

Setting new standards

A high demand for its products and eager plans to drastically reduce lead-times led Australia's largest bus manufacturer to invest in a new locally-built CNC router.

BY BARBARA SCHULZ

Unlike many other manufacturers these days, Volgren, Dandenong, VIC, is experiencing an upturn of 42% in sales this financial year and plans to manufacture as many as 630 buses. High demand for its products, especially in New South Wales and Queensland, has seen Volgren's manufacturing capabilities rapidly expand in recent years. Large investments in information technology, factory floor space, plant, equipment and people make it ready to meet current and future requirements.

Volgren's strategy is based on reducing factory lead-time, meeting on-time delivery and maintaining the highest quality. This flexible approach to customer solutions has the Melbourne plant producing kits for assembly in Perth, Brisbane, Singapore, Abu Dhabi and Malaysia with ongoing discussions in other world markets.

"At the moment it takes us 38 days to make a bus," says Bruce Hobbs, General Manager Manufacturing. "However, by taking out the variation in fabrication, as well as having more pre-built and assembled parts and more standardisation, we want to get it down to 34 by June this year. The next target is a lead-time of 20 days." For the past 25 years, Volgren has been manufacturing buses using an aluminium body concept that uses specially manufactured channel extrusions and matching bolted gussets to create faultless joints.

Unique concept

"Our buses are quite unique," comments Mr Hobbs. "It is an aluminium body bus and it is bolted together rather than fabricated and welded, so therefore we don't need many jigs and fixtures to manufacture a bus, it is very simple. And that simplicity means you don't need as much in infrastructure to support it."

This is one of the secrets to Volgren's outstanding success story with over 20,000 buses manufactured worldwide



Bruce Hobbs, General Manager, Manufacturing, Volgren Australia Pty Ltd, Dandenong, VIC (left), together with ART Director Peter Nolan in front of the 16000SX router. Photos: Schulz



For the past 25 years, Volgren has been manufacturing buses using an aluminium body concept that uses specially manufactured channel extrusions and matching bolted gussets to create faultless joints.

using such a system. In transport applications where continuous vibration and stresses are present due to dynamic loading, welded joints can fracture and fail. Volgren's bolted system avoids this and results in a much longer joint life.

The system is very versatile and Volgren produces a complete range of buses

and coaches including double and single deck city buses, school buses, touring coaches and other specialist vehicles. Because aluminium buses are superior to steel, some of the world's largest bus companies specify aluminium for their total fleet. Aluminium can be extruded into complex shapes allowing for intri-

cate design and integrally strong structures.

But even the cleverest concept and manufacturing technique needs the right tooling to produce quality parts in an efficient way. According to Mr Hobbs, spending extra money on tooling that will increase production is worth it. Hence, the company has recently invested in a new Australian-built router from Brisbane-based Advanced Robotic Technology (ART).

“We had an older router here, which we needed to replace,” Mr Hobbs says. “When we started looking for it, the guys in the project team were going through identifying a couple of companies. and they weren’t even looking at ART until I suggested we should evaluate their machine. It turned out that everything that ART supplied was superior, like the documentation or the service backup. The end result was we chose an ART 16000SX router.”

“ART builds your machine to order so you get exactly what you need,” says Peter Nolan, Director, ART. “ART machines come in sizes from 2500mm x 1300mm all the way up to 21000mm x 3700mm. Moreover, the ART ProfileShop controller software is an amazing interface that is so simple to use. While being extremely easy to learn, it is highly flexible and offers top end-functionality. You can easily modify any part of the job by simply selecting parts on the touch-screen.”

Productivity gains

Mr Hobbs agrees and adds that “everyone was already impressed with the machine itself but when we started using it, we were really amazed with the ease of use.” It only took a few days to train an operator and within three weeks operators were up and running with the machine and the software. “With our old machine it would have taken about three months,”



Above: Volgren’s unique Co-Bolt aluminium extrusion body technique, joined by a system of bolted gusseted joints, provides a world-class body solution.


Left: The new router will be used to pre-drill the holes to further decrease lead-times.

Mr Hobbs adds, and there are more productivity gains.

“The new machine is cutting at probably four times the speed as the previous one,” Mr Hobbs says. “That’s why we are thinking about getting a third one. The process we went through in evaluation identified some opportunities we hadn’t considered before. In the past, all the side panelling was all guillotine hand-cut and folded. We are now cutting it all on the new and eliminate the manual work.”

“What we are finding now is that there is less variation, the parts are being

bent and then go directly to the line, ready to be assembled,” he says. “With one of the side panels (see photo) we intend to pre-drill the holes, which used to be drilled by hand on the job, so the guys on the assembly line just have to screw the parts together. It takes a lot of work to get the drawings right, but once you get it right there is a huge potential for savings.”

“We work very hard to keep our customers happy,” says Mr Nolan. “If you keep your customers happy, they keep you happy by purchasing more machines.” And they do. Volgren plans to send its old router to its Parth facilities and buy another ART machine in order to reach its eager target of a 28-day lead time to manufacture a complete aluminium bus for Australia’s public and private transport sectors. 

Volgren Australia Pty Ltd
www.volgren.com.au

Advanced Robotic Technology Pty Ltd
www.advancedrobotic.com



Who: Volgren Australia Pty Ltd, Dandenon, VIC, Australia’s largest bus body building company with over 300 employees and manufacturing plant covering 45,000m². Revenue 2008/08: \$114m

Situation: Need for improved efficiency in the pre-assembly aluminium sheet fabrication process

Solution: Investment in an ART 16000 router, which offers four times the cutting speed as the existing machine.