The information presented in this section, including all research data, statistics, presented herein and identified as having been extracted from publicly available documents provided by persons other than the Company, has not been prepared or independently verified by the Company, the Sponsor or any of their respective advisers or affiliates in connection with the Placing and therefore should not be unduly relied upon. The Company, the Sponsor or any of their respective advisers or affiliates makes no representation to the accuracy of this information.

THE DIGITAL CONTENT INDUSTRY

The Group is addressing the two main trends of the digital content industry: (1) CG creation and production (including development of its own intellectual property), and (2) digital content (including entertainment and education content) distribution and exhibitions, as well as imaging applications via digital cinemas and high definition video compression, encryption and derivative technologies.
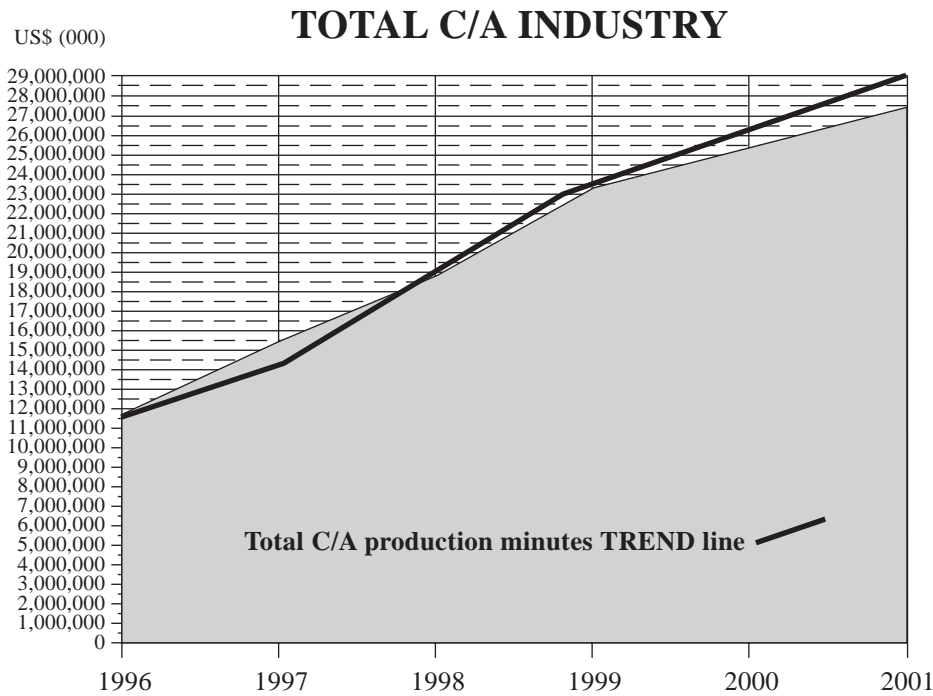
CG creation and production

General description

The Directors broadly categorize CG production into the following four sub-segments:

- *Full length 3D CG film production*: Some recent international CG film releases are *Toy Story*, *Toy Story 2, Antz, Dinosaur, Final Fantasy: The Spirits Within* and *Monsters, Inc*. The Directors consider that, among the four sub-segments, this is the most technically challenging and resource demanding segment which is dominated by a few, mainly US based production studios.

- *Special effects for live action films*: It is increasingly more popular to incorporate CG special effects for a major portion of a live action film instead of a few minutes or seconds of CG. Films such as *Stuart Little, the Patriot, Men in Black, the Titanic*, and *Harry Potter*, have all incorporated CG in the movies.

- *Long-format production*: These productions are mainly CG television series of about 10 hours in total length with individual episodes ranging from 15 to 45 minutes. In recent years, some newly established and traditional animation production studios in Hong Kong, South Korea and India have entered into this market segment.

- *Short-format production*: These productions include commercials, graphics for computer games, post-production, special effects and real life experience simulations such as architectural space walk through.

Computer animation market

In the past decade, CG animation has evolved from a complementary production technique to a mainstream, stand-alone production medium for film making, television series and commercials production. The worldwide demand for computer generated CG content has been increasing due mainly to the increasing consumer and viewer receptiveness of computer animation, improving computer technology that improves quality, reduces cost and expands applications. According to the Roncarelli Report 2001, which so far as the Directors are aware of, is the only annual market report and forecast for the computer animation segment of the global CG industry (which is also stated in the Roncarelli Report 2001), the actual computer animation ("C/A") industry dollar value were approximately US$23,987 million, US$25,460 million and US$26,800

million for the three years ended 31st December, 2001 respectively, representing a compound annual growth rate of approximately 7.1%. The following graph illustrates the total computer animation industry dollar value and the total computer animation minutes trend line from 1995 to 2001.

TOTAL C/A INDUSTRY

US$ (000)

29,000,000
28,000,000
27,000,000
26,000,000
25,000,000
24,000,000
23,000,000
22,000,000
21,000,000
20,000,000
19,000,000
18,000,000
17,000,000
16,000,000
15,000,000
14,000,000
13,000,000
12,000,000
11,000,000
10,000,000
9,000,000
8,000,000
7,000,000
6,000,000
5,000,000
4,000,000
3,000,000
2,000,000
1,000,000
0

Total C/A production minutes TREND line

1996   1997   1998   1999   2000   2001

Source: Roncarelli Report 2001

The total computer animation minutes trend line as shown in the graph above is used to indicate the growth rate trend of computer animation production on a minutes produced basis and is not an actual numerical accounting of the total minutes of computer animation produced. As indicated by the minutes trend line in the graph above, the rate of increase in the minutes of computer animation produced during 2001 has exceeded the rate of increase in the dollar value of the amount of computer animation production, illustrating that the cost per minute is decreasing. Such decrease in the cost per minute is believed to be a result of lower production costs from newer, faster, more capable systems, a more competitive industry, and an increase in the relative amount of low-cost production outside the US.

Computer animation industry geographic distribution

According to the Roncarelli Report 2001, the North/South America accounts for the largest share of the global computer animation industry. The table below shows the computer animation industry's overall geographic distribution between 1999 and 2001.

	1999	2000	2001
North/South America	46.9%	48.8%	45.2%
Asia/Pacific	28.0%	29.2%	31.7%
United Kingdom/Europe	25.1%	22.0%	23.1%
Total	100.0%	100.0%	100.0%

Source: Roncarelli Report 2001

As illustrated from the table above, the Asia/Pacific region has increased its share of the computer animation market since 1999. According to the Roncarelli Report 2001, the long-term trend for the market share of the North/South America region being replaced by the Asia Pacific region will continue for several years, as the general pressure to reduce production budgets increases, the lower costs offered by offshore producers outside the US, in particular Asian producers, become increasingly attractive to North American and European film and television producers and other computer animation buyers. Also, as offshore producers are becoming more experienced and proficient in computer animation work, many offshore producers are trying to partner with established North American producers as a means of garnering some production work while learning from the North American production process. The Roncarelli Report 2001 expects this trend to continue for the foreseeable future as production budgets get tighter and communications capabilities increase, making the use of offshore production both more financially appealing and easier to execute. This will result in the Asia Pacific region gaining share to the detriment of the North/South America region, and particularly the United Kingdom/Europe region. It is expected that by 2004, the Asia Pacific regions will account for about one-third of the total global computer animation production dollar volume.

The Roncarelli Report 2001 estimates that there are over 7,500 computer animation facilities throughout the world. These computer animation facilities are diversified in terms of their sizes, make-ups and creative and business directions and operate in vastly different environments, responding to a variety of cultural and creative stimuli. In 2000, the entertainment uses of computer animation production account for 76.9% of production volume and the remaining 23.1% represents corporate and industrial uses of the technology. In the Roncarelli Report 2001, 63.9% of computer animation production facilities produce less than US$1 million while less than 1% of the total number of production facilities produces more than US$15 million worth of computer animation production. While approximately half of all computer animation facilities are located in North America, this continent's share of the total computer animation production is decreasing as the economic advantages offered by lower cost offshore production facilities prove increasingly attractive to budget strapped film makers and other buyers of computer animation production. However, the Directors are not aware of the public release of any full length CG film produced by the PRC or Hong Kong production house yet.

Production volume forecasts

The Roncarelli Report 2001 has forecasted that the computer animation market could grow to about US$36 billion by 2004. The table below sets out the actual computer animation production volume for 2000 and the projected computer animation production volume for the years 2001 to 2004.

Year	Computer animation production volume *US$' million*	Percentage increase as compared to the previous year
2000 (actual)	25,460	6.1%
2001 (projected)	26,835	5.4%
2002 (projected)	29,035	8.2%
2003 (projected)	31,997	10.2%
2004 (projected)	35,964	12.4%

Source: Roncarelli Report 2001

As shown in the above table, it is expected that the dollar value of the computer animation production volume will continue to grow steadily for 2003 and 2004.

Sales of full length CG movies worldwide

Several full length CG movies have enjoyed global success in the box office since Pixar, Inc.'s *Toy Story* was released in 1995 as the first full-length animated feature film to be created entirely by artists using computer tools and technology. In Pixar, Inc.'s website (www.pixar.com), Pixar, Inc. has reported that *Toy Story, A Bug's Life, Toy Story 2* and *Monsters, Inc.* have earned more than US$1.7 billion at the worldwide box office to date.

According to information from the website of Internet Movie Database Inc. (www.imdb.com), there are seven full length CG movies that are among the top 100 grossing movies of all time at the worldwide box office. The table below shows the ranking, the CG movies and the total box office of the seven full length CG movies among the top 100 grossing movies of all time.

Rank	Title (Year released)	Total Box Office Worldwide *US$' million*
23	Monsters, Inc. (2001)	528.9
29	Toy Story 2 (1999)	485.7
34	Shrek (2001)	455.1
55	Ice Age (2002)	378.3
67	Toy Story (1995)	358.1
68	A Bug's Life (1998)	357.9
79	Dinosaur (2000)	347.8

Source: www.imdb.com (as at 1st April, 2003)

Cost of full length CG film production

The Directors consider that full length CG film production is one of the most technically challenging and resource demanding segments in CG production. The Directors estimate that the cost of making a full CG movie in the US in the recent years might range from US$50 million to US$150 million and up. Because of the demand in capital, there are few major production houses engaging in full length CG film production. The table below shows the estimated cost of some full length CG films.

Title (Year released)	Estimated production cost US$' million
Final Fantasy: The Spirits Within (2001)	140
Monsters, Inc (2001)	115
Toy Story 2 (1999)	90
Shrek (2001)	60
A Bug's Life (1998)	45

Source: www.boxofficereport.com and filmforce.ign.com

Special effects for live action films

It is increasingly popular to incorporate CG special effects for a major portion of a live action film. According to Internet Movie Database Inc. (www.imdb.com), all of the top five global box office for movies released in 2002, namely *Harry Potter and the Chamber of Secrets, Spider Man, Lord of the Rings: The Two Towers, Star Wars: Episode II — Attack of the Clones* and *Men in Black II,* featured digital effects prominently and they have box office of more than US$3.4 billion to date.

The use of digital special effects in film production is also getting more popular for non-US produced films, especially in Hong Kong. *StormRiders* (風雲), *Shaolin Soccer* (少林足球), *Legend of Zu* (蜀山傳) and *Master Q 2001* (老夫子) have also employed digital visual effects extensively.

Digital content distribution and exhibitions

Digital cinema

The current form of cinema as we are accustomed to, is based on 19th century technology with subsequent enhancement such as added audio and visual systems and a wider screen. It has so far withstood the advances in electronic equipment and digitalization of signal transmission. However in recent years, there is a trend that the film industry has embarked on replacing the current form of cinema with digital cinemas.

Digital cinema is not simply the replacement of analog cinema projectors, using strips of film as their image source, with digital projectors that use digital signals of zeroes and ones. Digital cinema is the production, delivery and projection of full-length motion pictures, trailers, advertisements and other audio/visual "cinema-quality" programs to theatres using digital technology. The digital cinema system uses a "store-and-forward" concept to distribute motion pictures, which haven been digitized, compressed, encrypted and delivered to theatres using either physical media distributions (such as DVD-ROMS) or through electronic transmission methods (such as satellite).

Advantages of digital cinema

The move to digital cinema is expected to benefit distributors, exhibitors, the creative community and the movie audiences. According to BDC, the global distribution cost of the movie industry is more than US$2 billion a year, and most analysts believe 75% of this cost could be saved by shifting to digital delivery. Also, the digital delivery of files can provide a variety of alternative content for display by the theatre owner. Alternative contents, such as Broadway plays, sporting events, rock concerts, corporate training or distance learning, provide the theatre owner with additional opportunities to generate revenue. Also, with digital cinema, the presentation of the first showing is the same as all subsequent showing since digital films do not "wear out" which ensure that movie audiences will have a pristine digital experience at every showing and enjoy enhanced sound and image quality.

Nowadays, digital cinemas are already in operation. According to the reports by Screen Digest, there are over 400 public venues/screens around the world that rely on electronic projection to deliver digitalized films and other contents. The majority of digital cinemas are in France and the US.

The true evolution of digital cinema occurred in the US with the backing of the major Hollywood's studios to release major titles in theatres equipped with TI's DLP Cinema^{TM} projector. On 1st June, 1999, the first commercial exhibition of digital electronic cinema took place in six venues across the US featuring *Star Wars: Episode I — The Phantom Menace*. Projectors based on the technology from TI's DLP chips were used for month long run at most venues, while a prototype Hughes-JVC video projector with Image Light Array (ILA) was successfully used for screening of both *The Phantom Menace* and *An Ideal Husband* at selected locations. In 1999, Disney equipped 12 US theatres with DLP Projectors for digital presentations of such films as *Toy Story 2, Bicentennial Man* and *Mission to Mars*. More digital milestones soon followed: Digital Cinema was delivered for the first time over the Internet in June 2000 when the animated film *Titan AE* was transported from a studio lot in Hollywood to the SuperComm trade show in Atlanta. In March 2001, the first practical demonstration of a film being delivered via satellite and projected digitally took place when BDC transmitted *Spy Kids* at the annual ShoWest exhibition convention. In July 2001, *Jurassic Park III* was presented in digital cinemas at California's Universal Studios with THX Digital Services compressing and burning the entire film with multi-channel audio onto 13 DVD-Rs and loading them onto servers at each theatre.

BDC is currently deploying equipment in cinemas across the US and the United Kingdom. In May 2002, BDC commercially deployed satellite movie distribution system to screens in the US and the United Kingdom. BDC has now deployed 29 digital cinemas in both the US and the United Kingdom. In less than five months, BDC, based in El Segundo, California, has surpassed 10,000 screenings, and continues to add approximately 100 screenings per day in markets across the US and in London. Among the seven feature films, from five studios, transmitted by BDC are: *Star Wars: Episode II — Attack of the Clones*, Fox/Lucas film; *Spy Kids II,* Miramax; *Signs* and *Spirited Away*, Buena Vista Pictures Distribution; and *Banger Sisters*, Fox. BDC allows the secure delivery of a movie file to theaters around the world via satellite and physical media technologies. BDC is leveraging many of its system integration, secure data transfer networks and associated expertise into emerging government and private sector market opportunities. The 10,000 digital screenings are a strong indication that studios, moviegoers and theaters are embracing digital cinema.

BDC also demonstrated its live streaming capability in October 2002, by bringing highlights of concerts, sporting events, and a Broadway show to theaters in central Florida at over 50 megabits per second. These events were shown using cinema-grade digital equipment, and originated in Los Angeles via satellite transmission.

Hollywood studios have also increased the number of movies released digitally in TI's DLP Cinema™ equipped theatres. In November 2002, four of these top 10 US box-office titles were released in both digital and film formats.

Digital cinema geographic distribution

According to a report from Boxoffice Online (www.boxoff.com), there were 116 digital screens in operation as of June 2002, up from just 12 in 1999. The table below shows the geographical distribution of digital cinema as of June 2002.

Location	Number of digital cinemas
North America	70
Asia	25
Europe	18
Latin America	3
Total	116

PRC's digital cinema

With PRC entry into the WTO, the cinema industry is one of the areas poised to experience dramatic growth. In a report from Christie Digital Systems, Inc. (www.christiedigital.com), the official figure of approximately US$120 million in revenues is expected to increase 15 times in the next ten years. Modern, multi-screen cinema complexes are the most recent trend in Chinese shopping malls, with a government-backed focus on utilizing cutting-edge digital technology.

Shanghai Paradise was the site of the first digital cinema in the PRC installed in early 2002. According to a report provided by Christie Digital Systems, Inc., since the installation of the first digital cinema in the PRC, a total of 35 digital cinemas have opened throughout the PRC.

A report provided by Christie Digital Systems, Inc., one of the leading manufacturers of high performance projection and integrated display solutions equipment, states that the PRC has demonstrated a significant milestone for digital cinema especially when the total number of digital cinema theatres around the world at present is factored in. With the number of digital cinemas expected to increase to as many as 100 by the end of 2003, the landscape for digital cinemas in the PRC looks bright.

CG training industry in the PRC

In order to provide CG training courses in the PRC, a company is required to apply for Permit for Organization of Courses* 《辦班許可證》from the relevant municipal education ministry and/or other relevant authorities before provision of such courses. Each Permit for Organization of Courses* 《辦班許可證》is valid until the completion of such courses and every courses thereafter must apply for a new Permit for Organization of Courses* 《辦班許可證》. Such Permit for Organization of Courses* 《辦班許可證》are subject to re-assessment by the relevant issuing authorities in accordance with the then prevailing legal and regulatory requirements.

* *For identification purposes only*

The Group has, in accordance with the legal opinion from its PRC legal adviser, obtained all the necessary Permit for Organization of Courses*《辦班許可證》in respect of all the CG training courses which it has conducted and is in the process of conducting in the PRC. According to the Group's PRC legal adviser, these Permit for Organization of Courses*《辦班許可證》constitute all the required permits which the Group needs for its provision of CG training course in the PRC.

Merchandising market

The revenues generated from a movie (whether or not a traditional featured movie or a CG animated movie) consists of several streams — pre-sale proceeds, box office receipts, the proceeds of sales of products derived from the movie such as VCDs and DVDs of the movie, license fees for games, television series and/or toys based on the story and/or characters of the movie and etc. For a popular international movie, these revenues can be substantial.

Gaming market

Console game market

The console game market is currently dominated by Sony Corp., Microsoft Corp. and Nintendo Co. Ltd. According to data released by market research firm NPD Group, Inc., the total dollar sales of video game hardware, software, and accessories reached a record level of US$10.3 billion in 2002. The figure represents a 10% increase over the 2001 figure of US$9.4 billion. For 2002, software sales rose 21% on a dollar basis and 15% on a unit basis.

In a report from In-Stat/MDR (www.instat.com), a division of one of the world's largest business-to-business information providers, the total video game revenue surpassed movie box office receipts in the US again in 2001 for the second consecutive year.

According to a report from GameMarketWatch (www.gamemarketwatch.com), a website which is specialized in providing information on game market worldwide, the console market leader, Sony Corp., said that total worldwide production of its gaming unit, PlayStation 2, passed the 50 million mark in less than three years, whereas it took four years for that product predecessor, the original PlayStation, to reach the same point.

Online game

A research report from DFC Intelligence, a strategic market research and consulting firm focused on interactive entertainment and emerging video games, streaming media, and interactive television markets, published in 2002 forecasted that 114 million people worldwide are expected to be playing online games by the year 2006. The research report also reported that online games would garner significant usage over the next few years and top online games now are able to generate revenue in excess of US$100 million each.

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* *For identification purposes only*