

Organ delivery by 1,000 drones

A United Therapeutics subsidiary has placed an order for 1,000 unmanned aerial vehicles (UAVs), known as drones, to ferry lungs and other organs from its facilities to hospitals for transplantation. The Silver Spring, Maryland-based Lung Biotechnology and Chinese drone manufacturer EHang have agreed on a 15-year timeframe, giving both a long runway to develop their respective products. In the biotech's case, the company is working on techniques to make pig organs suitable for transplantation into humans, while EHang will produce a Manufactured Organ Transport Helicopter (MOTH) system for delivery.

United Therapeutics acquired former PPL Therapeutics spinout Revivicor, one of the first companies to genetically engineer pigs as an alternative tissue source for transplantation, and has now embarked on a xenotransplantation research collaboration with Synthetic Genomics (*Nat. Biotechnol.* **34**, 3–4, 2016). For its part, EHang in

January unveiled a working prototype of the MOTH, a modified version of its one-person carrier called the 184 Autonomous Aerial Vehicle, which, as it stands, is designed to fly up to 10 miles. Passengers can only instruct the copter to take off and land; autonomous flight controls do the rest. However, UAVs are strictly controlled by the US Federal Aviation Administration (FAA).

Both companies independently face daunting hurdles if they are to fulfil their joint vision of planting drones outside their organ production facilities and programming them to deliver organs to hospitals within the aerial vehicles' flight radius. There are signs pointing to increasing acceptance of UAV delivery. Last year, the FAA approved the first sanctioned drone delivery, which medical supplies to a rural clinic. But it will take years of testing in clinical trials before pig lungs will be suitable for transplantation into humans and for the biotech to obtain FDA approval.

Michael Francisco



Gene Blevins/ZUMA Wire/Alamy Live News

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Around the world in a month



**UNITED KINGDOM**

The government will create a single research agency with a £6 (\$8.7)-billion budget by bringing together seven research councils, the innovation agency Innovate UK and research funding from the Higher Education Funding Council for England. Called UK Research and Innovation, the new body will make it easier to fund cross-disciplinary studies and will create an integrated research and innovation system.



**BRAZIL**

The Ministry of Science, Technology and Innovation gives crop developer Ceres a green light to conduct field trials of its biotech sugarcane. The crop will have increased stress tolerance and sugar yield, important in the face of several years of drought-like conditions in Brazil. Ceres originally focused on sorghum and switchgrass as ethanol feedstocks but now plans to stick to sugarcane.

**FRANCE**

The International Wheat Genome Sequencing Consortium (IWGSC) releases the genome for bread wheat to the scientific community through the IWGSC wheat sequence repository at URGI-INRA-Versailles, having completed its quality control following assembly completion in January. Wheat breeders and scientists will be able to download and use the dataset to accelerate crop improvement programs and wheat genomics research.



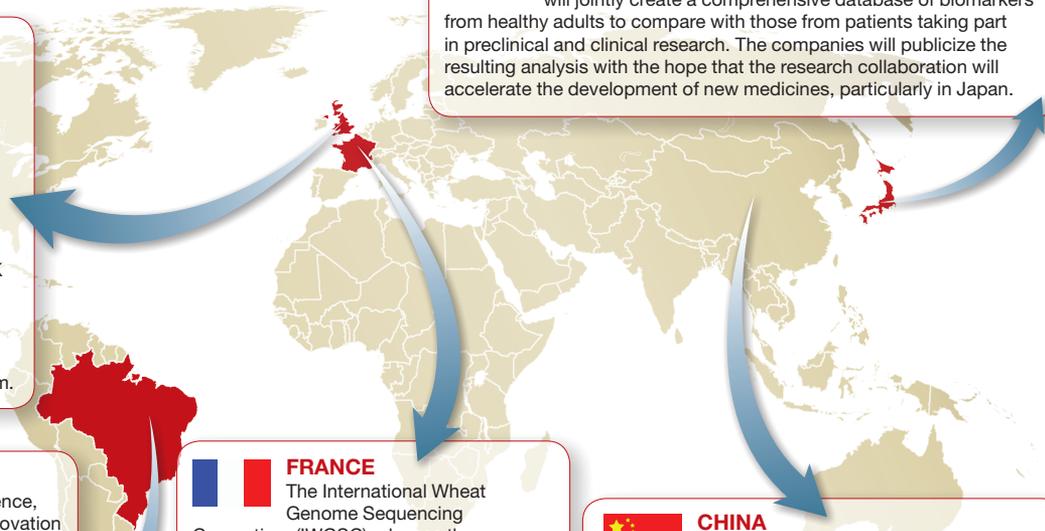
**JAPAN**

Pharma companies Astellas, Daiichi Sankyo and Takeda will jointly create a comprehensive database of biomarkers from healthy adults to compare with those from patients taking part in preclinical and clinical research. The companies will publicize the resulting analysis with the hope that the research collaboration will accelerate the development of new medicines, particularly in Japan.



**CHINA**

Novartis opens its long-awaited 1,300-person, \$1-billion research center in Shanghai, which will be its third major research center after Basel, Switzerland, and Cambridge, Massachusetts. It comes at a precarious time, as China's National Development and Reform Commission launches an investigation into drug and medical device pricing, which could lead to enforcement against foreign and domestic drugmakers.



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