



Does the MEP Industry need to evolve?

In the face of recent challenges, the robustness and adaptability of the MEP industry have become crucial to ensuring not only successful project outcomes but also the health of the broader supply chain.

In the first of a series of roundtable discussions with key stakeholders from the MEP industry, we began by engaging with the contracting supply chain.

These sessions offered a platform to capture their candid views on the market, its challenges, and their insights into how the industry might evolve to tackle these issues.

We were not disappointed by the frankness and depth of the insights shared. Active participation from a broad range of main contractors and subcontractors allowed us

to deeply understand the challenges facing the MEP supply chain, from their perspective, and to develop potential collaborative solutions for further debate.

During our two roundtable discussions with six main contractors and four road trip sessions visiting 11 trade contractors, we posed the central question:

'Is the MEP industry fit for 2024 and beyond?'

Starting with challenges, we set the stage for a spirited debate, although managing the enthusiastic discussions was at times challenging!

Our report offers a high-level summary that reflects collective insights rather than just our views at exigere. We have identified five main challenges and provided our insights on possible solutions to these persistent issues.



The key takeaways

Perception and state of the MEP industry

The industry clearly has significant challenges ahead. Discussions underscored a common belief among contractors that projects can often suffer from a mismanaged process, characterised by unrealistic timelines, flawed procurement strategies and poorly coordinated design information, resulting in inappropriate risk transfers and overly optimistic budgets or viability issues requiring significant value engineering.

The industry has also faced an unprecedented level of regulatory change

within a relatively short period, necessitating rapid adaptation.

The sentiment among contractors that they must often compensate for skill gaps or the deficiencies of some consultants was unfortunately widespread. A key area of concern from the trades focused on the MEP design process and its coordination.

While there can sometimes be some significant issues within the MEP design process and its coordination, it is important to recognise that most MEP designs are not inherently flawed.

Often, issues arise from external pressures such as unrealistic time constraints—both in terms of design periods and the timing of design releases—poor overall design coordination and leadership, and a lack of clarity regarding roles and responsibilities.

There is also the industry-wide issue of skills shortages. When these factors are managed effectively, the quality of MEP design is greatly enhanced.

The MEP industry, like many other sectors, is impacted by a shrinking talent pool, which has led to gaps in expertise and experience in some areas. This shortage is not a reflection of the industry's capability, but rather a significant challenge that requires strategic attention.

Moreover, project timelines are often dictated by external factors that compress the design phase, forcing MEP professionals to work within constraints that can compromise the thoroughness and innovative potential of their solutions. These time pressures, coupled with unclear or overlapping roles due to a lack of clear directives on who is responsible for what, can lead to miscommunications and inefficiencies that affect the overall project outcome.

There is a clear need for enhanced engagement, trust, and communication at all levels of the industry. Adopting principles from the Construction Playbook, produced by The Construction Productivity Taskforce in November 2022, could significantly help foster trust and collaboration in this fragmented sector.

The role of the lead designer is crucial in any project, working alongside the project and cost manager, to ensure alignment of design information with RIBA Stages, identification of scope gaps, and clearer risk identification and transfer. Despite challenges, there is a consensus that the industry, while not broken, requires a shift in behaviour and discipline.

EXIGERE'S COMMENT:

Successful projects require a return to teamwork and adherence to the Construction Playbook's principles, focusing on forming effective teams and early engagement in the planning stages.



Incomplete and poorly coordinated design information

Contractors and trade contractors participating in the roundtables were united in their concerns about the incompleteness and quality of design information at the contract stage. They advocate for early involvement in the design process, believing that their insights into manufacturing capabilities, logistics, and onsite buildability could greatly enhance design efficiency.

Whilst there are clearly many excellent engineering businesses with highly talented individuals in our industry, a perceived lack of depth and practical skills among some MEP engineers was noted as a contributing factor to these challenges. This issue, exacerbated by a shrinking talent pool, is not unique to MEP engineering but affects all construction professions and contractors. It represents a structural issue within the industry, which can only be resolved through concerted efforts in training and development.

By modernising to attract new and diverse talent, investing in apprenticeships, and securing government investment in the training and education of future generations, the industry can begin to address these foundational challenges.

Contractors highlighted issues such as unclear client briefs, late appointments, and unclear scopes of service among consultants. These challenges impede their ability to deliver projects on time and to the desired quality.

These problems can be compounded by unrealistic design schedules and/or budgets that leave insufficient time for designing and coordinating schemes, contributing to confusion over deliverables. For instance, while MEP designers might be contracted under the BSRIA schedule of services, other professional team members follow RIBA-linked stage outputs.

Discussions also revealed frustration from the contractors that they are increasingly having to rely on their in-house engineering teams to bridge the design gaps. Early contractor engagement, typically from Stage 3, under a Pre-construction Services Agreement (PCSA), was suggested as a solution to mitigate design-related issues.



Design risk mitigation has become a focal point for main contractors, who are concerned that pricing often reflects the level of design risk rather than the actual cost of producing a coordinated working design. This has led to a reliance on the supply chain to address design flaws, especially in specialised areas, causing fatigue and overburdening of resources.

Several main contractors highlighted the critical impact of poor design and coordination, noting that it compels them to include higher risk premiums in their pricing. These ongoing challenges underscore a systemic issue within the industry and highlight the need for better integration and earlier collaboration in design stages to improve overall project outcomes.

EXIGERE'S COMMENT:

The entire team plays a critical role in this, from the MEP engineers themselves to the lead design consultant. Project and cost managers also have a proactive role in identifying and highlighting any scope gaps, budget issues, or programme discrepancies both during and at the end of each RIBA stage, ensuring a collaborative approach. Early and strategic engagement of the supply chain, coupled with clear and detailed pre-contract planning, is crucial to ensure that MEP designs are comprehensive, coordinated, and delivered on time and within budget.

Allocate risk fairly and appropriately

'Is all this risk for just a 1% return worth it?' The transfer of risk, especially from clients to main contractors and then to subcontractors, has intensified, raising concerns among contractors about the sustainability of current practices. The discussion highlighted the need for earlier identification and management of risks, supported by more focused supply chain engagement.

Key commercial risks include bespoke contracts with onerous terms, leading to significant legal costs and time spent on negotiations. The use of on-demand performance bonds extending beyond the defect's liability period which poses undue financial burdens. Additionally, lengthy payment terms and the practice of withholding retention significantly impacts contractors' cashflow.

Contractors expressed concerns about being pressured to accept risks prematurely. One noted that a 'growing list of commercial risks' often determines the outcome of tendering processes. During early design stages, main contractors struggle to estimate

costs accurately, and are often held to this initial project sum that increases as the project progresses through Stages 3 and 4.

Insolvency within the industry remains a constant risk, as evidenced in the collapse of MEP contractor, Michael J Lonsdale (MJL), with repercussions expected to last for years. Delays in payment terms further stress the financial stability of businesses.

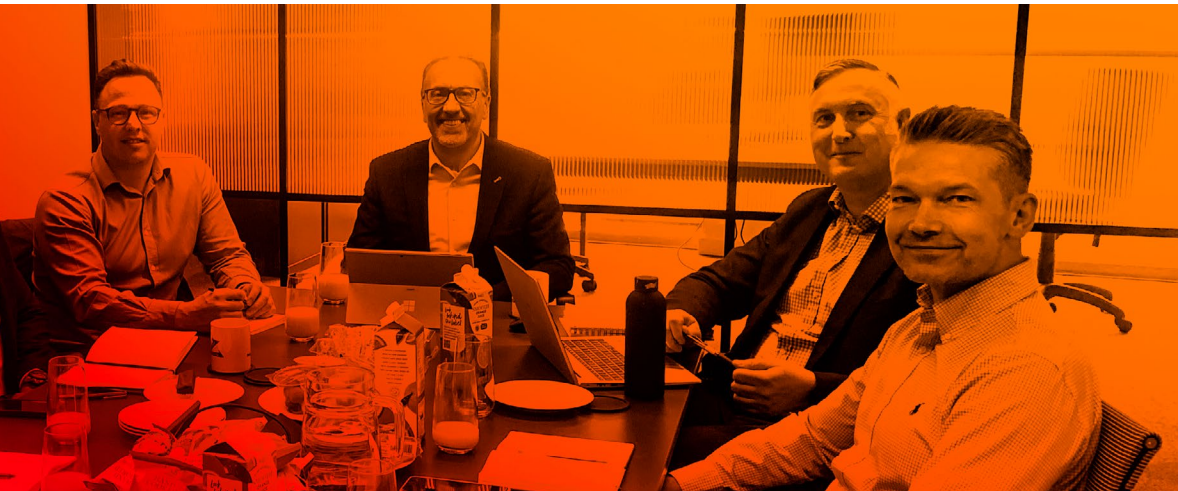
Several contractors pointed out the adverse effects of recent changes in VAT handling on their cashflow, illustrating the broader financial challenges facing the industry.

This shift in VAT responsibilities due to the Reverse Charge rules, implemented in March 2021, has removed the cashflow benefit for trade contractors who no longer hold an additional 20% income temporarily.

The sector faces additional pressures from a shortage of skilled labour and rising employment costs, further strained by the expansion of the data centre sector. However, some stability is returning as material inflation eases, and the industry adapts by integrating services like in-house fire protection, demonstrating its capacity to evolve and mitigate unsustainable practices.

EXIGERE'S COMMENT:

Effective risk management in MEP projects requires early identification and equitable allocation of known risks, supported by strong, experienced teams and thorough contractor selection, to ensure project success and stability.



Pay fairly

'What other industry would accept payment for work 12 months after completion?'

This question highlights the widespread discontent among contractors regarding the customary practice of deducting retention. The common practice of retaining payments was widely criticised. Contractors suggested that retentions, if necessary, should be more strategically applied and released sooner. Innovative payment strategies, including the use of project bank accounts and retention bonds, were discussed as potential alternatives to traditional retention practices.

Many contractors argue that to withhold payments is unjust, noting, 'All my profit is in retention that may or may not be paid to me—how is that fair?'. They suggest that retention should incentivise performance rather than serve as a punitive measure.

There is a consensus that retention should either be abolished or adjusted based on subcontract packages, ensuring contractors are not penalised for others' mistakes. Furthermore, if retention is necessary, it should be released promptly, rather than being held for 12 to 24 months after project completion.

Dislike for retention is universal among contractors. Some main contractors have acknowledged this dissatisfaction and no longer deduct retention from their approved contractors. Conversely, it remains common in some residential contracts to retain these funds for up to 24 months post-completion. One contractor expressed resignation, saying, 'To be honest, we just write it off as a loss; if it comes in, great, but we don't hold much hope.' Another contractor criticised the overall payment terms in the industry, advocating for faster processing times and not the typical 45 to 60 days.

EXIGERE'S COMMENT:

Adopting flexible contracting methods and innovative retention alternatives like PBAs can safeguard cash flow and promote fairness across the construction industry.





Assess the economic and financial standing of suppliers

There was a consensus that traditional tier classifications of contractors are becoming less relevant. Contractors are increasingly evaluated on various factors such as experience, management capabilities and alignment with company values, rather than just financial metrics like turnover. This shift underscores the need for a more nuanced understanding of contractor's design capabilities and stability.

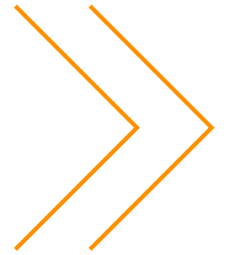
The challenge is to match contractors with opportunities based on relevant, up-to-date information rather than traditional tier classifications, which have evolved significantly over the last 12 to 18 months.

Main contractors increasingly disregard tier systems, focusing instead on a contractor's experience, quality of management, financial stability, and alignment with company values. Factors such as credit rating, cash reserves,

and safety practices are now seen as more crucial than traditional tier labels. Although company turnover is considered, it is not always indicative of a contractor's suitability, as demonstrated by instances like the MJL administration outlined above.

Subcontractors often express concerns about tier ratings, feeling overlooked for significant projects despite high turnovers, suggesting a disconnect in how tiers influence market visibility.

Main contractors value a culture of improvement, emphasising the importance of transparency, communication, and continuous feedback in forming trustworthy relationships with contractors.



EXIGERE'S COMMENT:

A contractor's turnover is not a reliable indicator of their capability or stability to successfully execute a project. We suggest that the concept of tier rating for MEP contractors be redefined to focus on capability, with specific measures and targets established.

Conclusion



In summary, the discussions highlighted the need for a collective team effort to address the highlighted issues in the MEP industry. By evolving and adopting more collaborative practices, along with aligning expectations and processes, the industry can enhance its efficiency and resilience.

Successful projects are built on robust teamwork and adherence to the principles outlined in the Construction Playbook, which emphasises the formation of cohesive teams that share common values and communicate transparently, adopting an outcome-focused approach. Our discussions highlighted a palpable passion and enthusiasm within the industry, coupled with a genuine desire to learn from past experiences and improve practices.

Pre-construction planning

At the pre-construction stage, it is crucial to dedicate more time to meticulously detail and scope the project's delivery requirements and timelines. Regular monitoring of progress is essential to ensure that design stage activities are well-planned, coordinated, and executed with sufficient resources. It is important that these tasks are not simply delegated down the chain unless this is explicitly defined in the procurement strategy and understood by all parties involved. Early, open dialogue and strict adherence to project governance are vital for setting realistic timelines and ensuring team accountability.

Meaningful early engagement with trades is necessary to ensure they fully grasp the project constraints, allowing them to better anticipate and manage risks proactively.

Enhancing communication and engagement

Improving communication within project teams, and across the wider supply chain, is crucial for fostering trust and transparency. Our industry often overlooks celebrating its achievements—a practice that if changed, could bolster pride in our work and attract a more diverse and younger workforce, which is crucial given the ongoing skilled labour shortages and future projections.

Design quality and accountability

Successful projects rely on high-quality design, including MEP design, which necessitates collaborative efforts from the entire team, including the supply chain, to ensure that designs are comprehensive and well-coordinated. The design handover from consultant to contractor occurs at the contract stage, but clarity and transparency is often required regarding outstanding design tasks and associated responsibilities.

We advocate for early and strategic supply chain engagement on complex projects, supported by a well-thought-out procurement strategy and appropriate risk transfer.



Project and cost managers play a crucial role in supporting designers, providing proactive support to ensure that designs meet RIBA stage expectations and that tender documents are comprehensive and detailed.

Adopting BSRIA's BG6 guidelines

BSRIA's BG6 'A Design Framework for Building Services' provides a structured approach to managing design stages and responsibilities. This framework could greatly enhance clarity and accountability in the MEP design process, ensuring that every stage from initial brief through to handover

is well-coordinated and meets professional standards.

BSRIA's guidelines align with the RIBA Plan of Work and set clear responsibilities for design activities, which should be integrated into project tenders to avoid ambiguities and ensure that all parties understand their roles and expectations from the outset.

We also advocate for the industry-wide adoption of BG6 to mitigate design risks and improve project delivery outcomes. It is essential for clients, main contractors and consultants to understand the benefits of implementing such structured guidelines

—not only does it streamline the design process, but it also ensures a higher quality of deliverables.

Risk and contract management

Given the current rate of insolvencies, maintaining and enabling cash flow is crucial. It is essential to consider implementing shorter or custom payment terms, arranging advance payments, and exploring alternatives to traditional retention and fluctuations. Ensuring the timely release of bonds upon project completion can also further stabilise financial operations. Flexibility and a readiness to move away from outdated practices are vital. We should aim for pragmatic and flexible contracting methods.

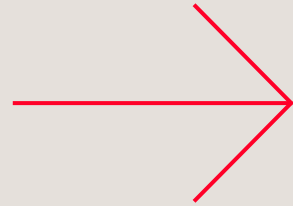
Effective risk management is crucial for the success of any MEP project. It is essential to focus on known, quantifiable risks rather than speculative ones, ensuring that risk allocation is both fair and equitable. Often, the most significant risks arise from unclear client briefs, poorly coordinated design information, unrealistic schedules, and incorrect budgets. To mitigate these risks, it is vital that projects are supported by strong, experienced professional teams.

Rethinking retention and payment practices

Too frequently, risks become apparent only during or after the procurement process. This highlights the need for a more proactive approach in identifying and managing risks early on, ideally supported by focused engagement with the supply chain from the outset.

Contractors play a critical role in this process. They must ensure comprehensive preparation around project timelines, early orders and effective design management, leveraging teams with the right expertise and experience. Additionally, the process of selecting contractors must involve thorough due diligence, focusing particularly on those trades, like MEP, known for their high volatility. By ensuring that contractors with the appropriate skillsets and behaviours are appointed, we can significantly enhance project outcomes and stability.

Regarding retention, the industry needs to reassess its purpose. Should retention be applied only if the project is, for instance, 75% complete and significant deficiencies are evident? Is it possible to implement a retention schedule aligned with subcontract values to facilitate the timely release of funds upon completion of work?



Clients might also rethink how retention is applied, transforming it from a broadly disliked element into an incentive. Developing payment tiers for main contractors who demonstrate timely payments and good performance could encourage better practices throughout the supply chain.

An RICS article from April 2023 suggested several alternatives to traditional retention, including project bank accounts (PBAs), retention bonds, performance bonds, parent company guarantees, escrow stakeholder accounts, and retentions held in trust funds.

While clients need to safeguard their interests, we must strive to find balanced solutions that benefit all parties involved. Adopting more independent methods for managing retention funds, such as through a bond, would be a significant and constructive step forward.

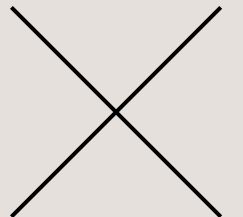
Final remarks

To truly advance in our field, we must shift our focus from placing blame to fostering a culture of collaboration and innovation within the MEP industry. Recognising the pressures and constraints under which all parties, including our fellow consultants, operate is the first step towards improving the systems and processes within which we work.

Encouraging open dialogue, allowing adequate time for design development, and ensuring clear communication of expectations and responsibilities can dramatically improve the quality of MEP design. By enhancing communication and more openly celebrating our successes, we can benefit all stakeholders and significantly enhance the appeal of the construction industry to a broader demographic.

Learning from past projects will empower the industry to attract and retain a vibrant, diverse, and skilled workforce—crucial for sustaining innovation and excellence in MEP design. This approach will ensure that the industry not only survives but thrives in the face of future challenges.

By adopting these practices, we can begin to see a shift towards more successful and sustainable projects, characterised by high-quality designs that meet client needs and comply with industry standards and evolving regulatory requirements. It is through such collective efforts and strategic focus that the MEP industry will continue to enhance its reputation and operational success, to truly evolve.



exigere

+ making
projects
happen

exigere.co.uk

Author



We look forward to our next series of roundtables, where we will discuss these topics and a wider range of issues with our MEP consultancy colleagues to gain their perspectives. Are you keen to get involved? Please contact Simon Willis.

Simon Willis
Partner

07917 837127

simon.willis@exigere.co.uk



Martin Broughton
Partner

07973 941264

martin.broughton@exigere.co.uk



Jarrel Henry
Associate

07432 342963

jarrel.henry@exigere.co.uk



Chris Zerdzinski
Associate

07720 164192

chris.zerdzinski@exigere.co.uk

We would like to thank all the contractors who took part in our roundtable and roadtrip discussions.

BAM

Bancroft

Borough
Engineering

Briggs &
Forrester

Dalkia

GBE

GWE

Kier

Lendlease

Mace

Multiplex

Overbury

Phoenix ME

PIP Services

SES

Sir Robert
McAlpine

Skanska

TClarke