MOVING AUSTRALIA FORWARD

Transport industry manufacturers and innovators are helping to move Australia forward safely and efficiently, while also sourcing the bulk of their suppliers from the domestic market, keeping opportunities and jobs in this country. By Carole Goldsmith.

Australia's logistics industry accounts for 8.6% of GDP, adding $131.6bn to the economy in 2013. The industry also employs around 1.2m people. The Australian Logistics Council's report *The Economic Significance of the Australian Logistics Industry*, released this July, revealed that the domestic freight task totalled almost 600bn tonne kilometres in 2011-12, or about 26,000 tonne kilometres for every person in Australia, based on estimates by the Bureau of Infrastructure, Transport and Regional Economics.

The rail industry wants more of this freight business. According to figures from the Australasian Railway Association (ARA), Australia's rail network covers almost 45,000km of track, 1800 locomotives and 32,000 wagons and carriages. Australia's rail network moves almost one billion tonnes of freight annually, and the industry is keen to transport substantially more of the nation's goods across the country.

"Australia has the sixth-largest freight and passenger network in the world," says Bryan Nye OAM, CEO of ARA. "We are carrying almost a billion tonnes of freight each year, moving goods such as iron ore, coal, sugar, wheat, cotton, right through to Weeties and beer. The UK, in comparison, is moving around 100m tonnes of rail freight annually.

"Currently, however, only 5% of Australian freight goes by rail along the eastern seaboard. It is a safer, cheaper and greener transport medium than road freight, so we are constantly promoting the rail alternative to business and the public."

While freight represents an area of potential opportunity, Nye speaks excitedly about the growth in rail passengers, revealing that 784.2m people travelled on the network in 2013, a rise of more than 80m passengers over the previous four-year period.

ARA is a member-based association representing the rail industry in Australia and New Zealand. Its 170 members, of which around 70% are SMEs, include rail operators, track owners and managers, manufacturers, construction companies and other firms, contributing to the rail sector.

ARA, along with the Rail Supplier Advocate, Rail Suppliers Network Australasia, the Industry Capability Network and Austrade, are leading a delegation to InnoTrans, to be held in Berlin on 23-26 September. Around 30 Australian rail suppliers have already registered to join the Australian pavilion at what will be the largest rail show on Earth. When asked what Australia needs to keep rail suppliers manufacturing in Australia, Nye called for a collaborative approach.

"Australia needs to partner with Chinese firms, so the basic parts can be built overseas," he said. "The more technical rail components such as system integration should continue to be made in Australia. We also have a lot of old locomotives, which need new engines plus better fuel and communication systems. SMEs across the country need to be involved in upgrading these older machines".

Nye is keen to see the high speed rail network between Sydney and Melbourne built and operating: “Both sides of the government have agreed to preserve the corridor to avoid building over the planned route. This rail link will not only create increased opportunities and employment for rail suppliers, it will also provide a much-needed fast link between the two cities.”

Trackside signalling, Australian-made

An active ARA member, Siemens is the only major multinational technology organisation to provide trackside signalling products that are manufactured in Australia. Last September, Siemens was awarded the Australian Made registered trademark for six of its rail automation products, in a ceremony at its Port Melbourne manufacturing facility. The products receiving the trademark included point machines, a train stop, plug boards, signals, a slide detector, and level-crossing flashers.

“The point machines M3, M23 and 84M are all different versions of a safety-critical device that allows trains to automatically change tracks where required,” explains Jamie McDyre, Siemens’ Vice-President – Freight and Products for Asean Pacific. “The train stop is a safety stopping device attached to a rail signal that protects against a train passing a signal at danger. Signals are similar to traffic lights for trains, while plug boards, slide detectors and level crossing flashers are components within larger systems.

Every Australian state has its own rail infrastructure, with different gauge systems, and different operating rules and standards, so Siemens needs to design and build products for each state’s requirements. Rail signals in Queensland, for example, have red, amber and green lights similar to road traffic lights, while their Victorian equivalents have multiple colours that tell the driver how fast to travel.

Siemens’ customers include every state rail organisation’s suburban and regional rail networks, such as V/Line and Metro trains in Victoria, NSW Trains and Sydney Trains in New South Wales, and Aurizon and Queensland Rail in the north of Australia. Siemens also supplies private companies that own their own rail lines, such as BHP Billiton, Rio Tinto and Fortescue Metals.

“We deliver the complete turnkey solution to our customers,” says McDyre. “First we design the system, produce the equipment, then install and commission the signalling and control systems.”

Siemens has over 480 staff dedicated to rail here in Australia, including 60 engaged in R&D. As well as the Port Melbourne facility, the company has warehouse and manufacturing sites in Perth and Rockhampton. During AMT’s tour of the Port Melbourne site, McDyre points out a map on the wall showing Australia’s extensive rail network, with a super-imposed image of all the EU countries fitting neatly inside its coastline. He refers international visitors to this map whenever they ask why the company has sites in the west and north of Australia. The three sites mainly do final assembly, with the majority of products made at Port Melbourne.

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"We have suppliers of components for our products all around Australia and 90% of our supply chain for products comes out of this country," says McDyre. "Most of our products are sold to the Australian market, but we are exporting around 10-15% to Asia, mainly to Indonesia, Malaysia and Thailand".

During AMT's tour of Siemens' research laboratory, an operator assembles part of a rail control system. McDyre points to the wall-based 386 computer, a relic from the mid-1980s still used today in testing specific interlocking cards. Similar older computer systems are used for testing in other advanced nations like Germany.

"Equipment in the rail industry is expected to be supported for a minimum of 20 years, and this poses challenges to OEM suppliers, particularly with electronic equipment and part obsolescence," he explains. "Test systems like the 386 computer are an essential part of the overall safety assurance of the product and demonstrate why having local support is so critical to customers. Some of the point machines operating on the network are nearly 40 years old. With this facility and our experience of the original equipment we are able to restore this legacy equipment to new through our remanufacture process."

Where some suppliers offer overhaul of equipment to make it operational, Siemens completely strips the equipment of all rust and wear and tear, before replacing every engineering component with new versions. This offers a new life to the equipment, which slots back into the maintenance schedule as a full lifecycle overhaul with the same maintenance requirements as new equipment delivered more recently.

McDyre describes the M23 point machine being assembled and tested by operators: "These are large pieces of equipment, around one metre in length and a quarter of a metre in width, and can weigh up to 350kg. They are designed to last for 20 to 30 years handling some of the heaviest trains in the world."

Siemens' products are all tested for exposure to Australia's extreme weather in the site's heating and cooling chamber. Temperatures range from minus 20 degrees to plus 70 degrees Celsius.

When asked if the rail automation business is growing, McDyre is optimistic. "The whole rail industry has been affected by the decline in the mining industry. There has been a flow-on effect over the past 12 months, but long-term market drivers remain strong. One of the major problems for the Australian railway industry is the copper theft from the signals. Railway companies are constantly looking at ways to prevent this."

Siemens is designing, manufacturing, installing, testing and commissioning the rail automation technology to optimise productivity of the rail line between Dingo and Bluff in Queensland. Siemens will deliver rail automation interlocking technology worth $19m to increase the capacity of the new line, which will help to deliver 27mn tonnes of coal each year from the surrounding mines to the Wiggins Island Coal Export Terminal. The project was awarded in June 2013 and will be completed in mid-2015.

MaxiTRANS – jobs for regional communities

Leading Australasian semi-trailer and transport equipment manufacturer MaxiTRANS supplies a diverse range of industries, including transport and logistics, food and beverage, construction, agriculture and natural resources. With its head office in Derrimut, west of Melbourne, and manufacturing sites in Ballarat in Victoria, Brisbane and Bundaberg in Queensland, it uses local suppliers from the surrounding areas, whenever possible, and provides jobs for regional communities. MaxiTRANS also has company-owned dealerships around Australia and New Zealand.

"As we grow, we help local suppliers grow too," says MaxiTRANS Group General Manager Manufacturing, Andrew Wibberley. "Part of our company's philosophy is to support regional communities. We use local suppliers as much as we can, ensuring that they are price-competitive".

Having managed the Ballarat site for six years, Wibberley is now on the road for 2-3 weeks a months, working between and managing all of the company's different manufacturing sites.

"We manufacture leading trailer brands, polyurethane foam and fibreglass body panels, while we also service and repair trailers as well as supply and distribute parts," says Wibberley. "Our company designs and custom-builds trailers according to our customer's requirements. We construct innovative solutions to assist our transport clients to maximise their weight per volume load".

Bryan Nye, CEO of the Australasian Railway Association (ARA).

Wibberley gives an example of client customisation: "We have designed some trailers for waste management clients so that their

MaxiTRANS Group General Manager Manufacturing, Andrew Wibberley

drivers don't need to get out of their truck at the tip to remove the waste, with all controls in the truck cab. This is a safer option for the driver and the client. Occupational health and safety considerations are very important in all our trailer designs."

MaxiTRANS' largest manufacturing site in Ballarat had a $5m site expansion in 2002 to service the growth in the business and today employs around 370 people. MaxiTRANS has continued to review operations since the upgrade and uses continuous improvement programs as a method to remain efficient.

When the company acquired the side tipper brand AZMEB in 2012, all of AZMEB's existing Bundaberg employees were retained, highlighting MaxiTRANS' focus on supporting regional communities. In total, MaxiTRANS employs over 900 people in Australia, including many engineers and design professionals.

Each of the different production sites are set up to concentrate on building specific MaxiTRANS brands.

"The Ballarat site mainly produces Hamelex White, Freighter and MaxiCUBE brands," says Wibberley. "The Brisbane site manufactures Lusty EMS trailers, while AZMEB site tippers are produced at our Bundaberg site. One of our strengths, however, is to use any of our sites to fill large contract orders. Each site is supported by a number of technical qualified engineers and service staff to assist in this goal."

MaxiTRANS has a strategy of constant innovation. In July, the company's Maxi-CUBE brand delivered a 26-pallet refrigerated trailer into Queensland that was the first of its kind to receive Performance Based Standards (PBS) approval in the state. The trailer was purchased by specialist fruit and vegetable carrier Fruithaul, who placed the order after learning of the productivity benefits of the PBS scheme.

PBS are design standards that enable certain designs of truck and trailer combinations to carry larger-than-normal payloads. The type of design depends on the route travelled, the type of cargo and the objectives of the transport operator. In most cases it means operators are able to drive truck and trailer combinations that are outside the standard legal dimensions, improving road transport efficiency and vehicle safety. Each new PBS combination design needs to be designed from scratch based on customer requirements. That MaxiTRANS has more PBS-approved designs than any other manufacturer speaks volumes of its commitment to customisation.

As MaxiTRANS' customers have specific requirements, trailers are mainly custom-designed and built. Consequently there is not a lot of mass production done at MaxiTRANS. Wibberley believes this is one of the main reasons why Australian trailer manufacturers continue to succeed.

"Designing each of our trailer brands to Australian Standards and to the specific requirements of our customers provides a value proposition. Local production also means we are able to supply


One of MaxiTRANS' state-of-the-art paint booths.

bespoke products in a relatively short lead time. It is this combined customer requirement for customisation and speed of production which minimises the opportunities for imported trailers coming into Australia.

"To bring in a finished trailer from overseas comes at an expensive cost due to a trailer's dimensions," Wibberley adds. "Produced from high-grade steel, semi-trailers measure 8-13m long, 2.5m wide and 4-6m high. Imports also tend to be mass-produced, not custom-made like most customers require."

With a firm footing as Australia's largest semi-trailer manufacturer, MaxiTRANS has one eye on the future.

"Part of our future strategy is to grow our current brands and develop new products to diversify the company's market," says Wibberley. "With our many trailer brands and backed by our service and parts divisions, we believe MaxiTRANS is able to provide a localised full service offering to our Australian customers, and we'll continue to strive to improve that offering where possible". AMT

www.austlogistics.com.au www.ara.net.au
www.siemens.com.au www.maxitrans.com

The ground-breaking 26-pallet refrigerated trailer (right) delivered to FruitHaul, compared to a standard 24-pallet trailer (left).