



The Houses of Parliament. The British Government has introduced a variety of programmes to promote links between research and enterprise.

THE "buzz" word in Britain these days is enterprise. Gone is the time when the commercial potential or brilliant inventions and discoveries by the country's academics, researchers and entrepreneurs was missed as they were sold off, exploited by other countries, or simply not pursued because of the lack of financial support.

Now, hardly a month passes without a new United Kingdom company, invariably involved in some sector of high technology, seeks a listing on the London Stock Exchange, and gains backing from the financial

community and individual inventors. And Britain's scientific, medical, and information technology (IT) publications bear witness to the rich and diverse projects streaming from the country's universities as well as from small and medium-sized companies.

During a period in the 1980s, several inventions from British companies, most notably a revolutionary computerised body-scanner, were sold to overseas firms. One of the main reasons for this was that those companies tried to do everything themselves. Today's technology firms are using a variety

of business strategies, usually finding allies among much larger companies to share the tasks of manufacturing, marketing or distribution, allowing the innovator to concentrate on research.

Until recently many large companies in the UK tended to disregard new technology which was not of their own making. That attitude has changed, as competitive pressures, such as cost and speed of development, have forced them to look to smaller firms which can often deliver new technology more quickly and cheaply.

A good illustration of this can be seen through the work of a small company in Hertfordshire, some 40 miles north of London. The Technology Partnership (TTP) is carrying out starting work with major pharmaceutical companies around the world. One of the problems faced by the pharmaceutical industry is that the high-throughput screening of chemical compounds has exhausted the repositories of even the largest of them at a time when they are under pressure to increase the creation and testing of new drugs.

Traditional methods of synthetic organic chemists are not up to the self-imposed challenges that pharmaceutical giants have set themselves; those of cutting costs and registering an increased number of new drugs each year.

To investigate methods of overcoming the problem, TTP formed a consortium some two years ago with international pharmaceutical manufacturers. A good example of the increasing entrepreneurial spirit in the UK can be seen in the famous university city of Cambridge in eastern England. A research team at Cambridge University has formed a small company, Cambridge Display Technology Ltd (CDT), which is leading research into light-emitting polymers (LEPs) — or "plastics that glow" — incorporated into devices that initially are expected to be used to create

This has resulted in the development of a computer-controlled storage system and a robotic system, linked into a database of known compounds, allowing a chemist to control the mixing process from a computer workstation, leaving a machine to carry out chemical synthesis under remote control, thus increasing the process of discovery and optimisation.

Creating new organic molecules is traditionally a manual process, involving a chemist in many hours of work to mix, react, purify and analyse compounds. Rarely was it possible to create more than 100 new compounds a year. By using the new automated synthesis system, the process is yielding productivity gains a thousand times better.

On average, it takes 10 to 12 years to develop a new medicine at an estimated cost of £200 million and only one or two compounds in 10,000 eventually reach the market. Of these only one medicine in seven goes on to become a commercial success, so TTP's research work is invaluable in speeding this process.

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ing and physics faculties of at least 18 universities.

They may soon also offer an alternative to the cathode ray tube display in television receivers as well as liquid crystal display screens. While working at the university, the team discovered a method of changing the chemical composition of a polymer and sandwiched it between a pair of electrodes to produce a yellow-green light well into the range of conventional light-emitting diodes (LEDs).

Realising the enormous potential of this discovery the team formed CDT and took out key patents covering the polymer technology involved. Significantly, Cambridge University is one of CDT's major shareholders, a pioneering step for an institution, which has previously been reluctant to invest its own funds in the commercial exploitation of research.

Also helping to enhance the prospects for Britain's growing army of entrepreneurial companies is an informal network that brings together academics with fresh ideas, investors and advisers. Further help and encouragement comes from the British Government, which has pursued a policy of actively helping to build bridges between academia and industry, especially through its LINK programmes. Under these programmes university research teams co-operate closely with appropriate companies, with Government backing to help see that new technologies quickly find their way into the market place.

Biotechnology has proved to be an especially successful area for LINK programmes. Just one of many examples is a collaboration project between Affinity Chromatography Ltd (ACL) and the Institute of Biotechnology in Cambridge, which has led to a commercial product launch.

The project aimed to investigate the possibility of developing synthetic affinity ligands aimed at specific proteins by the use of computer-aided molecular design. Proteins used for human healthcare applications need to be extensively purified and affinity chromatography can deliver very high levels of purity. But the availability of sufficiently robust ligands has often limited the use of this attractive method of purification.

The institute was particularly innovative in affinity ligand design and worked with ACL to identify synthetic ligands, which mimicked natural proteins used in purification processes. These biomimetic ligands can be used to isolate immunoglobulins from several sources including mammalian plasma and cell culture medium.

ACL has further developed and patented these ligands which have recently been launched as a commercial product under the trade name "Mimetic A".

There is also close collaboration between the UK's electronics industry where links have been established between the industry and the engineer-

part of an overall Government initiative (established in 1994) called the UK Foresight Programme, which aims to improve the competitiveness of the UK economy and enhance the quality of life, by bringing together business, the science base and government to identify and respond to emerging opportunities in markets and technologies.

The programme is spearheaded by 16 independent panels set up to explore opportunities in different sectors of the economy. The panels include representatives from business, government and academia and some £400 million has already been committed by the Government to initiatives which reflect Foresight Priorities.

A further initiative came in June this year when the Government announced a scheme to encourage universities to market their own research successes, in a bid to put an end to wasted opportunities.

Called University Challenge, this seeks to unlock the wealth

of knowledge and innovation in Britain's colleges by creating £50 million in venture capital. The project was announced by the Chancellor of the Exchequer, Gordon Brown, in his budget. The challenge will invite universities to compete for funds for seed-venture capital. These will be used to help turn scientific discoveries into commercially viable projects, improve university business awareness and bring innovative and competitive products to the market place.

The days when Britain had a reputation for producing brilliant inventors and researchers but less-imaginative entrepreneurs are over. John Battle, the Minister for Science, Energy and Industry, said: "With University Challenge, the Government is showing that it is serious about supporting efforts to renew Britain and ensure that it is an enterprising nation building on our science-base success in the 21st century."

## UK Trade Fair

### Questions to the British High Commissioner and Replies

#### Q1: How do you view the success of last year's Trade Fair?

A: Last year's fair was an outstanding success with the vast majority of exhibiting companies achieving worthwhile business or developing new relationships that will lead on to strong business partnerships in the future. For example, more than £300,000 worth of direct sales were made at the trade fair last year. The follow-on business that was generated through the contacts made at the Fair will almost certainly have been worth many times that figure. It is not surprising therefore that, as a result of this success, our companies and the Department of Trade and Industry agreed with me that the UK Trade Fair should become an annual event.

#### Q2: What are the major highlights of this year's Trade Fair?

A: This second UK Trade Fair will again showcase the wide range of British technology and services available in Bangladesh. It will provide an opportunity for the Bangladeshi business community to renew links with UK suppliers and develop new buying or co-operative arrangements. We also hope that the fair will help to identify new opportunities for joint ventures between British and Bangladeshi companies. By focussing attention on the depth and breadth of British commercial interest in Bangladesh we hope to reinforce once again the strength of British companies' commitment to doing-business in Bangladesh; thereby building on and reinforcing the already good partnership in trade that exists to the mutual benefit of both countries. This year's Trade Fair will have at least 30 per cent more companies exhibiting and will be more than 50 per cent larger in scale than in 1997. So already the UK Trade Fair '98 can be said to be bigger and better than before. I fully expect that this will be carried through in to even more sales and worthwhile business opportunities than we saw last year.

#### Q3: How do you think British companies have profited/can profit from the UK Trade Fair?

A: All participating companies reported that they were satisfied with the business transacted during the Fair. However, the real benefits of the event will have been felt in the longer term through the follow-on business and new business relationships that have developed from the initial contact at the Trade Fair.

#### Q4: Do you think there is scope for holding Bangladesh-Britain Trade Fairs either here or in Britain?

A: In many ways the UK Trade Fair 1998 is already very much a Bangladesh-Britain Trade Fair. Most of the companies represented have established businesses in Bangladesh run by local business people and employing a large number of Bangladeshi people. These companies have also invested heavily in Bangladesh over the years.

#### Q5: Do you think that British educational institutions are generally happy with the responses received from Bangladeshi students?

A: Definitely, and the evidence for this is that British institutions come here for education promotion visits such as the Education Exhibition in the UK Trade Fair 1998. Bangladeshi students are hardworking and are doing very well. The interest in Bangladeshi students is self-evident and growing because last year seven British Institutions participated in the Education Exhibition, this year there will be fifteen represented. Furthermore, a few British institutions are now offering partial scholarships to Bangladeshi students (more details of which can be obtained by contacting the British Council Education Promotion Unit).

#### Q6: Are more students from Bangladesh attending British institutions than before?

A: Yes, a British degree is highly sought after and becoming more so as the level of skill and job opportunities increase in Bangladesh. In 1997, 709 student visas were issued to Bangladeshi students, but by October 1998 the figure had already reached 678 and so should exceed last year's total comfortably.

#### Q7: What is the number and names of British Multinationals (MNCs) now having production operations in Bangladesh?

A: There are more than fifty UK companies based in Bangladesh and a number are involved in local manufacture of one kind or another. With this number of companies it would be impossible to name them all but I think the following list (all of which will be exhibiting at the show) is a good indication of the range of British companies working with Bangladesh:

BOC, BAT, BP, Cairn Energy, Cummins/Pethow, Duncan Brothers, GEC, James Finlay, Lever Brothers, Shell, Tootal Thread.

## British Council

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agement Systems.

Distance learning programmes are by far the most popular mode of obtaining a foreign degree. Currently, there are far fewer 'institutionalised' distance learning programmes run in Bangladesh by British universities compared to the demand. Many local institutions are eager to initiate Distance Learning degrees with foreign universities.

**Supporting Education Information Statistics**

On average, the Council's Education Promotion Officer receives at least 80 enquiries per month from students interested in British qualifications through distance learning.

\* British MBAs are not as widely recognised as those from

the USA. UK universities which provide MBAs and other management qualifications can establish links with Bangladeshi institutions which are purposely geared towards the international trading context.

The British Council is keen on promoting British MBAs, informing students about the advantages and increasing number of students obtaining British MBA degrees.

The education system in Bangladesh reflects that of Britain at school as well as university level. However, more of the private universities are adapting to American curricula because of the accessibility and interest the American institutions have shown in the market. Many universities have American textbooks and resources and the teachers are often trained in USA.

## WORLD CHAMPIONS

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