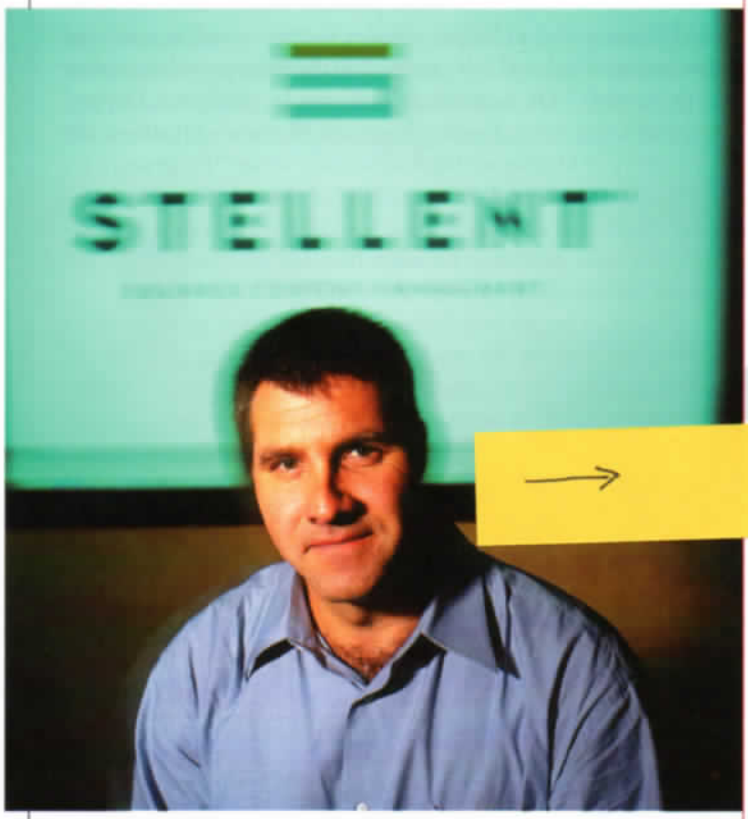
judges this year to award Stellent a Tekne for Innovation in IT Software, its second in three years. The judges described Stellent as "strong, long lasting, performing profitable IT innovations," the kind of praise its more than 90 Minnesota clients would probably wholeheartedly agree with, among them Target, Allina, Toro, Land O' Lakes and a host of much smaller companies.

Stellent Content Management, largely based on the software language Java, can be fitted to work for a Fortune 500 company or a startup. A company's own computer guru can install the software without the need for expensive computer assistance from Stellent. More than 80 percent of its revenues come from software licenses, not consulting. The company offers clients software maintenance contracts and has seen a remarkable 100 percent renewal rate in that area.



Vern Hanzlik, president and CEO, Stellent

Although Stellent has more than 1,500 clients around the world, the company is particularly proud of its partnerships with several Minnesota organizations. For example, Scott County uses Stellent to make public information and transactions available on the Web, allowing residents to conduct business with the government from their homes instead of having to travel to the County Center. Within a few weeks of installing the software, the government broadcast live updates of some primary elections being held in the county.

The county said the software frees up IT staff to work on other products and saves $200,000 a year. Stellent "is enabling us to give Scott County residents convenient access to our services, significantly reduce our costs and increase our productivity," said Gary Shelton, the county's deputy county administrator. "We are thrilled we had to look no further than our doorstep to find such a progressive, leading-edge technology company."

Stellent points to Customer Driven Machining (CDM) and Honeywell as two private-sector companies using its content management tools with great results. With Stellent's products in place CDM customers may send component design documents to CDM's Web site. The company's engineers analyze the design and send back suggestions via the Web. Once the customer and CDM work out the appropriate design, CDM engineers transfer electronic files directly to machine tools on the manufacturing floor where the components will be produced.

Honeywell's Home and Building Control Division, headquartered in Minneapolis, uses Stellent to share documents among 24,000 employees at 25 sites around the world. The company figures it saves $225,000 a month in printing, copying and administrative expenses while devoting only one day a month to maintaining the system.

Stellent now has 425 employees and annual revenues of $66.7 million. The company has had nine straight quarters of revenue growth and profitability, a trend likely to remain as the enterprise content management sector continues to grow dramatically despite the downturn in tech markets. As the company pushes new enhancements to its core content management system, it plans to live up to its new name, a combination of "stellar," and "ent," derived from excellent and intelligent. Stellar, excellent and intelligent is precisely the image Stellent has created in the content management world. *—Frank Jossi*

INNOVATION: LIFE SCIENCES

3M Pharmaceuticals, 3M Company

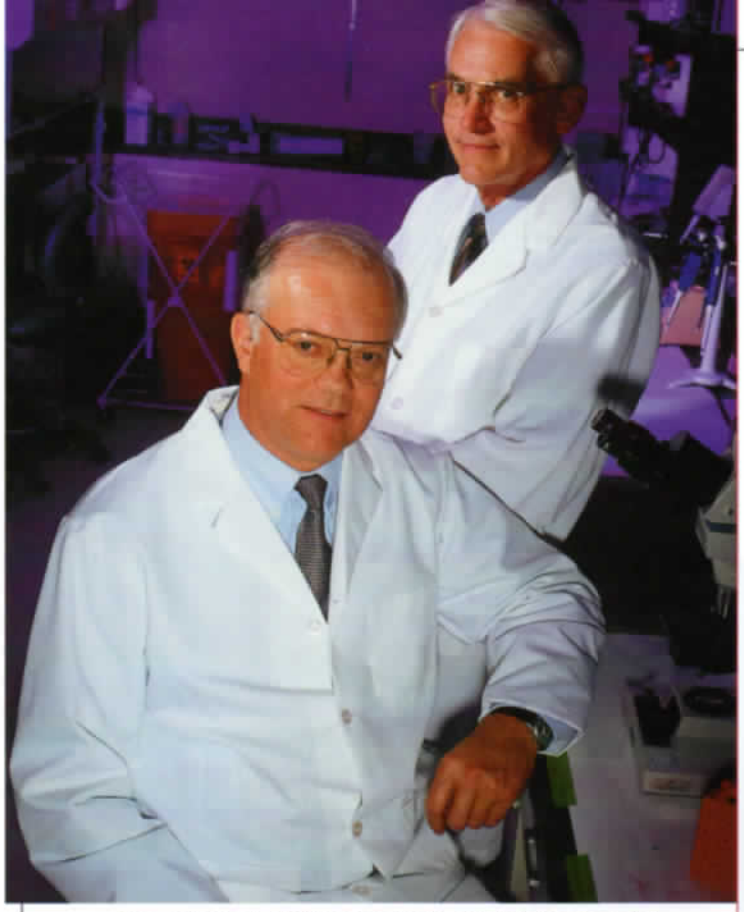
In 1981, two colleagues at 3M Pharmaceuticals—chemist John Gerster and biologist Richard Miller—started working to find a more effective way to treat herpes. In July 1997, that collaboration bore marketplace fruit with 3M's introduction of Aldara™, a topical cream proving effective in treating genital and perianal warts.

Yet, more important than its potential to improve the lives of the countless people worldwide who endure recurring genital and perianal warts is the science behind the family of immune-response modifiers (IRMs) discovered and developed by Gerster, Miller and 3M Pharmaceuticals. Some are calling the work a medical breakthrough, thoroughly innovative in how it helps a body to stave off certain viral maladies by helping cells enhance their own immunities. Indeed, these new-to-the world therapeutic agents show promise as treatments for a wide spectrum of ailments, from genital warts and herpes to skin cancer and other cancerous and pre-cancerous conditions.

Just as notable are the economic implications. Some estimates place Aldara's sales potential well in excess of $100 million, which could be just a precursor to what some anticipate to be a $1 billion-plus family of products. All this resulted from an effort that at one time faced cancellation.

Immune Response Modifiers

In the early 1980s Gerster created compounds designed to treat herpes. Standard procedure first tests such compounds using in vitro cell cultures; if they show promise, the compounds advance



Drs. Richard Miller (seated), and John Gerster, 3M Pharmaceuticals

to in vivo animal testing. The problem: Gerster's compounds showed little in vitro promise.

The story might have ended here, but Miller decided to take another look at Gerster's compounds and advanced them into animal testing despite their poor in vitro showing. To everyone's astonishment, the animal tests showed a level of activity as striking as it was unexpected. However, in a stunning setback, 3M canceled the project in January 1983 to concentrate resources on another pharmaceutical that appeared more immediately promising and closer to market. Miller convinced management to let him and Gerster keep working on IRMs. Their results continued to reinforce earlier promise—so much, that 3M reinstated the IRM program in July 1983, with a significant increase in resources.

Gerster and Miller shifted their focus from herpes to genital and perianal warts because the IRM compound proved a potent inducer of interferon—a cytokine protein used by cells of the immune system to communicate with each other, and shown to have some effect on genital and perianal warts caused by the human papillomavirus. Traditional treatments attempt to provide antibodies by injecting human gamma globulin from blood, or attempt to trigger an immune-system response by injecting vaccines. Extreme cases involve surgical or chemical removal, which is oftentimes painful, resulting in destroyed tissue and scarring

In contrast, IRMs such as 3M's—which are applied topically—cause the body to generate its own protection by producing interferon and other cytokines. These proteins actually help the immune system control and/or eliminate the virus-infected cells, while producing a level of immunity from the infecting virus. Applied topically, Aldara™ cream induces the production of interferon and other cytokines in the body, causing the warts to disappear, and, in most cases, stay away.

Beyond Warts

Anecdotal evidence abounds concerning other potential uses for immune-response modifiers. A clinician in Germany used Aldara™ cream to treat a genetic disorder, epidermodysplasia verruciformis, which caused warts to break out over more than half of a patient's body. Photographs of the patient's hands showed 100 percent remission of the warts after Aldara™ cream had been applied for 12 weeks.

Dr. Stephen K. Tyring, professor at the University of Texas Medical Branch at Galveston, said that Gerster and Miller's compounds "are beginning to show promise in a spectrum of other viral diseases such as herpes simplex viruses as well as non-viral diseases such as basal cell carcinoma (the most prevalent cancer in the world)." Dr. Kenneth F. Trofatter, Jr., professor, Department of Obstetrics, Gynecology and Women's Health at the University of Minnesota Medical School, wrote: "Programs have recently begun to explore the activity of these drugs against cervical dysphasia, another human papillomavirus-related condition that is the precursor for more than 500,000 cases of cervical cancer seen annually around the world."

What had begun as collaboration between a chemist and a biologist has given the world a unique medical technology of demonstrated benefit today, and suggesting exceptional promise for tomorrow. Its impact on treating viral infections could be as profound as when sulfa drugs gave way to penicillin and opened the door to antibiotic therapy for bacterial infections. According to Trofatter, the work of Drs. Gerster and Miller has the potential to change the very basis of medical practice over the next half-century.

—Greg Irsfeld

INNOVATION: ADVANCED MANUFACTURING

August Technology Corporation

It's both humbling and frightening to realize that, just four short years ago, the semiconductors (computer chips) your company's network so desperately depends on were inspected randomly and manually with microscopes by human beings who, on average, missed as many defects as they found.

Today, August Technology's line of NSX automated visual inspection systems, which are now used by nearly every major microelectronics manufacturer in the world, has enabled inspection rates of semiconductors to soar to virtual perfection. The company has grown to 180 employees and revenues of $31.7 million last year attest to the company's success. The company has also developed applications for other markets, including wafer level bumping, micro displays, optoelectronics, MEMS (Micro Electromechanical Systems) and data storage.

Each NSX machine uses a combination of cameras and computers to create what the industry refers to as *machine vision*. That allows it to detect micro defects (defined as defects down to 0.5 microns) that result from processing inaccuracies, dust particles or surface scratches. Such defects can impair the imme-