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In a Graying Population, Business Opportunity

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IT'S not easy being gray.

For the first time ever, getting out of a car is no picnic. My back is hunched. And I'm holding on to handrails as I lurch upstairs.

I'm 45. But I feel decades older because I'm wearing an Age Gain Now Empathy System, developed by researchers at the Massachusetts Institute of Technology. Agnes, they call it.

At first glance, it may look like a mere souped-up jumpsuit. A helmet, attached by cords to a pelvic harness, cramps my neck and spine. Yellow-paned goggles muddy my vision. Plastic bands, running from the harness to each arm, clip my wingspan. Compression knee bands discourage bending. Plastic shoes, with uneven Styrofoam pads for soles, throw off my center of gravity. Layers of surgical gloves make me all thumbs.

The age-empathy suit comes from the M.I.T. [AgeLab](#), where researchers designed Agnes to help product designers and marketers better understand older adults and create innovative products for them. Many industries have traditionally shied away from openly marketing to people 65 and older, viewing them as an unfashionable demographic group that might doom their product with young and hip spenders. But now that Americans are living longer and more actively, a number of companies are recognizing the staying power of the mature market.

"Aging is a multidisciplinary phenomenon, and it requires new tools to look at," [Joseph F. Coughlin](#), director of AgeLab, tells me, encumbered and fatigued after trying to conduct a round of interviews while wearing Agnes. Viewed through yellow goggles, the bright colors of Professor Coughlin's bow tie appear dim. "Agnes is one of those tools," he says.

AgeLab, like a handful of other research centers at universities and companies around the country, develops technologies to help older adults maintain their health, independence and quality of life. Companies come here to understand their target audience or to have their products, policies and services studied.

Often, visitors learn hard truths at AgeLab: many older adults don't like products, like big-button phones, that telegraph agedness. "The reality is such that you can't build an old man's product, because a young man won't buy it and an old man won't buy it," Professor Coughlin says.

The idea is to help companies design and sell age-friendly products — with customizable font size, say, or sound speed — much the way they did with environmentally friendly products. That means offering enticing features and packaging to appeal to a certain demographic without alienating other consumer groups. Baked potato chips are just one example of products that appeal to everybody but skew toward older people. Toothpastes that promise whitening or gum health are another.

Researchers at AgeLab are studying the stress levels of older adults who operate a hands-free parallel-parking system developed by [Ford Motor](#). Although this ultrasonic-assisted system may make backing up easier for older adults who can't turn their necks to the same degree they once did, the car's features — like blind-spot detection and a voice-activated audio system — are intended to appeal to all drivers who enjoy smart technology.

"With any luck, if I am successful," Professor Coughlin says, "retailers won't know they are putting things on the shelves for older adults."

THE first of about 76 million baby boomers in the United States turned 65 in January. They are looking forward to a life expectancy that is higher than that of any previous generation.

The number of people 65 and older is expected to more than double worldwide, to about 1.5 billion by 2050 from 523 million last year, according to estimates from the United Nations. That means people 65 and over will soon outnumber children under 5 for the first time ever. As a consequence, many people may have to defer their retirement — or never entirely retire — in order to maintain sustainable incomes.

Many economists view such an exploding population of seventy- and eighty-somethings not as an asset, but as a looming budget crisis. After all, by one estimate, treating [dementia](#) worldwide already [costs more than \\$600 billion annually](#).

"No other force is likely to shape the future of national economic health, public finances and policy making," analysts at Standard & Poor's wrote in a recent report, "as the irreversible rate at which the world's population is aging."

The S.&P. analysis, called “Global Aging 2010,” warns that many countries are not prepared to cover the pension and health care costs of so many additional retirees; if those governments do not radically alter their age-related spending policies in the next few decades, the report said, national debts will grow to rival — or even more than double — gross domestic product.

But longevity-focused researchers including Professor Coughlin, whose blog is called [Disruptive Demographics](#), are betting that baby boomers, unlike generations past, will not go gentle into the good night of long-term care. In fact, a few research groups at institutions like Oregon Health & Science University, M.I.T. and Stanford, along with foundations and the private sector, are devising policies and systems for an alternate scenario: older adults living independently at home for longer periods, whether that home is a private residence or a senior community.

Devices for I’ve-fallen-and-I-can’t-get-up catastrophes, they say, represent the old business of old age. The new business of old age involves technologies and services that promote wellness, mobility, autonomy and social connectivity. These include wireless pillboxes that transmit information about patients’ medication use, as well as new financial services, like “[Second Acts](#)” from [Bank of America Merrill Lynch](#), that help people plan for longer lives and second careers.

Together, those kinds of products and services are already a multibillion-dollar market, industry analysts say. And if such innovations prove to promote health and independence, delaying entry into long-term care, the potential savings to the health care system could be even greater.

That’s the upbeat message that [Eric Dishman](#), the global director of health innovation at Intel, has been trying to get across to policy makers and industry executives for more than a decade. A charismatic health policy wonk, Mr. Dishman has held audiences at TedMed conferences spellbound with [his lecture on the subject](#), in which he carts around an old-school rotary telephone, a prop dramatizing the need to connect older adults and technology.

In his office in Beaverton, Ore., he demonstrates some prototypes, like a social networking system for senior housing centers, that older Americans are already testing. Often, he says, field studies of his gadgets result in “success catastrophes” — the devices prove so popular that testers and their families are loath to return them. The people testing the social network devices, for example, asked for extra models for off-campus friends.

“There is an enormous market opportunity to deliver technology and services that allow for wellness and prevention and lifestyle enhancement,” he says. “Whichever countries or companies are at the forefront of that are going to own the category.”

Industry is beginning to hear his message. Last month, a group including Bank of America Merrill Lynch, Pfizer, Johnson & Johnson and Aegon said it had formed the [Global Coalition on Aging](#), to help governments and industries better handle the age boom. “Companies are starting to think about how they can be age friendly much the same way they have been thinking about how they could be environmentally friendly over the last couple of decades,” says Andy Sieg, the head of retirement services at Bank of America.

THE Mirabella, a new \$130 million high-rise in the South Waterfront section of Portland, Ore., may be the greenest luxury retirement community in the nation.

The building has solar-heated hot water, a garage where valets stack cars in racks atop one another, sensors that turn off the lights when stairways are empty and platinum certification from Leadership in Energy and Environmental Design, or LEED, the group that sets national benchmarks for sustainable building.

But never mind the free loaner Priuses in the garage. The [Mirabella](#) also aspires to be the grayest — by providing an opportunity to develop and test the latest home-health technology and design concepts for older adults.

The building’s architects, Ankrom Moisan Associated Architects, turned on its head the idea of putting retirees out to pasture. This urban high-rise, conveniently located next to Oregon Health and Science University, enables residents to stay as healthy, engaged and socially connected as possible, says Jeff Los, a principal in the firm.

“Historically, upscale senior housing has been a rural three-story entity spread over 30 acres,” he says. “This is a 30-story building on one acre with a streetcar stop at the front door.”

The developers, Pacific Retirement Services, bought land from the university with the idea of encouraging research next door, at the school’s [Oregon Center for Aging & Technology](#), also known as Orcatech. As part of that project, the company spent nearly a half-million dollars to install fiber optic cables so that Mirabella residents could be encouraged to volunteer for a “[living laboratory](#)” program in which wireless motion sensors, installed in their apartments, track their mobility and, by extension, their health status in real time.

Older adults in other parts of the city are already participating in the program; researchers hope to prove that continually monitoring them can help predict and prevent problems like falls, or even social withdrawal, says Dr. Jeffrey Kaye, a neurology professor who directs Orcatech.

And some residents may eventually want to modify the monitoring system so that they can download and make use of their own health data, Mr. Los says.

In fact, even before Mirabella opened last fall, residents asked for adjustments to the building. They demanded space in the garage for their kayaks, recalls Mr. Dishman, who serves on the building's steering committee.

"Baby boomers are going to be very different seniors," he says.

ABOUT 30 older adults in the greater Portland area have volunteered to participate in the Orcatech living laboratory program.

Dorothy Rutherford, 86, a petite redhead with a deadpan wit, is one of them. And she is a model for the kind of independent aging, abetted by technology, that the researchers hope to encourage.

Her bone-colored earrings — a gift from a dentist who made them from denture material — dangle as she gives me a tour of the equipment that researchers have installed in her apartment. Sensors that monitor the speed and frequency of her activity dot the ceilings and cling to furniture, appliances and doors.

"I have no worries about privacy whatsoever," she declares, waving at the ceiling. "They are just sensors, not video cameras."

A wireless smart pillbox reminds her to take her daily [vitamins](#). A computer on which she plays specific word and number games tracks her daily scores.

But her favorite experiment so far involved [an anthropomorphic robot](#) from Vgo Communications, nicknamed Celia, that was equipped with a video screen. Mrs. Rutherford's granddaughter and great-granddaughter in Wyoming could remotely operate Celia any time they wanted to follow her around for a video chat.

Mrs. Rutherford, a retired waitress, already uses [Skype](#) to talk to family members. But Skype is stationary, she says, while the robot conveniently wheels itself from room to room.

"When I saw Celia the robot, I thought there are all kinds of possibilities to get you set up at home," she says. "Why would somebody go to a retirement community if they can figure out a way to keep people home longer?"

Even so, the pilot program is not inexpensive: it costs about \$1,000 to set up each participant with a computer and \$6 sensors, plus \$2,600 a year for technical support, Internet access and home visits from researchers. Monitoring costs vary. (The robot, which is not a regular feature of the program and which participants tried for about a week each, costs \$6,000 plus a monthly \$100 service fee.)

The continuous monitoring of people like Mrs. Rutherford may point the way to more [preventive health care](#) — an alternative to the pattern of doctors seeing elderly patients on an infrequent basis, often treating them only after they have developed acute illnesses or had accidents. “What if there were thousands of homes around America that had these simple systems in place?” Dr. Kaye of Orcatech says about the monitoring system.

The idea is to determine whether changes in daily habits — like walking speed, posture, sleep, pill taking, computer game scores — can accurately predict things like cognitive decline or balance problems, allowing doctors to intervene before someone falls and, say, breaks a hip.

Intel and [General Electric](#) recently started a joint venture, [Intel-GE Care Innovations](#), to develop technologies that help older adults stay independent. They are already marketing the Intel Health Guide, a home monitoring system that helps doctors remotely manage patients’ care.

There’s just one obstacle: the marketplace for age independence technology is in its infancy. Because of ageism, Mr. Dishman says, many retailers aren’t ready to make space for such products and many companies don’t even want to develop them.

“Life enhancement technology for boomers is a chicken-and-egg problem,” he says. Is “the market going to take the first plunge, or are companies going to create technologies without knowing whether we can sell it?”

He has been on a mission, he says, to have Congress put the issue on the national agenda; he’d also like to see the White House establish a commission on aging. The [European Union](#), he points out, has already committed more than one billion euros to study technology and aging.

But so far, the officials he has met with have not taken up the cause, he says. In the laundry list of initiatives in his [State of the Union address](#) last month, President Obama pushed clean energy, not gray tech.

Mr. Dishman asks: “What do we need to do for aging and gray technology to have the same urgency and investment that global warming” and green technology have?

GRAMPA. Golden ager. Elderly person. Senior citizen.

Americans have come to associate agedness with frailty and disability rather than with institutional memory and expertise.

“People somehow assume that when we are young, we are vital,” says Ken Dychtwald, the C.E.O. of AgeWave, a research and consulting organization that focuses on population aging. “Then, when we pass 40, we are on a downward slope to death.”

For more than a quarter-century, Mr. Dychtwald, 60 and thus himself a baby boomer, has been trying to rebrand aging as a positive phenomenon. He’s coined a word — “middlescence” — to convey later life as a transformative stage, like adolescence, in which people have free time and an increased interest in trying new experiences. He also came up with an antidote to retirement: “reirement.”

Now that the oldest baby boomers are turning 65, he says, their sheer numbers may attract industries that had earlier shied away. “If you are a Fortune 100 company, or an inventor in a garage, where are you going to find another demographic that is that large, that robust in spending power, that open to new possibilities, and that underserved?” he asks. “There’s nothing to rival it.”

In 2009, for example, baby-boomer households in the United States spent about \$2.6 trillion, according to estimates from AgeWave based on a consumer expenditure survey by the Bureau of Labor Statistics.

But so far, he says, very few companies have applied creative intelligence to understanding older adults and developing game-changing technologies, services, experiences and even new careers for them.

Imagine a new real estate sector, he says, that caters to the former hippies among baby boomers who want to form retirement communities with friends by buying six-bedroom communal penthouses in Chicago or farms in Vermont. Or Internet cemeteries, he says, that would preserve video libraries of people’s lives for their descendants to enjoy.

“Rather than viewing maturity as an opportunity to sell people a golf membership or an arthritis medicine,” he says, “since a person who turns 60 has another 20 years, why not create educational programs whereby people can be motivated to go out, learn new skills and have an encore?”

AGNES, the age empathy suit developed by the M.I.T. AgeLab, is calibrated to simulate the dexterity, mobility, strength and balance of a 74-year-old. My empathy has clearly deepened after a few hours of road-testing it. But, sheepishly, I still want to shed the suit and its instant add-on decades.

Professor Coughlin started AgeLab in 1999 to address what he calls “the longevity paradox” — the idea that, while people in many developed countries now live several decades longer than those born a century ago, very few policy makers, institutions and industries are dedicated to helping people make those extra decades healthy and productive.

More than a decade later, with boomers starting to turn 65, experts like Professor Coughlin hope to make gray the new green. Their job would be easier if it were fun to wear Agnes.

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