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# BIOTECHNOLOGY IN EUROPE: TURNING THE CORNER

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It is fair to say that today Europe lags significantly behind the US in almost all facets of the commercial development of biotechnology. A slow start was certainly a factor. However, the biotechnology industry regularly experiences cycles during its development and continental Europe recently experienced its first major downturn. Here we examine in detail where the industry in Europe stands today, the reasons for its latent development, and the measures that are being taken to make it competitive across the globe. The awareness, understanding and expectations of many of the younger biotechnology companies in Europe are now more realistic than ever before.

### A global perspective

#### Advantage USA

The US is the undisputable industry leader in the international biotechnology arena. It has the majority of the larger, publicly listed pharmaceutical and biotechnology companies as well as R&D centres. Biotechnology companies in the US have a very strong drug pipeline with around 300 product candidates in phase III clinical testing.<sup>1</sup>

For larger pharmaceutical companies, recent trends confirm that R&D is increasingly shifting to the US. The setting up of the Novartis Institutes for Biomedical Research, Novartis' global centre for research, in Cambridge, Massachusetts, in May 2002, is but one example. In addition, US companies continue to

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make acquisitions giving them further critical, global mass.

In the pharmaceutical industry, the US remains the key market for the success of New Chemical Entities. Recent studies by IMS confirm that products first launched in the US achieve nearly twice the sales of drugs first launched outside this market.<sup>2</sup> In 2001, despite its traditional strengths in the pharmaceutical sector, only 12% of blockbuster sales (drugs with sales of over US\$1bn) came from Europe. North America dominates growth across the biopharmaceutical sector.

#### The rise of Asia

Increasingly, Asia is gathering momentum as an engine of growth for the pharmaceutical and biotechnology sectors. It has demonstrated major expansion in science and technical innovation and is quickly building capabilities to bring novel chemical and biological entities to the market. Many argue that it is poised to shake both the US dominance in the biotechnology industry as well as Europe's long-standing tradition in scientific research. In the near- to mid-term, China, Japan, India, South Korea, Taiwan and Singapore are expected to be major players.

#### Consolidation in Europe

Despite having comparable numbers of companies, the US biotechnology industry employs more than twice the number of people as the industry does in Europe, has about twice the revenues, spends around three times as much on R&D, raises three to four times as much venture capital and

has a significantly higher number of publicly listed companies.<sup>1</sup> However, this is only part of the picture.

After a slow start, the biotechnology industry in Europe quickly caught up in the 1990s. Since the widespread period of hype surrounding the life sciences in 2000, which coincided with the cracking of the human genome and the full swing of the dot.com boom, the biotechnology industry in Europe has been undergoing a period of healthy consolidation. The negative side of this process, insolvencies of companies, is very evident.

However, consolidation has been accompanied by positive developments that often go unrecognized. Namely, a solid infrastructure for the industry as a whole has been put in place, including access to experienced patent lawyers, improved capabilities for technology transfer from academic institutions to the private sector, more experienced managers, the creation of regional biotechnology clusters, as well as the services and expertise of experienced venture capital funds.

#### Where is the private equity?

Funding remains the major issue on the European landscape. In the region, a funding gap exists for early stage companies that may have viable technologies or drug candidates under development but which have no products in the clinic. In recent times, the level of investment into companies in Europe has fallen below the late 1990s level. In addition, the median time between financing rounds has been steadily increasing over the past three years. Seed and first round financing have been hit the hardest during the recent downturn.



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In 2004, the number of European initial public offerings in the biotechnology sector did rebound somewhat. However, most of these companies are trading at prices significantly below their issue price. It is not clear if this rebound is sustainable or indeed whether it indicates an upturn. What is clear is that European companies have fewer exit opportunities. Merger and acquisition transactions are more or less stable and have not been compensating for a lack of exit opportunities on the stock markets. On the other hand, the recent acquisition of GlycArt by Roche is a visible example that suggests a new positive trend.

### An opportunity for investors

Although financing is one of the clear-cut limiting factors for Europe's biotechnology industry, it also represents a significant opportunity for investing into selective VC's. Investing at the low end of a cycle provides considerable return when higher valuations return to the market. Exciting investment opportunities exist for forward-thinking family offices and institutional investors. Today's market environment is an unprecedented opportunity for investors to support advanced, innovative biotechnologies at attractive valuations.

### A roadmap already in place

The European Commission has been active in putting in place progressive recommendations to help Europe's industry address the challenges it faces. These efforts were started some years ago after a careful evaluation of the European biotechnology industry.<sup>3</sup> The recommendations were timely, the proposed strategy has now been adopted and the necessary measures for improvement are being put in place. In April 2005, for example, the European Commission put forward a proposal by which life science and other businesses stand to gain a larger portion of the proposed €73bn EC research budget. Although not yet approved, measures like this have the potential to stimulate economic growth in Europe.

Four years ago, European leaders agreed to make the European Union one of the world's most dynamic and competitive markets by 2010. Increasing expenditure on R&D is a core component of the measures

needed to reach this goal and to attain parity with the US, which currently devotes around 2.6% of its GDP to R&D.<sup>5</sup> Although the original goal of the European Union will not be met on time, these recommendations are likely to have large implications for the industry as a whole.

### The birth of venture capital

In the US in the 1940s, two inspirational individuals succeeded in organising free market initiatives for start-up financing: Ralph E Flanders, president of the Federal Reserve Bank in Boston and later a US senator, and General Georges Doriot, a professor at Harvard Business School. Flanders' vision was to free fiduciary funds from the restrictions of the investment Act of 1940 allowing them to invest up to 5% of their assets in the equity of new enterprises. Doriot brought with him a vision founded on first-hand experience of innovation at academic institutions. Both were acutely aware that a great deal of the technology developed at the Massachusetts Institute of Technology (MIT) during World War II held great promise for commercial application.

In an environment free from government intervention, Flanders and Doriot succeeded in bringing together the academic community and publicly owned funds arising from the considerable wealth of larger institutions. By tapping into the pools of funds within these financial institutions they were certain that they could create a private and independent entity that could transform technological research into viable enterprises. This idea gave birth to the venture capital industry in the US.

### The relevance to Europe

Despite Europe having a slow start in the biotechnology industry, many of the ingredients are in place today for it to develop into a key part of the global industry. However, in analogy to the history of professional venture capital in the US, two visions are relevant today for Europe. First, it is necessary to free fiduciary funds from the fear of investing into early stage biotechnology companies. This is the only way to create a long-lasting, sustainable biotechnology industry. Second, much technology development has taken place since the mid 1990s both in the years of hype and the following downturn. As

we progress further into the twenty-first century it is worth pursuing these unprecedented opportunities for commercialisation.

It should be fuelled by fresh venture capital. The potential of this innovation is inextricably linked to the most fundamental of all human needs, namely health. The current shortage of short- to mid-term investment opportunities should be a "wake-up call" for financial investors who must seriously consider early stage opportunities in the interests of the long-term development of Europe's biotechnology industry. This has been the route to success for the biotechnology industry in the US.

### The Flanders' message

On November 16, 1945, Ralph Flanders addressed the National Association of Security Dealers in Chicago:

"American business, American employment and the prosperity of the citizens of the country as a whole cannot be indefinitely assured under free enterprise unless there is a continuous birth of healthy infants in our business structure. We cannot depend safely for an indefinite time on the expansion of our old big industries alone. We need new strength, energy and ability from below. We need to marry some small part of our fiduciary resources to the new ideas which are seeking support."<sup>6</sup>

These messages are as pertinent to Europe today as they were to the US at the birth of the venture capital industry. There are reasons to be optimistic about Europe's potential. After a late start, Europe's biotechnology industry now has all the elements for success solidly in place. We just have to reach out and grasp the challenges.

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