

## MD's Welcome



Steven Smith

Welcome to the last edition of Advitech Aware for 2011. It has certainly been an exciting year for Advitech that has seen us expand into new skill areas and market sectors through a combination of organic growth and acquisition.

Opportunities to participate in major infrastructure construction projects have allowed us to establish archaeological services and extend our acoustic and air quality consulting capabilities beyond the industrial sector.

The acquisition of Shaw Engineering has been very well received by the mining industry and we are now working on a number of diverse engineering projects.

Our expertise in risk and functional safety is now being sought internationally with a project in the United States about to commence.

The challenges to reduce energy consumption and generate less waste create ongoing interest in our sustainability expertise, particularly in the areas of resource efficiency and recovery.

Despite the current shadows cast by the instability of international financial systems, the impending changes to the tax regime within Australia and the resulting reduced confidence across many industry sectors, we look forward to 2012. We believe our service offerings, and the personnel providing them, are the strongest they have ever been and we look forward to working with many of you over the coming year.

## Protecting Australia's Heritage Aboriginal and historic heritage services



Advitech's team of qualified archaeologists provides Aboriginal and historic heritage services to Local and State government departments as well as commercial, industrial, infrastructure and mining developments. We provide independent, expert advice to help our customers manage risks and minimise issues associated with Aboriginal and historic heritage management that could result in unforeseen costs and delays.

Our skills include detailed research, liaison and negotiation, site assessment, physical investigation,

strategic advice, excavation and recording. We are experienced in the development of conservation management and interpretation strategies. Our research experience, coupled with our knowledge of survey and excavation techniques, allows us to create a comprehensive archaeological report, complete with heritage recommendations.

Being part of The Advitech Group, we can utilise the professional services of inhouse engineers, scientists and community liaison specialists. This allows us to comprehensively manage projects internally.

### Advitech's Aboriginal and Historic heritage services

include the following:

- Archaeological Site Survey, Assessment and Recording
- Aboriginal Community Consultation and Engagement
- Archaeological Excavation
- Archaeological Materials Analysis and Conservation
- Archaeological Mapping, GIS and Predictive Modelling



## Advitech Shaw - Interview with Warren Shaw

Shaw Engineering was formed in 1986 and provided engineering consultancy services specialising in coal preparation plants and materials handling plants, relocatable and modular plants as well as other industrial plants and medium to heavy engineering facilities.

The services included the following:

- Plant upgrades and process equipment changes
- Plant operation problem solving and spillage control
- Site inspection/measurement and plant audits
- Engineering design and plant layout (2D & 3D)
- Feasibility or development studies
- Technical, operation and instruction manuals

Continued on page 2





## INTERVIEW WITH WARREN SHAW

(continued from page 1)

In August 2011, Warren Shaw joined Advitech as part of Advitech Shaw, bringing 25 years of experience, knowledge and wisdom as well as a positive attitude and enthusiasm for engineering. For the past few months, Warren has been introduced to staff at The Advitech Group Headquarters and has started to become familiar with Advitech's internal policies, processes and systems. In a recent interview, he shared some of his experiences and challenges with becoming Advitech Shaw.

### Q. Having managed your own business for many years, how do you find working with Advitech?

**Warren:** Advitech is a strong organisation, with a trusted reputation which stems from the Directors, and

the staff have positive attitudes - which I personally value. I like the diversity of skills and expertise – such as environmental scientists and archaeologists in addition to the drafters and engineers. Having access to these resources will inevitably broaden the services I provide, like environmental compliance, monitoring and management.

I also have less stress now. I don't have to worry about admin, HR and other non-engineering tasks and activities that come with running your own business. This has enabled me to really concentrate on projects and customers – and that's great.

### Q. What's been the hardest challenge to date?

**Warren:** Spending 90 minutes each day driving to and from work. Although having said that, I am getting used to the 'mobile office'. I now utilise the time to call clients, suppliers and/or contractors to arrange site visits and meetings and follow up on projects.

My initial challenge of adopting brand new systems and processes is less of an issue as I am becoming more familiar with Advitech's job management system and I now know who to ask if I need help.

### Q. How do you think Advitech will benefit from Shaw Engineering?

**Warren:** We have quite a lot in common, whilst at the same time, we offer some diverse skills and expertise. I am looking forward to the day that the strengths of both companies are combined and we can share the resource network.

### Q. Has anything at Advitech surprised you?

**Warren:** Until recently, I did not know about the products and services offered by The Advitech Group. Hushpak's customised solutions for noise abatement and the SentineX platform for remote data acquisition and monitoring provide a complete package to the coal and many other industries.

# Innovation in Engineering - The Brunel Effect

Isambard Kingdom Brunel was an eminent civil engineer. He approached engineering problems with innovative solutions and achieved many career 'firsts', including the first tunnel under a river. His innovative designs revolutionised public transport and modern engineering. To acknowledge his great contribution to engineering, one of the meeting rooms at The Advitech Group headquarters is named after him.

Advitech's Lead Structural Engineer, Adrian Vernon, shares some similarities with Brunel – he is also a British civil/structural engineer, who adopts an innovative approach when analysing and designing. Since moving to Australia and joining Advitech in July 2011, our customers have benefited from the additional expertise offered by our Civil/Structural Engineering team.

Our team has extensive knowledge and proven capabilities in structural steel and concrete analysis and design for the industrial sector - including coal handling, chemical production facilities and ports, in addition to experience in

bridges and multi-storey building construction in the commercial and government sectors. They undertake structural condition surveys and audits and verify existing structures using FEA and 3D frame analysis tools.

An example of a recently completed project was the lower cone assembly replacement of a 1500 tonne rail loading facility. The works included:

- 3D modelling and frame analysis of the existing loading bin support tower to prove its adequacy during lowering operations.
- Analysis of the support tower with multiple bracing members removed to enable access for lifting operations.
- FEA analysis of the existing cone and upper flange to prove its integrity during the lowering operation.
- Design of a purpose built lowering frame to ensure the stability of the cone during lowering.
- Design of a secondary lowering method using winches mounted on the support tower.
- FEA analysis of the replacement cone and flange incorporating flexibility to ensure fit with the existing structure.



Photo: Rail Loading Facility

If you have a civil/structural problem, or are about to design or redesign a bridge, lift system, building or piece of plant or equipment, contact our Design Manager on 4924 5400 to discuss ways Advitech's structural engineers can help or email [graeme.hill@advitech.com.au](mailto:graeme.hill@advitech.com.au) for examples of our Structural Engineering experience and projects.



# Professional Development: Conference Presentors & Attendance



Advitech's Senior Environmental Scientist, **Clayton Sparke**, attended the **2011 Australian Acoustical Society (AAS)** annual conference on the Gold Coast. This two day conference convened a mix of academic, regulatory and practising professionals to discuss challenges and opportunities faced by those in the field of acoustics. Reflecting contemporary policy trends, presentations relating to noise from wind farms and major infrastructure developments dominated proceedings, while forums and workshops invited discussion with leading researchers and policy makers on the topics of sleep disturbance and transportation noise.

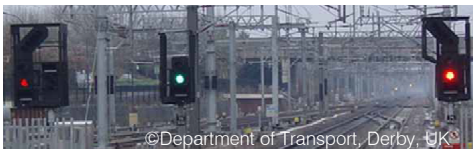
The range of discussion topics and delegates (and the organisations that they represent) served to demonstrate the complex heritage of applied acoustics, and highlighted the need for collaborative approaches to the management of noise and vibration impacts. Of particular interest was the potential role that 'end users' may play in improving existing noise policy. Several consultants presented papers based on work carried out on real world developments, and cited areas in which the current policy was either deficient or incorrectly applied. Deficiencies in current policy may (in part) be attributed to rapid improvements in monitoring technology over the past decade, including trends towards continuous and real time data collation. Several policy areas are currently under review (in NSW), presenting users of these technologies with an opportunity to contribute to the redevelopment of the policy, and the rights of those individuals the policy seeks to protect.

As an organisation employing both practising professionals and 'end users' of these technologies, Advitech consults with regulators and clients to improve the implementation of noise policy. Advitech is currently reviewing opportunities for research papers, and will seek to collaborate with partners and clients over the coming months with a view to contributing papers to Acoustics 2012.

**Mike Taylor**, Advitech's Lead Consultant for Risk and Functional Safety was invited to present at **NSW Trade & Investment's (formerly Industry & Investment) 21st Electrical Engineering Safety Seminar** which was held in November 2011. The theme for this year's seminar, "ZERO HARM is no accident", included the keynote address from Dr Ross Walker, a well-known practicing cardiologist with a passion for people and health.

Mike is an electrical engineer and TÜV accredited functional safety engineer in both safety instrumented systems and machinery. His interest is functional safety, particularly risk assessment, failure modes and systematic failure avoidance. His presentation, "How simple human error can destroy high integrity safety systems" was not about the technically difficult calculations necessary to demonstrate proof of safety. Instead, it looked at human issues relating to railway signalling that resulted in three railway accidents. The case studies provided insight into human error and how its effects may be mitigated. The lessons learned are applicable to every industry where high safety integrity is demanded.

The railway case studies complimented mining incident investigations detailed by other speakers at the seminar. RailCorp showed interest in the material as a possible training aid.



**Colin Barker**, Advitech's Manager - Process Engineering & Sustainability, was invited to speak at the **Australasian Waste and Recycling Expo**, held at Sydney's Convention and Exhibition Centre in Darling Harbour on 10-11 November, 2011.

Prestigious industry experts discussed new legislation, technologies, product stewardship and innovation in resource recovery over the 2 days of the expo. Of particular interest to Advitech's client base is the imminent piloting of an Industrial Symbiosis Program by a number of jurisdictions including the Office of Environment and Heritage (OEH) in NSW. The program is likely to commence in NSW in early 2012 and will form the basis of a national program. In his role as Deputy Chair of the Australasian Industrial Ecology Network, Colin has involved Advitech in development of the national model thus far.

If you have significant waste disposal costs, waste streams with potentially recyclable components, waste heat or could utilise any of the above, watch this space (specific details will be included in upcoming editions of the Advitech Aware), or contact Colin Barker by email on [colin.barker@advitech.com.au](mailto:colin.barker@advitech.com.au).



## News from The Advitech Group Novecom showcase at Mins Council Conf

The theme of this year's NSW Minerals Council Environment and Community Conference was



**Changing Times: Take the Lead.** Presentation topics included: best practice rehabilitation and land management; blasting and noise management; and community engagement and fostering better relationships. Of particular interest was the State government's reaction to recent environmental incidents. This appears to be driving a requirement for greater transparency in the provision of environmental information to the community.

Novecom was one of the trade exhibitors, and welcomed the opportunity to talk to delegates about leading practices for environmental and community management using the SentineX platform. Their lucky door prize, a remote control Novecom Car, was won by Shaun Smith of Cockatoo Coal Ltd.



# Latest News and Events

## IN THE MEDIA: "WINEMAKER RAISES HIS GLASS TO FORESIGHT"

by Nicky Phillips appeared in the Sydney Morning Herald on Wednesday 9 November 2011, a day after the carbon pricing scheme was officially approved.

The article provided details of the \$100,000 in savings achieved by a winemaker through reducing electricity use. These cost savings were identified by Advitech as part of an energy audit subsidised by the NSW government sustainability program.

Grants are available to encourage business to invest in clean technology – if you are interested in learning how you can increase your energy efficiency, contact Jim Kelty on 02 4924 5400 or email [jim.kelty@advitech.com.au](mailto:jim.kelty@advitech.com.au)

## ADVITECH RECEIVES OEH AWARD

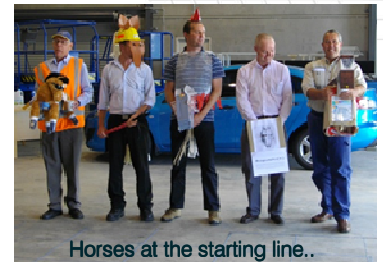
The Office of Environment and Heritage (OEH) invited Advitech to a breakfast event that recognised the outstanding environmental achievements of businesses in the Hunter Region. Advitech's Manager - Process Engineering & Sustainability, Colin Barker and Michael Neville Advitech's Technical Director, attended the ceremony.

They were proud to hear Advitech being recognised for its "contribution to outstanding business sustainability achievements in the Hunter Region" by David Trewin, the OEH Manager for Business Partnerships.

For more information on Advitech's sustainability services, click [here](#), or email [colin.barker@advitech.com.au](mailto:colin.barker@advitech.com.au)

## THE ADVITECH CUP

Just before the Melbourne Cup race, Advitech and Novecom participated in the Advitech Cup – it was the race that stopped The Headquarters! In keeping with tradition, teams paraded their horses so they could be judged for best dressed. The Advitech Cup commenced at 2.35pm. The new track was dry and fast and this year's race was very quick. Unfortunately Bella's Filly took a knock as GF Special took the lead and won the race by 5 lengths. Congratulations to all entries, and Advitech Environmental's horse, GF Special.



## NOVCOM: 2011 HMA FINALIST

**Congratulations** to Novecom, who were finalists at the 2011 Hunter Manufacturing Awards (HMA). Novecom entered the Excellence in Technology category, which recognised local manufacturers who have developed new technologies or applied existing technologies in novel ways.

## Welcome to our new people

**Ben Philp**, – draftsman, joined Advitech in



October, having gained experience with commercial and industrial building design and drafting and modelling working on Forgacs' Air Warfare Destroyer Project. Ben's trade background

has enhanced his knowledge of structural steel, pipework and pressure vessels within coal preparation plants and nuclear research facilities. His drafting experience and competency with numerous software packages has allowed Ben to seamlessly fit into the drafting team to support projects across a variety of industry sectors, including coal processing.

**Sam Wood** – archaeologist, joined Advitech in November.



Sam has extensive knowledge and experience with Indigenous Australian and historic archaeology, as well as strong project management skills. Prior to joining the Advitech

Environmental team, Sam spent many years working for US and UK universities and museums and recently held the position of Field Archaeologist at the Australian Museum. Sam was also the

archaeologist for the Australian Museum Business Services on the Leppington Railway extension survey and excavations, where he was responsible for trench supervision, excavation and documentation. As part of the archaeology team, Sam's work will include major road infrastructure projects and Aboriginal heritage projects for local government.

**Andrew Seath** – draftsman, joined Advitech Shaw in October.



His experience began in heavy engineering and rolling stock, and included bulk materials handling, steel industry, aluminium industry, coal mines and power stations. Andrew

joined Shaw Engineering in the 1990's and now provides drafting expertise to Advitech Shaw. His recent projects have included engineering services for the replacement of a screen overflow collector and preparation of detailed drawings for common supports for sump pump "interchangeability".

**Farrah Sin** – Project Manager / Systems Engineer, joined Novecom in August. Farrah has considerable experience in system design and



implementation, having worked for telecommunications, airline and transport companies. Before joining Novecom, she provided engineering support for maintaining and improving railway infrastructure which included numerous control systems. She also managed training systems for communication technology between train drivers and signallers using GSM network in the rail industry. Farrah has been progressing R&D projects for the enhancement of the SentineX product range.

## In our next edition..

*Advitech Shaw Case Study  
Innovation in Design and Drafting  
Preparing for NPI  
Sydney office relocation  
Read our latest news and events  
Meet our new people*

## Advitech Aware

**Editor:** Dianne Hoskins

**Email:** [dianne.hoskins@advitech.com.au](mailto:dianne.hoskins@advitech.com.au)

**Advitech Pty Limited**

7 Riverside Drive, Mayfield West NSW 2304  
PO Box 207, Mayfield NSW 2304

Phone: +61 2 4924 5400

Fax: +61 2 4967 3772

Email: [mail@advitech.com.au](mailto:mail@advitech.com.au)

Web: [www.advitech.com.au](http://www.advitech.com.au)