

Heavy loads handled with ease

A database publishing system built around Miramo® has made possible the production of 100 per cent customized user manuals for each of the 50,000 trucks produced each year by Scania, reducing production costs and enhancing customer satisfaction.



If Henry Ford started the mass manufacturing revolution nearly a century ago with the legendary Model T, then European truck manufacturer Scania has done its best over recent decades to reverse his 'one size fits all' philosophy with what might be called mass customization. Now well over a century old itself, Scania is one of the world's leading truck and bus manufacturers, producing around 50,000 vehicles a year at 11 factories in five countries, using a highly modular assembly process that lends itself to an unparalleled degree of customization.

Scania also differs from its vehicle-building competitors in that it concentrates solely on heavy truck and bus manufacture, with additional interests in industrial and marine engines. This focus has brought seven decades of consistent profitability, even through times when demand was weak. The company currently employs 28,000 people and has operations in 100 countries.

Part of the recipe for success is good customer support and service, and a key part of that is the provision of detailed, accurate and entirely relevant user manuals. But

with each truck being potentially unique, the question of how to produce the right manual to accompany each without wastage, duplication or the inclusion of unnecessary or potentially confusing information was a difficult one.

Until recently, the solution adopted at Scania had of necessity been a pragmatic one. A limited range of 13 manuals was produced, printed and stored, each designed to cover a range of related model variants and options. This inevitably led to wastage, as forecasting of model variants had to err on the generous side to ensure that there would always be enough copies available in each of the 16 supported languages. Also, the print-ahead model meant that late revisions, equipment modifications or changes of specification could not easily be handled. Further, the manuals were increasingly difficult to plan, write and use as each would contain reference to options or configurations that did not apply to any given truck, leading to potential for confusion and a difficult content management and editing task for the writers of the manuals.

PROFILE

Scania

Founded in Sweden in 1891, Scania has built and delivered more than a million trucks and buses for heavy transport work.

In addition to heavy trucks and buses, Scania manufactures industrial and marine engines. The company also markets and sells a broad range of service-related products and financing services.

A global enterprise, Scania has operations in Europe, Latin America, Asia, Africa and Australia.



Print run of one

The ideal solution would be a completely customized manual production facility that would enable the manual for each truck to be precisely tailored to that truck, reflecting its exact configuration and equipment and containing no irrelevant and potentially confusing information. To investigate the feasibility of linking production databases with automated document composition and on-demand printing technology, Scania turned to publishing and data management systems integrator Elanders, its long-standing preferred supplier of printing solutions.

Elanders project staff realized that this was an ideal job for the Miramo database publishing engine, around which they had developed bespoke publishing systems for many internationally known Swedish manufacturing enterprises.

Accordingly, a project to develop an automated XML-driven customized publishing system was instigated. Elanders technical staff built the data extraction infrastructure using .NET and SQL Server technologies and interfaced it with the Miramo document composition engine. New designs for the manuals were created from scratch, approved with Scania and implemented via templates created using Adobe FrameMaker Server.™

Elanders also devised an extensive database system to store document components including both text and images (photographs and line art) and the necessary XML tagging to enable the automated assembly of manuals by Miramo, following the stylesheets and templates established by the Elanders designers. Assembled documents are exported as PDF files which are both stored for future reference and reprint, if needed, and sent to Océ digital printers. The PDF creation process takes only a matter of seconds, depending on

the truck's configuration. The manuals are printed in black and white and spiral bound, ready for delivery with the vehicles. From manual order to delivery takes five days.

The Elanders/Miramo system is producing 60,000 to 65,000 pages a day – a typical manual has around 720 pages of operating instructions, maintenance and repair information. Each page is unique and is generated specifically for the vehicle to which it relates. This customization extends not only

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to text, diagrams and photos but to language as well. The system has recently been expanded from 12 to 16 languages including Russian, Polish and Japanese.

“At Scania, one of our key priorities is road safety,” comments Pontus Åström, IT coordinator, driver's manual production.

“The most important link in a secure transportation chain is the skill of the driver; the new driver's manual concept makes it possible for us to improve the driver's knowledge and understanding of the complex technological product that is a modern truck. The new concept also makes it possible to deliver a driver's manual completely in line with the rest of the truck's branding.

“No one believes me when I say that we have been able to create this highly advanced information product, both as a production part and as a spare part, at a lower unit cost than with the previous process. In addition, we have reduced wastage and reprint costs to zero. In my opinion, it's been a great success from Day One.”

Each Scania truck is built to order, from a wide range of equipment and options. Miramo makes it possible to produce a driver's manual that is 100 per cent customised – and therefore 100 per cent accurate and relevant – to each vehicle, helping the driver to gain the maximum benefit and safety from the vehicle.

Miramo®

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