



SAS® POWERS UCONN AND GE'S SUCCESSFUL *edgelab*

edgelab is GE and UConn's state-of-the-art applied research facility housed at the University of Connecticut. The university's brightest MBA students work with GE staff and UConn professors on some of the company's highest-profile business initiatives and emerging technologies. Nearly 100 percent of the recommendations from the 90 projects completed by the lab have been implemented by GE. Of those, several relied on SAS.

Business Issue

UConn and GE needed software for their joint, applied research facility that was easy for the students to use but also powerful enough to help GE solve critical business issues.

Solution

The lab chose SAS® software for the complex data mining, modeling and business analysis projects that make up about a quarter of *edgelab's* work.

Benefits

GE has implemented nearly 100 percent of the lab's recommendations. Several *edgelab* students have gone on to work at GE, and other lab graduates have been hired by companies needing graduates with SAS® skills.

Each semester, top students from UConn's MBA program work with UConn faculty and GE staff on projects ranging from developing new products to creating strategic financial risk models. For many of these projects, the group relies on SAS software solutions. "We've only got 13 weeks to do the projects, and we can get the students proficient in the SAS tools quickly," says Chris Kalish, GE's *edgelab* Director. "These are projects that help us make significant strides. They involve deep analytics and voluminous amounts of data."

"To a large extent, *edgelab* is powered by SAS," says Dr. James Marsden, UConn's *edgelab* Director. The lab is not only a valuable GE incubator; it provides UConn students with a résumé credential that grows exponentially more lustrous each year. About 10 percent of *edgelab* graduates take jobs at GE, with more taking jobs at companies like the investment banking house that until recently never hired from outside the Ivy League. The investment house changed its unwritten policy when it saw the capabilities of SAS-trained UConn grads. "They would visit the lab, but wouldn't hire. Then one year, they hired an *edgelab* grad, and now they've hired several," Marsden said.

Origins of *edgelab*

General Electric is headquartered in Fairfield, Connecticut, just 20 miles from UConn's Stamford campus and the setting of *edgelab*. One of the largest companies in the world, GE owns businesses for everything from jet engines to power generation, financial services

to materials, and medical imaging to news and information. GE people worldwide are dedicated to turning imaginative ideas into leading products and services that help solve some of the world's toughest problems. UConn is the leading public university in New England. It sponsors full-time, part-time and executive MBA programs that have recently been cited as top-tier by a major business magazine because, in part, of the affiliation with GE.

But when the company and the university first started talking about working together, there was a concern on GE's side that student-led projects couldn't be completed fast enough and with enough depth to be meaningful to GE. "We needed to overcome that perception," Marsden says. So the two groups agreed on an icebreaker project – analyzing the effectiveness of the Web presence of GE Capital's 27 business units. The three-month-long project so impressed GE executives that *edgelab* was born.



"We proved as an independent group with full access to the information that there can be tremendous gain," says Marsden, who now co-directs the \$2.5 million center that was built and funded by GE.

"We are able to tap the expertise of faculty and graduate students to think about these problems in a very different



“We use SAS in the lab because it’s easy to use, flexible and provides analytic depth.”

James Marsden
Distinguished Professor and **edgelab** Director
University of Connecticut

way. It helps us take large leaps forward,” Kalish says. Kalish has a complex job filtering the projects but gets backing by a GE corporate executive team that is a hands-on sponsor.

For the past six years, the lab has brought in 15 to 22 students per semester – mostly from the MBA program – to work on between three and six projects submitted by GE businesses and selected by a joint GE/UConn **edgelab** steering committee. The projects include marketing analytics, new product development, financial risk modeling, biometrics, IT security and business ventures. “These are not consulting projects. They are serious strategic projects,” Marsden explains. Nearly 100 percent of the recommendations from the 90 projects completed have been implemented by GE.

Using SAS® to power **edgelab**

Many of the projects require extensive data analysis, data mining and text mining. But with the projects lasting just 13 weeks, there is no time to waste training students on a tool. That’s why UConn and GE rely on SAS. “With SAS, students don’t need to spend their time understanding the tool. They can spend it on the problem. SAS provides the rest,” says Norman Moore, an Associate Professor of Finance and **edgelab** mentor.

The lab has worked with several SAS products, including SAS Enterprise Miner™, SAS Enterprise Guide® and JMP®. The products work with large volumes of data and provide pattern visualization. The visual portion is critical because the students must present their findings to high-level GE executives. The lab also works with early versions of some SAS software. “We’re able to develop pilot solutions that are in turn rolled out to GE businesses who use SAS tools going forward,” Kalish says.

Faculty mentors use the SAS knowledge gained from the lab in the classroom to teach students not affiliated with **edgelab**. Wynd Harris, Assistant Professor of Marketing, has mentored several **edgelab** projects using SAS and is now using the software in the classroom. “My students can learn about predictive modeling, descriptive models and marketplace segmentation in a way they couldn’t before. SAS takes them to a higher level and makes our students more competitive.”

Chalking up successes

GE and **edgelab** successes with SAS don’t just work for one small business unit at a time. They often make their way throughout the company. One of GE’s hires was UConn grad Irina Tsikhelashvili who, while working at **edgelab**, helped devise a model using SAS for assessing the probability of port-

folio defaults. She was hired to extend the model to GE businesses globally and won the company’s prestigious Edison Award for innovation and creativity.

In another project, Research Fellow Terri Albert had students use SAS Enterprise Miner to help GE understand how to market a new product in an already crowded marketplace. “The students did this amazing cluster analysis and were able to offer GE very specific recommendations on how to customize marketing. The project is being rolled out, and one of the students on the team is working for GE on the rollout.”

Moore worked on a project with GE where the company had worked first with a consulting firm on a forecasting project. GE wasn’t pleased with the results and turned the project over to **edgelab**. Moore’s students used SAS Enterprise Miner to create a more accurate forecast. One of the students became so competent with SAS in such a short period of time that he rose rapidly in his career. He is currently the Vice President of Data Analytics for a marketing research firm.

“When I first used SAS many years ago, it was a programming language,” Moore says. “Now it’s a tool students can use from the minute they put it on a machine. You don’t need to write any code.”



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