VICTORIAN PREMIER OPENS DUNNSTOWN QUARRY

BORAL GETS THE LOOK
A program to help clients select and visualise material combinations for their homes.

DOWELL WINS HIA AWARD
Dowell receives the 2012 HIA GreenSmart Product of the Year award for its ThermaLine™ window range.
Having spent several intense days in strategic planning presentations and review sessions with divisional leadership teams, I feel confident that some of my knowledge gaps of the business are well on the way to being filled.

I am pleased by the rigour of the planning processes and the emphasis on further strengthening Boral’s core businesses and leading positions. I am also very pleased by the commitment and increasing focus across each of our divisions on our immediate cost reduction and cash generation goals.

In these challenging times it is imperative that we dig deep to reduce expenditure, increase revenue and hold back on spending capital wherever possible.

In my first month I have enjoyed the opportunity to meet more of Boral’s people and to get out and see some of our Australian operations. I had a very stimulating visit to Greystanes House in western Sydney, where several hundred of our people are housed.

I was energised by the discussions I had with our finance, IT, procurement, property, cement, and construction materials people and I’m impressed by the ideas people have for improvements.

I’ve been pleased to see examples of our commitment to improved Sales and Marketing performance in Australia. However, we have more work to do to ensure that Sales and Marketing Excellence becomes part of the way we do business every day.

I spent some time in Victoria meeting the team at Boral’s Salmon Street offices at Port Melbourne and touring our recently upgraded plasterboard plant as well as visiting our Waurn Ponds cement works. I am impressed by the way people have been embracing LEAN and the clear potential and passion for further safety and efficiency gains.

After two days in Queensland, I now have a better perspective of Boral’s impressive south east Queensland aggregates footprint having been given an aerial tour of our quarries between the Gold Coast and the Sunshine Coast. It’s clear to see that the recent acquisitions of Sunshine Coast Quarries and the Wagner assets have further strengthened our strategic position in the region.

I was also fortunate enough to get up to Gladstone in northern Queensland to see the work we are doing with our customer Bechtel on the LNG project at Curtis Island. The scale of the operation is truly extraordinary and our Boral team has done a great job to secure and set-up the supply of concrete into that project.

In addition to meeting some of Boral’s construction materials customers in Queensland, I also enjoyed getting around and meeting the team at our Kelvin Grove offices, before spending some time with the bricks team at Darra. The Darra plant is another example of how LEAN is helping us to take better control of inventory levels and the potential for supporting accident free worksites.

The story on page 21 shows the new kiln cars being delivered at Darra. The modest investment at this plant has been possible as a result of closing older capacity at Darra and elsewhere in the Boral network to align to changed market conditions and to create some scale benefits.

In my first weeks I have spent a lot of time listening to our people and sharing ideas and opinions. Boral’s people at the ‘front line’ of what we do clearly have the necessary commitment and ownership of their processes to deliver the ambitious targets that we are collectively setting, starting with safety.

The safety intervention program that we introduced in the USA, which has been extremely effective over the past twelve months, is now being rolled out across the company. I am confident that Boral’s people will embrace this next step to achieving our goal of world-class standards in safety, beginning with the elimination of lost time accidents altogether.

While we are still having lost time accidents – and we had 86 LTIs last year across the company - I will personally be involved in following up on every accident we have until they are eliminated. Within one week of any lost time injury I will be meeting with the relevant managers to understand the circumstances and the preventative actions being taken.

In coming weeks, I expect to remain very busy continuing my comprehensive review of Boral’s businesses. I will be working with divisional management to further analyse costs and review opportunities to reduce expenditure and improve cash generation. I also intend to spend some time in our Asian operations in coming months, to better understand our markets and our positions in that region.

Mike Kane,
Chief Executive Officer and Managing Director.
GREEN INNOVATIONS FOR KOREAN PLASTERBOARD

Boral Plasterboard in Korea has successfully launched a range of eco friendly products for the local drywall market.

By Sue Kim, Communications Specialist, Boral Plasterboard Korea.

It’s been an exciting year for Boral Plasterboard in Korea with the change to 100% Boral ownership and the successful launch of three new innovative products to demonstrate its leadership position in sustainable drywall solutions.

Early this year, BPK has released Gyptex Eco™ a premium gypsum based ceiling tile that improves indoor air quality by absorbing and decomposing volatile organic compounds (VOC) which are seen as a health hazard. The construction industry has welcomed this upgraded version of the best seller Gyptex as the Korean government is enforcing compliance to environmental regulations.

BPK has also developed and released the GreenCheck Carbon Diet™ an innovative plasterboard product that is 13% lighter than standard board and embeds 30% less CO₂. The product proudly maintains the KS F 3504 which is the highest standard for Korean building materials. As the world’s lightest plasterboard (4.8 kg/m²), it effectively lowers carbon dioxide emission during a building’s life cycle and carries the first CO₂ label in the Korean construction industry.

To top it off, BPK has extended its product category by launching the Keenergy™ System, the first brand of insulation integrated solutions. Keenergy 4.5™ system is the highest performing internal insulation system in the country and performs 8x better than any other EPS insulation system in Korea.

Keenergy can be applied in low thickness assembly which makes it ideal for the large retrofitting market. It consists of a fumed silica vacuumed insulation panel (VIP) combined with a CR bracket and plasterboard system specifically developed and marketed by Boral.

Frederic Billon, General Manager of Boral Plasterboard Korea said the company was pleased to receive so much positive feedback from customers following the recent product launches.

“We will continue to strive for innovation excellence to improve the sustainability of construction in Korea,” he said.
The HIA GreenSmart awards recognise the best in environmentally responsible housing, so it was very rewarding for the team at Dowell to receive the 2012 HIA GreenSmart Product of the Year award for the ThermaLine™ window range.

The Dowell ThermaLine™ framing system was introduced in response to Australia's changing energy regulations.

With an aim to be one of the most energy efficient aluminium windows in Australia, ThermaLine™ contributes to architects meeting new building codes and designing to higher levels of energy performance.

The range includes awning, fixed light and sliding windows and the more recently introduced sliding doors.

The key benefit of Dowell ThermaLine™ products is their market leading U-value, the measure of transfer of energy through the window, which significantly reduces heat loss during winter and heat gain during summer. This can produce up to a 1.5 star improvement in a home's energy rating.

HIA GreenSmart judges said smaller lots and contemporary designs are driving the need for increased glazing in homes. Dowell ThermaLine™ windows are a versatile, high performing and cost effective aluminium range. With U-values as low as 1.7, ThermaLine™ benefits homes with a large amount of glazing to help achieve 6 stars or better.

In congratulating Dowell Windows, HIA Managing Director, Shane Goodwin, said the HIA-Nissan Fleet GreenSmart Awards represented the pinnacle of sustainable residential construction.

"Consumers are becoming ever more aware of the impact their homes have on the environment and are taking increasingly large measures to ensure this is minimised," Shane said.

Up to 40% of a home's energy for cooling or heating is lost or gained through windows. ThermaLine™ windows integrate thermal break technology which acts as a thermal barrier to reduce the transfer of energy through the frame.

ThermaLine™ aluminium windows are strong, lightweight and feature a powder coating that is corrosion resistant. Due to its low U-value, the framing system also minimises condensation.

Offered in double glazing to suit different climate zones, the windows are internally glazed enabling cost effective on site glazing and reglazing if required.

Boral Building Products Executive General Manager, Windows, Warren Davison at the HIA GreenSmart announcement with Dale Waters from awards sponsor, Nissan Fleet.
Even the cold, wet weather in the Ballarat region couldn’t dampen the spirits of the guests at the official opening of the Dunnstown Quarry. Over 120 guests attended including the Premier of Victoria, Ted Baillieu, Minister for Energy and Resources, Michael O’Bien, Mayor of Moorabool Council, Pat Griffin, local residents from Dunnstown and Ballarat and many of Boral’s valued customers and employees.

The new $30 million facility is located at one of Boral’s key Victorian operating sites, just east of Ballarat. The site produces over 650,000 tonnes of construction materials annually. Product is supplied for concrete and asphalt production and for road, civil infrastructure, commercial and residential building construction.

Boral Limited’s then Chief Executive Officer, Ross Batstone, said the Dunnstown Quarry is a strong contributor to the local economy employing 22 staff and many local contractors and contributes around $15 million to the Victorian economy every year.

“The investment in this new plant is an example of Boral’s continuing commitment to our operations in Victoria. It features new technology which produces high quality products whilst being very energy efficient. The innovative design and process will also support improved delivery times for our customers,” he said.

“The plant opening highlights Boral’s confidence in the construction industry sector in Victoria, and in particular Ballarat and surrounding markets”.

Ross commented that Boral was delighted Premier Baillieu had been able to attend the ceremony and thanked the Victorian Government for its assistance and support during the construction phases of the new plant.

The Premier noted the importance to Victoria in having high quality resources such as the Dunnstown Quarry located close to markets. He acknowledged Boral’s commitment to the local region and the fact that we had invested in state of the art equipment which would improve safety and environmental performance, and production efficiency.

Congratulations to the organising team for a very successful opening event, and in particular to the Dunnstown Quarry team for the way their site presented on the day (and every day) and for proudly showing off their new plant.
Top and Bottom Left: The $30 million Dunnstown processing plant.
Top: Ross Batstone welcomes the guests
Middle: The Premier officially opens the plant with Boral's then CEO Ross Batstone, Minister Michael O'Brien and Boral's Regional General Manager Vic/Tas. Paul Dalton and Divisional Managing Director, Boral Construction Materials, Murray Read
Bottom: After the official duties, the Premier took time to meet some of Boral's people. Here he is pictured with Co-organisers Megan Stryker and Rachel Burns from the Victorian Boral Construction Materials team.
We came across Cultured Stone and the broad range of shapes and colours met our needs perfectly. We mixed and matched the Dressed Fieldstone in Aspen and Chardonnay with Southern Ledgestone in Aspen to create a lived-in look,” commented Michael.

“The beach house design included a backdrop of stone-behind-glass in the kitchen and an open fire as a focal point in the restaurant. Cultured Stone was easily adaptable to all these applications as it’s easy to cut, has a flat back for a flush fit against walls and includes corner pieces to finish sharp angles.

“The relaxed style of Whitewater was complemented by well designed, dramatic lighting and the result is very stylish. In the case of the Royal Motor Yacht Club, the opposite was needed and we created a very formal, architecturally inspired interior,” continued Michael.

“Although we were creating a different feel for this project we used the same Cultured Stone combination of shapes and colours. The price worked well – although that wasn’t a key factor – it was more about achieving the right look and feel for the project. We still get calls about the stone applications in these projects, particularly Whitewater.”

Boral Cultured Stone cladding offers a high quality, affordable alternative to natural stone. Cleverly engineered to look like the real thing, the manufactured product has a number of benefits that technology can provide.

Each unit of Cultured Stone is cast in natural stone moulds before it is meticulously hand coloured to achieve the look and feel of stone. The product is available in nine distinct ranges and a wide variety of stone shapes, colours and textures.

Cultured Stone is well suited to composite architectural designs, complementing materials such as brick, timber and glass, and helping to create design features with dramatic visual appeal. Designed to be used for exterior and interior areas, Cultured Stone’s versatility extends to walls, fireplaces, wine cellars and foyers as well as landscaping design elements.
BORAL WINS NATIONAL HEALTH AND SAFETY INNOVATION AWARD

Cement Concrete & Aggregates Australia (CCAA) as part of their national awards program, recognise outstanding achievement in developing and successfully applying a new initiative or an original solution in one or more aspects of occupational health or safety at a concrete, extractive or cement operation.

CCAA has given Boral its National Health and Safety Innovation Award for the Agitator Stability System.

Boral and Mack Trucks have worked in partnership to develop and implement modifications to a standard Metroliner agitator to increase stability.

The unique nature of a premixed concrete load and the way it shifts during transit within a revolving mixer means agitator vehicle safety is fundamental. Across Australia we continue to see agitator rollovers which have occurred due to the incorrect assessment of road conditions.

The newly modified vehicle assists the driver to restore stability if they make a judgement error through assessing steering direction and stability information.

Electronic sensors on the vehicle detect a range of variables including roll, pitch, yaw, suspension pressure and brake application. The system will then react if it senses the risk of rollover by applying individual wheel brakes, or reducing engine torque to enhance vehicle stability all in fractions of a second.

The new system is extremely effective as it ensures the vehicle is driven to the applicable road conditions and nearly eliminates the possibility of rollover.

The cost of the stability control package is minimal (about 3% of new vehicle costs) compared to the economic and human costs that occur as a result of a vehicle rollover.

This new system can be specified by all customers of Mack Trucks.

Top Left & Right: 8 x 4 Stability System vehicle in service.
UPGRADING GUARDING WILL IMPROVE SAFETY ACROSS BORAL CEMENT

A program to upgrade guarding across Boral Cement will ensure compliance to the standards as well as creating safer workplaces for our people.

By James Keys, Mechanical Engineer, Boral Cement Engineering Services.

The guarding of plant and equipment is essential to the safety of Boral’s employees. When an LTI incident in 2010 was shown to be caused in part by inadequate guarding which enabled access to the danger zone, a process of assessment and upgrading commenced.

Boral Cement now has a co-ordinated approach to assessing and upgrading equipment across all of its sites to ensure all relevant Australian standards for guarding are met and the risk of injuries is reduced.

External consultants worked with Boral’s Cement Engineering Services (BCES) to manage auditing and implementation. This included design and supervision of the installation of new guarding to the current Australian Standards for Machinery Guarding across all Boral Cement’s New South Wales sites.

The audit process started with the Maldon Works and continued for over 18 months through all Boral Cement sites.

After identifying a number of gaps and inconsistencies in the initial external audit, BCES completed further holistic inspections of the Cement Division sites in New South Wales and Victoria.

Implementation has occurred predominantly during planned plant outages, with design and fabrication being completed prior to these periods.

Although a significant amount of work has already been completed, there is still a large amount of installation to be completed which is planned for FY13.

* The standards that are to be met as a minimum are as follows;

  - AS4024-2006 Safe Guarding of Machinery
  - AS1755-2001 Conveyors - Safety Requirements.
Boral has again been recognised by Cement, Concrete and Aggregates Australia (CCAA) and the Institute of Quarrying Australia for its best practice in the industry.

By Steve Pyne, Regional General Manager QLD/NT, Boral Construction Materials.

Boral Construction Materials in Queensland was proud to receive two health and safety awards and one environmental award at the recent Queensland Construction Materials Industry Dinner.

The awards were for:
Health and Safety Innovation – Concrete
Boral won this award for the introduction of a Safe Reversing Intervention Campaign. The campaign kicked off with a Safe Reversing Pack which was sent to all QLD/NT concrete plants as a Safe Work Week initiative in October 2011. The pack included:
- Safe Reversing DVD, produced especially for the campaign
- Key ring for all drivers, featuring a safe reversing message
- Reversing camera fact sheet
- Safe Work Week fact sheet
- Safe Reversing Toolbox Talk
- Safe Reversing Poster
- Safe Reversing Inspection Check List

The campaign has achieved a reduction in reversing contact incidents.

Congratulations to the team who developed the campaign materials and everyone in the concrete business who embraced this initiative.

Boral was also highly commended for another Health and Safety Innovation project in concrete – Safety in Construction.

This recognised the work done on the major LNG projects on Curtis Island relating to the management and resolution of risks associated with confined spaces, working at heights, storage and handling of chemicals and simplification of construction processes to minimise crane lifts while simultaneously reducing construction timelines.

Our entry in the Environmental Innovation Award – Extractive was also highly commended.

The project, Increasing Fauna Habitat in SEQ while creating sustainable quarry development, is one in which Boral has taken a holistic land management approach to implementing the rehabilitation plans and meeting community expectations at Petrie and Narangba quarries, in order to enhance connectivity for fauna at these sites. Land management includes extensive rehabilitation with planting, weeding and maintenance, as well as pest management (Narangba) and hazard reduction burns (Petrie).

Thanks to all involved in the award nominations and to those who contributed to these innovative solutions to health and safety and environmental challenges.
A “WAR ROOM” IS INTRODUCED AT EMU PLAINS ROOFING

LEAN principles are helping to optimise floor space and refocus on plant priorities.

By Mick Toovey, Plant Manager, Boral Building Products, Emu Plains.

Applying LEAN principles to generate an opportunity to better utilise floor space has proved successful at Emu Plains Roofing following a material control initiative. By reducing and relocating the electrical spares, it was possible to repurpose the shop floor space to construct a Visual Communications and Planning Room (War Room).

Since its launch in September, the War Room has re-vitalised and inspired a fresh focus and engagement by the plant teams.

The visual displays and presentation style allow all team members to “walk around” and see all the information fostering better debates and providing a common focus on priorities. The venue is used for both managers meetings and team toolbox meetings.

The benefits Include:

• Demonstrates that by using LEAN techniques floor space is freed up for better utilisation.
• Plant KPIs and information are displayed for all to see, presented more effectively and can be reviewed at any time by team members.
• By posting assignments it is easier to follow up and team members are more accountable.
• Meetings are shorter and more informative.
• There is more positive conversation and debate due to a quieter meeting environment.
• Feedback to date suggests it is supplementing the improving OEE focus and performance.
BORAL INFRASTRUCTURE TECHNOLOGY OUTSOURCING TO HP

Over the last 15 years Boral’s Infrastructure Technology (IT) has steadily grown in complexity and utilisation. It is now intertwined into almost every part of our business; from the production and supply of product, to customer and colleague interactions, to the management of our business.

While our reliance and demand on our existing technology has continued to grow and evolve, our hardware has aged to the point where demand is exceeding the capabilities of our IT systems platform. To reduce costs, improve efficiencies and remain competitive in what’s been a challenging business environment and to ensure we have the right critical technical assets and capabilities, we’ve had to look at alternatives to our current situation.

As a result of a comprehensive internal review of our needs and service offerings, we have engaged an outside provider, Hewlett Packard (HP) as a technology partner to take over and manage our Infrastructure Technology.

A multimillion dollar Infrastructure Technology Outsourcing (ITO) agreement spanning five years has been recently established between Boral Shared Business Services (SBS) and HP, to:

- Outsource the location and management of Boral Australia's data centres
- Leverage HP's operating services to maximise Boral's IT platform capabilities and performance
- Standardise operations utilising best-in-class facilities to reduce business and operational IT related risks

with the key business benefits being:

- Flatten IT spend and reduce future costs
- Improve business application stability and the workplace computing experience
- Reduce the resolution time of IT issues

Joe Mizzi, Contract Operations and Relationship Manager for Boral, oversaw the ITO contract development and explains that “HP was selected as Boral’s technology partner because of a proven track record and understanding of our business. We have been working with HP for many years and they understand our key issues and challenges. They also have proven capability in the areas most important to us; lowering risk, increasing stability and cost predictability.”

For the business, it will mean far less interruptions to business operations and functions caused by IT issues. This will result in less operational impact and therefore maximise business performance and return. Ultimately, this will lead to a reduction in IT costs, in the vicinity of $26 million over five years.

Between now and April 2013 the focus will be on transitioning the management of Boral’s infrastructure technology and related support capabilities to HP. The following eight months will involve moving all Boral equipment from our two data centres in Hawthorn in Adelaide and Greystanes House in Sydney into two HP data centres. So by Christmas 2013 all Boral’s IT will be running out of HP data centres. Over this time we’ll be establishing and verifying our IT disaster recovery capabilities.

IT outsourcing will directly impact a number of people in the SBS IT team and we have established a program of support with HR to assist people during this transition. Some, with key skills and knowledge will be transferring to HP to remain working on Boral’s systems, “We are also looking for opportunities to redeploy others wherever possible within Boral and HP,” explains Joe Mizzi.

“The ultimate measure of success for me will be that the business notices an improvement in service, that operating costs are as forecast and HP is, therefore, working synergistically with us to deliver our future IT capability,” says Joe Mizzi.
BORAL AND CONSERVATION VOLUNTEERS
AUSTRALIA BIODIVERSITY PROJECTS UNDERWAY

The first projects in Boral’s new partnership program with CVA have taken place in Queensland with New South Wales soon to follow.

By Anna Farr, Corporate Affairs Manager, Boral Limited.

BORAL BRICKS WEST INTRODUCES PULL SYSTEM

The PULL system has been successfully implemented into Kiln 10 at Middle Swan in a West Australian first.

By Chris Lequaetermaine, Continuous Improvement Manager, Boral Building Products, Bricks West.

Kiln 10 at Boral Bricks West (BBW) Middle Swan site went live with PULL on 17 September 2012. Kiln 10 produces three of the top performing products in the BBW range with all three being internal bricks.

After an intensive series of PULL training sessions that included participation from all areas across the BBW site the PULL System is to be rolled out across the three brick plants and the masonry plant between September 2012 and February 2013. The next plant to ‘go live’ is Kiln 11 followed by the Masonry Plant and then Kiln 9.

With assistance from Steve Olsen from QLD, who has helped with a number of PULL roll outs, the ‘go live’ went off without a hitch with operational staff very quick to adapt to the new system.

Kiln 10 is now going into the settling in phase where the PULL system will be tested and adjusted as required.
RENewed FOCUS FOR SALES AND MARKETING

By John Stewart, Group Sales and Marketing Excellence Manager.

Previously in BITN I have reflected on our vastly improved ability to leverage cross-business sources of competitive advantage. We continue to collaborate on a daily basis to provide value for all stakeholders and I am confident that this has become part of the way that we do business at Boral every day.

To this, we have added a suite of tools and processes designed to add value both internally and externally. This is important in ensuring that our efforts are self-sustaining.

When I speak to people across our businesses, there is a common view that we have only begun to scratch the surface and that there are many more possibilities.

We are relentless in our pursuit of excellence in Sales and Marketing. The original aspirations, shown at left, continue to guide our journey and to provide context.

Over the next month, we will communicate the next phase of our development, based on a combination of feedback from our Sales and Marketing teams, as well as external benchmarking.

I am excited about the road ahead under Mike Kane’s sponsorship of this important initiative and about our renewed focus.

LEAN PROBLEM SOLVING GIVES CONCRETE RESULTS

Capacity increase, cash savings, profit improvement and better safety – all in one package.

By Glenn Jacob, National Lean Development Manager, Boral Construction Materials.

A 50% increase in productive capacity and Overall Equipment Effectiveness (OEE) will turn most managers’ heads. Achieve it at minimal capital cost, add immediate cash savings of $20,000 per month, a big production cost saving plus the ability to meet some newly won major projects contracts and you have most manager’s dream. Go on to remove 60 truck movements from the plant each day, the hazard of operators continually climbing in and out of loaders, segregate concrete plant traffic from nearby quarry traffic and it is also a much safer place to work.

That is what the team at Marino Concrete Plant in South Australia have achieved with the support of management in recent months. Kane Salisbury, Regional Manager Concrete SA, is delighted. He described it as a great example of what can be achieved when a team of people from all areas of the business get together to challenge how we do things. And then go out and deliver improvements.

Brenton Davey, Plant Supervisor and Batcher at Marino agreed that it was an old plant, just not designed to service the number of trucks they run now. The team had to find ways to make it run faster to keep up with demand. It is now a much better and easier place to work as the team continues to keep up with concrete demand.

The plant was regularly too slow to meet demand and required wasteful workarounds to overcome this. The team held a brainstorming session to problem solve using the Boral Production System tools. Through a series of actions and trials, they solved their problems by changing stockpiling practices, making a stock bin available for other use and recycling an old waste material stock pile. This achieved savings of $5 per cubic metre of concrete produced. In addition they have won two major new contracts that will demand 45,000 cubic metres of concrete. They certainly have some big savings ahead of them.

But that’s not all. Further problem solving led them to raise the plant by 500mm. This meant they no longer needed to double batch and the time saved gives them an additional 50% of production capacity at a very modest cost.

The team also looked at traffic flows, how they used their machines and streamlined their process flows to cap off a great project.

Boral’s Sales and Marketing aspirations

Outperform our competitors

We have the best understanding of our customers and competitors

Common toolkits, language, and industry best practice
Sales & Marketing processes

Industry and customer recognition of high calibre Sales & Marketing talent

Collaborative and supportive cross-Business Unit culture

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THE BORAL ENERGY EFFICIENCY PROGRAM

Boral’s annual electricity use is the equivalent of a city of 115,000 people and in 2011 our diesel consumption exceeded 110 million litres.

By Sascha Schulz, Electrical Engineer, Boral Cement, Berrima.

Energy efficiency and carbon abatement is a hot topic at the moment. Rising electricity, gas and fuel prices are driving us to look for opportunities to reduce energy usage and costs.

Boral’s Australian operations also have a legal obligation under the Energy Efficiency Opportunities (EEO) legislation to identify energy saving opportunities and report on these to the relevant government body. The Boral Energy Efficiency Program will focus on giving each employee the tools and opportunity to identify ways to reduce energy usage.

Representatives from each Boral division have formed a Manufacturing Excellence Committee (MEC) charged with developing the program and rolling it out in their respective businesses. Over the last three months they have chosen trial sites and held “Energy Efficiency Kaizens” to test and refine methods to identify energy savings opportunities.

Using LEAN to drive energy efficiency

The Kaizen consists of a big picture introduction to energy usage and the specific sites role in this. Participants walk the site and identify opportunities to reduce energy use. They then analyse these and assess potential solutions and how easily these solutions might be implemented. Finally a 3C plan is created to manage the implementation process and record progress. The opportunities identified at a particular concrete or asphalt plant can be easily transferred to similar plants enabling improvement across the overall business energy use. A variety of LEAN tools such as Total Productive Maintenance, 5S and engaging the workforce are the foundations of the Energy Efficiency program.

Planned energy reductions are also communicated to the divisional environmental representatives for EEO reporting purposes.

Different businesses have quite different energy use profiles and scale. For example; the amount of electricity used by the Cement division represents 40% of Boral’s total each year, yet that represents less than 10% of actual energy consumed by cement manufacture. By way of contrast our Quarry operations use about 15% of Boral’s total, but that is 20% of their overall energy consumption. Quarries also burn millions of litres of diesel fuel each year. Recognising that one size does not fit all, the MEC team has created a series of guides on each type of energy usage to assist the facilitator running the Kaizen event at a particular site.

Why now?

The rising rate of energy cost increases in recent years coupled with poor market conditions and rising costs make this the ideal time to look for savings. Funding support provided by the government means that this program makes business sense. The critical examination of energy use has traditionally been left to engineers to manage, resulting in improvements in large scale equipment such as cement kilns and plasterboard dryers.

However small scale opportunities, ranging from plant lighting and leaking water pumps to poorly planned stockpile layouts, are often the easiest to address. To ensure that basic opportunities are not overlooked this program will focus the attention of all employees on energy use and how to eliminate waste.

A great example is a single air leak found during an energy Gemba* needed just 15 mins labour and a $30 replacement seal, saving $4,000 in annualised compressed air usage.

*Gemba - a LEAN term roughly translated to “go to the workplace, see what is happening and seek to understand”.

Exterior lighting can be set up to automatically switch off during the day.

Mapping out opportunities on a site process map.
In July 2011 a cross functional team was formed in Cement to collaborate on improvement ideas and to form a Manufacturing Excellence Committee (MEC) team for cement mill optimisation. The objective was to achieve Overall Equipment Effectiveness (OEE) improvements in the cement milling process and the performance rates of all cement mills while enhancing the quality performance of our products.

The benefits from this MEC will be realised through greater capacity in the network and power consumption savings.

"While the cement milling process appears to be just a ball mill with media to grind the clinker into cement, there is a lot of value adding activity which goes on inside the process" said Maruf Ahmed, Group Process Engineer.

“This requires a concerted effort to optimise processes by undertaking technical audits, structured analysis and interpretation, developing improvement plans and committing to undertaking improvements" he said.

The team consisted of Awdesh Singhal, Gabriel Paicu, Peter Walter, Alan Fernandez, Wael Sharobeem, Charlotte Berry and Maruf Ahmed who are process engineers from all of Boral’s cement sites. The team met monthly via live meeting online and utilised the MEC matrix to establish milestones for the project implementation. LEAN tools were used to work through potential causes limiting the throughput of the mills and prioritise actions against them. This audit process was developed by the team with benchmarking from Lafarge and the audits they conduct.

Wael Sharobeem from Maldon commented that the support he has got from the shift team leaders and operators had been outstanding and pivotal to the outcomes at his site.

Improvement outcomes in OEE have seen the performance factor up from an average of 92% to 96%. The cost savings seen so far have been $800k p.a. to the cost of manufacturing. Further work on benchmarking our current performance along with future product development activities and trials are underway.
Around 100 Boral employees and their families from all over Sydney were treated to a matinee performance by the Bangarra Dance Theatre during its recent Sydney season.

The group saw “Terrain”, a powerful production exploring the relationship of indigenous people to country and how landscape becomes a second skin. Terrain was created by award-winning Aboriginal artists: choreographer Frances Rings, composer David Page and set designer Jacob Nash.

After the performance the Boral group had an opportunity to hear from Bangarra’s Artistic Director, Stephen Page and the cast and view some of the costumes and props close up. They also made time to answer some questions including many from the children attending and then joined the Boral group for afternoon tea.
BORAL LOGISTICS FOCUSES ON “ENGINEERING OUT” RISK

Boral Logistics has prime responsibility for moving most of the company’s raw materials and finished products around Australia, and controls one of the largest on-road heavy vehicle fleets in the country.

By Wayne Manners, Regional General Manager, Boral Construction Materials WA and Merv Rowlands, Fleet Engineering Manager, Boral Logistics.

Boral owns 1,750 trucks and trailers including concrete agitators and has another 2,200 owned by subcontractors under its daily control. These vehicles are engaged full-time in carting Boral products.

Although they represent less than 1 in 30 vehicles on Australian roads, heavy vehicles are involved in almost 1 in 6 fatalities.

Statistics like these come with a great deal of responsibility, Boral chooses to take a leading position in the Australian transport industry to help minimise the risks associated with the job. Every new generation of vehicles we purchase raises the bar another notch.

The Logistics Fleet Engineering team continually work with Boral businesses, drivers, supervisors and suppliers to develop and implement steps to “engineer out” risk.

A range of features are now standard specifications on all new company vehicles regardless of application. These include:

- SmartTrack – a GPS based vehicle tracking and monitoring system which has a number of functions, including: assisting allocators with the most efficient allocation of vehicles to loads, managing driver fatigue, providing an accurate electronic Driver’s Daily Worksheet, monitoring all driver over-speed events, monitoring all harsh braking events, capturing and uploading vehicle fuel consumption.
- Disc brakes and ABS
- Reversing cameras
- Non-slip steps – all steps on the cab are now coated with a high visibility non-slip surface
- Multiple grab handles on the cab for a 3-point contact during entry/egress
- Lockable battery and starter motor isolation switches
- LED lighting strip under both doors
- Uni-pod convex bonnet-mounted mirror for greater blind spot visibility
- 3M retro-reflective high visibility striping down the side of all trailers
- Wheel-nut indicators – provide a quick visual indicator to drivers if a wheel-nut is coming loose

All Boral tippers, regardless of age now have hoist-up alarms and overhead powerline detection alarms.

All new tanker trailers purchased now have Side Underrun Protection and an Electronic Braking System with Electronic Roll Stability.
A new initiative will enable Boral to provide builders with a range of tools that help their clients select and visualise material combinations for their home design concept.

The Get the Look program includes an inspiring and informative brochure, an online app also available on smart phones and tablets and a Great Designs competition with a chance for builders to win advertising for their business.

“We wanted to offer builders more tools to help them develop stronger relationships with their clients,” advised Glenn Simpkin, Divisional Marketing Manager, Boral Building Products.

“The Get the Look brochure helps homeowners to decide on materials and design styles early in the new build or renovation process. It presents brick and roof tile design options for four home styles - architectural, modern, contemporary and heritage - and directs consumers to other planning tools such as the new Boral Sampler app.

“This mobile application samples more than 600 exterior Boral products including bricks, stone cladding, roof tiles, render, windows, decking, concrete and pavers,” said Glenn.

“Builders registered with the program will have the opportunity for their logo and business name to be uploaded to customise client communication for each project.

Presented like a moodboard with product swatch combinations, clients can download, email and print their selections, featuring their own builder’s branding.”

The Boral Sampler application is a home grown initiative and was developed inhouse by the Boral Communications Centre.

The Get the Look program also includes a Great Designs competition, which is open to all licenced builders.

For more information go to www.boral.com.au/thelook. Entries must include a photograph of a house they have built in the last five years using Boral bricks or roof tiles. The entry must explain why the residence is a ‘great design’.

Four minor prize winners will receive advertising and an Apple iPad 3 for their business (total prize value $2,000). Winners will be announced in March, May, July and September 2013.

The overall competition winner will be announced in November and selected from the four minor prize winners. The major prize is an additional $10,000 business advertising package.

Earlier this month the Thomastown Brick Plant opened its doors to the SIRF Lean Roundtable organisation. 20+ external visitors, who all use Lean in their business. Attendees came from the automotive, packaging and food industries all interested to see what Boral had achieved and ready to critique our efforts.

We used the day for some internal collaboration, Thomastown Bricks and Vic Concrete co-hosting the presentations. The team were treated to presentations by Alek Nikolovski on Thomastown’s Lean implementation, and then Peter Head helped illustrate how Policy Deployment had assisted in focussing his Concrete business. Telling the story though is not seeing it first hand, so after appropriate site safety inductions we escorted the delegates on a site tour.

We received some excellent feedback:

“Fantastic amount of progress in a short time frame”

“Great top to bottom implementation. Really like the standardisation and the way Boral make the program their own”

And from another building product manufacturer

“Industry transforming thinking and process. Amazing to see first hand”

Thanks to all who made the day a great success.

The implementation of PULL systems, Policy Deployment and the visual management were obvious stand outs on the day. All Boral employees walked out of that room feeling a little bit taller than when we went in. It is always a telling time to be judged by your peers, so while still lots to do the unsolicited feedback makes the hard work worthwhile.

**Storyboard Annual Award Winner**

Each month an award is presented to the site or business that has made a significant LEAN breakthrough. Additionally there is a “best of the best” annual award. The worthy champion for FY2012 is the Linwood Quarry in South Australia.

Linwood’s story contains many LEAN elements but the highs include OEE up from 44% to > 76% in 11 months; improved tonnage outputs; and a 10% reduction in cost. All leading to significant profit improvement. The whole team at the site contributed to the journey, ably supported by David Loftus, the South Australian LEAN Implementation Manager. Here’s the reaction from some of the team.

Rodney Kazem (formerly Linwood Quarry Manager, now Operations Manager, Quarries SA) - “We took the approach that there is always room for improvement if you are prepared to make changes. The team worked together in identifying waste in all our processes. Then by streamlining processes, eliminating bottlenecks and working on many continuous improvements in value adding areas, we were able to achieve a much stronger performance.”

Vince Nigro (LEAN Linwood Quarry Supervisor) explains “Using the LEAN tools helped us target the right actions to solve problems, reduce waste and improve product quality. We also made the site a safer place to work at with improved walkways, designated work areas and traffic management”

Congratulations to all other monthly winners, the full storyboard award listing is on the Intranet under the manufacturing tile.
INTRODUCTION OF VISUAL MAINTENANCE
MANAGEMENT AT BRINGELLY

By Grant Nicholls, Plant Manager Boral Bricks, Bringelly.

A key part of LEAN is making our processes more visible in the work place. At Bringelly Bricks the team has developed a shop floor visual maintenance process that complements the existing computerised maintenance system.

By making the status of maintenance tasks visible on the shop floor the whole plant is now engaged, rather than it being the job of a single maintenance planner sitting at a computer in the office.

The system draws on the main objective of Total Productive Maintenance, bringing all personnel together to care for equipment and improve OEE.

To develop the system a cross functional team was formed using operators and maintenance personnel. They were tasked with mapping the packaging steps to the current maintenance plan and then identifying gaps in our plans that didn’t address the documented safety, quality or downtime issues.

The result being a plan for that area owned by the team and based on factual data and the teams relevant experience.

A two sided task card is inserted into a rack at each work cell with the Red Header bar facing out. Completed tasks are rotated so that the Green Header bar is visible. Tasks are turned back to Red as they become due.

This system combines housekeeping, safety and quality checks (Operator When Up/When Down Do Tasks) in addition to the Maintenance Plan, so we have a one stop shop for communicating the health of that area into one system.

This indicates the status of equipment maintenance to all personnel during Gemba* walks, especially the operators who work there.

The visualisation of workload supports the intent of Heijunka (levelling) of maintenance tasks.

Benefits

• Makes the maintenance plan visible to all
• Makes the status of maintenance tasks at a Work Cell visible at a glance – supports Gemba
• Highlights overdue tasks
• Production personnel better understand the critical operating parameters and feed better information back to maintenance
• Sustains equipment condition, identifies defects at the earliest possible time – simple fixes instead of major breakdowns

We now find that we don’t get as many long breakdowns because we find the issues earlier before they fail by doing the inspections. We can now give the maintenance team better feedback on the problems we are seeing rather than just saying it is ‘stuffed’.

*Gemba - a LEAN term roughly translated to “go to the workplace, see what is happening and seek to understand”.

Photo 1. A task card detailing the preventative maintenance required exchange with above showing a more visual card
Photo 2. The task card rack displayed at the work cell.
NEW ERA OF BRICK MANUFACTURE AT DARRA

The Darra Operations team has welcomed the introduction of their new kiln cars to the plant.

By Kath Stevenson, Divisional Capital Projects Program Administrator, Boral Building Products.

Boral Bricks at Darra in Queensland has successfully completed a $4.2 million investment with the replacement of their deteriorated fleet with 110 new kiln cars by Applied Engineering.

The kiln car replacement is part of a broader investment program underway at the Darra site. Designed to reduce operating inefficiencies, replace out-dated technology and improve the environmental sustainability of the brick plant. The new cars are on track to deliver gas savings, OEE improvements, reductions in waste and improvements in product quality.

“The kiln car fleet is the ‘moving floor’ of the kiln and dryers. It interfaces with every part of the production process,” said Operations Manager, Wayne Burton. “As such it was very rewarding to see the initial improvements to plant throughput and quality as soon as the first car was introduced in mid August.”

The existing kiln car fleet had corroded to the extent where the steel chassis no longer supported the refractory structure and the car centres were collapsing.

The operations team took this opportunity to reduce the total fleet from 146 to 110, in line with LEAN principles and in anticipation of a PULL system operating internally with balanced lines.

To ensure quality, each new kiln car was carefully monitored and certified before being introduced to the plant. A detailed maintenance plan and an automated kiln car cleaning system was also included in the project to ensure the cars are maintained well into the future.

The replacement of the kiln cars was completed on-site alongside the plant during normal manufacturing operations with minimal interruption to production.

The introduction of the new kiln car fleet marks the completion of the first of two major improvements which will transform the plant this financial year.

In January 2013 the plant will commence a $6.9 million upgrade to the kiln and dryers that will introduce updated technology and enable the production to run at world class waste minimisation levels and energy efficiencies.

Did you know?
The weight of old kiln car when new = 2,000kg steel
The weight of old kiln car when removed = 1,600kg steel
That’s a 20% loss due to corrosion!

Top: Kiln Car 21 set with green bricks ready to circulate the plant for the first time.
Middle: All cars were assembled on site by Applied Engineering to strict assurance standards.
Bottom: New kiln cars with fired product ready for dehacking.
SALES PROMOTION AND HANDS-ON TRAINING FOR PLASTERBOARD CUSTOMERS IN CAMBODIA

A range of activities including a loyalty scheme for customers in Cambodia and training program in Cambodia and Laos, are proving successful for the BGA export team.

By Sureeporn Seemakorn, Marketing Manager Export, BGA.

In order to strengthen our market leadership and to increase sales volumes in Cambodia, BGA Export ran a promotional campaign “My Reward My Choice My Promotion” from March to September 2012.

The campaign was promoted through retail stores to customers all over the country. The first prize draw of the campaign was conducted on the most popular TV station in the country, CTN.

Plasterboard systems “hands on” training in Cambodia and Laos.

Historically, sales in Cambodia and Laos have been largely in the capital cities of Phnom Penh and Vientiane but plans to improve market penetration into the provinces are also being implemented. Our sales and marketing teams have been running a series of plasterboard installation seminars with our mobile training units.

The seminars aim to provide product knowledge, technical systems and “hands on” training opportunities to local installers. To date, we have arranged seminars in provinces such as Siem Reap, Battambang, Kampong som and the latest in Luang Prabang, Laos.
COMPETING FOR THE “GREEN & GOLD”
BORAL PRIDE AT THE LONDON OLYMPICS

Boral employees across the world enjoyed watching the recent London Olympics, but for some it was particularly special.

By Anastasia Narkiewicz, Communications Manager, Boral Communications Centre.

Jim Densham is the Yard Manager at the Boral Bricks plant at Bringelly in NSW. His daughter, Erin Densham won the Bronze Medal in the women’s triathlon at the London Olympics in 2012.

Jim has worked for Boral for 33 years, 20 years as a truck driver and for the past 13 years in transport/despatch. Jim describes himself as an “average” runner and cyclist with talent in the pool for sinking to the bottom – fast.

Erin is 27 years old and started swimming at four years of age. She showed prodigious talent swimming butterfly and running cross country at primary and high school. After discovering she was also a good cyclist, Erin was encouraged by her mum to compete in triathlons which she started at 17.

Selected for the Australian Institute of Sport (AIS) Erin trained at the Victorian Institute of Sport (VIS) and debuted in international competition at the Portuguese Archipelago of Madeira in 2006. She was unsuccessful in Madeira but went on to win the Under 23 years World Championship at Lausanne, Switzerland.

“A very proud father, Jim remembers Erin’s first win in the green and gold – the Boral JDRF Corporate Triathlon in 2008”.

But her success has not come without adversity. Competing in Des Moines, Iowa in 2009 Erin collapsed and was dragged out of the water in a dramatic and seemingly premature end to her budding career. Diagnosed with a heart condition, Erin has since persevered at the sport she loves and with the support of family, friends and coach, trained hard for three years to return to the elite level at which she now competes.

Erin is good friends with her rivals on the racing circuit; fellow London Olympic Triathlon medal winners Lisa Norden from Sweden (Silver) and Nicola Spirig from Switzerland (Gold). They are familiar with Erin’s ability and race plan to lead or stay close and then go hard in the closing stages, and were apparently keeping the Aussie girl in their sights as she led the run leg in London.

“They know what she’s capable of” says Jim. Erin won the Bronze medal with a time of 1:59:50:00 – two seconds behind the Gold medal time of 1:59:48:00.

Blitzing the field with 1st in Mooloolaba, Queensland and placing second in San Diego, USA recently, Erin competed in Yokohama, Japan in September then Auckland, New Zealand in October 2012. If she manages a podium finish, Erin will clinch the World Title for a second time and dad Jim couldn’t be happier for her.
“MUDIK MERDEKA” BERSAMA JAYABOARD COMING HOME TOGETHER WITH JAYABOARD

A customer appreciation and corporate social responsibility program from Boral Plasterboard Indonesia.

By Rilwan Hamzah, HR Manager BGA Indonesia.

Idul Fitri or the Moslem Festival for Indonesia whose population is 85% consisting of Moslem is a big event which is celebrated widely throughout the country every year. This year, the festival was held on the 19th and 20th of August 2012, just two days after the Indonesian Independence Day celebration which was on the 17th August.

As an appreciation to our loyal customers, and as part of our Corporate Social Responsibility programs, Jayaboard held its seventh Coming Home Together Program on 15th August 2012 by sending out 1,500 people using 30 buses from Jakarta to different destinations in Western, Central and Eastern Java to celebrate Idul Fitri with their families at home four days before the Festival. This enabled them to get home earlier for preparations.

The program was named “Mudik Merdeka”, meaning “Independent - Coming Home”, as it was held quite close to the Independence Day commemoration. It took place in the east parking area of the Bung Karno Sporting Complex, Senayan, Jakarta.

The former Governor of Jakarta Mr Fauzi Bowo and the representative of the Jakarta Police Department waved the flag marking the start of the bus convoy to their destinations.

Safety and health is always the priority for us, from doing urine tests on the bus drivers prior to the departure, providing back up drivers, checking all safety equipment on the bus, and making sure that all of the buses have seat belts for the passengers.

Boral Indonesia’s President Director Kil Joo Lee in his speech mentioned that the safety procedures that we always apply in all of our activities hopefully can ensure that our customers get home safely. This program is also reducing the use of motorcycles to get home, which is much more dangerous, especially for long distance destinations.

We also helped them so that they are able to go home safely, comfortably and of course in a very low cost way, as the tickets for public transportation during the holiday seasons are very costly.

Many attractions were also held during the program, including live music, games, door prizes and many more to show our appreciation to our valued customers.

The event attracted good publicity for Boral Indonesia as the media including newspapers, online media and television covered the event widely.

Around 1,500 people participated enthusiastically in the Mudik Merdeka Program by Boral Indonesia, to celebrate Idul Fitri in their hometowns.

Top: The former Governor of Jakarta, Mr Fauzi Bowo waved the flag marking the start of the Mudik Merdeka program, accompanied by Mr Kil-Joo Lee – Jayaboard President Director and Mo-Chul Ku – Sales and Marketing Director.

Above: 30 buses equipped with seat belts were sent out from Jakarta to several destinations in Western, Central and Eastern Java.
Boral Design Award winner, Phillip Nielsen finds bricks offer almost endless applications and particular appeal for the tactile elements of his designs.

He featured Boral bricks in an arched design in his winning entry to increase the perceived capacity of smaller living spaces. The use of bricks also ensured acoustic separation between the dwellings within the residential complex, as well as being low maintenance and high in thermal mass.

Recently Phillip spoke to BITN about industry trends in building with bricks.

What's the most common question you are asked about bricks by clients?
Typically clients are concerned about the stylishness of bricks; they ask if I think bricks are dated or out of fashion. Sure, bricks have pretty much been around since the dawn of time but that also means some of the most timeless, beautiful pieces of architecture in history are constructed with brick.

What's your favourite use for bricks?
Bricks are so tactile and familiar. I enjoy using bricks where you can touch them, such as a window seat or bench top.

How has the use of bricks in residential and commercial construction changed in recent years?
I think in the last few years peoples opinion and use of bricks has dramatically changed. More and more bricks are being used in new, exciting and experimental ways. Whilst bricks as a material remain relatively unchanged, their variety and application is constantly evolving.

What difference do you see in the use of brick between residential and commercial designs?
Bricks are starting to get used a lot more in commercial projects, specifically retail interiors. It would be nice to see more brick interiors for residential projects.

What materials and finishes do you find popular to use with bricks?
I like to use lighter colour palettes in my designs, for instance sand coloured bricks are great with pale timbers and concrete.

What interesting things can you do with bricks?
Arches and vaulted ceilings are great for achieving a dynamic form and volume, curving a brick wall in plan can be just as effective in reality.

What are the latest trends in bricks for residential projects?
Dark bricks are extremely popular and I believe the homeowner needs to go with their preferred option. However, from an architectural perspective, there is a growing minimalist trend in Australian projects. Clean lines and pale bricks are becoming more prominent in the residential and commercial market.

*Birkingo Lane*, Phillip's award winning design for a residential community.
VALUE STREAM MAPPING AT WYEE ROOFING

Plant team engagement is providing positive direction for Continuous Improvement.

Jarrod Ducat, Plant Manager, Boral Building Products, Wyee

Achieving a robust OEE continuous improvement plan for the coming 12 months is imperative for the success of Boral’s Wyee Roofing operation.

A Value Stream mapping event was held in September which gave employees at the plant an opportunity to review the achievements made in the previous year. They then went on to develop a future state map by identifying opportunities for the year ahead.

A total of 149 concerns or opportunities were identified across the four operating cells within the site.

The support and dedication of the teams has enabled these concerns to be prioritised and they now form the basis of the Wyee OEE improvement action plan.

The benefits so far include:

- Training and awareness opportunity for employees to understand waste reduction and value adding and
- Positive cross functional debates which are fostering teamwork.

VALE DR KEN MOSS, AM

At the time of publishing this issue of BITN we learned that Dr Ken Moss, Boral’s past Chairman and friend to many of us at Boral, had passed away.

Ken died at home after a battle with cancer and a private funeral service was held in Newcastle.

Ken retired in May 2010 after 11 years on Boral’s Board – 10 years as Chairman. During his time as Chairman Ken provided invaluable leadership and support to the Company. He was a man of considerable intellect and learning, who also possessed a wicked sense of humour. In 2008 he became a Member of the Order of Australia in recognition of his contribution to business and of his services to the community.

In December 2011, Ken was appointed to the position of Chancellor of the University of Newcastle. In recognition of the strong ties that Ken had with the University of Newcastle, and the School of Engineering in particular, Boral will be making a donation to the School of Engineering’s scholarship program in his memory.