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Briefing

Vote in Governing Council elections

Elections are now under way for the RICS Governing Council’s 15 geographic market seats, and it’s crucial you have your say. Our profession needs strong leadership and innovative thinking to navigate challenges such as urbanisation, climate change and the digital revolution. These elections will help to ensure we have a diversity of voices setting RICS’ strategy and direction.

Voting is your opportunity to choose who sits on the profession’s highest decision-making body. Please make sure you take part, and encourage others to do so. Voting closes on 21 November. rics.org/elections

Prompt payment initiative tweaked

The Prompt Payment in Government Contracting initiative came into effect on 1 September. It dictates that any organisation bidding for UK government contracts in excess of £5m a year may have to provide confirmation that systems are in place to ensure organisations in the supply chain are paid on time and details about payment performance, including the percentage of invoices paid within 60 days.

Those not meeting the required standard must offer an action plan detailing reasons for not meeting the criteria, and what steps are being taken to improve.

When the initiative was announced in 2018, the government set a standard of 95 per cent of all supply chain invoices to be paid within 60 days. In August this year, however, the Cabinet Office’s small business crown representative, Martin Traynor, told Building magazine that firms that have paid between 75 and 95 per cent of invoices within 60 days in one or more of the previous two reporting periods would not risk losing out on public sector work. He said this is a ‘temporary measure for those willing to work with us to improve’.

Domestic reverse charge postponed

The VAT domestic reverse charge (DRC) that was due to come into force on 1 October this year has been postponed, and will now take effect on 1 October 2020. HMRC said that the change, which will make the customer rather than the supplier responsible for the payment of tax, had been delayed due to concerns raised by industry representatives.

Only those organisations that have already changed their invoices in preparation for the new rules will be affected immediately and HMRC has advised that allowance will be made for genuine errors, as a result of the delayed implementation date.

Affected bodies are advised to start planning for the change now. bit.ly/DRC2020

Share your RICS views

The next RICS Survey of the Profession will take place in January 2020. The survey of the international member base takes place twice a year and helps to drive the direction of RICS and to monitor the organisation’s performance in the key areas of trust and influence. Your feedback is an opportunity to detail your own experience and improve engagement, so we encourage you all to complete the survey and share your views.

Events

COBRA at ARES 2020
14–18 April, Sanibel Harbour Marriott Resort and Spa, Fort Myers, Florida rics.org/cobra

RICS Construction Conference
20 May, Etc. Venues, St Paul’s, London rics.org/constructionconference

Standards

Recently published
International Construction Measurement Standards, 2nd edition rics.org/ICMS
Party wall legislation and procedure guidance note, 7th edition rics.org/partywall

Forthcoming
Change procedures guidance note
Cost prediction professional statement
RICS New Rules of Measurement (NRM) suite update
Data handling and prevention of cybercrime professional statement
Subcontracting guidance note rics.org/standards

Share your RICS views

All RICS and international standards are subject to a consultation, open to RICS members. rics.org/iconsult
Construction doesn’t happen in the office.

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As a founding member of the ICMSC, RICS is planning to publish new standards and guidance early next year to ensure ICMS is embodied in our professional regulation. The RICS Cost prediction global professional statement will incorporate the principles for global benchmarking, cost planning and cost estimating on a global basis using ICMS. Additionally, in the UK, the New Rules of Measurement (NRM) suite will be adapted to encompass ICMS.

ICMS is well woven into rapidly evolving technology, and has been embedded in developing software around the world. RICS will shortly publish an insight paper on the future of BIM and the challenges and opportunities this may bring for construction professionals. We have also encouraged the use of ICMS as a data standard in 5D BIM by mapping ICMS to various, more detailed, national standards and design classifications. Advances in the interoperability of data through artificial intelligence offer the chance to improve data manipulation and cost prediction once international standards are in place.

Infrastructure remains a priority. For many economies, attracting private-sector funding is still key to meeting infrastructure needs and targets. Our upcoming insight paper on benchmarking in infrastructure will describe how using ‘should cost’ data allows a client to establish a robust cost envelope in the early project stages, so subsequent design and methodology developments take place within those set parameters.

Finally, we have begun to establish a set of global construction standards for our profession. This will include principles in project and cost management relating to buildings and infrastructure and the implications of artificial intelligence and new technology, such as BIM and blockchain. Together with ICMS and our other standards, this will establish a global, regulatable framework for project and cost management – an important first for RICS.

As the year ends, it’s clear that the future of construction at RICS is exciting and getting involved has never been easier.

Alan Muse is global director of built environment standards at RICS
amuse@rics.org

What a year! Notwithstanding global and national political change, RICS has seen a notable shift in the way it interfaces with the construction sector, and an exciting vision for construction is emerging.

We now have a truly global structure in place for both gathering intelligence and growing the project and cost management professions on an international scale. As the construction industry evolves, we need to address the need for new skills, greater specialisation and, at the same time, closer integration between specialisms.

We have held construction leaders’ forums centred around the themes of collaboration, technology, financing and procurement. In the UK, for example, we are working with the Construction Leadership Council to develop a value-based approach to construction procurement under the workstream Procure for Value. This will lead to new RICS guidance in this area, which will specifically lead to the development of a digital toolkit for business case decision-making. Measuring social value is an area of increasing debate in construction and our forthcoming RICS insight paper on social value in infrastructure will discuss the core best practice measurement frameworks which are available.

Similarly, we are aiming to gather insights on collaboration to guide thought leadership on interdisciplinary work processes: an area that will be of particular interest to project managers. Although much has been developed regarding team coordination in construction, effective interdisciplinary working requires a different approach.

We are also aiming to increase global member engagement through the development of new digital forums. This will enable conversations between global RICS professionals and other stakeholders in construction in specific subject areas.

Numerous important standards projects were either completed or initiated this year. In response to the adoption success of International Construction Measurement Standards (ICMS), the ICMS Coalition (ICMSC) extended the scope of the standard to include life cycle costs. ICMS second edition was published in September and presents a platform for further developing cost management on a global basis (see p.8).
Going global

The second edition of the International Construction Measurement Standards will have a significant impact on life-cycle cost analysis for constructed assets

Anil Sawhney

The International Construction Measurement Standards second edition (ICMS 2) launched in September and supersedes ICMS 1st edition (ICMS 1).

ICMS 1 was launched in July 2017 and published by the ICMS Coalition (ICMSC) – a global group of 47 professional and not-for-profit organisations. The group works together to develop and implement international standards for classifying, defining, measuring, recording, analysing and presenting entire construction costs at a project, regional, state, national and international level.

ICMS 1 were developed to harmonise global cost reporting across markets, regions and subsectors by setting out how to classify, group and report construction project costs in a structured and logical form. They were designed to be used for buildings, civil engineering and infrastructure projects of all sizes and, where applicable, with building information models.

For RICS, ICMS 1 was the first step in creating a seamless, global, pyramidal hierarchy of construction cost classification and offered very high-level global cost benchmarking that connected to granular, local cost measurement.

Figure 1. International Cost Measurement Standards cost classifications, incorporating life-cycle costs
ICMS 2 is a response to industry feedback from ICMS 1 and resulted in the formation of a second independent standards-setting committee (SSC). This committee included some of the professionals who had developed the first edition, combined with additional experts in life-cycle costing. The SSC worked virtually and met as a group twice: in Dubai and London. Both editions of the international standards have adhered to a transparent, detailed and inclusive development process, and around 300 comments were received and reviewed during the consultation period for ICMS 2.

**Life-cycle focus**

Life-cycle costs play a key role in the financial management of construction projects. They allow critical decisions to be made relating to longer-term and capital costs that ultimately affect asset performance, longevity, disaster resilience and sustainability. ICMS 2 is a high-level cost model for recording the life-cycle costs of a project and the constructed asset.

In ICMS 1, capital construction costs, associated capital costs, and site acquisition and client’s other costs combine to form a total capital cost. In ICMS 2, these costs are viewed from a whole-life costs (WLC) perspective (see Figure 1). Acquisition costs (AC) appear under the non-construction costs bracket. The life-cycle costs (LCC) are:

- **construction costs (CC):** costs incurred by the construction works
- **renewal costs (RC):** costs of renewals included in the capital rather than the revenue budget
- **operation costs (OC):** costs incurred in the day-to-day operation of a built asset
- **maintenance costs (MC):** costs of keeping a built asset in good condition
- **end-of-life costs (EC):** costs incurred when planning and managing the next step for a building when it is no longer in use.

Those interested in simply presenting the construction costs can use the appropriate template provided with ICMS 2. The broader cost classification in ICMS 2 enhances the abilities of project team members to achieve the following key aims, as defined in ICMS 1.

- **Comparative benchmarking:** construction and other life-cycle costs to be consistently and transparently benchmarked.
- **Options appraisal:** causes of differences in life-cycle costs between projects to be identified.
- **Investment decision-making:** informed decisions on the design and location of projects at the best value for money.
- **Certainty:** project-related data to be used with confidence for financing, investment and decision-making.

ICMS 2 is to be used by designers, constructors and facilities management experts, with the guidance of cost management professionals (see Figure 2).

**Hand in hand**

By adopting ICMS and requiring project stakeholders to work to these transparent standards, public- and private-sector project sponsors can set up reliable project budgets, better monitor the financial health of projects and ensure value for money is demonstrated over the life of the assets.

Since the launch of ICMS 1, several key public sector stakeholders – including the European Union and Infrastructure Ontario – have registered their support for ICMS. Earlier this year, in a bid to gain maximum benefit from the UK government’s investment in infrastructure, Highways England adopted and began implementing the standards (bit.ly/ICMSpartners).

The publication of new RICS standards and guidance, including the forthcoming Cost prediction professional statement, will embody the international standards from ICMS 2, in turn allowing both consistency and integration.

As the construction industry continues to develop, the importance of informed and whole-life project decisions grows. ICMS 2 – the only international standard for classifying and benchmarking costs throughout the life cycle of all types of buildings or infrastructure – provides cost certainty to allow for whole-life success. This is of particular significance to the sponsors with a global footprint of constructed assets, who are mandating that the supply chain either gets up to speed or gets left behind. RICS will continue to monitor feedback to the standards and ensure continued improvement.

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Related competencies include: Project finance, Quantification and costing (of construction works)

Further information: rics.org/icms
There has been considerable focus over the years on developing the tools and techniques for planning, measuring and controlling project delivery. In our view, this emphasis on the mechanics of project management has been over emphasised at the expense of focusing on the leadership of people and their performance. As projects become increasingly complex, a traditional view of project management is no longer enough and a rebalancing of technical and behavioural capabilities is required.

Project leadership, both client- and supply-side, is becoming a strategic issue for businesses and government. The pool of people with the necessary experience and behaviours needed to run major, complex, multifaceted and interconnected projects successfully — many of which are construction and infrastructure — isn't expanding to meet demand.

The growth of the knowledge economy, demographic changes and the increasingly rapid turnover of experienced and senior project professionals have all contributed to the pressure on succession planning, selection and recruitment, learning and development. Organisations are compensating for this by developing project leadership talent in house, as well as recruiting new talent from outside.

Our research report *Project leadership: skills, behaviours, knowledge and values* helps to refine the understanding of project leadership in terms of capability building for project professionals and their organisations (see box below left).

**Finding a definition**

The literature review we conducted as part of the research revealed that traditional views of leadership tend to focus on a formalised role, title or hierarchy or on centralised command and control. These views have typically emphasised the personal heroic model of leadership, often reflecting the cult of the individual. However, these views have continued to evolve with newer, less autocratic models of leadership placing increasing emphasis on social and ethical behaviour.

A major difference for professionals moving into a leadership role is leaving behind the day-to-day issues or working in the project and taking a more strategic stance, that is, working on the project. This involves becoming slightly removed from the project to be able to view the bigger picture. Standing back from the project detail allows a deeper understanding of the project that comes from, as one interviewee put it, ‘emotional knowledge’, while having a comprehensive view of the stakeholders,

---

**About the research**

We conducted in-depth interviews with 38 individuals across five multi-national organisations – BAE Systems, IOVA, Jacobs, Shell and Siemens – chosen because of their reliance on complex projects for the delivery of strategy and performance. Interviewees had experience of a variety of roles: from the aspiring leaders delivering smaller projects to the most experienced project leaders, heads of profession and project sponsors responsible for complex projects with budgets of more than £1bn. The combined project experience of the interviewees exceeded 500 years.

We looked at project leadership from a personal perspective and the experience of the project leader, rather than what the organisation believes project leadership should look like. In doing so we identified skills, behaviours, knowledge and values that project leaders believe they need in order to deliver major, complex, novel and contentious projects successfully. The challenges of their work are no longer focused on the technical: they rely less on the technical tools and techniques acquired early in their careers, and more on the improvisation of leadership skills that have been learned in practice.
The Thames Estuary Asset Management (TEAM2100) programme is a ten-year £308m programme of works to refurbish and replace tidal flood defences along the Thames. It is being delivered by an integrated and co-located team formed from the Environment Agency, Jacobs, Balfour Beatty and a tier-2 and tier-3 supply chain. As programme director, I lead the delivery partners.

Moving from a project-based role to a programme-based role requires a different mindset and a different set of skills. When I was delivering projects, I knew every detail but this is not physically or emotionally possible now that I’m responsible for delivering a major programme. You quickly understand that the performance and motivation of your team are critical success factors. I spend a lot more time on relationships, networks, guidance, coaching, vision and creating the right environment. It took a while to transition from a project manager approach to a programme leader approach.

With a highly diverse team of more than 250 staff, creating the culture and environment to enable the team to work effectively is key. We have focused on:
- staff development and effective working between personality types
- creating the correct physical environment to enable collaboration, including break-out areas, branding and visual messaging
- leading by example from day one, behaving as we expect others to behave.

As with any long-term relationship, challenges arise and both individual and organisational conflicts can occur. We’ve adopted a simple principle: that conflict resolution needs to be fair. This is stated in our contract, giving us a contractual obligation to resolve challenges in the spirit of shared dependency, cooperation and collaboration.

The future of infrastructure delivery is exciting, and improvement in efficiency will see us moving away from traditional site construction trades to a production and manufacture approach. Embedding digital technologies into our programmes will also bring new challenges in terms of programme complexity, data management and digital interface management. I see the role of project leaders changing, with networks growing wider, working with new supply chains in sectors that were previously remote from engineering, and engaging more with tier-2 and tier-3 suppliers where innovation and domain expertise exists. It’s an exciting future, but we will all need to learn new skills.

Matt Kuhn is programme director at Jacobs matthew.kuhn@jacobs.com

Case study: TEAM2100

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Matt Kuhn is programme director at Jacobs matthew.kuhn@jacobs.com
The immediate conclusion for those in, or moving into, project leadership roles is there isn’t a single style of project leadership

This didn’t mean they were unaware of activities inside the project, far from it, but these internal tasks were delegated to other team members. The role of the project leader was recognised as focusing on leading the team and removing any blocks to progress: creating and building a strong project team was raised as a key competency. Furthermore, the experienced project leaders interviewed understood that their leadership style, at any given point, depended on their ability to read the situation and context, and be able to respond flexibly to the situation.

Eight project leadership survival skills were identified as a result of the research (see box below). We don’t expect these skills to be a complete surprise to an experienced project leader, but they will help to provide focus and clarity for existing and aspiring project leaders and to those delivery organisations that depend on project leadership capability. They will also allow project professional bodies to consider the competency range for their bodies of knowledge, along with competency frameworks and the spectrum of accreditations and qualifications.

**Competency frameworks**
Organisations use competency frameworks to help shape and foster capability. As part of the research, we undertook a comparative analysis of 15 competency frameworks provided by various organisations that covered project management, project leadership and general organisational leadership competencies.

Our analysis showed a number of competencies across all three areas:
- communication
- decision-making
- execute
- risk
- self
- stakeholders
- teams
- vision and purpose.

We identified competencies specific to the project leadership capability frameworks, which were not reflected in either the project management frameworks or general organisation leadership frameworks, as:
- building and retaining credibility
- controls
- situational leadership.

Finally, there were some competencies that all the project leadership competency frameworks analysed had in common:
- communication
- collaborative working
- relationship building
- trust.

We noted, in particular, the gap between what the organisation had mandated as project leadership competencies and those described by our interviewees as being most useful to them. On reflection, we realised that, as a result of our approach to the interviews, interviewees were encouraged to discuss their own experience from a personal perspective rather than to simply recount organisation or project good practice. We had captured direct experience of being what one interviewee called ‘in the thick of it’. Many of the responses reflect insight gained as a result of navigating challenging situations, that is, improvisation learned in practice as opposed to theory learned from textbooks or qualifications.

**Making the transition**
The most immediate conclusion for current project leaders and individuals making the move into a project leadership role is that there is no single best style of project leadership. The style of leadership required depends on the context and circumstances.

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**Project leadership survival skills**

1. **Anticipating**: being prepared for any events that could potentially knock the project off course.
2. **Judgement and decision making**: making timely decisions although information may be incomplete.
3. **Seeing it all**: being aware of what is going on inside and outside the project.
4. **Building credibility and confidence**: creating belief in the leadership and team.
5. **Being organisationally intelligent**: knowing when and how to engage with the organisation; understanding how power and influence are used to benefit the project.
6. **Learning**: being open-minded; reflecting on and developing their own performance – and that of the team.
7. **Resolving conflicts and collaborating**: building a common purpose despite the rules and restrictions of the contract, and ensuring strong collegiality across the supplier base, delivery teams and clients.
8. **Creating the project culture and environment**: deliberately defining and creating the working culture and environment to succeed.
of the situation and on the strengths and capabilities of the individual.

The transition from project management to project leadership can be difficult, raising the question of whether good project managers can necessarily become good project leaders. Any career transition – be it a promotion or a new role – carries challenges, issues and ambitions about leaving the familiar and embracing the new. Project leaders are typically promoted on the basis of their technical project management ability and will need to refocus their behaviours to work on the project as opposed to in the project. Interviewees identified the importance of letting go of the familiar technical activities that come with project management to help them transition into a new and enhanced set of leadership skills and behaviours.

According to analysis by the UK’s National Audit Office, good project leadership doesn’t guarantee a project’s success, but the lack of it is one of the most cited factors in unsuccessful projects. It is clear that leadership competencies should not just be left to those anointed with the title of leader, but that all project managers require leadership skills – and these skills and behaviours can be distributed across the project at all levels.

The project leadership role is not just a case of project management at a more senior level: our research demonstrates clear differences in skill requirements and reveals that the project leadership role is a function in its own right.

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Related competencies include:
Communication and negotiation,
Leading projects, people and teams,
Managing projects

Further information: This research was supported by the APM Research Fund. Download the report at bit.ly/APMPL

Case study: London heritage programme

Leading a team during the initiation phase of a major heritage programme in London has demonstrated the leadership challenges associated with major programmes. My role is to lead the team, providing the programme management capabilities as part of the programme delivery team and working with the client, architect and engineering team. Developing the governance, structures and organisation of the programme are key responsibilities.

Three aspects have characterised this phase of the programme and influenced the leadership approach: uncertainty, organisational instability and complexity.

Uncertainty is inevitable during the initiation phase. Requirements are not yet clear and there are funding and operational challenges before the programme governance and structure has been set. These issues create pressures that can expose people to situations and decisions that challenge deeply held personal values. Leadership must provide direction and vision.

To help focus the team on the programme’s end goal – its purpose, benefits and the needs of the eventual users – we employed a solution-focused approach as a collaborative, workshop-based tool for helping the team to maintain progress. My experience from working on other major programmes – such as HS2 – at a similar stage was that leading the team to develop the vision and the route to the end goal collaboratively can be a powerful way of creating a sense of collective purpose. However, it requires sound leadership.

Creating a major multibillion pound programme from a standing start in a short timescale results in a high degree of instability. Leading in this context therefore involves a considerable amount of collaboration, patience and understanding between all parties. We found that working as an integrated team and ensuring the activities of the team are aligned with incentives, values and vision, enabled us to be better placed to respond to the uncertainty.

There are many causes of complexity on programmes: on this programme it is the context, characteristics and culture of the client and user community. Leading in this environment has required a more empathetic approach than might be expected in the mid-delivery stage on a major piece of economic infrastructure. Personality profiling, facilitated conversations, and reviews of language tonality and behaviours are regular on the programme.

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Since the drone incidents at Gatwick and Heathrow Airports in 2018, and the public concerns relating to terrorism, privacy and security, the perception of drones has hit rock bottom – as is reported in the PwC research paper Building Trust in Drones (bit.ly/PwCDroneTrust). Concurrently, however, there are numerous predictions for the growth and value of the industry, and the benefits drone use brings to the economy and society.

Public buy-in is therefore going to be essential if the industry is to fulfil this potential. Usage, if not public image, is certainly on the rise: in mid-2014 there were 359 people in the UK permitted to operate drones of up to 20kg. As of February this year there were around 5,000 permitted operators in UK airspace.

**Drone variation**

Drones currently come in a number of different types:
- fixed-wing
- rotor
- multi-rotor
- hybrid, akin to a helicopter with wings. The latter three forms have vertical take-off and landing (VTOL) capability. In terms of safety, a six- or eight-motor multi-rotor drone will usually keep flying when one or possibly even two motors fail; however, a quadcopter, with four motors, will fall to the ground if one of these fails.

Multi-rotor drones can hold their position in the air, assuming they have an on-board global navigation satellite system (GNSS) as most now do. This makes them particularly useful and safe in confined areas, those that require controlled use, such as towns and cities, or when inspecting infrastructure, such as buildings or bridges.

The typical drone is battery-powered and manoeuvred by propellers. Flights are limited in range and time by the battery life, payload, line of sight and regulatory constraints, and a dependence on radio signal to the controller. Drones now come with specifications and features previously only available on high-end and expensive vehicles, such as avoidance sensors, gimbals – a pivoted support that allows the rotation of an object about a single axis – and microprocessors, which are used for holding a camera or sensor and stabilisation.

As a drone’s flying capability and ability to carry a heavy payload reliably are key,
manufacturers are reducing sensors to a suitable weight.

There are several advantages to using drones in a surveying environment:
- small, flexible and easy to handle compared to more traditional equipment
- comparatively low in cost
- produce no direct emissions
- provide information in close to real time, offering a better understanding of the environment and dynamics
- improved safety
- decreased costs and reduced survey time, improving site or asset management
- operators can work around difficult weather, such as clouds, that usually limit other remote-sensing platforms.

Considering all these advantages, it is no surprise that advanced research into the use of drones is taking place across a number of domains. These include energy, safety and security, construction, mining, quarrying, oil and gas, agriculture, insurance, real estate, industry and transportation, and environmental monitoring.

Increased research is accompanied by the growing standardisation of product manufacturing, operations and procedures, data processing and analytical software.

As time progresses, and with the standardisation of drone technology such as flight planning and geo-fencing — a software feature that uses GNSS to define boundaries — along with the continued evolution of regulations, drone use will become more widespread and efficient. Standardisations will result in reliability, while analysis methodologies will see the more risk-averse user adopt drone technologies into their existing workflows.

Significant growth of the industry is already under way and the commercial use of drones is gaining momentum as many domains now see them as another important tool — with the added benefits of decreased cost and increased reliability. As the hardware integrates with the development of new software, uptake by individual operators and large organisations will increase further.

**Industry regulation**

Regulations are currently being developed to meet the UK’s Civil Aviation Authority (CAA) aim to enable safe integration of all drone operations into the UK’s airspace. Currently, the drone industry is regulated under the Air Navigation Order 2016 and the Air Navigation (Amendment) Order 2018.

Because the former regulates air navigation, flights inside buildings for roof or internal building inspections, or areas where the drone cannot exit into the open air, are not subject to legislation. Some of the provisions in the amended order covering indoor use came into force on 30 July 2018, with more due to take effect on 30 November this year.

At time of writing, the government also intends to bring forward a new draft drones bill. This follows consultation last year to develop policy and regulation around the use of drones and to set out the next steps needed to ensure the safety and accountability of the industry.

Surveyors need to be familiar with the current drone regulatory environment and the requirements of using drones and the data they collect. These requirements include general aviation rules that apply to everyone, regardless of whether they are flying a drone or not, including:
- a person must not cause or permit an aircraft to endanger person or property.
- These offences can result in a five-year prison sentence, an unlimited fine or both.

**Using a drone in your business**

Using drones can mean improvements at all points of the project triangle: cost, time and quality. The use of drones on construction sites has increased as the benefits of drones — and the data they can derive — are realised.

Drone data can, for instance, be used to produce accurate topographical and 3D maps that are potentially suitable for input into building information modelling (BIM) or other systems to allow for data analysis. Many companies report that using drones for mapping can reduce the time required on site by 25 per cent compared to more traditional survey methods. Surveying by drones can also produce far richer data and avoids surveyors having to walk around a busy construction site.

Drones with optical sensors can provide a useful snapshot in time to monitor construction works and help to verify work carried out by subcontractors. This helps with both time management and dealing with risks, such as health and safety, and any unforeseen project issues. Drone
Using drones on construction sites can mean improvements at all points of the project triangle: cost, time and quality

Before investing in a drone, though, there are a number of points to consider.

- Check the type and quality of the sensor.
- Find out the level of maintenance that will be necessary.
- Ascertain how many motors you require and how long they will last.
- Check the battery shelf life.
- Find out the cost of replacing batteries.
- Check the drone’s safety features. Does it have GNSS and a return-to-home function? Is geo-fencing provided?
- Check the maximum wind speed in which the drone can operate.
- Ensure there is a warranty.

You should also bear in mind that, if you are planning to fly drones in rural areas of the UK, you will need to complete the required ground school training and obtain a permission for commercial operations from the CAA. Further qualifications may be required for use in urban areas. You must then maintain a certain level of pilot competency by flying regularly — at least two hours every three months — and ensure you have the commercial business pipeline to maintain this regular usage.

Data is, of course, another key consideration. You may start producing large data sets that require additional digital storage hardware or, if using software or storage that is based on the cloud, you will need access to a high-speed internet connection. Cyber security is an issue to be aware of, especially if there is involvement with critical infrastructure, such as nuclear power plants or military sites, or other sensitive projects. To achieve more advanced results, such as producing 3D data, you may need to gain a further qualification or training and purchase additional processing software.

You will also need to ascertain how many employees will be flying the drone. Depending on your business, several qualified pilots may be required to fly the craft, or it may make more sense to train just one person if you are not likely to be using it regularly. Another option could be to use external contractors, or else a hybrid business model where the more straightforward drone requirements are carried out in house and external experts are used for more advanced requirements.

Finally, you should consider costs and risks. If you plan to use a drone for a relatively simple purpose, with a tried and tested product and data collection methodology, then the drone itself will be fairly straightforward and affordable, with an outright cost of around £1,500–£2,000. There are also, however, the hidden costs of drone use to acknowledge, such as insurance costs, additional computer hardware for data storage and processing, and ongoing maintenance costs and time inputs.

Risks should be managed responsibly, so make sure you ask yourself at the outset, ‘How do I minimise the risk to my business and manage liability — before something goes wrong?’

The future

Links between the different parties — manufacturers, practitioners, regulators, governments and standards bodies among others — have grown stronger in recent years, and can serve as the foundations for the growth of a safe, secure and fully accountable drone industry.

Drones and associated workflows will eventually come as a complete package, as some do already, ensuring compliance with standards in manufacturing, pilot competency, safety and regulation, as well as approved methodologies for automated data collection and analysis.

Ongoing developments in regulation will ultimately ensure safety, security and accountability. Advances in artificial intelligence and machine learning will see automated approaches to analysing gigabytes of image data. This will be particularly useful in the infrastructure inspection market.

As the dots are joined over the coming years, drones are likely to be used for everyday tasks such as fertilising crops, monitoring traffic in urban areas, delivering packages to remote rural regions, or carrying out express deliveries in urban areas and emergency deliveries of medical packages, such as defibrillators or blood.

In the UK, NHS Highland is working with Highlands and Islands Enterprise and the University of the Highlands and Islands on a project that could see drones pick up and deliver items across its regions. In some areas drones may be faster than current transport methods, and there is the added advantage of reduced carbon dioxide emissions in cities. Research is currently being carried out into using drones to take water samples from lakes and rivers, air samples from volcanoes, carry passengers, and into the development of drones with nozzles for 3D printing, among other potential uses.

If drones are to be integrated into society, though, we need to ensure their safety, reliability and accountability. The necessary systems are developing apace as technologies improve and regulation is strengthened.

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Related competencies include: Building information modelling (BIM) management, Construction technology and environmental services, Legal/regulatory compliance, Managing projects

Further information: Insight paper Drones: applications and compliance for surveyors is available at rics.org/dronesinsight. The RICS online training course Drone Technology in Construction offers one hour of CPD – rics.org/dronetraining
When the design matters

Under the directorship of Anthony Spira, the Milton Keynes Gallery has reimagined itself as a kind of twenty-first-century leisure centre, where culture acts as a catalyst and frame for art, yes, but also social and community activities. In the hands of architect 6a working with artists Gareth Jones and Nils Norman, the project became something rooted in place, expansive in its outlook and engaging in its form.
Our historic environment is the product of people’s past interaction with their surroundings, and is made up of buildings, monuments, buried sites, settlements and landscapes. Historic places may be on land or underwater, and range from the extraordinary to the everyday. Any development that affects the historic environment and requires planning permission is also likely to require consultation from a heritage professional.

In many jurisdictions – including the UK – planning policy emphasises sustainable development that benefits the economy, society and the environment and requires, among other things, the protection and enhancement of the historic environment. Archaeological input is part of this development process.

Archaeologists work alongside other disciplines in the built and historic environment and, by deducing how people lived in the environment historically, are able to add value to its potential development and the wider society.

A staged approach
Legislation and policy relating to archaeology is complex and varies between jurisdictions. As a starting point, there are some basic principles in the UK – any harm that potential development is likely to cause may need to be mitigated by redesign, or to be offset by the new knowledge and public understanding that arises from archaeological excavation of the ancient remains that construction will destroy.

Archaeologists, by deducing how people lived in an environment historically, are able to add value to its potential development

Development planning decisions need to be informed by a staged approach, with a good understanding of the heritage assets present. If a project seems likely to affect above- or below-ground assets or their setting – whether or not they are scheduled, listed or otherwise designated – an archaeologist should be engaged. The sooner the potential archaeological risks of the site can be assessed, the sooner they can be factored into the project planning.

An initial desk-based assessment will establish the parameters, that is, the risks and opportunities associated with the historic environment for a proposed development. A desk-based assessment is not always sufficient, however, and further evaluation may be
necessary. In these situations, non-invasive surveys using scanning methods, such as lidar or geophysical prospection, can be used to identify the nature of below-ground assets. The results of these surveys often need further evaluation, through trial trenching or similar exploratory interventions into built fabric. But, new technologies and techniques are changing the way these evaluations are conducted, and formulaic approaches may be inadequate — or excessive. Once the assessment and evaluation are finalised, masterplan designs can be modified and negotiations with the planning authority can fine-tune an appropriate response.

If the proposal reveals considerable impact on heritage assets, the evidence supporting the planning application can also indicate how this impact can be mitigated or offset. Mitigation is normally achieved by design — for example, by reorienting a scheme so that foundations and groundworks are restricted to less sensitive areas, and so that important archaeological remains are protected undisturbed below public open spaces.

Offsetting can also be a consideration if the demand for development outweighs the arguments for preservation. In these cases, the destruction of assets can be permitted if compensated by an improved public understanding of the history of the site, area or community. Normally this would involve excavation — itself destructive — or another type of investigation, such as fabric analysis of standing buildings. Archaeology can enhance significance, if the value of new knowledge is judged to outweigh the damage to fabric.

**Excavation, analysis and dissemination**

If a development is considered to affect heritage assets, the planning authority will impose planning conditions, which will usually be staged. Typically, these conditions will require an agreed programme of works.

A programme of works covers many different approaches that can vary from watching briefs to full excavation.

- **Watching brief:** this allows an archaeologist to monitor demolition and groundworks and, if necessary, interrupt the development to allow for archaeological investigation. This potentially inexpensive approach may be attractive if the likelihood of significant discoveries is low, as reacting to unknowns is hard to control and may result in unanticipated costs and delays.

- **Excavations:** these can be planned to dovetail with the development programme. Excavations allow experts to retrieve evidence from the past, and answer important questions addressing national or local issues. They also provide an opportunity to engage local and other communities on the benefits of the development. Initiatives vary depending on the proposal but can involve opportunities for the public to participate in investigations, exhibitions, tours, lectures and school events.

The agreed programme of works is often provided in a project brief issued by the planning authority. A written scheme of investigation (WSI) sets out how the brief is to be achieved. The Chartered Institute for Archaeologists (CIfA) provides a standard for this document that demonstrates knowledge of the geological, topographical, archaeological and historical background — and the research aims and methods for the project.

The WSI will also specify the collection and disposal strategy for artefacts, ecofacts — organic material found of archeological significance — records, and arrangements for conservation and the post-fieldwork process of assessment and analysis. It will set out:

- publication and dissemination proposals, detailing how the needs of different relevant stakeholders will be met
- plans for public engagement and communication, where the archive will be deposited
- options for the client to enhance its public relations or corporate social responsibility profile.

The WSI will also detail the staff associated with the project, their competencies and relevant professional accreditation, training
Archaeology, in common with any practical discipline, can have its complications. The most common issues with archaeology relate to time spent on site, resulting from an inadequate understanding or agreement of project performance.

Unexpected discoveries are also possible, but the risk of discoveries can be quantified at the outset, refined and reduced by adopting the staged approach to assessment and evaluation of the site. Contingency arrangements can then be put in place, for example, anticipating where human burials may be found and planning for them.

Risk management is common to archaeological management, but it is essential that a competent archaeologist is on board from the beginning. Issues relating to bad planning, inadequate resourcing and disruption due to poor design are problems common to all complex projects — and they cost money.

If you are involved in a scheme that has not been properly planned and encounter unexpected remains, contact the planning authority’s archaeological adviser immediately: this will be important for sustainable development, for your reputation and to reduce the risk of prosecution — for example, it is unlawful to disturb human remains without a licence.

If risks can be anticipated from the start, the costs of archaeology can be quantified, risks managed, and outcomes structured to benefit the project’s development — and the community.

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Related competencies include: Construction technology and environmental services, Contract practice, Programming and planning
Transforming Senior Leaders
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Qualifying to a T

T levels are a new route into the construction industry combining experience and study – and have been developed to better meet the needs of the industry

Steven Thompson

In 2016, the government report *Post-16 skills plan and independent report on technical education* concluded that an alternative qualification to A levels was needed for school students who do not wish, or feel academically able, to follow the traditional route of attending university. Beyond the academic considerations, there are also the financial commitments and debt that result from a university or college education.

An option currently available to school leavers is an apprenticeship. This typically offers 80 per cent on-the-job training with 20 per cent accompanying studies, and is intended for those who know the occupation they want to follow, and wish to earn money from the age of 16. Apprenticeships currently exist for a wide range of construction roles, and RICS released data recently showing that the number of surveying technician apprenticeships and chartered surveyor apprenticeships has grown significantly in the past three years.

There is, however, a gap to fill between A levels and apprenticeships: enter the T level, a two-year course to be taken at the same time as students are taking A levels, resulting in a qualification equivalent to three A levels ([bit.ly/govTLevels](http://bit.ly/govTLevels)).

Developed in conjunction with employers, businesses and representatives from relevant professional bodies, including RICS, the T level will comprise a mixture of classroom learning – at college rather than school – and work experience, and can lead to employment, further study or an apprenticeship. It will have two parts:

- the core theory, concepts and skills for a whole industry area
- specialist skills and knowledge for a particular occupation or career.

In addition, students will be required to complete an industry placement with a suitable employer for a minimum of 45 days and achieve English and maths qualifications to key stage 4, otherwise known as GCSE, standard — if they have not already done so.

The government believes this qualification route will be a new gold standard in training and has issued a list of course providers. Three of the new T levels — from a total of 15 — are set to launch in September 2020.

One of the three early launches will be Design, surveying and planning, while Onsite construction will be launched in autumn 2021. The core content for Design, surveying and planning will include: health and safety, science, design, construction and the built environment industry, sustainability, measurement, building technology, information and data, relationship management, digital technology and commercial and business.

In addition to the core content, there are four potential occupational specialisms within the design, surveying and planning T level: surveying and design for construction and the built environment, civil engineering, building services design, and hazardous materials analysis and surveying.

Given that T levels relevant to our sector are yet to be launched, it is premature to speculate on what they will mean for the industry. What we can say, however, is that the current choice of university degree in surveying or surveying-related subjects tends to force students into an early decision on specialism. The T level route will, in contrast, provide a greater spread of knowledge and skills across built environment surveying as a whole, with the chance to select a specialism at a later stage.

Widening the entry pool to the industry can only be positive, allowing for greater diversity in our workforce. The challenge for employers is to be in a position to offer T level placements. The Education and Skills Funding Agency and National Apprenticeship Service will be working with providers on industry placements. RICS will also be providing guidance specific to the surveying-related T levels.

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Related competencies include: Diversity, inclusion and teamworking

Further information: Employers interested in finding out more about industry placements should call 08000 150 600 or email tlevel.placement@education.gov.uk
Language has extraordinary power. As surveyors, we deal regularly with the interplay between technical, legal and financial language, and are expected to be fluent in all three.

Technical scopes written by specialist engineers need to be broken down into their component parts so surveyors can best advise on contract types and procurement routes. Estimating, cost reporting and value management all come under the surveyor job description. Many of us work regularly with various detailed contract types: the NEC, for example, is written in plain English, and yet disputes still arise. It is, of course, important to note that disputes do not arise only because of the use of complex language – but ensuring clarity through language can help to prevent them.

Language has the power to be both inclusive and exclusive. As a mid-career mover and someone relatively new to the industry, I was laughed at on my first day at Transport for London (TfL) three years ago because I didn’t know what a ‘Spon’s’ was. It is, in fact, a suite of estimating books and guides used in the construction industry, published by Taylor & Francis Group.

Language as power
In my previous life as an academic and international development worker, I was used to seeing lecturers, development staff and solicitors manipulate their language to include or exclude members of an audience. Using overly complicated technical language, for example, can be difficult for non-native English speakers to understand and can give the speaker themselves a sense of status. As a lecturer, however, your role is to teach, not to rhetorically grandstand.

Similarly, the use of technical language, particularly acronyms, in the construction industry can empower the speaker and disarm the audience.

I am not against a detailed and specific narrative by any means, and in many situations our roles require an explicitly detailed vocabulary. However, any use of language must be appropriate to the context and the intent and we should be aware of how we, as speakers, are able to use language as a form of power and control.

I have observed that this kind of reflection on language and inclusivity is lacking in the construction industry, but the power of language remains. This can be problematic when attracting new talent or encouraging groups, such as young people or women, to consider a job in construction. The terms commercial, contract management and procurement, for example, have a level of anonymity around them without context. It is this context that is important to portray.

At a recent science, technology, engineering and mathematics event in a London secondary school I asked students if they knew what a commercial manager was, to which one student replied, ‘Someone who makes adverts?’ They weren’t wrong, but their context was different to mine.

Rather than rattle off a day in the life of a commercial manager as requested, I asked the students what they were interested in and tried to use their interests to demonstrate the role of a commercial manager. This meant I was able to better connect the anonymous language of commercial activities, procurement and contract management to things that mattered to them – their community, their families, their city.

Emphasising the scope of work we do, contextualising our work and consciously using inclusive language doesn’t water down or take away from the professionalism of our industry. It opens it up to a more diverse audience who have different perspectives and talents – perspectives and talents our industry is crying out for.

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Related competencies include:
Communication and negotiation, Diversity, inclusion and teamworking, Leading projects, people and teams.
In the rapidly changing new built environment, we understand the opportunity and challenges presented by new technologies. Our specialist team provides expert advice on BIM and the latest technologies employed in the construction, infrastructure and energy sectors.
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Surveying America

The demand for quantity surveying as a profession is growing in the USA as more companies and clients recognise the value of the role

Simon Saliger

In New York, construction spending reached a record high of $61.8bn in 2018, the fifth year of what the New York Building Congress is calling a ‘Building Boom’ (bit.ly/NYoutlook).

Construction output on the US west coast is also booming: Hathaway Dinwiddie Construction Company reports that California has seen more megaprojects over the past two years than any time in its recent history. The areas around Seattle and San Francisco are particular hotbeds for construction.

According to Tony Rango, the chief operating officer and executive vice president of Webcor Project and Construction Management Group, the increase in activity in San Francisco is due to the technology boom in Silicon Valley. Technology is driving private developers to build office buildings for companies – such as Facebook – that create jobs and drive residential construction and infrastructure (bit.ly/ENRCali).

To meet this increased demand in construction, the presence of firms that provide professional quantity surveying services in the US market has grown substantially. Global companies, including Mace — which entered the market in North America in 2011 — AECOM, Gardiner & Theobald, Gleeds and Faithful & Gould, are all competing for new business. Turner & Townsend began work in the USA in 2000. Yet the New York office — previously Ferzan Robbins — was only acquired in 2011, and the name of the office was changed to Turner & Townsend in 2015, aligning with the New York boom.

Whether you call it quantity surveying or cost management, the practice is spreading across the USA and the increase in construction activity means surveyor opportunities can only continue to grow.

Higher demand for surveying services means that salaries are competitive as firms compete for the best talent, but the main stumbling block to hiring quality professionals is the US visa application process. The main options are an H1-B visa, or an L-1 company transfer visa, but these are often difficult to obtain and costly. The US government caps the number of H1-B visas it approves every year and the L-1 visa allows intra-company transfers, but you must be employed
With opportunity comes challenge: the challenge to the quantity surveyor working in the US is knowing how best to demonstrate their value

Surveying challenges in the USA

With opportunity, however, comes challenge. The challenge to the quantity surveyor working in the USA is knowing how best to demonstrate their value, especially as they are often working with parties that don’t completely understand what the quantity surveyor role involves. Some think of quantity surveyors as invoice clerks or project executives and mistake their tasks as, for example, paying vendors or approving change orders — known as contract variations in the UK.

The biggest issues on US construction projects seem to arise when a client budget does not include allowances for items such as provisional sums. This needs to change. Construction value engineering, constant cost monitoring and general contractor management — a term used more regularly in the USA — are essential for a project to make financial sense. Allowing a quantity surveyor to begin work on the project at an early stage and incorporating more provisional sums means that the budget is more accurate and the project has a better chance of making savings and completing on schedule.

The fact that many UK firms with quantity surveying expertise are opening offices in the USA is, however, encouraging recognition of the quantity surveying role in the country: many bidding packages now include allowances — or provisional sums — for a quantity surveyor, citing that this is the ‘way it is done internationally’. These allowances cover the key tasks of a quantity surveyor, including setting up a project, identifying the client budget, selecting procurement and contract strategies, identifying cost control measures and closing the final account.

Firms that operate internationally and require property to do so are also well placed to contribute to the growth of the profession in the USA. For example, Dutch hotelier citizenM recently opened branches in the USA and currently has two hotels in Manhattan, New York. One of these hotels was constructed using a special pod design system, where the parts were made in Poland and assembled by a specialist crane on site in New York.

As citizenM had just completed a similar project in London, it recognised the value of quantity surveying services. My employer at the time was awarded this role and we were able to perform a full scope of services, including determining the budget with the client, advising on costs and the local market, and appointing the general contractor. We oversaw all monthly valuations, change orders or variations and the chosen contract — a guaranteed maximum price contract — worked well. We were also a key part of determining the answer to a key pre-construction question relevant only to the USA: would the project operate to a union or non-union structure?

Cultural differences

Understanding the culture and the ways of working in a location is vital to any construction project. In this regard, the biggest difference between the UK and the USA is the union and non-union structure. A union structure means that the trade union agrees a contract with the employer in setting out wages, benefits and the rules of employment, and then makes sure that the contract is carried out. Non-union, however, means the employer sets the wage rates and makes all the decisions on matters such as hours of work.

For those seeking construction work, a union structure is the most beneficial: those employed under a union structure are typically paid more, have more control over the terms of their work and better training packages. A non-union structure, though not always preferable, is less hierarchical and there are usually more jobs available under this structure.

The decision is usually made just before the general contractor is identified. The citizenM project chose...
to take the non-union route, which meant labour cost savings of about 15 per cent. Geographical locations can affect the union or non-union decision: Boston, for example, is very much led by the union structure. New York city has traditionally been very union-led but now non-union firms are taking on more projects. Though the unions protest, the market is changing: New York building permits show that about 80 per cent of private construction work is carried out by non-union workers. Despite firm pre-construction agreements between employer and unions, however, conflicts can arise: The Hudson Yards project in New York is a key case illustrating ongoing friction between the workers’ union and the project’s employer (bit.ly/HudYardsunion).

Scope of the role
In 2015, a data centre was constructed in Orangeburg, New York for Bloomberg LP to house vital computer systems. Orangeburg, rather than Manhattan, was chosen as the location. The hamlet, which is located about 25 miles north east of Manhattan, was chosen because of the lower real-estate costs, the tax incentives and, most critically, in case of disaster recovery — Orangeburg does not border the Hudson River and is therefore less susceptible to flooding. The work was carried out by Turner & Townsend, which deployed me on the project as cost manager. Originally, I was processing invoices for fees and attending weekly client meetings to ensure the project’s process was followed without any cost issues. The focus of the role was on contract conditions, completing orders with the general contractor, clarifying the scope of work, controlling payments and closing final accounts. I ensured that capital allowances — if submitted — were genuine, then made sure the general contractor considered them fair. The process was very similar to that in the UK, and my experience as a quantity surveyor in the UK therefore proved very helpful.

Commercial management seems to be more popular in the USA than it is in the UK. Banks such as the Bank of New York Mellon and JPMorgan Chase & Co have enlisted the quantity surveying services of CBRE for this role. A well-trained quantity surveyor working in a commercial management role can use their construction and estimating experience and knowledge to establish procedures for better practice, streamlining construction processes and creating portfolio management.

In terms of portfolio management, quantity surveyors are sometimes employed in the USA to use their data expertise to create client-specific tools, such as creating databases and spreadsheets that can empower a client to budget effectively. For example, an internal tool for capital requests that allows checks to be put in place so the most accurate budgets are derived, ensuring a client’s capital is bringing maximum wealth returns. Another example could be a benchmarking tool that checks market data against internal data to improve procurement networks.

Quantity surveyors also have opportunities to use their data management skills in the USA. For example, a quantity surveyor was employed to help facility managers from a finance company with a capital planning programme for 2020. The quantity surveyor managed a team of 20–30 field engineers, determined the relevant data to collect and created surveys for the data collection. The data collected was used to estimate the capital required for improvements to bank branches in 2020. To prioritise work, points were scored against the following criteria:

- the condition of non-critical elements of the asset — for example, the flooring
- the condition of critical elements of the asset — for example, air conditioning units
- client asset ranking — ranking each bank in order of importance to the client
- visual importance of the bank to the customer.

The US construction market is increasing, particularly on the east and west coasts. Massive projects, such as the 18,000-seat music and entertainment venue MSG Sphere in Las Vegas, are continuing to bring with them a huge demand for construction labour — and strengthening the case for quantity surveying input. And the more the value of quantity surveyors is proven and employed, the more RICS qualifications and standards will become recognised as having a positive impact across the US construction industry.

Simon Saliger is an associate director at CBRE North America simon.saliger@cbre.com

As RICS presence and recognition grows in the USA, it is likely that RICS membership will increase accordingly from the 3,000 accredited at present.
Conflict comprehension

RICS’ first review of a professional statement shows the importance members place on managing conflicts of interest – but there is divergence over how these are understood

Sean Agass and Ellie Scott

The effective identification and management of conflicts of interest is essential to professionalism. The RICS Rules of Conduct state that members and firms must ‘act with integrity and avoid conflicts of interest and avoid any actions or situations that are inconsistent with its professional obligations’. The global RICS professional statement Conflicts of interest came into effect on 1 January 2018 and underpins the rules by setting mandatory requirements and providing supporting guidance in this challenging area.

A recent review of the professional statement, entitled Conflicts of interest: implementation and impact, presents the findings from two phases of research. Phase one surveyed all 10,051 RICS-regulated firms with email addresses, 40 per cent of which responded. A large majority of respondents – 94 per cent – were small firms with fewer than ten staff, most of which are based in the UK. For phase two of the research, RICS interviewed contact officers or specialist staff representing 31 firms, this time focusing on a greater degree of disclosure and awareness of the professional statement.

Following this work, the review:
• sets out how the professional statement has been received by the market
• identifies how well conflicts of interest are understood, identified, managed, recorded and communicated
• details the specific actions RICS will take or has already taken to mitigate any risks that have been identified.

The review was carried out with the aim of measuring levels of recognition and usage of the professional statement and identifying common themes, areas of weakness, risk and good practice. The findings are already being used to inform the future development of professional statements, policies and guidance.

The review is accompanied by materials that are designed to strengthen implementation of the professional statement, although these documents do not constitute formal RICS guidance.

The following are some of the key points identified in the review.
• Almost all RICS members and firms consider managing conflicts of interest to be important, with a combined 93 per cent believing this is either critically important or very important.
• The vast majority – 87 per cent – of firms believe staff are quite familiar with the professional statement.
• The process for identifying, managing and informing clients about conflicts of interest varies significantly from firm to firm. Some have a less formal approach in place, which may lead to inadequate record-keeping or management of conflicts of interest.
• Identifying and managing conflicts of interest comprehensively can be complex and challenging for professional services firms and, as a result, they stressed the need for maximum clarity and more supporting material to be provided.
• When representatives were asked to explain what they understand a conflict of interest to be, both from their reading of the professional statement and their broader knowledge and experience, about half their responses demonstrated the lack of a clear and accurate comprehension of the term.

RICS continually monitors feedback from the profession on its standards. The organisation has already made a number of changes to its publication and consultation process. This includes a greater focus on plain English, enhanced design and accessible layout, as well as detailed user questionnaires to engage with the right stakeholders as early as possible.

In light of the review findings, RICS will assist members in the following ways.
• Support on standards: professional statements will be supported with guidance and good practice case studies where possible, to illustrate practically how they should be applied.
• Provide training: training will be delivered on all aspects of the professional statement through means such as online modules and webinars.
• Focus on smaller firms: additional assistance will be offered to smaller firms to ensure they meet the obligations of the professional statements.
• Raise awareness: new developments with professional statements will be highlighted to smaller firms, which may not have the resources available to monitor changes in the regulatory environment.

Sean Agass is a former standards and guidance editor and Ellie Scott is a senior project manager at RICS  escott@rics.org

Related competencies include: Ethics, Rules of Conduct and professionalism

Further information: Conflicts of interest: implementation and impact and supporting materials are available for download at rics.org/coireview. The e-learning course on conflicts of interest can be found at rics.org/conflictretraining.

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During a panel discussion on the future of the construction industry at this year’s RICS Construction Conference, conversation turned to vertical integration, the Construction Supply Chain Payment Charter, project bank accounts and business cases. One attendee noted that she was concerned about how the government’s new Making Tax Digital (MTD) scheme would affect an industry already under severe financial pressure.

The MTD scheme is a key part of the HMRC’s ambition to become one of the most digitally advanced tax administrations in the world. The aim is to make it easier for taxpayers to file tax estimates online and to provide:

- more efficient and effective tax administration
- tax costs in real time
- a single account where liabilities and entitlements can be viewed
- digital interaction with HMRC through secure messaging.

The idea is to enable a more ongoing and accurate projection of tax due, hopefully improving on the annual loss of more than £9bn from avoidable taxpayer errors.

Yet, despite the promise, many people — small business owners in particular — have questioned the clarity and timeliness of information provided about the new scheme: a recent YouGov poll found that only eight per cent of small firms yet to move to MTD were ‘very prepared’ to do so (bit.ly/YouGovMTD). MPs and business groups have also expressed concern that many of the 1.2m businesses affected were not ready for the change.

These questions and concerns have enhanced opportunities for tax and accounting professionals and businesses, resulting in the internet being inundated with ‘how to’ guides and ‘top tips’ manuals.

Steph Fairbairn

Business owners and self-employed professionals can take steps to cut through the noise and embrace HMRC’s new Making Tax Digital scheme.
Amid this deluge of guidance, it can be difficult to know what to do and who to trust.

Therefore, despite the guidance available, 120,000 companies missed their first quarterly MTD filing deadline of 7 August. HMRC responded by coming good on its light touch approach, designed to allow businesses time to become familiar with the new requirements during the first year of mandation.

This means not issuing record-keeping penalties if businesses are seen to be doing their best to comply with the new scheme. HMRC are also allowing businesses to appeal any penalties that they believe are due to problems arising from the transition to MTD. As such, no fines have been issued to the companies that missed the deadline.

One of the reasons for the light touch approach is, of course, Brexit. The government recognises that understanding the regulations associated with MTD, in addition to preparations for Brexit, is a difficult challenge for HMRC and businesses alike.

MTD was first mooted in the 2015 budget, but was removed from the Finance (No 2) 2017 Bill ahead of the 2017 general election, leading some to speculate that the idea had been dropped. By autumn 2017, however, businesses, landlords and self-employed people — a recent Office of Tax Simplification report revealed that the largest number of those self-employed are in the construction industry — with taxable turnover above the £85,000 VAT threshold were informed they should begin using the new digital service for income tax and national insurance contributions from April 2018.

The timetable was then further amended, and compliance with the scheme began in April of this year for every VAT-registered body with taxable turnover over the threshold— except for those in a deferral group who started the process in October.

Provided the new scheme proves to work well with VAT, income tax will be the next to be mandated for MTD, yet this won’t take place until 2022 at the earliest. Attention will then turn to corporation tax: every business, self-employed person and landlord who pays the tax will have to use MTD for such purposes.

In a nutshell, taxpayers send HMRC summaries of their income and expenditure four times a year, as opposed to the previous system of one tax bill at year-end. The new scheme doesn’t mean filing four tax returns, but instead updating books throughout the year and reviewing and confirming the accuracy of the data each quarter. This should make the process a lot easier for taxpayers at year-end and allow better tracking of obligations. Tax payments for the whole bill, however, will still be taken at tax year-end.

Barriers to adoption

In its 2019 report Digitalisation of tax: international perspectives, the Institute of Chartered Accountants in England and Wales (ICAEW) highlighted tax morale — ‘a country’s citizens’ general opinion of paying their taxes, and their happiness with the services they receive from their government in return’ — as one of the key factors that make tax systems harder or easier to digitalise (bit.ly/ICAEWdigitax).

With one of the most complex tax systems in the world, tax morale is likely to be lower in the UK, particularly in industries under financial strain, such as construction, which has historically always felt under-supported by the government.

The MTD scheme means updating books throughout the year and reviewing the data each quarter, making the process easier for taxpayers

To help ease the process, one element of the new scheme — pre-population — means that certain information, such as individual employment details, income, benefits, tax and national insurance can be downloaded and dropped into a tax return at the click of a button. The ICAEW, while viewing this as positive, recognises how this may also affect morale: ‘Pre-populating returns with information gathered from third parties fundamentally changes the structure of trust and the direction of review, with taxpayers and their advisers now working to review and challenge the work of the authority.’

The concerns over this change are understandable and HMRC is aware of the resulting backlash. Following consultation, trial periods and feedback from users, it released a myth-busting document refuting claims that MTD means businesses will have to provide more information than they already do (bit.ly/MTDmyths).

HMRC stressed that MTD will reduce errors — citing a YouGov poll in which 61 per cent of businesses said they have previously lost receipts — and that it hasn’t underestimated the administration burden and costs to businesses complying with MTD. HMRC has also stated that most businesses will be able to claim any costs for hardware and software needed for MTD against their tax.

Integrating the MTD scheme into everyday business practice will feel overwhelming for some organisations, but more streamlined information and more real time cost implications can only benefit an industry plagued by financial uncertainty and payment lags.

The postponement of the new domestic reverse charge (DRC) — moving responsibility for reporting a VAT transaction from the supplier to the customer — from 1 October this year to 1 October 2020, means that organisations can focus first on mastering MTD.
Getting ready
Considerations ahead of MTD compliance include the following.

• Ascertain whether you or your business should be complying with MTD. If a business is already exempt from filing VAT returns online, or its taxable turnover is below the VAT registration threshold, there is no need to sign up to the scheme or apply for an exemption. Those with a taxable turnover below the VAT registration threshold can, however, choose to follow the MTD rules voluntarily. This may be advisable to both streamline processes and prepare for potential future compliance. If a company’s taxable turnover drops below the VAT threshold at any point, it is still required to participate in MTD.

• Read up on the scheme and determine the work and resources required. Some small businesses undergoing the transition have had to increase staff and resources to get to grips with the new scheme.

• Comply with the new scheme. To do this, businesses and sole traders must either use a compatible software package, or a bridging software, allowing users to submit VAT returns to HMRC systems. One of the biggest challenges small firms have faced so far is the use of MTD–compliant software.

Advice from HMRC suggests that using compatible software provides maximum benefits, so bridging software should only be used as a temporary measure, and the best — and easiest — time to make the switch is following tax year-end.

Experts advise that cloud accounting software is best suited to MTD — it reduces IT spend, is available any time and means that data is stored securely online, reducing the risk of losing it. To this end, the HMRC website provides a non-comprehensive list of software providers that can be narrowed down depending on suitability (bit.ly/MTDsoftware).

Although the software is used to hold most key information as a digital record, such as business name, address of principal place of business or VAT registration number, there are still records that, by law, must be kept in their original hard copy form, such as the C79 import VAT certificate.

The complete set of digital records to meet MTD requirements does not all have to be held in one program: digital records can be kept in a range of compatible digital formats and then combined to form the digital records for the VAT-registered entity. If using multiple programs, data transfer or exchange between them must be digital — called digital links by HMRC — so that a digital journey can be tracked. In order to ease the transition, HMRC is allowing a soft-landing period for the first year of compliance, where businesses are not required to have digital links.

After sourcing the software — one program or multiple — the next step is to sign up for MTD for VAT, and then authorise the software to interact with HMRC. Individual software companies can help with this if needed.

Once all of the elements are in place, companies and individuals must make sure they stay informed. Although HMRC will send reminders for due dates, make sure you keep note of all relevant dates and regulatory check if they have been adjusted.

At the time of writing, the light touch approach for MTD for VAT is due to end on 31 March 2020, and a new penalty points system for late filing, along with a new late payment regime should come into force. However, this may change: these systems were originally due to be in place by the time MTD launched but were deferred. In terms of late filing, missed VAT returns will accrue penalty points, and a fine will be issued after a certain number of accumulated points. Late payments will be penalised, in the worst case with a HMRC interest rate charge of 100 per cent plus daily interest charges.

Also consider the implications of Brexit. Not only is Brexit contributing to the difficulties business are facing in getting to grips with the MTD scheme, but it will also change the tax system. If the first MTD submission is during or after Brexit, additional adjustments may need to be made.

Above all, embrace the change. Similar schemes have had positive impacts in other countries. In Estonia, for example, a tax return now takes five minutes to complete through the single shared platform X-Road, to the satisfaction of many taxpayers.

HMRC, like the construction industry, is trying keep pace with technology and use it to positive effect. For any change, challenges are inevitable — and an adjustment period helps. Ultimately, however, the success of the new MTD scheme will depend on two things: users committing to its use, and HMRC ensuring it operates as well as possible. The best you can do is to stay informed so your business complies by the deadline. That way you stand the greatest chance of avoiding penalties and reaping the potential rewards.

Steph Fairbairn is editor of the Construction Journal sfairbairn@rics.org

Related competencies include: Accounting principles and procedures, Consultancy services
Further information: bit.ly/HMRCMTD
The commodity of the future

Surveyors work with data every day so understanding how and why to use it is essential, as the Data management competency highlights

David Cohen

Data is fundamental to the role of surveyors: much of the provisions of our professional services require and depend on it. All candidates taking the RICS APC are, therefore, required to complete the Data management competency to at least Level 1. Candidates are required to ‘demonstrate knowledge and understanding of the sources of information and data, and of the systems applicable to their area of practice, including the methodologies and techniques most appropriate to collect, collate and store data.’

Level 2 means providing evidence of practical application, understanding the relevance of information gathered and analysing the data.

At Level 3, candidates must provide evidence of reasoned advice given to clients and others on the use and practical application of the information collected and systems used. They must also specify the most appropriate way to collect, analyse and apply data.

In a surveyor’s day-to-day activities, data is integrated into numerous processes. There are some fundamental questions to consider when creating data outputs, such as cost estimates (see box, right).

As an APC candidate, you should be particularly knowledgeable in three key areas.
• Knowing how data is collected, analysed and ultimately stored, more specifically in your company. Speak to your organisation and understand fully how data is being managed, maintained and adjusted.
• Being aware of the impact of data on technology, such as building information modelling and computerised central databases. There are various views on the benefits, challenges and dangers of using this technology and its adaptation and applicability across a variety of project types.
• Understanding how legislation affects both the use and storage of data. You should know what legislation is relevant in the jurisdiction in which you are working, and what that legislation dictates.

In the UK, the introduction of the General Data Protection Regulation (GDPR) under the Data Protection Act 2018 has affected the way businesses handle data. Be aware of this and its impact on you and your day-to-day business activities.

The GDPR applies to personal data, meaning any information through which someone can be directly or indirectly recognised, such as name, identification number, location data or online identifier. Significant fines are applicable if firms do not comply with these regulations.

Once your summary of experience has been completed and focus moves to the final assessment, remember that while mandatory competencies can be questioned directly by assessors, they can also be covered during questioning on other technical competencies or in case study questioning. Make sure you are prepared to address Data management at any point during your interview.

Data is a valuable commodity, and its influence and importance look set to grow exponentially. Understanding how to work with it is vital for any surveyor.

David Cohen FRICS is an APC chair, assessor and auditor, a founding director of APC Academy and Amicus Property Consultants, and a member of the Construction Journal editorial advisory group
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Related competencies include Data management

Considerations for creating data outputs

• What data is needed? Identify the type of data required for the task.
• Has the data already been collected and published through a service such as BCIS, for example, or is it more unique, such as data collected in house or through benchmarking? Wherever the data comes from, check it is reliable, current and applicable to the outputs required.
• How is the data interpreted? Is the data comparable if multiple sources are used?
• Is the data sensitive and can it be used legally?
Dealing with the day-to-day issues related to construction, it can be easy to forget that one of the purposes of the built environment is to serve communities and improve quality of life. As technology develops and our society becomes increasingly digitally reliant, the data generated from our physical infrastructure will become a crucial component of how communities interact with, use and manage those assets. We refer to this as infratech.

Planning for the impact of fast-moving digital technology over the life of a physical infrastructure asset can feel overwhelming but, regardless of the technology that might be adopted, the common thread will be the increased reliance on data sharing between relevant communities. Enabling sharing data in a controlled, secure and efficient manner should be the overarching vision. Developing a data strategy for assets provides a framework for realising this vision, regardless of the specific technology.

The three Cs
The key legal and commercial considerations of your data strategy can be described as the three Cs: compliance, contracts and collaboration.

Data compliance issues are a regulatory maze. Take the examples of data generated by travellers using connected cars on a highway, or by tenants in a smart residential building. Compliance issues arise, not just in terms of personal data and privacy law, but also in other ways: for example, individual rights under consumer law, the application of anti-trust and competition rules – regulators keep a close eye on activity driven by data to analyse a ‘dominant position’ – and the impact of any information security compliance requirements.

Data ethics are increasingly important in establishing trust and transparency with stakeholders around how the data they generate will be used. Where regulation is conflicting, particularly where data is passing across global supply chains, compliance approaches need to be designed to ensure ‘compliance by design in line with the strictest of these standards.

When it comes to compliance, we are all only as strong as our weakest link, so compliance conduct and culture around data use will be crucial.

There is no specific EU legislation that regulates ownership of data and no real consensus on how to regulate it. While there may be limited intellectual property rights (IPR) in data, reliance on IPR to establish ownership of data is not satisfactory in most cases. We recommend establishing contractual data rights as a preference. Contracts govern commercial relationships, set arrangements and allocate risks: all of these principles can apply to data use.

Currently, most construction contracts only contain personal data clauses, at best, and often include onerous IPR and confidentiality provisions that do not help parties manage data issues effectively. Effective contractual data clauses will identify the kind of data to be shared, how it will be used and by whom – and set out how liabilities and responsibilities will be managed between the parties.

Connected parties will need to be prepared to collaborate in the commercialisation of business models if we are to unlock the full benefits of data. Some operators have chosen to enable open data sharing, to encourage innovation for the benefit of communities. To enable more collaboration in the built environment we need to create structures that give incentives for and encourage collaboration.

There are three key considerations.
• To recognise the value of data and think about data as an asset.
• To promote trust and transparency in data use and talk openly about how the data will be commercialised for better outcomes.
• To organise and collaborate — for example, by developing data sharing and exchange tools such as data trusts.

A careful data strategy will help unlock potential to transform physical infrastructure assets through infratech. We need to plan for success, while keeping in mind the importance of the three Cs.

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Data management
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