

## Customer Success Story

---



**As part of its global after-sales strategy, one of the world's largest producers of heavy vehicles takes to the electronic highway with an all-digital approach to workshop documentation.**

Few would disagree with the premise that customer care is every bit as important to a company's reputation as the excellence of its products. Certainly not the auto industry where manufacturers and dealers work in tandem to devise ever more timely and effective workshop practices.

Yet this can all too easily become bogged down in a morass of paperwork—workshop manuals, modification notices, parts catalogues, service bulletins and so on—all of which needs revision as new models are introduced and as more stringent environmental and safety regulations come into force.

One company out to crack the problem with typical Swedish precision is Scania, Europe's third largest manufacturer of heavy trucks, buses and engines. Scania, the most profitable company in its segment has a global presence in more than 100 countries and production facilities in Europe and Latin America. The fact is, the vehicles rolling from its European production lines embody such an extensive range of options that standardized documentation is virtually impossible. The result—up to 30,000 pages of new after-sales literature produced annually in nine languages—makes a paperless alternative all the more desirable.

### Going All-Digital

Scania's response is Multi, an all-digital strategy that, by the turn of the century, will see its 1,500 appointed service centers around the world either receiving documentation on CD-ROM accessing it directly over a data network. It will be sufficient for a mechanic to optically read a chassis number into a PC to obtain service and diagnostic information unique to that vehicle.

Supporting the strategy is a relatively new *genre* of software enshrined in the term Product Data Management. It harnesses a variety of technologies such as Document Image Processing, Electronic Publishing, Database Management Systems and Optical Storage to provide end-to-end electronic document management solutions. The PDM tool set supports this on three levels: (i) By graphically analyzing workflows, (ii) By refining and adapting product structure modeling and configuration/change management procedures, and (iii) By enabling a seamless all-electronic process for originating, updating, distributing and archiving large volumes of product-related information.

### Pilot Study

Scania correctly perceived that PDM represents more than just another technology acquisition; indeed, its scope and reach often entails fundamental changes in working practice. Accordingly, a three-month pilot study was sanctioned for the company's After-Sales department at Sodertälje, a few kilometers south-west of Stockholm and the point of origin for much of its service literature. The study would set goals and time scales for PDM; revise these by tracking the technology, and arrive at a closer appreciation of its wider possibilities.

Britta Wickberg, who has managed the DASYS (Documentation & Administration System) study throughout, takes up the story: "The department's thirty-strong group of technical authors and illustrators migrated from typewriters and drawing boards to desktop publishing in the early 1990's, but paper remained the primary output, with drafts and proof circulating through many hands and departments. Here, PDM promised to end the inevitable paper chase and empower individuals by giving them the means to co-ordinate the production of a document in its entirety. This was a radical departure from convention and winning hearts and minds was critical to the outcome."

Needless to say, all those with an interest in DASYS were represented on the study team and actively encouraged to contribute to the system's evolution.

## System Selection

Work commenced in 1994 when, with help from an independent consultant, a number of off-the-shelf PDM solutions were evaluated on the basis of their ability to:

- Speed and simplify document handling and management, from start to finish
- Provide an all-digital communications route for the processing of documents
- Implement water-tight controls for authoring, revising and approving documents
- Make documents accessible to the right people at the right time

The all-important software decision went in favor of CENTRA 2000, a package initially developed for the NASA space program by Centra 2000 Inc., and now marketed world-wide by Auto-trol Technology of Denver, Colorado. "Its ease of use and flexibility was particularly appealing, as was its compatibility with other software," says Wickberg. This was most apparent in its ability to utilize Scania's CAD-generated 3-D engineering models within a streamlined electronic publishing process . . . one that exploits Auto-trol's Tech Illustrator and TechEdit packages for graphics manipulation and Frame Technology's FrameMaker software for text handling and composition.

## Managing Risk

Having nailed down specifications, time scales and other measurable criteria, DASYS project staff drawn from both Scania and Auto-trol signed a declaration that spelt out individual responsibilities and objectives.

This understanding was reinforced with the creation formation of a Management Review Board comprising senior personnel from both companies. Convened each week *via* a transatlantic conference call, the Board has monitored progress, maintained an objective balance between expectations and results, and ring-fenced that ever-present danger, project 'creep.'

As the pilot study moved ahead, a risk-limitation philosophy based on 'build a little, test a little' was applied to each of its four phases:

### Phase 1—Software Installation

DASYS has been configured for a client-server environment, with a Hewlett-Packard 712/80 workstation acting as the central data repository and with Sun SPARCstations and PCs (configured as X-terminals) providing user for the initial half dozen end users.

With the core software loaded in September 1994, the project team turned its attention to more detailed considerations. One of the first was to implement a Swedish character set for both CENTRA 2000 and the Isolat function of Oracle which serves as the DASYS data repository. The task was achieved with remarkable speed given that it was the first occasion on which CENTRA 2000 had been specified with a character set other than US-English. It augured well for any further extension of DASYS—a distinct possibility with the Multi strategy then being evolved in parallel.

## Phase 2—Operational Training

Identified from the start as a pre-requisite to success, courses for authors, illustrators, 'power' users (i.e. those with supervisory duties) and system administrators were properly constituted, fully attended, and held without interruption. The result? A team of well informed, highly motivated people.

## Phase 3—Design

This involved an analysis of document formats, procedures and workflows, followed by system design, applications development and configuration of the central database. The end result accurately reflected the Scania requirement and was highly efficient in terms of data storage and processing. The latter is no small consideration in a PDM environment. . .one where databases can grow exponentially to cope with corporate-wide demands.

For this aspect of the exercise, as well as to assist in the training phase, an Auto-trol consultant conversant with similar installations in the USA was seconded to work alongside Scania's applications engineers. So fruitful was this arrangement and such was the credibility established that the consultant was subsequently invited back to conduct an objective appraisal of the entire project with a view to its further development.

## Phase 4—Implementation

With design and applications development completed, this final phase involved the production of a maintenance manual from start to finish. This was produced entirely under PDM control late last year. An enthusiastic thumbs up from users, who found their work transformed literally overnight, was the ultimate seal of approval.

## Moving On

Indeed, the success of the pilot study identified PDM as a viable and effective enabling technology for Scania's global after sales strategy and its further evolution is now inextricably linked to the Multi initiative.



For Britta Wickberg, there is no turning back, "We are already supporting Multi with an all-digital parts catalogue and this has been distributed to our service centers as a 4-volume CD-ROM set. Its contents include some 9,000 illustrations, all of which were generated under CENTRA 2000 control. Standard repair time lists will be added next year and this will be followed by full service documentation in 1997. On-line links will be implemented as and when dealer service centers are suitably equipped. CENTRA 2000 is the glue that bonds everything together and, in this sense, an irreplaceable business asset."

Wickberg does not hesitate to single out vendor involvement as instrumental to what has been achieved in a remarkably short time scale. "The support received from Auto-trol in the 'States and from its Swedish subsidiary was very good, but was as anticipated and one of the reasons for choosing Auto-trol," she says. Even so, the transition from old to new has not been without its challenges, as Wickberg admits. "Getting people to accept that new ways of working can be both beneficial and rewarding is not always easy. We focused very clearly on this issue in order to build confidence and get results flowing. Building on this foundation and adhering to time and cost constraints are now our biggest challenges as the system evolves and becomes more widely accessible."

A senior management perspective comes from Daniel Boethius, Scania's After-Sales Manager, "PDM revolutionizes the way we use information relating to each and every one of the thousands of vehicles we produce each year. The benefit to our customers is already

visible in servicing procedures that keep their vehicles on the road for longer at less cost. And in today's highly competitive climate, that makes sound business sense for them and for us.

---

© 1996-2004 Auto-trol Technology Corporation  
[Legal Notices](#) | [Trademarks](#)