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## Austmine

### What is Austmine?

Austmine is the Australian mining industry export association comprising companies dedicated to supplying the very best in innovative, cost efficient and practical technologies as well as services to mining operations worldwide.

### Austmine membership

Organisations interested in finding out more about what the Austmine membership has to offer are invited to contact the Austmine Executive Officer, **Robert Trzebski** at:

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## Newcomers bolster Austmine board

**New Austmine board members Stuart Ratcliffe, Elizabeth Lewis-Gray, Steve Hall and Andrew Gray are upbeat about the year ahead for the organisation and its members, and are determined to help confront issues facing a sector that has become a multi-billion-dollar economic powerhouse.**

Recent attendance at South Africa's premier annual mining investment conference, Mining Indaba in Johannesburg, and the vast North American diggers-and-dealers show that is PDAC in Toronto, have boosted confidence in the outlook for Australian mining technology and service companies.

"A significant proportion of the companies at an event like PDAC are developing projects and mines in countries where Austmine wants to sell its services and products," said AMEC Minproc business development manager and Austmine board member in Western Australia, Stuart Ratcliffe.

Ratcliffe came to Australia from the UK coal industry in the 1980s and after spending time in eastern Australia working in the coal sector moved to WA and was in a group that started Signet Engineering. Signet was acquired by Fluor Corporation in mid-1996 and Ratcliffe stayed with the larger company until transferring to Sinclair Knight Merz in 2005.

Since then the process engineer has worked for Ausenco and then GRD Minproc prior to its acquisition by AMEC Group.

"The indication I got from attending PDAC, in particular, is that exploration is accelerating again and that ultimately this will translate into projects," Ratcliffe said. "A large number of potential new and existing projects are in central and South America, and those are regions in which Austmine has a strong network.

"Of course the outlook is also positive for many parts of Africa and there is a high number of Australian exploration and mining companies driving investment in mining on the continent. The scope of that investment, in terms of the number

of countries within Africa in which Australian companies have a presence, is quite staggering.

"So we have tremendous opportunities through Austmine to promote Australia's mining technology and service sector to all points on the compass."

Opportunity was a key theme, too, for Lewis-Gray.

The managing director of Gekko Systems since the company was formed by her and husband Sandy Gray in 1996. She is passionate about clarifying and conveying a more powerful message about the importance of the sector to both the mining industry and to government.

"It's really important that the sector is recognised for the role it plays in the Australian economy, and in Australian mining and world mining. Australian mining suppliers are world class," she said. Lewis-Gray has also been a member of the Innovation Australia Board for the past three years.

"I think Austmine has a role to promote the MTS sector, not only a role but an opportunity to promote it, and so I'm quite keen to work on a strategy to do that as effectively as possible.

"The sector needs a voice and I think companies, whether they are Austmine members or not, will appreciate that Austmine has a voice."

Lewis-Gray worked in banking and stockbroking before establishing Gekko, one of the world's leading suppliers of innovative mineral processing equipment. It is her belief that more interactive relationships between mining companies and suppliers would also benefit the sector.

"The Australian mining suppliers are world leaders in innovation and quality and we need to continue this strong brand internationally," she said.

The multi-lingual Steve Hall, who is business development manager with Duratray International based in Perth, WA, said Austmine was a unique body that had broken considerable ground for Australian exporters in the Americas and parts of Asia. Expansion of that focus was now very much on the organisation's agenda.

A mining engineer who has worked for more than 30 years in mining and the Australian mining research and equipment supply sectors, Hall said taxation and other issues facing the country's \$A170 billion-a-year mineral and coal export industry had clear implications for the world-leading manufacturing, services and technology sector that had grown around the

mining industry over the past four decades.

“Anything that impacts mining industry profitability, exploration expenditure, and/or investment in new project development is going to have an effect on the domestic market for hundreds of supply and service companies employing thousands of local people, many in high-skill areas,” Hall said.

“There are currently Federal and State Government tax reviews threatening exactly that.

“We need to make a strong case for consideration of the Australian mining services and technology sector – now estimated conservatively to be worth \$A30-40 billion a year – in any long-term policy moves and the strategic thinking of government, and the mining industry itself too.”

## SKM Brisbane extends global reach to Brazil

**Engineering, project delivery and sciences firm, Sinclair Knight Merz (SKM), has extended its global reach by working with Brazilian mining company Vale on a series of feasibility studies relating to the economic and technical viability of in-pit crushing and conveying (IPCC), otherwise known as “truckless mining”, for a major iron ore project in Brazil.**

The study has largely been undertaken by an SKM team based in Brisbane, chosen due to SKM’s experience in this technology derived from projects such as Rio Tinto’s Clermont mine in the Bowen Basin. Brisbane is home to SKM’s Mining & Metals Mining Systems team, who worked closely with the Vale client team, including both parties making the long trip and timezone changes to each other’s bases. The studies also drew on major contributions from SKM colleagues in Perth (the base for SKM’s Iron Ore Centre of Excellence) and Santiago, Chile (home to specialist design skills, and SKM’s Copper Centre of Excellence).

The project has required some language and cultural awareness training for SKM staff to better understand their new Brazilian client. SKM has also employed two Portuguese-speaking team members in Brisbane and has been able to draw on the Spanish/



Vale Project Team in Brisbane with visiting Brazilian team

English/Portuguese language expertise of SKM’s Country Manager in Brazil.

“It’s now imperative, rather than an optional extra, to have people who are good communicators – ideally to understand and speak other languages - and are prepared to be open to different ways of working and living,” said SKM’s Project Manager, Tim Atchison, who has himself travelled several times to the Vale project office in Belo Horizonte, Minas Gerais, Brazil.

SKM’s contribution to Vale’s project portfolio commenced with a structured Value Improvement Project (VIP) Study on crushing and screening circuits of the wet beneficiation plant layouts and equipment selection for planned expansions at Vale’s largest iron ore mine, Carajás, in Pará State in North East Brazil. At the time, Vale’s Project Director for the Carajás S11D Iron Ore Project, Jamil Sebe, said that SKM’s experience in Iron Ore Beneficiation Plants had provided exactly what Vale was seeking.

“We visited several Australian Iron Ore Beneficiation Plants between 2006 and 2007, and we were impressed with their constructability, level of automation and robustness of equipment,” Mr Sebe said.

“The layouts adopted by the plants enhanced the maintenance and operational performance of the equipment, as well as enabling an optimisation of plant personnel and, most importantly, a reduction in operational cost.

“This was exactly the model we were looking for...for this reason, we sought a partnership, which today we have with SKM.”

Thereafter, Vale engaged SKM on a Programme of Works for both its Carajás mine and for a new 90Mtpa greenfields iron ore project known as S11D. Under this arrangement, SKM has been able to effectively contribute to technical advisory and design studies, further VIP work, introduce concepts of Operational Readiness, and confirm the suitability and viability of IPCC systems in Vale’s iron ore mines.

The on-going work with Vale has prompted SKM to establish Sinclair Knight Merz Serviços de Engenharia Limitada, and to accelerate the opening of its Belo Horizonte office.

The Vale team recently visited Brisbane, and

their first impressions were positive, although they weren’t so impressed by our food.

“You fry everything here. We cook ours!” laughed Vale’s Project Manager, Carlos Santiago.

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## Mine Site Technologies – First digital system export to South America

**Mine Site Technologies (MST) has sold its first digital communication and tracking system into South America. Compañía de Minas Buenaventura has purchased the latest digital technology from MST for their Orcopampa Gold Mine in southern Peru.**

Being the largest privately owned gold mining companies in Peru, Buenaventura is investing in their operations to ensure they are as safe and productive as possible. The engineers at Orcopampa identified the significant benefits a tracking system could offer in managing the day to day operations at their mine, as well as provide a vital safety tool for their workforce underground.

After an extensive review of technology options, the engineers at the mine chose MST’s Australian developed technology. The ImPact Underground Digital Network provides communication backbone for a variety of applications, including a tracking system based on RFID Tags. A key justification was MST’s track record of successful installations at mines



ImImpact Wireless Access Points form the heart of the digital system

in Australia, Canada, Finland and the USA.

The system will allow the location of personnel and equipment to be known in real-time. The key components include:

- 34 ImImpact Wireless Access Points (pictured below).

- 850 ImImpact Wi-Fi Tags.

- ImImpact TRACKER Engine and Viewer Software Tag Management Suite

The digital backbone is being set up for easy expansion as the mine grows, as well as being fully Wi-Fi compliant to allow other applications and client devices to be used with the network, such as VoIP telephones underground (pictured above).

MST is very appreciative of Buenaventura's support, especially as this is the first installation of the underground Wi-Fi technology in South America.

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## IPI SWiPS and datalogger flowmeter - first use in Israel

Australian packer system specialist Inflatable Packers International (IPI) has recently supplied its Standard Wireline Packer System (SWiPS) for use on a 700m deep investigation at Gilboa in Israel. The tool supplied was a standard HQ SWiPS run with an In Situ Troll memory gauge. Also supplied was IPI's datalogger flow meter ("DFM" - pictured).

First introduced in mid 2009 the 160 bar rated DFM is principally used for controlling the packer inflation as well as taking pressure and flow data from the injection head. However it now enables SWiPS to be used for hydrojacking as well as being very popular with coalbed methane testing and other applications where consultants go on site with their laptops. The infra red/USB interface allows data download post test to a lap top where data can be compared to that from the retrieved EMG.

The SWiPS system is increasingly used



Hydrologist Nisim Tel-Avivi from GGS Consultants using the IPI DFM in the drill shack.

by major mining companies worldwide for permeability testing on mine and tailing dam sites. It replaces traditional nitrogen systems which are problematic to use on deep and/or remote locations. Some mining companies now also prefer to avoid high pressure gas systems for HSE reasons.

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## SRA Forges ahead despite the GFC

### EnviroSys™ at BHP Billiton Energy Coal

SRA Information Technology has continued to extend across international boundaries as a standout achiever amongst the many companies that have struggled to come to terms with the difficult task of exporting during the global financial crisis.

After a successful implementation of EnviroSystem, SRA's flagship environmental data management solution, at BHP Billiton's New Mexico Energy Coal operation, the company is now underway with an implementation at BHP Billiton's respective South African venture.

Mr Daniel Woodcock, SRA Environmental Project Manager, reports that SRA's experience throughout the rapid ten week New Mexico Energy Coal roll-out, completed in June 2009, is now enabling the execution of yet another efficient implementation in South Africa.

Mine sites, in most instances, require the full configuration of EnviroSystem solution capabilities. The system allows for capturing, storing, managing and reporting on environmental data from a range of sources across the broader categories of; greenhouse gas and carbon emissions, air quality, water quality, waste management,

*continues page 4*

# Entering the next generation of advanced simulation training

While it has only been a relatively short period of time since advanced equipment simulators were launched in the mining industry, the founding company at the centre of the training revolution, Immersive Technologies, is already moving into the next generation of operator training with strong support from its extensive mining customer base and industry partners.

"After years delivering simulation technologies into the mining and heavy earth moving industry, Immersive Technologies is in a unique position to leverage from the vast knowledge acquired through our global customer base and OEM (Original Equipment Manufacturer) exclusive alliances," said Paul Davis, the company's Vice-President, Asia Pacific, Africa & Europe.

"This has enabled us to develop competencies to not only understand the roadmap to training best practice, but more importantly further support and guide our customers' to achieve the maximum from their training programs in line with their organisational goals."

Key to this was a holistic approach to quantifying operator competencies that linked to operational improvement at customer sites.

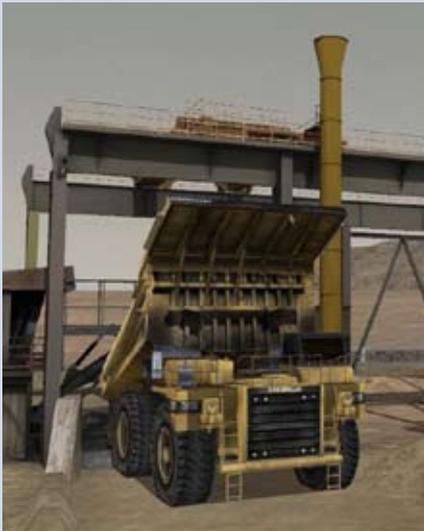
"Immersive Technologies has put significant resources into developing capabilities within training curriculum design, simulation integration, data analysis and business improvement methodologies to rapidly deliver value to various mine stakeholders for ongoing continuous improvement," Davis said.

He said an example of how Immersive Technologies was working holistically with big miners to build bridges between operator competencies and operational metrics, could be seen at Xstrata Copper's

*continues page 4*

Lomas Bayas operation in Chile where a Business Improvement (BI) project facilitated by Immersive Technologies, evaluating the impact of advanced simulator training on site safety and cost control, was recently completed.

At the completion of the BI project a 42% reduction in incorrect brake use and 51% reduction in overall errors were recorded in simulation with data recorded from the sites Statex system supporting this improvement trend during in-pit operation.



Custom Mine Site (Real-time screen shots of the virtual training environment)

“The project delivered significant improvements in operational safety and cost minimisation in line with the projects original objectives.” Davis said.

A comprehensive report was compiled by Immersive Technologies training specialists and supplied to Xstrata Lomas Bayas management for further investigation against their in-pit data.

“Ongoing feedback from Lomas Bayas continues to be encouraging, with positive results from ongoing advanced simulator training being carried out on site.”

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weather activity, rehabilitation, flora and fauna and even HSEC (Health Safety Environment and Community). BHP Billiton report that they are now pleased to have a central repository for this array of vital data. The EnviroSystem solution also facilitates the generation of useful information through reporting that will form an integral part of BHP Billiton’s decision making processes.

SRA has provided EnviroSystem to capture data from a combination of twenty operational and non-operational energy coal mine sites in South Africa. Both companies are reportedly working very closely to achieve a successful outcome. Mr Woodcock says that after his first visit to BHP Billiton Energy Coal in South Africa, SRA is now in the process of configuring EnviroSystem to meet BHP Billiton’s exact requirements across all of these sites. Another three site visits, two of which will be to train BHP staff in EnviroSystem, are planned prior to the system’s ‘go-live’. Given the substantial increase in the size of this project over New Mexico, SRA is expected to bring it to completion sometime in May 2010.

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## Bonding support for Australian exporters

**Contract bonds, such as advance payment, performance or warranty bonds, are a basic requirement of many international tenders. If an exporter can’t provide the bond, they can’t compete for the contract.**

However, the value of the bond required may be a significant percentage of the contract value. To issue the bond, an exporter’s bank may require security for the full amount of the bond, tying up the exporter’s working capital and preventing them from pursuing other opportunities.

If you’re an exporter and your bank can’t

help you with a contract bond, or you can’t provide all the security they require, assistance may be available from Export Finance and Insurance Corporation (EFIC), the Australian Government’s export credit agency. If you meet our eligibility criteria we can issue the bond to your buyer directly or in conjunction with your bank.

Our security requirements are based on an individual assessment of your ability to perform the export contract, and the security we require may be less than the value of the bond. This enables you to meet your buyer’s requirements



Photo supplied by McConnell Dowell of the old airfield that is being replaced

without consuming all your working capital.

EFIC recently provided performance bonds to support McConnell Dowell Corporation Limited in performing two contracts, worth over US\$500 million, for the US\$18 billion Papua New Guinea LNG project. The performance bonds, worth more than US\$20 million, have been issued under an existing bonding line that EFIC provides to McConnell Dowell.

A consortium led by ExxonMobil will develop and operate LNG export facilities in Papua New Guinea (PNG). McConnell Dowell’s contracts involve the construction of the new Komo Airfield in PNG and related infrastructure.

Under the bonding line, EFIC issues or guarantees bonds to support approved export contracts of McConnell Dowell. The bonding line was established in 2006 and has supported several of the company’s major construction contracts in Asia.

“The scope, complexity and location of our projects means bonds aren’t always available in the commercial market. Our ability to utilise EFIC’s bonding line has streamlined our process for securing international projects and freed up our finance and bonding facilities for local projects,” said CEO of McConnell Dowell David Robinson.

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## New Members

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