

ASML - Owning the market with new technologies



Ever wonder how big companies in cutting edge industries manage to lead the market? The Dutch semiconductor equipment maker - ASML- is convinced it has found the solution in risk management. This has helped it rise to the top of the industry for photolithography machines. But is there more to market leadership than simply spreading the risk?

There is little margin for error in the chipmaking business, and COO Frederic Schneider-Maunoury of ASML knows that better than most. Schneider-Maunoury is charged with executing the company's sustainability strategy - an effort to develop more energy efficient products, reduce carbon dioxide emissions and ensure quality parts throughout the supply chain. ASML manufactures the machines that burn geometric patterns on microprocessors and memory chips common in most computers, TVs, mobile devices, MP3 players, cameras and even banking cards.

Chips may be small but the returns are not. Turnover in the global semiconductor industry could top US\$300 billion in 2011, according to preliminary data from the Semiconductor Industry Association. Much of that growth is driven by soaring demand for new automotive applications, smart phones, tablets and eReaders. Speed is king. So, too, is energy efficiency, a big demand of customers who develop mobile devices that are dependent on battery power.

“Every 18 to 20 months customers expect chips to double in speed, consume half as much energy, and cost the same,” says Schneider-Maunoury who earned an Industrial Excellence Award from leading European business schools including INSEAD and Rotterdam School of Management (RSM-Erasmus) in 2011 for the way in which he executed corporate strategy. He spoke to INSEAD Knowledge on the sidelines of the award presentation ceremony in Germany, adding, “shrinking means doing more with less. And there are also economic benefits.”

Bottom line benefits

Focusing on these benefits has become a priority at ASML, and it has paid off. ASML reported record results for 2011. Sales jumped 25 percent to €5.6 billion over the previous year – beating expectations. Earnings surged nearly 40 percent to €1.4 billion. The average unit selling price was €22 million. Company management is also upbeat about 2012, expecting net sales to ring in at €2.4 billion.

ASML believes navigating the boom-bust and cyclical nature of chipmaking requires a comprehensive and active system of risk management. Schneider-Maunoury has adopted a broad pro-active management style, identifying any external and internal risk to the company’s operational and financial objectives. His team carefully monitors key factors, such as global economic conditions, the current capacity of semiconductor production in the marketplace and manufacturing efficiency. It also has contingency plans in place to address emergencies such as disruptions in the supply chain.

“How do we deal with volatility? We have partners,” Schneider-Maunoury says. “We spread the risk.” This philosophy also ensures their R&D and corporate governance are on track.

Schneider-Maunoury and his team work actively with up to 200 suppliers to improve sustainability performance targets. That involves “monitoring adherence to the agreed sustainability performance of our suppliers,” ASML reports. “We buy more than 1,800 parts for our system,” Schneider-Maunoury points out. “We need to manage supply chain flexibility.” Last year the company joined the Electronics Industry Citizenship Coalition (EICC) and has adopted its code of conduct for their global electronics supply chain. The code outlines operating principles and best practices for member companies and suppliers to boost transparency, minimise risk, and ensure a clean and safe workplace. And in an effort to deepen its ties with suppliers and share facets of corporate responsibility, ASML calls on companies to recognise EICC standards on proper environmental and social behaviour.

R & D partnerships

ASML spends roughly €150 million each year on research and development and has registered more than 3,000 patents worldwide. The company’s R&D partnership is highly visible at the German precision optics group – Carl Zeiss SMT - and the Belgian research centre – Imec. ASML is working with both centres on new chipmaking processes that employ EUV (extreme ultraviolet light) lithography. The company hopes to deliver up to a dozen newer generation EUV systems in 2012. It designs the complex chipmaking systems with direct input from its biggest customers, which include Intel, Micron, AMD, Infineon and Toshiba.

“Our priority is knowledge and people,” Schneider-Maunoury reveals. “Because no single person knows everything.”

Energy-saving

To accomplish its own energy goals, Schneider-Maunoury has formulated specific performance targets on a global scale with roadmaps and even a visual “dashboard” listing achievements. And in an effort to increase transparency, he now details a broad array of comparative company data from energy and water use to employee turnover and training hours. Schneider-Maunoury boasts, “We are on track to reduce our carbon dioxide footprint by 50 percent within five years.”

ASML was founded in 1984 by Philips and Advanced Semiconductor Materials International and is now a publicly-traded company with listing on the NYSE

Euronext and NASDAQ stock exchanges. It is headquartered in Veldhoven, the Netherlands, and has over 10,000 highly-educated employees in 60 service centres in 16 countries. Its chief competitors in photolithography are Nikon and Canon.

At present, ASML has no plans to diversify into related fields, such as solar panel production. According to Schneider-Maunoury, “ASML is in a mono business, but focusing on one thing allows us to have R&D resources on what’s important to help it succeed.”

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