in which instruments relying on visible light falter. Iceye's planned constellation of probes should be able to image a given location many times a day, whereas existing radar-equipped satellites, such as the European Space Agency's Sentinel-1, return to a given spot only every few days. Other companies with radar projects in development include XpressSAR of Arlington, Virginia, and Urthecast of Vancouver, Canada.

Some firms are beginning to explore hyperspectral imaging, which spans a wide range of wavelengths, allowing the detection of specific chemicals. In 2016, Satellogic of Buenos Aires launched two 35-kilogram satellites equipped with custom-designed cameras and light filters. Last month, the company became the first commercial supplier of hyperspectral data. Satellogic's goal is to fly about 300 satellites, together capable of imaging any location on Earth.

And it has already begun to appeal to scientists. The company announced in January that it would give researchers free access to its 30-metre-resolution hyperspectral data. These span optical and near-infrared wavelengths and can help track water pollution and oil spills, and monitor the health of forests and crops. "We are receiving contacts from scientists all over the world," says Satellogic chief executive Emiliano Kargieman.

But most commercial data must be purchased, and some scientists say the cost can limit their usefulness. Unless companies commit to making data archives available to all who need such information, they will freeze out many cash-strapped junior researchers and people in developing countries, Hansen says. And commercial data simply aren't good enough for many types of study, despite the technical advances. No commercial satellite matches the consistency and stability of the data collected by the US government's Landsat probes, which have monitored Earth since 1972.

Government-funded missions also remain unparalleled in enabling scientists to push frontiers in basic research that may not have immediate applications, says Lorraine Remer, an atmospheric scientist at the University of Maryland in Baltimore. Remer is deputy project scientist for NASA's planned PACE satellite, and says that she does not know of any instrument aboard a commercial satellite that could produce hyperspectral data to rival those possible with the NASA mission. PACE's ocean-colour imager will enable researchers to identify specific types of aerosol particle in the air, and plankton types in the ocean.

And governments typically provide the raw data that are used to create images, not just the images themselves, adds Andreas Kääb, a geoscientist at the University of Oslo who uses satellite data to study glacier movement. With commercial providers, "once you ask for raw data, you quickly run into problems", he says.

But commercial data may become more enticing if government support for Earth monitoring recedes. In the United States, President Donald Trump has proposed axing three NASA missions in 2018 — including PACE — and scaling back a fourth.

"We're looking at an unpredictable future for Earth-science funding in the US," Kargieman says. "If we have a capability among the private sector to step in and provide the data that will allow scientists to continue to do research, I think we should do so." ■

CORRECTIONS

The News story 'How Trump's science cuts could hurt his supporters' (*Nature* **545,** 273–274; 2017) misstated the number of advanced manufacturing institutes funded by the US government — there are 14, not 9. The graphic also gave the funding amounts in US$ instead of millions of US$. The News Feature 'The electric cure' (*Nature* **545,** 20–22; 2017) erroneously stated that Kevin Tracey initiated the first trial for vagus nerve stimulation in humans. In fact, the trial was started by SetPoint Medical. And Paul-Peter Tak, who ran the trial, first joined GlaxoSmithKline in 2011, not 2016.