Below: The Massachusetts Institute of Technology's AgeLab uses technology to study how age and health affect the way people drive.
Bottom: AgeLab has created Pill Pets, which appear to get sick and die when their owners don't take their medication.
PHOTOS: NY TIMES NEWS SERVICE

MIT's AgeLab helps businesses tailor products and services to the elderly, a demographic that will increasingly come to define the way we live

BY HIAWATHA BRAY
NY TIMES NEWS SERVICE, BOSTON

Aging, the new frontier

In a laboratory at the Massachusetts Institute of Technology, there's a suit of clothing that can make anyone feel ready for Social Security.

It's called the Age Gain Now Empathy System, or AGNES, a navy-blue jumpsuit laced with braces and elastic bands and topped with a white MIT hard hat. Exercise physiologist Rozanne Puleo helped a team of mechanical engineers develop AGNES. The goal: To teach engineers in their 20s and 30s how to design products that are easy for people in their 70s to use.

"There hasn't been one person who's put on this suit who hasn't said, 'Wow, I didn't know opening a package could be this difficult,'" Puleo said. "You can be somewhat empathetic, but you really never understand."

At MIT's AgeLab, understanding the needs of aging people has been a full-time job for nearly 10 years. Founder Joseph Coughlin created the lab to help businesses tailor products and services to the world's older folks. "It's about designing the lifestyle of the future," said Coughlin, a dapper 47-year-old who picked up a penchant for bow ties in his teens, while working as an aide to the late US senator Daniel Patrick Moynihan.

Coughlin's vision of the future is nothing like the youth-obsessed fantasies of TV and movies. In reality, tomorrow belongs to the old. The UN reported in 2007 that people above 60 are the fastest-growing age group on earth. There are 700 million of them now, and there will be 2 billion by mid-century. In the US alone, people over 65 made up 12 percent of the population in 2006, but the number will rise to 20 percent by 2030. As a result, Coughlin said, "Our grandparents, and ourselves as we age, are folks who are defining the future of lifestyle."

Yet making products specifically for old people can be commercial suicide. "If you design for the old," said Coughlin, "the young won't use it and the old will run away." But features that benefit older consumers, like more readable labels or packages that are easier to open, are helpful to younger customers as well. Coughlin foresees a future full of products that quietly incorporate his lab's research, making them more useful to people of any age.

Coughlin spent more than a decade at consulting firm EG&G, where he specialized in transportation issues and became interested in the needs of aging drivers. Armed with a doctorate in public policy from Boston University, Coughlin joined MIT's School of Engineering in 1997.

"Public policy is about engineering institutions," said Coughlin, and he believes our institutions need a major overhaul to cope with an aging population. He launched the AgeLab in late 1999. Since then, a host of businesses — insurance companies, food producers, carmakers — have invested millions in the lab's research.

The most visible of these investments is a red Volkswagen Beetle that sits in a second-floor laboratory. "Miss Daisy," as Coughlin calls it, might be the world's most expensive Beetle, even though it doesn't have a motor. Instead, the engine compartment, like the rest of the car, is crammed with digital electronics — about US$1 million worth.

A computer generated roadway is projected on a wall in front of Miss Daisy, and aging drivers are recruited for simulated test drives. Electrodes measure their breathing and heart rate; cameras mounted on the dashboard track eye movements. It's a bid to figure out how old people respond to diverse driving situations, and whether carmakers can help by improving the design of their vehicles. AgeLab research inspired BMW to redesign the controls in some of its high-end sedans.

Down in the parking lot, another AgeLab car is fully functional. A black Volvo SUV lets drivers conduct vision and reaction tests in the real world. They'd better drive carefully; Coughlin said the Volvo, with all its computers, radar sensors, and video cameras, cost US$1.5 million to assemble.

In another corner of the lab is a mockup of a supermarket self-scanning device that attaches to the user's shopping cart. Supermarkets like Stop & Shop already use such devices, but the AgeLab is working on a version that would read medical data from a "smart card" carried by an elderly shopper. If customers scanned an item that was bad for their health, the scanner would issue a gentle warning and suggest safer alternatives. The scanner would erase the user's medical data after checkout, to protect privacy.

But some of the AgeLab's corporate allies aren't interested in creating new and improved gadgets. "It isn't the technology, it's focusing on the business and marketing opportunities to address an aging population," said Vicki Shepard, senior vice president of Healthways Inc, a Nashville firm that provides telephone and Internet support for people with chronic illnesses.

Armed with survey data from hundreds of elderly volunteers recruited by the AgeLab, Healthways has redesigned its Web site and written materials, to make them more usable by older patients. The company and the lab have also teamed up with pollsters at the Gallup Organization on a 25-year study of the health of seniors. The survey, which began last year, places 1,000 phone calls per day to seniors, then studies the results for clues on how to intervene before small health problems become crises.

AgeLab research is also helping families with funeral arrangements. Everest Funeral Package LLC in Houston, which provides online funeral planning and price negotiation, worked closely with the AgeLab in designing its services. "They helped us shape the model of our business," said Everest president Mark Duffey.
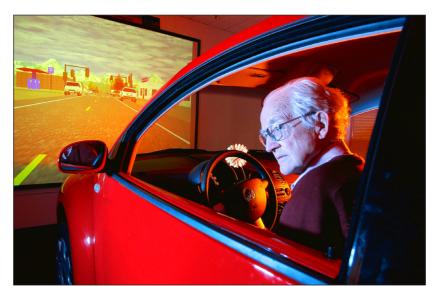
Instead of focusing on the elderly, the AgeLab's funeral research led Everest to concentrate on their baby boomer children. AgeLab researchers found that the oldest daughter of the family is most likely in charge of parents' funeral arrangements. "She wants to be able to make consumer decisions like she makes for everything else," said Duffey, "and the funeral industry doesn't let you do that." That's because most funeral homes don't provide an easy way to compare prices and services.

So AgeLab helped Everest create a unique database by telephoning thousands of funeral homes nationwide, and publishing their prices and services on the company's Web site. "It's that data that empowers the consumer to be able to make very sound choices," Duffey said.

Still, AgeLab is mainly focused on the living, particularly the millions of baby boomers who soon won't need an AGNES suit to feel old. Today, Florida is the oldest US state, with 17 percent of its citizens over 65, but "the US, in 20 years, is going to be a nation of Floridas," Coughlin said. "It's a personal issue, with profound public challenges associated with it."

[SOCIETY]

After the stint abroad, the adjustments begin

People who move overseas for a few years often underestimate just how difficult returning to life in one's home country can be

BY TANYA MOHN
NY TIMES NEWS SERVICE, NEW YORK

When employees and their families go overseas, many assume that adjusting to a foreign culture will be the hardest part of their assignment. But the challenges of returning home are often greater, especially now when companies are bringing some back early to save money.

Margery Marshall, president of Vandover, a global transition support company, said that big financial services companies, in particular, have accelerated repatriation in recent months.

"It's scary," she said. "That guarantee of a job? You may see that plummet. And what's doubly scary is the spouse or partner gave up a career to go overseas and now has to start over and go back to work."

The economic worries have added another layer to the difficulties of returning home after a stint overseas. Craig Storti, author of *The Art of Coming Home*, said, "The main assumption people make is they're coming home — that can't be hard." But, he said, they are caught off-guard when it is not as smooth as they expect.

"You had the seminal experience of your life," he said. "Even family members and close friends just can't relate." Both the expatriates and people at home have changed and moved on. What they do not realize, Storti said, is that the host country becomes home and "home" is not the place it was.

That was the case for Larry and Sally DiLoreto, who returned to the Boston area last summer with their three children after spending more than four years in Sydney. They had lived a block from the beach, enjoyed the mild weather and the outside-oriented lifestyle. They miss their friends and the ease of traveling to nearby countries.

"We were just plucked from life," said DiLoreto, who was sent to Australia by Progress Software, based in Bedford, Massachusetts. For William, 7, their oldest child, who attended an all-boys school, adjusting to school is taking time.

In fact, experts say, children who are returning home frequently have difficulty with school. Children educated abroad often attend private or international schools, many of which are more challenging than US public schools. The children may be more sophisticated than their America peers. Teenagers are the hardest hit, Storti said. "They suffer a lot, more than any other group, by far."

Some companies offer repatriation training in which the employees and their families discuss their feelings and experiences and learn

Larry and Sally DiLoreto and their three children in their home in Waban, Massachusetts. The family returned to the US after four years in Australia.
PHOTO: NY TIMES NEWS SERVICE

strategies and skills to cope with re-entry.

But Dottie Byers, managing director of International Professional Relations, said, "repatriation training is not routinely offered," despite its relatively modest cost. Repatriation sessions for a family typically last one day and cost US$3,000 to US$3,500, she said. And companies that do offer it, like AstraZeneca, a pharmaceutical company that is one of Byers's clients, say employees are frequently not interested because they do not recognize the value.

Ashley Daly, senior manager of international assignments at AstraZeneca, said more employees are open to assistance before heading abroad — for help with moving, to locate schools or to learn a language — but not when returning.

What has been effective, Daly said, is the company's recent emphasis on a "more thoughtful planning and selection process" of candidates before they go overseas.

Achim Mossmann, managing director of global mobility advisory services for KPMG, an accounting firm, said "companies lose employees because they don't plan well." If the company has not created a challenging position that uses the employees' new overseas experience and skills, they often go to a competing company. And losing talented staff is expensive.

"It is difficult to sell to top management that re-entry is a problem," said Geoffrey Latta, executive vice president of ORC Worldwide, a human resources consulting firm. "Companies don't think big picture."

A KPMG survey, Global Assignment Policies and Practices, released in December, found that just 4 percent of the 430 human resources executives surveyed said that they effectively manage the repatriation process.

Required home base visits and mentoring programs also help assignees stay connected to the home office.

DiLoreto, who returned from Australia as vice president for Asia Pacific field operations for Progress Software, said he had kept in close contact with company headquarters with weekly calls and visits six times a year. He also said the company recognized his professional development while overseas and the autonomy he enjoyed "being thrown in different cultures — surviving and growing." He continues to oversee Asia, but he has been given the additional territories of North and Latin America, a position he believes will continue to challenge him.

Latta said most companies are careful not to promise advancement on return but many employees "assume they will be promoted and are clearly unhappy if they are not." A guarantee of a job and even a promotion was almost standard 30 years ago for overseas assignments, but in recent years, most companies have been unwilling to commit.

Marshall of Vandover said the problems of relocation and downsizing were starting to merge. "It's a whole lot more challenging than a year ago," she said.