

Porsche® Improves Service Operations with Arbortext® Product Information Delivery Software from PTC

Maintenance and Repair Documentation Now Just a Click Away for Mechanics

Porsche Automobil Holding SE, Stuttgart, Germany

Perhaps second only to Harley-Davidson® motorcycles as the premier “cure for a mid-life crisis”, Porsche—founded in 1900—is still going strong more than a century after its founder, Professor Ferdinand Porsche, began designing autos. Porsche’s lineup includes 29 models in four model lines: the Boxster®, the 911® models, the Cayenne® SUV, and the new Cayman® S two-seater coupe. Porsche Automobil Holding SE, through its subsidiaries, engages in the development, production and sale of automobiles worldwide.

The Challenge: Heterogeneous Applications, Processes & Media

For several years, faced with a growing portfolio of products and a wide assortment of equipment variants—coupled with an ever shorter time-to-market, Porsche has had to produce more maintenance documentation in less time to fulfill its services requirements. At the same time, the number of in-car electronic systems was boosting the amount of diagnostics information and documentation required. For instance, the Porsche 993 has four control units, the Porsche 996 contains eleven, and the Cayenne has forty. The manual alone for the Cayenne consists of 16 chapters, with more than 70,000 pages.

In the past, Porsche’s methods for producing supporting manuals were laborious and time-consuming. Multiple writers used disparate software applications and, in some cases, even different hardware platforms. The administration, translation and distribution processes were not consistently organized. Some manuals were published on

“In the past, our manuals were produced using different processes, software, and even different hardware platforms, which made information quality and reuse very difficult. In many instances, information was already outdated before it had even reached the maintenance and repair shops. One of the main reasons for implementing PTC Arbortext as the core element of our new maintenance and repair information system was to have one, single platform providing online access.”

— Dr. Ulrich Lutz, head of after-sales engineering, Porsche



Arbortext is at the heart of Porsche’s technical documentation delivery system, integrating all maintenance- and repair-related information and documents in a single, web-based platform.

CD while others were still on paper. Furthermore, after being produced centrally in Ludwigsburg, Germany, most of the manuals had to be distributed by mail all over the world, causing additional product information delays and costs. Keeping maintenance and repair instructions up to date was challenging, not only for the technical writers, but also for remote dealer workshops, who constantly had to receive and install new CDs, and store mountains of paper.

The Solution: Arbortext Product Information Delivery Software — and PIWIS

To reduce the amount of work and cost involved in producing workshop documentation, and to facilitate the reuse of existing engineering and product development information, Porsche developed an Integrated Workshop Information System: PIWIS. The core components of PIWIS are the PTC product information delivery solution, Arbortext, which provides product- and configuration-specific information—either online or on paper—to complete the relevant service or maintenance task, as needed. There are two databases in the system: one system stores structured information modules recorded with the XML editor; the other serves as the basis for the workshop information system. The system can be accessed online via the Porsche Partner Network using a PC and Web browser.

For Porsche, enabling shorter development cycles, while managing a growing number of new models and equipment variants, is a challenge not only for its product development engineers, but also for technical authors supporting the after-market product information requirements. Because Arbortext maintains a link to real-time product information, the solution ensures that Porsche technicians around the world access only the most current, applicable service information whenever it's needed in a product's lifecycle.

Results: Increased Efficiency, More Current Documentation

Porsche's documentation production processes have been slimmed down considerably through the reuse of information. As a result, Porsche's technical writing team not only produces more output, but the material is also more up to date. Before Arbortext, the team worked towards a deadline of every five weeks. Today, new information is being added on a daily or weekly basis. "Our team is working much more efficiently now and they're well-equipped to take on the challenge of the next series," says Dr. Ulrich Lutz, head of after-sales engineering at Porsche. "We'll be preparing the workshop information for the Panamera in parallel to the market launch. Before PIWIS, that simply wouldn't have been possible." (The Panamera four-door sports sedan will be launched in 2009.)

Using a Single Data Source for Different Output Formats

One key requirement of the new integrated solution was that authors could have the option of producing content in multiple output formats, automatically, from just one information source. This flexibility required the structured product content to be "agnostic" to the document layout and formatting. Dr. Lutz explains that, in spite of the online availability of documentation, Porsche chose to continue using other output formats, such as page-based PDF: "We didn't just want to provide our workshops with maintenance and repair instructions, but also to supply content for the owner's manuals for our customers. These manuals are still printed, so we need high-resolution PDF files for the prepress. And while we were making the transition to PIWIS, we wanted to make sure that we could publish documents online, on paper, or on CD."

In evaluating publishing solutions, it was important for the technical writing team that the new software provide easy, online access both to the databases and to error-reporting. The solution also had to support the guided diagnostic process for vehicle diagnostics. The software's diverse information delivery requirements were the key factor in Porsche's choosing Arbortext Publishing Engine from PTC. "Our implementation and service partner, SPX Valley Forge, recommended the best program on the market," comments Stefan Gremmelspacher, publishing coordinator for after-sales engineering at Porsche.

No More Time-Consuming Multiple Data Entries

PIWIS incorporates more than a dozen different document types that previously had to be produced and distributed using separate processes. The most important of these document types is the repair manual, which provides step-by-step instructions on how to service and repair a vehicle. There are also unique instructions for special equipment, job time catalogs, damage number catalogs, circuit diagrams, and training documents, plus additional documents such as environmental manuals for disposing of old materials, which are integrated as external PDF files and linked to specific information modules.

High Acceptance at Dealer Workshops

Since July 2006, approximately 10,000 mechanics working for more than 600 Porsche dealers worldwide, have been viewing maintenance and repair instructions online. In practice, there are usually a few hundred individuals accessing PIWIS at any one time. For mechanics, there is no longer any need to search for information in different paper-based filing systems. When the automobile's diagnostics tool reports an error, it simultaneously generates a code that allows the mechanic to pinpoint the corresponding work item in PIWIS. This linking of information, and the fact that it is always up to date, has made the system very popular with dealer workshop employees.

PIWIS isn't just a one-way street: one of the initial requirements of the solution was that users could send feedback to the technical documentation team. If a mechanic spots a mistake in the documentation, it can be reported using an online form, so a technical writer can amend the error quickly, within just a few days. "This reduces the risk of mistakes being made in repairs and improves the quality of service for our customers," says Gremmelspacher.

Boosting Customer Satisfaction Worldwide

The Arbortext publishing solution is currently being used by more than 650 authorized Porsche maintenance and repair shops globally. Arbortext is now at the heart of Porsche's technical documentation delivery system, integrating all maintenance- and repair-related information and documents into a single, web-based platform. By maximizing the reuse of document components, Porsche's maintenance and repair information is now created much more efficiently, and service quality has improved significantly, as service documentation is now always up to date.