The future
isn't what it used to be

To deliver finance leadership in Construction, you need to see the future first.

Wolters Kluwer

“Where do you see yourself in **five years’ time?”**

We’ve all heard this question. You have probably raised it yourself in recruitment interviews or staff appraisals. The answers tell you a lot about the person in front of you: not just their personal ambitions and priorities, but also their level of understanding on the significance and purpose of the finance function – and where it is heading.

But putting aside the gentle grilling of potential recruits, we think it’s a question that isn’t asked often enough.

What there has been though, is plenty of post-pandemic commentary on how the priorities of finance are changing. In construction, the finance team is no longer expected to just “bring up the figures” or “be in the room” when big questions are under discussion. Increasingly, they are expected to identify issues and opportunities, raise them with the wider business, and, more often than not, help come up with solutions. And to do so earlier – and faster – than ever before.

So if these are the expectations, how are you going to meet them?

What you **do** day-to-day, how you are **perceived** in the wider business, what the finance function is **actually for**: all of this is defined in large part by the technology you have at your fingertips.

It’s impossible to give a meaningful answer to that question (“Where do you see yourself in ‘x’ years time?”) without at least some understanding of the technological capabilities that are likely to be out there.

From addressing specific compliance obligations, through to utilising concepts such as AI (Artificial Intelligence) and ML (Machine Learning), CCH Tagetik is committed to putting the latest capabilities to work for the construction sector.

However...

we can all benefit from a fresh pair of eyes from time to time. That's why we've engaged with Tom Cheesewright, an Applied Futurist and one of the UK's most original thinkers on what the future holds.

Here are Tom's insights on how the finance function in construction organisations can meet the challenges ahead, as well as our own thoughts on the specific tools and technologies that will reshape the finance leader's role...

The future construction landscape imagined

Tom Cheesewright, Applied Futurist

Tom Cheesewright is the Applied Futurist, helping people and organisations around the world to see the future more clearly, share their vision, and respond with innovation.

Tom's clients include global 500 corporations, government departments, industry bodies and charities. He specialises in finding the critical intersections between today's macro trends and the existing stresses in each client's organisation and sector. These are the points at which the greatest change will take place.

Tom's first book, High Frequency Change, published in 2019 was shortlisted in the 'Leadership for the Future' category for the 2020 Business Book Awards. His follow-up, Future-Proof Your Business is now available as part of the Penguin Business Experts series. Tom is a frequent presence across national broadcast and newspaper media.

Applied Futurist Tom Cheesewright's view of the future of The Office of Finance...

CFO RIP: Will we see the end of the finance function within the decade?

What is the role of the finance director when all the traditional finance functions have been automated?

For the last sixty years we have been on a path to automate finance. From the first punch-card powered payroll machines, to the latest AI-powered analytics engines, technology has been employed to streamline transactions and take people out of the process. Finance was one of the earliest adopters of the computer for just this purpose. But could this enthusiasm see the role of the dedicated finance function become obsolete within a decade?

It certainly seems feasible in some parts of the market. But what about construction, not always an industry that has been the earliest adopter of new technology? Even here there may be an acceleration in the application of technologies that digitise and automate the flow of financial information – and more – ultimately, diminishing the traditional role of the CFO.

So, what is the future of the CFO and the wider office of finance in construction? To answer this question, I looked at the pressures and trends facing the finance function in the construction sector today and tomorrow. Where tomorrow's trends intersect with today's pressures, is where I believe we will see the greatest moments of change.

Does automation address the skills crises?

Something finance and the wider construction world have in common is a talent problem.

Multiple reports in recent years have highlighted a shortage of accounting graduates. This shrinks the overall pool but also shows that some of the brightest candidates are no longer pursuing finance as a career path. Almost a third of employers across finance and professional roles reported a struggle to recruit, exacerbated by lockdown[1]. The challenge is particularly acute in finding those with that rare combination of human and technical skills that the modern finance office requires. People who can partner across the business confidently, but also use the latest tools to extract insight and foresight from data.

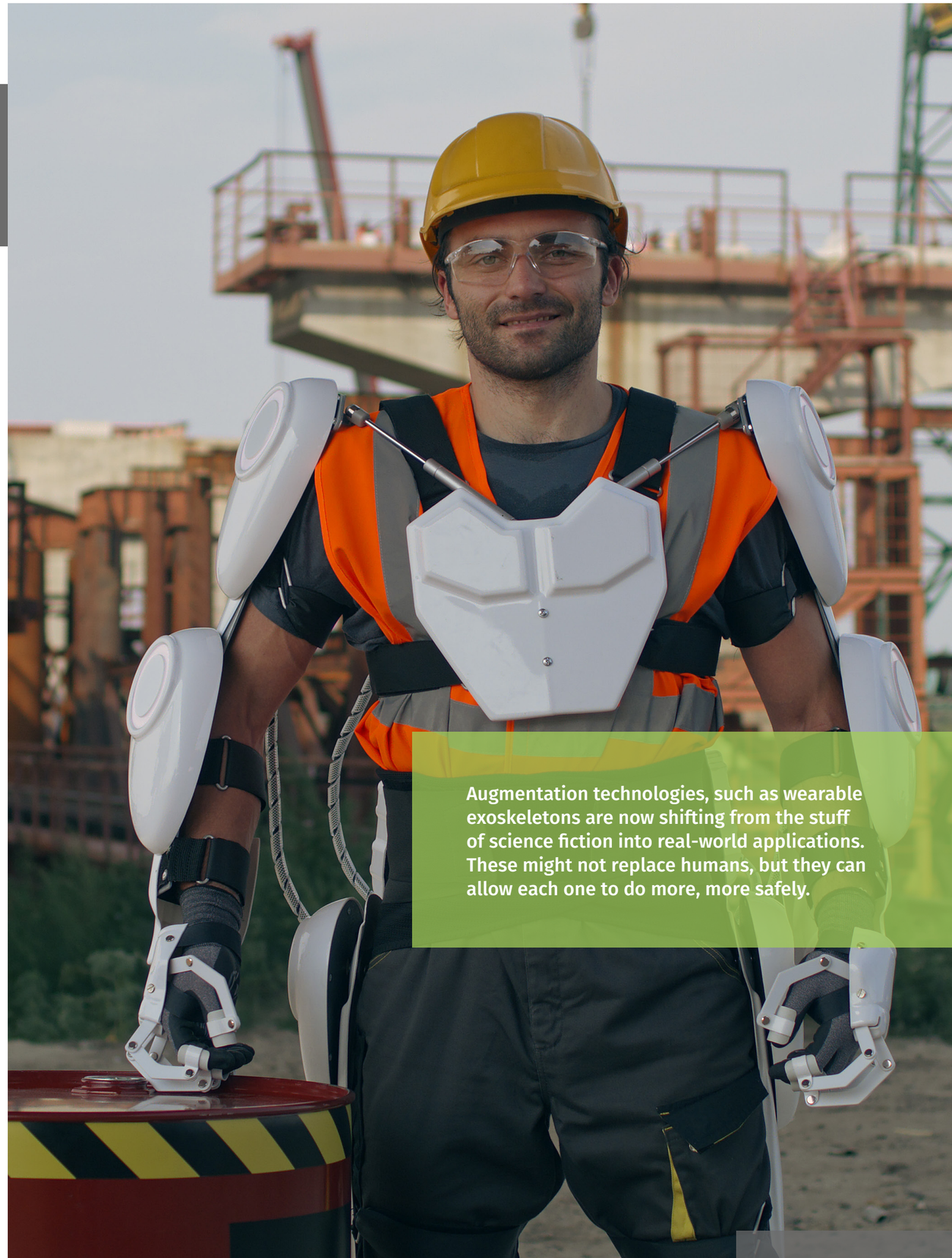
In construction, 44% of site workers are over 45, and the majority of under 35's are not UK nationals[2]. The Construction Skills Network estimates an additional 216,800 workers are needed by 2025 to meet demand[3]. In a post-Brexit world this is particularly problematic. Subcontractor rates are surging[4], and project timelines getting extended.

Can automation address these dual challenges? On site, new technologies and processes certainly present some interesting opportunities. Construction Automation's Automatic Brick Laying Robot recently received certification from the NHBC, stripping some of the perceived risk from this technology. Giant 3D printers for putting down concrete are moving slowly towards the mainstream. The use of more off-site production and pre-fabrication can reduce the skills required on site and allow the use of more standard factory automation systems. And augmentation technologies, such as wearable exoskeletons are now shifting from the stuff of science fiction into real-world applications. These might not replace humans, but they can allow each one to do more, more safely.

In the office, automation is coming rather faster. From robotic process automation (RPA) to strip the friction from operational processes like procure to pay, to more holistic systems that capture and consolidate data and turn reporting from a manual process (preparing a report) into a constant state of readiness (once templated, a report is always available with real-time information).

But is this enough? The reality is that we are a long way from being able to eliminate the human aspect from finance office or construction site roles. In both cases though, technology changes the skills requirement. Is a brickie with expertise in robotics still a brickie? And is a CFO whose expertise is in analysing and communicating with data science and technology still a CFO?

[1] https://financialservicesskills.org/skills-for-future-success/
[2] https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/internationalmigration/articles/migrantlabourforcewithintheconstructionindustry/2018-06-19
[3] https://www.citb.co.uk/about-citb/news-events-and-blogs/britain-builds-back-construction-will-need-216-800-new-workers-by-2025-to-meet-demand/
[4] https://www.ft.com/content/e37e2944-da21-4a2c-af16-9b5c0b70d4eb



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Dealing with complexity

In this data-driven world, the expectations on the office of finance to ingest data, process it, and return answers have never been greater. Shareholders, regulators, and business partners all seek answers, some on a schedule and some ad-hoc. While the digital transformation process progresses, the burden of meeting these challenges remains on human shoulders, with unpleasant periods across the year to balance out budgets and turn out reports against tight deadlines.

Multiple trends are contributing to this complexity. There is growing recognition of a fraud problem in the construction sector[5] that must be addressed. The macro environment is also quite volatile, with inflation, fuel prices, interest rate speculation and materials prices all making for deep uncertainty[6]. With prices and lead times on key materials such as blocks, bricks, and timber spiking by 120% in some cases[7], and average prices climbing 24.5% according to BEIS[8], the challenge for the finance leader is obvious. Success requires constant reassessment of the situation, both for individual projects and the wider business.

The ESG agenda also adds to this challenge. Reduced environmental impact, increased transparency, and improved governance are all net positives for the business, as well as wider society. And there is often finance attached to those pursuing these agendas with the greatest gusto. But someone must account for all these changes, and report on them. Right now, many construction firms are struggling to deal with some of the short-term implications: there is a huge new information set to absorb and factor into calculations and reports.

Networked business

Completing this story of increasing complexity is the increasingly networked nature of the industry, particularly with regards to tackling mega projects. Every project is a collaboration with multiple partners and stakeholders, and a constant flow of digital information between every party.

There is a trend that may help to address this complexity though. One for transparency. Though cryptocurrencies rightly inspire a level of scepticism, the principles on which their underlying technology – blockchain – is built are interesting for finance leaders. In a role that is about collating and processing data, and a business that has an enormous number of inputs and outputs, what better than a connected and transparent system for completing and recording transactions?

Imagine that all the key factors in your future scenarios could be captured and integrated automatically. That there was complete transparency through your supply chains and projects. And that an AI system could help you run those scenarios and extract value. The power would be incredible.

But this prospect promotes the same question: is this the role of the CFO? When the transformation from 'FP&A' (Financial Planning and Analysis) to 'XP&A' (eXtended – i.e. EVERYTHING Planning and Analysis) is complete, is it a CFO we need? Or is it a Chief Analysis Officer and an 'Office of Data'?

[5] https://www.port.ac.uk/news-events-and-blogs/news/uk-construction-sector-is-a-building-site-for-fraud-and-corruption
[6] https://www.theguardian.com/business/2021/dec/27/global-financial-markets-brace-for-a-bumpy-ride-in-2022
[7] https://www.pbctoday.co.uk/news/plant-equipment-supplies-news/2021-building-materials-crisis/96690/
[8] https://www.homebuilding.co.uk/news/construction-materials-shortage

Pricing, productivity & profitability

Even before the current perfect storm of issues, construction firms had an issue with profitability. While smaller firms seem able to pass on rising costs to customers, margins appear to shrink as the company grows along with the size of its contracts[9]. In 2021, Turner & Townsend's International Construction Market Survey 2021 showed the UK had the worst margins of any major market with project margins at around 3.9%[10]. And passing on costs is made even more complicated with high inflation rates and the current volatility in costs caused by challenges in international supply.

From a macro perspective, the outlook is positive, particularly in construction. Residential demand is high, there are big government commitments to infrastructure spending[11] and for now at least, interest rates remain low. But to build sustainable success, these margin issues do need to be addressed. Part of the challenge comes back to transparency: on large and complex projects with multiple suppliers and stakeholders, it's hard to maintain a clear view of every cost, whether it is materials, time, services, or as noted above, fraud. But this may be changing.

The combination of digital transaction technologies and analytics tools that extend out into supply chain data means that – in theory at least – in the future it should be possible to keep a tighter rein on costs and boost margins.

The far horizon

Neither the office of finance, nor the construction industry, is going to change overnight. The technologies outlined above are mostly still in development or at the early phases of adoption. It will take time for the kinks to be ironed out, and for them to become mainstream. Though there is always the possibility of new entrants who recognise the opportunity they represent and try to carve out a space for themselves in the market. Note that many of Silicon Valley's biggest names have shown a strong interest in construction, either of their own facilities or residential properties – even whole cities.

But as we look to the more distant future, ten years and beyond, what prospects do we see for the CFO and the office of finance in construction? One way to look at it is to consider where most time and effort is focused.

The CFO is perhaps the only member of the c-suite whose attention is so divided between past, present, and future. One week you might be focused on the year that has been, reconciling accounts to provide a valid picture for shareholders, and the next you might be running scenarios for a future project. In between, there is the work of daily operations: ensuring smooth processes for payments, collections and payroll.

The CFOs I speak to tell me that still an inordinate amount of time and resource is spent on the past, verifying sources of data and packaging reports, and the present, dealing with the daily administrative load. But this is changing. The combination of process automation technologies, better digital integration, and machine learning to highlight exceptions, means that much of the past- and present-focused work of the office of finance will largely be automated in time. At least by those companies that choose to pursue this route.

Those companies will have a large competitive advantage. Because they will have better data at their fingertips to provide not just clarity about the past and present, but to help them to predict the future. This is where the CFO can add the greatest strategic value today, and it will come to form the majority of their role in the future. Tomorrow's CFO will be able to leverage incoming technologies like quantum computing and further evolutions of machine learning to provide even more rich insight into the company's prospects.

[9] https://mooreandsmalley.co.uk/wp-content/uploads/2019/02/MHA_Construction_Sector_Report.pdf
[10] https://www.constructionnews.co.uk/financial/uk-ranked-as-worst-major-market-for-profit-margins-22-07-2021/
[11] https://www.building.co.uk/news/infrastructure-spend-to-hit-650bn-this-decade-government-says/5113651.article

The end of the CFO...

It is clear that the CFO does not hold the prime position in the board room that they once did. The route from the CFO's chair to the CEO's is now rare. One US study of the top 675 companies showed that less than 8% of sitting CEOs were former CFOs in 2021. Other functions have received greater investment in recent years over finance and have developed a greater level of control and influence over the wider business.

Nonetheless, the office of finance remains a critical hub in the organisation because of its breadth of knowledge. Finance has a view not just on the past, the present and the future, but across every aspect of the organisation.

It sees and analyses data from every project and every function. And it is the only place in the organisation that has even the foundation of the skills to undertake the breadth of analysis that will be required to help organisations adapt to the volatility and complexity that we are seeing today and into the future.

But with the increasing focus on the future, the addition of many more non-finance data streams into the analysis, and the automation of much of the past and present work, is it right to even call it 'finance' anymore? Or does finance become part of a wider data and strategy-focused role?

From CFO to futurist

There is much change on the horizon, driven by the many factors outlined above. The role of the CFO in every sector, including construction, will continue to change. Faced with rising uncertainty and the enduring challenge of high risks and low margins, the strategic role of today's CFO only becomes more important in securing sustainable success in the future of construction. The onus is on them – on you – to take the lead in improving the flow of data, accelerating decision making, and adopting the tools of foresight to maximise the company's profits and prospects.

In many ways, the role of the 'Applied Futurist' provides a good model for whatever we call tomorrow's CFO. Applied Futurism focuses on three key features of the organisation:

- **Foresight:** Can we explore future possibilities to better inform present-day decision-making?
- **Decision-making:** Can we accelerate and augment our decision-making capability so that we can act fast when faced of new information?
- **Agility:** Can we adapt the organisation at speed to new realities?

I believe tomorrow's finance function – really a data and strategy function – will increasingly be focused on answering these questions. Not just because the answers are critical to the sustainable success of the business, but because the current time-sinks of finance activity are also changing. And so, the finance futurist can focus on what's next.

But whether we still call what they – you – do 'finance' is very much up for debate.

"Innovation is the ability to see change as an **opportunity,** not a threat."

Steve Jobs

The CCH Tagetik view

Technological innovation certainly has the potential to reshape how the finance function is perceived within the wider business. The same also goes for how the department's resources are actually spent; with less time needed for a mountain of transactional tasks, and more time for value-added work.

Technological innovation certainly has the potential to reshape how the finance function is perceived within the wider business. The same also goes for how the department's resources are actually spent; with less time needed for a mountain of transactional tasks, and more time for value-added work.

But at the same time, the core responsibilities of finance will always remain in place. These can be divided into three core elements:

- The **processing** element: e.g. recording and facilitating transactions, managing cash flow and providing all the support necessary to ensure your business can conduct its core activities.
- The **stewardship** element: ensuring accurate and timely reporting, with a special emphasis on adherence to reporting standards and other regulations.
- The **strategy** element: the ability to gather relevant data from across the business (and beyond) and synthesize it into plans/forecasts/models that can shape business decisions.

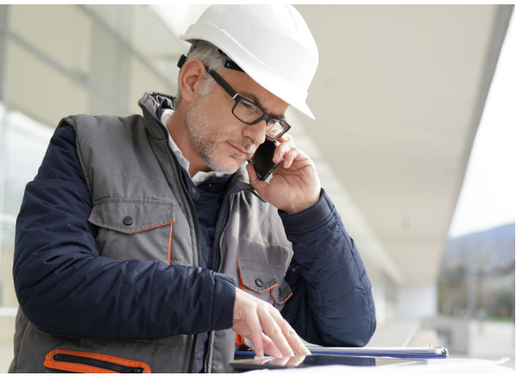
For each element, we think it's useful for finance leaders in the construction sector to understand the broad direction of travel in terms of innovation, the current and pending technologies to be aware of, and their implications for construction businesses...

Processing

Direction of travel: Automation will continue apace – and for this, CFOs should prioritise workflow optimisation in those areas where the bulk of resources are currently being expended.

Key technologies

- Automated processing infused with AI and ML
- Distributed ledger (Blockchain) and smart contracts.



Watch the short demos:

- Consolidation & Close
- Account Reconciliation
- Disclosure Management

Implications for construction

Less time spent on data entering, categorising, reviewing and reporting means more time to put the department's expertise to more profitable use.

This is the simple and compelling case for greater automation within finance. It's of special relevance to construction: in fact, right now, you are probably aware of members of your own team whose expertise would be much better spent on things like collaborating on bid proposals and project outcome analysis rather than menial reporting tasks.

But the benefits of innovation in this area are not just confined to driving departmental efficiency. The wider application of blockchain has the potential to revolutionise areas such as contractor payments and supplies procurement. As well as streamlined workflows for administering transactions, this may result in cost savings for the entire business.

Under the blockchain distributed ledger model, information (e.g transactions and agreements) is stored chronologically across a network of computers, Once published, information on the blockchain cannot be altered. This also facilitates a 'smart contract' approach, whereby agreements are verified, automated (and sometimes even negotiated) via a computerised protocol.

All of this promises fewer late payments, remediations and disputes, less waste and a reduced cash flow risk. With improved capacity to verify and approve payments more quickly, you can also create extra negotiation leeway for the wider management team. Examples include taking advantage of early payment discounts on supplies, and the possibility of agreeing lower bottom-line contractor rates in exchange for shorter payment cycles.

Right now however, construction sector CFOs should be focusing on optimising those processes that eat up the bulk of resources. Common culprits include monthly close and consolidation, account reconciliation and disclosure management.

Stewardship

Direction of travel: Regulators are demanding ever-greater transparency. In response, construction businesses need to ensure organisational data is available, integrated and accurate.

Key technologies

- Automated disclosure
- 'Ready-to-go' reporting solutions designed for specific compliance obligations
- ESG Monitoring and Reporting.

Find out more about ESG Reporting

Implications for construction

As part of our work, CCH specialises in creating pre-built compliance solutions that are deployed in some of the most heavily regulated sectors out there.

To keep on top of their obligations, CFOs need to look seriously at a centralised information hub, where granular operational and financial data is brought together in a single location. When required, this enables you to easily locate relevant data and report in accordance with the regulations.

Technology makes it easier to comply with the rules. But it works the other way, too: if regulators think that it's becoming easier to manage information, they are more likely to require you to disclose that information. We don't know precisely what new rules may be around the corner, but we have a pretty good idea of the direction of travel.

Recently introduced regulations (GDPR and lease reporting, for instance) all have at least one thing in common: they all focus on the need for transparency. Whether in relation to your own company's financial position, the provenance of supplies, the data you have on employees/contractors/customers, it's increasingly assumed that you will be able to provide clear, accurate and granular information, whether it's to regulators, customers or other stakeholders.

We can see the same trend in evidence with the move towards climate-related financial disclosures (CFD). In the not too distant future, businesses – construction enterprises included – will be required to disclose fine-grained information on the impact of their operations on climate change, alongside wider Environmental, Social and Corporate Governance (ESG) disclosures. A big ask for any builder.

Compared to your peers in sectors such as property and facilities management, construction CFOs may feel they have had it relatively easy on the compliance front over recent years. CFD and wider ESG requirements may change this. So if you are merely 'just getting by' with legacy spreadsheet-based reporting systems at present, this is definitely the time for considering an update.

Strategy

Direction of travel: For finance to become a powerhouse of decision-making, the silos between supply chain elements, individual building projects and business divisions all need to be removed.

Key technologies

- Edge computing
- Data capture and visualisation
- Cloud-based data warehousing
- Connected construction/xP&A methodologies.

Planning Beyond Finance – from FP&A to xP&A

Watch the explainer video

Implications for construction

Your project managers know what it takes to keep a build on track. But your best PMs – or even divisional managers – cannot be everywhere at once. Their purview is specific: analysing enterprise-wide inefficiencies is beyond their remit.

This is where finance can and should take a leading role. For this to happen however, you need real-time, business-wide visibility.

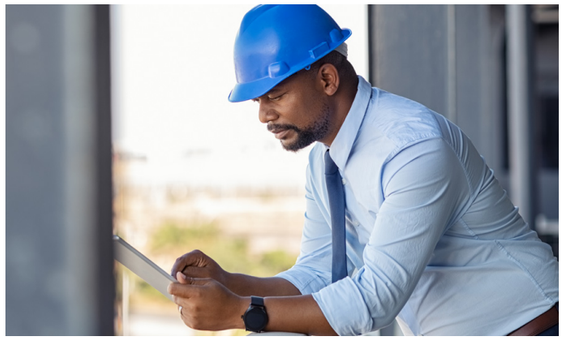
Already, a handful of corporate management platforms – CCH Tagetik among them – support an approach known as **xP&A (extended planning and analytics)**. This gives you the opportunity to integrate all operational planning processes alongside financial planning in a single platform. It offers the ability to hold and extract insights from vast data volumes from across the business, and also has powerful predictive learning and machine learning capabilities for more accurate forecasts.

But how do you actually extract data from scattered and often poorly connected sites and ultimately transform that data into insight? This is where a number of recent and emerging technologies come into play...

On a project level, we have reached a stage where video and sensor data, combined with **image recognition and machine learning technology** can identify unsafe behaviour and inefficiencies in real time. There and then, managers on the ground can deploy remedial measures to prevent unplanned downtime.

But we are talking here about a lot of unstructured data. Several steps are required before any of this data can be subjected to analysis.

As a starting point, construction businesses can take advantage of the **edge computing approach** to data processing. So instead of all data feeding through to a central physical server or cloud-based warehouse, as many processing activities as possible are done on-site. Abbreviated data (e.g. information about the time, location, and category of intervention) can then be relayed to server level. This can mean lower data transmission costs, as well as a lower data storage spend.



Increasingly, there are also some very useful tools that are designed primarily to enable project managers to keep track of deliverables; for example, create workflows, track contractor time, document safety incidents, record closeout information and similar tasks. Data from such tools should be integrated into your corporate management platform.

Businesses should also consider where this data is going to reside. Very often, the most scalable and cost-effective way to future-proof your data architecture is to lift and move this data into a cloud-based data lake. Whatever set-up your business chooses, the key requirements from a finance perspective should be that information from all areas of the business can be viewed in one place, and that optimal management processes are in place to ensure data accuracy.

All of this opens the door to extended planning and analytics. For builders, Deloitte recently referred to this approach as a **connected construction foundation**:

"A dynamic, always on network that provides continuous access to information, analytics and insights..."

Research suggests that companies focusing on "connected construction" analysis can achieve a potential 10% to 30% reduction in engineering hours, up to 10% saving in build costs and up to 20% reduction in operating costs.

Find out more about Predictive Intelligence

Next steps

To prepare the finance function for the future, professionals working within the construction sector should focus on the following:

Guide the wider conversation on digital transformation.

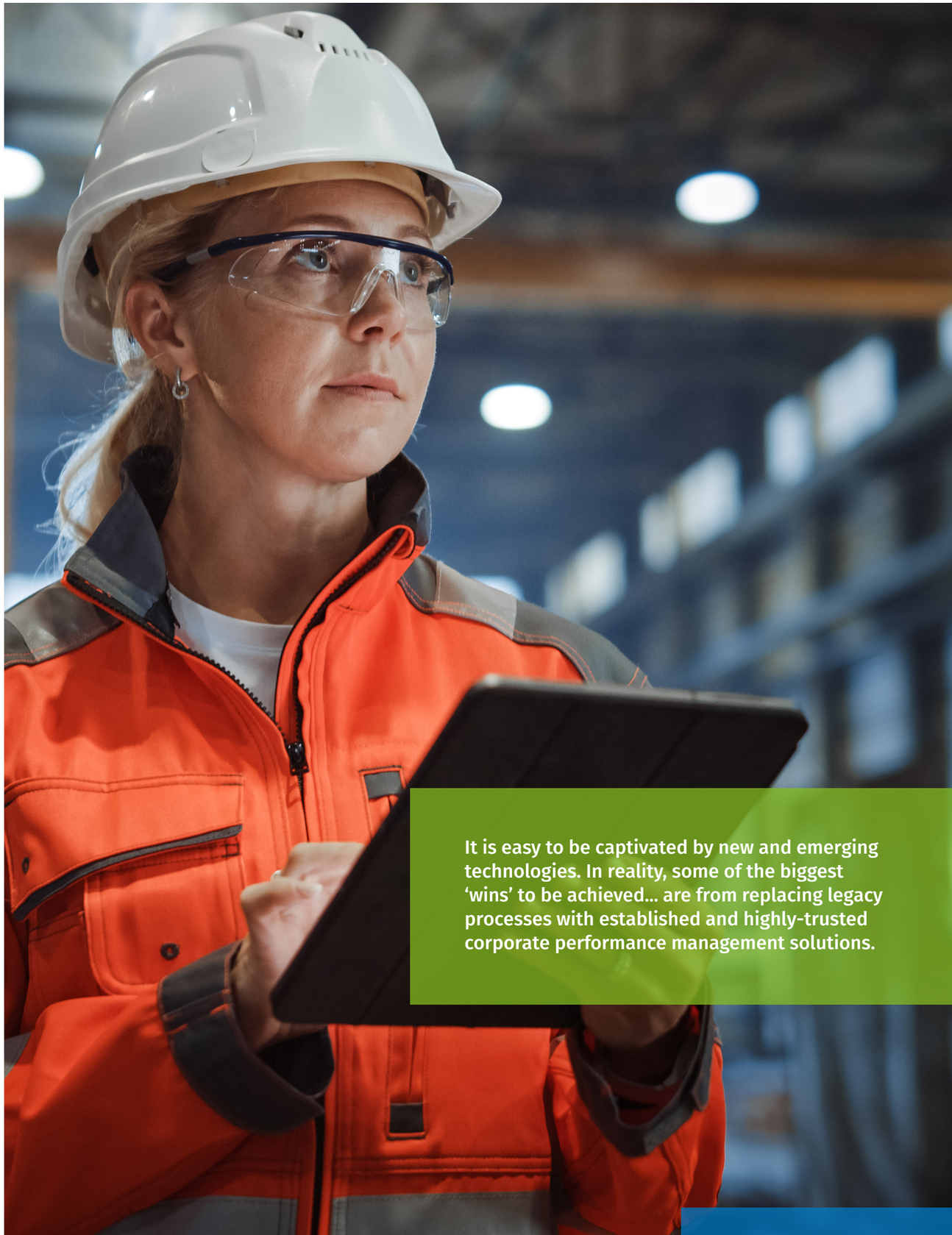
At first glance, the choice of new ‘IoT-enabled’ project management software, robotics or a 3D modelling platform might appear of little relevance to finance. However, almost all of these new technologies can generate potentially useful operational data: the type of information that helps to create a clearer view of the business-wide impact of what is happening at ground level. What data does this solution generate? Is the solution interoperable with CPM software? These are the questions finance should be asking.

Prioritise fixing your biggest inefficiencies.

From machine learning through to blockchain, it is easy to be captivated (and in some cases, bewildered) by new and emerging technologies. In reality, some of the biggest ‘wins’ to be achieved right at this moment are not from hot-off-the-press smart technologies, but from replacing legacy processes with established and highly-trusted corporate performance management solutions. Assess your current workflows to identify those areas that take up the biggest chunk of resources, and prioritise these for optimisation.

Get expert, sector-specific input.

Recognised as a global xP&A leader, CCH Tagetik is already equipping the construction finance function to boost enterprise efficiency, respond to disruption and drive competitiveness. To see how your business could benefit, get in touch today.



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