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2021

HOW TO MINIMIZE COSTS TO ACHIEVE GREEN BUILDING CERTIFICATION IN CHINA

FROM SURVIVING TO THRIVING: THE OUTLOOK FOR THE AMERICAN AEC INDUSTRIES

DEALING WITH LOSS AND EXPENSE DURING A PANDEMIC

THE BREXIT EFFECT ON THE BRITISH BUILT ENVIRONMENT

A Rider Levett Bucknall Publication

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WELCOME

With the control of COVID-19 progressing in more and more countries, organizations are starting to focus on preparing for the future, instead of coping with the present challenges. In this edition of Perspective, our global RLB experts share insights on market changes that are happening, or going to happen, in a post-pandemic world. These include the market shifts after the change in US presidency and Brexit; the use of new technologies such as BIM and MiC; the construction industry's response to climate change such as green building and decarbonisation; as well as new business models or new investment areas. I hope our insights provide you with beneficial information to help your projects succeed.

We can all feel the changes in working behavior and the market after a year of living in the shadow of COVID-19. Social distancing, and even lockdowns in some countries, have forced businesses to various degrees of remote working. We have become more reliant on digital solutions for virtual working and meetings that drive changes in areas such as business processes, IT hardware and software support, company culture, and staff behavior. Many of the articles in this edition give us ideas of what could be done to prepare ourselves for this new era. Some articles also point us to new directions such as developing business in an up-and-coming country, offering new services, or seizing opportunities in emerging trends of the 'new normal'.

Speaking of trends, staying alert to changes in government policy is crucial for all business planning. Globally, many governments are paying close attention to pollution, climate change, and other environmental issues to work towards a more sustainable future. These are long-term goals that take years to achieve and require everyone's engagement.

Is it a time for reflection? I am not really sure, but I think it would be wise to be prepared for any unprecedented changes in the future.

KENNETH KWAN
RLB GLOBAL CHAIRMAN

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FROM SURVIVING TO THRIVING:

The Outlook for the American AEC Industries

Julian Anderson
President, North America
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The Biden administration platform of "Build Back Better" not only acknowledges the need for repair, but also stakes out the objective that the end result needs to be better than the original.

It's not going to be easy. In recent years, institutions and industries of all scales and sectors suffered setbacks of two types: systematic legislative dismantling, and widespread natural destruction, ranging from record-breaking wildfires to storms that wiped out billions of dollars of agricultural assets. Overlay the coronavirus pandemic on those conditions, and recovery is daunting, but the path is clear. We must work together and be informed by both hindsight and foresight. To that end, Biden has assembled a cabinet that prioritizes experience over ideology. The situation is urgent; we can't afford to kick the can down the road again.

Build Back Better has resonance for the AEC industries in several areas:

ECONOMICS AND TRADE

Tariff wars may have been good for grabbing headlines, but carefully recalibrating them will be good for the AEC industries because it eases relations with friendly—and important—trade partners in Asia and Europe, who are integral parts of the construction materials supply chain. Biden has proposed an offshoring tax penalty on goods and services that are produced overseas to be sold in the US, as well as a "Made in America" tax credit for investments in manufacturing across the country, including reopening closed factories and expanding production.

Secretary of Commerce Gina Raimondo will oversee trade policy and America's relationship with both China and institutions like the World Trade Organization. The department will seek to rebuild relationships battered by trade sanctions, rethink the use of tariffs, and work to build a united front to tackle China. Key to this last task is reestablishing a role for the United States in the Comprehensive and Progressive Agreement for Trans-Pacific Partnership, which would leverage collective strengths and concerns of the region.

ENVIRONMENT AND CLIMATE CHANGE

It's long been clear that we must do a better job of making buildings and communities more resilient to natural disasters, as well as mitigating the economic fallout from such occurrences by developing new tools to manage and reduce risk and the cost of transferring risk. As an incentive, the Biden administration is working with the insurance industry to identify ways to lower property insurance premiums for homeowners and communities who invest in resilience, expanding programs like the Community Rating System that FEMA currently administers across the country.

To improve the energy efficiency of buildings, Biden is targeting a 50% reduction in the carbon footprint of the U.S. building stock by 2035, creating incentives for deep retrofits that combine appliance electrification, efficiency, and on-site clean power generation. This is bolstered by a proposed $2 trillion federal investment aimed at boosting manufacturing, improving transportation systems, expanding broadband access and reducing carbon emissions.

The investment dovetails with previously announced goals to create jobs in manufacturing renewable energy products and will help the US reach net zero emissions by 2050, a commitment that has been made by more than 60 other countries.

LABOR AND INFRASTRUCTURE

Marty Walsh is the first former union leader to be Secretary of Labor, having been president of Laborers Local 222 in Boston, where he also led the region's Building and Construction Trades Council before being elected mayor of the city. Working in conjunction with the Secretary of Transportation, Pete Buttigieg, the AEC industries can anticipate a serious focus on infrastructure improvement projects, which include a proposed federal investment of $1.6 billion in water infrastructure, high-speed rail, clean energy, and municipal transit projects.

Proposed actions in labor and social policies also have the potential to affect the AEC industries both directly and indirectly. One of the issues the Biden team is confronting is that of worker classification. A rule passed by the former administration makes it easier for employers to classify workers as independent contractors, rather than employees. The ramifications of this will determine who is eligible for—and who will pay for—benefits such as sick leave and unemployment insurance.

The continuation of the Deferred Action for Childhood Arrivals program [DACA] will ease tensions in the construction industry by providing greater stability for workers and their employers, in a field that has been grappling with labor shortages. The Associated General Contractors of America estimates there are 80,000 DACA recipients currently employed in the sector.

MOVING FORWARD

The integrated approach outlined by the Biden administration is a bold plan for change in direction. Aptly for the AEC industries, it is analogous to a building whose structures and systems are designed, engineered, and constructed in a holistic way. By establishing benchmarks and goals and carefully tying together programs and policies from different sectors to support them, we all can build back better. P

Julian Anderson
President, North America
Global Board Director

THE BREXIT EFFECT ON THE BRITISH BUILT ENVIRONMENT

Matt Brooker
Partner, National Head of Commercial
United Kingdom

Since the EU Referendum in June 2016, the questions resonating across the built environment throughout Europe have been what sort of deal will the UK negotiate when it leaves the European Union and what will the impact of this deal be on the construction industry?

With the UK Prime Minister, Boris Johnson, announcing a Christmas deal, 1 January 2021 marked not just a new year but the start of life post Brexit for the UK, when the transition period ended and new legislation to trade goods and services between the UK and its European counterparts became law.

Yet, for many in the UK the impact of Brexit has been pre-empted in the last 12 months. Stealing the thunder of Brexit, the COVID-19 pandemic has seen more changes to the construction industry in the last year, made the industry rethink its ways of working and plan for worst-case scenarios in advance of, and with a quicker result, than any pan-European legislation.

Keeping close to our supply chain to understand the impact on cost and speed of delivery of materials and the possible skills shortage that a new regulated movement of labour might mean have been part of every discussion around the table. As part of this collaboration, we have undertaken our Procurement Trends Survey that asks our supply chain questions about changes within procurement and factors that might affect those changes. Not surprisingly, the results from our January 2021 survey reveal that there still remains uncertainty in the supply chain as to the impacts of the UK leaving the European Union. It will take a period of time for materials to work through the supply chain and for all parts of the system to get used to the new arrangements, with some contractors predicting it could take up to six months to get clarity on the permanent impacts of Brexit. In the immediate term, up to 30% of contractors are identifying some form of impact and regionally, labour availability is being reported as a larger impact in London (approx. 30% of respondents versus 18% nationally). This is reinforcing the view that the UK capital has been more dependent on the use of European labour and may struggle to attract the same volume of workers.

Material availability is the largest concern as some disruption is expected, with lead times and material costs following behind. We know from working closely with our supply chain we are going to have to collaborate to support them in facilitating the paperwork needed to bring skilled workers to the UK for the projects in hand and trust their foresight in procuring earlier for materials needed out of Europe.

However, like everyone in the construction industry, what we couldn't see coming at the beginning of 2020 was the change that would be needed last year, with COVID-19 shaking the industry in every way possible. Gaining early insights from our RLB colleagues in Wuhan and other regions across Asia, we were agile in accelerating our digitally enabled practices and capabilities and working collaboratively with others in the industry to support their digital adoption.

We continue on this journey of ensuring that the measures we are practicing still do this – making us fit for purpose in our ever-changing world while looking after our team, our clients, and our supply chain.

It is the long term impact of COVID-19, from social distancing on sites leading to lower productivity rates and skill shortages due to illness and self-isolation to resulting material shortages and increase in cost, such as the impact on steel trends, that we are now seeing as a result of the year living with the pandemic. We believe it is these factors that will affect our industry and our economies, especially in those sectors that have weathered the storm well, like data centres and manufacturing, rather than extended paperwork in relation to trading with Europe.

Although we are sure there will be Brexit clauses written into the majority of contracts and there will be many sub clauses that are yet to be unearthed from the UK-European Brexit deal, we are continuing to collaborate with our supply chain to ensure we understand the challenges they are facing so in turn, we can advise our clients on any bumps in the road ahead. P

Matt Brooker
Partner, National Head of Commercial, United Kingdom

DEALING WITH LOSS AND EXPENSE DURING A PANDEMIC

Colin Kin
Joint Managing Partner, South Asia

BACKGROUND

Pandemics change the course of human history – apart from rising death tolls, they cause and contribute to economic recessions[1]. In the latest pandemic a continuing series of lockdowns worldwide, has resulted in abrupt brakes being applied to economic activities, as saving lives took precedence. In Singapore, our construction industry was classified as a non-essential service and construction activities were halted for an extended period.

Apart from a four-month lockdown, additional Covid compliance health and safety measures were introduced by the Singapore Building Construction Authority(BCA) after the lockdown, in order to properly and safely restart work on site. This has impacted the contractor's productivity and has meant that returning to work amidst the ongoing pandemic has been disruptive, fraught with uncertainty and reduced efficiency. The overall prolongation, disruption and loss in productivity in activities, has affected the entire industry, resulting in large monetary losses and time delays.

[1] Gopinath, G. (2020, April 14). The Great Lockdown: Worst Economic Downturn Since the Great Depression. Retrieved from IMFBlog: https://blogs.imf.org/2020/04/14/the-great-lockdown-worst-economic-downturn-since-the-great-depression/

CONTRACT CONDITIONS

Prior to Covid-19 happening, "Pandemic/Epidemic" were not specifically listed as a grounds for extension of time in our standard conditions of contract. In some contracts, Force Majeure is listed as valid grounds for EOT, but none of our standard conditions however, allow for Loss and Expense for these grounds, unlike the FIDIC conditions.

This means that all monetary losses due to Covid-19 were a Contractor problem, with no express contractual grounds being available to them to seek recovery. Losses have been significant and have threatened contractor financial viability and project completion.

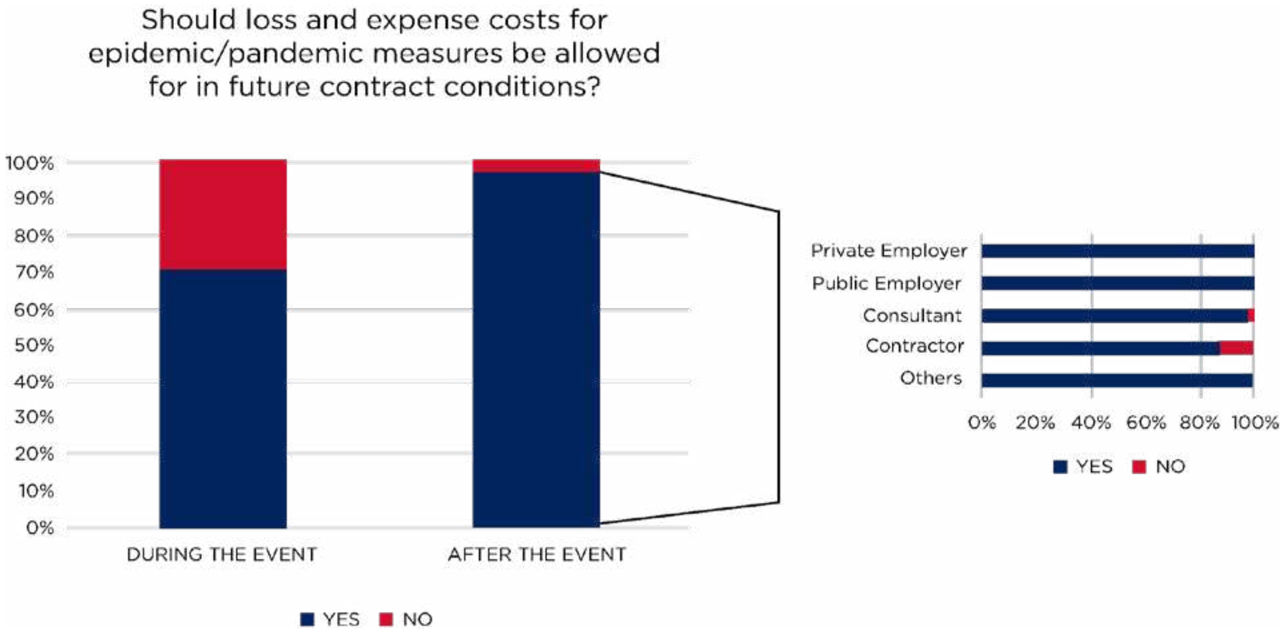
In light of this, our Singapore government has stepped in with an Ex-Gratia 50% sharing scheme for some but not all, Prolongation costs **for existing projects**. This has brought some limited relief but has not solved the problem.

The question then is what to do with Pandemic/epidemic Risk and Loss **for new projects** being tendered going forwards? Covid-19 is unlikely to disappear soon. Should all the future potential risk of re-infection, lockdown, delays, productivity loss, etc. be passed entirely to the Contractor, for him to evaluate and decide to price for / not price for, in his tender? Is this the most appropriate allocation of risk? Will this result in inflated tender prices?

RLB SEMINAR AND SURVEY

We sought recently to address the above questions through a panel discussion seminar and online poll survey. Our Singapore office, in conjunction with law firm CMS Singapore, hosted a webinar approximately four months after the start of our lockdown in April 2020, on the real cost of COVID-19 on construction projects after lockdown. The webinar was attended by a myriad of industry players, from public and private employers to consultants and contractors, with employers making up the majority of the attendees at 51%. The webinar incorporated a three-part yes-no poll prior to the panel discussion and using the same questions, collected the participants' opinions after the event to record the shift, if any, of thoughts following the debate between RLB, CMS and our guest Contractor.

POLL QUESTION 1: DO YOU THINK LOSS & EXPENSE COSTS FOR EPIDEMIC/ PANDEMIC MEASURES SHOULD BE ALLOWED FOR, IN FUTURE CONTRACT CONDITIONS?

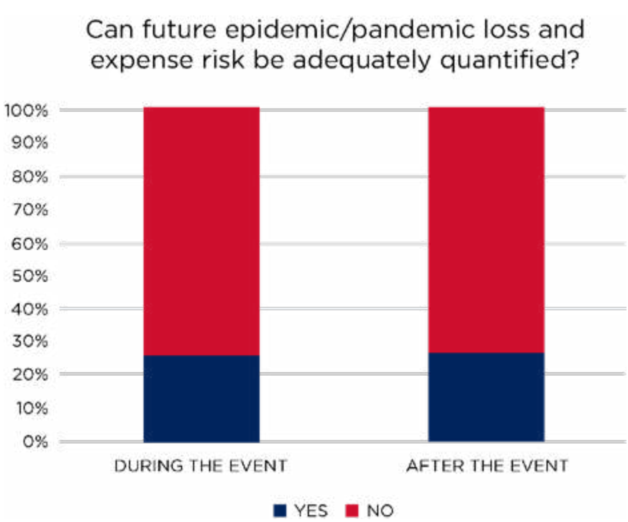


Findings:

71% agreed that such measures should be allowed. Unsurprisingly, 100% of the contractors agreed, while employers made up 50% of those who responded positively. We had expected resistance to the proposal from the employers, as risks would then be shifted towards them. A 50% positive response was within expectations and reflected an unbiased response.

The results collected after the discussion however, reflected an overwhelming support for the inclusion of Loss and Expense costs (98%) with 100% of the employers on board the "YES" ship.

POLL QUESTION 2: DO YOU THINK FUTURE EPIDEMIC/PANDEMIC LOSS & EXPENSE RISK CAN BE ADEQUATELY QUANTIFIED?

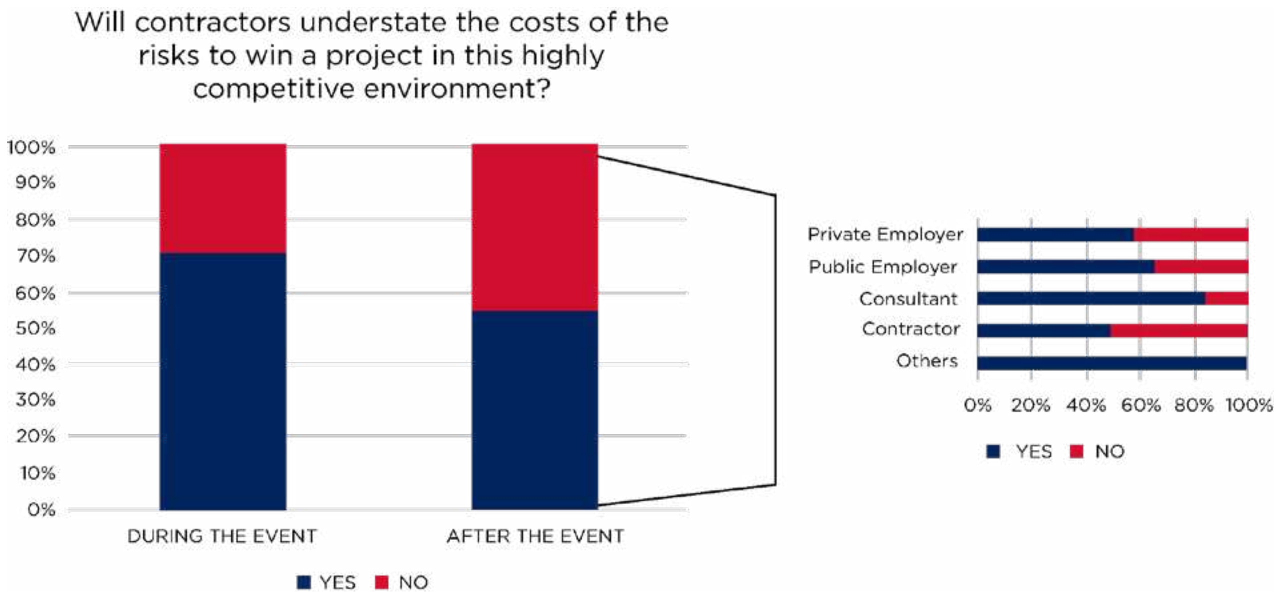


Findings:

Whilst respondents were divided in their opinion, an overwhelming majority of 77% leaned towards the "NO" position, which remained largely unchanged after the event at 78%. This reflected the reality of the situation. The majority acknowledged the difficulty in "adequately" quantifying the risks at the time of tender, given the that many unknown factors that could affect the impact and duration of any future epidemic/ pandemic.

This answer is probably the underlying driver for the results of Poll Question 1. The industry acknowledged the need to include loss and expenses provisions for future epidemics and pandemics, having experienced its problems first-hand during the ongoing pandemic situation and observing the gaps in the local standard conditions of contracts.

POLL QUESTION 3: IN A HIGHLY COMPETITIVE ENVIRONMENT, DO YOU THINK CONTRACTORS WILL UNDERSTATE THE COSTS OF THE ABOVE RISK TO WIN THE PROJECT?



Findings:

This question is a loaded one given the response to the second question. The reality is that the future risk is real and unknown, and it would be inadvisable for any contractor to ignore it. Financial failure could result if he were asked to carry a future burden that he did not adequately price for. The other side of this coin is that there is a desperate shortage of work in Singapore for contractors and many need to secure new projects, at cost and often below, just to have ongoing cashflow to retain existing staff and rother resources, till improvement comes. Contractors are being asked to take a huge tendering gamble at the time of tender. Price in the risk and lose the job, don't price in the risk and risk collapse later.

The results of almost **7 in 10** saying contractors would understate cost to win a job, are **highly alarming** and reveal the weakness in our current market. In particular, almost 2 in 3 public employers and more than 1 in 2 private employers, expected contractors to shoulder the risks in order to win projects in the near future. Interestingly, even the contractors were on the fence as **1 in 2 expected to price unknown risks competitively in order to win jobs.**

The panel discussion then shifted to how the above situation was could be alleviated. A situation where real costs are rising but tender prices dropping, is not ideal, as it ignores future uncertainty and project failure possibility. Methods for fairer allocation of future Covid-19 cost risk were discussed.

Following much discussion among the panellists and against our expectations, after the event there was a very significant shift of 15% away from "**YES**" towards "**NO**". This reflects an even greater uncertainty in the market at present and a reason for the large variances in tender prices as contractors continue to shift towards market equilibrium during the pandemic.

TENDER PRICE EXPECTATIONS

Given the above, tender price returns are expected to remain highly volatile as the second and third wave of infections rage on in different parts of the world and risk thresholds and financial strength differs from contractor to contractor. However, the industry has demonstrated a near unanimous agreement that there is a need to address the risk allocation for loss and expense due to this and future epidemic/ pandemic in our contract conditions.

MOVING FORWARDS

A great takeaway from the above findings is that there is an overwhelming industry agreement that future contract conditions need to cater for Loss and Expense due to Pandemic/Epidemic. There is agreement that the risk and resultant costs cannot be easily quantified and placed entirely in the contractors' court to bear.

RLB Singapore Partners have raised this issue in Singapore Industry forums and have been invited onto government panels looking into how to address this matter contractually. Possible solutions such as a Pandemic/Epidemic Loss and Expense Option module to existing Conditions of Contract; and upfront, transparent Pandemic/Epidemic Loss and Expense cost pricing mechanisms, at the time of tender, will be proposed.

We firmly believe that a transparent method of dealing with future Pandemic/Epidemic cost, is the only fair and equitable way to ensure win-win outcomes for all parties, consultants included. P

Colin Kin
Joint Managing Partner, South Asia

THINK AFRICA

A look at investing in real estate in Africa

Nicolas Sheard
CEO
Africa

Despite the lure of strong growth and forecasts of widespread potential opportunities for exceptional annual returns, levels of real estate investment in Africa are low by world standards, reflecting the continent's substantial challenges.

Success hinges on choosing the right local partners and undertaking appropriate research when planning, designing and developing any real estate sector as the African markets lag behind those of developed and developing countries. All the while being aware that global trends will have a huge impact on the continent.

Extensive research[1] focused mainly on sub-Saharan Africa, indicated that its real estate markets (with the exception of South Africa) share characteristics of emerging markets in terms of limited transaction data, low quality of data, transparency issues, valuation standards and the lack of participation by international market intermediaries.

What then will drive growth and realise the immense opportunities in Africa's real estate industry? A key differentiator from developed economies the research identified is the continent's young demographic.

YOUTH IN THE DRIVING SEAT

According to the World Bank, Africa's median age was 19.7 years in 2012, and is expected to increase to 25.4 years in 2050, making Africa the continent with the youngest population. The second most populous continent, it is also the world's second-largest at 30.2 million square kilometres, or 20.4% of the total global land area. The estimated population of 226 million aged between 15 and 24 years in 2020 is expected to double by 2050, driving growth in the demand for housing.

BIGGER CITIES, MORE AND MORE CITIES

Ongoing urbanisation will have a major impact reaching 56% in 2050, resulting in Africa being the most rapidly urbanising region in the world. Immense shortfalls in residential and commercial property throughout the continent are the source of growing opportunities for large scale private development, while an underdeveloped local funding environment for the necessary infrastructure projects opens up the avenue for private partnerships with the public sector.

Instrumental in sustaining this growth will be industrialisation, largely funded by foreign investors, such as China. Although, intra-African trade and investment will continue to be an important driver of growth, as high-profile local companies expand into regional markets. The retail sector will also develop rapidly as growing populations and flourishing middle classes demand greater volumes of more varied goods.

NATURAL RESOURCES A RISK AREA BUT AGRICULTURE A POSITIVE

The continent's abundant natural resources will continue to underpin economic growth, although this continued dependency on them will present both opportunities and challenges for real estate developers and investors across the continent. As global demand for food grows, Africa's significant area of uncultivated arable land will provide opportunities for growth.

INFRASTRUCTURE CONNECTIVITY A CHALLENGE AND AN OPPORTUNITY

Connections to road, rail and public transport will be vital to meet the burgeoning trend for urbanisation successfully. The current reality is that doing business

in Africa remains a challenge as overall infrastructure lags well behind the rest of the world. Specific growth sectors will, however, continue to create demand for infrastructure investment.

Infrastructure spending in sub-Saharan Africa is expected to grow at around 10% per annum. Major infrastructure investment programmes are no longer the sole preserve of Nigeria and South Africa, with the emergence of significant projects in other countries such as Ghana, Kenya, Mozambique and Tanzania. A huge shortfall in government funding creates opportunities for private investors to support this development need through direct investment and public-private partnership (PPP) agreements.

Improving political stability on the continent and increased participation in local partnerships will continue to ease investors' concerns. Collaborating with governments or involving a local partner in future real estate developments in Africa will become more the norm and still important to mitigate the risks.

INCREASING INTEREST IN PRIME REAL ESTATE

Developers and investors are finding raising capital in the markets easier as the local financing environment evolves and matures. With interest from a range of investor classes and expectations of high double digit returns, competition for prime real estate and infrastructure assets will increase.

Online technology is already having a significant impact on the finance and banking industry across Africa with the rise of mobile banking. Although, the full impact of technology on real estate has still to emerge as access to technology increases across the continent, and the traditional consumer culture in Africa begins to change. Innovative and low-cost building technologies will also help make housing affordable.

SUSTAINABLE DESIGN GATHERS MOMENTUM

The use of eco-friendly technologies is accelerating, albeit at a slower rate than in the developed world, with new sustainability legislation in the more progressive African markets. Some of these technologies include solar building integration, climate responsive building strategies, renewable building materials, recycling and reuse, ecological building materials, an integrated planning process, low-cost design, and the use of innovative design tools.

RISKS VERSUS REWARDS

Africa has 54 very different countries with low connectivity between them, and there is not a clear-cut answer for 'which countries to invest in'. The risks of real estate investment in the continent have by no means entirely dissipated. Careful consideration needs to be given to factors such as, impact of political instability; social instability from new found wealth inequality; lack of economic diversity, and complex legal considerations regarding issues such as property ownership rights and investment. The risks associated with the volatile local currencies, and limited institutional investors compared with more developed markets, have to be mitigated.

None the less, the potential rewards from the continent's immense growth potential is there to be capitalised on with the right partnerships. P

Nicolas Sheard
CEO, Africa

[1] Real Estate Building the future of Africa – PWC report https://www.pwc.co.za/en/assets/pdf/real-building-the-future-of-africa-brochure-2-mar-2015.pdf

CHECKING OUT:
Converting Hotels to Housing

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In the early days of the pandemic, many hotels opened their rooms to medical personnel on the front lines. Now the tables are decidedly turned, with the hospitality industry needing a helping hand.

While the federal Paycheck Protection Program has provided temporary security for quite a few hotels, that relief may have run its course for many operators. The American Hotel and Lodging Association estimates the impact of COVID-19 on the travel industry has been nine times worse than that in the aftermath of September 11. With business and leisure travel continuing to diminish, the hospitality sector has been devastated, with nearly half of hotels facing foreclosure by their lenders. As creditors review their hotel portfolios and are forced to make tough decisions about which operators to support at the expense of others, properties with no cash flow and burgeoning carrying costs are most at risk of closure.

.The situation underscores the need for owners/operators to be proactive and have a fall-back plan in place before their options run out. Putting it bluntly: By the time something is perceived as a problem, it's probably already too late to resolve it without a major disruption of business. In an attempt to mitigate their losses, many owners are considering repositioning their hotels into another property type, such as senior living communities, affordable housing, rental apartments, supportive housing, or student housing.

But simply switching the function of a hotel doesn't guarantee a return to profitability. It's critical to first make an objective, clear-eyed analysis to determine the feasibility of the project. This information will be essential to making an informed decision about the path forward and help identify which conversion options are most likely to add value and generate long-term returns.

RECKONING WITH REMODELING

A building's architecture and infrastructure can skew its suitability for repurposing. Existing features amenities such as pools, common spaces, and some form of commercial space, like a restaurant or cafÈ, could be retained if the property is converted into multi-family housing. Extended-stay hotels, already equipped with kitchens and baths, are ideal for conversion into apartments. To be viable as an assisted living facility, in-unit kitchens aren't required, but the property needs to be fully compliant with ADA codes, and elevators need to be large enough to accommodate a gurney. In addition to reworking the plan and programing of the building, its mechanical, electrical, and plumbing systems will also need to be tailored to its new use, adding to the conversion budget.

UNSEEN INFLUENCES

There are less obvious—but equally important—considerations influencing the ultimate use of the building. The real estate mantra "location, location, location" is prime among them. Study the needs of the local market. Is there a greater demand for affordable housing, or for market-rate developments? Is the property situated close to colleges or universities that are short on places for students to live? Is the location a drivable destination, or is it largely dependent on air travelers?

Knowing the social and economic trends at both local and regional scales can also shape the conversion. For instance, a city with a growing employment scene that is attracting younger workers might benefit from additional affordable, small apartments on the market. This demographic profile differs from a more rural, well-established community that has a large proportion of retirement-age residents, who are living on fixed incomes. In this case, it might make more sense to explore turning hotels into assisted living or senior housing—assuming there is not a glut of those facilities already in place.

Owners investigating reinventing their properties mustn't underestimate the time that will be necessary to resolve any land use or other regulatory issues. Rezoning a commercial property for residential use can take years to shepherd though the community and government approval process.

RESOURCEFUL RECOURSE

While converting a property is a long-term, permanent strategy, there are some short-term incentives that seek to provide relief to the travel and hospitality industries. An ingenious variation on the "home escape" model, where guest rooms are booked on a day-rate for people seeking a change of scene from working out of their houses, "Movers and Shakas" was launched by a partnership of Hawai'i state government, business leaders, and college alumni associations. It's a temporary residency program that offers deep discounts on month-to-month hotel accommodations and complimentary plane tickets to out-of-staters and former residents who commit to working remotely from the islands for a minimum of thirty days. It's more than a financial lifeline to this tourism-dependent economy, though; it's a way to build community and increase knowledge resources by connecting local and out-of-state professionals. This cooperative approach is reflected in the program's name; shaka is a traditional Hawaiian hand gesture signifying goodwill and unity—qualities that can help both businesses and individuals navigate difficult times. P

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FINDING YOUR EMPLOYEE VOICE TO BUILD A BETTER BUSINESS FOR ALL

Sarah Draper
Partner, Head of People and Culture
United Kingdom

In April 2020, I started a new role as Head of People and Culture for RLB UK completely virtually. I didn't set foot in my official new workplace or meet any of my team or colleagues in person for well over six months. It made for an interesting start, particularly as all areas around 'people' from wellbeing to managing teams remotely and assessing the right level of resource for the business, were firmly centre stage due to the unfolding pandemic.

For many companies 2020 sped up a number of people and culture initiatives that were already on the agenda. It also distilled the essence of what good people management should be. The organisations that take a transparent and authentic approach with their employees will be the ones that succeed, and this is our approach at RLB. We believe that our business benefits when we put people first, with 'People and Culture' being one of the three pillars that underpin our ambitious 2030 growth strategy.

Within our approach there are three key elements that are fundamental to a company's success.

WELLBEING – REMAINING CENTRE STAGE

Supporting and caring for employees, particularly during periods of intense stress and uncertainty, such as those experienced during the hardest parts of the pandemic, have brought wellbeing to the fore. Like many, our employees adjusted to virtual working incredibly quickly, delivering for clients and collaborating with colleagues remotely. Making sure that employees feel connected and valued is paramount. As well as being the right thing to do, it makes sound commercial sense as it is well established that engaged employees increase a company's productivity by 20-25%.

To support our team, we have introduced new wellbeing initiatives in the UK. These have ranged from an innovative new health insurance scheme and new policies and awareness raising on subjects from domestic violence to the menopause, to a new 'Thank you' bonus scheme and small group virtual 'catch-up coffees' with Andrew Reynolds, our Chief Executive.

Managing mental health remains key, 60% of people (Harvard Business Review) will never mention any issues they may be struggling with to work colleagues and it is vital we change that culture. We have established wellbeing communities, run 'mental wealth' training and have toolkits on all areas of mental health. We have also embedded wellbeing check-ins in our performance management system.

The focus on wellbeing will only continue to grow in importance for all businesses. At RLB UK we have introduced agile working with core hours and this flexible working culture is something I believe many companies will adopt as we move back to a 'new normal'. With many HR surveys showing that at least 70% of respondents would like to continue working from home to some degree, providing a hybrid of home and office working will better support the wellbeing of the individual and the company.

DIVERSITY AND INCLUSION – BRINGING YOUR WHOLE SELF TO WORK

It is essential that we encourage people to bring their whole self to work and that we value and recognise the individual and their contribution. In order for this to happen we need to create the right culture and to be fair and consistent in everything we do. Creating a level playing field and providing opportunities is the foundation to this. This is not a tick box exercise. There is still much as an industry we can do around the diversity and inclusion agenda, but we are making good progress. In the UK over 30% of the RLB team is female, well above the industry average, and with studies showing female representation at a senior level increases productivity by 25%, it is all about building a better business for all.

REMAINING AUTHENTIC AND TRANSPARENT

Our employee 'voice' makes sure we look at everything on our agenda from the widest viewpoint which in turn stress tests our 'fair and consistent' mantra. We have formed communities in RLB, in the UK and internationally, which help us shape polices and roll-out initiatives on issues from Diversity and Inclusion to Agile Working and Talent Management. Our employee 'voice' also helps us to understand how people want to access information and communicate. With representation from potentially five generations now working with us, we know that one size is not going to fit all.

As a completely employee-owned business, we take great pride in our 'people-first' mindset and our inclusive culture. Being authentic and transparent will continue to be guiding principles as we not only move back to a new normal way of working but strive to become a high-performing employer of choice. P

Sarah Draper
Partner, Head of People and Culture, United Kingdom

FACTORS THAT DRIVE SUCCESS IN PROCUREMENT OF MiC DELIVERY

Ling Lam
Managing Director, North Asia
Global Board Director

The **modular integrated construction (MiC)** approach has been getting more attention in Hong Kong and at a global level in recent years as an alternative to conventional methods of construction. In broad terms, MiC involves producing prefabricated volumetric modules integrated with finishes, fixtures, fittings, furniture and building services installations, manufactured in a factory environment and then transported to site for assembly. Pilot projects using this method of construction have successfully demonstrated a great deal of benefits in project outcomes. By shifting major parts of the construction to factory environment, MiC approach reduces substantial amount of build time, relying less number of workers on site, increasing productivity, producing better quality products and many other benefits. In addition, this approach offers social and environmental benefits including significant less material wastage, reducing carbon footprint for reduced site activities as well as offering safe working condition. MiC is considered an antidote to many challenges encountered by the construction industry.

A DIFFERENT WORKFLOW

MiC approach adopts a different workflow from those of conventional ones. Under this approach, a significant part of the project value is on the modular components and the related manufacturing process. It is beneficial for clients and design consultants to have access to the supply chain to appreciate the value drivers and to maximize the pre-manufactured value. Manufacturers and suppliers traditionally, at down-stream of the workflow, are not close enough to clients or design consultants to be clear on the outcomes they seek to achieve. Contractors, in the middle, due to the procurement practice, could end up taking a significant part of the responsibility over project delivery risks.

To have confidence in the manufacturers' capability, clients should consider collaborating up-front the supply chain and to identify capable and suitable potential MiC manufacturers in advance of engaging the main contractor. Having an understanding of the manufacturing processes like output capacity, logistics and timelines, would facilitate better planning of the project. Manufactured components need to arrive in good order and ready to fix on site in "just-in-time", and to avoid having modules delivered prematurely or too late to site. Logistic issues from places of manufacture, delivering, loading and un-loading as well as hoisting the components on site should be carefully considered upfront. It is not uncommon to adopt vertical construction in congested sites. Having optimal and right sizes and weights of the modules, not only facilitates efficient delivery and on-site installation, and also provides time and cost benefits to the project.

Ability to fulfil local building authority's requirements should be considered as early as possible in the project cycle. MiC approach is at present a relatively new method of construction. The basis of design acceptable to the building authority is not often clear. The lead time in obtaining the required statutory approval should be factored into the design development timeline. Prototypes or design mock-ups for MiC using actual modules or components with the right dimensions, fixing methods, connection details, spatial configuration, etc. can be carried out and test-fitted. From the test-fit, design consultants could obtain the necessary design details, test reports, and the like, and obtain an "In-Principle Acceptance" (IPA) from the building authority in advance and this would speed up subsequent approval processes. There are cases where contractors are asked to demonstrate at tender stage that their modules would fulfil the IPA criteria.

DESIGN OF MODULES

To create production efficiencies, modular construction design needs to take into account high degree of repetitiveness and repeatability of the "end-products". It requires a different design thought-process considering opportunities to develop standardization for mass production, and ease of transport and assembly. Connection details and integrators between modules or components should be standardized, that offers flexible inter-changeability during site assembly.

EARLY DESIGN FREEZE

Unlike under conventional approach where changes could be accommodated during site construction, MiC approach does not offer that flexibility, and changes to modules or components after manufacture could be at the expense of heavy cost and time penalty. A key factor in the success of a MiC project is having an early design freeze, and having assurance that the design is able to obtain statutory approval. On-site changes should be eliminated.

UPFRONT AND STAGE PAYMENT

For any procurement approach that allows sufficient and robust competition to drive value for money, one should consider obtaining sufficient response from the market to ensure competitiveness. There is a major working capital burden on MiC manufacturers in that off-site manufacture involves significant up-front costs in investing in factories, plant and equipment, materials, labour and overheads before the products arrive at site. This creates a barrier for manufacturers to enter into the market. Moreover, most industry standard forms of building contract only allow payment for materials delivered to site, and payment mechanisms need to be changed if this construction approach is to be sustainable.

Upfront payment and stage payment based on manufacture stages, for example: deposit payment, completion of carcass of the MiC units, completion of interior finishes, completion of testing and commissioning and ready for shipment, etc. could be introduced. Contracts should include provisions for design consultants and cost consultants to inspect the factories at various stages during the manufacturing process before interim payments are certified. Contractors, in return, may procure an off-site material bond as payment protection to clients.

Due to the significant up-front costs with MiC, clients may insist on vesting certificates, under which ownership of the MiC components would be passed to clients upon payment. This provides protection to clients in case the manufacturers become insolvent.

INSURANCE

Under the industry standard forms of contract, contractors are generally responsible and liable for all physical loss of or damage to the works before handing over the completed building to employers. It should be made clear in contracts which party, whether the main contractor or the MiC supplier is responsible for the risk of loss or damage to the manufactured components during transit and before arriving to site. The responsible party shall be required to take out and maintain sufficient insurance to cover risk of loss or damage during loading and transportation. In case of delay where the site is not ready for the MiC installation, suitable off-site storage shall be provided.

TESTING AND CERTIFICATION

The standard of equipment to fulfil the statutory requirements at the place where the MiC components are installed could vary from the place of manufacture. The specification of the equipment and proof of performance shall be fully demonstrated meeting the statutory requirements before manufacture starts. Manufacturers are required to carry out tests on equipment and materials, and obtain the right certification before manufacture. For example the environmental sustainable certification standard of air-conditioning units in Hong Kong could be different in Mainland China where the units are manufactured. An evaluation process of the equipment and material acceptance should be considered in the overall process. This process may involve prolonged time and additional costs in tariffs due to importing and exporting of the components.

THE FUTURE OF MIC

Moving construction of the MiC modules to a factory environment provides opportunities to introduce automation technologies into the manufacturing process. By streamlining the manufacturing facility, reducing man-power resources, producing high-quality products with high precision ability, as well as reducing carbon footprint and reducing site accidents, MiC offers solutions that result in not only significant productivity benefits, but also economic, social and environmental benefits. P

Ling Lam
Managing Director, North Asia
Global Board Director

SHIFT IN FOCUS

The growing emphasis on optimising existing assets in the UAE

Nick Constantine
BSc (Hons) MRICS
Head of Asset Optimisation,
Middle East

For the past three decades, the UAE has focused on transforming its landscape in order to build a strong and diversified economy. The UAE invested heavily in developing the infrastructure and accommodation to support the expatriate workforce needed to realise this. Alongside this, the country began to establish itself as a premium vacation destination and commercial hub, with heavy investment in hospitality, industry and commerce. The UAE's strategy was a huge success, and the result was a real estate market which offered investors healthy returns in a region with few other options. Developers could not build fast enough, with Dubai at one time having over 25% of the world's cranes. In recent years however, demand for new property has stabilised and with a growing stock of aging assets, the focus is no longer solely on building new.

The majority of residential and commercial buildings in the region are high rise reinforced concrete structures that have been designed to have a service life of over 50 years and up to 100 years in certain instances. The majority of these buildings were constructed in the peak of the UAE's development and are now coming up to 20 years old with others in more mature communities exceeding this. It may be somewhat surprising then that many of these buildings are beginning to require significant investment to ensure they remain operational and fit for purpose. Although buildings this age would typically not be considered old, there are a number of factors which contribute to this.

The speed at which these buildings were constructed, at a time when local design and construction regulations were still being drafted, has led to buildings being handed over with issues stemming from poor design, material selection and workmanship. These issues are by no means extremely detrimental in all instances but they have contributed to the manifestation of defects in many buildings across the UAE. In the haste of constructing these properties, very little thought was given to the buildings post completion.
It is very common therefore to find buildings constructed during this period that have little to no as-built documentation of any value. Not only has this had a negative effect on the ongoing management and maintenance of the properties, but it has also hampered the efforts to rectify such defects. The specification of ineffective repairs and further deterioration over time has increased the cost of repairing these defects significantly.

In this region there is a heavy reliance on facilities management (FM) companies, with many owners and asset managers looking to their service providers to resolve all their building's issues. FM companies have been used as a one stop shop and owners have assumed that by appointing an FM team, the building is protected against all deterioration and is being maintained in optimal condition. This however is not always the case and the owner very often does not consult a competent third party to verify that the building is being maintained correctly. FM teams play a vital role in the proper maintenance and protection of buildings, but they are very often only contracted for short periods (one to three years) and the service provider may change many times over the course of the life of a building. This can be problematic as some FM teams focus on short term fixes and keeping costs low during the period of their contract, to improve the chances of them being renewed. It is well known however that the cheapest repair option now is very rarely the most cost-effective option long term.

Defects aside, in the first 10 to 15 years of operation, the majority of costs incurred relating to repairs or replacements are typically minimal. For a building that is 20+ years old however, the service life of major assets serving the buildings begin to expire and need replacing. Due to the harsh environment and high-rise nature of many buildings in the UAE, they are heavily serviced. Despite this, there has always been pressure put on asset managers to maintain low service charges, something which has intensified with the increased supply of new properties that has driven rents down and reduced owner's income. This fact, coupled with the lack of future capital expenditure planning has meant that insufficient funds have been accumulated for larger maintenance projects, replacements or upgrades. There is therefore somewhat of a perfect storm brewing in the region as owners see falling building valuations and rental income at the same time as the buildings begin to require the highest levels of investment.

In reaction to this, owners and managers are beginning to recognise that they need to put investment back into their existing properties in order to maintain occupancy levels, protect property values and make the necessary adjustments to suit new ways of living and working. Initially, the primary objective was to reduce costs and efforts have been directed at reducing energy costs through energy monitoring and retrofit projects.

The appointment of government accredited energy service companies (ESCOs) to provide the financing and technology for building improvements has been gaining popularity as a solution to this. The majority of improvements however are still largely exclusive to targeting the lowest hanging fruit through replacement of poorer performing assets and energy monitoring, control and management.

There are also a small number of aging commercial properties which have undergone refurbishments in recent years, in direct response to increased competition from newer properties, falling occupancy levels and the building's original infrastructure or layout no longer being suited to the requirements of present-day tenants.

The shift in focus away from solely concentrating on the next new build project, to protecting the value of existing assets is something which we expect to continue and develop further with owners and asset managers seeking out competent third-party advice to perform holistic assessments of their properties. For owners to extract the most value from their properties, rather than focus on surface level refurbishments and energy savings, such assessments will need to begin to include stakeholder input, utilisation studies, full condition surveys, whole life costing, future capital forecasting, carbon footprint reduction and examination of funding options. The information gained from taking this holistic approach provides the data required to develop robust long term asset strategies for generating additional income, realising opportunities for cost savings, improving sustainability and successfully delivering effective refurbishment projects and asset replacements. **P**

Nick Constantine BSc (Hons) MRICS
Head of Asset Optimisation, Middle East

POST-PANDEMIC PROJECT MANAGEMENT

Kevin Mitchell
Executive Vice President
North America

Armed with a deep understanding of finance and the building process, controlling a construction job in terms of time and money has always been the core of a project manager's role.

Recently, that definition has been—to put it mildly—stretched. The advent of the coronavirus rewrote the PM playbook, and in ways that will ultimately benefit the profession. Project managers now not only have to build structures, they also have to rebuild stakeholder confidence, as the pandemic has transformed construction management in some unexpected ways, as well as accelerated changes to the practice that had already begun to be implemented.

SCOPE CREEP

One very apparent change is that the scope of services provided by PMs has expanded well beyond the traditional perimeters of a project. In order to keep owners, architects, and contractors all moving together, we need to be good communicators, with strong interpersonal skills. Now, however, it's not unusual for project managers to include non-project services to help the client deal with all the new pandemic-instigated issues they are facing. It's something that sets the best apart from the rest.

Here's an example from the educational sector. Project managers can assist schools with their reopening process by stretching beyond the typical scope and analyzing the efficiencies and protocols of getting kids safely back to the classroom. By investigating processes such as the building-entry sequence and meal preparation and service, then identifying any attendant changes to the physical facility, PMs are acting like more like partners than consultants. This kind of proactive, personalized approach will be appreciated, and could easily carry over into future business relationships.

STRATEGIZE THE SUPPLY CHAIN

In hindsight, the introduction of a slew of tariffs in 2018 on building materials enhanced the ability of PMs to cope with the disruptive impact of Covid-19 on construction. At that time, savvy suppliers and contractors began to speculate about possible economic effects. In turn, project managers started to take a closer look at the pinch points along the supply chain, searching for potential exposure to negative cost implications. In 2020, as the coronavirus transformed from an outbreak limited to China to an international pandemic, construction supply chains and markets reacted on a global scale, with many manufacturers fortifying their supply chains with domestic materials and relying less on imported goods. The take-away for the future? Know your sourcing options and keep them current.

Honing logistics offers a similar opportunity for improved customer service. Transportation that ran through areas affected by Covid were potential weak links that could jeopardize a project; the loss or unavailability of even a single critical part threatened to lead to a total stoppage of a job. Coastal areas with shipping ports were susceptible to illness-related labor shortages; even when products arrived, containers were subject to quarantine or delayed prior to drayage. During the pandemic, project managers learned to take even

more proactive measures than when trade wars were our prime problem: map out the entire supply chain, identifying alternative routes; consider strategies for stockpiling; and review contingency budgets to source and expedite critical materials.

SCHEDULING RECONSIDERED

Project managers need to understand the journey for each member of the labor force so they can address its impact on scheduling. Breaking it down into detail, quantifying its affects, and offering suggestions on ways to offset any delays is a prudent strategy for PMs. This is true even on a granular level. For example, implementing coronavirus protocols—such as taking workers' temperatures and distributing appropriate PPE—lengthened project schedules. A way to speed that process and offset schedule delays would be to increase the number of temperature sensors and set up more PPE stations at key points on the jobsite. Applying that common-sense approach to everyday processes require extra vigilance, but pays off in money and time saved.

The lessons we learned about efficiency and productivity during the Covid crisis will still be valid as we go forward. The best project managers will continue to up their game by following a simple rule of thumb, one that transcends the pandemic: If it's a problem for the client, it's a problem for us—to resolve. **P**

Kevin Mitchell
Executive Vice President, North America

TOWN CENTRE REVIVAL

Calm After the Perfect Storm

Steve Gillingham
Partner, Head of National Commissions
United Kingdom

The challenge of how to reinvigorate city and town centres has been on the national agenda for a long time. Prior to the devasting impacts of COVID-19, footfall in UK city centres was already declining month-on-month. The global pandemic has only emphasised this decline with the High Street Taskforce estimating that footfall volumes fell by almost 90% during the height of lockdown.

Many of us have spent far more time than ever at home and within our own communities, and we can feel a seismic shift happening as people reduce visits to nearby city centres, for work or pleasure, and look for stimulation within their local vicinities which have a central role to play within this new climate. This trend is backed by the UK Government's investment of £831million via the Future High Streets Fund, the first part of a £3.6billion promise by the Chancellor to level up towns across England.

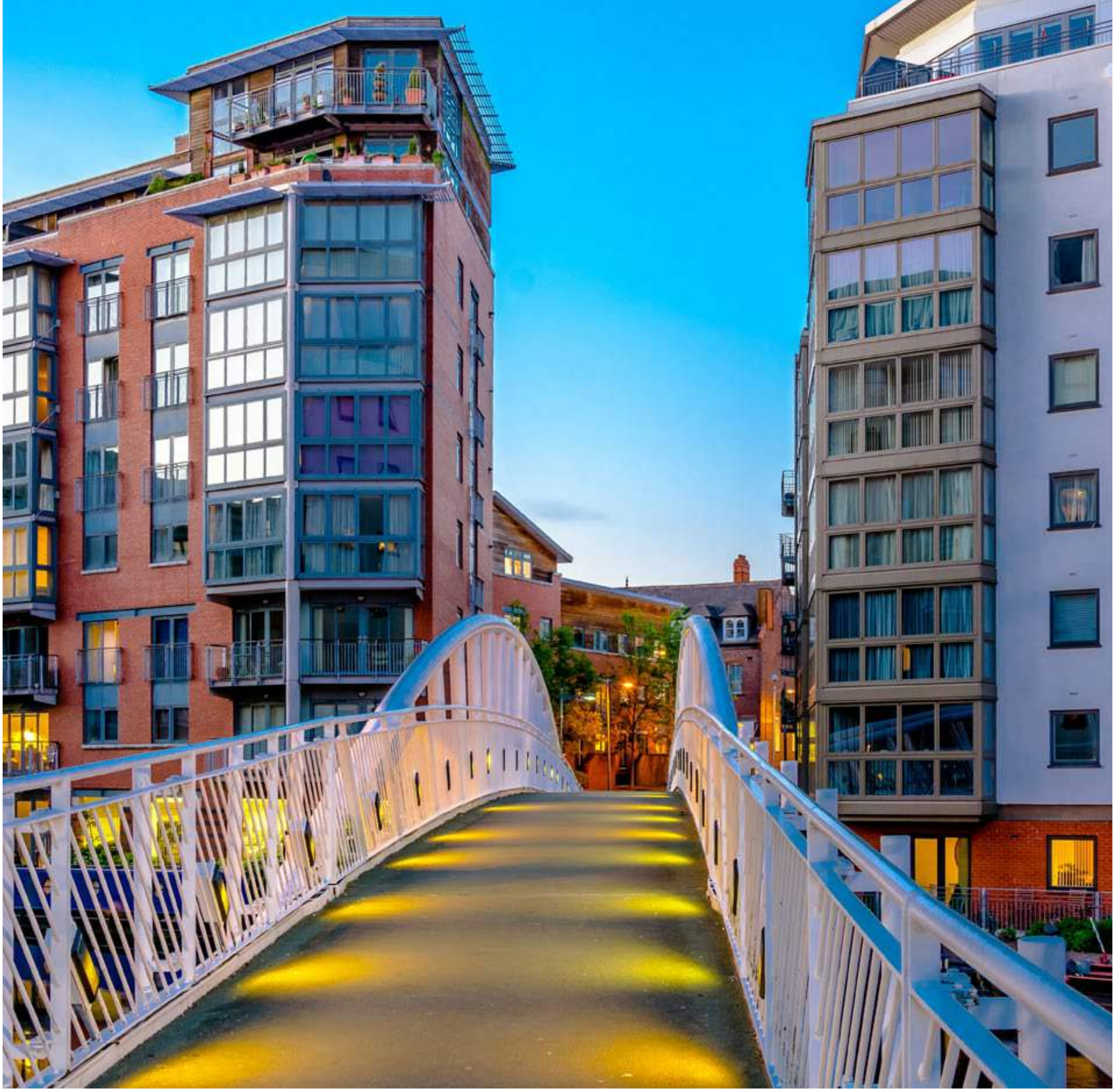
RENEWAL WITH PURPOSE

As local government and planning professionals look towards a way of refashioning town centres, we believe that the community should be the beating heart of these plans. Although environmental, societal and economic regeneration will remain at the core of these plans, each town needs to be viewed in its own context. For example, those with historical buildings might focus on funding to renovate these buildings and rejuvenate the town through tourism. Others might look to build new, to create a town centre as a hub for events, as being planned in Sheffield, Yorkshire.

Yet, we all know that neighbourhoods aren't outlined on a map but exist in the minds of their occupants. Therefore, we should be hungry for data about what makes them really tick, and analysing the who, when and what within the community will be the key to designing its centre. Armed with this data capture, we can determine what sort of restaurants work and what leisure facilities will be popular within the community. Factor in some of the change in behaviours resulting from the pandemic such as agile working, which is likely to continue in the long-term, to see priorities are already shifting with the desire for more gardens in the residential sector and the increase of family pets. By creating a town centre that is shaped by its community – real place-making - you are effectively creating more sticky spending where local investment accumulates.

LEARNING FROM SUCCESS

Paris and other European cities, including trials in parts of London, are doing just this. By creating '15 minute' centres that bring all their residents' needs and desires within an easy walking, bike or public transport distance. Instead of town centres filled with empty retail units and irrelevant stores, they are focusing on mono-activity, a single commercial activity occupying a whole street, so in effect, creating a hub around one key outlet or activity space. Additionally, copying the successful approach by global cities who reinvent and rebrand areas to create a unique identity like the Meatpacking district in New York or Shoreditch in London. Reimagine towns not as discrete zones for living, working and entertaining but as patchworks of neighbourhoods that create vibrant localities. At the heart of this is the mix of different functions – whether residential, commercial, leisure and hospitality or retail. Estate managers within both the public sector and private developers have been repurposing and creating buildings that might accommodate living, working and entertainment



spaces together. These buildings need to be surrounded by attractive public realm to drive footfall and create a 'desired destination' buzz to them. Reducing traffic and increasing pedestrian zones, green-scaping inner urban spaces and introducing ambient lighting to reduce crime and creating safer town centres also need to accompany these mixed developments.

SUSTAINABLE REDEVELOPMENT

There is also a future-scoping that needs to be undertaken as we develop our plans. RLB UK is already working with the Cambridgeshire & Peterborough Combined Authority to create the Cambridge Autonomous Metro that will allow greater accessibility for those living in smaller rural areas in Cambridgeshire through automated cars. This will become a reality within the next seven years and there is no doubt many other towns will follow suit, resulting in the reduction of a need to park in town centres, and the decline in car parks, opening up more space for community connectivity. Likewise, the introduction of drone and robot deliveries could drive down the number of delivery vehicles in our town centres, again reducing carbon emissions and creating a more conducive environment in which to live and work. In countries across the globe, town centres remain the lifeblood of our economy. Reimagining the possibilities could be the springboard that many regions need to start their regeneration journey. Listening to the communities and creating a town centre that is shaped by their voices, responds to a post-COVID-19 market already hungry for it – and one that we will all want to inhabit. P

Steve Gillingham
Partner, Head of National Commissions, United Kingdom

How to Minimize Cost to Achieve Green Building Certification in China

Cai Zhi Wei
Associate Director
North Asia

In China, it is common to adopt the U.S. LEED ("LEED system") and the Assessment Standard for Green Building of China ("Green Building Standards of China") as the green building rating systems. The objective of introducing a green rating system is to encourage the use of green design features in property development. The LEED system was introduced to China in 2003 and followed by the Green Building Standards of China in 2006. Since then, the LEED system has been widely adopted in developing high-end commercial buildings for foreign investors and the Green Building Standards of China is more widely adopted in local buildings in China.

The Green Building Standard of China grants four levels of ratings: basic grade, 1-star, 2-star and 3-star. Currently, the 2-star rating has gradually become a mandatory requirement for large public projects. Developers generally expect their buildings to obtain both the LEED and Green Building Standards of China.

This paper outlines how to obtain the necessary credits for upgrading the commercial buildings from 2-star to 3-star, and from 2-star to the LEED Gold and Platinum at a minimum construction cost.

THE 3-STAR GREEN BUILDING STANDARDS

The Green Building Standard of China requires a minimum of 70 and 85 credits to obtain a 2-star and a 3-star rating respectively. Large scale commercial buildings could be upgraded from a 2-star to a 3-star rating if they could earn additional 15 credits and satisfy two mandatory requirements: firstly, the thermal performance of the building envelope could be raised by 20% or the heating and air conditioning energy load could be reduced by 15%; and secondly, the airborne and impact sound insulation performance could reach the required high standard limit. By fulfilling these mandatory requirements means developers may pay an extra 1% premium of the total construction cost.

The following design elements earn additional 15 credits in the certification while increasing the construction cost by 0.5%:

- By introducing adjustable shading devices to the facades;
- By demonstrating the performance of the heating and cooling system sources is at least 12% higher than other similar standards; and the efficiency of water pumps and ventilation fans is at least 10% to 15% higher;
- By incorporating a solar water heating system or a photovoltaic power generation system; and
- By using certified green building materials.

As an indication, the construction cost goes up by about 1.5% for upgrading a 2-star green rated building to a 3-star rating.

LEED CERTIFICATION

The LEED certification system requires a minimum of 60 and 80 credits to obtain a Gold and Platinum rating respectively.

Upgrading from 2-Star to LEED Gold Rating

On the premise of a 2-star rated building, extra 12 credits are needed to upgrade the rating to a LEED Gold rating. Below are some design solutions that would score the extra 12 credits:

ITEMS	POINTS	CONTENTS	APPROXIMATE COST PREMIUM
Sponge city design	4	Incorporating green spaces and storm-water tanks to address the rainwater runoff	0.13%
Indoor air quality	2	Enhancing CO2 monitoring system	0.01%
Energy-saving strategy	4	Increasing heat recovery of exhaust air and introducing 100% fresh air to public areas	0.12%
Energy demand response	1	Increasing lighting control system including installing remote electricity meters for monitoring	0.24%
Construction materials	1	Using construction materials produced by sustainable sources	
Total	**12**		**0.50%**

As an indication, the construction cost is increased by approximately 0.50% for upgrading a 2-star green rated building to a LEED Gold rating by the above means.

Upgrading from 2-Star to LEED Platinum Rating

In the case of upgrading a 2-star rated building to a LEED Platinum rating, extra 32 credits are needed, and the cost premium is more substantial. After upgrading to a LEED Gold rating, it requires additional 20 credits to obtain a Platinum rating, which can be achieved through the following means:

ITEMS	POINTS	CONTENTS	COST INCREASE
Energy-saving strategy	4	Improving chiller plant performance COP by 6% and boiler efficiency by 94%	0.11%
Water supply and drainage strategy	6	Installing reclaimed water and cooling water treatment systems	0.24%
Construction commissioning	4	Applying facades commissioning	0.06%
Purchasing certified materials	3	Using a minimum of 20 types of construction materials sourced from at least 5 No. different suppliers with EPD certification; and CSR reports demonstrating sustainable sources of raw materials. Suppliers shall publicize the list of chemical substances contained in the construction materials.	0.59%
Purchasing green power	2	Renewable energy generation like solar and wind power	0.08%
Total	**19**		**1.08%**

The above-mentioned items increase the total construction cost by 1.08%.

The additional 1 credit could be obtained from selecting one of the following means below.

ITEMS	POINTS	CONTENTS	COST INCREASE
Renewable energy	1	Installing solar photovoltaic power system	0.30%
Low-volatile material	2	Complying VOC control standards in ceiling, wall and floor, thermal/acoustic insulation materials and furniture	0.12%
Energy-saving strategies	3	Improving refrigerator COP by 12%, using the inverter air conditioning, improving ventilation in office areas during transition season and installing chilled ceiling system.	0.80%

Considering the complexity of deployment and the high cost in meeting the standard, it is recommended to earn a credit by taking the renewable energy approach first, and then earn another 2 buffering credits by pursing the low-volatile materials strategy. As a result, the construction cost will be increased by a total of 0.42%.

To sum up, the construction cost is increased by about 2.0% for upgrading a 2-star green rated building to a LEED Platinum rating by the above means.

SUMMARY

In summary, upgrading a project from a 2-star green building certification to LEED Gold rating will increase the total construction cost by 0.5%. When upgrading a project from a 2-star to a 3-star green rating or to LEED Platinum rating, the cost goes up by 1.5% and 2% respectively. Comparatively speaking, LEED Gold rating offers better value for money.

The above findings reflect the current situation in the Mainland China market. LEED Gold rated buildings account for 60% of all LEED projects in China, while the respective market share of the 3-star rating and LEED Platinum rating projects is approximately 10%. Therefore, developers have to conduct a comprehensive study and decide whether the project has to obtain a 3-star green building or LEED Platinum certification.

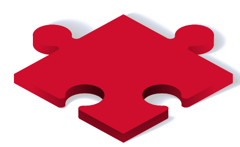
Cai Zhi Wei
Associate Director, North Asia

BIM BRINGS IMAGINATION TO LIFE

Chris Robinson
Director
Oceania

Derek Campbell
IT Group Manager
Oceania

The role of a quantity surveyor is to model complete costs, but budgets must be set long before an accurate or detailed building information model is available. How is RLB plugging in to the power of BIM to create better buildings? Chris Robinson, RLB Director in Victoria, and Derek Campbell, RLB's IT Group Manager in Australia, ponder this question.



The modernisation of Phoenix Sky Harbor International Airport, the Edge Cultural Centre in Shanghai, Sydney's fish market and the Hampton Gardens Secondary School in the United Kingdom are very different projects with one common denominator: each was modelled first in the digital world.

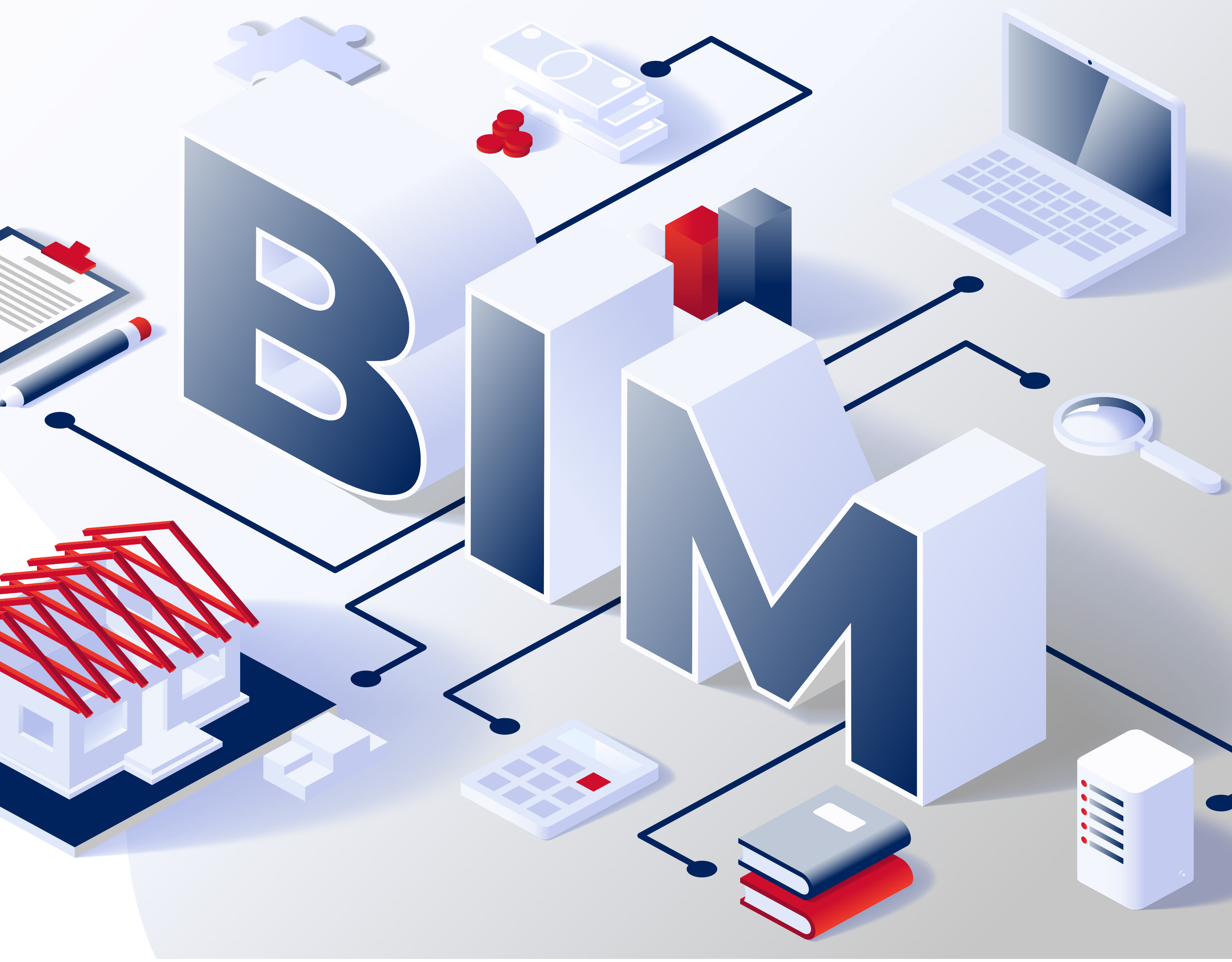
RLB has more than 300-plus project case studies where building information modelling, or BIM, helped us to estimate costs or prepare tenders, maintain a close watch on cashflow or monitor variations. We know BIM is a secret weapon that can help us exceed our clients' expectations.

The role of the cost consultant is to capture information and uncover trends, benchmark and understand best practice to demonstrate to the client where their project sits on the continuum of efficiency. While BIM itself isn't a cost-saving exercise, we know the more we use BIM, the greater the cost savings we can realise across the building lifecycle.

While some analysts predict BIM and digital twin technology will grow by up to 15 per cent a year for the next five years, the market still faces significant challenges. BIM has been held back by a lack of defined regulation and standards, expertise and skills, not to mention industry resistance and interoperability issues.

THE SIZE OF THE GLOBAL BIM MARKET[1]

- $5.2B in 2019
- $15.9B in 2027
- 15.2% predicted compound average growth rate from 2020-2027



Some governments are attempting to close the gap with investment programs or mandates. The Singaporean Government, for instance, requires BIM submissions for building projects of more than 5,000 square feet (464 sqm). The UK Government mandated BIM Level 2 on all government projects in 2018, with PwC estimating this could save the £400m a year – US$533 million[2]. But these examples remain rare. Despite governments being among the world's biggest consumers of construction, few have developed comprehensive data management plans for BIM.

Commercial incentives are also absent. BIM plays a big role in reducing building lifecycle costs, but this does not always align with many favoured business models, and in particular where the building is passed from developer to owner.

Developers with a build and operate model, those that must construct to strict standards, or are delivering replicable projects – like schools, hospitals or high-rise apartments – are motivated to use BIM. But many of those developing bespoke buildings remain unsold on BIM's benefits.

While the obstacles are obvious, there are hidden opportunities that can deliver benefits beyond an individual building. In typically siloed property companies, a great divide separates the development and operations divisions. BIM offers a holistic approach to design, procurement, construction and operations – and in an industry with an intractable productivity problem, we must embrace innovative ways of working.

RLB sees BIM as a key collaboration tool. Budgets are usually set long before the BIM model is properly established but accurate estimating relies

> BIM offers a holistic approach to design, procurement, construction and operations – and in an industry with an intractable productivity problem, we must embrace innovative ways of working.

on high quality historical data. The use of BIM information from previous projects can materially improve the quality of data used to prepare high level cost budgets on new projects.

With the help of BIM, we work as a core part of the design team to extract model data from the earliest stage. Armed with that data, we turn to our in-house specialist software to link model parameters, identifying efficiencies and productivity opportunities.

ROSS 5D – which represents the five dimensions of space, plus time and cost – helps RLB's cost consultants prepare accurate estimates and bills of quantities from BIM models, as well as other information sources like 2D and 3D CAD drawings, illustrations, schedules and project documentation. ROSS 5D uses the concept of modularity to build libraries of common objects that simplify project modelling.

Complete costings can be prepared from minimal project information and refined as the project progresses. We can analyse alternative scenarios to cut costs and deliver more efficient and environmentally-sustainable buildings.

At the same time, our inhouse project and contract management software RLB Pulse offers a real-time picture of budgets, expenditures and financial risks. RLB Pulse allows us to manage and report on development proposals, contracts, payments and variations, and ties in with ROSS 5D for benchmarking.

At the global level, the power of big data is behind an ambitious benchmarking project: the RLB Global Benchmarking Platform. Gathering granular cost information from the thousands of active projects our team work on each week, we have established common cost standards, based on the International Construction Measurement Standards, to gain greater oversight of cost ranges across markets. This project is central to our global strategy to strengthen connections between offices, standardise our benchmarking and ensure our teams have access to the up-to-the-minute data.

As we experiment with a range of emerging technologies – augmented and virtual reality, drones, 3D printing, blockchain and artificial intelligence – we continue to invest in research, upskilling and in-house software.

Ultimately, the uptake of technological solutions will be driven by the digital natives that are entering our industry and profession. McKinsey & Company has found the construction industry is among the least digitised sectors[3], but this is changing. Tech-savvy young people don't want to spend their days chained to a desk. They expect to use digital technology to solve problems, reduce risk, improve efficiency and make their jobs easier. This, in turn, will help us deliver better value for money and bring imagination to life. P

Chris Robinson
Director, Oceania

Derek Campbell
IT Group Manager, Oceania

[1] Building Information Modeling Market Size | BIM Market Analysis - 2027 (alliedmarketresearch.com)

[2] Data point is here FYI: BIM benefits quantified for the first time | BIM+ (bimplus.co.uk)

[3] Data point is here FYI: Imagining construction's digital future (mckinsey.com)

PROVIDING CUSTOMIZED CLIENT SERVICE: BREAKING OUT OF SILOS

Cathy Sewell
Principal
North America

In the highly competitive AEC world, strategic marketing campaigns are a tried-and-true tool to reach customers, drive business, and raise the brand profile. But there is another way to achieve those goals: Challenging all employees—managers and mid-level workers, specialists and support personnel, entry level and executives—to truly understand their clients and align the firm's services with their desired outcomes.

An eye-opening insight is found in the 2019 Edelman Trust Barometer, an annual study that gauges the level of confidence in business, government, media, and NGOs and analyzes the factors underlying those perceptions. In response to a question about who is the most credible source of information about a company, 53% replied a "regular employee." That's a powerful endorsement of the impact workers can wield when it comes to communicating about their firms.

A TEAM EFFORT, NOT AN INDIVIDUAL TASK

Communicating with clients and potential clients requires all team members to understand the different functions and services of the company, beyond their own job descriptions. A cost estimator needs to know what schedulers do; a project manager needs to know how construction advisory experts work. Having this 360-degree perspective allows people to talk assertively about those services and relate them to the client's objectives.

Naturally, implementing such a far-reaching program will have some challenges. Knowing how to pivot a conversation when faced with a gap in the employee's knowledge is very useful—and very easy to master. A simple statement like, "That's a great question for Jenna Hawthorne, who's our expert in project scheduling" demonstrates a cooperative, proactive approach to achieving the client's objectives while communicating the scope of your firm's resources.

Encouraging employees to broaden their knowledge can not only help their company to achieve new goals but can also position them as specialists and for career growth within the firm. At Rider Levett Bucknall, we're engaging employees to shift the company mindset from that of technical staff providing a specific service to delivering client outcomes. To accomplish this, we are providing training to employees that immerses them in our corporate values and objectives, and ultimately invests them in our mission.

EMPOWERING THE IN-HOUSE TEAM

While traditional, face-to-face training sessions are important since they allow team-building exercises and the opportunity to network with other individuals within the firm, the pandemic has upended—at least temporarily—that long-time model.

As an alternative, firms that are dedicated to ongoing training and upskilling of staff are utilizing webinars and online workshops to supplement in-person trainings. With an unlimited "capacity," these are open to all employees. Efficient to produce, webinars can be serialized on a monthly—or more frequent—basis. Finally, the recorded webinar becomes a permanent resource, fixed in the company culture, as it is archived for easy reference by new hires as well as firm leaders.

ENCOURAGING THE CULTURE

While formal training remains relevant for technical processes, more open, ongoing, and organic communication with your team can build internal allegiance with authenticity, rather than prescription. The message needs to feel genuine to who they are as people as well as why they are working at the company. Transparently sharing the company's goals is key to this. Remember that employees want to feel like they understand the goals of their organization, and that they each have a role to play to achieve these goals. Actions and initiatives that employees see happening inside the firm need to align with what they are expected to say outside it.

Our company intranet has also proven to be an amazingly effective communication tool. In addition to being a source of firm information [job openings, company directory, human resources material, learning and education opportunities], every office contributes unique content to the site: news items, project wins, employee profiles, video messages from leadership—even birthday and anniversary announcements. We also have an app for our intranet, extending its reach and making it easier for people to use. All this helps to bring the firm closer together by sharing what is going on in other geographic regions.

When COVID hit, we had another opportunity to demonstrate the priority we place on personal service. We quickly added a dedicated resources page to the site to ensure that all staff had easy access to COVID-related benefits, school resources, external COVID-related company communications, COVID-related public relations, quick links to the Center for Disease Control and the World Health Organization, and tips for working remotely, virtual meetings etc. All of this was created to assure the staff that leadership values them both personally and professionally, a position integral to our corporate outlook.

There are other measures to take to help employees focus on clients' expectations. If your company has conducted a client survey, consider sharing the results with your staff so they can better perceive clients' perspectives. Everyone can be encouraged to go the extra mile in communications. Rather than respond with a rote "He's not here" when a call comes in for another team member, ask employees to answer with a more proactive "I understand the urgency and will contact him and ask him to call you" or a simple "may I be of assistance"? And if an employee is truly at an impasse in a conversation with a customer, simply saying what they can do at that moment, then quickly finding out additional information to follow up with is a great way of gracefully pausing the chat while seeking assistance.

The takeaway here is that putting people first—with exemplary customer care as well as thorough targeted training of the workforce—communicates a company's dedication to service, and builds loyalty. When clients observe and experience employees' emotional commitment to their company, it makes a lasting, positive impact.

REPUTATION IS HINDSIGHT; TRUST IS A PREDICTOR

Top firms stay at the top by solving their clients' problems, not by rolling out a checklist of professional services or ticking off their industry accolades. Entrusting employees at all levels to build business for the company in a way that is empathetic and team-based delivers results that are two-fold: it makes workers feel more invested in the firm's future which in turn increases client confidence and allegiance. P

Cathy Sewell
Principal. North America

As seen in:
Construction Executive, November 2020, "Break Out of Silos to Provide Customized Client Service"

INFRASTRUCTURE AS AN ENABLER TO A 'FAIRER, FASTER, GREENER' FUTURE

Andrew Stamps
Partner, National Head of Infrastructure
United Kingdom

In 2020 the UK government's Budget promised an investment of £640bn for infrastructure projects in the UK to help drive growth and level up economic opportunity. A further £5bn infrastructure investment to support economic regeneration following the impact of COVID-19 on the UK swiftly followed. In common with the strategic governance in place in many countries around the globe, the UK government set a clear directive that infrastructure would be the catalyst for improving accessibility, helping rebuild our economy post the devastating effects the pandemic has had on the nation.

This strategy was endorsed by the Confederation of Business Industry, backed by research from Oxford Economics, that stated, "every £1 spent on construction generates £2.92 for the wider economy" and in November 2020, the UK's National Infrastructure Strategy was announced outlining the need for 'Fairer, Faster, Greener' infrastructure.

Meanwhile, our industry has been working hand-in-hand with government to formalise how we achieve this. At RLB UK we have been involved with government and industry bodies that represent the built environment for several years helping them shape our industry to work smarter, more efficiently and more collaboratively. A number of the RLB team, including our Global Board Director, Ann Bentley, have been involved in the development of the UK's Construction Innovation Hub's Value Toolkit and part of the key industry stakeholder groups in the creation of the government's Construction Playbook.

The Construction Playbook's objective is transformational change in our industry. To be achieved by harnessing the government's huge investment programme to demand better outcomes for government and citizens. This change will affect the way buildings and infrastructure are procured, how the supply chain is incentivised and rewarded and how success is measured. The Playbook sets out government policy and guidance on lifecycle value, net zero carbon, social value, building safety, off-site construction, early supplier involvement and long-term contracting arrangements.

The Value Toolkit is another important tool which supports the implementation of the Playbook – the 'how' to the Playbook's 'what'. The Value Toolkit process uses value-based decision making at every stage of a project, from outline business case to occupation or use of an asset. Perhaps for the first time, the Value Toolkit gives clients an objective, data-driven, methodology; enabling them to consider and prioritise very different aspects of value. The Toolkit uses well established capital modelling techniques to capture and quantify value – in areas as wide as impact on communities, life-cycle cost and effectiveness for end users.

The challenge was set down loud and clear for those of us working in the UK infrastructure sector – the government had outlined its plans, the methods to do it and the money to deliver it. A strategy that would bring connectivity, drive regeneration, boost local and national economies and reduce the deprivation within certain communities.

Having worked with clients including the Very Light Railway here in the middle of England and alongside our colleagues in Australia as well as other high profile, innovative infrastructure projects such as the low carbon, high speed rail link that effectively will connect the North and South of the United Kingdom, HS2, we know the real secret to success is understanding the strategic aims of those providing this infrastructure future and effectively aligning these vested interests. Infrastructure clients can often be divided between a number of key stakeholders – the infrastructure provider, for example, Network Rail or Highways England in the UK, the Local Enterprise Partnership, a locally owned partnership between businesses and local government, and a UK City Council. All three will see infrastructure as a key enabler for them to drive accessibility but might have differing objectives that range from generating profit, levelling out societal difference and reducing deprivation by driving economic regeneration to certain areas.

IN SUMMARY

Ensuring infrastructure becomes an enabler to a 'fairer, faster, greener' future is to bring stakeholders together and implement a holistic strategy. It is to look at the environmental, economic and societal framework as a whole and understand how each stakeholder's aim plays into the other. It is understanding the impact of activity on each other and the longer-term view. Effectively it has to align all vested interests.

Infrastructure is critical to the strategy of developing a level playing field for investment across the UK as a whole. We have the opportunity to harness the UK government's strategy to improve connectivity and thus reducing social inequalities, by regenerating areas of social deprivation. We have already been working to achieve this through collaboration with the governmental and industry bodies to support their ground breaking initiatives such as the Value Toolkit and by taking using the expertise and experience with our teams to help clients understand and implement the Construction Playbook, embrace the principles of procuring for value, and to bring us to a collective outcome of a better society to live in. P

Andrew Stamps
Partner, National Head of Infrastructure, United Kingdom

PAY IT FORWARD:

Proactive Cost Estimating

Kirk Miller
Associate Principal
North America

One of the most important contributions that cost professionals can make to a construction project is to help architects deliver the best possible value to their clients. With no ulterior profit motive, third-party cost estimators can provide truly unbiased, expert advice to the team.

Frankly speaking, many people view estimating as counting doors, measuring linear feet of pipe, and calculating cubic yards of concrete and then putting a price on all of them. But it can be much more than a quantitative assessment; with a little extra work, it can be a qualitative tool to improve your business. Since cost estimators meticulously go through every page of the set of bid documents and make note of every detail, they can support architects by being on the lookout for design errors or coordination mistakes. At the same time, an estimator can also point out cost-saving ideas that can work to put money back in the owner's pocket or keep a project on budget.

Exceeding the expected services in this way offers several benefits—both financial and procedural—to all stakeholders. Among them:

- **Providing a clear and transparent bid package.** This enables owners to receive the most responsible bid from contractors.
- **Eliminating change orders.** By identifying missing or incorrect information early in the design process, and correcting the full set of drawings, the chance of change orders being issued once construction is underway is greatly reduced. And this can mean significant savings; change orders are typically budgeted at 5% of the total construction value.
- **Setting and maintaining a specific budget throughout the design phase.** If the estimate exceeds the project budget, cost professionals can work with the owner to achieve the intended result by either modifying the scope of work or increasing the budget in a targeted manner.

It's important to note that the intent is not to take the place of the design team—it's a courtesy that can be extended to clients. By identifying issues up front that could cause problems down the line, everyone's time [not to mention the project schedule] is protected from what could be a high-pressure session of value engineering at the end of the process.

A TEAM EFFORT

Developing the right team for this value-added service is key. At Rider Levett Bucknall, our process is straightforward. We assign one estimator to evaluate each trade included in a project; one person is dedicated to HVAC, another reviews the structural elements, another estimator looks at the electrical system, and so on. Every estimator follows the same reviewing procedure, noting errors and discrepancies as they work through the drawings. When all are complete and we get together to finalize the estimate, we combine comments from all the trades into one sheet of recommendations, for simple, centralized reference.

THE PAYBACK OF PAYING FORWARD

Going this extra mile for clients sets cost professionals above their competition. It's a powerful incentive for owners and architects to become repeat clients—we aren't attempting to redesign a project, just identifying areas early in the process that might incur change orders, and suggesting appropriate alternatives.

Even if we catch just one thing or make a single suggestion, our clients are grateful for the additional effort we undertake on their behalf. Implementing this kind of proactive approach gives them confidence and builds loyalty and trust—and even the most competent estimator can't put a price on that. P

Kirk Miller
Associate Principal, North America

DECARBONISATION

Helping to achieve 'a sustained flattening of the curve'

Heather Evans
Associate, National Head of Sustainability
United Kingdom

In 2020 there was one much talked about bright spot. As country after country entered lockdown as a response to the COVID-19 pandemic, by default they were helping dramatically reduce carbon emissions, minus 17% at its peak, around the globe. Could one benefit to come out of this crisis be a worldwide reset for carbon emissions?

By the end of the year the World Meteorological Organization stated the global response to the pandemic had had little impact on the continued rise in atmospheric concentrations of C02, saying: "The lockdown-related fall in emissions is just a tiny blip on the long-term graph. We need a sustained flattening of the curve."

ON THE GLOBAL AGENDA

That 'sustained flattening of the curve' will no doubt be a large part of the agenda for the 26th UN Climate Change Conference of the Parties (COP26). Hosted in Glasgow by the UK in partnership with Italy. Parties will be brought together to accelerate action towards the goals of the Paris Agreement and the UN Framework Convention on Climate Change. The UK has ambitious targets and was the first major economy to pass law pass law to decarbonise by 2050 with a goal to bring all greenhouse gas emissions to net zero by this date. Some of its cities have even accelerated that timetable, for example, Manchester has pledged to be carbon neutral by 2038.

With the built environment contributing around 39% of the world's total carbon footprint, the industry is rightly in the spotlight. Policies are rapidly being developed to drive reduction, with funding and commitments essential to achieving ambitious targets. One of the critical roles for our industry is to provide the roadmap for clients to actually be able to deliver against net zero carbon goals.

ASSESSMENT FROM 'CRADLE TO GRAVE'

At RLB we work with our clients to provide cost modelling to support our clients' business cases so that the impact of decarbonisation can be considered from the very start of the project. When setting targets around achieving net zero carbon for built assets, it is crucial to look at the embodied carbon - what is embedded in the building during its construction, as well as the operational carbon - the energy efficiency of the building once it is in use. Reducing operational carbon in project builds is well established; we have the metrics, the technology and the ability to utilise renewables to reach these targets. However, assessing embodied carbon at every stage of the construction journey from the moment the materials leave the ground through to the actual build on site, 'from cradle to grave', has proved more challenging for the industry.

Our approach is to consider the impact of carbon at every stage of the project plan from design to facilities management; linking carbon with cost and other key value drivers within the programme such as social value and wellbeing. This provides our clients with a holistic overview enabling them to make informed decisions about the level of sustainability impact. Assessing the cost of achieving net zero carbon at business case stage is vital. This approach ensures incremental sustainability stages can be built into decarbonisation strategies whilst considering financial drivers; delivering continuous improvement and progress towards zero carbon targets. Early engagement and assessment have the added benefit of enshrining those decarbonisation goals within the programme, rather than being considered in isolation or as mere bolt ons. We are applying this holistic approach with clients in both public and private sectors.

Clearly climate change is a huge factor in certain geographies around the world. Preparing for the inevitable consequences of climate change needs to go hand in hand with any decarbonisation plan. Projecting the effect of climate change scenarios on built assets, including extreme events such as prolonged drought or flooding, ensures that climate risk and the associated costs of adaptation should be considered from a whole life cycle perspective while simultaneously reviewing the sustainability and decarbonisation elements. This is an area becoming of particular interest to funders and developers who in assessing the financial long-term risk of their investment will need to consider the potential upside of higher yields to be derived from an attractive net carbon zero asset.

CAPEX VS OPEX - SPREADING THE COST ACROSS THE LIFE CYCLE

There is no doubt that the cost of the 'green' element of a building can still be viewed as expensive – particularly when it is only looked at through the capital expenditure optic. We need to continue to encourage a shift in thinking away from just capital outlay towards a life cycle perspective; changing our mindset to think about the 30 to 60 years that the building is in use, in conjunction with both the longer-term returns of minimal energy outlay and the sustainable benefits for the planet.

As an industry we are tackling these challenges head on and it is good to see we are sharing knowledge and best practice not only domestically but around the world. The progress we are making every day in helping clients to embed sustainable practices will not only help achieve their programme targets for decarbonisation but will play a major role in our collective ambition of a "sustained flattening of the curve". P

Heather Evans
Associate, National Head of Sustainability, United Kingdom

THE CHANGING COMMERCIAL SECTOR

Paraic Morrissey
Resident Manager
North America

As the trajectory of the coronavirus crisis continues to unfold, there is one thing that's clear: the commercial sector is confronting a radically different future, as the workplace—both new-build and renovation projects—will be redefined on all fronts, from development and design to lending and leasing.

CHANGES IN THE BUSINESS MODEL

When it comes to density in office spaces, there are two different schools of thought. One centers on significant numbers of employees continuing to work from home, whether as part of a staggered shift or in compliance with a new company policy. In this scheme, firms can strategically thin out their workplace seating capacity to reflect this reduced daily occupancy. As a result, the overall area of offices stays the same while allotting more square footage per seat. In a late October 2020 survey, the Partnership for New York City, a group of prominent business leaders, reported that employers expect that an average of 39% of employees who return to the office in 2021 will continue to work remotely at least 50% of the time.

On the other hand, if companies implement social distancing recommendations in order to safely welcome a full complement of workers back to the office, it's possible that could potentially lead to them leasing—likely negotiated at steeply reduced rates—additional floors in a building to accommodate the newly-spread-out staff. This scenario is reflective of those businesses that believe face-to-face interaction (albeit with masks) is a vital ingredient for maintaining a vibrant company culture.

Relatedly, previous to the pandemic, some companies were using their offices as an incentive to attract the top new hires in their field; buildings with opulent finishes, dramatic interior atriums with design-statement staircases, and a plethora of amenity spaces were considered to have a competitive advantage. Now, given the changed

circumstances, those social features could be considered inappropriate at best, and pose a health risk at worst. Owners may scale back on these to not only achieve a better balance between fancy and functional design, but to reduce costs as well.

Some developers, especially in cities where affordable housing is in high demand, are effectively reframing the issue by focusing on live/work projects. Traditionally a model that appealed to artists who need a large, loft-like space in which to practice their craft, it can now be effectively marketed to a broader constituency, one that has adapted to working from home.

In markets where there's a surplus of existing office building stock, converting these properties to residential use can benefit all parties, buyer, seller, and tenant alike. The Real Estate Board of New York assesses the supply of average-quality office space in the city to be approximately 210 million square feet. The board estimates that converting a mere 10% of that space to residential use would create about 14,000 apartments. There's a precedent for this: in the aftermath of 9/11, the residential population of lower Manhattan more than quadrupled, with many new arrivals to the neighborhood occupying formerly commercial properties.

REEVALUATING RISK

The notion of risk in the commercial sector has now become a cooperative venture, with building operators, landlords, and tenants all having to step up to the plate to enact and maintain safety precautions. From monitoring the number of people entering an elevator, to directing foot traffic in shared corridors, to administering temperature scans of building visitors, commercial building managers will be tasked with following guidelines from state and city agencies.

Upgrading base building elements will also impact risk calculations. Again, recommended practices are still being formulated, with HVAC systems receiving special scrutiny. Increasing the number of HVAC zones in a building, keeping interior relative humidity readings between 40 to 60 percent, and using HEPA filters throughout, as well as sterilizing the air with UVC lighting or bipolar ionization, are all being considered in the fight against the airborne virus.

It's worth noting that there's more to worker wellbeing than physical health; more than ever before, mental health is also a consideration in this "new normal", as anxiety and stress stemming from the coronavirus play a role in employees' decisions to return to the office. From reassuring signage about safe behaviors to interactive art or video installations, populating the office with design elements that support emotional security can help workers engage and adjust to an environment that is simultaneously familiar and different.

BUY, SELL, OR HOLD?

During this period of ongoing uncertainty, many owners and developers are making time to take stock of both their current and planned portfolios. As the wisdom of "wait and see" plays out, we can expect a slowdown in projects for the next 6-12 months; in the aforementioned Partnership for New York City survey, the total share of employees expected to return to the office by July 2021 decreased from 54% in August to 48% in October. At this point, most portfolio changes won't be too drastic; we will learn more as we go, with the market likely to be different a month from now as well as six months from now. Perhaps the best counsel is for all stakeholders to remain flexible—and vigilant—as the recovery for the commercial sector takes shape. P

Paraic Morrissey
Resident Manager, North America

Representing innovation in healthcare facilities

The UCHealth Longs Peak Hospital is a, 210,000 SF facility offering state-of-the-art medical treatment in Longmont, Colorado. The 51 inpatient bed facility features a Level III trauma center and emergency department, ICU, operating rooms, birthing center, pharmacy, lab space, and other general services. An attached 12,000 SF utility plant supports hospital operations. The design encompasses UCHealth's long-term vision of expansion and flexibility of facilities that is consistent with other UCHealth hospitals being built throughout Colorado.

UCHealth required RLB's services including early project budgeting, cost planning, design milestone cost estimating, CM/GC GMP proposal reviews, CM/GC change order reviews, and monthly schedule analysis.

RLB Rider Levett Bucknall