

e.news

for the Media Manufacturing Industry

Issue 10 September 2011



SEPTEMBER 15, 2011

Schedule of Events, page 2

IT'S OUR TENTH ANNIVERSARY!

MEDIA-TECH Golf Invitational

The MEDIA-TECH Invitational is an exclusive gathering of optical media executives and professionals in a relaxed atmosphere that facilitates networking. Hosted by the MEDIA-TECH Association, the Invitational is an invitation-only event focused on improving customer-supplier relations across the optical media supply chain.

Don't play golf? Not a problem. Non-golfers are encouraged to join the festivities with free lessons from the golf pro, putting contests and other activities of enjoyment.

MEDIA-TECH Association

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PRELIMINARY SCHEDULE

September 14, Wednesday
Venue: Park Plaza Amsterdam Airport
Melbournestraat 1, Lijnden 1175 RM, Netherlands

15:00 **Replicators/Members Meeting**
18:30 **Cocktail Reception**
19:30 **Informal Dinner**

September 15, Thursday
10:30 **Bus Departs from the hotel**
11:00 **On-site registration**
12:40 **Golf Tournament at De Hoge Dijk**
18:00 **19th Hole**
19:00 **BBQ**
21:00 **Awards Ceremony**

Note: The schedule is preliminary & subject to change

De Hoge Dijk is an 18-hole competition course (PAR 71) with A-status, designed by the famous golf architect Joan Dudok van Heel.

MEDIA-TECH Sponsorships

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MEDIA-TECH, COLONIAL TO RETURN TO VEGAS NEXT YEAR ALONG WITH AIMMA

LAS VEGAS – After a successful joint Las Vegas conference this past March between the **Media-Tech Association** and the **Colonial Purchasing Co-op**, the two organisations have decided to return to the city for an event April 18-20, 2012.

They will be joined at the convention by the **American Information and Media Management Association (AIMMA)**, whose membership consists of non-theatrical replicators and duplicators. We spoke with Colonial president **Doug Franzen** about how next year's conference is shaping up and the co-op's plans for expansion into Europe and Latin America.

"We picked those dates (April 18-20) because there isn't a conflict with the Passover or Easter holidays," he noted. "In addition, a lot of our members are planning to go to the NAB convention in Vegas and then they can jump over to our conference."

There is also a Golf Master's tournament scheduled in the city around that time that will also likely draw some optical media professionals who are golfing enthusiasts, he added.

Immediately following the successful conference at The Wynn this past March 23-24, the leaderships of both organisations decided they should continue to work together, and also return to Las Vegas next year. The Wynn and several other casino hotels are being considered to be the venue.

Franzen attended Media-Tech's European event May 3-4 in Hamburg, Germany, and discovered that replicators on the continent had a need for the kind of cooperative purchasing services successfully offered in the US since 2004.



Bryan Ekus (left) and Doug Franzen

They're happy to take advantage of the opportunity," he said.

By joining the co-op, participating companies gain greater buying power for the materials they need to manufacture CDs and DVDs, including resin and a variety of other consumables for disc replication, printing and packaging, which are bought in larger quantities, and thus lowering price points.

Colonial Looks to Mexico Next

"Europe is kind of what it was like in the US ten years ago," explained Franzen, who spoke with many very interested replicators at the Hamburg event. Conversations kept on leading back to "we need something like that in Europe." Franzen is hopeful that by this time next year Colonial will be up and running in Europe.

Separately, Colonial is planning to expand into Mexico and several South American countries, where there is also a need for joint buying. carbonate, lacquer, bonding, ink, screens and targets, as well as new and used equipment sales.

continued on page 4



A CHAT WITH NORTH AMERICAN REPLICATORS COMMITTEE CHAIR, OEM'S RAY ZERRUSEN

Following the Media-Tech Association's new US replicators' committee first meeting in late July, we spoke with committee chairman **Ray Zerrusen**, who also is president of **Optical Experts Manufacturing, Inc. (OEM)**, of Charlotte, North Carolina, on what direction he sees the group will be taking.



Ray Zerrusen

Fifteen companies attended the two-day event on July 26-27 at OEM's facility (<http://oemdisc.biz>). "I thought that was a really good turnout. We all saw a need for small independents to have a voice and we need an association for that. One hundred percent [of the participants] approved that we move ahead [with Media-Tech]," he said.

A trade association such as Media-Tech will enable individual companies to collectively fight legal issues that might come up as a group, which can be far more effective than going about it individually, Zerrusen pointed out.

The first case they're likely to tackle together is a patent infringement lawsuit filed by a company called Innovative Automation, which sued this past May fifteen companies, including small replicators (that are Colonial members) and Singulus. Zerrusen noted that the complaint was filed in a federal district court in Texas "favourable to patent peddlers." He added, "Singulus says the patent is not real, and no one is settling."

Zerrusen also anticipates that their joint voice under Media-Tech will help in negotiating better

royalty terms with legitimate patent holders with whom all replicators need to do business, such as the 4C, 6C, and MPEG LA.

All the companies that attended are members of the Colonial Purchasing Co-op, he noted. By joining Media-Tech, "there will be more leads to the equipment suppliers," Zerrusen said, alluding to MTA's roots as a voice for equipment vendors.

AIMMA AT NEXT VEGAS EVENT

Following two successful member-facility-based meetings in Bethesda, MD, and Rochester, NY in 2011, the **American Information and Media Management Association (AIMMA)** will join the Media-Tech Association and the Colonial Purchasing Co-op in Las Vegas in April 2012 for a coordinated event.

Founded in 1987 as the American Video



Duplication Association (AVDA) and then as the American Independent Media Manufacturers Association, the organisation (www.aimma.org) has evolved into a multi-industry trade organization. AIMMA's members comprise the majority of non-theatrical replication and duplication capacity in North American, and members now also represent the print, packaging, multimedia, creative, mastering, web development and post-production industries.

2012 LAS VEGAS PLANS

continued from page 3

Regarding next April's event, Colonial will again have its half-day members meeting, and also provide input into what kinds of topics should be covered in the joint conference, which will include a couple of keynotes, he said.

Franzen anticipates that some of the Colonial members in Europe will also want to attend the Las Vegas event.



EMA: BLU-RAY SPENDING UP 53% IN 2010 OVER 2009

Consumer spending in 2010 for DVD, Blu-ray and digital totaled \$18.8 billion – a 3.3% decline over 2009, although Blu-ray disc spending increased 53% over 2009, reported the **Entertainment Merchants Association (EMA)** in its 2011 *D2 Report: Discs & Digital – The Business of Home Entertainment*.



The report also found that the videogame industry was flat in 2010 with \$15.5 billion in consumer spending, but physical discs are still the most common format. In the fourth quarter of 2010, **71% of videogames purchased by consumers were in physical formats.**

Key regions around the world in 2010 continued to show similar performance to the US in terms of packaged home entertainment sales, according to Media Control GfK International. Four major regions showed significant Blu-ray growth but overall declines in packaged media, as the new format failed to completely offset falling sales of standard DVD.

In Western Europe, Blu-ray unit sales grew 76% in 2010, bringing the total retail market decline to less than 5% for the year. Select markets, however, including the German-speaking areas of Germany, Austria, Switzerland, France and Finland, countered the global trend and actually posted increased overall retail sales in 2010.

In Eastern Europe, the total packaged media market decline was 4.6%, similar to Western Europe, despite Blu-ray growth of 117%.

Japan's packaged media market finished 2010 virtually flat with a decline of less than 2% from 2009. Unit sales for the Blu-ray format grew

118%, giving Blu-ray a 14% share of the Japanese packaged home entertainment market, the highest share of any territory measured by GfK.

The Australia/New Zealand region experienced packaged media sales down 13% for full-year 2010 while Blu-ray grew 95%.

Other highlights in the report include:

- 44% of videogame console households have purchased downloadable game content, and is expected to grow to 58% by 2013.
- US households owning Sony's PlayStation 3 said it was used for playing DVDs and Blu-ray discs 27% of the time and 13% of the time was spent downloading or streaming movies.
- Microsoft's Xbox was used 40% of the time for non-game play.
- Consumer spending on DVD and Blu-ray discs accounted for 42% of all video spending. This compares with 25% spent at box office, 27% on pay/premium TV and 5% on video-on-demand (VOD) and electronic sell-through (EST).
- DVD and Blu-ray disc sales and rentals provide 51% of studio video revenue. Studio revenue from box office is 26%, premium/pay TV is 16%, and VOD/EST is 7%.
- Spending on 3D Blu-ray discs in 2010 was \$28.4 million, and is expected to grow to \$682.2 million by 2014.
- Rental consumer spending in 2011 is projected to break down to 22% in traditional stores, 50% through subscription and 28% at kiosks.

The report provides retailer-specific analysis on Amazon, BestBuy, DISH, GameStop, Hastings, Redbox, Netflix, Target and others.

Non-members can purchase copies of the report for \$75 each in print or pdf versions from **www.entmerch.org**



DEG: US DVD RENTAL DOLLARS EXCEED SALES IN 1ST HALF OF '11

US consumers spent more money on DVD rentals than buying discs in the first half of 2011 for the first time since 2000, reported the **Digital Entertainment Group**.



The numbers might have been skewed, noted DEG, because rentals included subscription plans such as Netflix's DVD and streaming service. **Blu-ray Disc spending is up more than 10%** and overall consumer spending on home entertainment is down 5%, despite a 16% drop in box-office for titles that entered the home entertainment window in the first half of 2011.

DEG said this is notable because comparisons to last year's sales are so highly skewed by the April 2010 release of Twentieth Century Fox Home Entertainment's *Avatar*, Hollywood's all-time box-office hit. In the second quarter of 2010 alone, *Avatar* sold more than 12 million discs.

While *Avatar*'s phenomenal success a year ago makes for tough comparisons, the underlying numbers in the latest quarter showed encouraging signs, such as spending on Blu-ray up more than 10% over the same period last year.

While first quarter 2011 home entertainment spending was down 6.4%, second quarter spending was down only 3.6%, which is an especially impressive improvement considering the absence of *Avatar*, and a further indication of stabilization.

In the second quarter, the number of Blu-ray homes grew 16% over 2010 (inclusive of BD set-tops, PS3s and HTiBs,) bringing the total household penetration of all Blu-ray compatible devices to more than 31.6 million US homes.

With the enormous slate of theatrical blockbusters coming to home entertainment in the third and fourth quarters, including *Transformers: Dark of the Moon*, *Harry Potter and the Deathly Hallows: Part 2*, *The Hangover Part II*, *Pirates of the Caribbean: On Stranger Tides*, and *Fast Five*, DEG said the industry is extremely optimistic about the second half of the year.

More info at www.degonline.org

IHS: 1.75 MILLION BD3D Discs SOLD IN FIRST YEAR IN US

US consumers purchased an estimated 1.75 million Blu-ray 3D discs during the format's first 12 months on the market, and brought home an



other 1.7 million units as part of hardware/software bundling deals, according to a new **IHS Screen Digest** report entitled "Life in 3D: BD3D's First Year of Sales."

From June 22, 2010 to June 21, 2011, 1.59 million BD3D feature films were sold in the US. When combined with the format's 161,700 non-feature units, 1.75 million BD3D total units were sold at retail, according to an IHS analysis of Nielsen VideoScan point-of-sale data.

Another 1.7 million BD3D discs were delivered to US consumers through hardware bundling deals during the same period, bringing the total to 3.5 million, IHS estimates.

A total of 93 BD3D titles were expected for US release during 2010 and 2011, the first two calendar years of the format's availability. In comparison, 448 Blu-ray titles were released during that format's first two years in the market. Even with the format's limited number of titles, a total of 507,293 BD3D discs were sold in 2010.



NPD: US BLU-RAY DISC MARKET REACHES 26 MILLION CONSUMERS

The number of Blu-ray disc buyers in the US has grown to account for **more than one-fifth**



of the country's total packaged home entertainment market, according to a new study by **The NPD Group**.

The research firm estimates that there are currently 116 million physical disc buyers in the US, down 9.4% from 128 million in 2009. However, NPD says the country's nearly 26 million Blu-ray buyers have helped to keep that number from sliding further. Blu-ray buyers are also beginning to buy more movies than they did in 2009 or 2010, including both new releases and older catalogue content.

Among other stats in NPD's report:

- 15% of U.S. consumers reported using a Blu-ray player in the prior six months in March 2011, up from 9% the prior year
- 49% of PlayStation 3 owners are viewing Blu-ray movies on their game consoles at least once a month
- 50% of consumers who intend to buy Blu-ray set-top players in the next six months cite the desire to use available subscription video download services as a primary reason.

UK RECORDED MUSIC DECLINE

UK music industry revenues totaled £3.8 billion, down 4.8% or £189 million, from a high of £3.9 billion in 2009, according to a new report by **PRS for Music**. Consumers continued to spend less on recorded music, especially in the fourth quarter. Through continual diversification of their business models, non-physical earnings now account for an estimated 41% of total revenues for UK record labels. Consumer revenues from live and recorded music fell 7.3% to £2.7 billion and now constitute 72% of the total industry.

GARTNER: VIDEOGAME INDUSTRY CONTINUES MAJOR GROWTH

The videogame industry is expected to continue growing at a rapid pace for several years to come, with game-related spending reaching \$112 billion by 2015, according to a report by **Gartner**, the technology research company.



The report, "Gaming Ecosystem, 2011," said spending on videogame hardware and games in 2011 was expected to exceed \$74 billion, up from \$67 billion on games in 2010. But the fastest growth is likely to come in mobile gaming, said Tuong Nguyen, principal research analyst at Gartner and co-author of the report. He predicted that the sales and use of hand-held gaming consoles, including those made by Sony or Nintendo, would slow as young gamers opted for a smartphone or tablet instead of a dedicated gaming device. Mobile gaming will grow "from 15% in 2010 to 20% in 2015," according to the report, accounting for the largest amount of growth compared with other gaming platforms.

NEWS BRIEFS

Amazon recorded a 27% year-over-year increase in worldwide media sales during its second quarter ended June 30) totaling \$3.66 billion in revenue. Sales of media products (from Blu-ray discs to e-books and video streams) in North America, meanwhile, increased 20% during the quarter to nearly \$1.6 billion.

US satellite TV service **Dish Network** plans to keep 1,500 of the 1,700 **Blockbuster** stores open, the *Los Angeles Times* reported.



GE DEMONSTRATES 500GB HOLOGRAPHIC DISC

GE Global Research recently demonstrated a micro-holographic material that can support 500 GB of storage capacity in a standard DVD-size disc, thus matching the capacity of 20 single-layer Blu-ray discs or 100 DVDs.

The disc was developed at GE Global Research's Applied Optics Lab in Niskayuna, NY.



Whereas DVDs and Blu-ray discs store information only on up to four layers at the surface of the disc, holographic storage technology uses the entire volume of the disc material. Holograms, or 3D patterns that represent bits of information, are written into the disc at controlled depths, and can then be read out.

The aim of GE, which has been working on holographic storage technology for more than eight years, is working toward micro-holographic discs that can store more than 1 terabyte or 1,000 GB.

In the near future, GE's research and licensing teams will be sampling media to qualified companies interested in licensing its proprietary holographic data storage platform, a comprehensive portfolio that includes materials, discs, optical systems for manufacturing and optical drive technologies.

GERMAN START-UP TO DEBUT ARCHIVING OPTICAL DISC

Syylex AG, of Villingen-Schwenningen, Germany, intends to produce GlassMasterDisc, an archiving optical disc the size of a DVD based on an engraved glass substrate, reported *Storage Newsletter*. Syylex launched in April 2011.

The media is supposed to be archived 100

years or more and seems to be based on a technology similar to the Century Disc from **Digipress/Plasmon OMT**, reported the newsletter.

- Other firms working on archiving data media:
- Hertfordshire, UK-based **Plarion**, with an optical disc for long-term archiving, whose CEO is Bob Longman, previously technical director of defunct Plasmon
 - **Millenniata** in American Fork, UT (US) with M-DISC
 - **Northern Star Spol** in Praha, Czech Republic, with DataTresorDisc Institute of Information Recording Problems, NASU, in Kiev, Ukraine
 - **Japanese Panasonic** with BD-R for "50 to 100 years"
 - **Essilex**, Paris, France
 - **General Storage & Technology**, Oslo, Norway

ROSE PATENT CLAIMS REJECTED IN PRELIMINARY REEXAMINATION

The more than decade-old patent dispute promulgated by an inventor named **David H. Rose**, of Bethesda, Maryland, and his company **NEX-omni**, LLC, against companies that manufacture non-circular optical discs continues to snarl its way through the United States Patent and Trademark Office.

There has been no action in the case since March 30, according to Mohab Sabry, whose company **Digital Flex Media, Inc.**, of Rancho Cucamonga, California, has been challenging the patent.

A preliminary reexamination earlier this year by the Patent Office resulted in a rejection of all claims made by Rose, whose says his patent covers a personal computer data storage card and method for transferring information between the data storage card and personal computers. Digital Flex Media is waiting for the Examiner to issue another Office Action in the case.



LONDON FIRE DESTROYS SONY DADC DISTRIBUTION CENTRE

The complete destruction last month of **Sony DADC**'s distribution facility in Enfield, Greater London, prompted by violence throughout England, has devastated independent music labels and DVD distributors whose inventories were stored there.

Initial estimates of the affected parties' property destroyed by the fire are in excess of £30 million, and it hasn't been determined to what extent insurance will cover losses at the three-storey, 20,000 square-metre warehouse, which opened in 2006.

Three teenagers reportedly were arrested for allegedly starting the fire. Within weeks of the devastation, Sony DADC replicated the lost discs and established an interim distribution centre for the UK. Logistics firm **Cert Octavian** and **Cinram** have assisted in getting the operation up and running, as well as new discs replicated.

The destroyed facility held as many as 30 million CDs, DVDs, Blu-ray and videogame discs and blank media. Indie music record labels affected by the fire include: 4AD, Domino, XL, Mute, Rough Trade, Matador, Sub Pop, and Beggars Banquet. The UK's largest independent sales, marketing and distribution, company, Pias, warehoused numerous labels' CD stock there, as did independent film DVD distributors, including the BFI, BBC, Artificial Eye, Dogwoof, and Palisades Tartan.

Industry analyst Paul Scaife told *The Guardian*: "Physical retail is still absolutely crucial to many in the independent sector and if – as seems quite likely – several smaller labels aren't covered by insurers, this could be the difference between survival and going out of business."

Sony DADC stated days following the fire, "We are working very closely with our customers



and based on their release schedules, 1.5 million discs are in the process of being remanufactured at both our manufacturing sites in the UK and Austria. In addition, we are extending our direct to retail distribution from our UK manufacturing site to reduce shipment delays – discs which are currently in our inventory have already been shipped today and the first of the remanufactured discs from the stock affected by the fire will be delivered tomorrow.

DIGITAL ACCOUNTED FOR NEARLY THIRD OF TOTAL WMG REVENUE

For the third quarter ended June 30, 2011, **Warner Music Group** reported revenue grew 5.2% to \$686 million from \$652 million in the prior-year quarter. US revenue was down 8.3% while international revenue improved 16.2%, or 4.5% on a constant-currency basis. Revenue growth in France and Japan offset declines in the US, UK and other parts of Europe.

Digital revenue of \$203 million grew 13.4% over the prior-year quarter, or 9.1% on a constant-currency basis. Digital accounted for 30% of total revenue, up 13% from \$179 million in the prior-year quarter, and up 9% on a constant-currency basis.

"We are approaching the point where the majority of our U.S. Recorded Music business will be digital," said Warner Music Group CEO Edgar Bronfman, Jr.



3D OR NOT 3D? THAT IS THE QUESTION...

....And I am sure if Shakespeare had been around today he would have asked the same thing!

You see, I am an industry professional, having been around for 30 years and working daily in the Optical Disc arena. I am a real 'techy' and love a gadget, yet in spite of all this, I do not "get" 3D. I should "get it" because my income, and in return my future, depends on it. Yet I need to feel safe that any investment I make will provide a return over the term (it is difficult enough already, what with the multi-claimant royalty fiasco and the cost of Blu-ray manufacturing helping to stifle the market for the independent.) I just don't want to be involved in something that is possibly doomed to failure.

I will explain... I was sitting in a restaurant, just the other night, with an industry colleague having the most wonderful dinner and the subject typically turned to the current industry news. Let me set the scene...she is young, very intelligent and savvy, (your typical advocate for the latest technology) so I asked, "Do you have a 3D telly yet?" Her reply is one I have heard far too many times, "I can't watch it – it makes my head go funny!"

Now maybe I hang out with the wrong kind of people, and those who know me will no doubt endorse the possibility of that, but too many people I know personally, who have no axe to grind in any way, report the same thing: that watching 3D content makes them go dizzy, feel nauseous or get migraines.

A little investigation I think is warranted. 3D and stereoscopic vision are certainly not new



technologies. Newly released photos show how a team of World War II experts, disrupted Nazi plans to bombard Britain with the help of 3D glasses like those found in modern cinemas. To stop the launch of deadly V1 and V2 rockets, a team of photographic interpreters used a secret weapon: a simple Victorian (yes, Victorian) invention called a stereoscope, which brought the enemy landscape into 3D. 'Operation Crossbow' they called it.

To make it work, pilots from the reconnaissance unit risked their lives by flying unarmed Spitfires – unarmed because of the weight of five cameras – at 30,000 feet in enemy airspace to take tens of millions of photographs, ultimately generating 36 million prints. To make the 3D effect work, images had to be captured in carefully plotted sequences, which would overlap each other by 60%. When viewed through the stereoscope, everything would then stand up.

Interestingly, reports show that the people that



Golf Cup Issue Page 11 Opinion by David Hill, industry veteran

had to analyse these photographs, for many hours at a time, started to suffer with headaches and nausea!

So, more investigation needed... Apparently there are discussions about the side effects of feeding the human brain with deliberately different images through each eye and forcing the brain to 'compute' the 3D effect over a period of viewing time. Some studies have suggested this can lead to a significant increase in anxiety, especially in those predisposed to conditions such as anxiety or depression.

When James Cameron's film *Avatar* was re-released at the cinema, there were many reports of individuals committing suicide after watching the film. This was explained in the media as happening due to individuals – who were already suffering from depression – having their condition exacerbated by seeing what a wonderful place the fictional Pandora is (especially in Hyper-Realistic 3D mode.)

They would then face the realisation that they could never go to 'Pandora' and would proceed to make the ultimate sacrifice. But were these depressive tendencies actually the reason after all?

Something is going on, for sure, which is not yet clear. We see in 3D, so in theory, 3D should be natural...except artificial and 'pumped' 3D is not natural at all, is it? This is why many people, through no fault of their own, cannot process the

stereoscopic images in a way that doesn't make them feel dizzy or nauseous.

Thankfully I don't suffer at all in this respect I imagine because most of my brain tissue has been removed by 30 years of industry event alcohol abuse! However I did perform a little experiment. Taking apart an old pair of video glasses, I deliberately fed completely separate images to each eye individually and forced myself to watch for 30 minutes...nothing.

So I then had a friend, who is unable to watch 3D, try the same experiment...again nothing. So

just to check, I made him watch a 3D movie. Within 2 minutes and 10 seconds of beginning the film, he had to stop watching!

In Asia, the manufacturers have a warning appear on screen after a couple of hours of 3D viewing, telling you to stop and take a

rest, which then gets larger if ignored and ultimately turns off 3D mode completely after a period of time. In Asia, I repeat, where health and safety regulations are in very early stages of application and compliance.

How come these warnings have not made it to the West yet? Worse still, what is it they are not telling us? What is the research that is behind the inclusion of such warnings?

I watched last night a movie on Blu-ray and in 2D. Great film and I enjoyed it immensely: good story, fantastic production, and it made me question – all said and done, would I have really enjoyed it more in 3D?

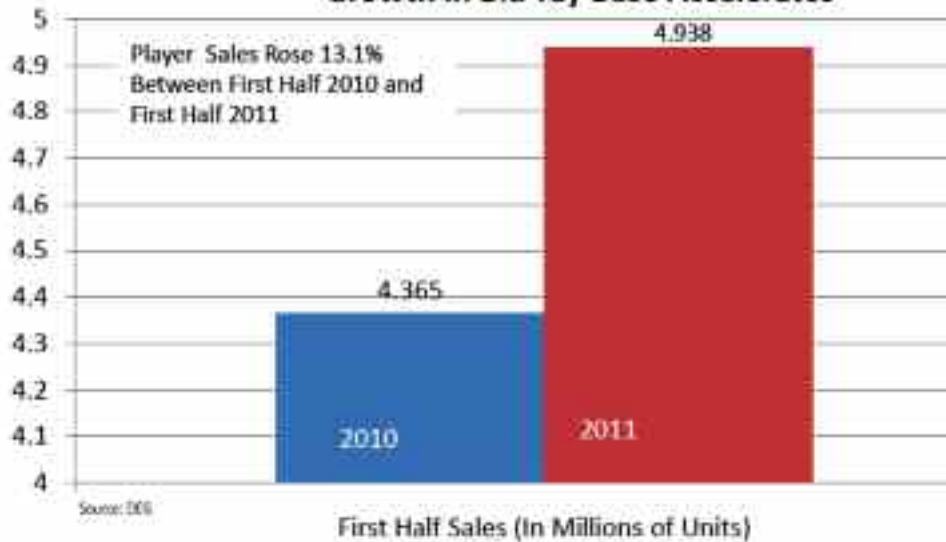
Somehow I don't think so...

“Too many people I know personally, who have no axe to grind in any way, report the same thing: that watching 3D content makes them go dizzy, feel nauseous or get migraines...”



DEG MID-YEAR 2011 HOME ENTERTAINMENT REPORT

Growth in Blu-ray Base Accelerates



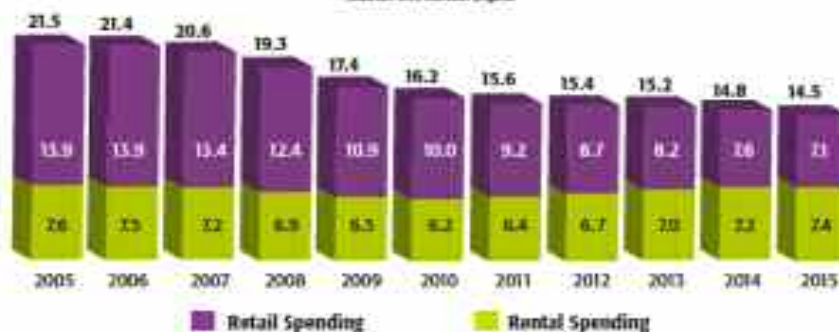
International Total Video Sales – 2009 to 2010

Area	Variance DVD	Variance Blu-ray	Variance from 2009 Total DVD and Blu-ray)
Western Europe	-8.2%	+76.0%	-4.8%
Eastern Europe	-6.1%	+116.9%	-4.6%
Japan	-9.6%	+118.0%	-1.7%
Australia/New Zealand	-15.5%	+95.0%	-13.2%

Source: 2011, media control GfK International

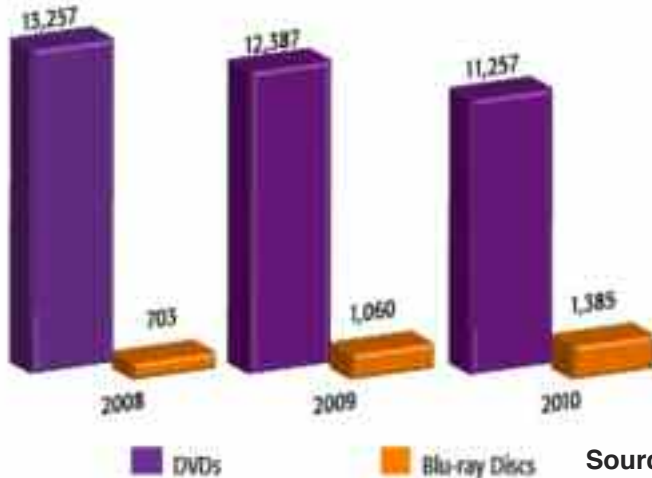
Packaged Home Video Market Spending – 2005-2015 (\$billions)

Source: IHS Screen Digest



DVD & Blu-ray Disc Releases

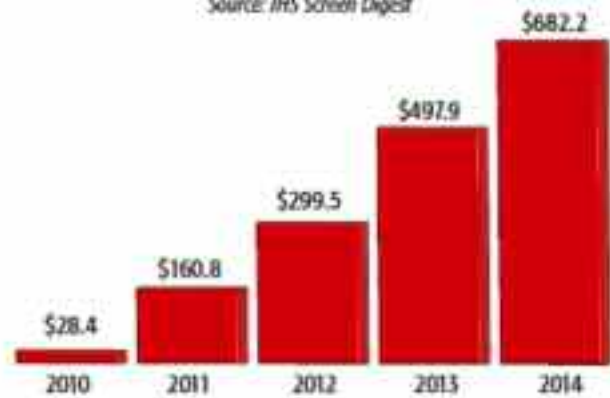
Source: *The DVD Release Report*



Consumer Spending on Blu-ray 3D for U.S.

(Millions)

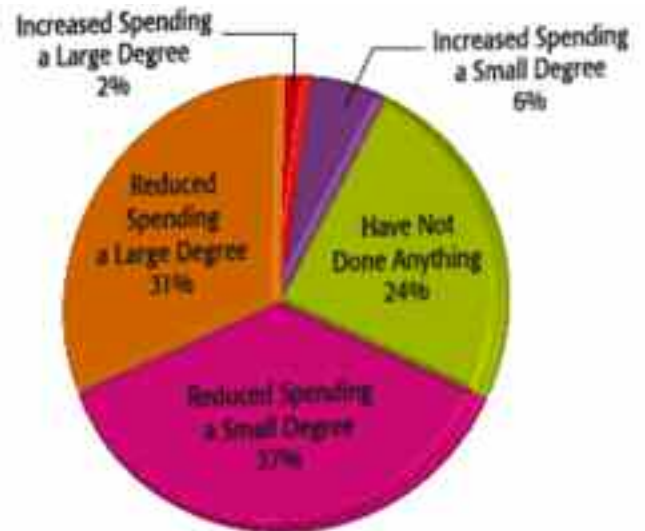
Source: *IHS Screen Digest*



Source: Entertainment Merchants Association

How has your spending been affected, if at all, as a result of current economic conditions?

Source: Nielsen 360 Gaming Report



MEWA PLASTIC RECYCLING

turn the beat around in a sustainable way by regaining polycarbonate optical grade

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Makrolon Effect ['mækʁə,lɔŋ 'ɪfɛkt] = **the inventor's know-how as a basis, blue laser technology as the result**

Standards are there to be exceeded – for example by blue laser technology in the optical data storage field. High-quality data carriers made of Makrolon® are testament to over 25 years of innovative know-how in optical data storage. Ever since the introduction of the audio CD in 1982, Bayer MaterialScience has been continuously improving its Makrolon® polycarbonate in terms of flowability, transparency, purity and mechanical properties. Among other things, these developments have allowed smaller and smaller data structures to be molded, which in turn have made it possible to produce high-resolution films in HD quality in Blu-ray and HD DVD formats.

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Makrolon® CDs

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Creating a portfolio capable of meeting demanding industry targets on cycle times whilst maintaining low birefringence, excellent surface replication and superior flatness for the emerging Blu-ray format has been the recent development focus.

Lexan® OQ 1028 resins serving all optical media formats (CD, DVD and BD) meet the most demanding requirements

Broad processing window

- Drop-in material
- Stable production
- Improved disc quality & consistency
- Low birefringence

Reduced mold sticking tendency

- Lower mold deposit
- Less mold cleaning
- Reduced machine down-time
- Higher output
- Broad processing window



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Sharing our futures

A silhouette of a golfer in mid-swing, captured against a dramatic sunset sky. The golfer is on the left side of the frame, wearing a white cap and dark clothing. The golf club is extended towards the right. The sky transitions from a deep blue at the top to a bright orange and yellow near the horizon, where the sun is setting. The foreground is dark, suggesting a grassy field.

It's all about
playing the
game right!

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