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LIFE | JOURNAL REPORTS

# How Technology Will Transform Retirement

Get ready for a new array of devices and services that will make it easier to work, stay healthy, live at home and remain connected to friends and family

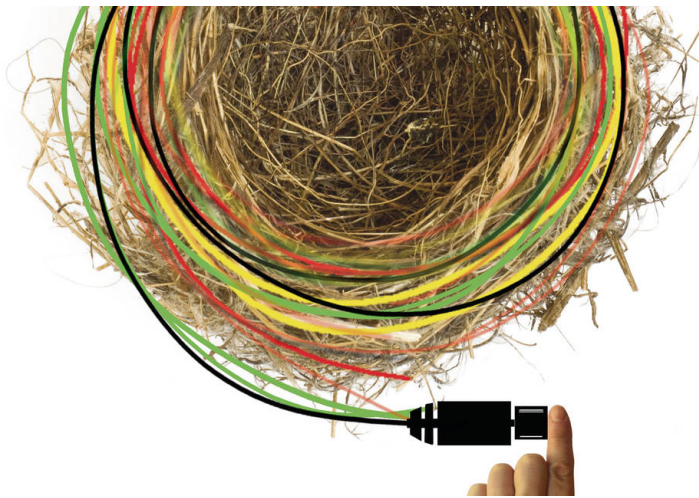


ILLUSTRATION: ANASTASIA VASILAKIS

By **JOSEPH F. COUGHLIN**

Nov. 29, 2015 10:00 p.m. ET

For the next generation of retirees, the question that will trump all others will be a simple one: How do you add life to longer lives?

As people live longer, and spend more time in retirement, the challenge will be to get more out of those years. How do you find a rewarding second career? How do you stay close with friends and family? How do you maintain independence

and mobility? How do you embrace new experiences?

The equally simple answer: technology.

The next-generation retiree will have an unprecedented array of

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#### JOURNAL REPORT

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- Insights from The Experts ([http://blogs.wsj.com/experts/category/retirement/?mod=experts\\_retirement](http://blogs.wsj.com/experts/category/retirement/?mod=experts_retirement))
- Read more at WSJ.com/Encore (<http://online.wsj.com/public/page/journal-report-retirement.html>)

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#### MORE IN ENCORE: THE NEW RETIREMENT

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- A Behavioral Economist on Saving (<http://www.wsj.com/articles/behavioral-economist-richard-thaler-on-the-key-to-retirement-savings-1448852602>)
- New Social Security Strategies (<http://www.wsj.com/articles/new-social-security-strategies-for-couples-1448852606>)
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- The Short-and-Sweet Workout (<http://www.wsj.com/articles/high-intensity-interval-training-offers-a-short-sweetand-effectiveworkout-routine-1448852642>)
- Top Book Picks of 2015 (<http://www.wsj.com/articles/the-best-books-of-2015-on-retirement-living-1448852602>)

technologies and tech-enabled services to invent a new future for working part time, remaining social, having fun, living at home, staying healthy and arranging care.

Many of the solutions will be driven by the “Internet of Things”—where household objects can use Internet connections to think, talk and communicate with one another, enabling an entirely new on-demand service industry for older adults. Kitchen appliances will monitor a person’s diet and relay that information to a doctor. Older people will order up services they need to handle chores that have become too difficult, everything from housecleaning to car rides. Even clothing will connect people to a larger network of services that will monitor, manage and motivate them well into older age.

This new world of retirement will come with plenty of challenges—among them, costs and possible loss of privacy. But if the challenges can be met, these innovations could transform retirement into a new and vibrant period of life that is about living better as much as it is about living longer.

Here’s a closer look at some of the innovations.

## Staying on the job

Retirement was once a clear line between work and not working. Today, a career may be completed, but work is not over. Recent AARP research suggests that nearly four out of 10 baby boomers are planning to work in retirement. Some over-50s report that they plan to work until they drop. These days, that's easier hoped for than done. Not only do older people battle the preconceptions of bosses and co-workers about older workers, but they also face a rapidly changing work environment that demands new skills. And they're often forced to think of work in a new way, as a series of contract projects rather than a regular job.

Now technology is offering new options and flexibility. Telecommuting isn't a new idea, but it's crucial for retirees who want the freedom to accept whatever opportunities suit them without disrupting their lifestyle. With smartphones and tablets, the newly retired can be productive from home, beachfront or grandchild's playground.

The Internet also frees retirees from having to seek out colleges to brush up on job skills. Massive open online courses, or MOOCs, let retirees learn what they need to stay competitive or enter a new field.

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### Not Your Parents' Retirement

Thanks to technology, in later life you may be able to:

**TELECOMMUTE** for an encore career

**EARN INCOME** in the peer-to-peer economy with services like Uber and Airbnb

**TAKE ONLINE** college courses to keep up work skills

**MAKE VIDEO** calls on a full-wall screen with friends and family

**USE SMART** glasses for social contact, to help with names, etc.

**STAY MOBILE** despite declining skills with a self-driving car

**USE VIRTUAL-REALITY** goggles for virtual travel and experiences

**HAVE SMART** appliances, like an Internet-enabled refrigerator to track contents and send an order to the store

**USE INTERNET** service companies to get help with small chores

**HAVE A ROBOT** that allows your relatives to remotely help monitor and care for you

**WEAR SMART** clothes with sensors that detect activity levels and alert family or doctor when needed

Source: Joseph F. Coughlin  
THE WALL STREET JOURNAL

The available training isn't just for work skills. There's also help available online for retirees who want to practice their interview technique. Artificial-intelligence-based coaches will help retirees test themselves with a variety of virtual interviewers. An avatar will shoot tough questions their way,

readying them for an interview with a potential boss who is younger than their own children.

All of that applies to retirees who will want to seek out a traditional professional

job behind a desk. But the Internet is also opening up options for retirees who don't want to be confined to an office, who want a sort-of retirement. Consider peer-to-peer companies, which let people connect with other people to order services. It often doesn't take special training or experience to hire oneself out to these services, and they provide the ultimate in flexibility. Active retirees who don't mind spending the day on the road, for instance, might sign up to become drivers with Uber.

The peer-to-peer economy can also help retirees earn an income from one of the biggest investments they've made over their lifetime: their house. Services like Airbnb let retirees rent out space in the family home—which probably has lots of room now that their children have gone. Airbnb recently reported on its blog that 10% of its hosts are over 60 years old.

## Staying connected to friends and family

Most people worry about their physical health in older age, but well being is strongly related to the ability to maintain a social life. Friends, family and regular social interaction keep people vital—yet many retirees end up feeling isolated as friends and family scatter. And, of course, many retirees must face the loneliness that comes after the loss of a spouse.

Applications such as Skype already make it possible to enjoy a virtual dinner with a distant grandchild, and communication is due to get even easier and more elegant. For one thing, communication will break free from the confines of a computer or television screen: Imagine an entire wall of the home projecting images of distant friends, letting people share coffee together.

Social media, meanwhile, will get more specialized as sites begin catering to older adults who want to get online and stay connected. One online community, from Connected Living Inc., connects older adults in senior housing with each other and their families; it has signed up more than 60,000 users in 36 states over the past seven years.

Sites are also springing up that help older adults find romance. Over-50 dating site OurTime.com, affiliated with Match, has seen more than two million people join in the past year. And tech-savvy retirees are transforming social sites once thought to be only for the young, such as Facebook, into their hangouts to share and connect with friends and family alike.

Technology may also help ease face-to-face contact with friends and family. Older adults may find themselves forgetting crucial details about someone, even

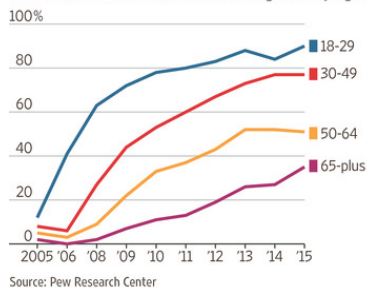
a close acquaintance, which can lead to frustration and embarrassment. Augmented-reality glasses in development now—think Google Glass—will project reminders in front of users' eyes when they run into someone: the last conversation they shared, for instance, or the names of their children. The glasses will provide other helpful information, depending on context. If the retiree invites the friend home for dinner, the glasses can provide step-by-step instructions to prepare a meal from a new recipe.

## Staying mobile

Being able to get around independently is a crucial ingredient to a quality life in older age—visiting a friend or going out at for an ice-cream cone on a hot summer night. Research shows that reduced mobility to go where you want when you want leads to declines in both mental and physical well being.

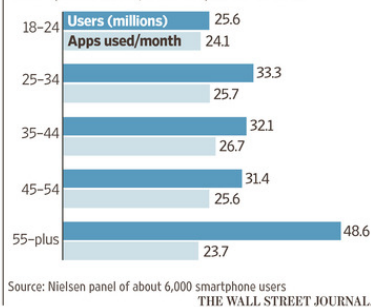
### Not Cutting-Edge

Older adults can be slower than others to embrace technology. For example, the percentage of all Americans who use social-networking sites by age:



### But Not Hopeless

Average mobile app usage by age among smartphone users, second quarter of 2015



Once again, technology is serving up solutions. Autonomous technologies, such as automatic parking, collision warnings and blind-spot detection, will make it possible for retirees to keep driving safely and

longer than they otherwise would. Looking even further ahead, we can expect autonomous vehicles to take over driving entirely; all a retiree will have to do is text their self-driving car to pull up and take them anywhere.

Still, some retirees won't want the burden of owning and maintaining a vehicle, or won't have particularly strong feelings about giving up the driver's seat. For them, there are services like Lyft and Uber that promise a ride with the touch of the smartphone.

And here, too, high-tech goggles may play some role in diminishing the frustration that comes with limited mobility. When real-world travel becomes too difficult for retirees to manage, these goggles will provide the option of virtual travel. Headsets such as the Oculus Rift integrate high-quality graphics and software to deliver immersive and interactive experiences. Using videogame technology, retirees can tour a Paris museum or feel the bumps of a jeep ride on

African safari, all from their favorite chair.

## A house that keeps itself

Taking care of a home can be a fraught issue for retirees. Many find themselves losing the energy or inclination to tackle cleaning and upkeep. Soon the Internet of Things will help with those jobs, not only making maintenance easier but also transforming the home into a helper, companion and even caregiver.

Already, there are systems that make it easier to control the basic functions of the home. A smart thermostat and monitoring system enable people to run nearly everything in their home by smartphone while away on vacation. And distant relatives can use those same systems to make sure their loved ones have their home properly heated or cooled.

Appliances may also help retirees by keeping track of things and taking over simple tasks. An Internet-enabled refrigerator, for instance, will maintain a daily inventory of its contents, alert owners when something is low and even arrange for home delivery of favorite foods—saving retirees the burden of keeping an eye on supplies and making regular runs to the store.

New types of appliances will also begin to appear in retirees' homes to aid their everyday chores. Early examples include the Roomba vacuum, which can spare owners' aching backs, and Amazon's Echo, a compact device that lets people check their schedule, order home deliveries and more, all by voice.

Some appliances will even provide a kind of companionship for retirees who suffer from mental issues or isolation. Paro is a therapeutic robotic seal designed to help calm people with conditions like dementia. The robot has nearly 100 sensors allowing it to respond to touch with movements of its head, flippers and tail; blinking of its eyes; and sounds.

Of course, not all the Internet-enabled household help will come from machines. Internet service companies such as Washio and Hello Alfred are emerging to make aging at home easier, allowing people to summon human helpers to get small jobs done, like taking out laundry to be cleaned or tidying the house.

## Machines to monitor health

One of the frustrating ironies of retirement is that people often find themselves forced to deal with multiple chronic conditions even as their ability to manage those conditions diminishes. Even worse, many people are living with conditions they don't know about: As people get older, they are more likely to

cope with seemingly imperceptible decline, only seeking out medical help when a crisis emerges.

Now the Internet of Things is promising to help retirees—and the family members who are often their primary source of care—stay on top of their health. Machines might keep track of details a retiree might find hard to remember during an appointment, or might not think to be concerned about. An intelligent coffee maker might communicate wirelessly with a smart toothbrush, and together they would learn what time their owners typically wake. Sleep late or wake early, and the gadgets will alert a physician that the retiree has broken with routine. A tricked-out bathroom, meanwhile, will feature a mirror that scans owners' faces to detect warning signs of cardiovascular disease and risks of heart attack or stroke.

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#### PREVIOUSLY IN ENCORE

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- To Age Well, Change How You Feel About Aging (<http://www.wsj.com/articles/to-age-well-change-how-you-feel-about-aging-1445220002>) (October 2015)
- Make the Most of Longer Lives (<http://www.wsj.com/articles/how-to-make-the-most-of-longer-lives-1432743631>) (June 2015)
- A Guide to Not Retiring (March 2015) (<http://www.wsj.com/articles/a-guide-to-not-retiring-1426475064>)
- Online Tools for Retirement Planning and Living (<http://www.wsj.com/articles/the-best-online-tools-for-retirement-planning-and-living-1421726470>) (January 2015)
- Take a Fresh Look at Aging (<http://www.wsj.com/articles/why-everything-you-think-about-aging-may-be-wrong-1417408057>) (December 2014)

Devices would also monitor physical data that can be a burden for retirees to record and report. A smart toilet, for one, might report to a distant call center its owner's weight, blood-glucose level and other vitals.

Clothes will also go high-tech. Smart materials and sensors woven into underwear will detect retirees' activity level and vitals such as heart rate. Eventually, these clothes will have features that will reduce the chance of injury by cushioning the impact should the retiree fall. But before that happens, sensors in the carpet will detect that a retiree's walk has become a shuffle and alert family or physician.

Robots will put in an appearance here, too, to spare retirees and families the burden of daily worry and traveling to constant doctors' appointments. Operated by a remote nurse, a robot will roll through the home to check in on retirees, review vitals and even have a chat before returning to sleep mode in a

corner.

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Clearly, the transformative potential of all these technologies is powerful. But let's pause for a reality check. These innovations bring new questions of their own.

For one, there's cost. The services the Internet of Things will provide will become so convenient, and so vital to our care and well being, that they will be a significant and necessary cost. Yet most people already aren't saving enough for retirement. How much more will they need to put aside? And will the added costs increase the already-growing divide between the haves and the have-nots in America?

It also means some institutions will need to rethink how they deal with older Americans. If people can live longer at home, will we need as much senior housing as we do now? And how will health care adapt to the data coming from smart toilets, toothbrushes and toasters? Most doctors and nurses have little time to fully discuss a health condition during a visit, let alone monitor endless streams of data.

On the individual level, what does it mean when people's homes and even clothes are collecting big data about their most personal behaviors? The privacy issues of big data aren't confined to older people, of course, but they are among the most vulnerable members of society, so the concerns are especially pressing.

Finally, it's vital to remember that technology alone won't solve our problems. However powerful our gadgets and appliances become, they will never be able to entirely replace the human touch, or completely remove the normal pains and frustrations of getting older.

And they won't be able to deliver their fullest benefits unless we have a compelling vision of what we want retirement to be. Even now, expectations and the very context of how we live are changing so quickly that it's tough for many retirees to know what they're supposed to do during this next stage of life. Unlike previous generations that only had to plan for a few years of life after work, baby boomers and those that follow must anticipate decades.

The ultimate retirement plan for individuals and society is to imagine an older age that is more than simply living longer: a new, exciting period of life that is about living better.



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