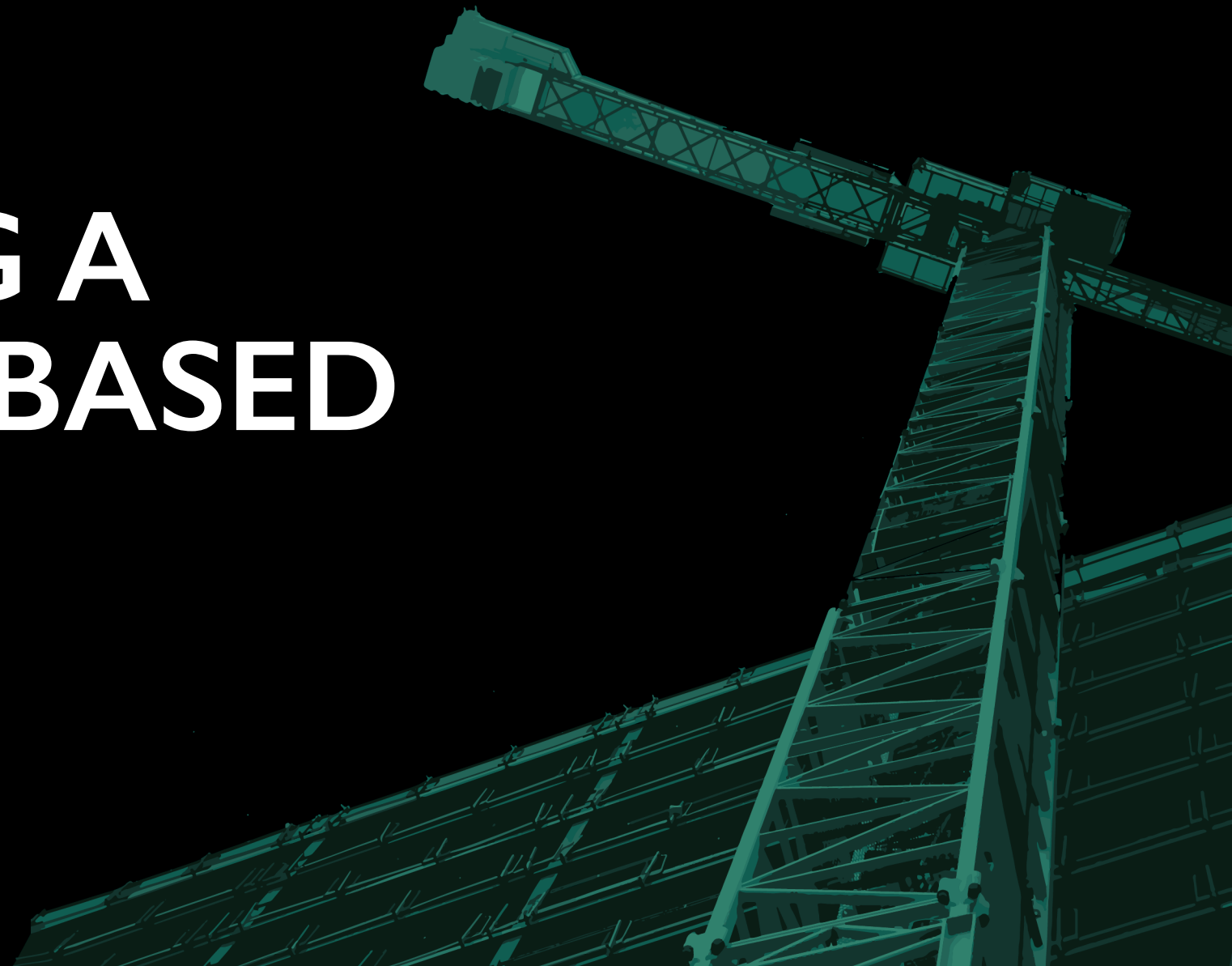
This map highlights the office locations of the Top 10 contractors alone.

Focussing upon larger scale schemes Laing O'Rouke have only 4 key office locations – with a more regional bias both Morgan Sindall and Kier have over 20.



Permanent office locations of Top 10 Tier 1 Contractors, illustrating regional spread

EMBEDDING A PLATFORM-BASED APPROACH



CHANGE IN HORIZON

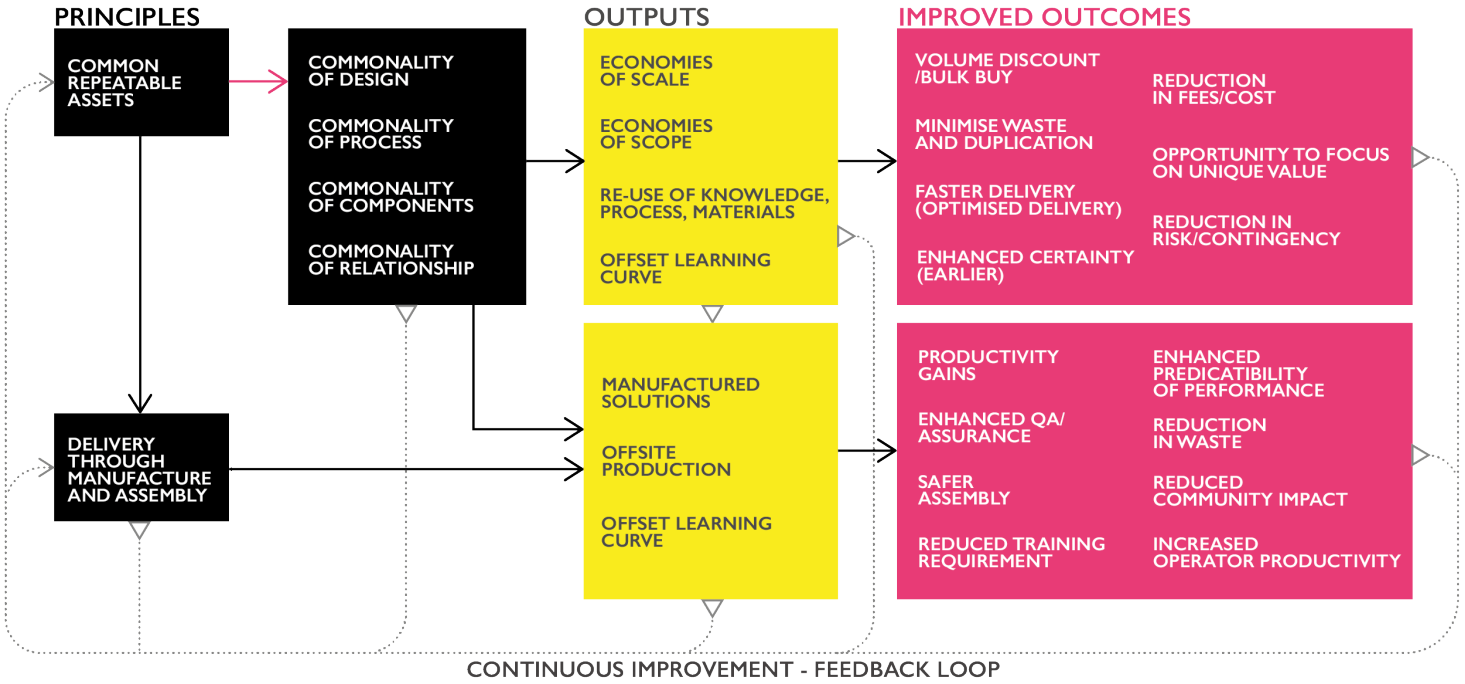
Despite the challenges outlined earlier, many Tier 1 contractors hold the potential to shift their horizon from individual projects to programmes and in turn unlock economies of scope and scale: re-using designs, knowledge, relationships and process to offset learning curves and reduce waste, risk and cost.

In many respects most Tier 1s already apply these principles, standardising **HOW** work is managed. Centralised departments, such as health and safety, for example, ensure that processes, procedures and organisational controls maintain a common standard, whilst affording flexibility to unique scenarios. Bid teams, responding daily to unique client requirements, apply similar principles.

The area that is often far less mature however is commonality and standardisation across **WHAT** is built. Most businesses limit scope through workload vetting and reviews, however very few actively seek to shape it. Some dismiss this as being beyond their control ("*We don't design anything*"), whilst for others, it is perceived as impractical ("*There's too much variety in our work*") or commercially unviable ("*We don't have enough work*")

For those open to exploring the potential, the Platform Rulebook outlines a simple method, framed around three key steps:

Demand – Develop – Deploy



DEMAND
DEVELOP
DEPLOY

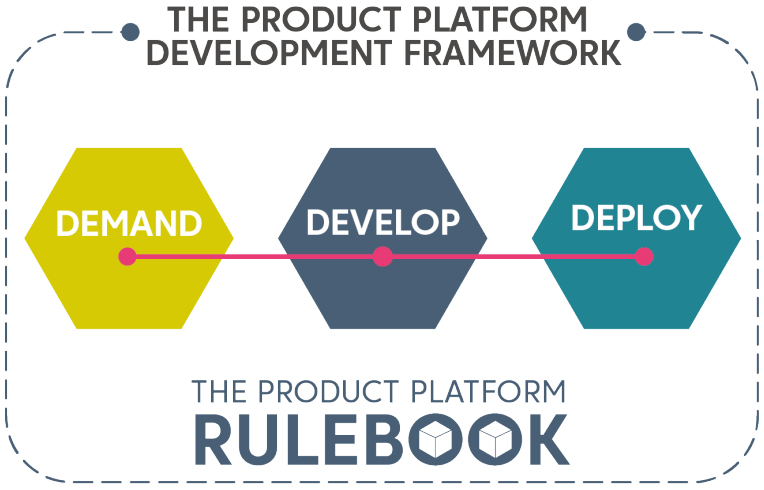
Whilst it is tempting to jump immediately into technical solutions, the Rulebook advocates that prior to deploying platforms organisations should:

» Aggregate and assess the DEMAND profile – to inform the potential scale of opportunity

» DEVELOP a platform strategy – that defines the strategic intent, the problems a platform approach seeks to address and the intended outcomes

These two steps nudge organisations to consider workload and activities outside the constraints of projects, geography or divisional boundaries and instead assess areas of repeatability and variation.

In the forthcoming pages, we expand upon these steps further and provide pointers to where opportunity may lie.



STEP 1: DEMAND

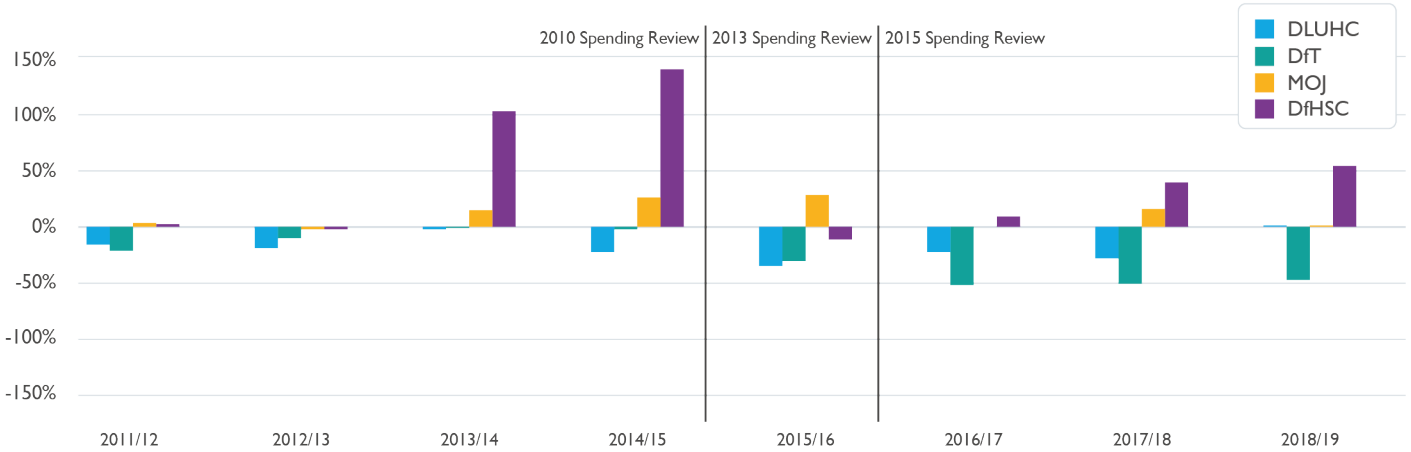
Despite the best intentions within the Government to afford greater transparency of pipeline, assessing future demand remains an inexact science.

A study by the Institute for Government[xiv] reviewed the variation between planned and actual capital expenditure, highlighting how the diversion of funds to day-to-day spending, over-optimism and other contributory factors lead to some departments persistently underspending against their plans.

Such variability at a macro level has a local ripple effect, adding to the temptation to preserve the loose couplings earlier described. Nonetheless most Tier 1s have well-established business development networks, with intelligence and insight into short, medium and long-term future opportunities. Underpinned by robust CRM systems, organisations hold sufficient data to assess multiple scenarios and evaluate pipelines by client, geography, sector as well as many other criteria.

The potential to leverage data of this kind was used within the Defining the Need report to assess the underlying scale of social infrastructure and identify the £13bn pa. opportunity for platform / manufactured solutions. Presenting a new mode of thinking, assessing work through the lens of repeatable spaces, it highlighted the scale of alignment in geometry and commonality across specifications.

It challenged the need for constant reinvention of fundamental design principles, such as structural grid, and prompted a shift towards standard by default. The ability to follow suit by aggregating demand and assessing market segmentation is firmly within the grasp of most Tier 1s . Illustrating this point, we have reviewed education, custodial and healthcare sectors at a macro level.



Extract from Institute for Government report 'Capital Spending: Why governments fail to meet their spending plans'

DLUHC - Department for Levelling Up, Housing and Communities
DfT - Department for Transport
MOJ - Ministry of Justice
DfHSC - Department of Health and Social Care

HEALTH

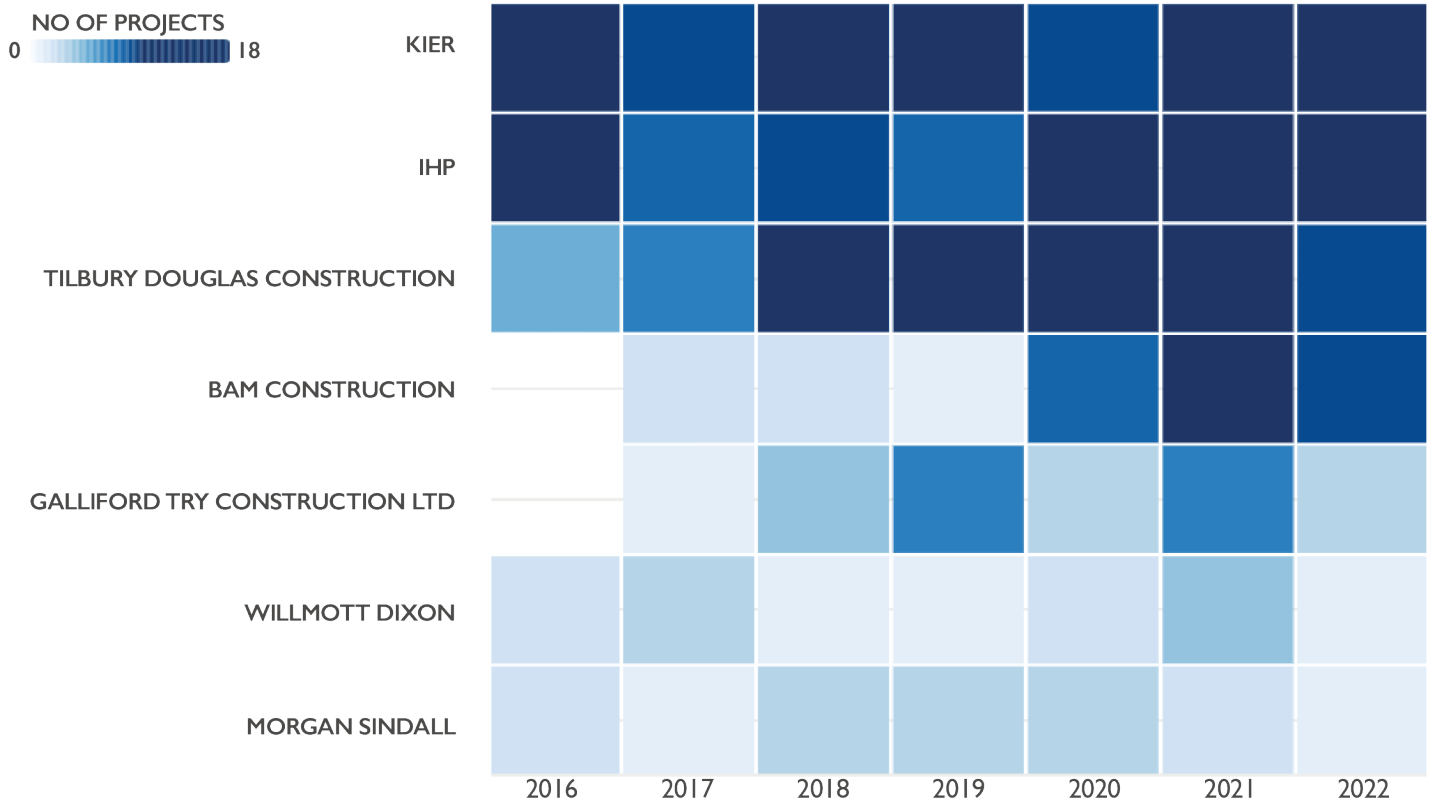
Within the report '*Construction Platforms in Healthcare*'[xv], we evaluated the extent to which platform principles could be applied to the healthcare sector. More specifically we mapped the profile of NHS capital works projects, worth over £1m, completed since 2010 to demonstrate with hindsight the commonality of workload and relationships across the sector.

Drawing from this data set, we can see that between 2016 and 2022 three Tier 1 contractors maintained a healthcare portfolio of at least seven ongoing projects per annum. For each, this represented an average annual portfolio of at least **£135m,** if not more.

Assuming works were procured at RIBA Stage 3, it is likely that each of these three contractors will have spent (or at least managed) circa £20m of design fees across these 6 years.* When viewed as a product development budget, as opposed to individual design fees, this level of expenditure assumes a new profile.

By assuming a portfolio view, organisations can begin to consider in the aggregate:

- The extent of variability in designs, specifications and components and the potential for rationalisation
- The degree to which solutions are consistently reinvented or repeatedly create issues.
- The potential benefit that common, repeatable designs and products could yield.



Data compiled by Akerlof

*Somewhat crudely this is based upon a 2.5% fee for Stage 3+ design.

EDUCATION

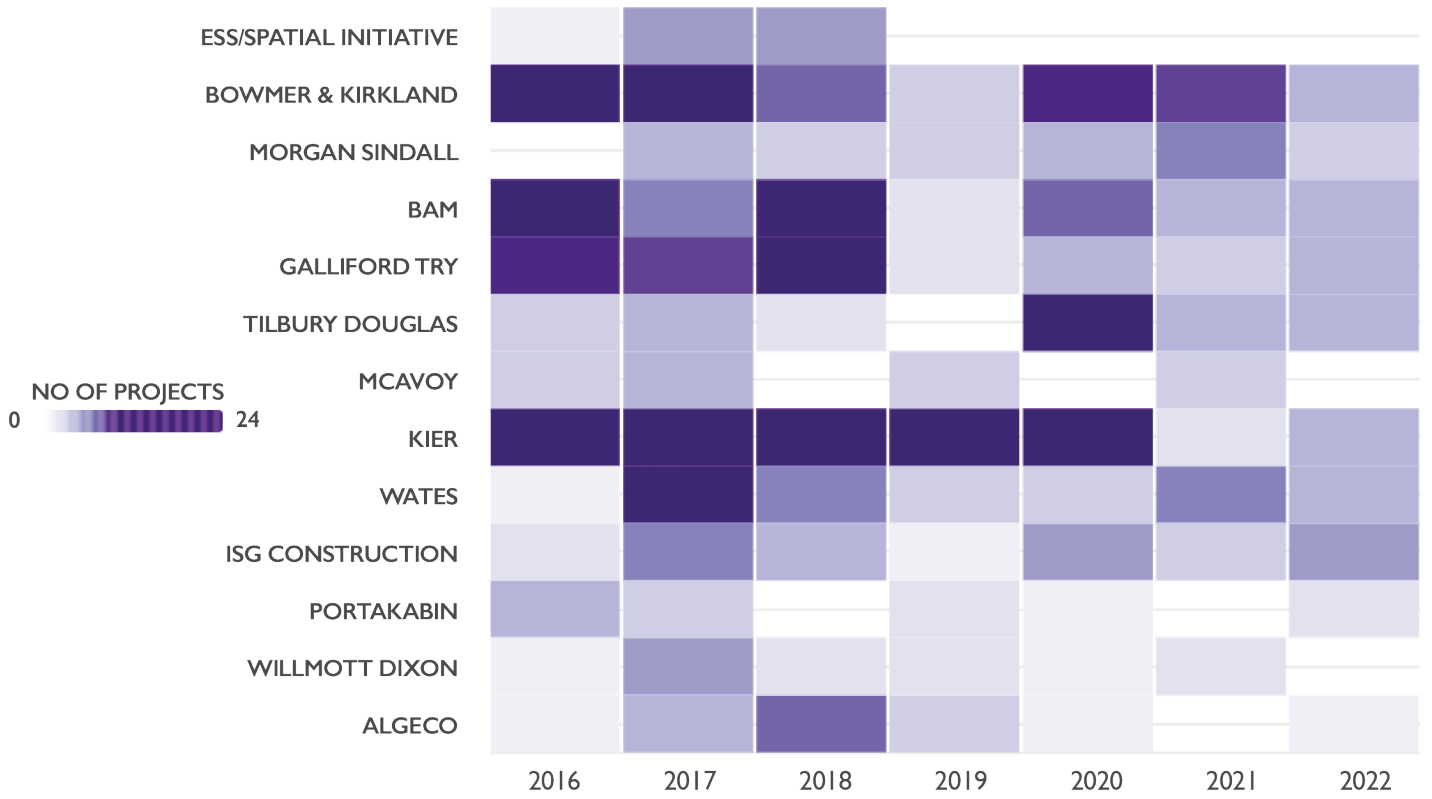
Similar principles apply in Education.

In the past 6 years alone, the DfE has procured circa 550 projects across programmes such as free schools, Priority School Building Programme (PSBP), School Rebuilding Programme and School Improvement Budget (SSICB).

For a select group of Tier 1s, this workload has fuelled education portfolios as large as **£200 - 300m per annum**, with a handful of market leaders each averaging at least 5 new project awards per year.

For some, the scale and continuity of workload have enabled the opportunity to invest in R&D, exploring platform principles to drive internal efficiencies and create better outputs that anticipate the evolution of the DfE's specification/ requirements.

For others, however, a more localised approach has continued as business as usual.



Data compiled by Akerlof, based upon information supplied by DfE and Tussell

FRAMEWORKS

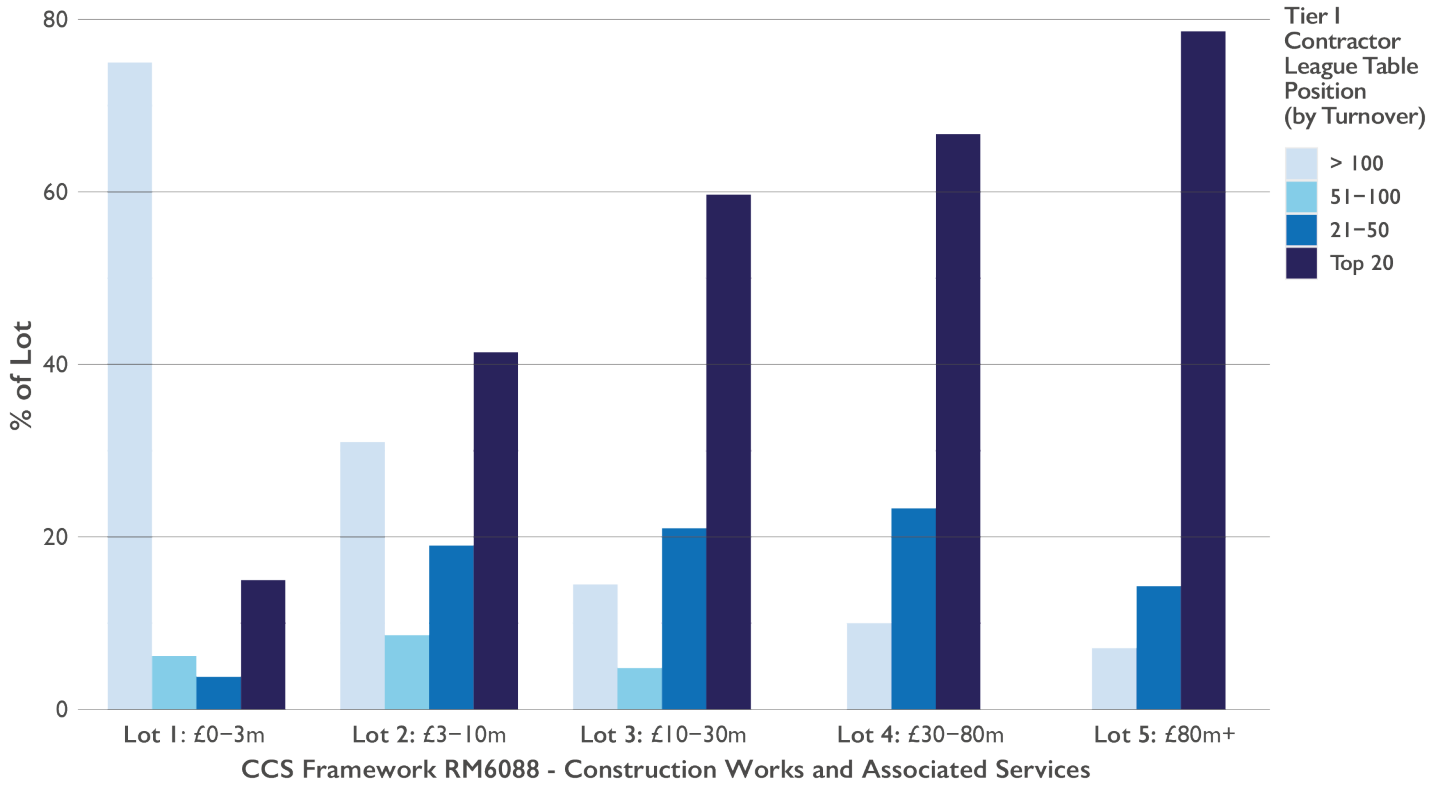
Whilst both education and healthcare have unique characteristics both sectors share commonality in that:

» The client(s) are active in applying platform principles.
» Procurement routes begin to facilitate and encourage platform adoption.
» The market includes a select group of contractors that have maintained consistent volume of work of sufficient scale to warrant the development of a platform strategy.

Albeit with a smaller pipeline profile, analysis of the custodial sector shares similar themes.

Furthermore, as is the case with most social infrastructure, the demand profile of these sectors was procured through frameworks, "Constructing the Gold Standard"[xvi], an independent review of public sector construction frameworks, outlines how best-in-class frameworks are a stable route to market, providing a pipeline and trading environment that supports a platform-based approach, driving consistency and mitigating waste.

It is therefore unsurprising that the recent CCS Construction Frameworks have been of such keen interest to the Tier 1 market. For those who have successfully secured a place, their framework spot could provide the channel for demand upon which to anchor a platform strategy.



Profile of Tier 1 Contractors against CCS Framework RM6088

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STEP 2: DEVELOP

Having defined the demand profile, Tier 1s can begin to develop their platform strategy.

The Rulebook outlines how developing a product platform is a strategic choice, requiring a clear vision that recognises that not everything can and should be delivered in this manner. To crystalise this vision contractors should be focussed to address questions such as:

STRATEGIC PLANNING DECISION	OUTPUTS *(AS REFERENCED WITHIN THE RULEBOOK)*
What is the strategic intent?	Platform vision
Which segments of the market are we focusing upon?	Segmentation strategy
What target benefits are we seeking to realise?	Strategic themes/outcome statements
What are we planning to standardise and share?	Commonality strategy and plan
What customisation and differentiation are required by our clients?	Commonality strategy and plan
What is the commercial/financial model?	**Outline business case**
What is the pipeline demand?	Variant plan and volumes
What is the planning horizon of our solution (how quickly will requirements evolve)?	Product platform roadmap
How do we plan to manage the adoption of the platform within our business?	Platform governance structure

Core to this strategy is the commercial model. Most other industries have adopted platform principles because of commercial drivers: to enhance profitability and/or gain competitive advantage by improving internal efficiency and reducing cost. Construction firms are therefore not unique in wanting to establish a clear commercial plan before investing in this new way of working.

COMMERCIAL PLAN

As outlined earlier, Tier 1 organisations do have elements that operate across portfolios. Business development, strategic bidding and key account management often span divisional boundaries, with internal costs recovered through the mechanism of overhead recharges.

With most organisations maintaining a tight grip upon their overhead (typically driven by internal metrics and compounded by two-stage procurement routes), there is often strong resistance to committing additional centralised resources without a clear return on investment. Establishing a robust commercial model is therefore critical to any platform strategy, particularly in a Tier 1 environment.

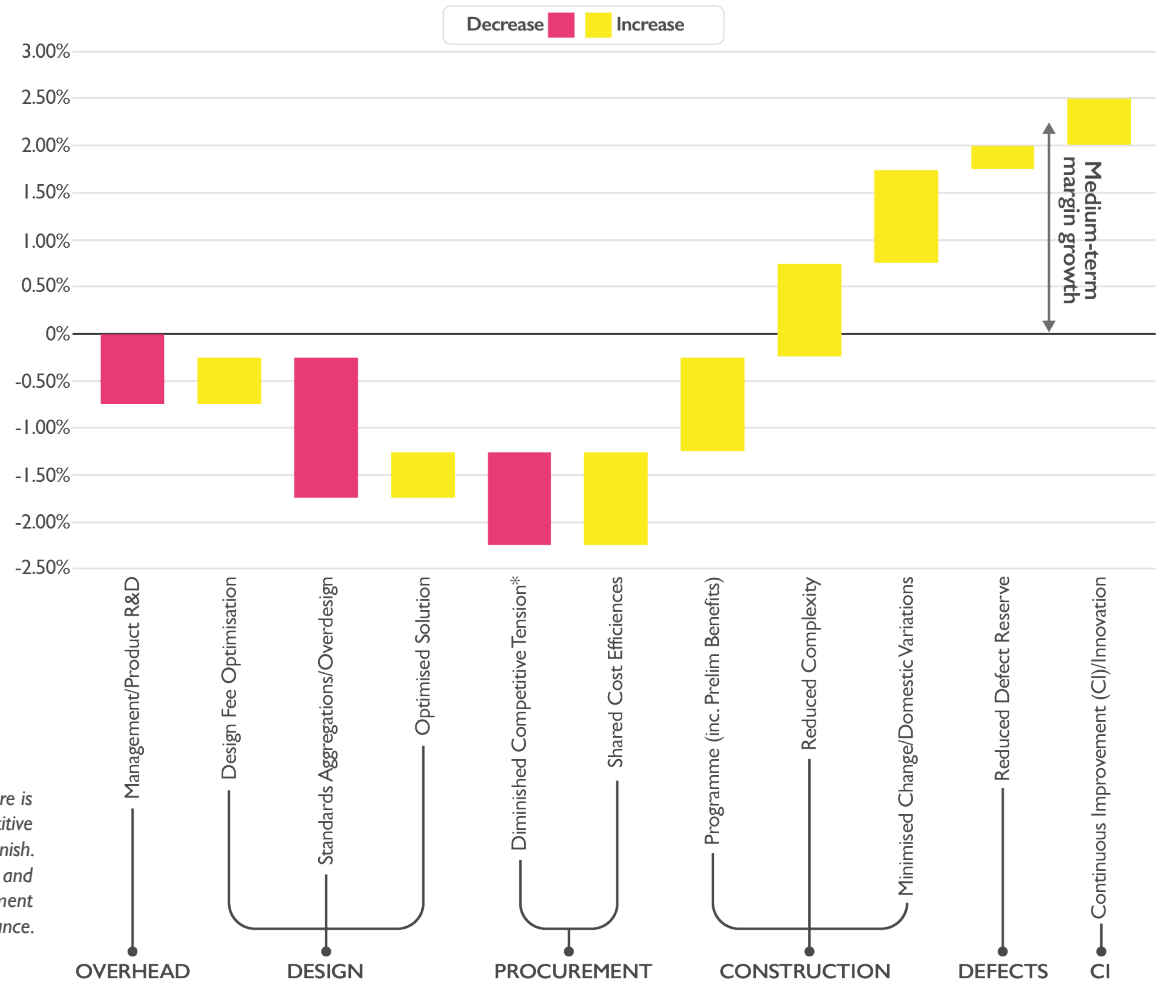
The chart to the right illustrates a potential margin improvement plan with identified opportunities that include:

» Design fee optimisation through the use of standard, repeatable spaces, components and interface details.
» Product optimisation, including reduced quants, materials and waste.
» Efficiencies developed either through the commoditisation of solutions or in collaboration with strategic partners.
» Optimised programme, with prelims savings through a shortened critical path and/or reduced on-site management, due to an increased use of offsite manufacturing.
» Minimised risk of post-contract change and domestic variations, with enhanced certainty of scope, method and output.
» Reduction in defects (and corresponding reserve), resulting from improved quality controls.

Whilst at first glance the potential scale of opportunity may appear minor, this should be viewed in the context of the highly competitive environment and tight margins the industry currently works on.

** In developing strategic partnerships there is a risk (or at least perception) that competitive tension through procurement may diminish. However, by establishing a common design and robust benchmarking, continuous improvement can be driven in both product and performance.*

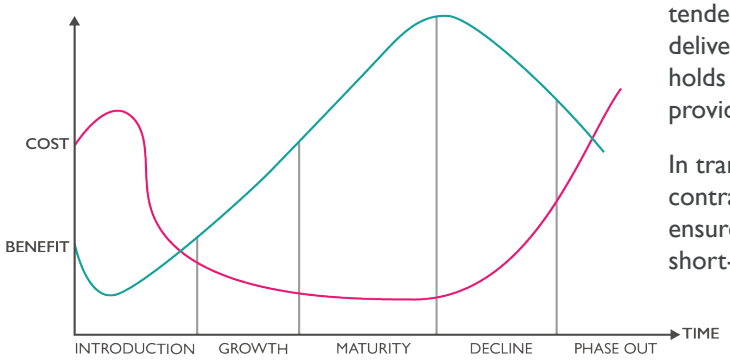
ILLUSTRATIVE MARGIN IMPROVEMENT PLAN THROUGH PLATFORM-BASED APPROACH



COMMERCIAL PLAN (CONTINUED)

The likelihood and potential impact of these opportunities will vary depending upon several factors. What should be noted however is that they rarely realise immediately.

The development of products generally follows a life-cycle curve, with the initial phase more often than not resulting in increased costs. Appointment of a platform owner, overseeing the platform development as well as managing relationships with internal and external stakeholders, is an overhead cost that will not pay back during the first project. The ability to grasp reduced fees, benefits through optimised design solutions or productivity improvements across the supply chain are equally unlikely to be seen until a greater state of maturity and confidence across the team is achieved.



Typical Product Lifecycle Curve

Return on investment forecasts should therefore be mapped against a demand profile that extends beyond a single project but instead on a horizon consistent with the platform vision (ideally 3 years+). Where contractors have secure channels that afford continuity and scale of demand this is viable; where the workload is intermittent however it is far more challenging.

This challenge becomes even more problematic when considering where and when the costs and benefits manifest as shown in the benefits realisation matrix.

Through frameworks and two-stage procurement processes the market commits to defined overhead and profit (OHP) percentages, with measured works valued through open-book tendering. Investment in design innovation that delivers improvements within the measured works holds value to the client but does not necessarily provide a direct financial return to the contractor.

In transitioning to a platform-based approach, both contractors and clients will need to collaborate to ensure that the longer-term vision prevails over short-term challenges.

	Manifestation of Impact (Where)	Realisation Timeline (When)		
		Short	Medium	Long-Term
COST				
Management + R&D	Overhead			
Overdesign	Measured Works			
Diminished Competitive Tension	Measured Works			
BENEFIT				
Design Fee Optimisation	Design Fees			
Optimised product	Measured Works			
Cost Efficiencies	Measured Works			
Optimised programme	Prelims + Measured Works			
Risk of post-contract change	Measured Works			
Reduced complexity	Risk + contingency			
Reduced Defects	Internal Defects reserve			
Continuous improvement (generally)	Prelims, Fees + Measured Works			

Benefits Realisation Matrix

SUPPLY CHAIN ENGAGEMENT

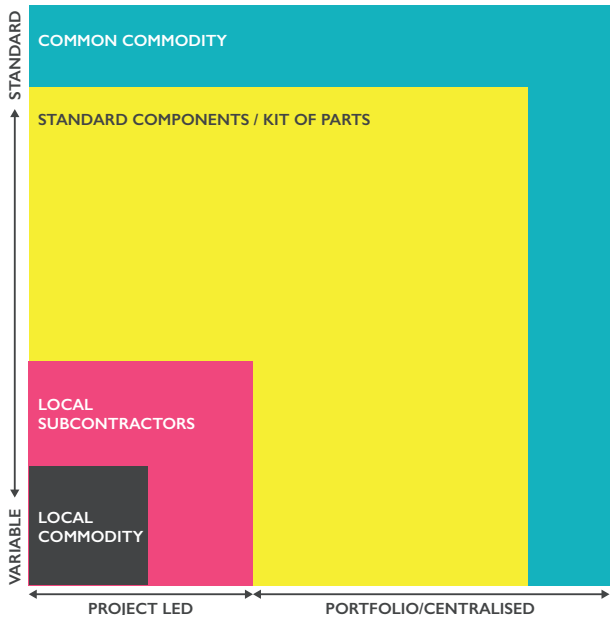
Within the commercial plan, the key area of future opportunity lies in developing an efficient, optimised product that leverages standardisation and repeatability.

At its core, this requires a fundamental shift in design approach – with a much stronger emphasis on owning and shaping the design to embed commonality across multiple projects. Engaging design teams as strategic partners and collaborators to the platform vision is therefore critical.

This in turn requires adaptations in supply chain relationships and procurement strategies. Most Tier 1 contractors currently procure subcontract works at a local project level, with third-party agreements for materials or commodity supply items managed centrally. Preferred supply chain partnerships exist, however only in the minority of cases are these focussed towards conducting shared R&D and developing common solutions for long-term benefit. Most effort instead remains in the transaction of addressing more immediate project challenges.

In making a shift to a platform-based approach, Tier 1s will need to adapt their engagement with the supply chain, developing strategies that reflect both the variability and commonality across their portfolio and encourage the creation and use of standard kits of parts.

By illustratively categorising work that is commodity based (either local/variable or common) or likely to be site specific (local subcontractors), we can begin to see the potential scale of a kit of parts. With Frame, Façade and MEP reflecting almost two-thirds of measured works, there is significant scope to work with.



Platform based procurement model - with illustrative package split

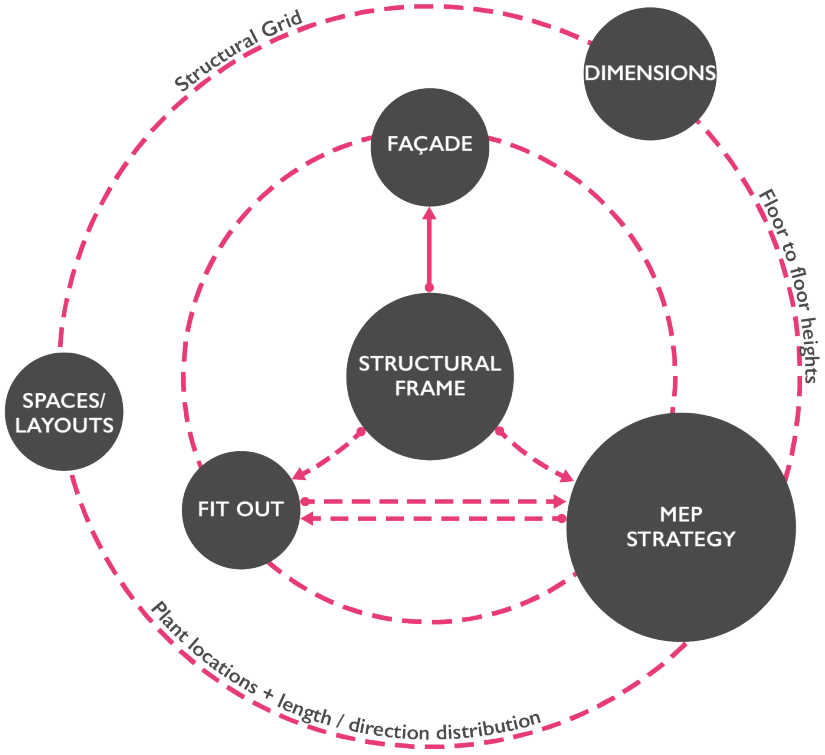
5% LOCAL COMMODITY	10% LOCAL SUBCONTRACTOR (TYPICALLY LOW PMV TRADES)	60% STANDARD COMPONENTS/ KIT OF PARTS	25% COMMON COMMODITY
Aggregate	Groundworks	Frame	Drainage
Concrete	Piling	Façade	Reinforcement
Muck away	Bricklaying	MEP	Bricks/blocks/lintels
Topsoil	Screed		Insulation
Tarmac	Fire Protection		Structural Steel
Signage	Metalwork		Curtain Walling (Systems)
	Carpentry		Glass
	Mastic		Dry Lining
	Decoration		Windows
	Commissioning		Door Sets
	Hard Landscaping		Insulation
	Soft Landscaping		Flooring
			Ceiling Tiles
			Lights
			Paint

DRIVING THE DESIGN

The ability of a contractor to shape the design is often pre-determined by the client's procurement strategy. With design principles inextricably linked (as illustrated by Bryden Wood's visual); engagement at RIBA Stage 4 leaves little or no room for change. The window of opportunity for Tier 1s to embed a platform-based approach lies earlier, at RIBA Stages 2 & 3.

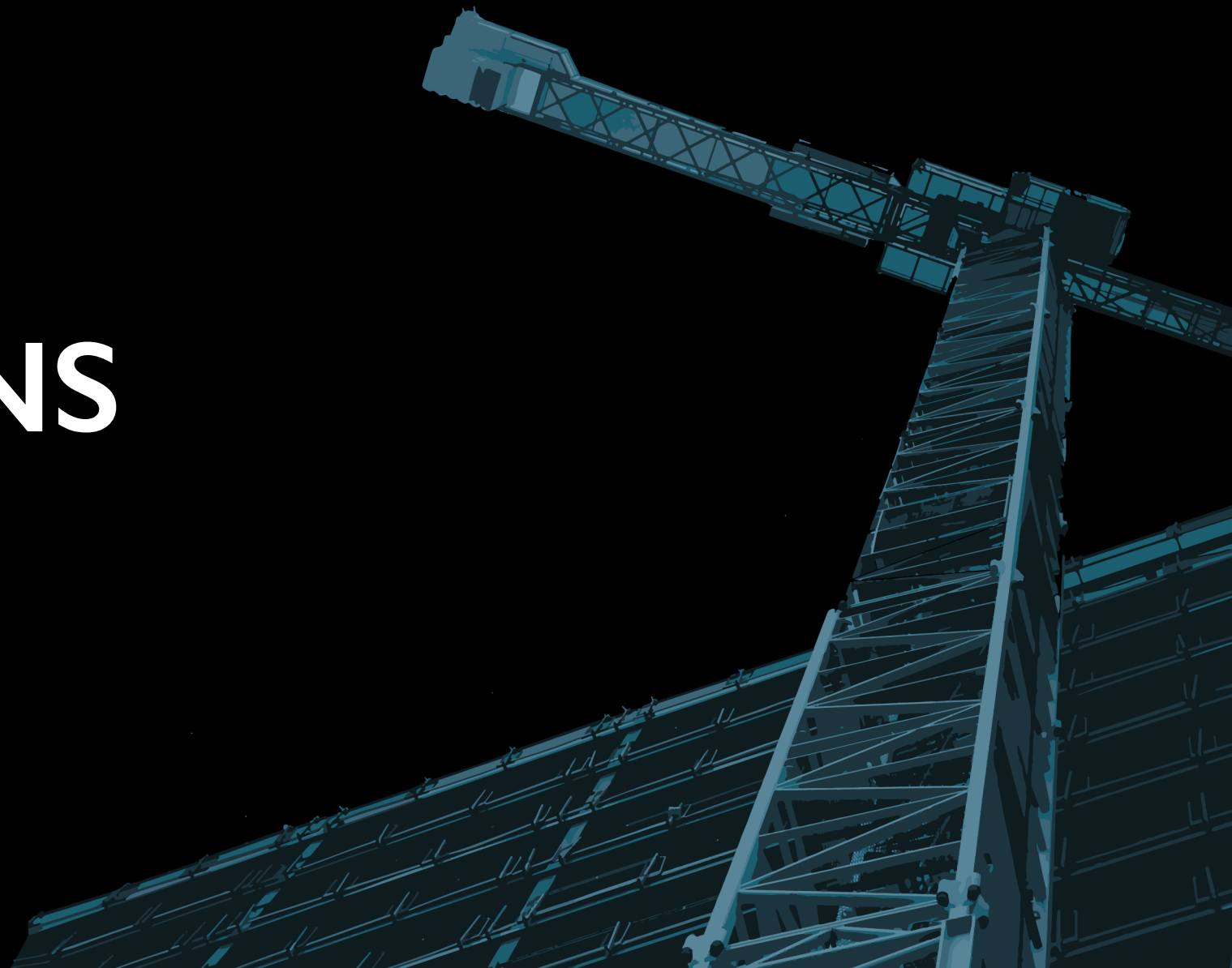
As outlined within the MMC Guidance Note to the Construction Playbook[xvii], this does not suit all clients and thus when analysing demand and market segmentation the timing and profile of engagement should be considered.

This is not necessarily a negative, however. Assessing the compatibility of projects and programmes against an organisation's platform strategy does not have to be viewed as a blocker to workload, but instead an alternative mechanism for risk screening. Projects that hold unique characteristics with limited scope for influence have an inherent risk profile: recognition and evaluation of this profile during internal tender reviews will alone mitigate future issues and begin to shift emphasis from bespoke by default to bespoke by choice.



Adapted from Bryden Wood: Delivery Platforms for Government Assets

REFLECTIONS



REFLECTION

Platforming is not a panacea – but instead a strategic choice that offers benefits in certain contexts.

For some contractors, the pipeline remains too volatile and diverse to warrant investment in developing standardised components or a kit of parts. Instead, emphasis on maintaining common processes, procedures and ways of working provides greater value.

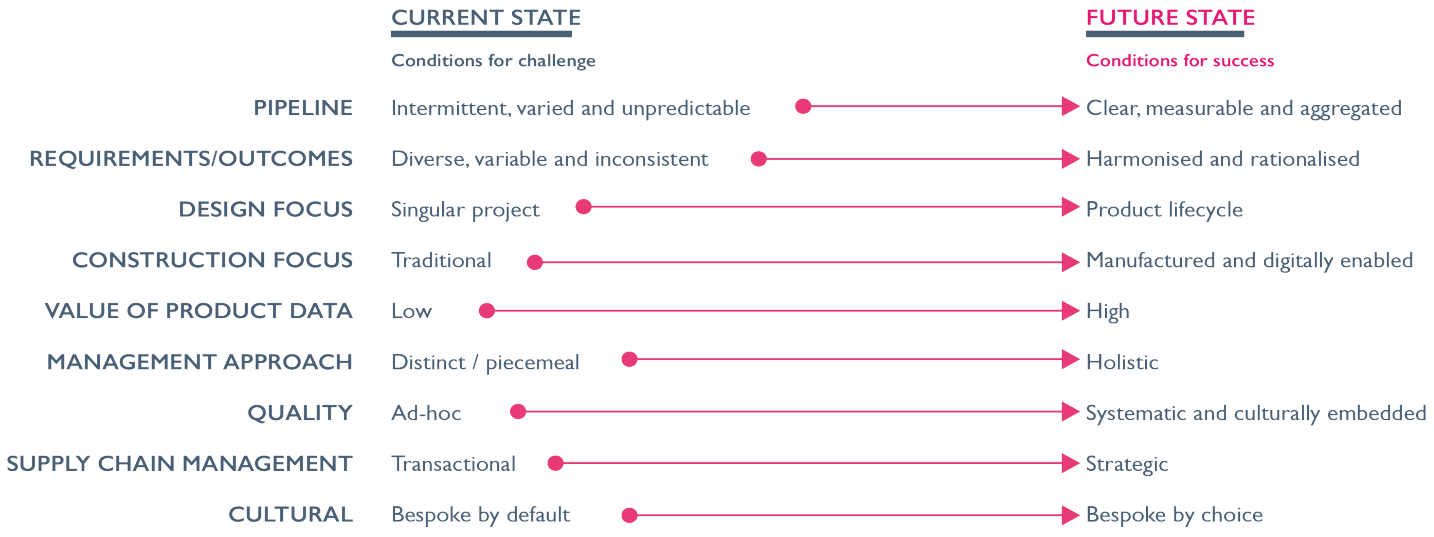
Others hold the potential to leverage their scale in unlocking efficiencies and improved performance. To do so, requires both a clear vision and a robust commercial plan, ensuring that internal stakeholders remained committed towards a common goal.

Early adopters have already stolen a march in making this transition; collaborating on R&D, benchmark intelligence, common designs and the development of a kit of parts. In doing so, they have begun to enhance their value propositions and disrupt the market.

For many Tier 1s change is not simple. Firms with rigid and historically successful operating structures will be challenged by the adaptions in organisation construct that platforms require.

The practical challenges faced by contracting authorities, mandated by the Playbook to "*bring work together in portfolios*" across autonomous units will frustrate teams working contractor side. As policy continues to push the industry hard to make this transition, clients, contractors and the supply chain will need to bridge boundaries (internal and external) to cultivate conditions for success.

The movement to a future state will not be easy…. but begins with **Demand - Develop.**



Conditions for success and challenge

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xiii *My Years with General Motors, Alfred Sloan (1963)*

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