

UK losing ground, an entrepreneur warns

Slipping dramatically?

With dramatic words, one of Europe's most colourful and influential biotech backers predicts dark years ahead for British biotechnology.

UK biotech is on track to becoming a global failure, warns Chris Evans, a British biotech lobbyist. Therefore the UK government should support the biotech industry with more than half a billion euros, he told *WalesOnline* in October.

Who is Mr Evans? The Ferrari motorist and electric guitar player is one of Europe's most colourful biotechnology entrepreneurs. He has established 20 companies, valued at over a billion euros, and is founder of the biotech venture capital firm Merlin Biosciences.

As *WalesOnline* reported, Evans claimed that a £1 billion (€1,3 billion)

investment fund for the UK biotech sector is necessary because it, "was in danger of losing its hard-fought biotech position of second in the world to the US in as soon as six months' time unless significant investment was made into the sector." The government and the investment community should each provide £500 million (€643 million) towards this fund, he added.



Photo: National History Museum

British biotech lobbyist Chris Evans propagates a sense of crisis and asks for huge funding.

If funding into the UK biotech and medical sectors didn't materialise in the short term, many loss-making pre-commercialisation companies would be driven into the ground.



Evans stated on *WalesOnline*, "They need cash. The fund would provide them with enough cash so they can stay here and build their businesses. If we can do that we will not lose more assets and expertise – which are national treasures – offshore".

The British biotech industry is in danger to lag behind Canada and Germany in six months' time, Evans added.

Fundraising for the biotech sector in the UK was the worst he had experienced in his 20-year venture capital career, Evans confirmed, describing London as effectively being closed for business investment.

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"Wow, yeah, you need money, now give me money..."*

European Biotech Funding from Summer to Autumn

Who received...	...what [€]...	...for which idea...	... when...	...from whom?
Sygnis (Heidelberg/D)	18.3m	Clinical development of a drug to prevent stroke.	10/2008	Dietmar Hopp/Dieviini Holding, BASF SE <i>et al.</i>
Nitec Pharma (Basel/CH)	16.5m	Drugs for chronic inflammation & pain-related diseases.	09/2008	TVM Capital, Deutsche Bank, NGN Capital, <i>et al.</i>
SuppreMol (Martinsried/D)	15.7m	Therapeutics for treatment of autoimmune diseases.	07/2008	MIG, BioMedInvest, Santo Holding, MPG <i>et al.</i>
EsbaTech (Zürich/CH)	14.0m	Antibody fragment therapeutics.	08/2008	SV Life Sciences, Clarus, HBM <i>et al.</i>
Fluxome Sciences (Lyngby/DK)	13.0m	Nutraceutical ingredients using engineered yeasts.	07/2008	Seventure, Incuba, Vecata, Capricorn Cleantech.
Serentis (Cambridge/UK & Delaware/USA)	12.5m	Dermatology products.	08/2008	MVM Life Science, Apposite Capital <i>et al.</i>
Apitope (Bristol/UK)	10.0m	Peptide-based therapies for autoimmune diseases.	10/2008	LRM, Vesalius, VINNOF, Univ. of Hasselt/BEL.
Microchip Biotechnologies (Dublin/IRL)	8.4m	A machine preparing DNA for analysis.	06/2008	Samsung Ventures, In-Q-Tel, RONA Syndicates.
Direvo Ind. Biotechnology (Cologne/D)	8.0m	Optimised proteins for industrial applications.	10/2008	n/a
F2G (Manchester/UK)	7.9m	Antifungal drug discovery and development.	08/2008	BankInvest Biomed. Vent., Merifin, Astellas <i>et al.</i>
Carmat (Suresnes, Paris/F)	7.3m	Artificial heart devices.	10/2008	Truffle, EADS, Fond. Alain Carpentier, OSEO.
Collectis (Romainville/F)	7.2m	Development and design of meganucleases.	10/2008	OSEO (French public organisation).
Myconostica (Manchester/UK)	6.9m	Tests for life-threatening fungal infections.	05/2008	UMIP Premier, Nexus Med., Innoven, Medicus <i>et al.</i>
Revotar Biopharm. (Hennigsdorf/D)	5.3m	Drugs for inflammation-related diseases.	09/2008	n/a
Corimmun (Martinsried/D)	5.0m	Drugs for cardiovascular diseases.	09/2008	n/a
Proximagen Neuroscience (London/UK)	4.7m	Drugs for neurodegenerative diseases.	10/2008	Upsher-Smith Laboratories.
Endotis Pharma (Romainville/F)	4.5m	Small molecule glyco drugs for thrombosis and cancer.	10/2008	Several public finance awards from OSEO <i>et al.</i>
Eucodis Bioscience (Wien/AUT)	4.0m	Proteins with new properties.	05/2008	n/a
Dexela (London/UK)	3.2m	3D imaging technology for detection of breast cancer.	07/2008	Close Ventures, London Technology Fund.
Affiris (Vienna/AUT)	3.0m	Vaccines against Alzheimer's disease.	09/2008	MIG AG.
Lombard Med. Technol. (Oxfordshire/UK)	2.0m	Clinical trial of a stent graft.	09/2008	n/a
Probiodrug (Halle/D)	1.9m	Inhibitors and ligands targeting key enzymes.	09/2008	n/a
Silence Therap. (London/UK & Berlin/GER)	1.5m	Treatment of ophthalmologic indications with siRNAs.	08/2008	Public funding by German Government.
Ariana Pharma (Paris/F)	1.5m	Decision support tools to accelerate drug discovery.	07/2008	Vizille Capital Innovation.

*The Beatles (1963): Money (That's What I Want), composed 1959 by Janie Bradford and Berry Gordy.

From defence to science

Racing Minister

Lord Paul Drayson, an eccentric biotech entrepreneur, sword fencer and Le Mans sportscar racer, will be rejoining the British Government as its new science minister. Drayson, who has a PhD in robotics, co-founded in 1993 the Oxford-based vaccine maker Powderject Pharmaceuticals and was its Chief Executive until 2003 when the firm was acquired by its US rival Chiron. In doing so, Drayson pocketed an estimated £80m.

In March 2007, Drayson was appointed Minister of State for Defence Equipment and Support by the British Prime Minister, Gordon Brown. He had a short career, resigning just eight months later in order to pursue his dream of racing at the 24 Hours of Le Mans (aged 48 and blind in one eye!). Critics



The UK's new science minister Paul Drayson (above) with his racing green 007 sports car, leading the pack.

of this official explanation said that the true reason was trouble with some of Gordon Brown's decisions concerning his ministerial remit.

Now, after having participated in several GT2 championship races with his green biofuelled Aston Martin DBRS9, the "car nut" (his own words) is returning to politics as science minister. "This is my dream job," he confirmed to the press. Mr Drayson seems to alter his dreams frequently.

-WK-

Bayer goes to great expense

Evolution in Demand

Bayer Healthcare has acquired the German biotech company Direvo (Cologne) for €210 million, but some say that in better times the price would have been significantly higher. Direvo re-engineers and optimises protein-based biopharmaceuticals with its own high throughput platform. A number of proteins that Direvo has already found, including therapeutic antibodies and proteases, are part of the takeover and will be added to the pre-clinical pipeline of Bayer Schering Pharma. Bayer plans to adopt Direvo's research personnel as well as maintain their site in Cologne.

Direvo's subsidiary Direvo Industrial Biotechnology GmbH, not part of the deal, was outsourced on the same day, completing an €8 million financing round. The spin-off retains access to the Direvo technology platform for all markets and applications outside the development of biopharmaceuticals. Currently it has 17 employees.

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Southern European buy-out

Beachhead Erected

Recordati, a long-established Italian pharmaceutical group with headquarters in Milan and revenue of €630 million, has announced that it will acquire Yeni Ilaç, a minor Turkish competitor, for €48 million. Yeni Ilaç's 300 employees produce both proprietary and licensed drugs with a focus on urology, as well as manufacturing drugs for other firms ("contract manufacturing"). Given the fact that Yeni Ilaç currently generates approximate revenues of a mere €17 million, the question is why Recordati is keen to acquire such a dwarf. The answer is simple. The Turkish pharmaceutical market is the 13th largest worldwide. It has expanded at a rate of over 15% in recent years, due to the country's population growth and increasing average age in a nation whose economy is growing rapidly. In other words, Yeni Ilaç is a beachhead in the battle to capture the Middle East.

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Sartorius takes over Switzerland's Wave Biotech

Déjà Vu

The French-German biotechnology supplier Sartorius Stedim (Aubagne/Goettingen) is to acquire the Swiss-based bioreactor manufacturer Wave Biotech (Tagelswangen) in December. The purchase price is strictly secret, though Sartorius at least admitted that they yielded approximately €10 m from Wave products in the remaining two months of 2008, implying that Wave will turn over about €60 million this year. This indicates that the acquisition will cost Sartorius something between €200 and 300 million.

Wave Biotech produces one-way bioreactors that, contrary to regular stainless steel systems, are said to be more flexible and cheaper to clean. The company has a complicated history. It was established twice in 1999 to manufacture, market, and distribute bioreactors. A mainly US-focussed subsidiary, Wave Biotech LLC, was founded by Vijay Singh, while a band of brothers, Christian, Jürg and Marcel Röhl, founded its European-focussed counterpart, Wave Biotech AG. The US subsidiary was taken over by GE Healthcare in 2007. Sartorius Stedim, employing 2,300 people and generating revenues of about €380 million, has systematically extended its fermentation technology business in recent years by means of numerous technology alliances and acquisitions.

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Creditable spin-offs

Fresh Breeze

In face of economic doomsday, we have pleasant news from France and Switzerland.

Two Paris-based biotech companies, Collectis and Genomic Vision, have received generous funding from the French government. OSEO (a public organisation that assists small companies) has granted €10 million to the Pasteur Institute spin-offs. The aim of the so-called ACTIVE project is to develop anti-viral treatments for HIV and herpes by using special DNA cutters, known as meganucleases. In contrast to conventional anti-viral treatments, the collaboration intends to develop a treatment to eliminate the viral genome and disinfect affected cells, in a way similar to antibiotics. Collectis, a genome engineering company, will develop and design the meganucleases, while Genomic Vision, a developer of diagnostics, will monitor the effects and efficacy of the new treatment in clinical trials. Collectis will receive €7.2 million and Genomic Vision €1.1 million in the form of grants and loans. If the project is a commercial success, they have to repay the money.

The lifespan of a spin-off can be quite short, particularly in these days of economic crisis. However, although there are some universities whose ailing offspring have only a poor chance of survival, other institutions still give birth to outstanding, healthy companies. ETH Zurich belongs to the latter group. Two scientists from the London Business School, Alexander Schlöpfer and Ingvi Oskarsson, examined the 130 companies that were spun off by ETH Zurich between 1998 and 2007. 88% of them survived, compared to only 68% of university spin-offs that were undertaken in the US. Moreover, ETH created an average of seven jobs per spin-off, almost twice that of the average Swiss start-up, attracted six times as much financial backing, and generated higher returns.

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Decode Genetics faces uncertain future again

Iceland's Misery is Biotech's Misery

Some may be surprised at the stir around Iceland. However, its crisis is the crisis of a whole industry sector.

In all likelihood, Kari Stefánsson is once again tearing his grey hair out. The reason is Stefánsson's beautiful volcanic homeland, Iceland, that is suffering from the ongoing world financial crisis. On October 15th, the Icelandic state went into de facto bankruptcy because it couldn't repay a debt of €590 million. Iceland has an external debt of €50 billion (compared with the country's 2007 gross domestic product of €8 billion). For these reasons, the national currency, the króna, has fallen strongly in value and the market capitalisation of the Icelandic stock

that Decode has committed its cash resources to US banks that made poor investments with it and eventually gambled away it.

Forced to make a move

Kari Stefánsson is now forced to make a move. In a press release on October 15th, he announced that, "the company reviews its long-term business strategy". He mandated an executive consultant company to explore Decode's strategic alternatives and to identify potential buyers for parts of its business. "We are creating a smaller, leaner Decode,"

Stefánsson said.

It is questionable whether this measure will be sufficient to rescue the firm. On the one hand, Decode was quite successful in the recent past when hunting gene markers for common diseases such as diabetes, stroke and cancer, developing a series of molecular diagnostic tests. The Icelanders run a direct-to-consumer DNA-testing website, and they have two poten-

tial drugs being tested in human trials.

On the other hand, Decode is still a cash burning machine. When selecting him for the *Time 100* – a list of people that transform the world, *Time* magazine wrote, "For now, Decode boasts more promise than profit; translating findings into treatments will take time."

So, Decode's fantastic inventions are worth nothing if they cannot raise additional cash and credit – a problem that affects most of Europe's biotech firms. Therefore, the coming months and possibly years could be tough and cruel – for Decode as well as for their colleagues.

"We will survive," Stefánsson told *Nature News* recently. "We are fairly optimistic that we will succeed."

Well, in hard times, hollow words can be a company's only asset.

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Kari Stefánsson of Iceland's Decode Genetics (right) struggles to avoid capsizing.

exchange has dropped by more than 75%. A severe economic recession is expected.

What has this to do with Decode Genetics, the gene discovery company that the current CEO Stefánsson founded in 1996? Well, after having steered into calmer waters (see related *Lab Times* story in issue 4-2006), the economic crisis could now provide a deathblow to resilient Decode, that has survived several crises. However, the Reykjavik-based company, like most biotechs, depends on the very-long-term generosity of investors, who are now running for the hills. In addition, the stock price has fallen dramatically – a fact that prompted Nasdaq to urge Decode to raise its market cap over the \$50 million minimum by October 30th. Otherwise, its stock will be delisted, Nasdaq announced (at the time of the warning, Decode's market cap was below \$25 million). On top of this comes the fact

NIH head quits

Medico's Surrender

The head of the NIH, Elias Zerhouni, has ruined his chances by taking unpopular decisions. Now he's leaving.

Elias Zerhouni, head of the US National Institutes of Health (NIH) for the last six years, left the agency on October 31st. The sudden decision is the result of a step by step alienation from his former backer, George W. Bush, who appointed Zerhouni as NIH chief executive in May 2002. The quarrel between scientist and president was ignited by the Bush administration's ban on research that uses embryonic lines (enacted in 2001). In 2007, however, Zerhouni declared that this ban should be lifted, saying that, "American science will be better served and the nation would be better served if we let our scientists have access to more cell lines".

Another of Zerhouni's controversial decisions was to ban NIH scientists from consulting for pharmaceutical and medical device companies to avoid conflicts of interest between the commercial and public spheres. NIH scientists objected that this rule would make it difficult to recruit top researchers (see related article below).

Zerhouni is of Algerian descent and came to the USA as a student of 24. He worked as a radiologist at Johns Hopkins University and is known as an inventor of numerous radiological devices. Colleagues describe him as a brilliant researcher. For the transitional period until the next US president is elected, the agency's current Deputy Director, Raynard Kington, could serve as head of the NIH.

GSK caps payments for doctors

Financial Transparency?

Will the unhealthy proximity of medics to the pharmaceutical industry soon be a thing of the past?

It's an open secret that nearly every doctor accepts "favours" provided by pharmaceutical companies and returns these favours by prescribing very specific drugs. However, this close relationship makes medics manipulable (considering the fact that numerous physicians annually pocket, in addition to their regular salary, 6- to 7-digit euro sums). Even if patients experience no drawbacks, these conventions hinder or even prevent a free market economy in pharmaceuticals.

But recently, a ray of hope has illuminated this murky world. After groundswelling concern about Big Pharma's financial relationships with doctors and researchers (see article above), drugmaker Glaxo-SmithKline said that it will publish such payments. In addition, GSK plans to cap payments to US physicians and academics at \$150,000 (€116,000) annually, "without exception". Andrew Witty, GSK's Chief Executive, added that, "all fees that change hands will be published".

Greater transparency seems to be en vogue at the moment, with Eli Lilly and Merck having also announced similar action.

-WK-



Photo: NIH

Went through a step by step alienation from his former backer, George W. Bush: NIH's Elias Zerhouni has left the agency. Will Barack Obama appoint his successor?

With its 18,627 employees, the NIH (based in Bethesda, Maryland, USA) is the most expansive health agency in the world, investing almost \$28 billion annually in medical research. NIH's funding is awarded to more than 325,000 researchers at 3,000 (mostly American) universities, medical schools, and other research institutions. About 10% of the NIH's budget is allocated to the 6,000 scientists in its own laboratories.

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info@genovac.com
www.genovac.com