



1 BREXIT Harwell Didcot, United Kingdom

The BREXIT vote has caused an epidemic of nerves within the British space sector, according to a *Financial Times* story. Trade organization UKspace wrote to the UK science minister saying they fear being locked out of the European Union's Galileo program. Britain still has €3 billion in outstanding contracts to finish the GNSS constellation, but hopes for as much as €6 billion more through 2025. Britain's slow-motion exit is expected to take a couple of years, but Galileo's next series of satellites are already out for bid. Although the European Space Agency is not an EU operation, Galileo is owned by the European Commission itself; so, renegotiating treaties and partnerships with the spurned entity is sure to be tricky. "The risks of an EU exit . . . could potentially disrupt the growth trajectory for the sector and cede hard won industrial success to our European competitors," the letter said.



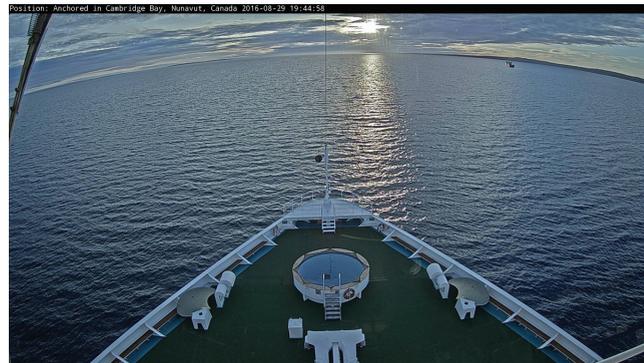
2 LET'S GET TOGETHER Tokyo, Japan, and Brussels, Belgium

Japan is accelerating development of its domestic autonomous technology while the European Union is still trying to get its members to agree on the rules and regulations for a driverless future. Now the European Commission and the Japanese government are in talks to integrate Galileo and QZSS — with a plan due in 2018 and completion a couple of years later. According to online technology news ReadWrite, some manufacturers had complained about QZSS incompatibility with other systems outside of Japan. In late July, *Nikkei Asian Review* wrote about making the European GNSS and Japan's SBAS completely compatible so that vehicles and parts built for the Japanese market could be sold in Europe and used everywhere. Mitsubishi Electric, manufacturer of the first three QZSS satellites; Hitachi Zosen, producer of self-driving systems; automotive information technology service NTT Data of Japan and French aerospace corporation Thales, a pioneering developer of Galileo and EGNOS; are part of the talks.



3 EYE IN THE SKY Washington, D.C.

Want to put your Unmanned Aircraft System to work? The Federal Aviation Authority's new rules for commercial operations went into effect on August 29. Briefly, your loaded UAV must weigh 55 pounds or less, carry legal goods, fly no faster than 100 mph and no higher than 400 feet in good weather under visual line of sight, and let others have the right of way. (But you can get waivers . . . and we'll bet many a civil servant will be up late processing them.) Meanwhile, the Electronic Privacy Information Center waited for the final rules to go into effect to sue the FAA — the most recent battle in a long war for privacy protections, particularly those requiring UAV owners to disclose any information they've collected about an identifiable person.



4 HEAVY WEATHER Somewhere in the Northwest Passage

Right now, one thousand vacationers are onboard the Bahamian liner *Crystal Serenity* on the first luxury cruise from Seward, Alaska to New York via the recently ice-free Northwest Passage. Apparently, the cost of tickets gives passengers an expectation of complete safety, and the management has spent a couple of years taking every precaution to make sure they get it. Among other technical marvels, its navigation system includes real-time satellite imagery and ice forecasts. In a *Washington Post* article, however, former NOAA Space Weather Prediction Center scientist Joe Kunches warned about the hidden risks of space weather. "Space weather forecasting is as mature now as weather forecasting was in 1930," the article says. "A strong geomagnetic storm could bring down GPS and communication . . . high wind, heavy seas and, most menacingly, sea ice could necessitate a rescue and you must have communications and positioning to bring emergency responders."

Images and Credits

1. Stock photo
2. Artist's drawing of two Galileo satellites (ESA illustration)
3. Shutterstock image
4. Webcam image from stern of *Crystal Serenity* on its voyage through the Arctic