

REGENT CARAVANS

The business challenge

One of the most familiar sights on Australia's coastal and country roads, Regent Caravans have been manufactured in northern Melbourne for 25 years.

Two ranges are produced: the fully-manufactured Regent brand and the Snowy River caravans which are delivered 80% complete from China. Due to growing demand, Regent Caravans' Director Andy He decided to relocate from a 4,500 sq metre factory to new 10,000 sq metre premises. The company called in OE Partners to create a Lean layout which would maximise utilisation of space, reduce double and triple handling of stock, and cut wasted movement of staff and materials on the two production lines.

The approach

OE Partners quickly saw opportunities to improve productivity and free up production capacity to meet the increased demand for Regent products. The overall efficiency of the business also needed to improve so new foundations could be laid for growth. The project approach involved Value Stream Mapping (VSM) of current processes and Value Stream Design (VSD) to improve production flows for Regent and Snowy River, along with a Lean layout for the new premises.

The results

While Regent hadn't fully settled down in their new premises, Andy He said it was already apparent that the new Lean layout would meet the company's growth needs. The common warehouse system for the two production lines had made new parts ordering and stock control much easier. Staff were much happier with the warehouse system, as it had resolved previous issues with stock transfer and stock picking. Improved productivity resulted in the potential to double output with reduced labour hours per van, which the business is confident in achieving. He believed the new plant could deliver a 10 – 15% increase in production efficiency with current staffing levels alone. These efficiencies will grow as volumes grow.



New lean layout doubles output and enables 10 - 15% efficiency increase with existing head count.

A move to a large new factory presents the perfect opportunity to abandon a legacy of inefficient work practices, production bottlenecks and problems with warehouse systems.

So when Regent Caravans signed a lease on new premises that were nearly double the size of its existing factory, it called in OE Partners to design a new Lean layout that would:

- Deliver best utilisation of space and maximise productivity per square metre through a Lean analysis, Value Stream Mapping (VSM) of current processes and new Value Stream Design (VSD).
- Create a common warehouse system for two production lines.
- Optimise material storage, with locations based on high, medium and slow moving items.
- Minimise movement of staff and materials.
- Reduce double and triple handling of stock and product.

"Regent Caravans had already signed the lease on the new premises, so we had to work within the existing framework of the factory," says OE Partners. "But we were successful in addressing all the concerns we had regarding a process flow that would facilitate the future growth of the business.

"A caravan is quite a large item to move through a production facility. The major constraint was the shape of the building and how we could accommodate the two existing production facilities with a

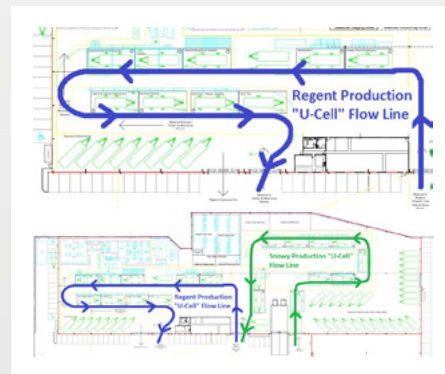
common warehouse system, and ensure the process lines were flexible enough to allow for future growth."

Other key issues included minimising the movement of materials into the factory, then minimising movement across to each production line.

92 improvement opportunities identified

A total of 92 improvement opportunities were identified from the VSM, which showed that the lack of an ordered production sequence had caused excessive movement of material and staff in the old factory.

OE partners utilised a U-cell flow from the start of floor assembly to final finish, ensuring that processes were broken out through the factory to prevent the previous bottlenecks.



"The team members were willing to support this major change, which demonstrated a strong culture of involvement," OE Partners says.

In the former factory, materials travelled about 100 metres as they were moved from cutting to assembly and finishing processes. This distance has been more than halved in the new factory.

The larger factory also presented the opportunity to structure materials in a well-organised warehouse with new racking,

trolleys and space to move material efficiently to production lines.

Location labels and minimum/maximum indicators for materials were introduced, speeding up stock selection, streamlining stock taking and ensuring stock was not under or over-supplied. Designated locations and storage for tools and equipment were identified, reducing the amount of space required and time spent searching for items.

Overall, the new VSD:

- Rebalanced processes to utilise excess capacity and eliminate bottlenecks
- Determined the correct levels of raw materials and WIP inventory
- Established a base line for lead time and to measure improvement
- Made all operational processes visible and known at a glance.

"Processes were rebalanced to meet Takt time (the rate at which a finished product needs to be completed in order to meet customer demand), resulting in an increased capacity to produce more caravans without increasing the headcount," OE Partners says.

Once the factory move was completed and all stations in place, Andy He and his team took over the project.

"The bigger space and Lean layout certainly allows for potential growth of around 10 to 15% with our existing staff," Andy says. "The common warehouse system is much better, and is easier for stock control as well as ordering new parts. The staff love it, and there are fewer issues regarding stock transfer and stock picking.

"We were very happy with OE Partners and the outcomes so far, and will work with them again on Lean manufacturing."

"We were very happy with OE Partners and will work with them again in early next on Lean manufacturing. The Lean factory layout allows for growth of 10 to 15% with our existing headcount. Our staff supported the major changes to production lines and they love the efficiency of the new common warehouse system."

Andy He, Director, Regent Caravans.