



MULTIPLEX PROJECT MANAGER MR. PETER BELL



MULTIPLEX

TEXT: JOHN MORETON PHOTOGRAPHY: RYAN KETTLE

GOLD COAST CONVENTION & EXHIBITION CENTRE

Location: Broadbeach Gold Coast QLD

Site: 57,400m²Size: 3000m² Exhibition, 6000 person Arena

Cost: 127 Million

Client: Jupiters Ltd

Owner: Queensland Government

Architect: Peter Hunt Architects

Construction Contractor: Multiplex

Consultants: Weathered Howe (Structural Engineer), Peter Hunt Architects

THE GOLD COAST CONVENTION & EXHIBITION CENTRE (GCCEC) IS THE RESULT OF A KEEN VISION AND A DESIRE TO SEE THIS VISION BECOME A REALITY. Built in partnership with the Queensland Government and Jupiters Limited, part of the TABCORP group, the exhibition centre is a landmark in co-operation and a demonstration of the progressive nature of the Queensland Government and construction contractors Multiplex.

Managed by Jupiters, the completed Centre boasts; tiered seating for up to 6000 people in the main arena, a 3000m² exhibition hall plus 900m² of external exhibition space and 7000m² of total ground floor exhibition space if required. The centre also includes 1400 undercover parking spaces, 9 separate kitchens, state-of-the-art catwalk and rigging capacity for concerts, wireless communication throughout and 2000m² of parkland and landscaped gardens.

The site for the Gold Coast Convention & Exhibition Centre was chosen after exhaustive research indicated that it needed to be in close proximity to the main tourist strip of the Gold Coast, and close to other attractions such as theme parks and beaches. Jupiters Limited realised early on in the process of making a successful bid that the location of the site was critical to generating the best economic and social value for the Gold Coast.

The optimum area was selected and this presented a challenge in itself for Multiplex, as the site for the new centre had to be 'created' requiring considerable redevelopment prior to the main construction phase. This included the re-division of the Little Tallebudgera Creek, the filling in of the old Creek alignment to form the 6ha site, construction of new bridges and the widening of the Gold Coast Highway.

The team approach adopted by Multiplex, Peter Hunt Architects, Weathered Howe and the many other specialist contractors on site was critical to the successful expedition of the first stage of the development. As a result, the realignment of the creek was completed successfully, including the environmentally responsible removal of 40,000tn of acid sulphate material and the stabilisation of less active acid sulphate soil. Ground water levels were maintained throughout the process to ensure that remaining underlying sulphate soil was not allowed to oxidise. The following of strict environmental criteria regarding erosion, sediment control and water quality during the development ensured that contamination and environmental degradation was not an issue. During this phase, Multiplex also oversaw the relocation of 110,000-volt power lines, high-pressure gas mains, and fiberoptic communications cables all of which had to be 'shifted' to accommodate the new Centre. The relocation of these utilities was completed without any disruption to the businesses and homes of the Gold Coast and is in itself an outstanding achievement.

After the completion of the first stage, Multiplex created the base for the Convention centre by compacting 120,000m³ of sand fill prior to the laying of post-tensioned flat plate slabs, to create the car park and basement and ground levels. This innovation was a result of Multiplex's input into the development and it allowed them to create slabs at the maximum rate of 5200m² per week.

The use of steel was chosen after careful consideration as the most adaptive and suitable medium from which to create the roof. Having a brief that required the roof to be capable of a clear span of 75 meters, an intricate truss system was designed to take the weight of the mechanical plant, services, catwalk, and the operable walls. This truss system also minimised and controlled the deflection sensitivity of the roof allowing it to carry the weight required without significant variance in shape.



The concept of creating the 300tn centre roofing section at ground level and lifting it into place using cranes and hydraulic jacks once completed was another innovation that Multiplex was able to introduce as a result of their close association with other team members during the design phase. Constructing the roof at ground level rather than 20 meters high resulted in considerable time and cost savings for the project as the roof could be constructed in parallel with the upper levels of concrete structure.

The project was completed on time and met budget forecasts, which is a significant achievement in itself during the current climate in the construction industry, and considerable challenges in procurement of manpower, resources and materials had to be overcome to ensure the final successful result.

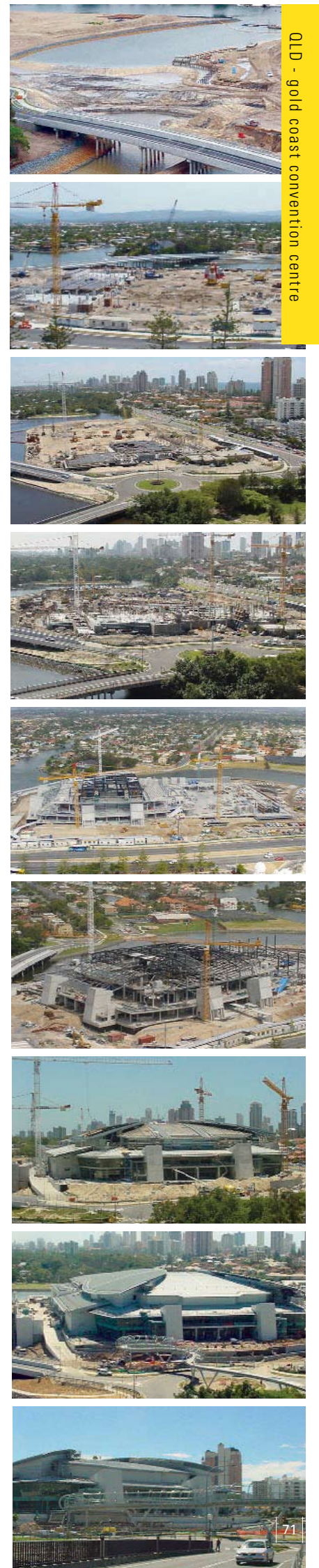
Environmentally the project was significant and great care and attention went into not only the building itself, where the passive environmental design of the structure was a critical factor, but also in the development and reshaping of the existing Tallebudgera Creek and its environs. Weathered Howe, assisting Multiplex as a principle consultant prepared a comprehensive Environmental Impact Statement detailing the criteria and standards that needed to be adopted to ensure the existing floodplain remained viable and the 'flow on' of water was not interrupted or mitigated. Multiplex also ensured that a natural riparian buffer zone was established to reflect the pre-existing mangrove fern and orange mangrove habitat. This was done through the planting of seeds harvested during the land-clearing phase. The landscaping around the Convention Centre reflects the native (South-Eastern Queensland) sub tropical climate and assimilates the modern design of the Centre into its surrounds.

Multiplex also worked hard to incorporate a number of Queensland Government initiatives into the project. Firstly, the Art-Built-In Policy, which apportions 2% of the capital works budget to integrating artworks into the fabric of the development. Secondly, the Government's 10% Training Policy, which requires a certain number of hours of project time to be devoted to up-skilling and training of employees and contractors. During the construction phase, Multiplex achieved 35,831 hours of training in accordance with this Policy. Finally, the Local Industry Participation Policy, which focuses on local resources and companies as the primary targets for contracts and resources (subject to a competitive bidding process). Multiplex's management of this Policy resulted in 79 local firms being employed on site and generated \$99.41 million dollars of work back into the local economy.

Multiplex has long had a reputation for quality innovation and success, and the Gold Coast Convention & Exhibition Centre clearly reinforces how this reputation was earned. In delivering this outstanding new landmark to the people of Queensland and the Gold Coast, they have not only created an iconic structure for the future but also a structure that reflects the aspirations of the Architect and the progressive nature of one of Australia's most exciting states.

MULTIPLEX CONSTRUCTIONS PTY LTD
www.Multiplex.biz

MULTIPLEX





ROWLES TIME MANAGEMENT

TO ENSURE THAT THE GOLD COAST CONVENTION & EXHIBITION CENTRE DEVELOPMENT WAS CONSTRUCTED in the most efficient manner possible and remained on time and as a result, within budget parameters, Multiplex engaged the services of Rowles Time Management. RTM is a company with almost 20 years of 'hands on' experience in servicing the construction industry on a broad range of projects such as high rise residential, high rise commercial, retail centres, hospitals and working with a broad range of clients including contractors, developers, project managers, state governments and banks.

Using state of the art computers, software, printers and plotters Rowles Time Management was heavily involved in the development for 5 years, from conception and initial expressions of interest in April 1999, right up until completion in June 2004. During the project, they provided Multiplex with detailed planning and construction programming advice, including fortnightly status reports on progress and current project situation. To do this in the most efficient way, RTM employed two different software systems, each of which provided specific and significant benefits to the services they provided.

As with any major development, the speed of the construction process is critical to the cost and eventual outcome of the project. RTM undertook several option studies to determine the most efficient means of construction and a result of this process was the decision to construct the main roof on the ground and lift into final position, with the assistance of hydraulic jacks and cranes, rather than construct it in place, twenty meters in the air. The savings of this decision were significant in not only time but also in cost and efficiency.

Critical to the success of the Gold Coast Convention & Exhibition Centre was the expertise of RTM in dealing with the procurement of manpower, resources and materials which was a challenge due to the overheated state of the building and construction industry during the time the project was being undertaken. Their ability to find solutions to these industry related difficulties ensured the smooth progress and efficient continuation of the development throughout.

Rowles Time Management's involvement in the construction of the Gold Coast Convention & Exhibition Centre was integral to the overall success of the project and their 'hands on' approach produced significant and very real benefits, keeping the developers informed of project progress as well as resolving significant challenges involved with the development.

ROWLES TIME MANAGEMENT

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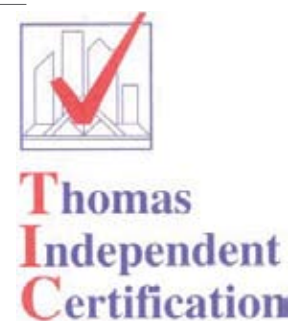


THOMAS INDEPENDENT CERTIFICATION

THOMAS MANAGEMENT DESIGN PTY. LTD. WAS ESTABLISHED IN 1987 providing preliminary compliance reports with the Building Code of Australia, Structural drawings, inspections and variation advices. In 1998 the IPA legislation was introduced and Thomas Independent Certification trading name was established. Under this legislation Keith Thomas and Thomas Independent Certification were able to provide building works approvals. In 1998 Keith Thomas achieved the Graduate Certificate in Building Fire Safety and was qualified to prepare and assess Fire Engineering and Alternate Solution reports.

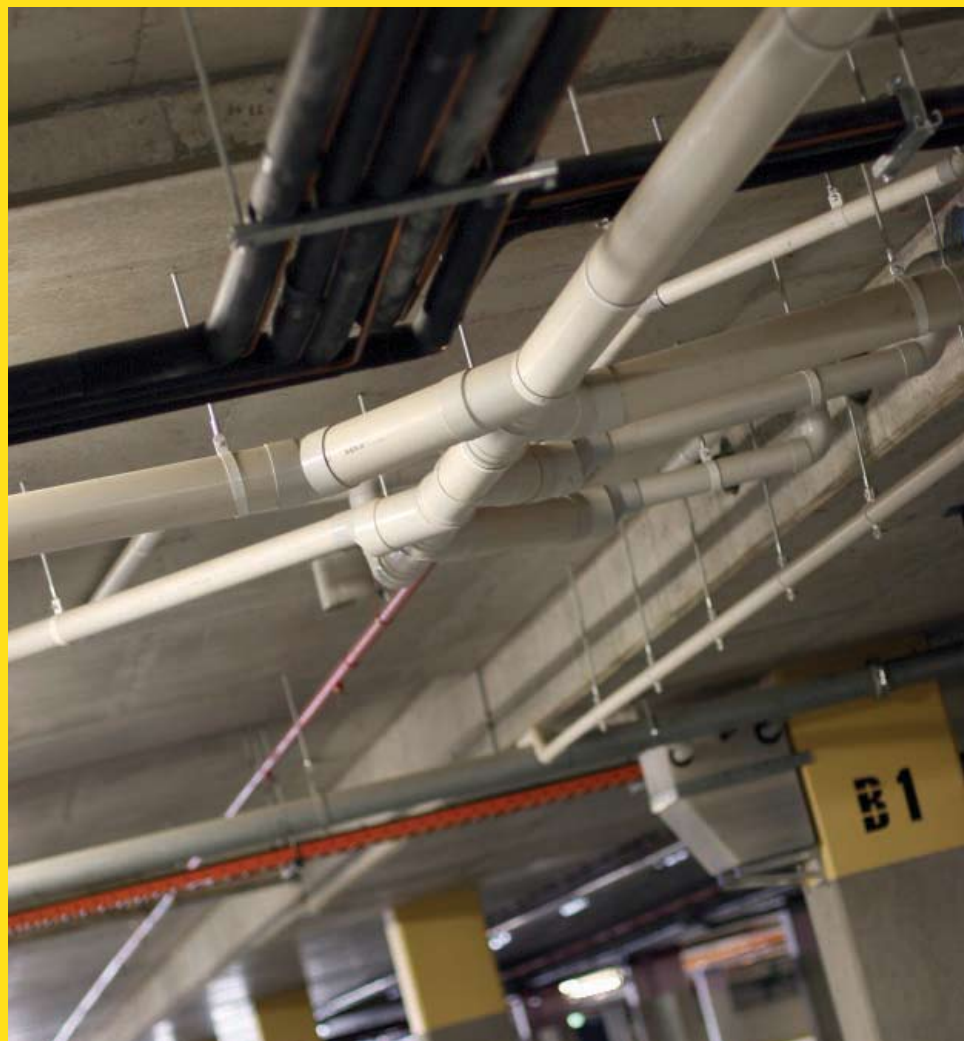
Keith Thomas and Thomas Independent Certification's role in the Gold Coast Convention & Exhibition Centre was to advise the client that the building as designed and constructed conformed to the Building Code of Australia, carry out compliance checks to ensure that all regulations were adhered to and carry out audit and final inspections, therefore allowing the building works to be approved and the final certificate for occupancy to be issued. Keith Thomas was also responsible for assessing the Fire Engineering Reports for this project to ensure the safety of the construction and projected occupants.

These functions are vital in promoting the efficient and correct flow of the project. Not only are these assessment, compliance checks and approvals vital to the momentum of the project but they are also ensuring the future safety of all those who visit the Gold Coast Convention and Exhibition Centre. This responsibility means that a very clear and precise understanding of what is required is essential to satisfy the performance provisions of the Building Code of Australia. The Thomas Independent Certification team, under the guidance of Keith Thomas, delivered exactly what was required to promote the smooth and safe expedition of the project from start to finish.



THOMAS INDEPENDENT CERTIFICATION

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CHRISTOPHER CONTRACTING

CHRISTOPHER CONTRACTING ARE WELL KNOWN IN THE PLUMBING INDUSTRY, and have extensive experience in many areas including civil drainage, stormwater, vacuum sewer systems and syphonic downpipes. They have dealt with all aspects of the industry during the fifteen years they have been in operation from small developments to large-scale commercial and residential high-rise.

Their successful bid to become part of the team working on the plumbing, drainage and civil works of the Gold Coast Convention & Exhibition Centre project was due to their established reputation and work philosophy of safety, highly skilled workforce and an ability to meet and exceed their client's needs.

In an industry with a high staff turnover, it is a credit to Christopher Contracting that they are able to retain a core of skilled professionals with the ability to supervise and train new employees. The company policy of indenturing apprentices at various stages of their apprenticeship and the continued implementation of multi-skilling workshops and courses fitted very well with not only the Queensland Governments skilled training targets, but also with the shared vision of Multiplex and the other contractors involved.

The idea of benefiting the community as well as creating a future of skilled industry labour clearly demonstrates a high standard of ethics and responsibility within the company. Christopher Contracting take great pride in adhering to budget and time schedules and on this project, although with a compressed time frame, all work was carried out and completed within these guidelines and to the highest level of quality.

Previous projects that Christopher Contracting have successfully completed include; Royal Brisbane Hospital, Prince Charles Hospital, South Bank College of Arts, Harbour Town Shopping Centre, Lang Park civil works, Crown Towers, and many more. Currently they are undertaking work on Casino Towers, Forest Lake Shopping Centre Pivotal Point Tower, Festival Towers and other projects in and around Queensland. This extensive list of past and present works clearly demonstrates the number of satisfied customers and clients that Christopher Contracting has created. This could not have been possible without the attention to detail and professionalism that was evident on their work on the Gold Coast Convention & Exhibition Centre, a project they are very proud to have been associated with.

CHRISTOPHER CONTRACTING

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LCR LINDORES GROUP

THE LCR LINDORES GROUP ARE THE LARGEST

privately owned tower and mobile crane company in Australia. Their industry experience stretches back over twenty years and proves invaluable during the construction like the Gold Coast Convention & Exhibition Centre.

LCR specialize in supplying tower cranes and mobile cranes to large-scale infrastructure developments throughout Australia. Also in addition to servicing the construction industry, they provide services to the mining, petrochemical and maritime industries too. The services LCR supplies ranges from the basic hire of a crane for a single job, to project and logistics management that follows heavy materials handling through the complete development process. As an integral part of their service, they also provide experienced crane and rigging crews. These well-trained crews ensure the correct, safe and efficient operation of their units with the bonus of improved efficiency and reduction in total costs for their clients.

For the LCR, a good job is one that runs to plan, satisfies the client, reduces the critical path and produces the envisaged result. With this aim in mind careful planning and the ability to draw on extensive and varied experience means that for LCR, a successful job is an uneventful job. This paradigm has led to a solid base of satisfied clients who select LCR out preference for their reliability and the reduced risk to the over all success of their projects.

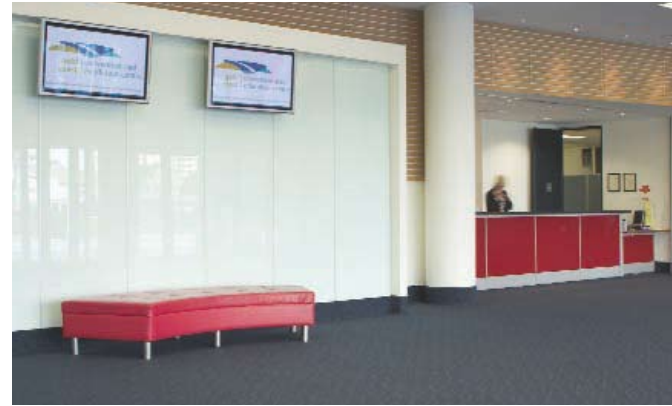
For the construction of the Gold Coast Convention & Exhibition Centre LCR, in a joint venture, provided a number cranes and crews, including four tower cranes with 70mt booms, LCR's new 100t Leibherr mobile crane, their 200t Demag mobile Crane with its luffing fly attachment as well as various other mobile cranes. The project was complex with multiple cranes used on site, however, with LCR careful planning and meticulous attention to detail their involvement ensured the success of the materials handling and lifting. LCR's new 100t Mobile crane was critical to the success of the project with a combined main boom & fly reach of 85m and quick mobilisation times enabling it to lift and place the central roof sections. LCR has a new even more advanced 200t mobile crane with a 68m main boom due early in 2005 adding yet more flexibility to its fleet.

Other landmark major projects utilising some of LCR's 58 tower cranes include the Intercontinental in Sydney, the Chevron Renaissance project on the Gold Coast, the Sydney Hilton and Aurora, Brisbane's tallest building. Recently LCR teamed with Multiplex starting work on the massive Portside Wharf project on the Brisbane River. On all of these projects, LCR demonstrates industry leading capabilities and a level of professionalism that is hard to match. On substantial projects, LCR's use of on-site crane co-ordinators reflects in the smooth operation of their tower and mobile crane fleet and the crews working them. LCR's continued growth is testament to their unique and detailed approach to their business.

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TOTAL CONCEPT PROJECTS

TOTAL CONCEPT PROJECTS (TCP) HAVE BEEN IN OPERATION FOR 20 YEARS.

During this time, they have seen and adapted to a myriad of changes and developments in the area of audiovisual infrastructure. Throughout these changes they have had the skill and ability to grow and advance their skills and knowledge by creating the solutions that the business community requires.

This innovative adaptability has placed TCP in an industry leading position. Their successful bid for the Gold Coast Convention & Exhibition Centre contract was a result of extensive research, thorough analysis and realistic costing and planning during and before the tendering process began. TCP saw this area as critical to solving the needs of the development with realistic and appropriate solutions. Their extensive industry experience developed over the years enabled them to achieve a very detailed understanding of what the project involved, this led to a clear perception of the solutions required.

Over a 4-month period, with very restrictive timelines, TCP installed and integrated the audiovisual systems for the centre, including the installation of cabling and cabling paths, the 'in house' PA system for the centre, the main arena 'Meyer' speaker system and some digital signage in the reception/foyer area. This was expedited within the timelines provided and within the budget.

TCP's involvement on the Gold Coast Convention & Exhibition Centre project is a reflection of their ability to integrate customer needs with appropriate technology and establish realistic and manageable costing, and time parameters. TCP's involvement in the project is something they are rightly proud of, and it is a clear illustration of their ability to provide excellent solutions under all conditions.



CAMATIC PTY LTD

THE 97 MILLION DOLLAR PROJECT TO DEVELOP the Gold Coast Convention & Exhibition Centre required expertise in many areas, one of these areas was the choice, design and type of seating to be used throughout the convention centre.

Multiplex called on the expertise and experience of one of the countries leading suppliers of seating, Camatic. Having been established as a name in the industry since 1956, and supplying seating not only to the domestic market as for the Sydney Opera House or the Homebush Telstra Dome but also for major international projects such as the Atlanta Olympic Stadium, Seattle Seahawks Stadium or the Stadium da Luz in Portugal, Camatic had no trouble in selecting and supplying the appropriate combination of fixed and retractable seating that was ideally suited for the Gold Coast Convention & Exhibition Centre.

Installation was completed within three months and was concluded to the exacting standards required for a venue of this nature. All works were under budget and on time.

The products Camatic supplied and installed are Australian manufactured and Australian designed, they utilize very advanced design and technology principles and materials, which ensure the product is of the very highest quality. The efficient no nonsense approach of Camatic in expediting this project demonstrates the vast wealth of experience they have in their field and ensures their continued success at this level.

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SIGNCORP

AN IMPORTANT ASPECT OF ANY MAJOR DEVELOPMENT is the requirement to manage large volumes of people with 'Wayfinding' signage. This incorporates directions to facilities, seating, toilets, amenities, emergency exits and entry to all areas of the complex.

Signcorp, the architectural division of The Signcraft Group, were engaged by the developer Multiplex, to create an appropriate 'wayfinding' system and install the necessary signage for the Gold Coast Convention & Exhibition Centre. They also worked with the developer to create and install the building ID signage.

Wayfinding signage is a critical component of all public and commercial spaces and can be a key component in corporate spaces, where there is a need to communicate the organisation for staff and visitors. If done in a considered manner, skilfully, the wayfinding solution facilitates new users, providing comfort and reassurance in their experience of a new facility. This is usually achieved with little thought to the planning that has been put into the placement, colour selection and typographic design of the signage they are using. If done poorly it becomes instantly noticeable, causes major disruption to the flow, and leads to a poor visitor experience.

Signcorp were involved with the Gold Coast Convention & Exhibition Centre project for over six months. During this time, they worked closely with the developer and architects, to ensure that the system they had identified was installed smoothly and efficiently without disrupting or interfering with the vision of the finished development. Their considerable experience assisted in developing design and positioning to produce maximum efficiency and navigability of the signage.

Throughout the project, Signcorp used Modulex® architectural wayfinding systems, recognised as the most advanced and comprehensive system available with the widest range of colours, designs and communication mediums to address the variety of issues in complex building environments. The use of Modulex® systems gave Signcorp the ability to create unique and highly effective solutions to the specific challenges of the Gold Coast development.

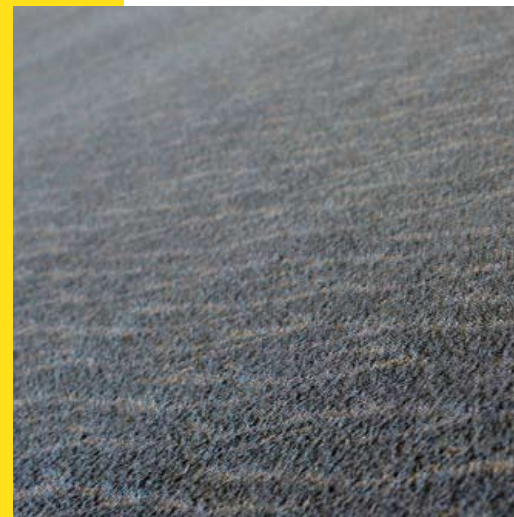
With 35 years experience in the sign industry and utilising state of the art sign systems, Signcorp and their parent, The Signcraft Group, are able to carry out 'wayfinding' analysis and design packages that are tailored to the individual needs of each client. This ability to study the needs of a client and then design and install the appropriate signage puts them at the forefront of the industry. In the past, they have provided solutions for the National Museum in Canberra, the University of Technology in Sydney and Brisbane City Councils wayfinding signage around Brisbane.

The Signcraft Group are also licensed to manufacture Modulex® systems signage, providing the ability to control costs and lead times, consistent with local expectations. Signcorp's involvement in the Gold Coast Convention & Exhibition Centre, now that the centre is operational, can clearly be seen by the many thousands of people who will pass through the complex.

It is a credit to the skill of Signcorp, that most of these people will find directions and information about the centre readily available and easily identified without a second thought, making their experience of the Convention centre pleasant, safe and stress free.

SIGNCORP

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MASTER KELWIN FLOORS

THE GOLD COAST CONVENTION & EXHIBITION CENTRE IS BY DEFINITION A VENUE THAT WILL ATTRACT a large number of people through its doors. The high impact of these people on the carpets and floors means that Multiplex had to ensure their durability and functionality under the extreme conditions involved in everyday use. To do this they, like many other developers, architects and designers, sought the advice and expertise of Master Kelwin Floors. Established over 33 years ago, and with the extensive knowledge and expertise required for such a project Master Kelwin Floors was contracted to ensure that the product, preparation and installation of the flooring would meet the required standards.

The quality requirements and constantly changing nature of an installation such as the Gold Coast Convention & Exhibition Centre meant that the emphasis had to be on the experience and adaptive abilities of the installation team involved. Master Kelwin Floors pride themselves on their problem solving skills to overcome the sort of challenges that arise during installation of such a large project. The expertise with which they handle these challenges is one of the reasons that they have become not only the largest commercial floor covering company in Queensland, but quite possibly in Australia.

On this project, Master Kelwin Floors coordinated and carried out preparation of the subfloor, supplied and installed carpets, carpet tiles, sheet vinyl, vinyl planks and skirtings throughout the entire convention centre.

To expedite the initial preparation, Master Kelwin Floors used a low mess diamond grinder to smooth the sub-floor prior to installation. Following this, they installed Godfrey Hirst nylon carpet throughout the main areas of the convention centre, and Altro non-slip vinyl in the bars and service areas. Both these products are ideal for the high traffic hardwearing areas of the convention centre. Using a team of 30 installers each stage of the overall installation was finished in about the third of the time it normally takes to conclude such an installation, saving valuable time and money.

Finishing trades like Master Kelwin Floors are often the last on site, and as a result, they are often encouraged to make up any delays that occur during other stages of the construction process. Currently, due to the labour shortage caused by the nationwide development boom, there were significant delays that the installation team were able to recoup with efficient work practices and a level of experience and expertise that only comes from a company that for 33 years has been regarded as a market leader in its field.

Master Kelwin Floors are very proud of their ability to produce a quality installation regardless of the circumstances they enjoy their reputation as market leaders and work very hard to maintain it. Evidence of this ethic can clearly be seen in the work completed for Multiplex at the Gold Coast Convention & Exhibition Centre.



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