



Volvo Aero Saves Millions on Web-based Operational Management System

With the implementation of a web-based Operational Management System (OMS), Volvo Aero has assembled into one single repository a multi-lingual management system holding 18 strategic quality certificates. Simultaneously, the company has also increased customer satisfaction and saved millions in direct operating costs.

Company Overview

Volvo Aero Group, a business area of The Volvo Group, has approximately 4000 employees in facilities in Seattle, WA and Boca Raton, FL (Volvo Aero Services); Trollhättan, Sweden (Volvo Aero Corporation); Kongsberg, Norway (Volvo Aero Norge AS); and Stockholm, Sweden (Aero Engine Services AB). Volvo Aero's revenues for year-end 2005 were approximately \$1.05 billion USD (8,0 billion SEK).

In cooperation with the world's leading engine manufacturers, Volvo Aero develops and manufactures high-technology engine components for aircraft, rocket, and gas turbines. The company also offers extensive aviation services to help its partners increase profitability and focus on core business activities—including leasing, logistics, asset management, inventory sales, distribution and redistribution, and overhaul and repair of aircraft engines. The company's business philosophy is based

on close cooperation with its aviation and aerospace partners. Priding itself on being "Specialized for Partnership," Volvo Aero daily lives out its corporate vision and is a "Best Partner" for each of its partners.

The Challenge

In the early 2000's, Volvo Aero decided to confront a company-wide challenge: the elimination of work process variability across the enterprise. Bertil Andersson, Project Leader and Manager for Operational Management Systems & Process Management, says: "We faced variations between the way our employees really performed work and the way work was described in our procedural manuals. This is important to us because both the commercial airline and aerospace industries place demands on us based on safety concerns. Multiple, sometimes apparently competing, procedural documents only exacerbated the problem of determining which procedure would be most efficient and correct in a given instance, or where to find the best practice procedure. In some cases, the described procedures did not match the actual workflow." Andersson believes that waste associated with poor management systems and supporting detail documentation could, in general, account for as much as 10 to 30% of a company's turn over.

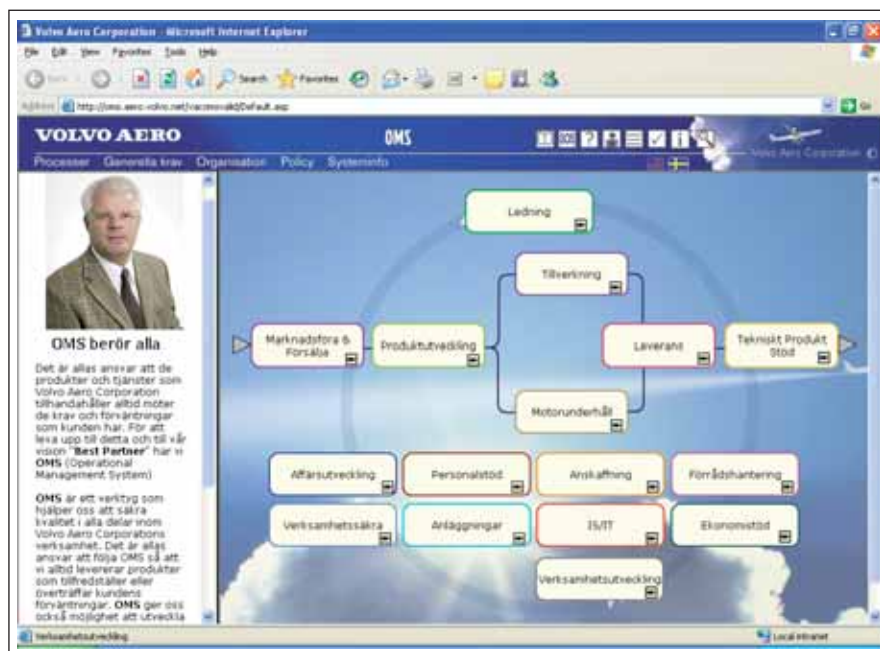
The Solution

As part of its solution, Volvo Aero decided to improve its work processes through the implementation of an Operational Management System (OMS). The OMS was, from the start, conceived of as a Quality Management solution focusing on the satisfaction of customer and regulatory requirements. Volvo Aero's other primary concerns were ease of use, adaptability, accessibility, the ability to define roles within the processes, establishment and use of best practices, and visual, graphic and narrative capabilities to describe processes and procedures.

Volvo Aero's goal was to achieve an 80% text reduction in the information systems running within the company. Andersson's OMS team began the journey by mapping their processes at a level that described activities as they take place on the production floor. These operational views were then tied to customer requirements, governing

regulations, roles, organizational details, necessary skills, necessary forms, and even system-based transactions. Process teams implemented changes in the business in phases, company by company. Volvo Aero capitalized on the shared wisdom of its employees who understood the work process. These people (i.e., 'the experts') were best able to confirm that the process was being described in an accurate way, and in an easy, enjoyable-to-use, and visually-based OMS. The OMS project established standards for the OMS to ensure structure, definitions, concepts, models, layouts, and management controls so that consistency and alignment were assured between the information documented in the OMS and actual practices.

Volvo Aero desired an OMS that would be accepted and used by all employees, graphical in nature so as to improve overall process documentation. The company engaged every employee in



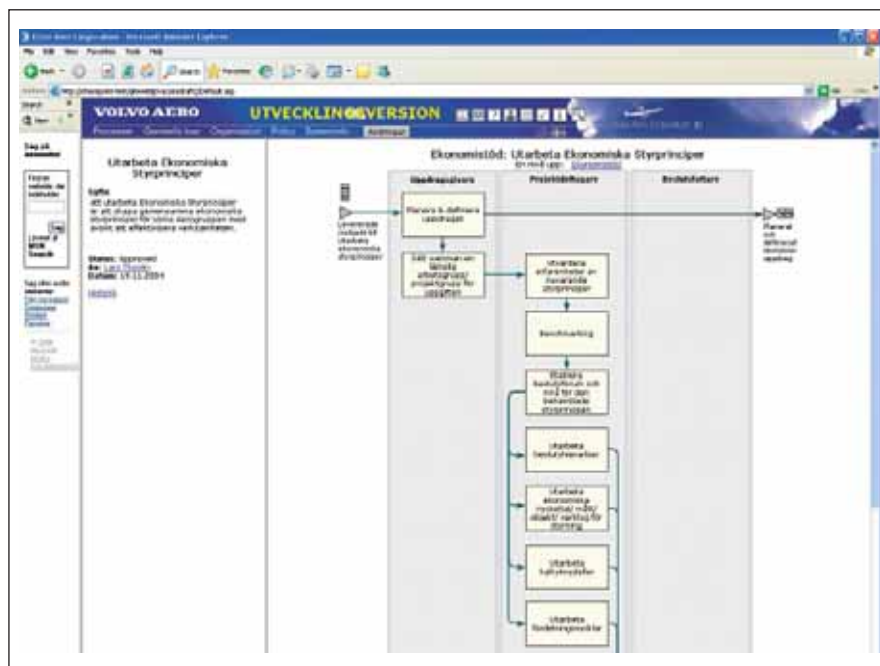
the OMS, believing engagement would speed up the learning curve and deliver necessary information while also enabling new employees in their work. The company wanted to cut costs significantly and, perhaps most importantly, ensure that every customer would be a Satisfied Customer!

To assist it in the implementation of these goals, Volvo Aero chose the QualiWare Lifecycle Manager (QLM) solution for the development and continual improvement of its management system. QLM, software developed by QualiWare, became the single source for change management of Volvo Aero's OMS. QLM was first installed and implemented as part of a process-oriented knowledge management system in 2001. It is still in use today, providing support and capability for effective and efficient audit, evaluation, and change management of the OMS, and publishing the OMS on the company intranet.

The Results

Volvo Aero's OMS, developed and managed within the QualiWare Lifecycle Manager, has delivered very concrete results:

- A 1.5 million USD reduction per year in direct operating costs of the management system;
- Reduction in training lead time when introducing an employee to a new work area;
- A 50 % reduction in people required to manage process and procedure documentation;
- An 85% reduction in written text compared to the previous management system;
- One Operational Management System maintained in one repository containing 18 different quality certificates in multiple languages;
- More than 200 external audit days per year resulting in just two findings—a 90% decrease in findings compared to the previous management system;
- An five-fold increase in the number of hits in the OMS;
- An increase in relevant employee process improvement suggestions from avg. 50 per year to 1100 per year;
- A holistic, easy-to-use, and strategic-level model of the company as a living organism, having central organs and outer limbs which are vitally interconnected and vitally functioning together as parts of a whole;
- Descriptions of logical and concentrated work flows—important in improving the company's efficiency, process effectiveness, and corporate profitability;
- Documented customer requirements connected to particular production activities, ensuring quality and customer satisfaction;





- A variety of graphical "views" that support work processes;
- The opportunity to realize continual improvement in quality and an increase of profits;
- The ability to reuse many of its models in other areas of its parent company, The Volvo Group;
- The production of a QLM-based OMS and accompanying OMS documentation, allowing the elimination of over 3000 documents previously used to describe work processes and procedures.

Additionally, the investment in and adoption of the OMS has provided good returns in ways less immediately quantifiable but nonetheless of core importance in any business. This investment has provided Volvo Aero with:

- Greater flexibility, efficiency, and effectiveness in changing the business when market conditions dictate the business should be changed;
- Consistently high customer satisfaction;

- Increased employee productivity;
- Increased product and services quality through single-sourced process and procedure documentation;
- Greater employee satisfaction with work processes and greater employee involvement in daily work and process transformation;
- Better customer support, better partner support, and more return business.

Volvo Aero's present-day commitment to Quality and Continual Improvement, based on a visionary transformation of the company, is rooted in the adoption of its OMS. More than ever, customers know that Volvo Aero is truly always in a position to help them solve existing and eliminate potential problems before they occur. As the company likes to say, "We thrive on the inside" to be the "Best Partner."

Local distributor:

QualiWare Lifecycle Manager – a Danish quality product

QualiWare ApS was established in 1991 in Denmark and is now also represented in Sweden and the United States. QualiWare has distributors in Brazil, Norway, Spain and South Korea.
More info: www.qualiware.com

Our mission is to market tools and services for use in process development, quality management, environmental management, system development, risk management, and enterprise architecture modeling.

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