THE RISE OF VERTICAL CITIES AND TALL BUILDINGS: LESSONS FOR AUSTRALIA
THE CHALLENGES OF A VERTICAL FUTURE

The world’s cities are facing rapid change. The number of mega cities with 10 million people or more will double to 41 by 2030. By this stage, over 70% of the earth’s population will be urbanised, bringing unprecedented challenges to delivering sustainable housing, work, education and health for everyone. Australia is no exception. The country’s population is projected to hit 38 million people by mid-century, as Sydney and Melbourne both attract three million new residents and Brisbane and Perth each add another two million.

Cities are responding by becoming denser, more vertical places. Just a decade ago, tall buildings above 200 metres were a rarity, but at the end of 2016 there were 228 globally and 44 in Australia above that height. Nearly half of those 228 could be defined as “Supertalls” above 300 metres, with many acting as either residential or multi-functional towers with myriad uses.

According to the Council on Tall Buildings and Urban Habitat (CTBUH), taller, more complex towers are now “an omnipresent tool in increasing the urban population”. But the challenge lies for both developers and cities to ensure they are commercially successful, seamlessly linked to mobility, integrated with urban habitat and a catalyst for dynamic, resilient cities of the future.

Building at height is a highly specialised business requiring sophisticated skills and experience. It also demands a broader approach to the whole life cycle of a building, from the concerns of urban planning right through to the unique design, construction, procurement, project and cost management issues that must be addressed to create value and a return on investment.

We at Arcadis - with our design consultancy arm CallisonRTKL - have developed a comprehensive understanding of how to create and deliver these soaring, iconic towers. Here we address seven of the most crucial issues facing tall building development, relevant to the Australian market:

• Tall buildings are rapidly becoming “vertical communities”, mixing functions, features and tenants to help deliver commercial and urban appeal. However but their vibrancy brings design and planning hurdles as well.
• Building at unprecedented heights is an emerging discipline that must meet unique challenges in project management, workforce, procurement, cladding and safety to deliver on time and on budget.
• Commercially successful tall buildings are increasingly integrated with urban mobility such as metros. Realising the benefits for the public and private sector, demands a Mobility Oriented Development (MODE) framework to drive the planning and creation of buildings and precincts that are people-centric, not just focused on transit.
• The new heights and forms of tall buildings invariably add costs in terms of design and construction, putting renewed focus on the need for global expertise, multidisciplinary skills and high-quality management.
• The standalone skyscraper unconnected to the city’s urban fabric is a thing of the past as developers, architects and planners adopt new ideas, solutions, technologies and approaches to create dynamic urban precincts.
• Tall buildings are also getting greener and healthier as they strive to meet the highest sustainability and WELL® standards, with cutting-edge towers ensuring they do the very best for the environment, the city and the people in them.
• Successfully managing a tall building takes a unique blend of skills in safety, resilience, environmental quality, sustainability and technology. Making the most out of your asset in the operating and maintenance phase is crucial to realising the returns for investors and the community.

Gareth Robbins
Senior Managing Director, Property, Energy and Resources
When the 95-storey, 309-metre Shard was completed in 2012, it was not only London’s tallest building but one of the first to call itself a “vertical city” by blending business, apartments, a hotel, restaurants, education, medical and 24 hour public spaces.

Since the Shard was completed, the idea of tall buildings as integrated, multifunctional vertical communities with broad demographic, commercial, urban and cultural appeal has flourished. From new skyscrapers like the kilometer-high Jeddah Tower in Saudi Arabia to London’s award-winning 300m “Endless City” concept wrapped in interwoven ramps, new towers keep reimagining life in the clouds.

It is a radical rethinking of just what tall buildings can or should be. City population predictions mean the pressure is on to end unsustainable, environmentally challenged urban sprawl by creating homes for millions more people in city centres near work, education and healthcare.

Rapid urban concentration – Sydney alone will add over a million people in the next decade – is spurring a whole new era of next-generation, residential skyscrapers. Back in 2000 there were 215 office blocks, and only 3 residential towers, above 200m globally. Fast forward to 17 years later and there are well over 200 residential towers that are even taller, with a further 184 under construction.

However, given the extraordinary costs of land and construction, there is also new pressure to deliver high value Supertall projects by creating mixed-use buildings. Some of the world’s most prestigious and highest skyscrapers are now integrating commercial with residential, including the Jeddah Tower in Saudi Arabia with nearly 500 apartments, Dubai’s Burj Khalifa with 900, and its neighbour, the Dubai One development with 78,000 residents, with many others proposed or planned.

1. ROOM WITH A VIEW - THE RISE OF VERTICAL COMMUNITIES

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VERTICAL URBANISM?

Even a decade ago, tall buildings had a rather forbidding reputation as isolated, standalone shrines to business with floors, lobbies and courtyards emptied as night fell. That scenario is rapidly changing, but can skyscrapers realistically create a sense of community or bring a new sense of urban connectivity?

It is a major challenge that also comes with costs for both developers and tenants, for example bringing in natural physical elements such as light, air, and open space.

Multifunctional tall buildings like the Shard, Shanghai Tower and Philippines Transmarine Carriers, to name just a few, are clearly helping to change the paradigm. By designing towers embracing multiple ownership, porous public/private connections, shared services and amenities, integrated movement, diverse public spaces, varied retail, cultural and lifestyle opportunities, they are delivering dynamic, interconnected experiences that better reflect urban realities.

For many, though, this is still not enough to meet the needs of a much broader range of people, families and children who will need to live in cities. The traditionally narrow demographic of young professionals, empty nesters or wealthy investors drawn to inner-city high rises is changing. A decade ago 3% of families in Sydney lived above four storeys, but the figure has doubled and continue to rise.

Adaptable, innovative tall building design is the answer to meeting the needs of more people at different stages of life and with vastly different expectations about how to live well at height.

"We need to shift our thinking beyond what’s customary in tower design to embrace new ways to provide amenities, services and even programs that are true differentiators in a competitive marketplace."

Higher percentages of two- and three-bedroom apartments, flexible interior designs that can be readily reconfigured, ground-floor retail and services like child care, pharmacies, health professionals and supermarkets, community spaces, gardens, sporting facilities, and adjoining outdoor space are all seen as crucial parts of the new “vertical neighbourhood”.

Technology is also key. While embedded smart building technology can deliver seamless connectivity and management for apartments and services, tall buildings can also bolster vertical neighbourhoods through accessible, shared online information, building-specific apps and virtual networks.

Andrew Liu
Architect & Vice President, CallisonRTKL

"The way we live is constantly evolving. And where we live - the spaces, neighborhoods, communities and apartments - follow suit."

“Vertical Living: Home of the Future”, CallisonRTKL.
The world is not only getting more towers, but they are becoming taller, greener and more complex as we strive to fit more people into cities and more features into skyscrapers.

The soon-to-be iconic one-kilometre-high, US$1.3bn Jeddah Tower in Saudi Arabia may still be under construction, but is already transforming the way we think about building at height by creating the highest working, living and public spaces ever built.

Everything about Jeddah Tower sets records – deepest piling, highest observatory platform, over 33,000 curtain wall panels and over 94,000 tons of steel, 57 of the world’s fastest elevators, 30m diameter outdoor balcony and high-performance exterior walls.

But to get there also means breaking new ground in design, planning and construction, with unprecedented challenges in project management, workforce, engineering, materials, safety and movement to name just a few of the issues facing next-generation sky-high buildings. Tall buildings – and increasingly Supertall or even Megatall towers – are forcing us to revisit how we deliver them safely on time and on budget.

“In many ways, this is a whole new industry that keeps evolving with each tower, requiring different ways of thinking, rapid innovation and continuous learning.”

THE SUM OF ITS PARTS

A number of critical, interrelated elements help to differentiate tall building delivery from buildings at lower levels. These include location, the design process, site logistics, the sequence of building, materials, health and safety, workforce planning, and management.

With tall buildings almost exclusively located in crowded cities with limited space or warehousing, issues of workforce access and onsite movement – the Jeddah Tower may have over 10,000 contractors and workers on site – the delivery, timing, and vertical transportation of labour and materials all become far more critical.

Tall buildings have far greater, more intense appetites for people, supplies and services than anything else being built. That means strategic, long-term planning balanced by seamless coordination is needed to ensure efficient, on-time delivery with minimal street, site and work program disruption.

Construction workers and contractors are another imperative. The capacity to plan, recruit and schedule a large workforce, either skilled or experienced enough to build at these new heights, can be a significant challenge anywhere, let alone in emerging markets, but so too is ensuring they stay safe.

Health and safety is always an issue, but the stakes escalate with height, particularly as buildings progress from construction to the complexities of external finishes and curtain walling. Tall building specific inductions that are refreshed at each stage of the building are key, but other strategies include element prefabrication to restrict edge working and trial assemblies of key components.

BUILDING ON EXPERIENCE

The linchpin for building at height is undoubtedly the construction management experience of the team leaders and key personnel in a sector that is still emerging as a unique, cutting-edge discipline. And the rapidly shifting demands of building at height is the reason.

Cities all over the world have now joined the tall building race, but geography is also changing as the Asia Pacific region dominates, responsible for 84% of all tall buildings in 2016.

The look, function, materials and technologies involved are also in flux. The ability to deliver projects at untold heights, while accommodating increasingly futuristic architectural designs, or ever tougher urban and environmental standards, is putting added focus on project management, planning and organisation to deliver the vision of both the developer and architect.

“Tall buildings are undoubtedly exciting and iconic, but they pose some of the toughest, most dynamic construction challenges in the world. Collaboration and knowledge-sharing by management teams is fundamental, but so too is the capacity to draw rapidly on global experience, skills and world-best practice no matter where you are building.”

Derek Roy
Commercial Director for Arcadis and Tall Buildings expert

2. AIMING HIGH – DELIVERING TALL BUILDINGS
3. RISING ABOVE – VERTICAL MOBILITY ARRIVES

Sydney’s new 66-kilometre Metro will bring 40,000 people into the city every day in a major boost for jobs and growth. But the 31 stations that anchor it all will have just as powerful an impact on the city skyline and suburbs above them as they attract investment, development and urban renewal.

It is a sign of the emergence of over station development – or “metro precinct activation” as it is also known, as a powerful new force for cities to manage rapid urbanisation by increasingly blending the opportunities offered by new towers, mobility and value capture in ever more constrained and expensive urban sites.

Key to their success is the opportunity to plan, design and build new mobility hubs, towers and urban habitat simultaneously. By better leveraging public and private sector partnerships and investment, it significantly boosts the capacity to deliver seamless transport, commercial and residential connections in re-invigorated city precincts.

Mobility is absolutely crucial to successful cities as they become denser. But we need to shift the focus from purely transport or purely towers to much broader investment, economic and urban design considerations to create thriving, sustainable communities.

“Building a metro station or a high-rise building in isolation, without consideration of the opportunities to link public investment with public benefit, is just a wasted opportunity.”

Unfortunately, many transport hubs or tall buildings have done just that; however increasingly cities and developers are creating smarter connections between the two. From London’s Shard to New York’s Grand Central Station, the Riyadh Metro, Madrid’s Principe Pio, Kuala Lumpur’s Central or Kowloon Station in Hong Kong, there’s now growing evidence that over-station developments are powerful economic and cultural catalysts.

Hong Kong’s Kowloon Station with its airport, rail, bus and pedestrian links is a prime example, having attracted the construction of some of the region’s tallest office and residential towers and busiest retail.

Sydney’s metro stations are expected to do the same, with the Martin Place metro station in the heart of the city – proposed by global investment bank Macquarie Group – one of the best examples in response to the Sydney Metro Project. A seamless transport, pedestrian and retail concourse linking new and existing metro rail lines below ground will be topped by a 200m tower and reinvigorated commercial, shopping, public, cultural and dining spaces above.

Martin Place also rethinks just how new urban development should happen. By assuming the costs of the new Metro, Macquarie Group hopes to significantly reshape the adjoining precinct and air space in a critical evolution of how public and private partnerships will need to be formulated in the future.

THE VERTICAL COMMUTE

Key to vertical mobility is integration. Planning transit and urban development opportunities as a unified project with embedded public and private partnerships vastly expands the chances of delivering a world class experience for passengers and the city, but it does not come without its challenges.

Building metro stations, complex underground thoroughfares and soaring high rise buildings where costs, regulations, heritage, traffic and public interests often collide requires efficient and detailed planning and design.

“New opportunities for vertical mobility also ask us to discard the customary approaches to development and investment in favour of more innovative, flexible and inclusive solutions that drive connections in all senses of the word.”

A global benchmark of urban land use at transit interchanges by Arcadis and CallisonRTKL provides a compelling snapshot of some of the world’s most successful transit adjacent developments based on the comprehensive strategic planning framework – Mobility Oriented Development (MODe).

MODe sets out to better understand, develop and design what are broadly known as mobility oriented developments in cities by applying four main “values” – transit hub accessibility and comfort, urban environment, social placemaking, and economic development, to help drive the broader investment, design and social imperatives inherent in building on and around stations.

MODe is really the first model to clarify what drives successful urban precincts, linked with transit investment. The framework allows early insight into maximising an integrated transit hub, and in turn high-rise investments, so that planners and developers work together to create sustainable, interconnected cities.

Kevin Brake
Director, Mobility Oriented Development (MODe)
4. PUSHING THE LIMITS – THE COSTS OF BUILDING TALL

The elegant 528 metre Zun Tower nearing completion in Beijing is a recent example of the soaring buildings that are being constructed around the world in response to the challenges of denser cities. It is also one of the most ambitious and expensive ever built.

It is not hard to see why. The Zun’s 120 storeys and 8 distinct zones blend offices, apartments, a hotel, shopping mall, art galleries and rooftop garden underpinned by underground parking and a subway, while the futuristic concave design and high-tech façade, not only dominate the city but deliver cutting-edge engineering and environmental performance too. Yet as the world’s towers keep getting taller and more complex, they also become far more expensive to build as a result.

**COUNTING THE COSTS**

One of the most significant structural cost drivers of tall buildings is the size and complications of the core, which has to be designed and planned differently to handle challenges like geotechnical issues, heights, uses, services and ultimately, tenantable space. Integral to any core strategy at height is the increasing integration of new towers with transport hubs like subways and stations, expanded basement parking, additional plant requirements, and seismic or other substructure considerations.

The core’s design and associated cost of construction are also directly impacted by the growing demands of vertical transportation. A higher proportion of lifts with more varied services such as express, double-deck or designated-floor calling are needed in higher towers to service a multitude of floors, spaces, tenants and visitors as efficiently as possible.

While the basic equation for developers of how cost and value drive a return on their investment still stands, building efficiently, delivering optimum floor plates and premium market valuation all face new cost challenges as floors, different uses and bespoke designs are added.

**It would be impossible to avoid complexity invariably without adding dollars. Tall buildings over 60 storeys inevitably take longer to plan, construct, manage and service than other buildings and that’s a primary driver of the significantly higher costs involved.**

Matthew Mackey  
Director, Quantity Surveying

While building high-rises, particularly in tight urban areas where space is at a premium or is highly regulated. Apart from inherently longer time lines from pre-planning to completion, new towers create additional costs through far bigger demands on the workforce, scaffolding, cranes, procurement, power and site accommodation.

Labour costs also escalate with the specialisation of tall building construction, both in terms of skilled contractors or companies which may be in short supply in some cities, and need to be brought in from afar, as well as for experienced, multidisciplinary management teams. These are fundamental to delivering such huge projects on time and on budget.

Façades are the other major issue today’s developers and planners face. While they typically represent around 15% to 20% of building costs, façades are finding a heightened focus as the latest towers increasingly experiment with cutting edge designs or architectural forms, technological advances, or improved wind, ventilation and energy performance.

Façades can be one of the biggest areas for cost blow-outs, so detailed planning in the design phase and as part of the procurement strategy is essential to minimising cost premiums being incurred. The inclusion of repetitive detailing or off-site and prefabricated façade components can also deliver significant cost efficiencies as you head skyward.

Some of the global property markets’ latest snapshots suggests that the tallest skyscrapers are now the world’s most valuable commercial assets. With prices per square foot, sales and new towers continue to rise in concentrated cities like Hong Kong, Tokyo, New York and Sydney.

**Next-generation towers do present financial risks for developers who want to stand out in crowded cities or create a premium address, but they also offer huge value opportunities in a world still pivoting to the idea of vertical cities.**

MahaNakhon, Thailand

Fast, flexible passenger movement in today’s towers is fundamental to market value, but that all comes at a premium.
5. TOP TO BOTTOM – THE HORIZONTAL IMPACT OF BUILDING TALL

Construction of the world’s tallest tower, the Burj Khalifa, kick-started a new master planned urban zone in a neglected area of Dubai, and ended up creating a whole new city in the process.

The soaring design, mix of business, residential and public spaces – plus a retail mall and 11-hectare park at its base – proved an instant commercial drawcard. Since opening in 2009, it has also sparked new investment and development, with offices, apartment buildings, hotels and shops rapidly taking their place nearby to define what is now known as downtown Dubai.

Iconic towers are emerging as incredibly powerful catalysts for new growth in both marginalised urban areas or the hearts of dense cities. But to stand out in a highly competitive property market, attract top tier clients and recoup the huge costs involved in building so dramatically or so high, developers and architects have to create commercially driven towers that work seamlessly as urban destinations too.

And that means towers and cities must complement each other, working collectively to deliver the very best vertical and urban experience.

BUILD IT AND THEY WILL COME

Getting the zoning right in cities often long constrained by segregated or outdated business, retail, cultural or height rules is key and underpins what developers and architects can achieve. Fostering a new urban dynamism also puts a new emphasis on collaborative public and private investment and planning, as well as community consultation.

The introduction of integrated master planning, particularly in emerging markets like Asia and the Middle East, or reinvigorated zoning strategies in existing cities like Chicago or Sydney, is now fundamental to creating dense, flexible, heterogenous and participatory urban habitats to help underpin and define the next generation of towers.

These so-called “vertical cities”, increasingly designed by famous architects, are not only meant as iconic beacons remaking city skylines, but are mixing functions and features to appeal to a much wider leasing and visitor demographic 24 hours a day. Smarter connections to immediate urban habitats is also an emerging priority, including integrated transport hubs like metro stations, improved pedestrian access and circulation, or expanded retail, dining, parkland and entertainment opportunities.

“Tall towers significantly increase the value of land and buildings around them – residences and businesses that have views of beautiful towers increase drastically.”

Adrian Smith, Architect, Burj Khalifa & Jeddah Tower
6. THE HIGH LIFE – THE RISE OF GREEN RATINGS IN TALL BUILDINGS

Whether its LEED® (Leadership in Energy and Environmental Design), BREEAM (Building Research Establishment Environmental Assessment Method) in Europe or Australia’s GreenStar, green building certification systems are getting more rigorous. Tall buildings are also increasingly posting high scores – by the end of 2016 75 skyscrapers were LEED® rated globally. It is proving a smart strategy for developers, with a spate of studies agreeing that greener commercial towers cost less to run, attract higher rents, have lower tenant turnover and increase productivity.

Despite the different rating systems globally, most tend to agree on what makes a sustainable tower. Achieving best practice in water use and harvesting, energy consumption across operating systems, efficient or natural heating and cooling, air quality, supply chain transparency and carbon intensity are crucial strategies in all of them.

However, developers and architects are increasingly going beyond the existing ratings to try to stand out, with innovative layouts, advanced passive design, zero net energy performance and biophilic, breathable façades all now on the agenda. Next-generation towers are not only responding creatively to environmental, urban and technological change, but are also being smarter about how buildings engage with people or impact their health and productivity.

FROM GREEN TO GOOD

In fact, the debate around sustainability is rapidly shifting to embrace broader concerns about liveability, health and community. A major catalyst in the shift has been the introduction of the WELL® standard, a performance-related rating system focused on human health and wellbeing across seven metrics: air, water, nourishment, light, fitness, comfort and mind.

If green construction has proved a benefit for cities, the environment and tall building design, then WELL®-adapted skyscrapers could be even more influential. Research links improved health and wellness to sustained corporate growth and productivity. A recent study of a WELL®-certified tower in Los Angeles found most employees thought the office environment overwhelmingly benefited their performance, collaboration, health and outlook.

While WELL® overlaps with efforts to build greener, it also brings new priorities, principles and standards that are having, and will have, a big impact on how we design and build towers going forward. Some of this can be as basic as delivering high-quality air, water and light, but also requires designers to include gyms, bike racks, gardens, health and wellbeing programs, the use biophilia, cafes and crèches, as well as the use of more sustainable building materials.

BLUE SKY THINKING

Delivering towers that are both green and healthy is not straightforward. There are significant costs involved in meeting environmental best practice, transparent sourcing of materials or embedding cutting-edge technologies, as well as designing towers more holistically to address human health, participation and adaptability.

For nearly all standards or accreditation making sure what is designed is actually built is the key. Health and wellbeing design decisions need to be made early in the design process to ensure all team members are clear about the requirements. It is also important that contractors and supply chains truly understand the implications of what has been designed and specified, especially in terms of materials and performance criteria, before the orders are placed.

As tenants increasingly demand a much higher experience from tall buildings, we will see developers and architects around the world embrace new approaches, not just in how they design but also how they use real estate.

The next generation of Supertall buildings will be smarter and more flexible, and we’ll increasingly see developers and designers exploring how spaces can be used outside of the “normal” 9-5 hours, perhaps no longer accepting the idea that a space should only be an office or a retail space or a home, but looking at how it could be all three – working spaces. Collective, multifunctional living developments that we are already seeing are just the beginning of this trend.
Creating and maintaining a safe environment for all building users is of paramount importance for the asset management team, but with a diversity of users comes increased risk. Globally, the asset and facilities management markets vary in maturity, with some countries placing more emphasis on build codes but not, for example, enforcing operating codes.

We must go beyond the minimums of robust pre-planned maintenance and occupational health and safety standards, to establish a common occupier culture and framework that is sensitive and respectful of each user group, an example of which is the owners corporation of a strata scheme.

Smart building technology has a role to play in the enforcement and monitoring of these standards as we can use the technology to provide data on not only how the building is performing, but how it is being used by its residents.

Gordon Baxendale
Director, Asset Performance

MAINTAINING THE SMART BUILDING

In creating “greener and healthier” buildings, we’re also expanding the sophistication of the materials and systems within them. “Smart building” technology to monitor and manage dynamic and diverse tower environments demands more specialised skills to manage and maintain them, potentially changing the facilities management sector in the process.

Supply chains could become more specialised and fragmented, as turnkey supply and maintenance contracts become more commonplace for cutting edge technology. With such niche players in the market, the cost of maintaining hi-tech environments may come at a premium.

Lifecyle replacement planning will need to be more proactive too. Availability of off-the-shelf spares is increasingly challenged due to proximity of manufacturing and bespoke plant and systems. Maintaining an inventory of critical spares to sustain the 24/7 environment will also be crucial.

This of course should be made easier by monitors and sensors using Big Data and the Internet of Things, which could order such spares based on predetermined lifecycles.

NO PLACE LIKE HOME

Many people would not give a second thought to working in a high-rise environment for 8 hours a day. However setting up home in one often triggers different emotions, particularly after recent events in London and Dubai where high-rise living hit the headlines for all the wrong reasons.

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Gordon Baxendale
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7. HIGH MAINTENANCE - MANAGING TALL BUILDINGS AS ASSETS

Planning, designing and creating a vertical community produces unique challenges for everyone involved, but this phase may only represent 5-10% of the asset’s total operating lifecycle.

The role of the designer in creating attractive vertical commercial, residential and public spaces has often dominated discussions of tall buildings. However, while attracting tenants is largely the role of the designers, retaining them and realising the yields for the investor is the responsibility of the asset manager.

RISE OF THE SUPER ASSET MANAGER

Today’s tall buildings commonly blend retail, commercial, hospitality, entertainment and residential functions. This means the asset manager faces the proverbially unachievable task of trying to satisfy the competing needs of a huge range of tenants and visitors 24/7.

As tall buildings get even more complex, this will only get more challenging.

Over recent years, the asset management community has had to keep pace with the ever-increasing demands that tenants place on an asset. Tall buildings demand growing levels of safety, resilience, environmental quality, sustainability and flexibility over longer operating hours and with denser populations per square meter.

Asset strategies are typically formulated for each individual asset class. In the case of tall buildings, asset strategies and their implementation are becoming increasingly complex and dynamic, requiring strategies to be revisited more frequently to stay relevant or possibly re-invent the asset several times over its operational life.
LESSONS FOR AUSTRALIA

How cities respond to the demographic and urban challenges they now face will increasingly impact how they thrive in the coming century. Tall buildings are a crucial part of that response as cities compete globally for status, investment, business, talent and, most importantly, liveability.

Creating commercially successful tall buildings with resilient mobility and seamless urban integration is complex. Collaborative public and private sector partnerships, innovative investment, flexible zoning and tall building design that is multifunctional, connected, sustainable and healthy are all crucial elements going forward.

Tall buildings demand a more comprehensive approach from developers, architects and planners. Their sheer size is putting renewed emphasis on the whole life cycle of a building as well as consideration of the tower’s impact on business, property, transport, city precincts, streets, environment and people now or in the future.

These towers are also cutting edge, spurring innovation not only in how buildings look and work, but how they are constructed, operate, use technology or embrace new materials. Those complexities mean that tall buildings are unique, requiring experienced, skilled and multidisciplinary teams with global reach to oversee their design, planning, project management and construction to meet the much bigger demands of budgets, timelines and geography.

It is also the reason that tall buildings are emerging as a whole new discipline all of their own. As they evolve in terms of height, form, complexity and sustainability, each tower sets a new benchmark for global best practice.

GLOBAL KNOWLEDGE, LOCAL EXPERTISE

JEWEL
Gold Coast, Queensland, Australia
- Strategically located on the Gold Coast between Surfers Paradise and Broadbeach, the landmark Jewel project defines a new standard for luxury with its spectacular crystal-inspired geometric design

177 PACIFIC HIGHWAY
North Sydney, NSW, Australia
- A landmark addition to the North Sydney skyline, offering a new benchmark for an A-grade building in one of Australia’s largest commercial districts.

1 WILLIAM STREET
Brisbane, Queensland, Australia
- Enhancing Brisbane’s reputation as a vibrant city boasting modern, landmark architecture.

180 BRISBANE
Brisbane, Queensland, Australia
- To achieve a prestigious commercial building over a highly constrained site, Arcadis developed outstanding structural solutions allowing a natural flow of public and commercial spaces.
Arcadis Australia Pacific is a leader in built and natural asset design and management. From major road and rail infrastructure to innovative waste, water, residential, retail and heritage projects, we strive to create smart, sustainable solutions for our valued clients.