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INSIDE:
SECURITY
CHALLENGES
UNDER THE
MICROSCOPE

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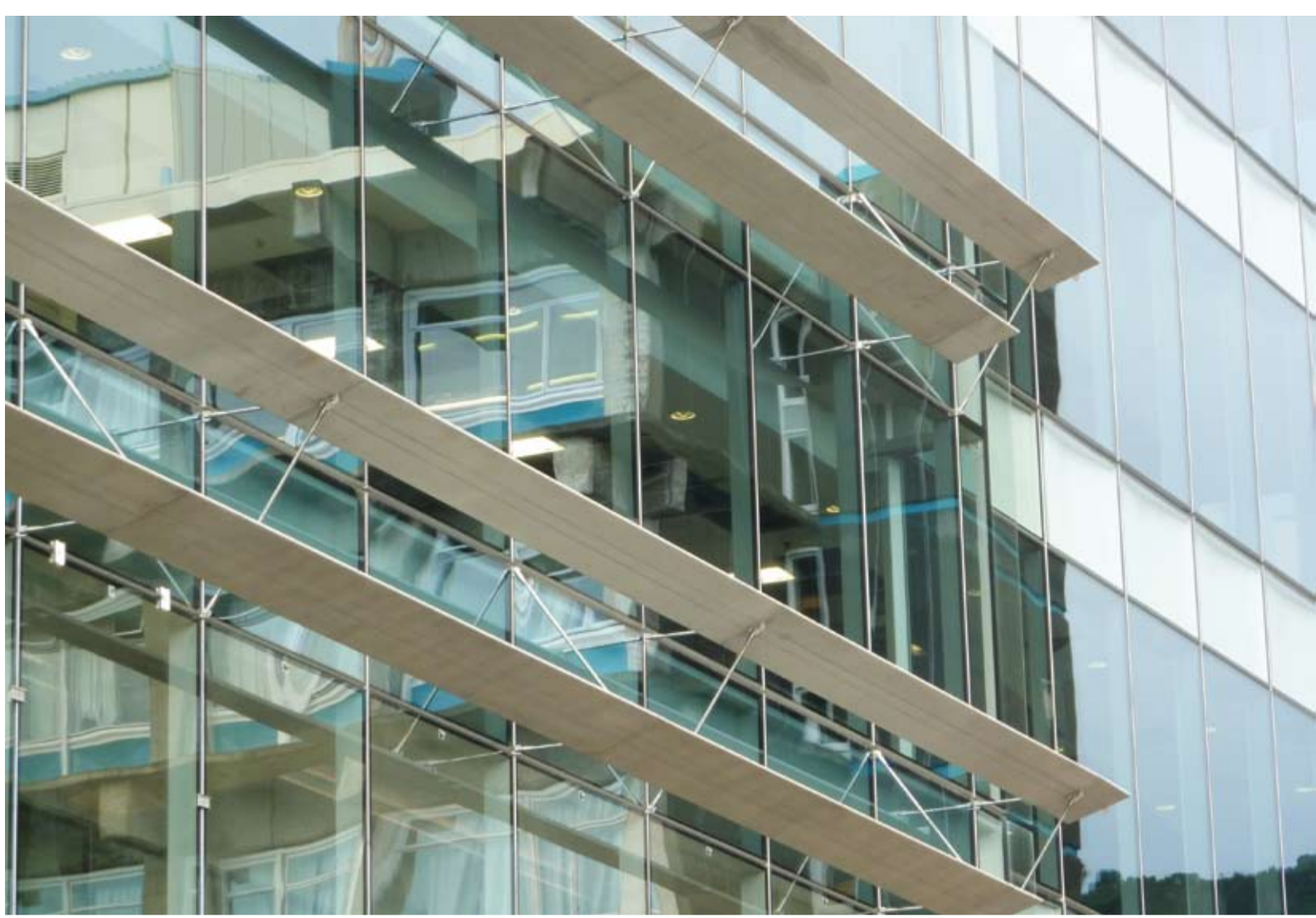
BUILDING INTELLIGENCE

THE SEISMIC SHIFTS IN TECHNOLOGY, ESPECIALLY IN TELECOMMUNICATIONS AND THE INTERNET, SEEN OVER THE LAST 20 YEARS HAVE LEFT THEIR IMPRINT ON EVERY BUSINESS AND INDUSTRY.

A new age of information dissemination has been born, providing access to all information by anyone, anywhere, at any time. Only two things seem certain - that innovation will continue its relentless pace and that those who look to misuse it will be at the cutting edge of applying it.

For the intelligence agencies that are tasked with identifying technological threats to our national security, the pace of these developments has been a major external catalyst for change and means keeping one step ahead of something that is by its very nature, completely unpredictable.

The Government Communications Security Bureau (GCSB) is one such agency, with a vision of 'mastery of cyberspace for the security of New Zealand'. Alongside providing foreign signals intelligence and a 'watch and warning' service to government, they make sure our official information is protected and New Zealand is as safe as possible from cyber threats.



Read this article and view more images online at tbig.co.nz/latest_think. Photo courtesy of Athfield Architects.

The GCSB historically had two 'faces' - foreign intelligence and information assurance. Up until the 1990's, these two sides were highly compartmentalised, kept literally behind unmarked locked doors. Communication was on a strictly 'need to know' basis, and information shared rarely.

With the advent of the internet and changes in telecommunications, the two sides of their organisation began to be knitted together by cyber operations, who delivered new techniques and resources to both.

In 2006, alongside this ongoing organisational change, the GCSB began to run out of space in the Freyberg Building, their existing premises. *The Building Intelligence Group* in conjunction with Dow Group were tasked with identifying and delivering a new premises option. Lack of room was not the only issue in a building that no longer met their evolving needs and required significant refurbishment, including more meeting space and upgrades to air conditioning, power, heat and IT infrastructure.

They had two options - shift into purpose built premises, or stay put and refurbish. Neither option was as simple as it sounds. With rigid security requirements, in terms of the location, the building and infrastructure, any building selected had to tick numerous boxes, and as many of their operations run 24/7, moving would be a significant logistical challenge in itself.

However, refurbishing their existing premises would be even more problematic - they faced three years of working in a building site, and several shifts for some units. This would carry all the attendant security issues, and none of the benefits of being able to design everything to suit.

Fortunately, the opportunity to relocate to "Pipitea House" in Pipitea Street and purpose build their new premises arose in 2007 and the decision to move was made quickly.

Driving their entire approach to the new building was the need to 'plan for the unknown'. In terms of their workplace design, this meant how many people they might have, working on what, with whom would be virtually impossible to predict. Other departments might join them at their premises for short or long periods, as subtenants or partners on projects. So how to put in place workplace strategies with so many unanswerable questions?

Planning the design brief for their premises, took the form of overseas research to understand what other intelligence agencies around the world were doing and a staff environment survey to identify the baseline for their accommodation expectations. This enabled critical success factors to be set including encouraging staff interaction, allowing flexibility for whatever the future may hold and supporting staff recruitment and retention.

As GCSB Project Manager and Chief Financial Officer Chris Carson explains, the results of this work were three proposals - each at a different point on the 'open plan' spectrum. These were presented to Bruce Ferguson, GCSB Chief Executive, with the most extreme option being predominantly open plan, with only the Executive Leadership Team having offices.

"WITH ALL WORKSTATIONS BEING MODULAR AND LINEAL, THE DESIGN HAS BEEN SET UP TO ALLOW THE GCSB TO CREATE NEW SHORT OR LONG TERM TEAMS WITHOUT WORRYING ABOUT THE EFFECT ON REAL ESTATE."

Paul Belchamers, Director, Planet Design.

"Bruce's response was to not only progress with the most extreme 'open plan' option, but to remove the Executive Leadership Team offices. This constitutes an enormous cultural and practical change for an organisation that previously not only had offices, but doors that were locked, and lights that signalled when it was acceptable to enter."

The open plan layout, designed by Planet Design, has been put together specifically to facilitate communication and create opportunities for staff to interact.



Photo courtesy of Athfield Architects.

An important aspect is the glass feature staircase, a requested tenant addition, connecting floors two to nine which aims to break down physical separations between floors. Simple yet effective features like a staff cafeteria, centralised kitchenettes and printing facilities will also get people up and out of their seats and talking to one another.

“With all workstations being modular and lineal, the design has been set up to allow the GCSB to create new short or long term teams without worrying about the effect on real estate. Numbers can be increased or decreased by simply moving staff along and placing a screen up, instead of having to rearrange existing clusters of desks.” Paul Belchamers, Director, Planet Design.

Given, along with all of government, the GCSB has had to hold their wage line, the working environment is now even more important. As well as recruiting a diverse range of highly skilled, and sought after, employees, retention is particularly important as they invest heavily in training and carefully vetting applicants.

To help keep staff through one of life’s most dramatic changes, the GCSB will soon be one of the few government departments to set up their own crèche within the new building. On the same level as their gym, it will have its own outdoor area and will be able to take 30 children.

The environmental credentials of the building will also tick important boxes with employees. The five green star rated Pipitea House (as designed by Athfield Architects) has feature landscaping at the street frontage and green roofs on the building’s stepped levels.

Outside of the visual benefits, the green roofs will reduce stormwater runoff and protect the roofing membrane. All the rainwater is collected into two ten thousand litre potable tanks in the basement and it is used for toilet flushing and non drinking water. Other green features include solar water heating on the roof, double glazing, lighting sensors, balanced air conditioning and 54 bike parks.

Business continuity has also been carefully factored into this project. The custom design has meant their work can always continue with standby back-up generators for power continuity, IT protection and disaster recovery offsite. Ultimately, this delivers an extremely durable environment for them to operate in.

“The unusual combination of generic layout, flexibility, business continuity and security requirements as well as the degree of organisational change the GCSB is undergoing has made this a challenging and complex project. Projects for clients with high security needs are always more exacting than the norm. In this instance with a large number of different work streams to co-ordinate and the integration of physical and technological features, this has been one of the most challenging fitout projects we have undertaken.”, Melanie Briasco, Project Manager, *The Building Intelligence Group*. ■



Read this article online at tbig.co.nz/latest_think



Read this article online at tbig.co.nz/latest_think. Image courtesy of HainesAttract.

SPECIAL TACTICS

REWARDING, AND DEFINITELY NOT RUN OF THE MILL...

In fitting out new purpose built premises for the New Zealand Police Special Tactics Group (STG) *The Building Intelligence Group* needed to think more tactically than ever. The challenge was to see the project through the eyes of a group who have very precise operational and strategic needs, somewhat different from normal policing.

STG’s role includes dealing with difficult, demanding and often sensitive situations that require more than an Armed Offenders Squad or other frontline unit response. STG is also involved with intelligence gathering operations, specialist protection duties and has a counter terrorist capability.

Members of the squad are extremely fit and are required to pass advanced skills and fitness training beyond that of the more usual policing roles. All however started their careers as frontline officers before applying and getting selected for this specialist unit. They also have a range of specialist equipment including weaponry available to them as they work to support a range of policing operations throughout New Zealand.

Superintendent Bruce Dunstan, Police National Headquarters, says upfront planning and working closely with police staff was important throughout this project.

“*The Building Intelligence Group’s* ability to understand our operating methods and to assist in delivering a flexible design that would be responsive to our operational and strategic needs has ensured a successful project. It was vital that they quickly got to grips with how we receive, analyse and utilise operational information and that they understood the different functions of all the parties we worked with.”

The new facility provides an efficient, purpose-built base with capability for a dedicated command centre when required. Previously the STG had to either commandeer temporary operational premises or share with other Police operational units.

“Our aim was is to make sure STG’s new home allows them to access and utilise information and equipment in a real time and highly secure environment,” says Martin Hubbard, Project Manager, *The Building Intelligence Group*. ■

SMALL YET PERFECTLY FORMED

PINT SIZED PROJECTS OFTEN PUNCH ABOVE THEIR WEIGHT WHEN IT COMES TO PROVIDING INTERESTING CHALLENGES.

When freshly rebranded HainesAttract were looking for new Auckland premises, they had well defined parameters. “As a specialist ad agency we needed character space that looks the part and provides savings overall on our occupancy costs. *The Building Intelligence Group* helped us find the perfect spot and deliver an outcome that met our strict budget and corporate requirements.” Jonny Wyles, HainesAttract.

The Building Intelligence Group worked with Morrison Kent, HainesAttract’s legal advisors, in putting together an agreement to lease which saw the landlord largely covering the cost and management of the fitout. With a finite lease expiry date, the fitout was completed alongside the landlord’s work to maximise coordination efficiencies and minimise the construction period.

However, as well as their own contribution, HainesAttract carried the risk of any cost over and above the landlord’s agreed contribution. This meant *The Building Intelligence Group* took a ‘hands on’ approach during the landlord’s procurement process to ensure nothing was excluded that might emerge to bite them. Caution was key and so a few ‘nice to have’ items were treated as provisional sums and not given the green light until the cost risk had disappeared (they got them in the end, don’t worry).

Interior designer Neville Parker from Inside loves to push the boundaries, and this time was no exception with a ‘soft wall’, made of insulation. This unusual addition required very close attention from a build-ability perspective.

Project Manager Peter Leong explains the importance of planning and taking a galvanised approach to ensure the team understands and manages the risk. “We knew this wall was going to be tricky so upfront we had to scope out all the risks to be confident the benefit would outweigh the risk. Installation discussions were also had with the subcontractor installer and the interior designer to ensure that expectations would be clearly met.”

There are issues that can be envisaged and some that can’t. For the latter, it’s all about fast reactions. HainesAttract’s telecommunications provider belatedly advised the road would need retrenching to get the fibre in. This required resource consent, so it was essential to make sure they did everything possible to avoid delays, and critically a worst case scenario plan was in hand to provide interim connectivity should the worst happen. Daily contact was made with both the roading contractor and the supplier to ensure that the right leverage was being applied while back up plans were being prepared.

And the result? Fibre installed without trouble, a happy client ensconced in new premises, that staff and clients love. Their vision delivered as they wanted it, on time and budget. ■





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THE GREEN ROOM

BELT-TIGHTENING, RATHER THAN SUSTAINABILITY IS DRIVING INVESTMENT IN GREEN DATA CENTRES, SAYS BUSINESS RESEARCH AND CONSULTING FIRM FROST & SULLIVAN, BUT THE BENEFITS WORK BOTH WAYS.

According to the firm's report, green data storage technologies strive for three key advantages: reduced energy consumption (contributing to cost and environmental benefits); comparatively less heat generated (minimising cooling needs); and virtualisation (storage pooling into a single device managed from a central console). This conserves space by reducing the number of servers required, and streamlines backup, archiving, and recovery.

Globally, data storage needs are growing exponentially every year. Generally, all data centres (big and small) require the same things: multiple broadband providers, constant power infrastructure, and robust cooling systems.

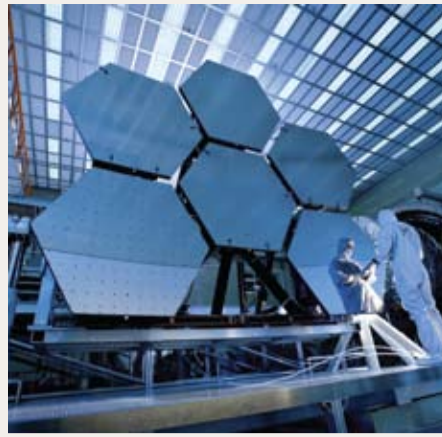
The solution is often to increase storage capacity – resulting in increasing amounts of energy to build and run disc arrays. So a smarter, more energy-efficient solution is a must. Green technologies such as virtualisation, cloud computing and better power management can lower energy consumption without compromising on capacity or performance.

While future proofing data storage is imperative, to build a large facility in anticipation and power 100 percent of the space right away is a waste of energy, and of course money. These facilities remain relatively empty for years and will be obsolete before reaching capacity.

It makes sense for data centre owners to investigate sustainable technologies and solutions, with good economic as well as ecological returns. "It is estimated that IT infrastructure alone contributes about five to 10 percent of the total energy utilized for running a company," said Technical Insights Research Analyst Achyuthanandan S.

So what might a better option look like? How do you answer questions of energy and space efficiency, cost effectiveness, security and data availability, without blowing the IT budget? Rather than a single magic bullet, the solution is a balance of technologies and practices to address power, cooling, physical space, health and safety, data security, e-waste and performance. Technologies such as removable hard disk drives that don't need constant power when not in use can be used for storing inactive data.

As businesses globally seek to green their supply chains, they are demanding eco-criteria not only from the companies that clean their offices and courier their parcels, but also increasingly from those safeguarding their information. ■



Read online at tbig.co.nz/latest_think
Image courtesy of NASA.

THINKING SPACE

"ONE OF THE VALUABLE BYPRODUCTS OF THE US SPACE PROGRAM IS THE BODY OF KNOWLEDGE CONCERNING MANAGEMENT OF LARGE COMPLEX DEVELOPMENT PROJECT ACTIVITIES."

According to Erasmus H. Kloman, Unmanned Space Project Management: Surveyor and Lunar Orbiter, this was a part of the NASA legacy. And NASA's work and research in project management has "delivered some of the fundamental early project management techniques like the Critical Path Method and Project Evaluation Review Technique" says Ian Macaskill, General Manager, Wellington, *The Building Intelligence Group*.

In addition to the myriad pressures and constraints of an undertaking on terra firma, NASA project teams must of course, also take on the unique challenges of spaceflight. However, prior to the watershed Challenger accident in 1986, the agency approach to professional development was that employees learned 'on the job', during extensive long-term projects, with large teams of experienced practitioners. Unprecedented energy went into understanding what had gone wrong with Challenger. From the tragedy emerged the Program and Project Management Institute (PPMI).

Director Frank Hoban understood that the PPMI should be more than a training course. He saw the need to identify and use project management competencies as the foundation for learning. Training was to be based on what practitioners did in practice, not simply in theory. He also realised the importance of hands-on learning in the field, as well as solid documentation.

A new era dawned when Dan Goldin was appointed NASA Administrator in 1992. His makeover of programme and project management promoted efficiency and increased output, while emphasising safety, innovation, low cost, speed, and quality. Known internally as "Faster, Better, Cheaper", the change would influence both project management and the way talent was developed.

The PPMI has since evolved into the Academy of Program/Project and Engineering Leadership (APPEL). And each year since 2004, it sponsors the PM Challenge, attracting expert speakers and offering discussions and workshops in project management, systems engineering, team building and a number of related areas.

Jerry Madden, a retired employee of NASA's Goddard Space Flight Center, gathered more than 100 'lessons' learned from project manager colleagues, many of which, like these, apply to projects of any scope or nature:

- Never make excuses; instead, present plans of actions to be taken.
- Find the right people to do the work and get out of the way so they can do it.
- The main job of a project manager in industry is to keep the customer happy.
- Projects require teamwork to succeed.
- Important decisions must be documented.



Antoni Gaudí's Sagrada Família.
Read online at tbig.co.nz/latest_think

LEGACY IN STONE

AS WELL AS BEING FAMOUS FOR ITS 'BIBLE IN STONE', BARCELONA'S SAGRADA FAMILIA IS KNOWN AS AN ETERNAL CONSTRUCTION SITE. SO HOW HAS GAUDÍ'S SUCCESSION PLANNING HAD AN IMPACT?

Barcelona's bigwigs often tried to prevent or limit Antoni Gaudí's work because it flouted city regulations. Luckily, Gaudí had the vision and foresight to ensure his masterpiece wouldn't be buried under red tape.

His works are remarkable for their scale, diverse construction techniques, and innovation due to his observation of organic geometry. The expiatory temple of the Sagrada Família was started by Francisco de Paula Villar, in 1882, but Gaudí became Project Director little more than a year later: a position he held until his accidental death in 1926.

Despite his fanciful designs, Gaudí also made practical, long-term plans for the build. After more than 40 years working on the church, he knew it wouldn't be completed during his lifetime, so succession planning for his magnum opus was vital. For posterity, he created detailed plaster models (scaled 1:10 and 1:25) for key elements, as well as ground plans, sections and elevations.

After his death, work continued, led by Domenech Sugranyes, but suffered a major setback during the Spanish Civil War when Gaudí's workshop was burnt down and his models and most original plans were lost. Luckily, parts and photographs of the plaster models were recovered and some published plans were also salvaged. Word of mouth played its part too: conversations with Gaudí had been carefully recalled and notes recorded into books. Since construction recommenced after WWII, subsequent engineers, architects and artisans have worked with a reconstructed version of the lost plans and their modern interpretations.

The crypt, the wall of the apse and the Nativity façade were all built by Gaudí himself. He planned the construction so that instead of building all subsequent sections to the same level at the same time, they would be built in complete sections – façades, interior naves and towers – so each generation would oversee one part.

Gaudí was quoted as saying "my client is not in a hurry". As the construction site nears its 130th year, *The Building Intelligence Group* Director Ian Macaskill has this advice about project succession planning. "The Sagrada Família demonstrates in an extreme way the need to ensure the integrity of a project knowledge base and this goes to the heart of today's best practices in project information recording and access management and resource continuity planning for key project roles." ■

THOUGHTS ON...

DESIGNING FOR SECURITY FROM DAY ONE

DR FRANK STOKS



Frank Stoks, Stoks Limited

The traditional view of security is applying a whole lot of security technology to a building as an extension of the electrical services design to prevent theft and crime. But bolting on security arrangements in the form of electronic cameras and surveillance tools mostly ignores what security

actually means to people's lives as tenants, building occupiers and building owners. The last thing we want to do is rely on security technology to do the job of something we should have designed for from the outset. Our thinking should start by taking a more holistic view of how we invest time and thought into how security arrangements should happen first and foremost by good design.

So let's talk about that holistic view. Our starting point must be one of making sure that any security arrangements are actually driven by client requirements and what the potential risks are. This means preparing a comprehensive brief the Client is prepared to sign off on. Taking a helicopter view, I get involved in a project as early as possible to understand the security issues and risks that we want to fix on a given site and then look at the opposite side of the coin to ask which positive opportunities we should be enhancing by way of hooks for better design. By getting involved in discussions from day one, protective arrangements can be embedded into a building and it works to everyone's advantage.

Mostly the process starts with working with a client to find out what are the key things they are trying to protect – in the case of a building owner it could be about information security, products they need to protect, how to maintain services on a 24/7 basis, how to protect the building itself, and importantly, their 'reputation' as prudent accountable operators. In a housing situation, the questions that need to be asked include thinking about how can we ensure residents feel protected and safe; is the building welcoming; what are the unique characteristics of the neighbourhood; how do we separate private spaces from public space and how do we maximise a sense of community? By thinking about the strengths and issues of each situation, we begin to see the power of embedding security arrangements in good design.

Let's look at some examples in the real world. I've consulted on security and risk management projects for government and commercial clients across sectors ranging from housing to public buildings, retail and government departments with complex security requirements. I worked with The Building Intelligence Group on the redevelopment of the Hanson Court apartments for the Wellington City Council. It was a question of looking at the unique inner city Newtown location, and asking what mechanism could enhance a sense of safety and security for tenants while also taking account of public and city council needs. How do we define and protect private space from public space? How can mechanisms such as planting, lighting and surface treatments enhance residents quality of living? What were the negatives to tune out? We arrived at good security through early planning and informed environmental design.

Holistic security is like the three legged stool – protective arrangements by design, facility management and judicious use of security equipment – from briefing through every phase of building delivery. That just means being an integral part of the project team.

What are your thoughts on this subject? Share them at tbig.co.nz/latest_think.html

Intelligence

New futures for older buildings

The New Zealand Historic Places Trust is bringing leading US consultant Donovan Rypkema to Wellington for a special half day seminar to address issues and strategies which will be food for thought for owners, architects, project managers and other influencers of heritage buildings. As a leading international voice, count on Rypkema to be highly interactive and insightful as he explores strategies around feasibility analysis, economic revitalisation, compliance and planning. The seminar will be on Wednesday November 17th. Register by emailing infocentral@historic.org.nz



Terry Mansfield – building our intelligence

We are feeling rather smug after securing Terry Mansfield as a Project Director in our Auckland office.

Terry adds thirty years onto the experience tally in our Auckland office and has a fantastic track record of highly successful projects in the public and private sectors. A small sample of some of the better known include the Vector Arena and Auckland Art Gallery, as well as The Auckland Town Hall, Civic Theatre and The Ferry Building.



Wellington comings and goings

Wellington is holding up their end also, with two new arrivals since our last issue of THINK.

Project Manager Stuart McKenzie started with us in late June. Stuart's recently returned to NZ after

four years in the UK where he worked on multiple projects across a variety of sectors including Courts, residential, commercial office fitouts and data centres.



Jeremy Wilson has also been on board since late July. Jeremy is Green Star Accredited and has worked on a number of education and public sector projects including The Correspondence

School's capital works and work for the Ministry of Justice and Department of Labour.

We said good bye to Martin Brown, a brilliant Project Manager (and musician/actor in his own time). He's off to the Department of Labour – but we'll see you at your next Poppy Dust gig, Martin.



Yeah Baby Yeah

Here's some news about an entirely different department of labour. Director David Mann and his wife Anna welcomed the arrival of their new baby boy, Riley, who was born at Wellington Hospital on Monday 16 August. Has he inherited his dad's genes for project management? We expect so. Given that he was delivered on time, bright and early in the morning, weighing in at 4.52kg. We're wondering how soon David will be buying him his first cycling helmet.

GETTING TO GRIPS WITH RISK

Brent Thomson, Auckland Business Manager

Managing risk is about enhancing the likelihood of success rather than avoiding risk. It is also about making sure there are fewer surprises, opportunities are exploited and best performance is achieved from all parties involved.

All projects carry some degree of risk and to not spend time to identify, assess and agree on likelihood and mitigation of those risks is a sure way of impacting the critical project success factors. Time spent with Clients understanding their business, expectations and special requirements have repeatedly enabled us to deliver projects on time, budget and desired quality every time.

On projects like Wellington's superb Supreme Court and numerous national projects for Les Mills and Inland Revenue, we've found successful risk management relies on strong systems and looking at the bigger picture.

The Building Intelligence Group has developed robust systems which provide consistent processes to ensure risk is managed effectively and efficiently. These enable decision makers to

make informed choices and work out appropriate or alternative courses of action. Please refer to NZS ISO 31000:2009 and www.risksociety.org.nz for excellent examples, principles and guidelines.

It is critical that the focus is not just on immediate project constraints but also the ongoing operations of a building in the future. In addition, to maximise the likelihood of success, a Project Manager skilled in risk management will tackle the big questions early on in order to align the project outcomes with high level client business requirements:

- Where is the client's business going?
- What are the threats and opportunities it faces?
- Will this project enable the business to achieve it's long-term goals?
- How can we improve stakeholder confidence and trust?

If you'd like an objective point of view on your approach to risk management on your next project, drop me a line b.thomson@tbig.co.nz

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DELIVERING VISIONS

AT THE BUILDING INTELLIGENCE GROUP, OUR ENTIRE TEAM HAS ONE CLEAR FOCUS – TO DELIVER ON OUR CLIENTS' VISIONS.

To do that, we tailor our services to a client's specific needs.

- For some, those needs begin with a feasibility study. This is the equivalent of writing a business plan, and we can manage and co-ordinate the process, working through all the options and variables and providing recommendations (including alternatives if a desired option doesn't work).
- Then comes the essence of project management – project planning. It has been said that 70 per cent of the success of a project is determined by what happens at this stage. We evaluate the risks and make sure everybody involved in the process understands exactly what they're getting into and what is expected of them.
- Then we get into the nitty-gritty of project design and delivery, where we make it happen – managing the design process to deliver the objectives; developing timelines, procuring and managing tenders, writing contracts and managing risk; and getting our boots dirty overseeing the construction activities and resolving on-site issues.
- Every project, in one form or another, carries some risk, whether it be financial, people, markets, physical, political, regulatory or project relationships. We manage this for the client, develop mitigation measures and manage their implementation.
- Value management also comes into the mix, where we prioritise the degree of worth of every element of the project, concentrating on ensuring that the client receives the best value relative to their objectives. We also manage the cost.

Our other services are listed below. You'll also find more information on our website, or if you'd like to talk through what we offer, do give us a call.

WHAT WE DO

The Building Intelligence Group provides project management services for everything from multimillion dollar commercial and residential developments to the smallest one-off fitout.

Our services include:

- Project viability/feasibility studies
- Design team procurement
- Project planning
- Project design management and delivery
- Contractor procurement
- Accommodation sourcing and delivery
- Value management
- Risk management
- Critical path programming and resourcing
- Cost control

Other specialist services:

- Tenancy coordination
- Project evaluation and peer reviews
- Maintenance planning
- Due diligence and building audits
- Conservation and maintenance planning
- Resource consent management

TELL US WHAT YOU THINK

If you want to share an opinion, suggest a topic to be covered or want to know more about any of the stories in this issue of THINK®, contact us here: g.domanski@tbig.co.nz or go online to thebuildingintelligencegroup.co.nz

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