July, 1992

EBIS

EUROPEAN BIOTECHNOLOGY INFORMATION SERVICE

Vol.2 no. 3

NEWSLETTER

# Editorial: "You can't invest in a technology"

**"You don't invest in trends or technologies; you have to invest in companies"**

At the Montreal "Bio-Recognition" conference in June, the "Bio-Business" sessions sought to digest the lessons of the US investment bonanza which in 1991 poured some $ 3.6 billion into biotechology, including $ 1.2 billion for initial public offerings (IPOs). Lots of governments round the world seek to "stimulate biotechnology"; but as Mary Tanner of Lehman Brothers said, "you don't invest in trends or in technologies; you have to invest in companies".

*Continued on page 2*

## Other pages:



EUROPEAN BIOTECHNOLOGY INFORMATION SERVICE

Commission of the European Communities

Other speakers explained the mysteries of "mezzanine" financing on the way to the IPO, how to get your company started if your friends won't lend you $ 25 m, and why the rich friends want to see an "exit route" before they put their money in.

**More vigorous development of European SMEs is essential**

In Europe, more of the biotech investment occurs within the big companies; but in industry and government there is consensus that a more vigorous development of "SMEs" (small and medium enterprises) in the bio-industry sector is essential. The recommendations of a Commission-sponsored report from Eurotechnology Associates on SME needs are summarized on p. 17, and its recommendations for actions at Community level are now under study.

**UNCED Biodiversity Convention seen as inimical to intellectual property interests of US biotechnology**

The role of public and private finance in biotechnology for development was highlighted at Rio in June, at the UN Conference on Environment and Development. 154 countries signed the conventions on Climate Change and on Bio-diversity negotiated by the UN Environment Programme. The latter was thought to be contentious, President Bush seeing some clauses as inimical to intellectual property interests of US biotechnology. In the European Parliament, the proposed directive on the protection of biotechnological inventions was referred back to the Legal Affairs Committee to check its consistency with the Bio-diversity Convention. However, there are important examples of how to reconcile such conflicts e.g. the model agreements pioneered by Commission-supported initiatives in the 1980s which are now ensuring the supply of plant germplasm samples for screening in the laboratories of the developed world, on a basis equitable for the source country, while offering exclusivity to the companies.

**Agenda 21 document including "sustainable agriculture and rural development" and "biotechnology" signed by all parties at Rio**

Less contentiously, the Agenda 21 document was signed by all parties at Rio. Amongst its 40 chapters are "Sustainable Agriculture and Rural Development", and "Biotechnology": the latter focussing on increasing the availability of food, feed and renewable raw materials, and the related measures.

But to return to our theme — if biotechnology is to become something more than mere intellectual curiosity (and the subject of numerous public sector reports and Newsletters), it will require investment; and we must offer companies the possibility of creating innovative intellectual property in order to stimulate that investment.

# I. Community Activities (Commission, Parliament, Council)

## I.1. Commission News

## BCC continues Work

**BCC continues routine, high level discussion on biotechnology Progress on the April 1991 communication to be reviewed**

The Commission's Biotechnology Coordination Committee (BCC) met for the 10th time in Brussels on 21 May 1992 under the chairmanship of the Secretary-General, David Williamson. The progress of the many Commission activities relating to biotechnology was considered. DGIII (Internal Market and Industrial Affairs) was charged with preparing a progress report on the implementation of the recommendations contained in the Commission communication of April 1991 (see EBIS 3, p. 3) on competitiveness in biotechnology.

**Commission view on patenting cDNA sequences agreed**

On patenting of partial cDNA sequences (see following article) it was agreed that the Commission representative in Washington should speak at the US government organized public hearing on genome patenting.

**2nd Round Table planned**

The results of the meeting on a "Citizen's Audit of Biotechnology" were reviewed (see following article) and it was agreed to hold a second Round Table on biotechnology later in the year (see EBIS 5, p. 3 for report on 1st Round Table). Forthcoming international meetings in biotechnology were discussed. It was agreed to return to the topics of biotechnology SMEs in the Community, and the EC/US/Japan technology linkages and relative competitive positions.

## Citizen's Audit of EC Policy on Biotechnology, Brussels 19-20 May 1992

**ECAS = Euro Citizen Action Service**

Several Commission officials participated in this meeting organized by Euro Citizen Action Service (ECAS). The conclusions of the Audit may be summarized as follows:

**Public concerns must be taken into account at the earliest possible opportunity**

— public concerns on ethics, health, safety, environment and information must be taken into account at the earliest possible stage of the Commission's development of biotechnology policy;
— a Round Table on biotechnology should be called by the Commission with major participation from associations representing the public interest;

**The opinions of the group of bioethics advisers should be made public**

— the opinions of the Group of Advisers on the Ethical Implications of Biotechnology should be made public. There should be a notification procedure so that interested parties can make known their views on subjects under review.
— Biotechnology healthcare products must be introduced as early as possible for the benefit of patients.

**Call for greater transparency in Commission's processes and procedures**

— There is a need for greater transparency in the Commission's development of biotechnology policy.

To obtain a report of the meeting prepared by ECAS, use the Response Form.

## Patenting of partial cDNA Sequences? US public Meeting, Commission and Member States Views

**EC Research Ministers (F, UK, I) criticize NIH patent action**

Over the past 12 months, worldwide debate has followed the applications by the US National Institutes of Health for patents on partial complementary DNA ("cDNA") sequences (expressed sequence tags ESTs) of unknown utility or function. Critical letters have appeared in Science from three Research Ministers in EC Member States (Mr. Curien of France, 20 December; MM. Howarth of UK and Ruberti of Italy, 3 April), arguing that such patents (if ever granted) would dilute the "utility" criteria for patenting, and unhelpfully inhibit international scientific collaboration.

**Scientists (HUGO and ASHG) and industrialists (IBA, PMA) also opposed**

Similar criticisms have been voiced by HUGO (Human Genome Organisation), ICSU (the International Council of Scientific Unions), and the American Society of Human Genetics; and more recently, by the (US-based) Industrial Biotechnology Association and Pharma-

ceutical Manufacturers' Association. These criticisms do not question the validity of patents on a genuinely useful invention involving a known human gene. The smaller ABC (Association of Biotechnology Companies) has endorsed the NIH action.

**Public meeting, 21 May, hears European arguments and CAN-HUG Resolution**

The US organized on 21 May a public meeting chaired by Dr. Mary Clutter of US National Science Foundation, also Chair of the panel on Genome Patents (reporting to Office of S&T Policy). At the meeting, Commission science attaché Gilbert Fayl indicated European concerns and the need for pursuing an international agreement. He quoted in his statement a resolution unanimously adopted on 15 May by the Member State representatives CAN-HUG (Committee of an Advisory Nature on the EC Human Genome Analysis programme), which states:

**"Don't patent basic scientific results"**

"This committee, mindful of its responsibility to advise the Commission on the management of the Human Genome Analysis programme, expresses to the Commission its unanimous opinion and concern that the submission of patent applications for fragmentary complementary DNA (cDNA) sequences of unknown utility or function is contrary to the interest of international scientific collaboration; and calls upon the Commission to seek international agreement to the effect that such applications should not be pursued.

The concerns of the committee are amplified by the reflection that the present case may be a paradigm for future attempts to patent basic scientific information.

Further to this point, the committee considers that the dilution of patentability criteria by applications which demonstrate little genuine utility diverts resources and attention from the pursuit of genuine innovation".

Strong criticisms were voiced also by France's representatives, Dr. Axel Kahn of INSERM (National Institute for Medical Research), chairman of the Biomolecular Engineering Commission and Dr. Jacques Damagnez of the Foreign Office. Dr. David Owen of UK Medical Research Council indicated the reluctance with which they have been forced into a similar step by the US action, and emphasized the desirability of an international agreement.

**Dossier available**

A dossier of relevant materials, including those referred to, is available from CUBE. (use Response Form).

## I.2. Research and Related

## Concertation in BRIDGE, 1991-1992

**Report on concertation tasks: information and promotion for biotech**

In a 20-page report to the Biotechnology Coordination Committee and the Advisory Committee for the BRIDGE programme (1990-93) now cleared for publication, the CUBE team summarize the concertation action over the past year and a half.

The action has four tasks:
(i) monitoring, and assessing developments in biotechnology, and informing public authorities (hence EBIS);

(ii) identifying how to promote biotechnology in Europe, via Member State and Community programmes and policies;
(iii) public information, to increase awareness and understanding;
(iv) promoting the biotechnology small firm sector.

**Future expansion: Ethical, socio-economic and risk assessment**

Beyond the various actions itemized, the report looks ahead to the expansion of BRIDGE objectives via "horizontal activities" under BIOTECH (1992- 94), on ethical, social and economic consequences of biotechnology, and in the fourth Framework Programme.

To obtain the report, use the Response Form.

## Cooperation in Science and Technology with Central and Eastern European Countries

**55 MECU 1992 programme with closing date of 7 August 1992**

The call for proposals for this 55 MECU programme has been issued with a closing date of 17:00 hrs. 7 August 1992.

**Several actions of relevance to biotechnologists**

The actions proposed of relevance to biotechnologists are as follows:
1. Scientific and technical mobility (research fellowships; go East and go West) — 15 MECU for 1992.
2. Networks, Conferences, Workshops and Seminars — 5 MECU for 1992.
3. Joint Research Projects in priority areas including quality of life (environmental protection, biomedicine and health) and industrial technologies (agro-industry and food) — 20 MECU for 1992.
4. Participation in EC RTD programmes including Environment, Non-nuclear energy, Biomedical and Health Research and Human Capital and Mobility — 10 MECU for 1992.
5. Participation in COST projects — 5 MECU for 1992 (see article on COST and biotechnology in this issue).

Details: M.P. Venet. Tel.: (32) 22355936; M.L. Durieux. Tel.: (32) 22350718.

## Advanced Workshops in Biotechnology

**60% of time devoted to practical work**

In the framework of the Biotechnology R&D programme BRIDGE, the Commission of the European Communities is organizing a series of 9 Advanced Workshops in Biotechnology at which at least 60 % of the time will be devoted to practical work.

**Some grants for travel and accommodation expenses available**

Attendees are expected to have a fluent knowledge of English; their number will be limited to +/- 15 per workshop. A few grants covering travel expenses and accommodation will be available.

The relevant information can be obtained from the local organizer; the selection of participants will be made by the services of the Commission on the basis of the scientific curriculum vitae.

All requests, together with a recent copy of the C.V. should be mailed at least two months before the start of the workshop to:

**Applications to arrive 2 months before workshop**

A. Léonard, Commission of the European Communities, DG XII/F-2, rue de la Loi, 200, 1049 Brussels.

**Advanced Workshops in biotechnology. Applications for travel and accomodation grants must arrive at the Commission two months before workshop**

1. Biotechnological process engineering
Bellaterra (Barcelona), Spain
7-18 September 1992
**Local organizer:** Prof. Carles Sola, Departement de Quimica, Unitat d'Enginyeria Quimica, Edifici C, 08193 Bellaterra (Barcelona), Spain. Tel.: (34) 35811018; Fax: (34) 35812013.

2. Production of antibodies & immunological methods to detect and compare plant pathogens
Moncada-Valencia, Spain
26 October-6th November 1992
**Local organizer:** Dr. M. Cambra, Instituto Valenciano de Invest.Agrarias, Apartado Oficial, Carretera Moncada-Naquera, Km 4,5. Tel.: (34) 61391000; Fax: (34) 61390240.

3. Biocatalysis in non-conventional media
Athens, Greece
19-30 October 1992
**Local organizer:** Prof. B.J. Macris, Dr. F.N. Kolisis/Dr. D. Kekos, Department of Chemical Engineering, National Technical Univ. of Athens, 5 Iroon Polytechniou Str., Zogafru Campus, 15700 Athens, Greece. Tel.: (30) 17757737; Fax: (30) 17700989.

4. Sexual plant reproduction
Siena, Italy
15-29 January 1993
**Local organizer:** Prof. M. Cresti. Dipartimento di Biologia Ambientale, Università Degli Studi di Siena, Via P.A. Mattioli 4. 53100 Siena, Italy. Tel.: (39) 577298920; Fax: (39) 577298860.

5. Fish genes & regulation of their expression
Würzburg, Germany
October 1992 (one week)
**Local organizer:** Prof. M. Schartl, Theodor-Boveri-Inst. für Biowissenschaften, Physiologische Chemie I, Am Hunbland, 8700 Würzburg, Germany. Tel.: (49) 9318884198; Fax: (49)9318884150.

6. Membrane proteins
Lisbon, Portugal
28 September-9 October
**Local organizer:** Prof. J.M. Novais, Instituto Superior Tecnico, Departamento de Engenharia Quimica, Av. Rovisco Pais, 1096 Lisboa, Portugal. Tel.: (351) 1802045 Ext. 1233; Fax: (351) 18480072.

7. Molecular ecology of rhizosphere bacteria
Cork, Ireland
22 March - 2 April 1993
**Local organizer:** Prof. F. O'Gara, Department of Food Microbiology, University College Cork, Ireland. Tel.: (353) 21276871; Fax: (353) 21275934.

8. Introduction of genetically modified organisms into the environment — Biosafety aspects
Wageningen, The Netherlands
10-18 December 1992
**Local organizer:** Dr. N. CH. Wevers, EERO, P.O. Box 182, 6700 AD Wageningen, The Netherlands. Tel.: (31) 837084924; Fax: (31) 837084941.

9. Applications of advanced immunological techniques
Porto, Portugal
2-8 October 1992
**Local organizer:** Prof. M. de Sousa, Instituto de Ciencias Biomedicas de Abel Salazar, Largo Prof. Abel Salazar 2, 4000 Porto, Portugal. Tel.: (351) 2323818; Fax: (351) 22001918

## Biosensor Technology in Europe

**Final report on EC sponsored study**

The final report on this study led by Prof. Marco Mascini of Florence and Dr. Tony Turner of Cranfield (UK) and supported by the Concertation Action of the BRIDGE programme is now available (see EBIS 1, p. 5 for a description of the study).

**Considerable differences between EC, US and Japan. A marked lack of European industrial interest**

The report finds considerable differences both between EC Member States and between the EC, US and Japan. Although there is a comparable level of research activity in the EC, Japan has the highest number of patents and the USA is the most important single market. The EC is lacking in industrial interest compared with the US and Japan. EC Member States have varying policies towards biosensors and the amount of research varies considerably between them. No attempt appears to have been made to coordinate Member State policies.

**Academic/industrial collaboration is recommended — A common strategy for biosensor research**

The report recommends that the Commission should do more to encourage industrial interest in the sector through the support of collaboration between industry and academia. It suggests how public policy might be developed both at national and Community level to formulate a common strategy for biosensor research which will ensure that Europe does not lag behind in the commercialization of this important technology.

To obtain the report, use the Response Form.

## Protein Design/Bioinformatics — Catalogue of BAP Achievements

**Final reports of BAP contractors available**

The detailed final reports of BAP contractors for the period 1989-1990 in the areas of Protein design and bioinformatics have now been published in a report edited by B. Nieuwenhuis. To obtain the report (limited numbers), use the Response Form.

Report EUR 14089 available from Office for Official Publications of the European Communities. L-2985 Luxembourg.

## BRIDGE T-(Targetted) Project. Biotechnology of Lactic Acid Bacteria (LAB)

**34 laboratories collaborating in a coordinated research programme**

An illustrated brochure has been produced describing the activities of this coordinated project (see EBIS 2.1., p. 9) which involves 34 laboratories in 11 Member States and Norway.

**LABIP = Lactic Acid Biotechnology Industrial Platform, to establish a dialogue with researchers**

An industry platform (LABIP) comprising some 40 firms and industrial associations has been established in view of technology transfer and commercialization of the results.

To obtain the brochure, use the Response Form.

## Lipase T-Project Meets

**Annual meeting of Lipase T-project, Capri, Italy**

The Annual Meeting of the Lipase T-project in the BRIDGE programme will take place in Capri (Italy) from 1 to 3 October 1992 and is organized by Prof. E. Cernia, of the Consorzio per il Trasferimento delle Biotecnologie (CTB). The meeting is entitled "Lipase: Structure, Mechanism and Genetic Engineering" and will have four main sections: molecular cloning and expression, purification, structure and mechanism.

Details: E. Cernia. Tel.: (39) 6485451; Fax: (39) 64885614.

## The Yeast Industry Platform (YIP)

**Industrial platforms in association with BRIDGE "T" Projects**

Industrial platforms have been set up by industry in association with most of the BRIDGE programme "T" = targeted projects (see EBIS 2, pages 8&9 for articles on the Lipase Industrial Platform and the Animal Cell Technology Industrial Platform (ACTIP). They are seen as efficient channels for dialogue between European industry and academic researchers, technology transfer and ultimately commercialization of EC sponsored research.

**YIP member companies: Total annual sales 180 billion ECUS, total workforce 600,000 employees**

**YIP members are looking for possible applications of Yeast Genome knowledge**

YIP (Yeast Industry Platform) represents a group of European companies who all produce yeast or yeast-based products and use yeast in the biochemical, agro-food and pharmaceutical sectors. The purpose of the platform is to organize the exchange of information concerning EC research programmes, particularly the BRIDGE project involved with sequencing the yeast genome. YIP members are looking for possible applications of the sequencing knowledge to their own research and development projects. YIP also seeks to contribute to regulatory, educational and communication issues, in order to achieve a balanced public image of the biotechnology industry.

**Descriptive booklet available**

A 12 page illustrated booklet describing YIP, "From tradition to High-Tech; the yeast, products, processes, prospects, impacts" is available from Tech-know, 2 Avenue de l'Observatoire, 1180 Brussels, or use the Response Form.

## COST and Biotechnology

**23 European States cooperating in science and technology**

Cooperation in Science and Technology (COST) is an association of 23 States (the 12 EC Member States and 6 EFTA Member States plus Czechoslovakia, Hungary, Poland, Turkey and Yugoslavia). The aim of COST is to develop cooperation in specific projects of science and technology research and development, in particular by coordinating the work of national research agencies.