

Agilent Technologies, Inc.

Protects \$1 billion in revenue with ENOVIA materials compliance system



Overview

Challenge

Demonstrate compliance with stringent environmental regulations for more than 1,800 products and 160,000 parts from more than 7,000 suppliers.

Solution

An automated, enterprise-wide materials compliance data tracking system from Dassault Systèmes ENOVIA provides a centralized compliance database on more than 160,000 parts.

Benefits

Approximately \$1 billion in revenues protected by ensuring Agilent's preparedness for European Union environmental regulations, compliance audits and customer inquiries.



World's Premier Measurement Company

As the world leader in test and measurement systems in electronics and bio-analytic instruments, Agilent Technologies serves a wide range of industries, including consumer electronics, medical, chemicals, pharmaceuticals and telecommunications.

Agilent, which is headquartered in Santa Clara, California, USA, has 16,000 employees worldwide. Its products are used extensively by manufacturers, with more than half of the world's 1.3 billion cell phones tested on Agilent equipment, for example.

Agilent executives are keenly aware of the company's social responsibility in minimizing the ecological footprint of its products and in pursuing the most advanced strategies for complying with global restricted materials regulations.

Agilent has therefore invested significant resources in ensuring its products meet or exceed all materials compliance regulations.

"The value of confidently demonstrating compliance to regulatory agencies is huge. Billions of dollars are at stake."

Frank Elsesser, Director of Environmental Compliance, Electronic Measurement Group, Agilent Technologies

Increasingly Tough Environmental Regulations

Some of the world's most stringent environmental regulations are set by the European Union, including the Restriction of Hazardous Substances (RoHS) directive, established in 2006, and the closely related Waste Electrical and Electronic Equipment (WEEE) regulation. RoHS is set to go into effect in the next several years for monitoring and control instruments. The EU also is working on separate laws, such as the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) act, which will cover far more substances than RoHS.

To comply with the EU's directives, a manufacturer must track levels of restricted materials such as lead, mercury, cadmium and chromium in every part of every product throughout its supply chain. If thresholds are exceeded – even in a single component such as a power cord or solder joint – heavy penalties can be levied, and entire product shipments can be blocked from entering a port. Worse yet for manufacturers, non-compliance for one product could result in a ban on all products into a country. This poses a tremendous business risk for the professional high-tech industry and global solutions providers such as Agilent, which generates more than 60% of its revenues outside the USA.

Drawbacks of Legacy Systems

Agilent's traditional methods of tracking material content worked well for decades. Separate groups such as Engineering and Procurement handled their own materials data using a variety of ad hoc approaches ranging from manual lists and spreadsheets to home-grown database systems and complex mainframe programs.

As regulations tightened, adding substances to the regulated list and reducing allowable amounts, legacy systems could not keep pace with the growing volumes of critical data from myriad sources. "When we faced emerging environmental regulations, we clearly lacked coordination across the company and across the supply chain in understanding the substances in our products, components and raw materials," says Frank Elsesser, director of environmental compliance for Agilent's Electronic Measurement Group.

Meeting Requirements Today and Tomorrow

To address this challenge, Agilent developed an automated, enterprise-wide solution based on the ENOVIA® Materials Compliance Central™ (MCC) solution, part of Agilent's overall ENOVIA product lifecycle management (PLM) solution from Dassault Systèmes. The compliance solution was selected based on Agilent ranking it as best-in-class for materials compliance; out-of-the-box functionality; embedded best practices; and features to handle Agilent's wide-ranging compliance requirements – now and in the future. ENOVIA MCC also aligned with Agilent's overall PLM strategy, integrating seamlessly with its existing ENOVIA® Engineering Central™ and ENOVIA® Supplier Central™ solutions.

The system centrally manages materials data on more than 160,000 parts in all Agilent products. The solution operates throughout the product lifecycle to collect, track, analyze and report critical compliance data, from initial concept through design, manufacturing and field maintenance.

Approximately 200 users in Engineering, Design, Procurement, Environmental and Regulatory Compliance and other groups access the system to enter relevant materials data, some of which is extracted automatically from engineering and supplier databases within the ENOVIA PLM system. Templates have also been established for collecting materials data from suppliers in a coordinated manner.

As they developed the data collection process, Agilent's compliance managers identified weaknesses in former procedures and made organizational and process changes to obtain and log data accurately and efficiently. "The use of ENOVIA MCC lowered the water level in our processes so we could see the inconsistencies in the way work was organized and how various groups communicated," Elsesser says. "Retiring that tangled web of homegrown legacy systems also significantly reduces the cost of IT support and is a significant savings in resources."

Plugging Gaps

ENOVIA MCC compares collected materials data with relevant environmental regulations to determine if substance thresholds have been exceeded in individual parts, specific assemblies or entire products. "With ENOVIA MCC, specialists can quickly determine environmental compliance, saving teams of people weeks of collecting and analyzing information," Elsesser says. "There is incredible value in having all compliance-related data centrally managed and controlled in an organized manner so we can get to it quickly. The system facilitates faster response to regulatory compliance customer inquiries, which have doubled in the past year alone."

Rapid analysis of compliance data also helps engineers make informed choices in the early stages of development, when alternate designs and tradeoff studies are performed. ENOVIA MCC is therefore a central element in Agilent's pro-active approach to ensuring compliance throughout development.

"The power of ENOVIA is the wide range of data it handles and the depth of that critical compliance information."

Ted Lancaster, Director of Engineering Services, Electronic Measurement Group, Agilent Technologies

The Final Arbiter Of Truth

Ted Lancaster, Agilent's director of engineering services, describes ENOVIA MCC as the final arbiter of truth for environmental compliance. "It provides not only verification that a product is environmentally compliant, but types of substances, their relation to directive thresholds, and links to support documents," he says. "When we need to verify that a particular component complies with RoHS, for example, we can drill down through the data to the validation letter from the manager of the factory where the part was manufactured, with a certificate of compliance attached. That structure, rigor and traceability with incontrovertible backup material increases confidence immeasurably for customers, regulators and ourselves."

Because it generates confidence in the company's eco-sustainability, Lancaster says, "ENOVIA MCC is the cornerstone in our product regulatory compliance initiatives. The software is necessary in paving the way for meeting our social responsibility and regulatory compliance obligations – both now, and what's anticipated for the future."

Sizeable Business Gains

In one recent analysis, Agilent estimated the total cost of deploying its new compliance solution in terms of licensing fees, training, support, importing data from legacy systems, administration, software integration and numerous other factors. Analysts concluded that the company's risk avoidance (avoiding potential interruption in shipments to the EU when products come into scope of RoHS) is – conservatively – a hundredfold more than the total cost of deploying their environmental compliance system.

Lancaster notes that the longer Agilent uses ENOVIA MCC, the more ways the company finds to improve internal processes, integrate the solution with other software, and roll it out to new users. "All of this continues to bring greater value from the solution and sparks more ideas for improvement. The journey is just beginning."

Results are already impressing Agilent's customers, Elsesser says. "Customers are focusing greater attention on environmental compliance and have increased demands and expectations regarding eco-sustainability. Customers have become more interested in knowing what we're doing behind the scenes as they themselves strive to become more sustainable organizations. Our automated environmental data management system is a definite competitive advantage in a market where commitment to environmental issues is becoming a differentiator in the minds of a growing number of customers. Clearly, ecosustainability is changing the game across a wide expanse of global markets."

"With ENOVIA MCC, specialists can determine environmental compliance quickly, rather than teams of people working for weeks collecting and analyzing information."

Frank Elsesser, Director of Environmental Compliance, Electronic Measurement Group, Agilent Technologies



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Europe/Middle East/Africa

Dassault Systèmes
10, rue Marcel Dassault
CS 40501
78946 Vélizy-Villacoublay Cedex
France

Asia-Pacific

Dassault Systèmes
Pier City Shibaura Bldg 10F
3-18-1 Kaigan, Minato-Ku
Tokyo 108-002
Japan

Americas

Dassault Systèmes
175 Wyman Street
Waltham, Massachusetts
02451-1223
USA

Visit us at
3DS.COM

