IN brief

Good ideas across borders

The European Commission (EC) has made a bold move to improve Europe's competitiveness and create an environment conducive to innovation with the launch of Innovation Union. Part of the Europe 2020 initiative for recovery from the recession and economic growth over the next decade, the program, announced October 6, aims to "boost the whole innovation chain from 'research to retail'," says Mark English, spokesperson for the Commissioner for Research, Innovation and Science in Brussels. The EC is calling on member states to spend 3% of the gross domestic product (GDP) on R&D by 2020, a hike from the current 1.9% of GDP. Europe is the largest market in the world, but its policies and support for R&D remain fragmented. The EC is proposing to boost cooperation across borders, among companies, and between private and public sectors. Plans to adopt a single EU patent system, and provide tax incentives and legislation that will allow venture capital funds to invest freely anywhere in the EU are also part of the Innovation Union's commitments. Monika Wcislo, press officer for Research, Innovation and Science, notes that funding is not earmarked for particular sectors so they expect the impact to be widespread. "[Innovation Union] will generate more R&D, more startups and more major EU companies with the potential to be international players," says English. *Nidhi Subbaraman*

Airlines ahead on algae

Plans to grow algal biomass in airport grounds for aircraft fuel are moving forward supported by Airbus, British Airways and Cranfield University. On September 16, European aircraft manufacturer Airbus of Blagnac, France, London-based British Airways, and Gatwick airport in Surrey, announced a collaboration with Cranfield University, UK, through the Sustainable Use of Renewable Fuels (SURF) consortium. For the past three years, Cranfield University scientists have been researching algal-derived biofuel for use in aviation. Now, with their partners at SURF, they are working to scale up from their pilot plant (a thousand gallons per batch) for commercial output. Unlike the automobile industry, the aviation sector lacks the option to use electric alternatives for energy, says Feargal Brennan, head of Cranfield University's Department of Offshore, Process and Energy Engineering. "For the foreseeable future the aviation industry will depend on biofuels, so they have to take a lead in commercial biofuel replacements," Brennan says. Paul Nash, Airbus' head of New Energies and Environmental Affairs notes that the firm is collaborating on biofuel projects with research groups from Brazil and Qatar. Later this year Brazilian airline TAM will test a fuel mixture of bio-kerosene derived from the native jatropha plant in an Airbus aircraft. "What we're finding today is that the industry is moving faster [through partnerships] than R&D or governments would do," says Nash. "As an industry, we can say: 'our aircrafts are ready for this'." *Nidhi Subbaraman*

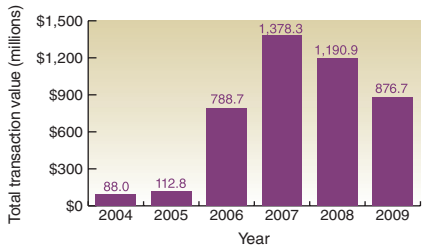

Figure 1 Investment into industrial biotech. After cresting in 2007, total investment into biofuels and bio-based materials has been in decline.

labeling on all fuel and fuel sources to entice consumers by letting them know where their fuel is coming from.

"You have labels on individual pieces of fruit to tell you where they came from," says Glenn Nedwin of Genencor, in Rochester, New York, a division of Danish Danisco, and one of the biggest developers of industrial enzymes in the world. "But you don't know where fuel is coming from. If [the pump] said it was coming from Venezuela, Saudi Arabia or Iowa, let the consumer make the choice."

In fact, much of the current biofuels market is being propped up by government decrees and subsidies. The EPA's Renewable Fuel Standard (RFS) mandate of 2007 requires that 36 billion gallons of biofuel be blended with gasoline tanks by the year 2022. Cellulosic ethanol itself, the mandate says, will furnish 16% of that, with the rest supplied by corn ethanol and other second-generation biofuels such as biodiesel.

That RFS mandate has helped drive demand, and experts like Nedwin believe an aggressive infrastructural overhaul is necessary to eventually cement biofuels' place in everyday life. Growth Energy has a 'Fueling Freedom' plan designed to do just that, calling for additional tax credits for retailers to build 200,000 blender pumps (which allow consumers to regulate the percentage of ethanol they put in their car using a mixture of gasoline and E85), a loan guarantee for an ethanol pipeline and flex-fuel vehicles to be released on the roads. Those moves would require more involvement by the government, but there is still another concern: price. Without subsidies, gasoline remains the cheapest fuel drivers can put into their cars. "We're seeing technologies that are projecting the ability to be competitive [with gasoline]," says Flagship Ventures' Berry, "But…people aren't ready to be cost competitive without subsidy yet."

The unknowns with consumers and price explain why the move to a 15% blend falls short of making cellulosic producers feel the golden years are just ahead. "I think this is a positive first step and investors will look at this, see it as a good sign. [But i]t doesn't add enough gallons to where we ultimately need to get to," says Wes Bolsen, chief marketing officer and vice president, government affairs at Coskata, of Warrenville, Illinois.

As for the next steps, Sturdevant would like to see the limit moved to 20%, 30% and higher. "I believe that the scientific data supports moving more quickly now to higher blends. I believe that the EPA and [Department of Energy] will see that, and they'll see that there's no harm to engines at higher blends, and I can only hope that they will move faster in the future."

Nidhi Subbaraman, *New York*

IN their words

"There's no scientist out there that has been wary of me, and guys in the venture-capital world I dealt with before—it's as if I wasn't gone a day!" Ex-convict Sam Waksal, former ImClone Systems CEO, is out of jail and back in business, raising $50 million to acquire hepatitis C treatment maker Three Rivers Pharmaceuticals. (*Pharmalot*, 26 October 2010)

"The pendulum has swung too far at the FDA if they influence Advisory Committees to vote no for a drug that poses very little risk to the public at large…and where there is a demonstrable clinical benefit in terms of additional weight loss and reduction in cardiovascular risk factors." A petition from 'Citizens for Lorcaserin' to FDA Commissioner Margaret Hamburg protesting the 16 September advisory committee decision to turn down approval of Arena Pharmaceuticals diet drug.

"There are things I know something about, and things I know little about. The stock market is one of the latter." Sangamo CEO Ed Lanphier admits, following a 52-week slide in the company's stock value. (*Xconomy*, 18 October 2010)

"We are left relying on 20th century approaches for the cures of the 21st century." FDA Commissioner Margaret Hamburg argues for a move away from randomized controlled trials to testing drugs in combination and using biomarkers. (*Financial Times*, 15 October 2010)