

E Cinema – Main Report

2. *Introduction*

This report was commissioned by the Film Council to help inform the Study of Specialised Distribution and Exhibition being undertaken by KPMG.

It sits alongside two other studies that form adjuncts to the main KPMG report. One report covers education and specialised cinema and was undertaken by the Centre for Education, Leadership and School Improvement (CELSI). The other contains a series of case studies of specialised cinema in international territories and was undertaken by Olsberg SPI.

This report draws upon material contained in a study by Screen Digest of the impact of digital technologies on all aspects of the film industry. The Screen Digest report, entitled *The Impact of Digital Technology on Film*, was commissioned by the Department for Culture, Media and Sport (DCMS) and the Film Council and will be published later in 2002. In particular, that report provides detailed analyses of the technological aspects of e-cinema.

Although the present report provides an overview of issues relating to technology, its primary focus is the distribution and exhibition of specialised films. Those who require further detail on technological matters or are concerned with the way in which digital technologies affect other parts of the value chain should consult the Screen Digest study once it is published.¹

It should be stressed at the outset that one of the characteristics of electronic cinema is that it is still evolving. As a result discussions of its shape and implications are frequently characterised - in equal

¹ For information on matters concerning distribution and exhibition see the chapter in that report entitled *Digital Theatrical Distribution and Exhibition*.

measure - by impenetrable terminology, huge uncertainty, sharp disagreement, absurd hyperbole and downright scepticism.

While some compare the advent of digital technology to the invention of cinema, others refuse to see in it anything other than the (eventual) possibility of reducing the incremental costs of theatrical distribution. Both views are probably wrong.

In addressing the issue of electronic cinema and specialised film, this report seeks to combine the pragmatism of the first quote on its cover with the idealism of the second.²

The authors of this report believe that while digital technology could eventually provide “limitless” possibilities for specialised cinema, it would be advisable to start from the premise that the immediate possibilities are altogether more constrained; partly by the limits of the technology, partly by inertia and conservatism, but most of all because the appetite of the audience for a more diverse range of films and venues in which to view them remains unknown.

In such circumstances a top-down, prescriptive strategy is likely to fail. Far better for policymakers, at this stage, to remain open to supporting as wide a range of new ideas and proposals as possible. For what we need, above all, is new players to excite new audiences with new ideas. Or what’s “new” technology for?

² For a relatively sceptical look at e-cinema see The Anthony Williams Consultancy, *Electronic Cinema – Separating the Hype from the Reality*, presentation to 2001 UK Cinemas Conference. For a more sanguine view see Dodona Research, *Cinemagoing 9*, pp.158-164.

3. *The Brief*

The objectives of this study as set out in the Brief provided by the Film Council are to:

- Define e-cinema and its relationship to other digital media/platforms;
- Describe what current digital technology can provide for distribution and exhibition, examples of current usage in these fields, including the companies concerned;
- Identify future prospects and applications;
- Identify how e-cinema may promote social inclusion and cultural diversity;
- Explore the potential impact of e-cinema on current market structures including an analysis of opportunities and threats for both specialised exhibition and distribution;
- Recommend a strategy to take account of developments in e-cinema, recognising the differences between England, Scotland, Wales and Northern Ireland.

4. *Electronic Cinema – Definitions*

There has been a good deal of debate recently regarding the precise meaning of the terms Electronic cinema (e-cinema) and Digital Cinema (d-cinema).

The definitions set out below are the ones that underpin this study. They reflect an emerging consensus that d-cinema is a subset of e-cinema, but they may vary in detail from some similar definitions. Given that the technology is still in flux, it is likely that the terminology used to describe the evolution of the technology will not assume a definitive meaning for some time to come; perhaps for several years.

4.1 *Electronic Cinema*

E-cinema is here defined as the use of digital technology to produce, post-produce, distribute and exhibit a wide range of moving image material to groups of people in a wide variety of venues.

This report is concerned only with e-cinema in respect of distribution and exhibition. It does not concern itself with production.

As defined e-cinema could include the following:

- The screening of full-length theatrical films projected using digital technology whether using top of the range projectors or more basic devices) to audiences in cinemas of all kinds as well as in non-traditional venues such as, *inter alia*, arts centres, village halls or prisons.
- The digital projection of documentaries, shorts or archival material on a local or topical theme to audiences in any of the venues identified above.
- The digital projection of a football match, pop concert or other live event to audiences in any of the venues identified above.
- The use of interactive technology for group learning, political debates or games in any of the venues identified above.

At present, delivery is usually made by physical means (e.g. DVD). In the future it is anticipated that electronic transmission using broadband technology or downloading via satellite may become widespread.

Some extend this definition of e-cinema to include the transmission of moving image material via the Internet to home computers or televisions. While not disputing the validity of such an extension, this report is concerned with communal audiences rather than with the individual consumer.

Likewise this report is principally concerned with specialised cinema, and therefore the use of digital equipment for screening “mainstream” films and live events, remains largely outside its scope.

Nonetheless, it must be recognised that there are those who believe that these additional activities could form an important additional source of revenue both for established cinemas and other kinds of venue. Many questions remain about the viability of such activity, not least in respect of the audience demand for such product and the cost of rights to the material. But as with any emerging technology it would be premature to dismiss out of hand the idea that such product could provide additional revenue or even that it might form the predominant attraction in certain venues equipped with digital technology.³

4.2 *Digital Cinema*

For the purposes of this report, digital cinema (d-cinema) is defined as the projection of full-length feature films to audiences in a purpose-built cinema where the quality of projection is not less than that provided by current 35mm technology.

5. *Electronic Cinema – The Benefits and the Barriers*

In this section, the benefits of electronic cinema for distribution and exhibition and the barriers to securing those benefits are considered.

At first glance, the benefits provided by digital delivery of films would appear to offer significant opportunities for the specialised sector. In principle, these benefits should be felt even if the content is delivered in a physical form (e.g. DVDs). But it is only once delivery takes place via electronic transmission methods using broadband or satellite delivery that the full impact of digitisation will be felt.

³ The evolution of a technology, especially one driven by audience demand, is seldom predictable. It is salutary to recall that it was some time before feature-length films were established as the dominant form of entertainment in cinemas. Images of contemporary events, travelogues and even documentaries featuring insects magnified to many times life-size were the staple of much early cinema. Newsreels remained popular until the advent of television.

5.1 *Distribution*

5.1.1 *Cost*

Once delivery of films is digitised, there is no requirement to strike prints, which cost in the region of £750 each, thereby enabling significant cost savings on releases. With digital the incremental cost of extra “copies” is minimal in physical (DVD) form. And if the film is delivered via cable or satellite the only extra cost for reaching additional venues is the cost of delivery.

Such savings could be particularly beneficial to independent distributors handling specialised theatrical product, where the cost of prints accounts for a proportionately higher slice of the P&A budget than it does for a mainstream distributor, since the smaller distributor will have a very modest advertising spend.

Distributors of specialised films in the UK are generally under-capitalised and operate on very tight margins, in a marketplace where theatrical rentals are among the lowest in the world and prices paid by television for such product are also low – if television buys the films at all. The impact of such cost savings would help to relieve the burdens imposed by these particularities of the UK theatrical market.

Digitisation should provide a more secure operating environment for distributors handling specialised films since margins will be increased on profitable films, and losses reduced on unprofitable ones. It should also encourage distributors to handle a wider range of films, including films that might be considered too risky at present because of the costs involved in releasing them

The difficulty is that the widespread digitisation of the distribution process, and by extension the exhibition infrastructure, is still some (perhaps many) years off - even on

a modest scale. The same applies to mainstream cinema where investment resources are much greater.

The vision of specialised films being delivered almost exclusively in digital form to digitised venues is very unlikely to be fulfilled within the next five years, or even the next ten years.

5.1.2. Flexibility

Digitisation of distribution should also provide distributors with the means to respond to audience demand with much greater ease and flexibility.

Extra copies of a film can be put into the marketplace or withdrawn at a moment's notice. If a film proves successful in its first week, it becomes immensely easier and cheaper to distribute more copies the following week. The inverse applies if the film performs below expectations.

In a more radical scenario, it becomes possible to conceive of a situation in which the traditional patterns of distribution start to breakdown altogether. Why should films run for fixed periods defined in weeks, if one product can be substituted for another at the click of a mouse?

For example, specialised films might be shown for shorter periods, or on a one-off basis, at a network of cinemas linked by digital technology.

5.1.3. Marketing

Strictly speaking, marketing using digital technologies such as the Internet can be regarded as an issue to be considered independently of the advent of digital projection. It is included here since a number of people interviewed for this study raised the issue in the context of a broader discussion of e-cinema.

The recent exponential increases in the use of the Web, email and instant messaging (particularly among those younger people who tend to most frequent the cinema) means that information about particular films already travels much faster among consumers than it did even five years ago. What we might call ‘viral’ word of mouth is not some human variant of foot and mouth, but a description of the way in which information spreads and replicates itself as it travels between people via computer networks.

It is conceivable that marketing campaigns for the screening of particular films at specific venues could be disseminated over the web reaching large numbers of potential consumers in a matter of hours. Certainly, any strategy to distribute films in ways which are far more responsive to customer demand will need to be matched by innovative forms of marketing if they are to become a reality. It is not enough to simply provide an electronic booking service on the web - many chains and independent cinemas already offer this. What is required is the development of interactive communication with the potential audience for a cinema.

It has long been argued that the Internet is an ideal medium for targeted marketing to niche groups. If this is true, then it should be an especially effective tool for marketing to cinema audiences with a particular interest in particular kinds of films – whether traditional specialised films, material of local interest, or genres of interest to particular ethnic groups or age groups.

The use of email and the creation of virtual communities organised around particular topics offer a means by which distributors and exhibitors could market to consumers. Some specialised cinemas are already using emails as a means of targeting their potential audience.

Whether the combination of electronic distribution, electronic marketing and the electronic transmission of “word of mouth” eventually results in the dissolution of the traditional patterns

of theatrical distribution remains to be seen. After all, the present system has proved remarkably durable.

But for new entrants, offering new kinds of product, there would appear to be significant opportunities to experiment in new ways to reach new audiences – whether through email, viral marketing, through online communities or other mechanisms yet to be created.

5.2 Exhibition – The Issues

5.2.1 Who Pays?

The single biggest issue in traditional exhibition is the issue of who pays for the installation of equipment. This remains unresolved and has become a source of some tension between the distribution and exhibition communities.

Crudely, the exhibitors argue that the distributors should pay most of the costs for the installation of equipment since they will be the main economic beneficiaries. The distributors appear reluctant to pay for equipment which will be installed in premises which they do not own or control.

There have been suggestions that third parties could act as “middle men” and pay for the installation of equipment, charging both the distributors and exhibitors a fee for the use of equipment.

For example, Technicolor Digital Cinema has said that it is prepared to fund the installation of 1000 projectors in the US. Ultimately, it would offer distributors a 25% discount on the cost of digital copies as compared with traditional prints. Exhibitors will pay Technicolor Digital Cinema a flat fee per screening. This fee will be calculated based on the size of the auditorium and other criteria specific to the cinema. In return, Technicolor Digital Cinema will install and maintain all the digital cinema equipment.

It is by no means clear that such a proposal will prove viable – most especially in an environment, such as that in the US and the UK, in which the exhibitors are already suffering financially.

For the moment, in those handful of specialised venues in the UK which have installed digital equipment it is the exhibitors who have paid – but this is unlikely to be a viable solution for the industry as a whole.

The most important ingredient that is currently absent is perhaps the will to solve the problem. For the moment, this will has probably been considerably weakened by the knowledge that the relatively high costs of equipment will fall over time.

5.2.2. Greater variety of venues

While many mainstream cinemas will, in time, doubtless install top-of-the range digital equipment, other cheaper equipment for showing material digitally is already becoming available.

Some of this equipment will be far more portable than existing 35mm projectors. In principle, this will mean that a far wider variety of venues could be adapted for screening films and other material with relative ease. Such venues could include for example arts and community centres, village halls, schools, colleges, hospitals and prisons.

Already projection from DVDs is replacing the traditional 16mm projection favoured by many film societies and clubs; although there are admittedly limits on the size of screen that can be satisfactorily used for such projection (depending on the kind of projection technology being used).

Although the demand for such equipment is difficult to predict at this stage, this has clear implications for any investment strategy since cinemas are not the only venues

which are able to project films to a standard which is acceptable to at least some audiences.

But equally in the case of specialised theatrical films, the characteristics of a venue often have a significant influence on the decision by consumers to see particular films there – existing research suggests that audiences usually prefer to see specialised fare in venues that are specifically adapted for that purpose.

Specialised cinemas are likely to remain important venues for screening specialised films. But at the same time, it will be possible to show moving image material in a much wider range of non-traditional venues – although it is likely that the kind of material shown in such venues will be far broader than traditional specialised film (e.g. material of particular local interest or material made by local people).

It thus becomes far easier and cheaper to enable community groups and organisations to show moving images on high quality equipment This should provide real opportunities to reach out to new audiences, and promote social inclusion and cultural diversity.

5.2.3 *E-Cinema and Disability*

It was originally envisaged that the introduction of e-cinema might significantly enhance the enjoyment of cinema for the visually impaired and the hard of hearing.

But increasingly it appears that soft-subtitling and audio description – which are not dependent on the introduction of e-cinema – provide the most effective means of improving facilities for the visually impaired and hard of hearing in the short-term. The DTS soft-subtitling machine combined with audio description is being tested in UK cinemas.

Nonetheless, it is understood that companies including Wintonfield Systems are attempting to use digital projection technologies to provide captioning for hard of hearing

audiences. It is too early to assess the impact of this technology.

5.2.4. Flexibility of Programming

Once distribution of film material becomes electronic, exhibitors will be able to adopt more flexible programming policies. But so long as prints are simply replaced by material that has been digitally stored in a physical form (e.g. on a DVD) the impact on programming will be relatively limited. The real potential for flexibility of programming will only be realised once material is delivered by broadband or by satellites to servers.

When electronic distribution of material is effectively controlled from a central point, then such flexibility comes into its own. This could be particularly helpful, for example, in reducing the costs of repertory cinema or enabling one-off screenings of specialised films simultaneously at a large number of venues around the country. It becomes possible, for example, to envisage special screenings of material around the country to tie in with a particular event, anniversary or celebration.

5.2.5 Education

Because it can be installed in a wide variety of venues, e-cinema could be used to help learners of all ages, in a wide variety of environments. Whether it be schools, universities or other places of learning, electronic projectors can be used to show a range of educational materials.

Many working in the education sector believe that the development of Information and Communication Technology in schools, colleges and elsewhere (ICT) will lead to a transformation in both teaching and learning, with an increasing reliance on electronically produced materials. E-cinema offers a natural complement to this. The kind of material shown could reach far beyond narrative drama

embracing any kind of educational material provided it had been produced in a suitable electronic format.

In particular, the development of cine-clubs in schools could be quickly facilitated by the use of DVDs and suitable projection equipment.

5.2.6 New Revenue Sources

The introduction of digital technology will make it easier to screen a wide variety of material at the cinema or in other screening venues, providing new sources of potential revenue. However, the impact of this is most likely to be felt in the mainstream exhibition sector.

Some believe that live events such as football matches or pop concerts could be screened to audiences, although the market remains largely untested and the negotiation of rights could be costly resulting in significant premiums on existing seat prices.

It also becomes more feasible to provide corporate presentations in such an environment, although once again the real demand is unknown.

A still larger potential market is the market for interactive gaming. At least one commercial exhibitor in the UK has already had trials with such gaming, where an audience at one cinema competes in an interactive game with the audience at another venue. While the home market for gaming is already very significant, it remains to be seen whether there is a widespread appetite for it in communal venues.

At best, venues showing specialised films are likely to make limited use of such commercial opportunities. In any event, previous attempts to show boxing matches or other events in cinemas have not resulted in the addition of a permanent new revenue stream.

It is rather more likely that e-cinema will bring about growth in the screen advertising market as it becomes easier and cheaper to deliver advertising to a wide range of venues, and quality is assured. This could provide a significant boost to the income stream of many cinemas.

5.2.7. Quality of image

There is no doubt that digital projection can offer a superb quality of image. Trials have demonstrated that some audiences have been unable to differentiate between material that is being digitally projected and material which projected from traditional 35mm equipment.

However, in the eyes of some, celluloid allows the creation of effects which cannot be replicated using digital technologies. But this is unlikely to act as a significant barrier to the introduction of the technology.

Certainly, some of the cheaper digital equipment cannot project to a satisfactory level if the screen is too large. This will restrict their use to smaller auditoria or venues; in many cases, those accommodating 50 people or less.

There is no degradation of the quality of digital copies over time. Inferior quality prints such as those supplied when a film has already been in circulation for a considerable period will become a thing of the past. This is of particular benefit to venues which are not always showing first-run material, where prints are often of inferior quality.

5.2.8 Reliability and Durability of Equipment

The reliability of current equipment remains unproven. Anecdotes abound of digital equipment breaking down, whether at the screening of major movies in the West End or during showcase events for the industry.

For the moment, digital projectors are considerably less durable than standard 35mm projectors. While current digital

projectors are unlikely to last more than a few years (and will be superseded by technological innovation anyway), 35mm projectors can last for 20-30 years – and are far cheaper.

5.2.9 Digital Rights Management

Piracy remains a serious concern for rights-holders, and is one of the problems referred to by the generic term Digital Rights Management (DRM). In certain territories, notably in the Far East, piracy of traditional audio-visual media is already rampant. The advent of digital copies, often delivered virtually and thus far less susceptible to direct physical control, presents new difficulties. Even the most sophisticated systems for encrypting digital images and providing them with a distinctive watermark is unlikely to foil all forms of piracy. Other issues relating to Digital Rights Management include control over the number of screenings in a venue, unauthorised screenings etc.

5.2.10 Standards

At present, there is no assurance of compatibility between particular digital copies and particular types of digital projection equipment. A digital copy of a film that is suitable for a projector in Boston, might not play on a digital projector in Bristol. The Society of Motion Picture and Television Engineers (SMPTE) convened the DC28 Technology Committee in early 2000. Its aims include developing standards and recommendations to ensure compatibility.

The European Digital Cinema Forum has recently been created and held its first formal meeting in Amsterdam in September 2001. Its aim is to work with the other international groups, including DC28, to develop common global standards for e-cinema. It has three sub-groups; a content group, a technology group and a commercial group.

Most observers believe that the issue of standards will be resolved through the various dialogues that are now being held, and do not believe that incompatibility will be a

significant barrier to the development of e-cinema in the long-run.

6. Technology

6.1 Digital Projection.

Most of the digital projectors in use in mainstream cinemas today use the digital light processor technology (DLP) developed by Texas Instruments. Projection manufacturers such as Barco and Christie Digital are among those making and selling projectors using DLP technology.

JVC has developed a rival D-ILA technology which will be used in digital projectors made by JVC, as well as in devices made by Sony and Kodak. Sony is working on its own Laser Projection technology called GLV but this is not expected to be on the market until 2003.⁴

Such top of the range projectors today can cost £100,000 or more, however, there are a number of cheaper options such as the Barco G5, which can be bought for less. Moreover, prices are expected to keep falling over the next few years, while the technology will continue to advance.

Further down the scale, new projectors coming onto the market, such as those recently introduced by NEC Technologies and by Sanyo, for example the Sanyo projector may be available for as little as £25,000.

One of the main benefits of these projectors is likely to be their portability.

Still other options are available, even more cheaply. At the most basic level, a DVD player can be simply be connected to an LCD projector. But any set up costing less than £10,000 is

⁴ For more information on Digital Projection Technology see Screen Digest Report entitled the Impact of Digital Technology on Film

unlikely to provide a quality that will prove acceptable, even to relatively small groups of people.

6.2 *Sound Systems*

Dolby Digital, Digital Theatre Sound (DTS) and Sony Dynamic Digital Sound (SDDS) are leading suppliers of cinema sound equipment. A decoder from these suppliers will cost around £2,500 a screen. Including speaker systems, amplifiers and installation, the overall cost of a sound system for a standard cinema is around £10,000. With E-cinema, the costs of the sound systems will ultimately be determined by the size of the venue. For very small venues, a sufficient sound package can be brought for about £1,500 from any household electronics store.

6.3 *Other developments*

Among the technology which has been mooted but has yet to surface are push-button devices attached to cinema seats as well as connection devices for mobile handsets which could be used to purchase goods on screen or to vote or provide comments during live debates.

7. *Current Developments*

7.1 *UK*

There are currently four DLP projectors installed in the UK. All are at mainstream cinemas; Warner Village, Birmingham, the Odeon, Leicester Square, Warner Village West End and UCI Filmworks Manchester respectively. These projectors have been used to show mainstream material such as Toy Story 2 and Perfect Storm.

At present, selected venues which include screenings of specialised films have installed digital projectors (e.g. the Watershed and Ritzy), and others have plans to install such equipment (e.g. the Tyneside Cinema). It is proposed that a digital test bed facility will be installed at the National Film

Theatre in the near future. On the distribution side, Film Bank has been supplying DVDs and videos for screenings in small venues accommodating less than 100 people.

The Futurist Cinema Company is a small, privately supported initiative which has been using a digital projector installed in the building formerly used as Birkenhead Town Hall. The organisation has been programming themed nights such as Reel to Meal, devoted to films in which food is important to the storyline. It also attempts to actively engage the local community through competitions and other initiatives.

Futurist sees its Birkenhead site as the pilot for community venues which use digital technology to create a new kind of community cinema, with close involvement with local people. The venue, in a building which now houses the Wirral Museum is not a permanent cinema. As such, it offers one interesting example of how the technology might be used in a variety of venues in the future.

At present, development of e-cinema in the specialised sector is essentially piecemeal and confined to the acquisition of digital projection equipment by a handful of venues which are experimenting with the screening of shorts, educational material and business presentations. So far, there does not appear to be any significant co-ordinated strategy in the UK for using digital technology to deliver specialised films or to broaden the audience for such material. One difficulty is that of finding specialised material which is available in digitised form (other than on DVD).

Watershed has been using its digital projector to screen shorts. The Ritzy has purchased a Barco G5 projector.

Given the ad hoc nature of current initiatives it would appear that there is a role for the Film Council to work with interested parties in the Nations and Regions to bring together those who have shown interest in e-cinema and to develop joint initiatives, with underlying strategic coherence.

7.2 *Development Overseas*

In the Spring of 2001, Screen Digest published a long list of e-cinema trials which were planned around the world. Almost all of these were focussed on the mainstream market. Research by the authors of this report suggests that most of these are now dormant or completely dead. Current difficulties with raising finance, most especially for technology-related projects, appear to have put paid to most of them.

7.2.1 *Europe*

7.2.1.1 *France*

Since 1996 VHTR in France has been transmitting live events using an older high definition technology. It transmits sports, concerts and other events to 300 sites in France with an average capacity of 250 seats. Many of these sites are non-profit venues. The company would like to expand into film, but needs official authorisation to do so. Barco is now upgrading the technology it uses, and it is understood that it hopes to install newer digital equipment at a cost of around £10,000 per screen.

Also in France, Barco is working with the Action Christine art house circuit to install seven specialised venues with projectors.

7.2.1.2 *Sweden*

The Folkets Hus, a national community organisation which owns community centres across Sweden is experimenting with digital cinema.

Almost 270 of these venues are equipped with cinemas, most of them single-screens. Since the

cinemas are connected to or integrated in the Folkets Hus buildings they are also used for conferences, shows, stage theatre, education, concerts and many other cultural events. Folkets Hus is Sweden's largest cinema owner measured by seating capacity.

FHP cinemas are located in smaller cities and towns, throughout Sweden. Since the venues are so dispersed, distribution costs are high.

As a result, FHP has initiated a two-year e-cinema pilot project to test and evaluate new digital presentation and transmission techniques in an effort to lower costs. Digital projectors are being installed in 11 Folkets Hus and cinemas. The project is being run in close co-operation with local authorities, local industries and schools.

FHP believes that digital copies of a film can be made for as little as £60, much cheaper than the cost of conventional prints. In practice, this should mean that the digitised FHP cinemas will be able to buy a print of their own to screen day and date with releases in the big cities. They also hope that it will enable cinemas to show a broader repertoire of films, including minority interest and art films which might not otherwise receive distribution in the regions.

7.2.1.3 The Netherlands

The Dutch Film Fund under the name of DocuZone has created a programme to provide digital screenings for forty weeks of the year of indigenous documentaries.

This e-cinema network will initially be established in ten venues, two in Amsterdam,

and the remainder in cities and towns across the rest of the country. The cinemas will use Barco G5 projectors which will be installed and financed by the Fund. They will screen the documentaries using DVDs.

The scheme will be partly financed by the savings generated by the fact that prints no longer need to be struck. The Film Fund also believes that the screenings of documentaries will lead to increased admissions, thus generating higher revenues. In return for installing the equipment, it has also negotiated a higher share of the box office.

Installation of the projectors is scheduled to begin in early 2002. If successful, it is planned that the scheme will be extended to foreign productions and classics.

7.2.1.4 Cybercinema

The Cybercinema project based at Babelsberg Film Studios intends to create a network of digital cinemas and other venues using digital equipment across Europe in regions which are under-screened. It intends to do this in partnership with cinema operators, local authorities and communities. Films will be transmitted to a network of cinemas from Babelsberg via satellite. A number of trials have already been undertaken, including one involving children's films.

A business plan is complete, and a feasibility study for the project has been undertaken by the German consultants Roland Berger. The project which is led by Peter Fleischmann is in talks with Europa Cinemas about possible collaboration. It estimates the investment

required for each cinema will be in the region of £135k. A further investment of £3.7m is required at the Babelsberg headquarters.

In the UK, in the first instance, the project is likely to focus on areas where the possibility exists to leverage European funding – e.g. regions designated Objective One and Objective Two for the purposes of European Regional Development Fund (ERDF) support.

7.2.2 *US*

Currently, there are approximately 30 digital theatres in North America. Barco has estimated that by 2003 there will be 1000 digital screens in the US, a figure which now looks extremely optimistic, while Kodak has also estimated that by 2005 digital penetration of first-run cinemas could be 5,000 out of an estimated 125,000 screens worldwide.

In the US, there have been two companies which have shown a specific interest in using digital technology to help specialised film.

7.2.2.1 *Madstone Films*

Madstone Films wants to create an end-to-end digital studio that will produce films using digital technology, distribute them digitally and screen them digitally.

Co-founders Tom Gruenberg (ex-Polygram Films) and Chip Seelig (ex-Goldman Sachs) also want to provide new filmmakers with exposure to a wide theatrical audience through the use of new technologies.

The Madstone Digital Distribution Network aims to provide locally-customized

programming tailored to fit different audience interests. It will deliver not only film but also music, fashion, sports and other presentations.

Madstone theatres aims to be a nationwide chain of cinemas principally featuring independent films. It plans to operate in 20 locations.

7.2.2.2 *EmergingCinemas*

EmergingCinemas was founded by Barry Rebo, a pioneer of HDTV and Giovanni Cozzi, a technology entrepreneur. It plans to install digital projection equipment in over 150 screens across the US, with a focus on showing specialised films.

It aims to install equipment in mothballed cinemas, in community centres, performing arts centres and other similar venues. It plans to focus on secondary markets in communities that are currently underserved by arthouse cinema, or not served at all.

In October 2001, the company merged with StudioNext, headed by Ira Deutchman, founder of Fine Line and Cinecom. This merger will help spearhead the company's move into digital production.