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April/May 2011

ONTOPOF THE WORLD

The making of Singapore's elevated marvel

SPLASH! ASIA

Show guide inside

ASIA MARKET

Discovering the opportunities

CHRISTCHURCH

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HEATING INNOVATIONTo drive spa market



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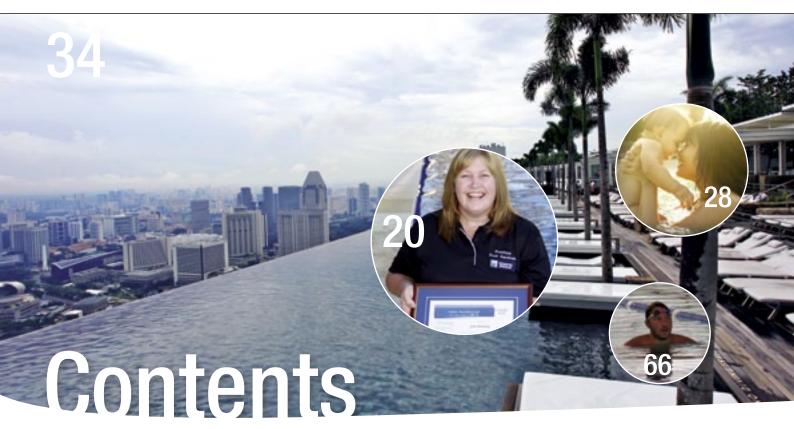
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INDUSTRY NEWS. 9 What's happening in the pool and spa industry	HEATING UP THE SPA MARKET. 49 Innovation to drive the industry
VIDEO LIBRARY	WATERCO, THIRTY YEARS ON
INDUSTRY CALENDAR	ABSOLUTELY F.A.B. 60 Getting acquainted with features and benefits
INDUSTRY DATA	BEAUT UTES
AROUND THE GLOBE	SPLASH! COMMERCIAL
INDUSTRY MOVES	COMMERCIAL TENDER DATA. 69 Including Tender of the Month
ENVIRO UPDATE	BLUE MOUNTAINS RESORT
SAFETY UPDATE	NETWORKING ANSWERS FILTRATION QUESTION 74 Woolgoolga's refurbishment
AFTER THE EARTHQUAKE	MIMICKING NATURE FOR CLEANER POOLS
THE ASIAN POOL MARKET. 28 Is it moving out of its infancy?	PEOPLE SKILLS IMPROVING AQUATIC MANAGEMENT 80 The benefit of revamping HR
ABOVE THE SINGAPORE SKY. 34 The amazing SkyPark pool	NEW PRODUCTS
SPLASH! ASIA	SUBSCRIPTION FORM90
Show galac	ADVERTISERS' INDEX90





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Welcome to SPLASH!



ast issue we looked at the disastrous floods in Queensland and their effect on the swimming pool industry. Little did we expect another shocking disaster – this time in Christchurch. Our thoughts go out to everyone in the city, and hope they manage to get their lives back in order as quickly as possible.

A well known concrete pool builder updated us on conditions there post-earthquake, and I think you'll find it interesting reading.

This issue we are also looking at the residential and commercial swimming pool market in Asia and ask,

when will it mature? And more importantly, what are the opportunities even if it is still developing?

Of course, this is the ideal time for us to look at Asia, as it coincides with the first ever SPLASH! Asia Pool and Spa Trade Show. Everyone at SPLASH! is very excited about the upcoming show. We believe it's going to be a tremendous event and I know there is a lot of enthusiasm from all quarters of the industry.

I look forward to meeting many of you in Singapore, and plan to enjoy the show, as well as the many delights the multicultural city-state has to offer. I'm also looking forward to seeing the spectacular SkyPark pool close up, and enjoying a Singapore sling or two and a plate of chilli mud crab.

Hope to see you in May.

Dhi

Chris Maher

Editor

chrismaher@intermedia.com.au





There is no more amazing pool in the world than the SkyPark pool on the top of the triple towers of the Marina Bay Sands in Singapore. There is more on this pool on page 34. Inset shot shows a warm spa, but how do you efficiently keep them warm? Some new innovations are discussed on page 49.





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Spa heating issue boils over

A CONFUSING SECTION OF THE BUILDING CODE OF AUSTRALIA 2011 HAS RAISED CONCERNS ABOUT POSSIBLE SERIOUS EFFECTS ON THE PORTABLE SPA INDUSTRY.

A second controversy has arisen from the BCA's energy efficiency stipulations for the swimming pool and spa industry "3.12.5.7 – Heating and pumping of a swimming pool or spa pool" - leading the industry to ask that it be reworded to avoid possible dire consequences for the portable spa industry.

It appears that the section is intended to relate to in-built spa pools over 680L, prohibiting the use of electrical resistance heating. It is common for in-built spas to be heated via the same systems used for the swimming pools or supplemented by gas.

However, industry representatives have expressed serious concern that the wording might be interpreted by state jurisdictions to preclude the use of electrical resistance heating in portable spas.

If this were the case, it could have serious and presumably unintended consequences for the portable spa industry which is predominantly geared for heating by electrical means.

Despite the fact that the BCA is a code intended to regulate construction materials and methods and should not logically have any bearing on portable appliances, there is the potential for a misreading by state regulators. If this were to occur, it could have serious negative consequences for the portable spa industry.

Brendan Watkins, CEO of SPASA Victoria, says he is very concerned about possible misinterpretation of the document.

"It is clear from our discussions with Victorian Building Commission officials that the new regulations were never meant to target portable spas," Watkins says. "However we are still very concerned about the wording used."

Watkins says that SPASA Victoria is working closely with the key stakeholders at both State and Federal level to ensure there are no unintended consequences arising from these changes to the code, and that SPASA offices in all states are collaborating to ensure a consistent approach is adopted nationwide.

"We have advocated that industry be consulted immediately on the appropriateness of the regulations in light of their unintended consequences," he says. "We also

promote a closer working relationship with government on alternative measures for improved energy efficiency outcomes, more likely to be achieved through the introduction of energy ratings for portable spas."

It is understood that the issue was originally considered in the 2009 Wilkenfeld Report entitled "Swimming pools and electric space heating - the case for coverage by the Building Code of Australia", prepared for the Australian Building Codes Board (ABCB). The report specifically excluded portable/fully-assembled/ stand-alone spas from this prohibition. The 2009 ABCB Regulation Impact Statement (RIS) on this issue did not propose banning electrical resistance heaters for fully-assembled/stand alone spas either.

SPASA Victoria has requested urgent action to relevant Victorian and Federal ministers (in particular, Greg Combet, Minister for Climate Change and Energy Efficiency) and the Chair of the Australian Building Codes Board.

SPASA wants them to intervene to ensure that proposed amendments to the Building Code of Australia relating to spas are placed on hold until a better regulatory outcome can be achieved.

The Provisions in Question

National Construction Code Volume One BCA 2011 (Class 2 to 9 Buildings) Part G1 - Minor Structures and

Components References: AS1926.1-2007 (as

amended by Clause G1.1), AS1926.2-2007, AS1926.3-2010

I7.4 Spa pool heating and pumping

- (a) Heating for a spa pool having a capacity of 680 L or more must be by—
 - (i) a solar heater; or
 - (ii) a heater using reclaimed energy; or
 - (iii) a gas heater; or
 - (iv) a heat pump; or
 - (v) a combination of 2 or more of (i), (ii), (iii) and (iv).
- (b) Where some or all of the heating required by (a) is by a gas heater or a heat pump, the spa pool must have— (i) a cover; and
 - (ii) a push button and a time switch in accordance with Specification J6 to control the operation of the heater.

(c) A time switch must be provided in accordance with Specification J6 to control the operation of a circulation pump for a spa pool having a capacity of 680 L or more.

NCC Volume Two BCA 2011 (Class 1 & 10 Buildings)

Energy Efficiency

- 3.12.5.7 Heating and pumping of a swimming pool or spa pool
- (a) Heating for a swimming pool other than a spa pool must be by a solar heater not boosted by electric resistance heating.
- (b) Heating for a spa pool having a capacity of 680 L or more must be by—
 - (i) a solar heater; or
 - (ii) a gas heater; or
 - (iii) a heat pump; or
 - (iv) a combination of 2 or more of (i), (ii) and (iii).
- (c) Where some or all of the heating required by (b) is by a gas or heat pump, a spa pool must have—
 - (i) a cover; and
 - (ii) a push button and a time switch to control the operation of the heater.
- (d) A time switch must be provided to control the operation of a circulation pump for a swimming pool other than a spa pool with capacity of less than 680 L.

Under the COAG agreement, all jurisdictions have undertaken to adopt the new BCA provisions in 2011. However, different States and Territories have different policies with respect to transitional arrangements for industry.

The earlier heating issue

THE previous issue related to the use of heat pumps for swimming pools, and the seemingly contradictory demands of sections 3.12.5.7 and J7.3 in the BCA 2010. This was covered in the December 2010 edition of SPLASH!

The wording in J7.3 seemed to be contradicted by the wording in 3.12.5.7. However, the board clarified that IF a swimming pool is heated by solar, it cannot be with an electrical resistance booster, but pools CAN be heated by gas or heat pump (in accordance with the other stated requirements).

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Visitors numbers up in east and west

NEW SPRING CONSUMER SHOW PLANNED FOR PERTH

IF the recent Perth consumer Pool, Spa and Outdoor Living Expo at Claremont was anything to go by, the western industry will be enjoying a prosperous 2011. There was an increased number of interstate exhibitors this year, displaying the latest in swimming pools, spas, pool products, accessories and outdoor furniture.

The warm weather encouraged families to come out on the weekend, with just under 10,000 attended over the two days. The exhibitors put a huge amount of time and effort into their displays which were very creative and attractive, all of which further contributed to the success of the show.

It also helped that Channel 7 mentioned the expo during the weather segment on their popular 6pm nightly news bulletin.

The continued success of the autumn show in Perth has prompted the rise of a spring show to bookend the season.

Roger LeFort, organiser of the show, says that the "Get Ready For Summer" Expo will be held on the weekend of September 3 and 4, 2011, also at Claremont Showgrounds.

"The response has been nothing short of overwhelming, so much so that all space in the Robinson Pavilion has been sold already," he says. "However, there is still space available at the adjacent Webster Pavilion, which will provide exhibitors with an extra 1000 square metres."

Meanwhile in New South Wales, nearly 5000 attended the Pool & Spa Consumer Expo at Rosehill. The expo featured 90 exhibitors and included 12 consumer seminars. More than 3500 Pool and Spa Essentials magazines were distributed over the two days.

Rosehill was packed full of feature displays, special show offers and new releases from leading suppliers, plus many of Sydney's award-winning pool, spa and landscape designers. Also on display were the latest shade systems, gazebos, pool and spa heating systems, barbecues, outdoor furniture, outdoor tiles and pool/spa finishes and much more.

The introduction of a "roving reporter" on the expo floor provided exhibitors with another forum to showcase their products and services. These video clips have already been provided to participating exhibitors.

"SPASA NSW spent an enormous amount of resources coordinating and promoting the 2011 expo and I am happy to report that 4900 consumers attended the expo – a 10 per cent increase over the previous year," says Spiros Dassakis.

"The general consensus, after talking with many exhibitors, was that the level of genuine inquiry had surpassed expectations and that they were very satisfied with the leads generated."

Brisbane concrete carters go collective

THE Australian Competition and Consumer Commission has granted authorisation for owner drivers providing concrete cartage services to collectively bargain with Brisbane based concrete supplier, Q-crete.

Q-crete employs the services of 10 owner drivers to deliver concrete, and also some employee drivers. However these employee drivers are not part of the proposed collective bargaining group.

The collective bargaining arrangements are likely to result in transaction cost savings and provide the opportunity for increased owner driver input into contracts according to ACCC chairman Graeme Samuel.

He says the arrangements are unlikely to restrict competition as they are limited in scope to 10 owner drivers and are voluntary for both the drivers and Q-Crete.

First woman architect to head Tassie body

RESPECTED Tasmanian architect Karen Davis has made history – becoming the first woman to head Tasmania's peak architecture body in its 108 year history.

Davis takes over from Richard Crawford as Tasmanian President of the Australian Institute of Architects, and is the first female in this role since the Tasmanian Association of Architects was formed in 1903.

One of her priorities will be to discourage governments from unsustainable expansion of cities into their hinterlands, while encouraging urban density and amenity in existing areas.

Davis graduated with a Bachelor of Architecture at the University of Queensland, and is a registered Architect and Registered Building Practitioner in Tasmania. Along with partner Rebecca Davis she runs Hobart-based firm CDA Architects, which employs six staff. Davis's architectural experience ranges from multi-million dollar aged care facilities and shopping complexes to residential housing and renovations of all sizes and complexity.

Home warranty forger gets 300 hours

A Kenthurst, NSW man has been sentenced to 300 hours community service and ordered to pay \$1816 in costs by Parramatta Local Court.

Mark Cormack was convicted of four counts of breaching section 300(2) of the Crimes Act for using false home warranty insurance certificates by providing them to a building certifier.

Fair Trading Deputy Commissioner Steve Griffin says that the result sends a strong message to the community and other builders not to engage in criminal behaviour, as they will face severe penalties.

"Mark Cormack used home warranty insurance certificates that were false and not worth the paper they were written on," he says. "His dishonest and fraudulent behaviour left consumers possibly unprotected against defective or incomplete work and therefore vulnerable to financial loss."

In April 2009 Fair Trading cancelled Cormack's company licence, Latitude Residential Pty Limited, due to an investigation into offences relating to operating without home warranty insurance and supplying home owners with fraudulent certificates of home warranty insurance. As a result of Fair Trading's investigation and cancellation of its licence, the company entered into voluntary administration.

While testing a new water management system a young swimmer summed it up perfectly: "It's amazing. The water feels so clean and pure; it's so smooth and soft. It's like swimming in silk."



Puresilk™ CMS CHROMATALYZER

The pool builder's dream is to offer clients a <u>reliable</u> system to automatically manage the chemical balance.

Now Puresilk's revolutionary CMS Chromatalyzer makes that dream a reality. And it does it with total reliability because the CMS doesn't use probes. Probes need regularly cleaning; hydrogen gas can affect them causing malfunction; they require regular re-calibration and can result in ground leakage into the water.

The Chromatalyzer's patented Colorimetric Testing system replaces unreliable probes with a full analysis performed by a photodiode firing coloured light through a test sample containing specific reagents. Its microprocessor uses the result to easily configure the dosages to suit most domestic and commercial pool and spa sizes.

Little or no programming is required and pool/spa switching is fully automatic. No calibration is required. The test chamber rinses itself after testing. Reagent satchels hold enough reagent to automatically test chlorine and pH levels over 500 times and only need to be replaced by the pool owner every 6 months.

It's little wonder this patented Australian invention has the whole world talking. For information on the most accurate, most reliable and most user-friendly water quality management system available call ClevaQuip on 1300 POOLS 1 or visit www.puresilk.com.au



Beetles beat a path to pool water

AND OUTBREAK OF BUGS IS CAUSING HEADACHES FOR QUEENSLAND POOL OWNERS

ON top of all the other problems Queensland has had to deal with lately, pool owners in the Sunshine State now have to battle an outbreak of small black bugs.

These bugs are commonly called water beetles, but are more accurately known as *Cybister tripunctatus* and are a part of the Dytiscidae family. They are similar to "boatmen" and have been found in large numbers in Queensland swimming pools from the Gold Coast to the Sunshine Coast.

These insects prefer habitats of slowmoving or stagnant water. Usually confined to the Murray-Darling basin, they fly about at night looking for the reflection of water to establish a new habitat.

The most likely cause of these beetles breeding in such large numbers is a direct consequence of the unusual weather conditions that has resulted in excess of water across the region. This has led to these insects being able to breed and easily move from one habitat to another, using the excess water as

"stepping stones". Although they are not dangerous, they do have small pincers and can bite.

Currently, there is no complete and effective way to prevent these bugs from getting into a pool, but there are steps that can be taken to try to limit their numbers as well as treatment once they are in pool water.

BioGuard Education Officer Bill Mansfield has put together some information to help control the beetles.

PREVENTION

Pool covers: Water beetles fly at night and look for the reflection of water to land. If the owner uses the pool cover at night, this will greatly reduce the reflection of the pool surface – resulting in far fewer beetles in the pool.

Outside light: These insects are also attracted to light, so by turning off the outdoor lights around the pool area, it should also reduce the number of beetles that end up in the pool.



Water beetles require air to survive. They go to the surface to gather air, which they store under their wing covers. As such, the best treatment to eradicate these bugs from your pool is to use a quat-based swimming pool algaecide that breaks the surface tension of the water, while preventing algae growth from the dead insects. This will stop insects from holding onto air while swimming. Hence, the insects will drown and drop to the bottom where the pool vacuum can remove them.

This will remove the insects from your water but until they stop breeding and spreading, this will only be a treatment to remove them after arrival. Prevention is always better than cure.

BioGuard wanted to mention that the bugs were identified by Lianne from Marina Pools, Mount Gravatt.

For more information call BioGuard in Australia on 1800 635 743 or in New Zealand on 0800 441 662.

Beware dodgy government grant sites

ACCC WARNS SMALL BUSINESS TO DO THEIR HOMEWORK

THE Australian Competition and Consumer Commission (ACCC) is warning small business operators and entrepreneurs to beware of unauthorised websites offering easy access to government grants.

Despite appearances, some websites are not lending a helping hand to small businesses at all. In fact, some charge a fee to access government grants which can be normally accessed for free. In other cases the small business may pay the fee only to find they are not eligible for a particular grant.

The ACCC is also concerned that some overseas-based websites falsely give the impression that they are endorsed by the Australian Government.

The Australian Business Funding Centre (ABFC) www.australiangovernment-grants.org is an example of a website which looks like it has some kind of Australian Government affiliation or of-

ficial status. It does not.

Official sounding names and web addresses are often used to draw unsuspecting people to questionable websites.

The ABFC and other websites present educational material about government grant programs and, in some cases, videos or news releases showcasing successful grant recipients in a manner which suggests that the website is a service provided or endorsed by the Australian Government.

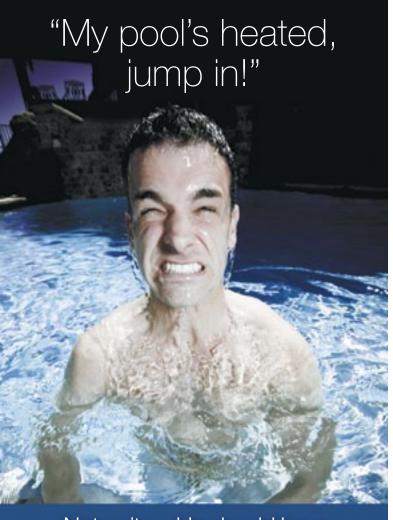
A closer inspection of such websites may reveal disclaimers acknowledging no affiliation with the government. In the ABFC case it also has disclaimers which reveal that the ABFC had no part in the success of most, if not all of the grant recipient stories it has published on the website.

The ACCC is concerned that such disclaimers can be easily overlooked especially by people who are more comfortable calling the phone numbers or using the other contact points which are displayed on more prominent parts of the webpage.

Official information about grants is freely available to the public in a readily searchable form at www.grantslink.gov. au or via www.business.gov.au.

To protect your business, make sure you keep these points in mind:

- The government doesn't cold call you to tell you about grants;
- The government doesn't accept payment via wire transfer;
- All Australian Government websites use the ".gov.au" extension;
- All decisions about grants are based on merit – you can't pay for special access;
- Where you may wish to use the services of a third party to assist in preparing grant applications, choose a reputable service by doing your homework first; and
- If you have signed up to a questionable service and have paid by credit card, discuss your recovery options with your provider.



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FREEDOM'S

Fury is a compelling video on many levels – an intense look at the sport of water polo, a dramatic insight into the lives of a people under repression, and a snapshot of cold war politics as two halves of the world stare each other down.

But most of all it is the story of seven highly skilled athletes as they face the most serious opponent you could

FREEDUM'S + FURY

FREEDUM'S + FURY

FREEDUM'S + FURY

have in sport – the one who is also your bloody enemy on the streets of your home city.

And you can be sure Quinten Tarrantino isn't executive producer of movies with a weak story line – even documentaries such as this one.

In October 1956, the Hungarian people rose up against the oppression of the Soviet Russian occupying forces. Thousands lined the streets, and the ripped the red star from the centre of Hungarian flags. As the Soviets backed off, the world champion Hungarian water polo team headed to Melbourne for the Olympics. But before they touched down at Tullamarine, the Russians had returned to massacre hundreds of civilians in the streets with a tank army bigger than the one Hitler used to beat the French.

As the worried water polo players prepared for their gold medal defence, they found out who they were playing in the semi final. Russia.

And so the scene was set for the most emotional and physical game of water polo in history.

Freedom's Fury can be bought online through Madman Entertainment. Go to www.madman.com.au.

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Industry calendar

FUTURE INDUSTRY DATES TO KEEP IN MIND

Apr 16	Austswim Regional Aquatic Conference,
	AIS, Canberra
May 4-5	SPLASH! Asia, Raffles City Convention
	Centre, Singapore
May 8-10	Arafura Games, Darwin
May 9-12	AALARA Conference and Trade Show,
	Conrad Jupiters, Gold Coast
May 10-13	World Conference on Drowning Prevention
	2011, Da Nang, Vietnam
May 11-13	DesignBUILD, Sydney
May 20	Australian Institute of Architects AGM
May 21-22	Brisbane Consumer Spa & Outdoor Living
	Expo, RNA Showgrounds
May 27	SPASA WA AGM
June 17	SPASA NSW Trade Day
June 18	SPASA NSW Awards Night
June 22-24	Asian Attractions Show, Resorts World
	Sentosa, Singapore
July 1-3	Australian Short Course Championships,
	SAAC, Adelaide
July 2-3	SPASA SA Pool & Spa Show
July 15-17	National Austswim Aquatic Education
	Conference, Radisson Gold Coast
July 23	SPASA Queensland Awards of
	Excellence Dinner
July 23	WA Awards of Excellence Dinner
July 24-31	FINA World Championships (Pool),
	Shanghai, China
Aug 7-10	Para Pan Pacific Championships,
	Edmonton, Canada
Aug 10-12	Waves Pool Spa Bath International Expo,
	Pragati Maidan, New Delhi, India
Aug 14-15	SPASA Victoria Spa & Pool Show
Aug 17-18	SPLASH! New Zealand, Wellington Town Hall
Aug 27	SPASA Victoria Awards Night
Aug TBA	SPASAC meeting
Sep 7	SPASA Queensland Golf Classic
Sep 9	SPASA SA Golf Day
Sep 22	SPASA NSW Bob Stanley Golf Day
Sep 27-29	Euro Attractions Show (EAS), London
Oct 3	World Architecture Day
Oct 12-14	World Aquatic Health Conference
Oct 18-21	Piscina International Swimming
	Pool Show, Barcelona

2011

July 25-26 SPLASH! Pool and Spa Trade Show Gold Coast

More details and dates are available at www.splashmagazine.com.au.

These dates are subject to change and should be checked with the relevant organisation. Please send calendar submissions to chrismaher@intermedia.com.au



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Queensland suffers in summer, but total market holds steady

RAIN, FLOODS AND CYCLONES HAVE SHOWN DRAMATICALLY LOWER FIGURES FOR QUEENSLAND OVER DECEMBER AND JANUARY, BUT THE NATIONAL MARKET WAS FLAT OVER THAT TIME AND IS STILL UP CONSIDERABLY ON THE PREVIOUS 12 MONTHS.

THE swimming pool development application (DA) numbers up to January 2011 show a continuation of the incline in new pools being approved. A comparison shows the 12 months to January 2011 had 34 per cent more approvals that the previous corresponding period.

Comparing the two summer months of December and January with the previous corresponding period shows DAs relatively stable at minus 3 per cent, although Queensland was down a whopping 63 per cent over these two months. That is to be expected considering the devastation that tore through the state in the form of floods, rain and cyclones. However, the year-to-January figures for Queensland are still in the black, with a 3 per cent increase overall.

Victoria also suffered badly over this period for similar reasons – rain and flooding – and was down 26 per cent for December and January. However Victoria was up 34 per cent over the year to January.

New South Wales continued to do well, with a 155 per cent increase for December and January, and a 166 per cent increase for the year to January. However, the dramatic discrepancy between the figures raises the question whether the figures may have been under-reported in the previous period.

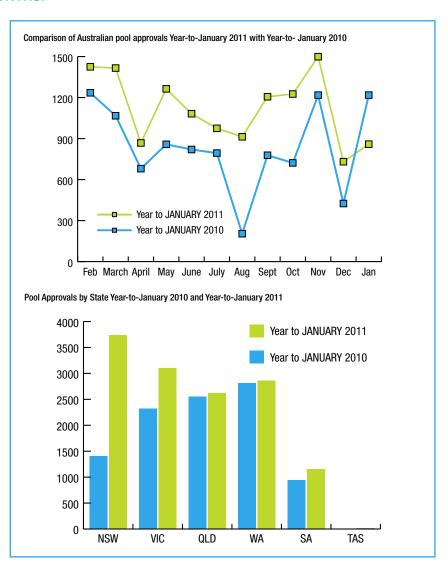
Western Australia showed a 13 per cent increase for the two months and a 2 per cent increase for the year; while South Australia showed a 21 per cent increase for the two months and a 23 per cent increase for the year.

It should be taken into consideration that comparisons of DA numbers against insurance scheme numbers indicate that some figures could be considerably higher – though they would not necessarily affect the comparison percentages.

Additionally, these figures would exclude most renovations, pool projects that are included as part of a new home, or smaller projects under the cost threshold – these projects are estimated to be an additional 30 per cent, meaning total pools actually built could be considerably higher than the quoted DA figures.

However, while these quoted figures may miss some swimming pools, spas and renovations, they do give an indication of how the market is trending.

For further information and more complete reports, contact Magdalene Miller from Cordell Information on 1800 80 60 60.



Renovation to support building market

CRAIG James, Chief Economist at CommSec, says December quarter figures show that renovation is bolstering an otherwise flagging residential building sector.

Residential building fell by 1.1 per cent in the quarter with private sector work down 1 per cent. Alterations and additions rose 2.5 per cent but new work fell by 1.7 per cent.

Renovation work hit two-year highs in the December quarter. CommSec estimates the drop in residential building will detract 0.1 percentage points from December quarter GDP growth.

The construction work figures back up other evidence showing that people are opting to stay and renovate, rather than move. While good news for builders and tradespeople, it is less positive for real estate agents.

Commercial (non-residential) building slumped by 9.9 per cent in the December quarter with private sector work down 9.2 per cent, while engineering work done lifted by 7.3 per cent.



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Around the Globe

AUSSIE TO HEAD LONDON SWIMMING

THE former key staffer at Football Federation Australia (FFA) has moved to England as head of aquatic sports at the London Olympics. Rob Abernethy, who led the successful 2015 Asian Cup bid team, has also previously worked for Swimming Victoria, the Sydney Olympics Organising Committee and the Manchester Commonwealth Games.

NEW US ASSOCIATION LAUNCHED

THE Association of Aquatic Professionals (AAP) has launched in the US with Farhad Madani its first executive director. The association is a domestic non-profit corporation and is run by an all volunteer board of directors and executive director and exclusively promotes and advocates policies, practices and procedures that contribute to safer and improved aquatic education, aquatic recreation activities, programs and facilities; provides and supports quality aquatic education opportunities; coordinates and conducts research in the field of aquatic management and safety; promotes coordination and cooperation between established aquatic associations responsible for all aspects of aquatic programming, aquatic management, aquatic operation and maintenance, and aquatic facility design.

As well as providing educational workshops for communities on drowning prevention and education, a portion of all proceeds will be used towards drowning prevention, i.e. for Learn to Swim Program Lessons and Grants for Life Jackets.

The new association comes after National Recreation and Park Association (NRPA) cancelled its stand-alone national aquatic conference. AAP plans to run a conference in 2012.

INDIA GETS FIRST POOL EXPO

THE 2011 Waves Pool, Spa and Bath International Expo will be India's first pool show. It will be held on August 10 to 12 at Pragati Maidan in New Delhi, India. For more information go to www. wavesexpo.com.

AQUATEKTURE LAUNCHES STUDENT COMPETITION

THREE V Enterprises (3VE) has established a Student Aqua Tekture Design

Competition and Scholarship. Entries for the 2011 Student AquaTekture Design Competition and Scholarship are now being accepted through July 2011 at www. gavaawards.com.

The scholarship is open to students enrolled in a college, university or vocational school, either international or in the United States, and will be awarded to the student who demonstrates a promising future in integrative design or architecture and has a genuine interest in architecture, interior design, engineering, landscape design, LEED, product or CAD design relating to AquaTekture. For consideration, students must submit an original AquaTekture concept.

TEXAS DEBATES VENDOR LAW

IN the US state of Texas a law is being debated about including a requirement for a vendor to determine if a home up for sale has a single, blockable main drain. The vendor would have to determine its presence or get an inspector to confirm it, and supply notification on the home seller disclosure form.

UK HERITAGE POOL TO BE REPLACED

THE historic Lido in Grange-over-Sands, Cumbria, is due to be filled in. The 80 year old pool is built by a bay in the famous Lakes District. A scheme to bring the pool back to its glory days has been rejected, and instead it will be filled as part of a development which will include a new indoor pool, health centre and car park.

NEW CEO AT BULLFROG

JERRY Pasley has become Chief Executive Officer at Bullfrog International. He was formerly the executive vice president of sales at Jacuzzi Hot Tubs and Sundance Spas. Pasley is a board member of the Association of Pool & Spa Professionals (APSP) and has served on their Hot Tub Council.

SPATEX NUMBERS UP SECOND YEAR IN A ROW

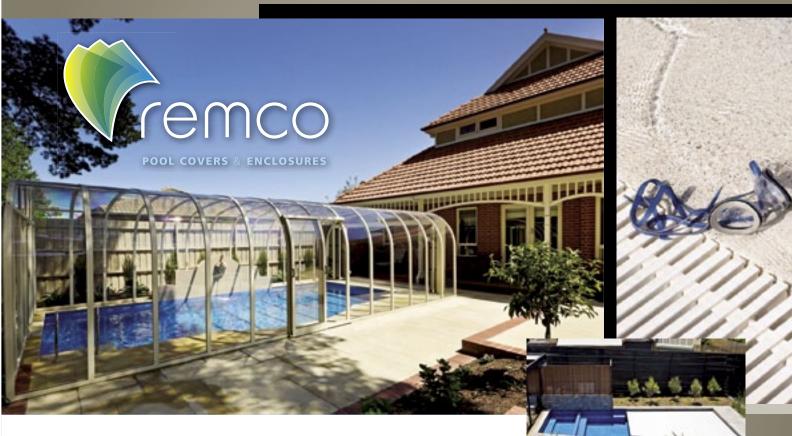
POSITIVE signs have come from the UK industry with more than 100 companies exhibiting and 1388 people visiting the latest Spatex wet leisure expo in Brighton. The three day event had increased numbers, up from the 1232 in 2009, and up from 1323 in 2010. The Saturday to Monday event is open to trade, non-trade and the public.

PORTSMOUTH POOL TWO INCHES SHORT

IN a case reminiscent of Australian sitcom *The Games* where the Olympic 100-metre sprint track was "about 100 metres long", the £5m Olympic swimming pool in Portsmouth has turned out to be 50mm short. The problem has come about as the touch sensitive timeboards have to be added to the finished shell, shortening the length of the pool. However, the council denies it is a blunder and says the pool can still be used for training with stopwatches and for amateur events.



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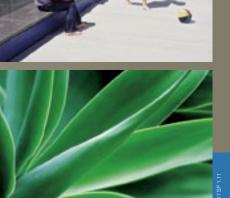
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Industry moves

EMAUX APPOINTS HOCKEYROO

EMAUX has appointed Hockyroo Jayde Taylor as its ambassador. Taylor was a member of the gold medal winning women's hockey team at the 2010 Commonwealth Games and has been recently spotted at the Perth pool and spa consumer expo.



ALIAS TO DISTRIBUTE MARINER

SWISS manufacturer Mariner 3S has appointed ALIAS Pty Ltd as their sole Australasian distributor to launch their new range of commercial robotic pool cleaners to the local market. For further information go to www.marineraustralia. com.au. There is also information on their product range on page 88.

ASTRALPOOL BUYS AQUA PRODUCTS AND AQUATRON

ASTRALPOOL Australia together with its parent organisation Fluidra has announced that from March 2011, Aqua Products and Aquatron (located in the USA and Israel) will form part of the Fluidra Group of companies in the Industry Division. Management of both companies will remain with their founders. The companies are among the world's leading designers and manufacturers of electronic, robotic swimming pool cleaners. See page 84 for information about the product range.

DESJOYAUX MOVES INTO AUSTRALIA

FRENCH swimming pool manufacturer, Desjoyaux, has established a sole Australian distributorship operating out of Sydney. Desjoyaux Australia's showroom is in Kellyville in Sydney's western suburbs. For more information go to www.desjoyaux. com.au or call (02) 8882 9242. There is also information on their product range on page 82.

SIDER APPOINTS AQUAMAID AS A/NZ DISTRIBUTOR

SIDER-OXYDRO has appointed Aquamaid as the Australian and New Zealand distributor for their pool resurfacing materials and decorative deck coatings. Sider-Oxydro manufactures the Sider-Proof FF-PR, a roll-on cement replaster coating for plaster swimming pools which is also designed to coat and waterproof water-



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falls, fountains and concrete ponds. It is available in several integral colours, as well as premixed with coloured quartz. Sider-Oxydro also manufactures a complete line of decorative deck coatings and concrete repair products. For more information go to www.aquamaid.com.au.

WWW OPENS OFFICE IN CHINA

WATERPARK design, engineering and manufacturing company WhiteWater West has opened a new office in Shanghai, allowing the company to meet the growing demand in China as well as improve service to existing clients. It is their 15th office worldwide.

WEBB VOTED IN FOR TENTH TERM

ROD Webb has been re-elected as President of SPASA Queensland, which now takes him into his tenth continuous year as president. He is joined on the management committee by Vice-President Des Evans and Treasurer Steven Fitch.

KEVIN NICOLSON RECEIVES POSTHUMOUS AWARD

KEVIN Nicolson received a posthumous Life Achievement Award at the SPASA NSW AGM in February for services to the pool and spa industry. Nicolson had demonstrated a commitment to improving the industry over several decades and was well respected for his passion and dedication. He was active in the early days trying to get the Building Services Corporation to assist the pool industry with pool paint guarantees from the paint manufacturers and other related issues. He was a participant and presenter in several of the SPASA Pool Renovator Conferences in the 1980s and 1990s and was responsible for a number of SPASA portfolios as well as sitting on numerous committees. He had been a part of the industry in 1978 as pool painter, builder, consultant, confidant and advisor.

At the AGM, the NSW board was also appointed, with Peter Moore as President, John Daniel as Vice-President and Denis Baxter as Treasurer.

TONY PERESSIN PASSES AWAY

TONY Peressin, one of the Directors of Peressin Pools in South Australia, passed away in March after battling liver cancer. He will be sadly missed.



FIRST WOMAN TO GAIN CERT III

JULIE Bowdery of Positive Pool Services has become the first female graduate of NSPI's Certificate III in Swimming Pool and Spa Construction,

Installation and Maintenance. As a licensed trade contractor, she can now carry out major installations and repairs of pool equipment beyond \$3300. She is the seventh woman to graduate from NSPI courses, but the first to complete this pathway.





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ALFA to help implement aquatic environmental benchmarks

Call for input from interested parties.

he Queensland branch of the Australian Leisure Facilities Association (ALFAQ) has joined with the Queensland Department of Environment and Resource Management (DERM) under their ClimateSmart Business Association program to deliver an environmental sustainability program.

The program will include a series of trial groups investigating how facilities can implement strategies to improve their use of water and power, reduce their waste and continue to provide a healthy and sustainable recreational environment.

ALFAQ Executive Officer, Stephen Butler says that the program will deliver world class industry-based benchmarks, policies, procedures and operational instructions.

"The aquatics industry operates in a utilities hungry environment," he says. "This

program will identify how they can improve their operational practices and deliver a range of cost saving measures."

The program will be overseen by a steering committee consisting of John Konrads as Chair and ALFAQ Board Representative, Cr Russell Green from the Sunshine Coast Regional Council, Mark Upson from Strategic Leisure, Sean Kelly from Brisbane City Council, Wayne Taylor from MagnaPool, Dan Cullen from Belgravia Leisure, Don Gordon from Townsville City Council, Darrin Crompton from Energex and Stephen Butler as overall project manager. Gary Penfold, ALFA National Chairman, will be an invited guest and provide valuable input from his own experiences.

The steering committee held its first meeting on March 10, 2011, agreeing to develop and promote environmental sus-

tainable practices specifically aimed at the aquatics sector within Queensland.

One of the key areas that impressed DERM in evaluating ALFAQ's project was the connection with industry suppliers.

"We will be looking to work closely with our suppliers to ensure we capture all relevant trends and practices," says Butler. "We know that several other countries are using environmental friendly strategies, we now have to identify how these and other potential ideas can be implemented here."

The committee's focus is now to identify potential facilities throughout the state that are willing to take part in the forthcoming project trials.

The DERM ClimateSmart program will also include funding other industry bodies such as the Australian Institute of Management, the Building Designers Association of Queensland (BDAQ), and the National Electrical Contractors Association (NECA).

ALFAQ has put out a call for interested parties – both individuals and businesses – who can provide input to this project. This would include existing strategies or equipment specifically designed with envi-

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ronmental sustainability in mind. For more information email alfaq@alfaleisure,org.au or call 0418 876 554.

Fillsites launches website

Want to get rid of your fill by finding it a good home, and possibly saving money into the bargain?

The website www.fillsites.com.au is free to use and matches people who have fill/soil (and other raw materials) with people who want those materials. Primarily fill/soil from excavations such as swimming pool sites are very popular. Any other materials can also be listed on this site from rocks to mulch.

This website is free for all to use and aims to reduce the costs associated with the transport of fill materials by reducing the distances needed to travel. Both parties save money and time, while also easing the negative impact on the environment.

Priority has been placed on the design of this website for its ease of use. You can list as many sites for fill wanted or for fill available as you wish. All listings are then plotted on a Google Maps interface for quick and easy search.



Contractors, builders and landscapers can:

- Find close fillsites for their next excavation;
- List their upcoming excavations for others to find; and
- List their requirements for fill for upcoming jobs.

Best of all www.fillsites.com.au doesn't cost users a thing. Fillsites hopes to generate revenue to fund the site from banner ad-

vertising. At present the website is displaying free advertising to other free websites or non-profit organisations.

The site was launched in late January and at the time of writing has more than 300 listings for fill wanted or fill available.

For more information go to www.fillsites. com.au or go to www.splashmagazine.com. au for a QuickLink. ⑤

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RLS says national fencing legislation best chance to save kids

CEO welcomes ministerial plan.

oyal Life Saving (RLS) says a key decision will have potentially the biggest impact on reducing child drowning since pool fencing was introduced more than 20 years ago.

RLS CEO Rob Bradley says a decision by the Sport and Recreation Minister's Council (SRMC) to develop the principles for nationally consistent home pool fencing legislation is an important first step as figures show the number of deaths by drowning has increased by more than 15 per cent in the past two years with more than 150 children aged 0 to 4 drowning during the last five years – half the deaths were in backyard pools.

RLS research indicates as many as 85 per cent of home pools are either not fenced at all or are non-compliant with safety requirements.

Bradley says without doubt inadequate and inconsistent home pool fencing legislation and compliance has already cost hundreds of young lives in the past 10 years.

He says at the current time there is massive confusion amongst pool owners, local councils, real estate agents, manufacturers and equipment suppliers and installers about which parts of current legislation apply to their local area.

"Establishing one nationally consistent approach will make life much better for everybody involved," he says. "It will ensure pool owners can provide a safer and more secure environment for young children. This will then provide the clear best practice for manufacturers, builders and installers of pools, pool fences, latches and gates."

Bradley says he applauds the unanimous commitment of states and territories to develop a common set of legislation and compliance measures.

"I raised this issue with the Minister for Sport, Mark Arbib late last year. He has acted swiftly and decisively. This is an excellent result and will help save many young lives in the future.

"Despite a huge Keep Watch media campaign and awareness strategies over many years, too many home pool owners have not been heeding the message about toddler drowning. Almost every week we are seeing another media report about a backyard pool drowning. The new proposed measures are



critical to support the vital message that young children must have constant adult supervision.

"The Queensland Government has led the way on this important issue in recent years and I would like to acknowledge Phil Reeves [Queensland Minister for Sport and Recreation] for leading this push. Queensland has implemented a range of measures including the requirement for pools to be certified when the pool is first installed and when a house with pool is sold or rented. Fines are also imposed for non-compliant pools when owners refuse to do the right thing. Obviously this hasn't always been popular, but

when you are talking about reducing drowning, you have to do everything you can."

Royal Life Saving and other members of the Australian Water Safety Council are now preparing to work with the Standing Committee on Recreation and Sport (SCORS) government working party over the coming months to develop the consistent best practice approach.

The Australian Water Safety Council will also work with the Standing Committee on Recreation and Sport on improving standards for learn-to-swim teachers, professional practice and programs.

It will also investigate issues of access and availability to swimming lessons following research data released late last year which suggests thousands of Australian primary school aged children are essentially not receiving any swimming and water safety education.

A Kiwi point of view

Geoff Bonham, spa and pool representative of the NZ Master Pool Builders Guild, Auckland Water Safe Committee member and New Zealand spa and pool alarm supplier has written to SPLASH! following the article in the February issue regarding the modification to South Australia's fencing laws.

He says he is surprised that SPASA is pleased with the changes regarding aboveground spas, and suggests New Zealand's standard is a better option. He says that in New Zealand local councils have been passing spas with lockable lids, and believes that the Australian industry should be pushing for the same thing.

"If I was a spa manufacturer in Australia I would be jumping up and down as this will affect their business if spas

have to be fenced. I would be reading the NZ Standard NZ8500 which is a guidance document for local authorities so they have alternatives."

Bonham says that the common criticism of lockable lids on spas is that people forget to put them on after they've finished using the spa. However, he says they do remember because they don't want to lose the heat from the spa and have to pay extra on their electricity bills.

He also says pool covers and alarms should be allowed when fences can't be built between a home and a pool.

"The NZ8500 Standard is a very good document to help home owners to be able to have alternatives to fencing if they cannot put a fence up between the house and the pool. If not they can look at alternatives such as pool and door alarms that meet UL 2017 and ASTM F2208 and automatic pool

covers that meet overseas Standards like ASTM F 1346-91."

Bonham suggests it would be an advantage for Australian and New Zealand associations to get together and discuss safety in the two markets.

NATA testing laboratory approved for 1926 Part 3

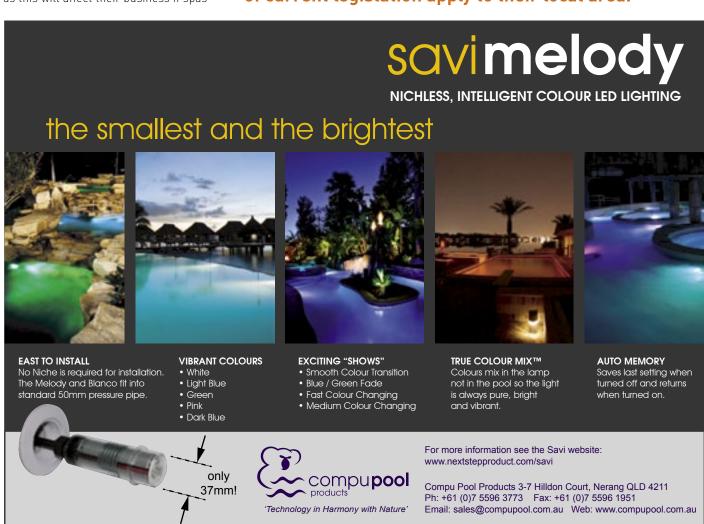
Queensland Testing Laboratory (QTL) has updated its testing capability and now has AS1926 Part 3 Clauses 5, 6.1, 6.2 and Appendices A & B included on its Scope of Capability.

This means suction point covers can now be tested as per the new standard which takes effect on May 1, 2011.

Testing will cost \$3520 and the first test reports will be available approximately one month from receipt of samples.

For more information call (07) 5499 6996.

"There is massive confusion amongst pool owners, local councils, real estate agents, manufacturers and equipment suppliers and installers about which parts of current legislation apply to their local area."



Putting Christchurch BACK TOGETHER







he devastation of the 2011 Christchurch earthquake affected everyone in the city, and many others around New Zealand and the world.

Nearly 200 people lost their lives, the city centre was all but wiped out, 100,000 homes were damaged – perhaps 10,000 of them irreparably.

When the 6.3-magnitude earthquake struck, Chris Sweeney of Pioneer Pools & Building was out of town in Queenstown.

"I had a crew of guys down there, and when it hit we were all in a bit of a panic to find out if everyone was okay," Sweeney says. "We loaded up with batteries, water etc and headed back not really knowing how things were."

When they arrived in Christchurch they found it was a tale of two cities.

"The boys on the east side had to navigate cars and trucks down holes in the road,

flooded streets, no power, no sewer, no water. But on the west, you'd hardly know it had happened."

Sweeney has had a lot of insurance work from both the February 2011 earthquake and the September 2010 event. While the September quake was bigger, the February one caused more damage because of where it was situated in the rock – bringing down whole hillsides.

"Rock is the best medium to be in, but if it comes down you're in trouble," he says.

"But structurally, the pools have held up really well. A concrete pool is actually quite a strong structure because it's squat and the walls are designed to retain material, and much of the time the deck acts like a horizontal beam. On some on the hillsides, the houses have been monstered, the cladding's come off the walls and everything, but the pool is as good as gold."

However, the biggest problem for swimming pools didn't come from fracturing rock, but from liquefaction – the combined sand and water that was forced up to the surface from underground.

"Liquefaction is mostly in ground water areas or areas when there's water, and the water mixes with the sand and comes up. It can be a very dense layer of sand, and mountains of the stuff was coming out. The hydrostatic pressure lifted pools 200mm out of the ground – even when they were filled with water. The hydrostatic valves saved a few, but then they got gummed up.

"On top of that, the water mixed with sewage in some places where pipes had broken. We have to boil water and still can't top up pools."

Sweeney says there are a few ways that builders are dealing with the problem. One

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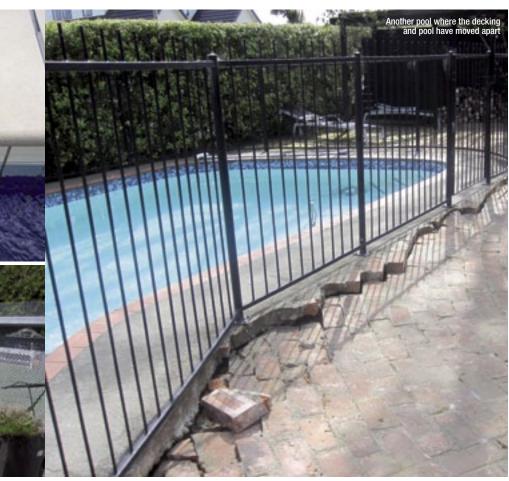
is to over-excavate then put in a heavy duty filter cloth to put the liquefaction to the side of the pool; another is to use cylindrical piles with a screw that helps remove the liquefaction and take some of the vertical stress.

He says the damage varies from pool to pool. Some are in perfect condition – but 100mm or more out of the ground. Others

stream, the ground wants to move towards the stream, and you can get different amounts of moving which can cause problems as well."

Gwatkin says that the sprayed concrete pools have performed pretty well, and that it's mainly been the ground moment which has caused them to pop, and then the associated damage to the services such as piping.

"Putting the pools on piles would add to the cost, but would work. If it's movement sideways to a stream, chances are the pool would still move but at least it should stay level. The thing is, you'll get these occurrences once in a blue moon, and it will cost a few thousand dollars more to pile the pool for something that might not happen again in your lifetime.







have stress cracks that can be repaired, but sometimes the twisting, cracking and misalignment means they have to broken up and started again. The swimming pools in the hills often had broken pipes.

Tim Gwatkin is a Christchurch engineer experienced in working with swimming pool builders. He's seen quite a few pools since the February quake, and confirms that the most common problems have been popping out of the ground and twisting.

"The liquefaction has been pushing with a lot of force and causing a lot of damage," says Gwatkin. "Differential ground movement has also caused the damage –moving at different amounts at different parts of the pool – but not a lot have collapsed due to retaining loads.

"The other damaging effect has been lateral spreading – when the pool is near a

"You'll get these occurrences once in a blue moon, and it will cost a few thousand dollars more to pile the pool for something that might not happen again in your lifetime."

"However, it's hard putting things back into the ground once they've come out, and it can be quite difficult to level it again. Do you raise the paving level or do you just say the pool's buggered, we'll put another one in?

"I guess it's horses for courses – whether you can tolerate another six inches of height and whether your surrounds can tolerate it or not."

Gwatkin says it's hard to design for ground movement with the lateral spreading and the upward movement from the liquefaction, although one way that can provide some help is building the pool on piles. "But if you did, you'd expect those pools to perform better."

Safety codes have been written for buildings in Christchurch to help the population survive a major earthquake, with the main criteria being that the people can get out of the buildings. It doesn't mean the buildings will be useable afterwards.

It didn't help the buildings or the swimming pools that the event was twice the magnitude than the codes anticipated.

Christchurch is in need of considerable rebuilding. However, the "new" city is expected to be one of the most quakeproof in the world. §



Is the Asian pool market moving out of its infancy?

Christina DiMartino looks at the pool market in Asia, and sees a bright future on the not-too-distant horizon.

ew trade shows, magazine launches, newly emerging developers, designers, contractors and specialists, an increase in new product development and an upsurge in foreign imports. These are all signs of a burgeoning swimming pool and spa industry. This is a brief synopsis of what is happening in Asia today, where all indicators point toward a quickly evolving upscale industry.

Higher education, economic prosperity and the desire to follow western trends and lifestyles are helping drive the increase in demand for swimming pools and spas in Asia. The booming tourism industry in many Asian countries is testament to the fact that commercial pool and spa builders are among the first to feel the business surge, but strong signs of growth in the residential sector are also evident.

The worldwide economic crisis did have a negative effect on tourism in Asia (along with the rest of the world). In 2009, the United Nations' tourism organisation predicted that international vacation travel could drop by as much as two-percent in Cambodia, Thailand, Vietnam and China, in line with the economic crisis. But Hotel Online reports that over the past decade the Asia Pacific region has been the fastest growing tourism region in the world. Statistics from the World Tourism Organisation (WTO) for 1996 indicate that tourist arrivals and receipts accounted for, respectively, a 15.2- and 19.4-percent share of the world's total - a significant increase from 1985.

Hotel Online reports that the Asia Pacific region has been gaining market share at the expense of the American and European regions, which saw a decline in their respective shares during the same period.



The WTO projected that by 2010, Asia will surpass the Americas to become the world's number two tourism region, with 229 million arrivals. It is an indication that the growth of tourism in the Asia-Pacific region in the next decade will be nothing short of spectacular, and that a two-percent drop for a couple of years due to the economic crisis will quickly be compensated by future growth.

Furthermore, as a result of strong economic growth, disposable incomes have soared in Asian countries. Rising incomes have created a middle class of sophisticated and affluent Asians who are better educated, have more disposable income and who appreciate the value of leisure. And although price-conscious, they still demand high quality products. Disposable incomes in Asia are expected to continue to rise, further fuelling the demand for luxury goods and services.

Jumping on the bandwagon

Progressive pool and spa product manufacturers are smart to keep their eyes on the Asian market, but some have already made the realisation and are now enjoying the fruits of this growing sector. Hugh Smith, Director Pool Group Asia Pacific for Pentair Water Pool & Spa, says quite a number of possibilities exist in the Asian market for Australian and New Zealand pool designers, builders and technicians, as well as foreign product manufacturers.

Pentair is a \$USD3.5 billion multinational corporation with two divisions; Water and Electronic Packaging. The company is headquartered in Minneapolis, Minnesota, USA, and has been in business for more than 30 years. Smith is based in Notting Hill, Victoria, Australia.

"These markets are really beginning to mature, and the knowledge and technol-

ogy available to them through Australian based companies is enormous," he says. "There was a lull during the global financial crisis as this market primarily depends on tourism, which in turn supports our industry with new resort and hotel development. Also, there is what we refer to as 'villa projects,' which are multiple individual villas, each with private pools. These are proliferating in the region driven by the tour-

He adds that the options available to pool and spa professionals are expanding even more over time.

ism sector."

"The Asian residential market is still relatively small comparatively, but as economies rise and the middle class continues to grow, demand will increase. We have to ask ourselves, how much is relative?"

The view from Singapore

The Marina Bay Sands SkyPark pool in Singapore is an outstanding example of innovation and advanced technology in Asian pool and spa design and development. An awe-inspiring engineering wonder, this unique 150-metre, infinity edge structural masterpiece, designed by visionary architect Moshe Safdie, floats atop the three soaring Marina Bay Sands hotel towers, 200 metres in the sky.

Stretching longer than the Eiffel tower stands tall, or four and a half A380 Jumbo Jets, with an impressive 12,400 square meters of space, the Sands SkyPark can host up to 3900 people. The gravity-defying cantilever is the largest of its kind in the world. From the observation deck, thousands of visitors at one time can feast their eyes on the unforgettable panorama view of Singapore. (There is more on Sands SkyPark on pages 34-39.)

Marcus Ng, project director at Innovez Sports Technologies in Singapore, served as project director on the Marina Bay Sands' SkyPark project.

"It is truly a one-of-a-kind facility, not only in Asia, but I dare say globally," says Ng.
"During the structural engineering design phase, we tried to find reference project examples to refer to, but there was no pool like it in the world. Currently, it is known as the highest and longest elevated pool in the world, defying many engineering challenges. The SkyPark pool is a fine demonstration of the architectural and engineering dynamism in Asia, and that I hope that inspires others in the business to build it bigger and better."

Ng says the Asian property and construction market in places including Shanghai,

Hong Kong and Singapore, is experiencing greater demand with more developments in both the commercial and residential sectors.

"For both segments, consumers and developers alike are demanding new concepts in pools and spas, which have become part of the integrated lifestyle in homes, hotels

says there is just not enough awareness among architects, developers, contractors and homeowners in Asia. And there is a general reservation when it comes to adopting new technologies, so Asian builders have stuck to the archaic way of constructing and maintaining pools for decades.

"The Asian residential market is still relatively small but as economies rise and the middle class continues to grow, demand will increase."

and resorts," he says. "For Australian and New Zealand designers, the opportunity could lay in creating new lifestyle experiences through unique design and architecture. There is also a need for an in-flow of knowledge and expertise in green technologies and building materials in Asia, where its general reception remains relatively low."

Ng says that strong sustained growth is evident in larger Asian cities. Due to the growing demands for space in the cities, the urban sprawl has gone quite literally vertical with landscaping, gardens and pools in the sky.

"In Asia, these concepts are still fairly new, and that presents an excellent opportunity for relevant businesses to catch the tide," he says. "Personally for me, in the area of pools and spas, the possibility of 'sky pools' is best realised with stainless steel. It is lightweight and watertight, hence it provides tremendous advantages for both loading and waterproofing when you consider putting the pools on top of buildings."

While these new technologies and building methods are applicable at all levels, Ng

"But that is slowly changing as these stakeholders begin to see the positives in cost efficiency, reduction in construction timeframe and ease of maintenance with the adoption of these new methods of building."

India's booming economy is leading to lifestyle change

Another sign of a growing pool and spa industry is when a new trade publication is launched, such as Waves, India's first magazine geared toward pool, spa and luxury bath professionals.

The impetus for Waves occurred when American entrepreneurs Christopher Castillo and Sonny Sharma entered the pool industry in India by introducing solar pool heating to the country. Both Indian residents, they soon realised a void in Indian trade associations and records. This led the partners to do extensive market research. That in turn inspired them to found Media One Group in Mumbai and, in 2010, to launch India's first swimming pool, spa and luxury bath trade publication.







"We have either met or, due to their remote location, spoken to every pool professional in India," says Castillo. "We aggressively attacked the market – as Americans do – and familiarised ourselves with the pool builders and professionals in all major tier one and two cities across the subcontinent. We interviewed them to find out where the pools were located, how many there were, who was building them and what the general trend of the industry was."

Castillo says that India's economy – Asia's third largest, and one of the world's recovery drivers – was expected to grow by 8.6 percent by March 2011. India is the second fastest-growing major economy in the world, after China. The robust Indian economy has given rise to a country with a staggering middle class that is close in number to the population of the United States.

"This emerging economic class has led to a boom in the sale of everything from automobiles and electronics to luxury items and vacation homes," says Castillo. "A lifestyle change is happening in all corners of the country, and it's happening fast. This lifestyle change is all about having a quiet comfort-



Stormtech specialise in narrow stainless steel trench drainage solutions for pool surrounds, paved areas, courtyards and balconies, as well as for bathrooms, showers and wet areas.

The award winning 65AG100 and 38AG90 Special Assembly products are narrow profile, high capacity drainage systems that allow flexibility in pool design and construction, including wet edge or infinity pool situations.

This patented manifold drainage system reduces the need for traditional wider grating. It is composed of a PVC channel with outlets every 200mm connected via downpipes to corresponding sockets in the pipe below. This allows the channel to be installed level while the pipe is given sufficient fall to be self-cleaning.

The Special Assembly is then completed with a stylish "slimline" stainless steel grate.

This advance in plumbing has enabled Stormtech to carve out a solid niche for itself at the high end of the architectural design market, for residential as well as commercial projects.

Stormtech's architectural grates and drains are specified by many pool designers and landscape architects and have been used in prestigious projects throughout Australia and, more recently in South-East Asia with a particular focus on the Singaporean market, where Stormtech drains have been installed in a variety of pool projects in Sentosa.

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able retreat; a place to get away from the hustle and bustle and relax in the comfort and privacy of your own home. The preference for having a private getaway, coupled with the increased spending power of India's middle class, is taking the wet leisure and home-spa industry to new heights."

The spectacular growth of the Indian economy has also fuelled the development of numerous townships sprouting up all over the country. Development is happening in major metropolitan areas as well as hillside towns and smaller cities. In Lavasa, India's largest hill city, there are hundreds of villas being built, each with its own private swimming pool.

Castillo says the demand for both residential and commercial pools in India is huge. Besides pools being built with the new villas, townships typically also provide a clubhouse with full amenities, including a pool. Hotels, health clubs, spas and resorts are also being built across the country. The steady urbanisation of the Indian population, migrating from villages into cities, is further fuelling the need for both the residential and commercial pool development categories.

In three years of research on the Indian pool and spa market, Castillo and Sharma have discovered: India's current pool market is growing at a rate of more than 50 percent per year. The current gross revenue of the pool industry is estimated between \$USD180 and \$200 million. Industry experts predict that within five years, the pool and spa market in India will reach \$USD1 billion. As the economy grows so will the demand for leisure goods.

"Many Indian architects do use outside consulting, especially for large or upscale projects," says Castillo. "Foreign companies are called upon because of their vast experience and international certifications.

India's climate is perfect and inviting

for swimming pools.

"It is a good time for Australian profes-

sionals to promote their businesses in this emerging sector," he says. "The pool and spa market is already one of India's fastest growing industries. Increasingly more foreign companies are noticing this and have started to introduce their products here.





Others learned about the growing industry earlier, and have been enjoying strong business in India for several years."

He adds that international companies such as AstralPool, Pentair, Hayward, Stern's Pools, Emaux, Procopi, Certikin, Zodiac and Desjoyaux are perfect examples of successful entries into the Indian market, and they continued to increase and expand their presence and market share.

"With the establishment of these international firms in India, a proper sales, service and distribution network was created," says Castillo. "This has advanced the industry to new heights. From just a handful of pool builders only a few years ago, the pool industry in India now boasts of more than 300 contractors spread across the country, and the number of professionals entering into the industry is growing."

Despite the upward trend, the Indian pool and spa market is still in its early stages, and is not nearly as established as it is in Australia. However, over the past five years, the market has begun to show signs of maturity.

"India truly is a free economy," says Castillo. "Anyone, of any nationality, can open a

Expanding Asian economies					
Gross Domestic Product by Nation/City from 1998 to 2008 (in USD)					
Economy	1998	2008			
Japan	3.857 trillion	5.069 trillion			
China	1.019 trillion	4.522 trillion			
India	416.252 billion	1.214 trillion			
South Korea	345.432 billion	931.402 billion			
Thailand	111.86 billion	272.429 billion			
Malaysia	72.175 billion	221.828 billion			
Hong Kong	166.909 billion	215.355 billion			
Singapore	82.399 billion	193.332 billion			
Philippines	65.172 billion	166.598 billion			
Bangladesh	44.092 billion	89.36 billion			
Vietnam	27.21 billion	81.27 billion			
(Source: World Bank, World Development Indicators)					

company and start doing business here. With import duties coming down, increased trade between India and the West has allowed advanced technologies and internationally proven brands to easily enter the market. In fact, imported goods are preferred over domestic and Chinese brands, and are always in demand. The demand for imported technologies isn't

just limited to pumps and filters. Also in strong demand are products like salt chlorinators, hot tubs, covers, LED lights, patio furniture, gazeboes and fitness equipment."

Waves magazine, Castillo adds, was created to provide a platform for industry professionals to communicate, network and learn from each other.



"We hope the Indian industry will continue to advance, and that the need for a swimming pool safety association and for government guidelines will be acknowledged and initiated."

Economic experts predict the future

In its Economic and Social Survey of Asia and the Pacific 2010: Year-End Update; Maintaining Growth Amid Global Uncertainty, the United Nations Economic and Social Commission for Asia and the Pacific reports that 2010 saw an impressive recovery of the Asia-Pacific region from the depths of the severe 2008-2009 recession. Led by the large economies of China and India, output growth in the region rebounded in 2009 and gathered further strength in 2010.

However, the report emphasises that the region is by no means out of the woods yet. There are indications that the region will likely have to contend with a more challenging global environment in 2011, which is predicted to be less supportive than in 2010.





The loss of momentum is being driven by uncertainty on the jobs front as fiscal consolidation takes centre stage in most developed countries and monetary policy is given pre-eminence in promoting growth. This would mean that growth rates in the region are likely to be negatively affected to some extent, at least in the short term.

Conversely, an increase in intraregional trade due to the demand generated in the larger economies of the region should provide some cushioning to the slowdown of exports to developed countries. The report states that it is pertinent to note that the juxtaposition of these phenomena in 2010 has provided renewed evidence of the ability of the Asia-Pacific region both to drive its own growth and to act as a vitally

LEFT: Hugh Smith says the Asian markets are beginning to mature and the knowledge and technology available to them through Australian based companies is enormous

MIDDLE: Christopher Castillo says the demand for both residential and commercial pools in India is huge

RIGHT: Sonny Sharma of Waves magazine

important contributor to the wider global recovery.

Economies that have a large domestic demand component will continue to grow strongly in 2011; China and India, with a forecast growth of 9.0 percent and 8.7 percent respectively, followed by Indonesia, with growth forecast at 6.5 per cent. Factors that should continue to contribute to the steady performance in 2011 include ongoing consumption and investment in India and Indonesia, with growth increasing the spending power of the population and widening employment and business opportunities.

In China, continuing strong infrastructure spending and net exports are expected to be supported by increased household consumption as the government puts in place measures to reorient the economy towards greater domestic consumption in the areas of health and education spending.



Above the Singapore sky



It's one of the most remarkable high rise constructions in the world – the Marina Bay Sands Resort, topped by the stunning Sands SkyPark pool.

mongst the many architectural highlights of the new Marina Bay Sands Resort in Singapore, one crowns them all.

Situated atop the three hotel towers on the 57th storey, the Sands SkyPark is a 340-metre long superstructure that comprises landscaped gardens, dining facilities, an entertainment venue and an impressive 150-metre infinity-edged swimming pool that offers unhindered views of the Singapore skyline.

The person responsible for the design of the Marina Bay Sands is the world-renowned architect, Moshe Safdie.

"When we positioned the SkyPark on top of the separate towers, it then connected

them as a cohesive unit, creating what is now something of a symbolic gateway to Singapore," says Safdie. "It also became a spectacular opportunity to position many of the amenities of the hotel, including gardens, restaurants and a one-of-a-kind swimming pool. It was important we capitalised on the swimming pool's unique location 200 metres in the air, so we created a dramatic 150-metre long infinity edge facing the city. The infinity edge combined with the pool's iridescent tile finish blends the pool water surface seamlessly with the Singapore sky."

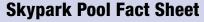
Known to be the world's largest outdoor pool at such a high elevation, the SkyPark pool posed serious challenges for the engineering team.

"The key to the design was the ability to achieve a single continuous infinity edge across the entire length of the SkyPark. The two primary issues were differential tower movement and building settlement over time. It was the ultimate goal that the complex engineering that went into the design solution, was completely integrated and hidden, so as to keep the experience clean and simple. The collaboration between the design and technical teams was critical in this sense," he says.

Global engineering consultancy Arup was responsible for multidisciplinary engineering including advanced works, infrastructure, structural, civil, fire and geotechnical engineering, traffic, facade and acoustic consulting and risk management.

"Every element of the project was technically challenging to design and build," says Cheong Va-Chan, Arup's Project Director.

Arup had to overcome a number of structural challenges. The design allowed



Length: 150 metres

Breadth: 8 metres usable breadth (excluding weir edge,

steps and shelves) **Depth:** 1.2 metres

Total volume of water: 1,424,000 litres
Total pool surface area: 1,396 m

Elevation: 57 stories, 200 metres above ground

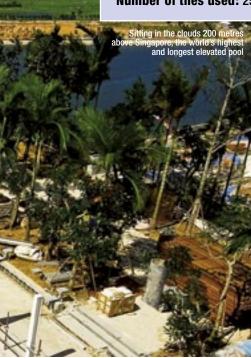
Weight of pre-fabricate stainless steel used: 191,416 kilograms

Number of movement joints beneath the pool: four Maximum range of movement joints: 500 millimetres

Number of adjustable jacks: 496

Maximum range of adjustable jacks: 106 millimetres

Number of tiles used: 254,522 (for a total floor area of 2,395 m)



finishes contribute to this," says Brendon.
"Arup designed large tuned mass dampers to act in a similar manner to shock absorbers within the belly of the SkyPark and carried out large scale vibration tests to verify the design."

Singapore-based design-and-build pool

elements of the structure and architectural

Singapore-based design-and-build pool specialist, Innovez Sports Technologies Pte Ltd, built the SkyPark pool using pre-fabricated high-grade low carbon stainless steel.

Because stainless steel is durable and corrosion-resistant, it is ideal against the harsh conditions of an aquatic environment. Its corrosion-resistance stems from a coating which forms instantaneously in an oxidizing atmosphere, be it air or water or any liquids containing oxygen. This protective coating seals the stainless steel from other tarnishing elements in a mild aqueous environment.

In addition, stainless steel forms strong watertight enclosures that do not shrink, crack or spall like conventional pools. The flexibility of the metal accommodates virtually any desired shape or size.

Stainless steel is also very light in comparison to conventional pool building material, hence allowing greater engineering possibilities to accommodate more challenging pool designs. As with conventional pools, stainless steel pools can be tiled or lined. Alternatively, it can be polished for a stainless steel finish.

Marcus Ng, Project Director of Innovez Sports Technologies, says that stainless steel's light weight, strength and flexibility made it the best solution for the SkyPark pool.

Comprising of three separate 50-metre

for safe and easy construction in the deep marine clays at basement level, as well as at the great heights of the SkyPark. A combination of bridge design and building technology was used to achieve this.

"Much time and analytical effort was invested by our bridge and dynamics specialists to ensure Arup understood the complex behaviour of wind and human movement on the structures," says Brendon McNiven, Design Leader for the Sands SkyPark.

Arup had to ensure the SkyPark withstood strong winds and vibration caused by people movement and provided optimal comfort for occupants.

"The dynamic properties of a structure are particularly hard to predict as many

connected at each joint by four-tonne moveable terraces that function like "bridges". Not only do these terraces allow for movement across its length, they also serve to connect three separates pools so they appear as one. In addition, the stainless steel enclosures are built on jacklegs that can be adjusted according to building settlement. "Since the pool straddled three towers,

long stainless steel enclosures, the pool is

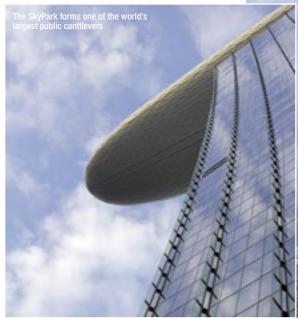
"Since the pool straddled three towers, we had to ensure that the solution could accommodate the different heights as the buildings settle. Building the pool on the hydraulic jacks was an immense benefit, it allowed us to adjust each jack – in a vast network of over 490 jacks under the pool – so that the levelling of the pool could be achieved," says Ng.

The engineering ingenuity extends to many other aspects of the pool. A maze of flexible pipes and joints runs beneath the pool to accommodate building settlement and movement. The pool tiles were specially selected and flown in from Spain as they meet the deflection criteria of the stainless steel pool.



"Stainless steel is very light in comparison to conventional pool building material, allowing more challenging pool designs."





In spite of the complexity and magnitude of the project, the Sands SkyPark pool was built over a time span of a mere seven months. The speed of construction can be attributed in a large part to the prefabrication of the stainless steel.

Craig Glover, Deputy Director of Construction of the Marina Bay Sands Hotel, says that they were able to speed up the process of building the pools by manufacturing the shells or tubs of each pool out of stainless steel in transportable sections and lifting them into place on the SkyPark from the heavy duty tower cranes.

"Each large section was then welded onsite to form the shell of the pools," says Glover. "Similarly, the infinity edge weir was



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pre-manufactured off site as were the cells for the steps and wading sections that were all welded together once lifted into position. Other advantages and time saving for the modular design was to enable the walls of the shell to be welded together while the concrete and waterproofing works were happening at the same time on the platform that receives the floor of the pool shell.

"In effect, the pool contractor was able to chase the concrete contractor from one end to the other allowing a seamless transition and zero downtime from one trade to the next," he says.

Ng says that given the rapid timeline of the construction, there were a lot of workers, equipment and material onsite as various contractors were working concurrently towards completion.

"The pre-fabrication of the stainless steel gave us the luxury of space to work offsite until installation. In addition, the modular nature of the installation meant that pre-fabrication and installation could happen concurrently. This freed up a lot of time and resources and more importantly maximised our effectiveness on-site," he says.



Marcus Ng talking at SPLASH! Asia

MARCUS Ng, Project Director of Innovez Sports Technologies, the design-and-build pool specialist who constructed the Sands SkyPark pool, is to speak at SPLASH! Asia in Singapore.

Ng will elaborate on the engineering innovations of the Marina Bay Sands Skypark Pool and the potential of stainless steel pool construction.

He will deliver the seminar on The Dynamism and Possibilities of Stainless Steel Pools at SPLASH! Asia, May 4 to 5, 2011, at the Raffles City Convention Centre, Singapore.

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