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Construction Pulse Check

Critical issues facing New Zealand's vertical construction contractors

Deloitte New Zealand

Deloitte's Infrastructure and Capital Projects offering provides clients with integrated solutions across the asset lifecycle in both the public and private sectors. The team comprises professionals with first-hand delivery experience, a strong understanding of the infrastructure market in New Zealand and Australia, and a pragmatic perspective on how to address the infrastructure challenges that lie ahead.

This report is the first in a series by Deloitte's Infrastructure and Capital Projects team examining the challenges and opportunities of infrastructure delivery in New Zealand.

Tēnā koutou

Recently, New Zealand's vertical construction industry has faced its fair share of challenges - closed borders, supply chain disruption, rapid inflation and elevated interest rates. In this article, we look to further understand and document industry sentiment, beyond the published industry metrics. We also highlight critical issues facing project delivery from the contractor's perspective and what the industry can do to address these as New Zealand embarks on the massive infrastructure challenge ahead.

Our Infrastructure and Capital Projects team interviewed 16 of the largest contractors across New Zealand with a focus on those working in the $5 million to $500 million+ vertical build sector to hear their views. Feedback was also sought from a selection of clients and agencies delivering projects in this sector to shape our insights.

We would like to thank all the contributors who took the time to sit down with us and have open and relaxed conversations around the challenges they are facing. It was apparent during the interview process that contractors are keen to talk about the challenges and successes in the sector and just having the conversation can benefit contractors and clients alike.

We are also thankful to the government agencies and independent advisors who participated in the process and provided their perspectives.

If you have any questions, please do not hesitate to contact me to discuss.

Ngā mihi nui

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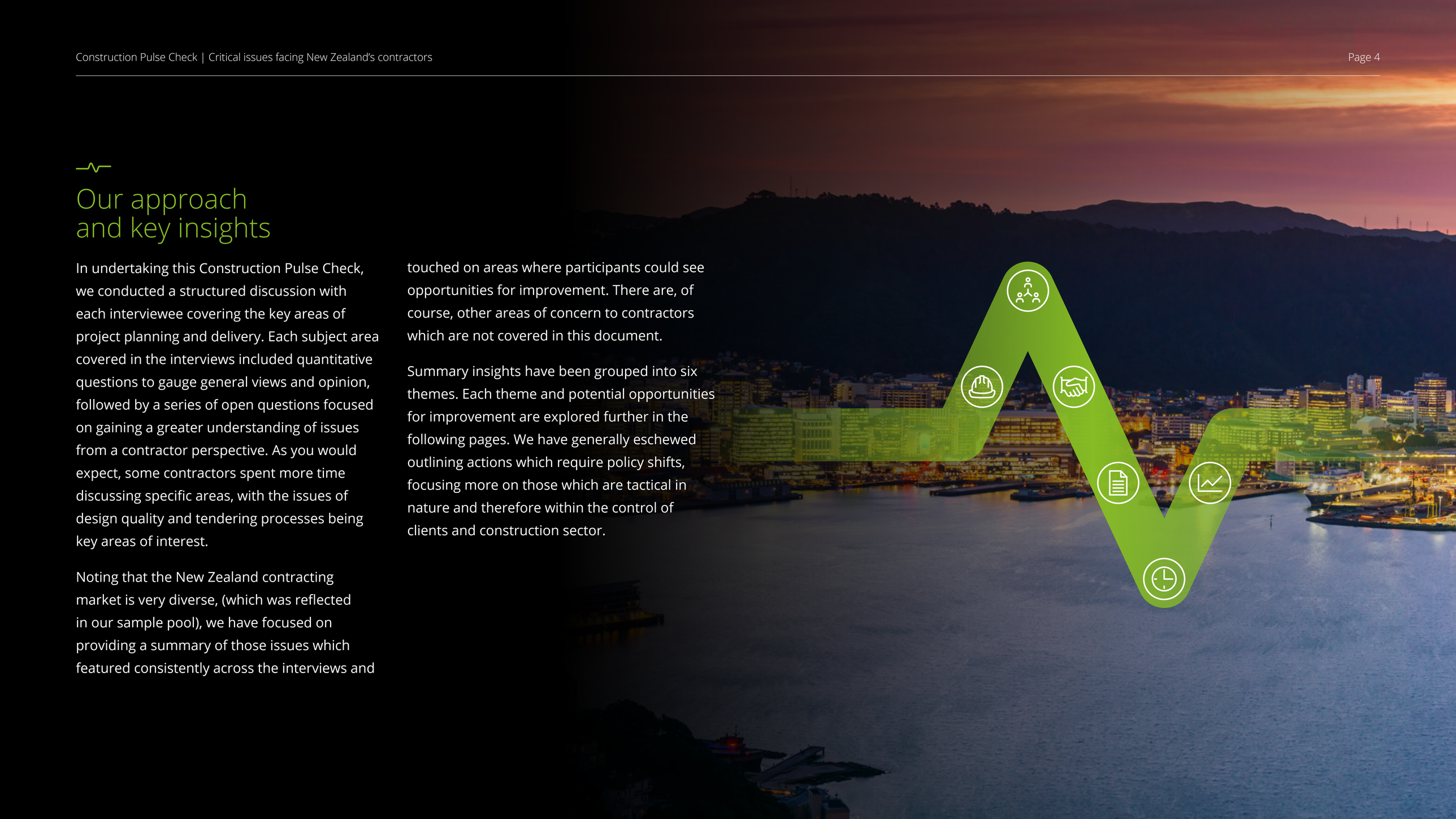
Our approach and key insights

In undertaking this Construction Pulse Check, we conducted a structured discussion with each interviewee covering the key areas of project planning and delivery. Each subject area covered in the interviews included quantitative questions to gauge general views and opinion, followed by a series of open questions focused on gaining a greater understanding of issues from a contractor perspective. As you would expect, some contractors spent more time discussing specific areas, with the issues of design quality and tendering processes being key areas of interest.

Noting that the New Zealand contracting market is very diverse, (which was reflected in our sample pool), we have focused on providing a summary of those issues which featured consistently across the interviews and touched on areas where participants could see opportunities for improvement. There are, of course, other areas of concern to contractors which are not covered in this document.

Summary insights have been grouped into six themes. Each theme and potential opportunities for improvement are explored further in the following pages. We have generally eschewed outlining actions which require policy shifts, focusing more on those which are tactical in nature and therefore within the control of clients and construction sector.



Themes

CLICK ICON TO GO TO SECTION

The skills challenge

Nearly all contractors had seen a marked improvement in their ability to engage suitable trade and labour professionals over the last 12 months, but they also noted wage price pressure, skills deficits and industry fatigue as ongoing handbrakes on performance. Early proactive conversations with the market on the availability and capability of resources along with infrastructure pipeline clarity were seen as key tools in combating the short and long term effects of skills shortages.

Effective Early Contractor Involvement (ECI)

The use of ECI arrangements continues to increase across the industry with all parties confirming they are involved in more ECI arrangements than ever before. However, based on our discussions, it is questionable if full value is being extracted from the process. Project briefs, process definition and role accountabilities were all identified as areas to address to improve ECI outcomes.

The hidden cost of New Zealand's tendering process

All the contractors advised they are facing increasing costs in responding to tenders due to both inherent project complexity and, in some cases, excessive tender response requirements. Contractors would like to see more efficiency in procurement processes both in terms of what information is asked for and the time period for the information to be assessed.

Project documentation quality challenges

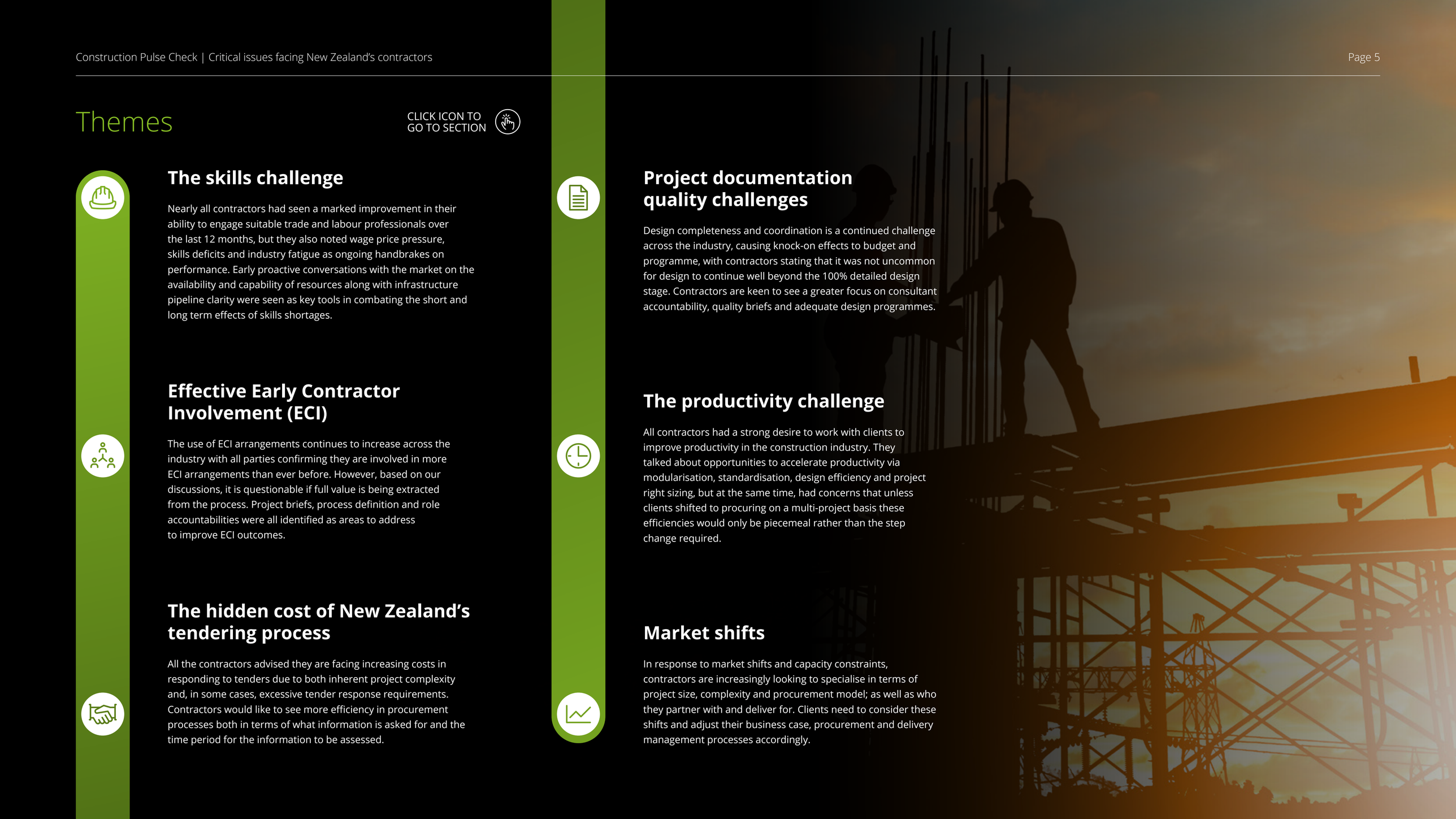
Design completeness and coordination is a continued challenge across the industry, causing knock-on effects to budget and programme, with contractors stating that it was not uncommon for design to continue well beyond the 100% detailed design stage. Contractors are keen to see a greater focus on consultant accountability, quality briefs and adequate design programmes.

The productivity challenge

All contractors had a strong desire to work with clients to improve productivity in the construction industry. They talked about opportunities to accelerate productivity via modularisation, standardisation, design efficiency and project right sizing, but at the same time, had concerns that unless clients shifted to procuring on a multi-project basis these efficiencies would only be piecemeal rather than the step change required.

Market shifts

In response to market shifts and capacity constraints, contractors are increasingly looking to specialise in terms of project size, complexity and procurement model; as well as who they partner with and deliver for. Clients need to consider these shifts and adjust their business case, procurement and delivery management processes accordingly.



The skills challenge

What we heard

Nearly all contractors we spoke to noted that factors including the relaxing of immigration settings and the residential construction market slow down have resulted in a marked improvement in their ability to engage suitable trade and labour professionals over the last 12 months. But there were several compounding concerns raised with respect to the labour market going forward:

Wage price pressure

Recently, both market and government policy movements have had a significant impact on contractor labour costs. Contractors noted these costs are now baked in so will continue to have a significant ongoing impact even as demand drops.

Training and development

It was noted by many of the respondents that the nature and quality of training opportunities for construction and trade professionals (both formal and informal) was not at the same level as pre-COVID-19. There is a real risk, particularly for some younger workforce participants, that their trade skills have not progressed as far as would be expected under normal circumstances.

Accelerated career progression

Most contractors we spoke to, outlined that they had taken significant steps to retain key staff in the last few years. There was a concern that, (in some cases), this had resulted in the over-promotion of staff, leading to not only, increased labour costs but also the risk of reduced labour quality outcomes, a situation which they acknowledged was hard to unwind.

Increased pre-contract requirements

While the majority of those we talked to welcome the move towards more collaborative contracting, it was noted that this move is adding to pressure in delivery as skilled senior staff are required in design meetings to secure revenue versus being on site where they are converting this revenue to profit.

Integration of new labour

The opening of borders, and increased availability of foreign and recent immigrant labour is reducing supply pressures for most contractors we spoke to. However, many noted that integration and supervision of this workforce presents other challenges.

Industry fatigue

Many contractors we spoke to noted that there was a general workforce malaise, including increased health issues (both mental and physical), along with reduced co-worker support and mentoring (possibly exacerbated by job shifting).

Contractors were quick to point out that these issues are affecting all parties from clients through to project management firms and design consultants.

> 'Across both consultants and contractors, there is a skills deficit issue resulting in poor project outcomes.'

Where to from here?

Given this situation will be prevalent for some time, we suggest a number of actions that client organisations consider to mitigate the current challenges, while also helping to drive the development of a skilled workforce as a longer term solution:

Monitoring performance

Ensuring suitable performance monitoring, quality control and health and safety oversight measures are built into contracts and resourced appropriately within client-side teams.

Market engagement

Having upfront, proactive conversations with the market on the availability and capability of resources to inform project delivery planning.

Training and development

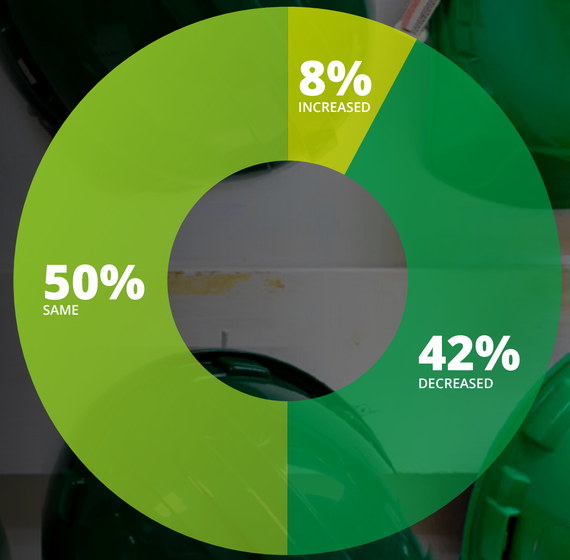
Encouraging apprenticeships and succession plans for contractors through clearly defined requirements built into the non-price evaluation.

Cross agency coordination

Engaging across agencies to assess project delivery timeframes, recognising that in many cases, government agencies are competing for the same contractors, designers and project managers, without having clear staging plans to help build up the quality of labour.

Pipeline clarity

Clear pipeline articulation and use of procurement approaches that provide multi-year confidence to contractors. This gives contractors the confidence to make greater investments in their workforce.



Survey results on the quality of project management and design management services as compared to 5 years ago.

Effective Early Contractor Involvement

What we heard

The use of Early Contractor Involvement (ECI) style arrangements continues to increase, with all contractors noting they are doing the same or more ECI's than previously. Contractors were being engaged on a variety of ECI formats (from very early to very late in the design) but in all scenarios, the key objectives were stated as being some combination of specialist buildability advice, improving confidence in the programme, price certainty and the identification and mitigation of risks.

Several contractors emphasised that the real value they bring to an ECI comes at a stage when their constructability experience can meaningfully influence the design; meaning before the primary structure is locked but after a client brief has been developed. There was a general agreement that very late stage involvements were sub-optimal and generally just a pricing exercise.

The issue of required contractor design input and the resulting risk allocation through ECI engagements was persistent for all parties we talked to. Generally, contractors stated that to share design risk they need to have had a substantial opportunity to influence and control the design. There wasn't universal agreement on what 'substantial influence' is, but it was clear that the best run ECI's had this discussion early (rather than as part of the final pricing submission)

Where to from here?

Through discussions with the contractors, there were five key themes identified that clients should consider in order to improve ECI outcomes:

Brief

Start with a clear, well-defined client brief that identifies what is required, what is 'nice to have' and what is not required. While a key activity of the ECI phase is to refine and finalise the brief, contractors observed that some projects were starting their ECI without a well-defined brief, the intention being the ECI process will develop client requirements, a situation which rarely yielded a successful outcome.

Process

Have a well-defined process for the ECI which includes design development, works procurement, and cost resolution, with clear deliverables and expectations of the contractor and consultants. This needs to be owned and driven by a competent client project director. Process should be seen as adjacent, but separate to, contract requirements. You can't stop contract for all ECI activities (nor would you want to) but this shouldn't prevent parties from being held to account.

Resourcing

Both contractor and client teams need to be appropriately resourced with the right capabilities and capacities to meet the demands of the defined ECI process. It was observed that in some cases, skills were unbalanced (all expertise with one party) creating issues around communication and decision making. While each party needs to be experts in their field, there needs to be enough shared expertise to enable project cohesion and the benefit of the process to be realised.

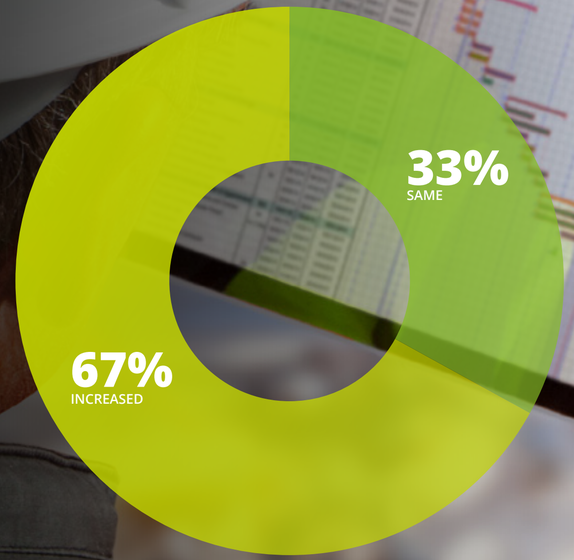
Alignment

All parties need to be aligned, including in their contractual obligations. This alignment needs to ensure the design consultant contracts reflect the ECI process, including expectations on the design team in the development of, and responding to, ECI contractor deliverables / reviews. It was observed that urgency and willingness to adjust were sometimes lacking in the consulting teams.

Understanding of risk cost

While overall risk cost should be reduced under an ECI process there will still be residual risk to be allocated. Just because this risk costing is much more transparent than it might be under a more traditional engagement, it does not mean it doesn't still exist or is unjustified. When considering the allocation of risk, parties should consider what the position would be if the allocation was changed or what the impact of mitigation, by either party, could be. This should be one of the first conversations of the ECI engagement.

'It's useful to know what you want to achieve before you ask the market how to build it.'



Survey results on the amount of ECI Projects contractors are doing compared to 5 years ago.

The hidden cost of New Zealand's tendering process

What we heard

Many contractors spoke of the increasing costs and effort in responding to tenders, particularly those from government agencies. While there was widespread understanding of the importance of a rigorous tender process, many contractors we spoke to were frustrated with elements of the process, some of their main concerns being:

Requests for excessive technical detail

Contractors cited examples of being requested to provide extensive construction methodologies, detailed programmes and management plans, only to discover via the interview or debrief process that this information had clearly not been reviewed or understood.

Open questions

Typically used for items like broader outcomes and innovation, many contractors noted these are difficult and time consuming to respond to, particularly where the client is not clear on their construction related goals that responses can be aligned to.

Opaque price evaluation

Contractors also noted that the evaluation of price submissions is often unclear and the price scoring method is often not disclosed pre or post-RFP. This is frustrating for contractors as they know that even with a price weighting of less than 30%, projects are often awarded to the contractor with the lowest price, due to the way the price element is scored.

'It is not uncommon for the evaluation period to be at least as long as the tender period.'

Extended evaluation periods

Contractors also commented on the significant time period between tender submission and tender award. In some instances, they experienced the evaluation periods outweighing that of the tender period. This situation creates greater pipeline uncertainty and, by forcing extended price validity periods from suppliers and sub-contractors, adds further costs.

Poor technical documentation

Unclear, incomplete and/or poorly coordinated tender technical documentation was a common issue for contractors. Complaints often centred around there being no clear brief or narrative that provided context for the status of the design package (refer to our next theme for more on this issue).

'Do client teams have the ability to review our methodology? And does it matter?'

Where to from here?

The challenge to those producing tenders is ensuring the right questions are being asked, the right supporting information is provided and there is clear communication on how (and when) the responses will be evaluated. For evaluators and procurement personnel this means:

Having a clear process

Be clear on the evaluation process and drive the process to manage the additional cost being put on contractors.

Ask the right questions

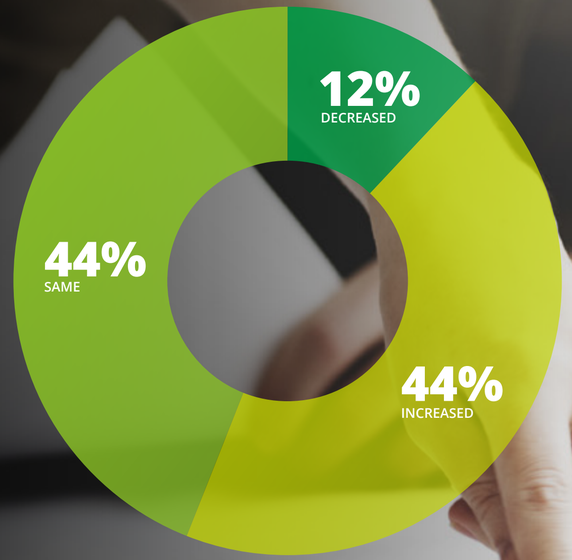
Understand what sort of responses will be received for any given assessment criteria, and ensure that the scope of the question aligns with the outcomes you are trying to achieve. Ensure your requirements are clearly articulated. This is really important where price is a key determinant. Ensure that the non-price attribute response requirements are adding value to the procurement process through providing an ability to differentiate responses, and that the appropriate capabilities are included in the evaluation panel to assess the responses.

Get the right evaluation team

Ensure your team (and their advisors) have the requisite skills to effectively review and score responses.

Be transparent

Provide clarity on your goals and evaluation methodologies, including price scoring, within the RFP documentation.



Survey results on the costs associated with tendering as compared to 5 years ago.

Project documentation quality challenges

What we heard

The overriding consensus amongst the contractors we spoke to, was that the quality and timeliness of pre-construction project documentation has not improved in recent years with many considering it to have gotten worse. Key themes from our conversations include:

Stretched resourses

There is a belief that design teams, project managers and project quantity surveyors are '*spread too thin*' across projects, and are not able to actively drive project deadlines and manage the design process. Contractors identified the key factors contributing to this as skills gaps, compressed project timeframes, and the increased complexity and compliance requirements of projects.

Incomplete design coordination

There was a particular degree of frustration with the quality and completeness of design coordination despite advances in technology (particularly BIM). It was noted by many that this means design is often continuing after the 'end of 100% Detailed design', with issues for construction documentation sometimes containing substantial changes.

Contractor design elements

Many of those we spoke to noted that design teams are increasingly pushing the responsibility for the design of complex elements, such as passive fire, secondary steel, and seismic restraint, onto contractors. Contractors accept that these inherently difficult elements require collaboration between both the contractor and the design team but challenge the wholesale transfer of responsibility given the interaction of these elements with the overall design. It was noted that the use of an ECI phase to resolve these elements was theoretically ideal but the reality was that often ECIs are completed with the risk still sitting with the contractor.

Accountability

Noting the preceding points, contractors were keen to see design teams being allocated a level of accountability similar to what they were often subject to. This was in the form of design personnel bonding, liability and overall performance (programme and quality). While it was noted these elements were sometimes in place, their enforcement was sporadic. The effectiveness of the project / design manager in driving this accountability (on a day-to-day basis) was often criticised.

> 'There are gaps in capability between designers and sub contractors, which neither wants to fill.'

Where to from here?

Considering this, clients have the ability to drive improvements to the quality of design documentation, and the collaboration between designers and contractors via:

Appropriate project team

Ensure the client team includes professionals who can undertake meaningful reviews of documentation at each design stage, and that time is included for this. Additionally, ensure the project has clear and effective leadership that will hold consultant teams to account for programme and process (to the same standard as contractors).

Brief

Have a clear hierarchy of design priorities, which sets out how you value design efficiency / construction productivity versus other components such as aesthetics.

Appropriate and detailed design programmes

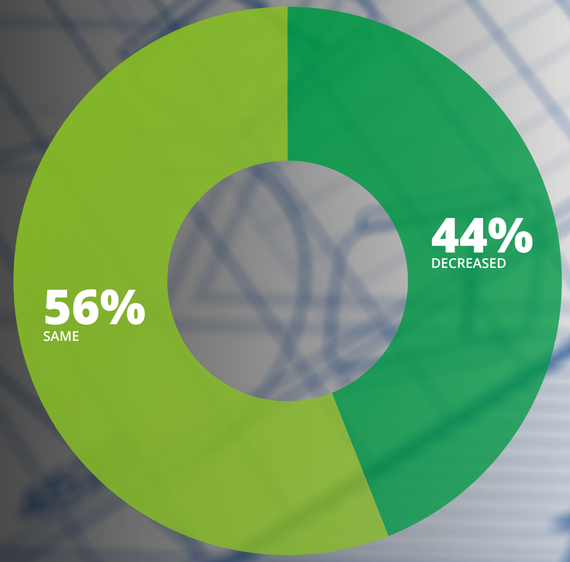
Ensure that there is sufficient time within the programme for the delivery of a fully detailed and coordinated design prior to construction. It is much more cost-effective to spend more time on design than to suffer design-related extensions of time, or variations, once a contractor is appointed.

Effective quality assurance

Set clear expectations for quality assurance practices at the RFP stages, and ensure these are met.

Clear consultant scopes

Set clear expectations on what the design team's scope is, including what components can be a performance specification, and what must be fully detailed. A tailored NZCIC guideline can be helpful in this regard.



Survey results on the quality of tender documents as compared to 5 years ago.

The productivity challenge

What we heard

All contractors we spoke to were cognisant of the burning platform to improve productivity in the New Zealand construction industry. They noted that productivity improvement needs to be addressed via a multi-faceted approach, touching on many of the issues outlined in this document (labour capacity, supply chain and procurement processes). Contractors also spoke about opportunities to accelerate productivity via:

Modularisation

Contractors recognised that modularisation can contribute to improved productivity, however (with a few notable exceptions) they remain understandably hesitant to shoulder the risk and uncertainty of being an early adopter. Contractors noted that any substantial re-tooling of established practices to accommodate modular elements requires significant upfront investment, which in turn requires a committed pipeline of repeatable work.

Design and material standardisation

Set clear expectations on what the design team's scope is, including which components can be a performance specification, and which must be fully detailed. A tailored NZCIC guideline can be helpful in this regard.

Design efficiency

Contractors believed that design efficiency, and therefore construction productivity, were not considered strongly enough in the design process. Some pointed to the greater design efficiency of private developer led projects versus those led by public agencies. Contractors would like to see clients and designers more focused on building from an efficient structural and services design out rather than architectural in. This, of course, is not a new observation but is a reminder that innovation and productive gains are possible even with existing building processes.

Project right-sizing

Set clear expectations on what the design team's scope is, including which components can be a performance specification, and which must be fully detailed. A tailored NZCIC guideline can be helpful in this regard.

Efficient statutory approval

When asked about the primary cause of project delays, statutory compliance was the most consistent area of complaint. Fixing the time and complexity of approvals would have a massive impact on productivity.

'Getting a building consent in Auckland is now an unquantifiable risk.'

Where to from here?

Clients can work with contractors to unlock productivity improvement opportunities through:

Long-term contractor relationships

Consider the use of multi-year, multi-project performance-based contracts, where a client's pipeline allows it. These types of contracts create an environment where it is in the best interests of the contractors to invest in improvements to processes, systems, or tools (such as off-site manufacturing) that deliver projects more efficiently while maintaining quality standards. This reduces costs and improves profitability while minimising risks associated with longer programmes. The innovations from these contracts may then flow into the broader market.

Effective procurement

Where multi-project performance-based contracts are not possible due to the procuring agencies funding allocation or limited pipeline, it is important to think about how RFP questions and assessment criteria can help deliver similar outcomes of efficiency and innovation. By applying a lens of "what is it we want from innovation," the questions can be better framed around what systems, processes or tools have you developed or learned from previous projects that will improve efficiency on this project without sacrificing quality, to deliver better public value.

Standardisation

Organisations should always look to standardise where possible as the reduction of specialist bespoke design elements reduces risk, cost, and time to deliver. Standardisation enables repetition, and improvements over time, to become more efficient at the same outputs. It is also a key enabler of partial and complete modular construction.

Programmes versus projects

Where organisations have large 'mega-projects', they should consider whether a programme based approach is possible, and if it is, setting that as the direction in the brief. This will allow projects to be right-sized for the New Zealand market, and improvements to be transferred from one project to the next within a programme continuous improvement framework.

'We cannot improve productivity with project-to-project procurement.'

Market shifts

What we heard

In response to market conditions and capacity constraints, many contractors noted that they had adapted work practices and market focus. The key shifts contractors spoke about included:

In-house design capability

A number of contractors are bolstering their capacity to effectively engage in both ECI (Early Contractor Involvement) and D&B (Design and Build) opportunities. This is typically achieved by hiring former design managers and designer reviewers from engineering firms. Additionally, they are making substantial investments in software associated with design automation and Building Information Modelling (BIM). These investments primarily aim to enhance their control over the design process and mitigate risks. As technology advances, some contractors envision the potential to significantly diminish their reliance on design consultants.

Polarised contract preference

Around two thirds of the contractors interviewed expressed a strong preference for D&B contracting. Their primary reason for this was the ability to have more control over the design process. These contractors were often the same ones developing in-house design capability. Conversely, of the remaining third, the majority were aligned closely with the traditional construct-only model. Regardless of their preferred contracting approach, almost all expressed a desire for a preceding ECI process.

Project size

Typically, contractor's "sweet spot" was for projects with a value less than $100 million. Capacity, and appetite, for large complex vertical construction projects being limited to a handful of contractors. Many of those we spoke to noted that the risk-reward equation on bigger projects often didn't stack up as these projects typically had a level of complexity that exponentially increased coordination and management challenges.

Supply chain management

All contractors spoke about putting an increased focus on long lead planning and a "just in case" approach. While some contractors have gone as far as establishing their own storage centres, most are focusing on working with clients to bring materials in earlier and store on/off-site for specific projects. They are also trying to go through local suppliers where possible and enter into arrangements with freight forwarding agents and sub-contractors. These adjustments were all noted as adding logistics challenges and increased cost.

> 'Projects sizing needs to consider regional market capacity.'

Where to from here?

When asked which factors would make them competitive in the current market, contractors comments were centred around good relationships, repeat business, trusted partners, and maintaining a solid track record. Contractors are focusing their attention less on the open market, and more on delivering for long-term clients where they are able to secure future work based on previous performance. These relationships will often take priority over single project opportunities. When establishing projects, it is worth considering how these shifts can be factored into the planning and procurement process. Below are a few key considerations:

Market engagement

Use effective market engagement to identify, test and refine the project procurement approach and contract model. Done well, this will help stimulate market expectations and ensure a smoother project delivery process.

Resourcing

Both clients and contractors need to ensure that their teams are appropriately resourced. Clients should invest in briefing and developing the project with enough resources, enabling effective process management to achieve the best project outcomes.

Packaging and sizing projects

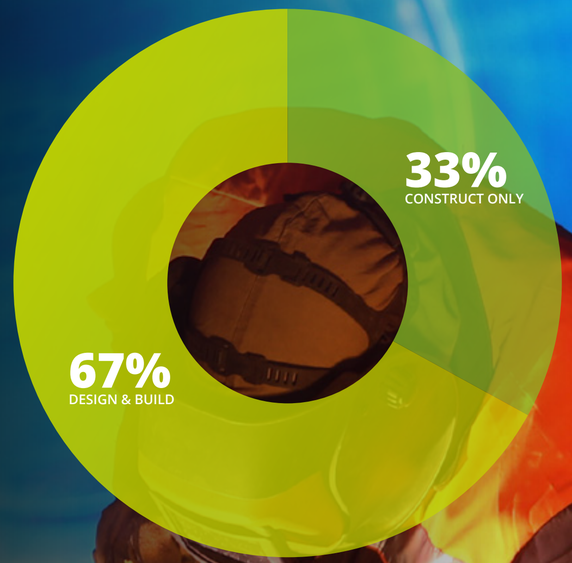
Clients should carefully consider how they package and size projects to make them most appealing to the market. This may involve breaking down large projects into smaller packages or considering alternative procurement methods to attract a wider range of contractors.

Relationship building

Construction is primarily a relationship-driven industry. Clients and contractors can achieve the best outcomes when they have a shared history, understand each other's performance, and actively work towards a long-term partnership that delivers value.

Supply chain management

Ensuring supply chain management is considered in the business case, development of the delivery programme, procurement planning and contracts.



Survey results on the preferred contract model for contractor.

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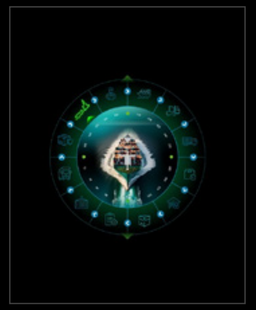
More thought leadership



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Enhancing the resilience of our critical infrastructure

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