

DEVELOPING BROADBAND NETWORKS

Ingredients of a creative infrastructure

A MAJOR OPPORTUNITY ARISING FROM THE CONVERGENCE OF COMPUTING, BROADCASTING AND TELECOMMUNICATIONS IS THE ABILITY TO CREATE THE CONTENT CARRIED BY THESE INFORMATION NETWORKS. THE BROADBAND SERVICES EXPERT GROUP, HEADED BY ABA CHAIRMAN BRIAN JOHNS, RELEASED ITS INTERIM REPORT, *NETWORKING AUSTRALIA'S FUTURE*, IN AUGUST THIS YEAR. HERE ABA UPDATE REPRINTS ONE OF THE REPORT'S KEY ISSUES.

The communications revolution is only just beginning. In many respects, Australian industry is starting on an even footing with other countries. The key to success is the existence of a 'creative infrastructure', an environment that is conducive to the development of broadband networks, related services and the creation of content.

INGREDIENTS OF A CREATIVE INFRASTRUCTURE

The most important ingredient will be nurturing our creative people. Artistic, business and technical talent are equally important. These talents must be recognised and developed within the education process. We need to encourage creativity and the determination to succeed.

We need a better understanding of what must be done to promote these qualities. It is essential that people with talent should feel proud of their gifts, declare them and be enabled to develop them. This is especially true of our youth but should equally be encouraged throughout the community.

This country has a good record of fostering its culture and the arts. That support needs to continue and to be extended to



ABA Chairman Mr Brian Johns... 'There are considerable opportunities for Australian industry in developing leading edge applications and content for broadband networks.'

the new forms made possible by converging technologies. We must help open new horizons to our creators, allowing them to fulfil their potential and create new services that will see them thrive as well as fulfilling the needs of users.

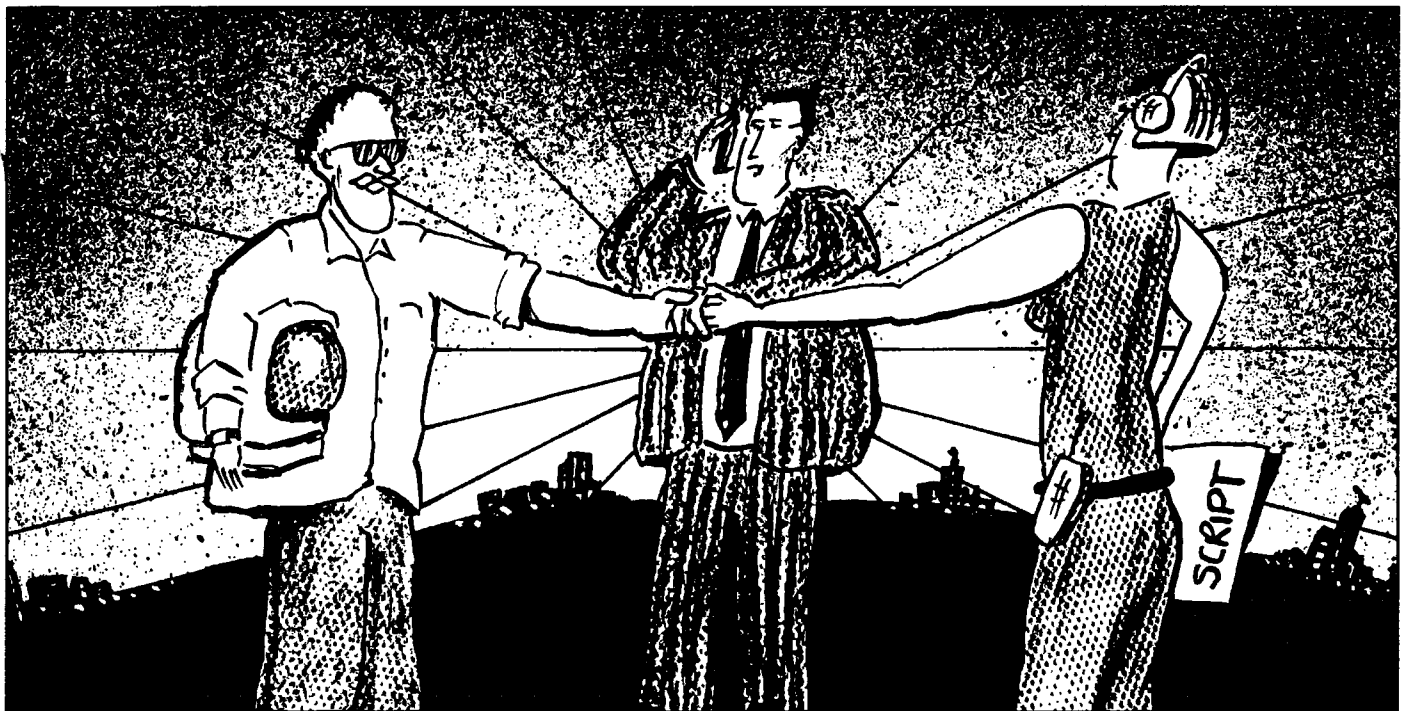
EXPERIMENTATION AND NETWORKING

Talents are distributed across companies and it may be necessary for them to form teams for specific project opportunities. A suggestion to the Expert Group from a number of quarters has been that new ideas for services would be facilitated by arrangements that allow creative people to congregate to cross-fertilise ideas. And new ideas can be borne out of people 'playing' with the latest technology and services.

It has been suggested that two types of 'laboratory' would be valuable to develop a productive relationship between arts, technology and industry on issues that do not involve competition between companies. One would be a think-tank for ideas. This would be a site for people with different talents, skills and backgrounds to exchange and generate ideas. It would provide a meeting ground for the intersection of ideas. Such a facility could help develop a cultural affinity

between artists and scientists and engineers.

The other would be a hardware laboratory which could be sponsored by large companies and government to give small companies and creative individuals ac-



cess to experimental and production facilities that they could normally not afford. The commercial sponsors would benefit by being able to spot talent and innovative services early in the piece, allowing them to make an offer of employment or contract for the rights to the services. They would also benefit from the increasing size of the talent pool.

In addition, there will need to be effective networking:

- to promote strategic alliances among content producers and between content producers and multinationals;
- to promote cooperation between users and producers so that producers know what consumers need and how to make it user-friendly;
- among users to disseminate information on useful content and services and to form effective lobby groups to put their views to government, network providers and content producers; and
- between government agencies and producers to promote the industry, to encourage firms to enter the market, to gather market intelligence (the Australian Trade Commission, Austrade, could help with overseas markets), to ensure a rational regulatory framework, and to create an awareness in government of issues that affect the industry.

RESEARCH AND DEVELOPMENT

The development of broadband networks

and broadband services is heavily dependent upon advances in technology and on continuing investment in research and development. Australia's strengths are:

- a well developed technical base in telecommunications. Relatively few coun-

‘Australian telecommunications engineers have a breadth of expertise and experience beyond that found commonly in other advanced countries. This gives them a whole of system capability which provides a real advantage.’

tries have as substantial a technical base. Only Japan and North America can match it within the Pacific Rim. Australian research and development groups in both industry and research institutions have demonstrated they can be internationally competitive;

- telecommunications is one of the few areas where there is good balance of research and development effort between the business and research sectors in Australia. Universities and CSIRO spend around \$40 million per annum in this area while business enterprises spend almost 10 times as much—about \$350 million per annum; and
- Australian telecommunications engineers have a breadth of expertise and experience beyond that found commonly in other advanced countries. This gives them a whole of system capability which

provides a real advantage.

An area of weakness in Australia's technical and research and development base is that hitherto there has been a great deal of emphasis on hardware and telecommunications devices at the expense of the broader system issues. This is particularly

true for research and development relevant to broadband services. Experimental research and development in this area, particularly at the systems level, has been constrained by the lack of an accessible broadband network in Australia, whereas such networks have been running in North America and Europe for some years now.

This situation will be rectified to some extent when Telstra's Experimental Broadband Network (EBN) links Melbourne, Canberra, Sydney and Brisbane in the latter part of 1994 or early in 1995.

Telstra is making a seed investment in this Network to provide a platform for the cooperative development of applications that take advantage of the latest technologies, and to encourage the demand for broadband services. The Network will be

made available to organisations which are leading broadband developers, and leading edge users with applications requiring broadband.

The Inquiry into Research Data Networks being undertaken by the Australian Science and Technology Council is due to report in September 1994. It is expected to make recommendations on how Australia should best meet the information network needs of the research and higher education communities. The Expert Group awaits this report with interest.

Also of significance to Australia's research and development capabilities is the formal establishment of the Research Data Network Cooperative Research Centre in April 1994. The Centre will receive funding support for a period of five years to spearhead research projects on broadband network technologies and applications, and will make use of the EBN.

Notwithstanding these encouraging developments, there are strong views that Australia will find it increasingly difficult to be competitive unless more resources are committed to high performance computing and communications.

The eight Cooperative Research Centres directly concerned with information and communications encompass over thirty of the organisations with a key role in developing broadband services. In a joint submission to the Expert Group, they have proposed that government play a much stronger role in the funding of experimental network infrastructure and as a leading edge user of broadband services and applications. They have also identified the areas of research relevant to broadband services where Australia could be competitive.

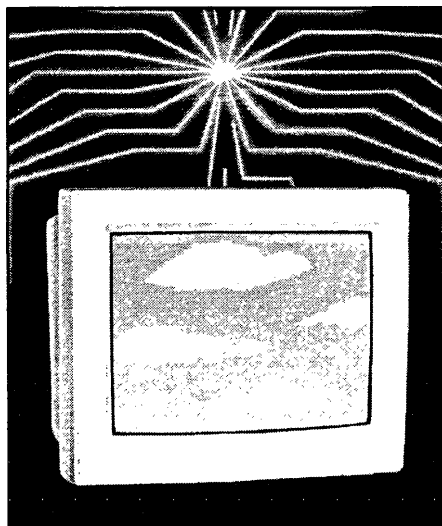
For example, there are opportunities for Australia to build on its general software design strengths, and integrate those strengths with a strong hardware base to develop our systems expertise. This systems expertise can then be applied to developing carefully selected superior applications and services.

Clearly there are a number of areas in which Australian industry can competitively make a significant contribution to design, development and/or manufacturing. Some of these could be targets for government programs, and areas in which a high degree of collaboration between

firms, researchers, carriers and customers is warranted.

PROMOTION

Industry opportunities, domestically and overseas, need to be identified and much can be done to promote them. At a general level, this will encourage firms to enter the market, education institutions will be better able to provide for the needs of industry, and people will be encouraged to seek a career in the new industries. It will also help the financial sector understand the market potential and reduce their



perception of the risk. It could also lead to forms of financing that are better suited to the markets, the companies involved and the nature of the product.

In addition to general promotion, market research needs to be undertaken to identify opportunities of common interest to companies, especially in overseas markets. Small companies have a particular problem being able to afford market research and this is compounded by the need to target the international market. One suggestion to the Expert Group has been that it should be possible for industry and government to undertake collaborative research on overseas markets to identify priority markets and products.

Australian capabilities need to be promoted overseas. The Department of Industry, Science and Technology has taken an initiative in the multimedia area by initiating a market and investment strategy for the industry. Austrade can help with market research as well as in promoting Australian industry overseas.

KEY PLAYERS

Telecommunications carriers will benefit from increased use of networks by consumers and service providers, so it is in their interests to promote content creation, easy and widespread access by users and a healthy service provision industry. They can commission content as well as getting into the business themselves. They can set tariffs which increase consumption and encourage service providers to enter the market. They can make a direct contribution to a number of the ingredients of a creative infrastructure.

Broadcasters are also major users of content and can participate in most of the elements of a creative infrastructure. In particular, they have significant production facilities which they could consider making available to content creators.

The national broadcasters—the ABC and SBS—can place special emphasis on fostering new talent and providing air time for their products.

Service providers and community groups can work with the carriers and content providers to identify the priority needs of consumers, thereby helping the carriers roll out networks and provide services in the most effective way.

Educational institutions and specialist centres such as the Australian Film, Television and Radio School and Film Australia are good candidates as centres of excellence and as a site for specialist facilities such as for production and media laboratories.

Multinational and large Australian companies which will benefit from the emerging industry could sponsor such centres.

In summary, a creative infrastructure will lead to a rich, empowered, participative society. We will have control over technology, not be controlled by it. We will bridge the gap between the information rich, and the information poor, within this society and others.

Our cultural sector will prosper—it will be an essential ingredient of the content producing industry, there will be a more widespread appreciation of it domestically and overseas. It will help generate the wealth to subsidise the next cycle of development. ☐

[Copies of Networking Australia's Future can be obtained from Mr Geoff Luther by phoning (06) 274 6486.]