

TRAKKA PTY. LIMITED

REVVING UP MOTORHOME/SPECIAL-PURPOSE VEHICLE DEVELOPMENT WITH SOLIDWORKS PROFESSIONAL



With SOLIDWORKS 3D design tools, Trakka has cut time-to-market for its products in half, which has helped the company double its product offering and grow its business.



Challenge:

Adapt motorhome development from a manual, hands-on, in-vehicle design approach to an automated CAD process to support faster development, greater throughput, and increased manufacturing.

Solution:

Implement SOLIDWORKS Professional design software.

Benefits:

- Cut product time-to-market in half
- Doubled product offering
- Reduced prototyping from many to one preproduction model
- Improved manufacturing accuracy and product quality

Trakka Pty. Limited is a leading Australian manufacturer of motorhomes and special-purpose vehicles. Founded in 1973 to fulfill the dreams of many Australians to travel freely around their large, diverse country, Trakka has grown dramatically since then. It has forged valuable partnerships with luxury van manufacturers, including Volkswagen, Fiat, and Mercedes Benz, to develop pop-top campervans, van-based and coach-built motorhomes, and mobile health clinics and mobile office vehicles.

Until 2004, the company employed a manual, hands-on, in-vehicle approach to developing its products, during which it would often have to wait on the release of a new vehicle to begin developing its furnishings directly within the vehicles. This approach required taking manual physical measurements from each van model, followed by design, prototyping, and fabrication of the various cabinets, furnishings, fittings, and electrical and plumbing systems and components. Their method was just too unwieldy to support growth, according to R&D Manager Michael Lord.

"Our work covers a variety of trades, materials, and components," Lord says. "All of these systems and components required separate development to fit into a defined, compact area and all had an impact on each other. This meant multiple prototype manufacturing as each review brought changes before finalizing the design.

"We needed to adopt a more streamlined, automated approach, using production-based models, to support growth, and began evaluating 3D CAD systems to better support our development effort," Lord adds. "We looked at a few 3D packages, including SOLIDWORKS® software and Solid Edge®, before implementing SOLIDWORKS."

Trakka standardized on SOLIDWORKS Professional 3D design software because it is easy to learn and use, includes industry-leading sheet metal design and fabrication capabilities, and advanced design visualization and rendering tools. "The introduction of SOLIDWORKS has totally changed not only how we design but also how we manufacture," Lord stresses.

FASTER DESIGN, SHORTER TIME-TO-MARKET

Since implementing SOLIDWORKS Professional design software, Trakka has reduced time-to-market for its products by 50 percent, which has helped the company double its product offering and grow its manufacturing facility, including a recent 30 percent expansion in production floor space. "SOLIDWORKS allowed us to design the complete vehicle, breaking it down into individual components within subassemblies while also allowing us to see how they affect each other via a main assembly," Lord explains.

"This enables us to review multiple design concepts and configurations without the need for physical prototypes," he adds. "SOLIDWORKS lets us interact more efficiently with the large multinational vehicle manufacturers, giving us the ability to leverage vehicle CAD data as soon as a new model is released. We no longer need to wait for the actual vehicle, or perform physical measurements, and can now accurately silhouette to the vehicle profile, pick up locations and mounting points, identify interferences, and know the exact envelope within which our designs must fit."



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— Michael Lord, R&D Manager

MINIMAL PROTOTYPING, IMPROVED PRODUCT QUALITY

Because Trakka can accurately design to its partners' vehicle CAD models and more fully interrogate designs in SOLIDWORKS 3D software, the motorhome manufacturer has virtually eliminated prototyping costs—replacing multiple prototyping cycles with a single preproduction model—while simultaneously improving manufacturing processes and product quality. "Along with providing a better, more complete design platform, SOLIDWORKS has opened up more accurate manufacturing methods for us, leading to a far better and more consistent quality product," Lord notes.

"SOLIDWORKS sheet metal tools, for example, have moved us from cut-and-weld fabrication to laser cut and computer folding for fabricating specialized components," Lord continues. "We simply email the flat-pattern DXF" file with a PDF drawing to our supplier and now have confidence that we will receive exactly what we designed."

GROWING THE BUSINESS

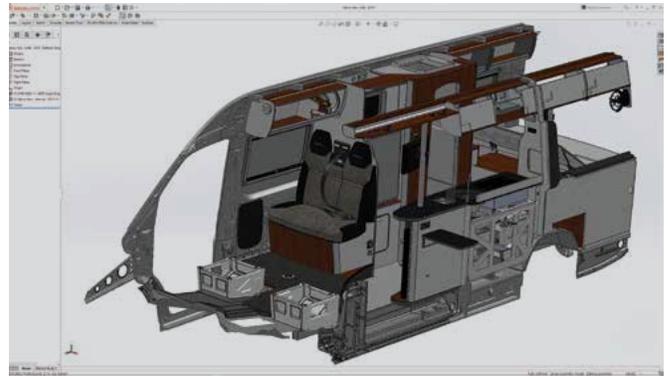
The productivity gains afforded by SOLIDWORKS are helping Trakka grow its business. While its standard product line continues to experience growth, so does its customized, one-off, and special-purpose vehicle business. Along with faster, more accurate design and manufacturing, Trakka also benefits from SOLIDWORKS design visualization and rendering tools for communicating with one-off customers and preparing advance marketing materials for standard product models.

"In addition to using rendered images of concept designs for internal review, the ability to quickly show photorealistic images of one-off designs—with a range of different materials, colors, and fabric combinations—allows us to communicate more effectively with new clients," Lord says. "We've relied on PhotoView 360 to create renderings and expect to heavily use SOLIDWORKS Visualize as well. It's easier for new clients to understand what they see in a photorealistic render, as opposed to a 2D layout drawing, and rendered images also allow us to promote soon-to-be-released products before they are built."

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For more information
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Because Trakka can use SOLIDWORKS to accurately develop its products within 3D CAD models of the luxury vans from Volkswagen, Fiat, and Mercedes-Benz that it supports, the motorhome manufacturer has virtually eliminated prototyping costs.

Our 3DEXPERIENCE® platform powers our brand applications, serving 12 industries, and provides a rich portfolio of industry solution experiences.

Dassault Systèmes, the 3DEXPERIENCE® Company, provides business and people with virtual universes to imagine sustainable innovations. Its world-leading solutions transform the way products are designed, produced, and supported. Dassault Systèmes' collaborative solutions foster social innovation, expanding possibilities for the virtual world to improve the real world. The group brings value to over 210,000 customers of all sizes in all industries in more than 140 countries. For more information, visit www.3ds.com.

