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In the area of I&T (Informatics and Telematics)
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BROADCAST AND INTERACTIVE TV AND VIDEO SERVICES

The implications of converging technologies and the various services that use them have been widely recognised. Many political, commercial and social issues are raised by the future near-universal availability of sophisticated information and entertainment products in every home and school.

EURIM has reviewed all aspects of digital television and audio broadcasting, including conditional access, customer interface equipment, infrastructure, content, law and regulation.

Because policy issues on analogue broadcasting are already set, this area is reviewed with the sole purpose of learning lessons for the digital era.

One field only briefly touched upon here is that of copyright and the fight against piracy. This is expected to become part of an in depth and separate Brief on Intellectual Property Rights (IPR) in 1996.

Summary of Conclusions

- The important digital market is too immature and too complex yet to proscribe the standards for set-top equipment: EURIM expects commercial logic will oblige manufacturers to co-operate in providing appropriate solutions.
- There is a real risk of over-regulation. Positive European regulation is essential in the provision of infrastructure, but "infostructure" regulation should be left to nation States. Convergence requires simpler and fewer authorities.
- Within nation States, the best model for infostructure regulation is that used by UK publishing.
- Public service networks provide the means to preserve national cultures with least market distortion.
- Digital Audio Broadcasting may well present significant technical and commercial opportunities for Europe.

Consumer Interface Equipment

Politically and commercially controversial, the question is what national and EU steps should be taken to ensure that a free and fair market is created for consumers using TV sets, PCs or other home equipment?

Currently, broadcasting is based on analogue technology. Compression of either analogue or digital signals involves some loss of quality but digital techniques are more resilient and allow 5 to 10 channels to be squeezed into the width of one analogue channel. Coupled with even greater channel availability on fibre optic cables, this massive potential increase in the number of TV and audio

channels has focused attention on subscription and Pay TV if only because advertising revenue alone is unlikely to pay for so many more services.

Pay TV needs an encryption and access system to ensure that only those who have paid receive the programmes. In the UK only BSkyB has bought the technology known as Conditional Access Service (CAS) for analogue pay TV delivered by satellite - although there are several other providers on the Continent. This allowed BSkyB to set the terms for the transmission of other content provider's material to existing Pay TV homes. In particular Cable TV providers, themselves establishing a form of conditional access, have sought to pass content via satellite as well as cable and there is presently a dispute over the terms of access, with a reference to the OFT and to the EU about recent contracts between two cable companies and BSkyB.

One view put to EURIM was that BSkyB had a monopoly on encryption in the UK which reduced the outlets for new programmes and programming channels and had a detrimental effect on the health of the TV industry. Another, and more widely supported, view was that broadcast and interactive TV was at the very least a pan-European market if not world-wide. It follows that competition must be seen in a European context and there are potential direct competitors in Germany and in France, to which in the UK must also be added the fast growing cable networks.

In the digital era, the monopoly question may not arise in the same way because the main European suppliers have agreed voluntarily on common standards for the set top equipment - the "DVB" agreement. There is still a potential problem in that the agreed standard allows two options, the first providing for a set-top box with several slots so that several channels, each using a different CAS, could be simultaneously enabled, and the other that provides for a box with just one slot for a proprietary CAS. Some argue that the latter will allow existing dominant players to retain their monopoly position, with continuing harmful effects on the industry and fragmentation of the European market for digital TV sets. Those taking this view argue that boundary standards should be set immediately which would lay out the architecture for consumer installations, separating subscriber management, smart cards and set top boxes and leading to open standards solutions. Others take the view that too many conditions imposed now will hold back competition by creating barriers to new entrants. Yet others argue that it is already too late to impose open standards.

On balance, the majority view within EURIM is that digital multi media technology and services are immature and that as yet no-one can predict which of above two alternative approaches (known as simulcrypt and multicrypt) will prove to be the most attractive to consumers and most commercially profitable. This view also believes that it is too early to impose a single technical solution.

All agreed that the set-top solution for a broadcast service must be very different technically from the connection consumers will need for fibre or copper services, yet convergence implies that switched and broadcast products will soon be integrated into a PC, a TV set or some new hybrid device.

These new digital systems will be very expensive to establish (in excess of a £1billion per service provider) and, given the DVB agreement and the now proven willingness of the public to pay for satellite viewing, the commercial calculations of risks and rewards will be very different from those for analogue. If Europe is to be in the vanguard, it is essential that European players be given as free a hand as possible to compete in the world market, with the public protected from the results of anti-competitive behaviour by the same mechanisms that are used for other consumer products.

Driven by the very high capital investments that will be required, EURIM expects companies will collaborate to produce common interfaces at either the source or consumer end of the supply chain. There will also be third parties offering gateways and added value services. EURIM believes that currently it is premature to attempt to impose a single consumer digital interface standard: in the absence of a single answer, a richness of solutions will result which may confuse in the short term but which will be outweighed by consumer benefits in price and choice. In the longer term, any misuse of dominant positions in the digital market should be the subject of action under anti-competitive law rather than through licence regulators. In short, here is another example of the free market being the least worst solution.

Regulation

The regulatory environment clearly has an important role in the speed to market and profitability of new information and entertainment products. What regulatory regime needs to be established in the EU to ensure a liberal market?

EURIM concentrated on understanding the present regime as it applies to the provider of a near-future information and entertainment service supplying products through a variety of media - e.g. cable, satellite and terrestrial broadcast. It also proved helpful to distinguish between industry regulators, who are mainly concerned with the infrastructure of the new services and those authorities concerned with the creation, presentation and management of content sometimes collectively known as "infostructure". Nonetheless, the convergence of technologies makes it increasingly difficult to separate the message from the medium.

Within the UK alone, there are some 25 regulators, quasi-regulators or content standards bodies, (see Annex): if the service is to be pan-European, the figure could easily be factored by 10 or 15.

Some obvious duplications exist, e.g. the ITC and the Broadcasting Standards Council, and the self-regulating position of the BBC gives it commercial advantages which may or may not be intentional and which some find undesirable.

Pan-European, or indeed world-wide, regulation of the infrastructure is widely agreed to be desirable and practicable. Where content is concerned, however, on matters of taste and decency there is such a wide range of approaches, running from the very liberal Dutch attitude to the stricter norms of the Catholic countries, that regulation must be left to individual nations. Between these two relatively clear cut cases lie a range of regulatory decisions where generalisations are impossible or impracticable.

Finally, in this very complex picture, there is the question of cross-ownership in the media industry and its associated distribution mechanisms. Although there are often commercial attractions to an owner of content also owning the means of its distribution, such strategies can reduce consumer choice. Complex formulae, based upon the number of people accessing content through various media, risk being left behind by technical and commercial reality. Visibility of costing will be helpful, if by no means a total solution. In short, although cross-ownership is likely to feature in the regulatory scene, EURIM sees no obvious way to combine commercial freedom with freedom of choice even on a national scale, much less pan-European.

In general EURIM believes in sufficient law and regulation to prevent monopolistic abuse and to maintain level playing fields. The more freedom that can be achieved the more innovative and productive the regime. A massive convergence of media and transmission technologies has started and this must not be held back by bureaucracy. Regulators will need to converge as the fields they regulate converge.

Both in the UK and in Europe, the regulatory regime should be reviewed as a matter of some urgency in order to simplify and avoid duplication. Within Europe, and even world-wide, positive regulation of the infrastructure should concentrate on liberalisation; regulation of the infostructure of these new services should be left to existing national and European legal frameworks.

Content

The nature of the content will determine whether people will buy the new services - or clamour for them to be more tightly policed. What broad strategic direction should the Government and EU take on the policing of content and availability of these services?

Although pornography is the most widely quoted example of the threats to society set by new information and entertainment services, many other aspects need to be considered: libel, misrepresentation, blasphemy, violence, incitement to racial hatred etc. These call for subjective judgements which vary with time and place.

There are also very significant technical problems because of the pace of change. The World Wide Web is typical: this technology allows anyone with a suitably equipped PC to read material off a remote computer server. It was invented (in Europe) in March 1993 and today already links 40,000 computer servers around the world. The Web doubles in size every 53 days. Such growth can only be managed, if at all, by highly decentralised means.

Subjective judgements and technical problems have made censorship a contentious issue ever since the invention of the printing press. Given the great variety of ways to access audio-visual material, the preferred model for content policing, and the most accurate parallel, is publishing rather than public performance so that regulation is minimal and the law is used as a last resort. Access to the new services is an extension of the right of freedom of speech.

Another echo of the printed publishing world can be heard in the debate about open access to source material. Here the general perception in the industry, that the most profitable part of a multi-media service will be in licence or copyright revenues, can conflict with the belief that some material (e.g. the boat race or pictures in a museum) is an integral part of a nation's cultural heritage that "belongs to the people" rather than to any one company. One particularly important source is films, but there can surely be little doubt that the creative and distribution effort in film making is very similar to books and should be treated similarly in every regard.

Finally: how does the EU protect national cultural values in the face of what will inevitably be predominantly US material? This is a particular issue for nations whose language does not lend itself to world markets. The most sustainable and justifiable route is to invest in public service channels, rather than distort the market in Europe by the use of quotas or ceilings. The latter can only have the long-term effect of weakening relevant information and technology-based industries; it merely postpones the evil day when artificial protection can no longer be afforded.

EURIM believes that self-regulation is the first line of defence for policing content. European and national law should be used as a long stop to protect the consumer against a variety of possible misuse. Public service channels rather than, for example, quotas should be used to protect cultural values and ensure reasonable access to "publicly owned" material.

DAB

Digital Audio Broadcasting is a force for the near future with important implications for UK technology and broadcasters. What should be the EU position?

DAB promises near-CD quality audio without fade. Moreover, the technology may well play a role in the "local loop" bridging the gap between the wide area network and the domestic user of multi-media services.

Europe appears to have a technical lead in this emerging technology with German industry supported by its government driving the market and the BBC providing the technical and programming input in the UK. It will be expensive to establish, since not only is the technology leading edge but it looks likely to work economically only for packages of 6 stereo audio channels. A probable 10 year investment cycle does not fit well with the present significantly shorter franchise periods of the independent radio sector in the UK and disadvantages it unreasonably against the public service network.

EURIM believes that Digital Audio Broadcasting will offer significant opportunities for the British electronics and service provider industries: the Government should give spectrum access to UK independent companies in this field. The Commission should encourage a healthy competitive environment in Europe for DAB.

31 October 1995

Annex

INFRASTRUCTURE REGULATORS

	Title	Description
1	DGIV	Competition
2	DGX	Audio-visual media, information communication and culture
3	DGXIII	Telecommunications, information market and exploitation of research
4	The European Telecommunications Office	Mutual recognition of licences
5	DTI	Telecommunications licences
6	The Office of Telecommunications	Regulation of Telecommunications and enforcing licences
7	The Independent Television Commission	Regulators of independent TV Broadcasting and cable/local delivery services
8	The Welsh Authority	Regulator of S4C, a TV service in Wales
9	The Radio Authority	Regulator of independent radio services
10	ETSI	Telecommunications equipment standards
11	The Office of Fair Trading	Investigates monopoly situations or unfair competitive practices
13	The Radio-Communications Agency	As per title
14	The Department of National Heritage	Relevant State Dept for issues relating to media concentration and pluralism
15	The British Approvals Board for Telecommunications	Approval of telecommunications equipment
16	International Telecommunications Union	Inter-State Telecoms organisation
17	Conférence Européenne de Administration des Postes et des Télécommunications	European inter-state port and telecommunications organisation

INFOSTRUCTURE REGULATORS

	Title	Description
18	The Independent Television Commission	Regulators of independent TV broadcasting and cable/local delivery services
19	The Welsh Authority	Regulator of S4C, a TV service in Wales
20	The Radio Authority	Regulator of independent radio services
21	The Broadcasting Complaints Commission	Adjudicator of complaints or unfair treatment or unwarranted intrusion of privacy in TV or Sound
22	The Broadcasting Standards Council	Guidance on matters of violence, sexual conduct and standards or taste and decency for TV and sound
23	The Independent Committee for the Supervision of Standards of Telephone Information Services	As per title
24	The Advertising Standards Authority	As per title
25	The Trading Standards Association	As per title
26	The Data Protection Registrar	As per title
27	The British Board of Film Censorship	As per title
28	Video Standards Council	As per title
29	Press Council	As per title
30	BBC	UK public broadcaster