

## GLIMPSES OF THE FUTURE

A monthly digest of technologies, developments and trends that may shape our lives. (If you would prefer not to receive these digests, flip back 'NO THANKS' and you will be removed from the list). For daily glimpses follow me on Twitter: @hammondfuturist

### Making Phone Calls Via Your Home Assistant

[Amazon.com](https://www.amazon.com) Inc. and Google are considering a new use for their popular home speakers: becoming the home phone.



Amazon's Echo or the Google Home [could be used to make or receive calls](#), a functionality that would give them further control over consumers' digital lives at home.

The tech giants could launch the feature this year, but the effort is hung up over concerns about privacy, telecom regulations and emergency services. And both companies are aware of the inherent awkwardness of having phone conversations on a speaker.

Amazon and Google are part of a broader race among tech giants to create and install digital assistants in everything from cars to homes. Adding phone capability is a way to tack on more functions, which could lead to greater adoption and more frequent use.

### Zoo Starts "Tinder For Orangutans"

A Dutch zoo hopes to increase the breeding chances of a female orangutan by seeing if she will choose a preferred mate on a touchscreen before they are introduced.



In a four-year experiment it has called "[Tinder for orangutans](#)", the Apenheul primate park in Apeldoorn will show Samboja, an 11-year-old female, pictures of possible partners from an international great ape breeding programme.

Since the male orangutan could come from as far away as Singapore, the zoo also hopes to increase the chances of a successful encounter.

A new wearable accessory priced at \$299 has attracted huge attention.

It promises to boldly go where no gadget has gone before — translating foreign languages simultaneously, like the universal translator in Star Trek, or the babel fish in the Hitchhikers Guide to the Galaxy.

### Walking Robot Takes Its First Steps

Some day in the not-too-distant future, an autonomous delivery van may pull up in front of your house. [A bipedal robot](#) will then step out, and carry a package to your front door.



That scenario is envisioned by Jonathan Hurst, an associate professor of robotics at Oregon State University, and chief technology officer of spin-off company Agility Robotics. To that end, his group has developed an ostrich-like two-legged walking robot ... and it's called Cassie.

First of all, Cassie isn't intended to make deliveries in its present form. It's intended more as a developmental platform, to be utilized by other robotics companies and research institutes. In other words, it is a Cassie-derived robot who may eventually come strolling up your front walk.

### Call Centre Staff To Get Help From A.I. Coaches Who Sense Your Mood

Next time you phone a call centre the person talking to you may be getting a little help from emotionally intelligent AI software.

Some call-centre workers are now receiving [real-time coaching](#) from software that analyzes their speech and the nature of their dialogue interactions with customers. As they are talking to someone the software might recommend that they talk more slowly or interrupt less often, or warn that the person on the other end of the line seems upset.

### Instant Real-Time Language Translation With These Ear-pieces

The device is called Pilot and comes not from Samsung or Google but Waverly Labs — a New York start-up founded by Andrew Ochoa, a Mexican-American from Dallas.



On sale from May, it works like this: you, with a Pilot in your ear, speak in French, Italian, Portuguese or Spanish. I, with my Pilot inserted, hear you in English. When I reply in English, our Pilots will turn my speech into your language. Others will be able to join us in their native tongue. A group of people, none of whom speak one another's languages, will be able to have a conversation.

### Smartphone Add-On Counts Sperm (And Checks Their Quality)

There are already products that offer men the ability to do [sperm counts in the privacy of home](#). Yet, sperm count is only one indicator of healthy fertility. Whether sperm are lively and energetic is another important parameter. Medical Electronic Systems, a well known name in laboratory equipment for sperm quality analysis, is about to release a [smartphone-powered sperm analysis system](#) that lets you see the swimmers and count only the ones that are agile

This gives us a fascinating glimpse of how AI and humans might increasingly work together in the future. Plenty of routine work is becoming automated in call centers and other back office settings, but real human interaction seems likely to resist automation for a long while yet. Even so, AI software may change the way people interact with customers by serving in an advisory capacity.

### **A Wearable Designed To Reduce Parkinson's Tremors**

Healthcare wearables are becoming more and more popular as we begin to see all the advantages they bring. Hope is now coming in the form of the [GyroGlove](#) for Parkinson patient's as it looks to reduce tremors using built-in gyroscopes.



Parkinson's affects one in every 500 people and is a degenerative disease. Hand tremors are one of the most common symptoms that Parkinson's patients suffer from, and up until now, there has been very little hope of stopping this.

The GyroGlove could be of huge use in minimizing hand tremors in Parkinson's patients. It was



The YO system consists of a microscope attachment that works with Apple iPhone and Samsung Galaxy smartphones, slides, pipettes, cups, and a liquefying powder. Two testing sets come in a box that will cost \$49.

After the sample is obtained the old-fashioned way, it is prepared, placed onto a slide, and the slide inserted into the microscope attachment. Using a matching app that relies on the phone's camera and light, the user can visualize the sperm and perform a count of only the moving sperm. The whole Testing process takes minutes and can be done discreetly.

### **Diagnosing Your Health In Your Voice Print**

US start-up Canary Speech is developing [deep-learning algorithms to detect if people have neurological conditions](#) like Parkinson's or Alzheimer's disease just by listening to the sound of their voice. And it's found a controversial source of audio data to train its algorithms on: phone calls to a health insurer.



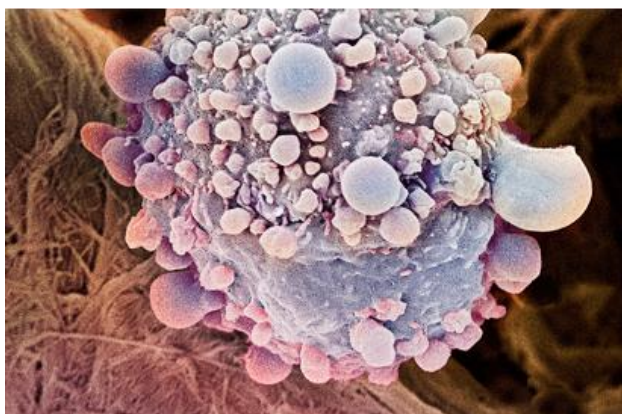
designed by a Dr. Faii Ong and took hours of evaluating how elastic bands, hydraulics, springs, weights and soft robotics all worked together in order to come up with his solution. Ong said that he got his inspiration to make the device when he was a medical student caring for an elderly Parkinson's patient. He wouldn't accept that there was nothing we could do to help patients with hand tremors.

### **A Blood Test For The Early Detection Of Pancreatic Cancer**

Pancreatic cancer is known as the "silent killer" because it is usually too advanced to treat by the time symptoms arise. Only [5 per cent](#) of people diagnosed with it are still alive five years later, compared with 90 per cent of those diagnosed with breast cancer.

The only way to treat pancreatic cancer is to completely remove it before it spreads. But because the pancreas is deep inside the body and difficult to image or biopsy, detecting problems early is hard.

Now, [Tony Hu](#) at Arizona State University in Tempe and his colleagues have developed a blood test that could spot pancreatic cancer before it spreads.



In a pilot study of 59 people with the disease, the test picked up early-stage pancreatic cancer in more than 90 per cent of cases.

The health insurer – which Canary Speech would not name but says is “a very large American healthcare and insurance provider” – has provided the company with hundreds of millions of phone calls that have been collected over the past 15 years and are labelled with information about the speaker's medical history and demographic background.

Using this data, the company says its algorithms could pick up on vocal cues that distinguish someone with a particular condition from someone without that condition. “For modelling purposes, we want to be able to see an individual over a period of years,” says Canary Speech CEO Henry O’Connell.

Co-founder Jeff Adams says the company hasn't yet received all of the audio data, but could have an algorithm that aims to detect vocal indicators of Alzheimer's disease ready within two months. It also aims to look for vocal markers for depression, stress and dyslexia.

### **Dubai First To Launch Self-Piloting Taxi Drones**

Dubai's local transport authority has revealed that it has been testing a Chinese-made Ehang personal taxi drone, with [plans to launch operations this July](#).



As far as drones go, the Ehang 184 is actually much less drone and more automated helicopter, using onboard navigation systems to carry passengers to their desired location without the need for a pilot.

## Will A Simple Injection Be Able To Restore Lost Hearing?

We start out with only about 15,000 hair cells in each cochlea, and once any of them are gone, they're gone for good. There may now be hope for restoring that lost hearing, however, as scientists have [reported a new method of regrowing hair cells in substantial numbers](#).



Along with loud sounds, hair cells are also destroyed by certain medications, or just die off as we age. In the case of animals such as birds and amphibians, however, those cells do grow back. Inspired by that fact, a team of researchers from Brigham & Women's Hospital, MIT and Massachusetts Eye & Ear set out to see if the same could be done with human hair cells

Using previous research on regenerating intestinal cells as a jumping-off point, they placed immature cochlear progenitor cells from mice in a lab dish – [progenitor cells](#) are like stem cells, in that they can convert into other types of cells. The researchers then added a drug "cocktail," which caused those cells to rapidly multiply. Once a sufficient number of those progenitor cells were grown, they were then stimulated with additional drugs to differentiate into mature hair cells.

When the procedure was attempted on an extracted mouse cochlea, the second step wasn't needed, as the progenitors were naturally signalled to differentiate. The process (which was also successfully tried using human cells)

This might all sound pretty futuristic, but the Chinese company has already signed an agreement with the State of Nevada to [conduct flight testing](#) and also teamed up with a biotechnology firm to use its [pilotless choppers to deliver artificial organs](#).

But it looks like both efforts might be beaten to the punch by the UAE, with Dubai's Roads and Transport Authority announcing the plans at the recent World Government Summit. It revealed that it has already carried out a test run and has earmarked July 2017 as the launch date for full operations.

## Robot Bees May Take Over Pollination Task

A [drone that can pollinate flowers](#) may one day work side by side with bees to improve crop yields.

About three-quarters of global crop species, from apples to almonds, rely on pollination by [bees](#) and other insects. But [pesticides](#), land clearing and climate change have caused declines in many of these creatures, creating problems for farmers.



Pollination is needed for reproduction in flowering plants. Male flower parts, or stamens, produce pollen that fertilises female parts, known as pistils, to make seeds. In self-pollinating flowers, the stamen sheds pollen directly onto

produced about 60 times more hair cells than the existing next-best technique, in which progenitor cells were prompted to differentiate, but a sizeable population of them wasn't grown first.

The scientists now believe that treatment for hearing loss could be as simple as administering an injection into the ear. To that end, they have formed a spinoff company to commercialize the technology, and hope to begin clinical trials within 18 months.

### **UPS Testing “Drone-Carrier” Truck**

Global shipping giant UPS has now teamed with Ohio-based electric truck and drone developer Workhorse Group to trial [a drone that launches from the roof of a delivery truck](#). The idea is that the drone can handle out-of-the-way stops, while the driver continues making other deliveries by road.



Where previous drone delivery trials we've looked at have seen drones launching from a fixed base of operations, the UPS trial makes the launch pad mobile in the form of the roof of a delivery truck.

The idea is that such a system would enable drivers to send the drone and its cargo to a customer whose house would otherwise take the driver out of their way, such as in rural areas, thereby allowing the truck to continue on their

the pistil.

Cross-pollination, however, requires the transfer of pollen from one plant to another. This mostly relies on pollen becoming stuck to the bodies of bees and other insects when they feed on flowers, and then being deposited on the next plant they visit. It has advantages over self-pollination, in that it increases genetic diversity and improves the quantity and quality of crops.

way making other more direct deliveries.