



Cinemacon 2016

A round-up of this year's show for EDCF members



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Welcome to this year's round up of the largest Cinema trade event of the year: Cinemacon, Las Vegas.

This does not claim to be an exhaustive summary of 2016's Cinemacon. I could not attend every seminar and every technology event so I have had to be partial in my approach, but have used the trade press coverage and press releases as well as my conversations to cover as many new technology issues as possible.

This is not an IHS document, and given the breadth of the topics and the required speed to get this document out for our members, I have not been able to assess all the claims made by manufacturers. Any errors are mine alone, and I would be grateful if you notify me and I am happy to correct any mistakes there are.

I have not covered the seminars here, although the slide deck of my intervention on International Day will be in the members' section of the EDCF website. However, I would urge you to read the posts by Patrick Von Sychowski and Sperling Reich on the website **Celluloid Junkie** who can do that much better than me (they can take notes and type in the dark for a start!). Also worth a read is EDCF member UNIC's **Focus Europe** report, launched in Cinemacon and full of facts about the cinema business in Europe.

For me, the most striking thing about Cinemacon this year was the feeling of 'taking stock' of the market for technology. There were improvements to existing technologies but very little actually new was launched. I see this as a good thing, with exhibitors assessing all the different options and manufacturers letting their new products bed in to the market before launching further ones.



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This year's Cinemacon was undertaken in the light of a few broad themes. One was the highly successful year experienced in 2015, and the slight undercurrent of how to match that success in a year without a main Star Wars or Bond release. On that note, we now know that the next few years (from next year) will see either a Star Wars release or an Avatar release up to 2023, which is good news for the momentum of premium cinema and the associated technologies.

Global box office reached \$37.7bn in 2015, a rise of 5.3% over 2014. This was compared to a global rise of 1.9% and 1.4% in the previous two years. This was driven mainly by the success of the new Star Wars film, *The Force Awakens* which grossed \$2.1bn worldwide, somewhat short of *Avatar's* \$2.8bn but not far off *Titanic's* \$2.1bn to place *The Force Awakens* in third place of all time global grosses. By comparison, Bond's latest outing *Spectre* is at 40th on that list with a global gross of \$880.7m (Skyfall is 14th).

The North American market is actually 7.7% ahead of the 2015 gross in the first quarter of 2016 but the key will be how the market performs over the year without the last quarter to push it to the heights of 2015. One aspect that was touched on was the more even spacing out of films across the year, with some tent pole titles being released in quarters 1 and earlier in 2, instead of all waiting for the summer. The release of *Deadpool* and *Zootopia* backs this up. This is also confirmed by recent research that I did at IHS on box office throughout the year. The more even spacing avoids cannibalisation and helps to maximise box office. There are a number of strong titles this year even if not on the same scale as last year and the hope/expectation is for another good year.

A second theme is internationalisation of the cinema economy, especially with the rise of Asia. There was liberal use of IHS data on this and it is a subject we have been investigating for 15 years. It seems to have made it to the mainstream of US cinema conferences now. China is on course to exceed the US as the world's largest market by 2017/18, a year or two ahead of my forecasts some years ago and driven by the continuing high rates of screen construction, around 20 screens a day (over 8,000 in 2015). To put that in context, the UK screen count has risen by about 30-40 a year in recent times. By 2019, 46% of the world's box office will come from Asia. The UNIC report highlights the role of Europe (or at least those territories with UNIC members), which accounts for 24% of the global box office, on a par with the USA. There was a 9.6% rise in box office in the UNIC territories during 2015.



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A third theme is the almost full digitisation of the world's cinemas. We are now at a point where the majority of the 60 countries covered in the IHS Cinema Intelligence service are converted to digital and, including e-cinema screens in India, 98.2% of the world's cinema screens are now digitised. At the end of 2015, there were 141,049 d-cinema screens installed in the 152,000 cinema screens tracked as part of IHS's online Cinema Intelligence service. The growth rate between 2014 and 2015 is 10.7%, suggesting a last scramble to digitise the remaining screens before the 35mm distribution format is switched off. Adding in the 7,200 e-cinema screens in India gives us a total of 148,249 digitised cinemas screens and 3,750 35mm screens remaining in a declining number of non-digital countries. Much of the growth during 2015 came from Asia (and not only China) and Latin America. The Chinese digital screen growth is not conversion in the true sense, but new builds that are digitised from the beginning of their commercial lives.

There are now over 74,000 3D screens in the world, a penetration rate of 52.9% of all digitised screens, so while the novelty may have worn off and a certain cynicism is attached to the 3D brand, it is by no means finished as a consumer experience and continues to be a part of the theatrical experience. Mexican circuit Cinepolis' Alejandra Ramírez Magana argued that the initial promise of 3D has not been achieved. The 3D format is waning as part of the overall box office in some countries. "Part of the reason is that for many films there is little reason to pay the surcharge and see them in 3D," he said. "We need more films, like Alfonso Cuarón's *Gravity* or Ang Lee's *Life of Pi* to entice moviegoers into experiencing 3D again."

A last point of interest is to do with demographics. John Fithian of NATO made the point in his speech that much is made erroneously of teens leaving the cinema. Yes, teenagers do like small screens but these screens and their non-linear content is more of a threat to the TV, rather than the cinema. Teens like big screens and small screens, it is the middle screen that is suffering. In short, they like to be in control of their home-viewing experience, and parents tend to be in control of the TV. Tom Molter of Warner Bros showed how 85% of moviegoers in the U.S. now own a smartphone and 53% have a smart device connected to their televisions. He also discussed millennials and their habitual use of small screens, calling them digital natives and urging the industry to work out smart, strategically targeted initiatives to keep them engaged with filmed content.



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We also met an ISDCF group of members, who were attending Cinemacon and gave over 2 hours to a meeting with EDCF, organised by Jerry Pierce who chairs ISDCF. There were four of us present on the EDCF side. It was a very cordial meeting and we had a fascinating discussion. Each group presented themselves and their activities and we had a good discussion about organisational structures and how we could best work together to maximise our usefulness. The major concern of the ISDCF at present is the SMPTE-DCP. The ISDCF members value the joint efforts of EDCF and UNIC to develop a plan to help with the conversion process. Good results have been obtained in the first test markets in Norway and Netherlands.

Cinema technology developments: a summary of the situation as of now

Premium Large Format is a growing part of the cinema sector, one pioneered by IMAX and now being driven not just by them, although digital cinema revitalised their growth capacity and allowed the expansion that we see today, but also by cinema exhibitors themselves. There were around 2,100 PLF screens at the end of 2015, with the US, Asia and Latin America way ahead of Europe (East and West), Africa and the Middle East. Some exhibitors are beginning to feel that there are sufficient options out there to make up their own experience, and do without the benefits of Imax's end to end approach and brand recognition in exchange for keeping the revenues from their Premium screens. Both can co-exist, and indeed do so in the same sites sometimes.

A key word for the route cinema is taking is immersive, with sound and image systems aiming to bring the viewer in to a more personal and powerful experience. High Dynamic Range (HDR) is the latest technology to pique our interest. The creative community has latched on to the possibilities on their side, aided by Technicolor's applications in the field, while Dolby is promoting the laser-based HDR solution Dolby Cinema (using technology from Christie for the necessary laser projectors) to exhibitors. So far, the world's largest exhibitor group Wanda has ordered 100 for China and 100 for AMC, and there are a handful of other sites in Europe. Dolby Cinema, (exclusively based on dual laser projection) finished 2015 with 17 total installs of which the largest proportion of those were with AMC in the US, and including the first installation with Cineplexx Austria, the start of a new deal there for a total of six screens.



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While HDR is aiming at image, immersive sound systems are the aural draw for viewers, and while Dolby Atmos is in the lead position with 1,600 screens committed and installed around the world at end 2015 compared to 550 for Barco Auro and somewhat fewer for newcomer DTS:X (100 as at now and 200 further committed and expected by year end; 80 are in China), the technology is proving popular and extending outside the premium screens, which has always been the hope of the technology companies.

Immersive also applies to screen formats, such as the multi-screen formats being pioneered in the form of Barco Escape and ScreenX. Barco Escape had a total of 20 installs of its panoramic screen format at year end 2015, up from seven one year prior, of which the majority are in the US. Company is reportedly targeting over 150 screens by end of 2016. Barco has a content deal with Fox in place too for Escape content, and the first full-length Escape film (as opposed to partial content within a feature film) scheduled for 2016 in *6 Below*.

The Korean company ScreenX, a subsidiary of exhibition group CGV as is 4D outfit CJ4DX, has been around longer (since 2010) and at end 2015 had 84 screens in four countries (77 in Korea, and a handful in USA, China and Thailand). The company is also working on content, in its case Korean film *The Priest* and an agreement with Wanda for *Mojin: The Lost Legend* to be shot and screened partly in ScreenX format.

Motion seating (either just motion seats or motion seats and sensory additions) or 4D is also beginning to spread around the world. Taken from the theme park and tried before in an analogue way like 3D before it, these systems certainly add a novel experience into the cinema's experience mix and at last count (3Q 2015), there were 594 of them worldwide (amongst them 196 screens in 34 countries for 4DX). These screens seem to be working in the short term, and content providers are playing the game by allowing films to have a 4D mix but the greater challenge will be to move beyond the novelty and create films that are enhanced by this format and for which a premium is justified in the audience's mind. There is some discussion as to whether motion seating is actually 4D, or whether that name implies the motion seats and sensory elements too. The 4D tag does have a theme park background, and maybe connotations, and motion seating, which can be quite subtle, is not the same as 4D. For example, Canadian company D-Box is not in the 4D space, but is an immersive seating provider.



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Some technologies are moving ahead at some pace. 3D is being enhanced by Laser-illuminated projectors (LIP), and on top of the cost savings on consumables, LIPs seem to be making a case for themselves. The introduction of the cheaper laser phosphor technology (retrofit and new machines) pioneered in the market by NEC has opened up this technology beyond the largest screens that high-end RGB lasers are targeting. Having said that, as at end 2015 (provisional data), there were 94 RGB laser-illuminated projectors installed around the world and there are now a growing number of manufacturers to provide them and their components, including all the TI licensees (Barco, Christie, NEC), including Cinemeccanica, and newcomers Power Technology (retrofit light farms), Appotronics (laser phosphor), and Sino Laser (laser phosphor). Retrofits are now also coming on stream, with both retrofit in the field and retrofit within a reconditioned machine being offered, with extended re-warranties applying to make the economic case for replacing the lamp house stronger.

IMAX has also introduced a laser solution for its largest screens, with technology developed by Barco, and it is in the process of rolling these out to its first sites now. It had a total of 18 screens outfitted with high-end laser at end 2015. Sony has been biding its time, but has been briefing on its approach to laser in cinema.

All in all, while the digital conversion is almost at end after 11 long years of selling and installing digital cinema projection systems, the digitisation of cinemas is actually just beginning as the IT backbone (in cinemas and at a consumer level) needs to be installed and integrated, and new creative and projection technologies are coming on stream to offer greater experiences within the cinema space. This process, now unleashed, is unlikely to halt in the medium term and horizon technologies like Virtual Reality are also beginning to find their way into cinemas, making the increasingly segmented sector a complex but exciting one for the consumer to navigate.

The Trade Show and New Products/Services

Barco has recently established an interesting deal with Regal (largest US exhibitor) and sports and entertainment events organiser AEG to create a Regal L.A. LIVE: A Barco Innovation Center. The idea is to use all of Barco's entertainment technology in the site, to present the most technologically advanced and innovative cinema in the world, almost a test site for the future of cinema. Two screens will have flagship RGB laser and the rest will be equipped with laser phosphor projectors. The site also includes immersive sound Barco Auro systems, one auditorium will be equipped for Barco Escape and the foyer will include the Barco Lobby Experience. All these



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All these technologies were on show at Cinemacon.

Christie has also been active in lobby technology for cinemas and other sectors, launching a set of 'out of the box' video walls from its subsidiary Allure.

HDR

The topic of HDR was last year's big discussion point. Since then, Dolby Cinema is underway, with over 200 screens committed around the world (the vast majority in US and China by Wanda-owned exhibitors) and 17 installed at end 2015. However, there was little new on the topic, other than 38 titles have now been released or announced in Dolby Cinema. All the studios are on board with Dolby Cinema.

HFR

One of the most-anticipated screenings was Sony's product presentation which had Ang Lee on stage, discussing his ground-breaking film *Billy Lynn's Long Half Time Walk*, which is being shot in 120fps, 4K and 3D. This is the sort of film that has the capacity to revive 3D, and to push HFR back into cinemas. The footage was not screened in the intended format at Cinemacon, but was at the Future of Cinema Conference at NAB a week later. I was not there for that. The buzz around the footage has so far been very positive.

Immersive Sound

The pre-show was dominated by the announcement that Wanda, the world's largest cinema exhibitor, has struck a deal with Dolby for around 800 units of Dolby Digital Cinema processor CP750 and Dolby Atmos Cinema processor CP850 for all new screens built by Wanda during 2016. Dolby also confirmed that there are now 1,600 installed or committed Atmos screens in the world. For Dolby, a new processor (launched at Cinemacon) is able to bring the price of Atmos down significantly (I was told 40%).

Auromax by Barco has not been progressing as well in the past year. The uncertainty about immersive sound in the open standards area may be behind it, and they are unwilling to sell to exhibitors until that is solved and they have an improved product. They have been stuck on or around 550 systems installed or committed for some time now, and this would explain this fact.



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DTS:X was a sponsor of one of the breakfasts here and gave a speech about their immersive sound product for cinemas, DTS:X. They have been relatively quiet as a company up until now, but they told the audience that they have 100 systems installed and 200 extra expected by year end (committed). 80 of the committed are in China. So far, 22 titles have been mixed in DTS:X, compared to 400 plus in Atmos. During the show, DTS partner GDC Technology announced that two US exhibitors have signed up to DTS:X: Classic Cinemas Charlestown (Illinois with 104 screens in 13 locations) and UEC Theatres (UEC Theatres is a Top 50 theatre circuit in the United States with 154 screens at 17 complexes, and operations in 13 states).

DTS partner GDC Technology launched the SX-400 Standalone IMB with XSP-1000 Cinema processor, its solution for immersive sound. The company is focusing on the low price point in its marketing. The GDC SX-4000 immersive sound media server has a built-in decoder for real-time rendering of DTS:X immersive sound in full 16-channels and two channels to support narrative audio, motion data and other special purpose signals. In addition to supporting DTS:X, the XSP-1000 can support multiple object-based immersive sound formats and can also be sold separately (available from summer 2016).

Not strictly immersive sound, but Christie launched the Christie Vive Audio LS Series 4-way screen channel and 2-way surround loudspeakers at CinemaCon 2016.

Laser Illumination and LIPs

Barco used Cinemacon to showcase several new products (see other sections). On the laser front, they discussed both their flagship laser side (RGB) and the laser phosphor projectors. Both have differing rationales: with RGB being about image quality and brightness for large screens and TCO over time; laser phosphor machines are significantly cheaper than RGB, and comparable to digital projectors, with a lower cost of ownership, mainly down to no lamp costs, as well as a better quality for most screens that are suited to that type of projector. Barco have more than 100 RGB laser projectors installed worldwide, by 40 exhibitors in over 20 countries. Santikos Cinemas has become the first circuit to announce it is becoming all-laser as from this year.

For its part, NEC (the first to launch a laser phosphor projector) is also entering the RGB laser market, with the NC3540LS projector with IPG Photonics Corporation fiber laser light source. For facilities with larger screens, the NC3540LS model can be configured in a two-projector stacking setup to deliver 70,000 lumens, among the brightest options on the market.



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NEC also plans to enhance its line-up of affordable laser phosphor projectors for medium screens requiring up to 15m-screen width later this year. So far, NEC's laser phosphor projectors have been aimed at screens up to 12m.

Christie has also launched a laser phosphor projector, the first in its range. The model, previewed in late 2015, is known as the CP2208 LP and is capable of up to 11,000 native lumens of brightness in DCI colour and 30,000 hours life to 50% brightness. The projector is aimed at screens up to 35 feet (11m). It is available as a complete system with the optional Christie IMB-S2 integrated media block and also works with other Series-2 IMBs. It can handle 3D and high frame rates.

Sony does not currently have a laser solution in the market, citing the 8,000:1 contrast ratio of the SRX-R515 compared to 3,000:1 for a first generation laser projector. However, they are working on laser and believe it will be a game-changer. They have engineers in Japan fine-tuning their laser offering, so watch this space.

Power Technology launched its laser light farm technology into cinemas this year. With a combined 705 years of laser experience between them, Power technology is not a newcomer to laser but is to the cinema business. The light farm, known as Illumina, can output a total of 250,000 lumens to be split between all the screens in a cinema. Thus, it can light PLF screens at the top down to the smaller screens from a single source. The company says it has solved speckle. Power Technology uses an air-cooling design for their laser farm, rather than liquid cooling.

IPG (NEC's partner for their new RGB laser) showed its laser Luminaire system at Cinemacon. It can be configured with either 3 or 6 lasers (3P or 6P) for 2D and 3D digital cinema projection respectively. IPG says that the laser linewidths of its system are unusually broad, which helps to reduce speckle, crucial for adoption in cinema. In the 6P system, the red-green-blue laser luminaires emit at six separate wavelengths. The blue emission lines are centered at 445 nm and 465 nm, with green at 525 nm and 545 nm, and red at 615 nm and 635 nm. The company sees a significant market opportunity in 3D cinema and light shows.

Chinese company CineAppo was also present in Las Vegas. Founded in 2014, one year was given over to R&D and optimising the light source (APLD technology) for the Barco C series projector. This is aimed at screens of 23 feet (7m) or smaller. By March 2016, the company claimed 1,000 sets were sold and 500 of the C series laser light source with accumulated 7,300 hours of faultless operation were deployed. .



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This year, CineAppo is introducing the laser light source solution for the Barco B-series, a joint effort development with Barco. The solution is to retrofit older projectors. At 25,000 lumens, and a 30,000 hour lifetime, the laser light source is for screens of 25m and below.

Servers/IMBs

Santikos Cinemas is transitioning to become an all laser circuit during this year. As well as Barco projectors, the company has extended a five-year strategic partnership with GDC technology for IMBs. Under the agreement, GDC Technology will deploy a total of 70 units of its SX-3000 Integrated Media Block with Enterprise Storage Plus, which provides 4TB of storage, with the laser phosphor projectors in 2016.

Lamps

It was not all about lasers at Cinemacon, as USHIO announces that it has tied up an exclusive deal with National Amusements for xenon lamps. National Amusements (branded as Showcase) has been a client for 20 years, and this deal extends the partnership for another 3 years.

Major lamp supplier Philips announced its new LongPlay digital cinema lamp, giving up to 50% extra lamp life than standard xenon lamps. In the company's words "LongPlay lamp electrodes run cooler, prolonging electrode life and maintaining light output longer. In addition to longer life, all Philips LongPlay lamps feature an extended operating power range up to 50% of full power. This provides exhibitors with more operational flexibility and avoids the additional expense and hassle of changing lamps when switching between 2D and 3D projector configurations."

3D

3D is the forgotten child at this year's Cinemacon. This strikes me as a slight surprise, given that over 53% of the world's screens are equipped with 3D. The success of some films shows that 3D does add value and it seems we are waiting for someone to take up the challenge of producing consistently high quality 3D titles. In the same way that STX, a new distributor, has identified an opportunity for mid budget films now the studios are focusing relentlessly on tent poles, it may need a company to come along and produce specifically for 3D. Fewer titles maybe, but a guarantee of quality (at least in production if not a guarantee of success, this is the movie business after all). There was a panel on 3D, organised by ICTA, but I was not able to attend it.



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4D and Immersive seating

D-Box is a Canadian company, which entered cinema in 2009. They had been selling motion seating systems for the home for ten years. Their system is not 4D, as they are at pains to point out, but immersive seating. The motion should be almost unnoticeable to the patron, but add to the experience of the film. In this way, it is unlike 4D which comes out of theme parks and is meant to be noticed. Their system works with any chair (they do not provide the chairs) and is actually based on a musical audio track. They generally install in a section of the auditorium, not all of it, but can do the latter. They have over 500 screens in the market as at now, in 76 exhibitors in over 30 countries. Growth is on an upward curve in 2016 and their content supply is rising too. They encode around 35 movies a year (they do it, not the studio behind the film) and now have over 200 in total. They are now off DCP in a sound file of their own format. They were on the DCP, using channel 13, but that is now taken by Dolby Atmos. Indonesia's rapidly growing exhibitor Cinemaxx (LIPPO Group) is to open the country's first 4D screen in 2016, using D-Box Technology.

CJ CGV, Korean exhibitor which recently acquired Turkey's Cinemaximum cinema circuit (lead circuit) and who aims to have 10,000 screens by 2020 and therefore is competing directly with Wanda to become the world's leading exhibition circuit, is also behind several technology innovations, one of which is 4DX, the motion seating and sensory experience technology. The other technologies are ScreenX (see mutli-screen formats) and 4DX VR (see VR as well as a range of in-house developed cinema software solutions (see Software)). 4DX's global base, as of April 2016, is 233 auditoriums across 37 countries, up from 170 auditoriums in 33 countries at this time last year. More than 30,000 seats have been installed worldwide. The recent Batman vs Superman title in 4DX saw an occupancy rate of 91% across the first weekend in the USA. CJ CGV went big at this year's Cinemacon, with a large trade show booth and presence within the event. They are behind a number of innovations in the cinema industry now. Cineplex, Canada's leading exhibitor is the first to sign up 4DX for Canadian audiences, with an opening scheduled for summer 2016.

Another leading player in 4D, Mediamation, has also signed up a number of new exhibitors including with China's Dadi Cinema group for 15-20 MX4D theatres to be installed in 2016. They have also signed recent deals with Showcase in USA, Movie on Yamagata in Japan (via exclusive distributor Sony Business Solutions Corp), SF Cinemas in Bangkok (via recent distributor deal with Sony Corp of Hong Kong), Grand Cinemas in Kuwait, and MISR International in Egypt.



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Multi-screen formats

ScreenX is now installed in 91 screens worldwide, and is targeting 270 screens by the end of 2017. CJ CGV's ScreenX successfully screened feature length films in the format. Seven films have been screened since 2012, and six over the past year, including two in the USA: Korean film *The Himalayas* and the Chinese blockbuster adventure *Mojin: The Lost Legend*. In China, *Mojin: The Lost Legend* recorded an 82.7% average seat occupancy rate on opening weekend.

For its part, Barco is now getting much more aggressive on its targets for Escape. In a briefing and viewing of some new content, it was noted how much feedback has changed in the two years since launch, being much more positive and Barco seems convinced that its time has come. It has been a long two years, building up a base of 20 screens to date. However, Barco announced a deal with JJ Abrams' Bad Robot Productions for 20 minutes of the upcoming *Star Trek Beyond* film to be in Escape format, and Barco expect to be able to increase the base to 50 by then (sign up this week to guarantee installation or you won't get it), with 100 expected by year end, and 500 a year two years after that. The expected target within 3-5 years is 3,000 Barco Escape screens. As I say, very aggressive. The content side is building nicely and further deals for Escape format films have been announced as well as Star Trek. Cross Creek Pictures has signed up to produce an Escape film by 2017 and Fundamental Films will produce two or more films to be released by 2017.

For its part, Chinese PLF format CGS is now showing in 135 auditoriums, which generated 80 million dollar box office in China. There was just one CGS screen in China at the end of 2011. In 2014, CGS setup a re-mastering lab in L.A. to serve the studios and theatres. In 2015, with CGS exceeding 100 screens, company expanded outside China and entered the south-east Asia and Middle-East market.

Screens

Harkness Screens is one of the leading cinema screen manufacturers in the world. They had one of their busiest Cinemacon's, indeed were even part of it as the chosen screen provider. The show's auditorium in the Coliseum at Caesars Palace was equipped with two 18.2m x 7.85m Harkness screens; one a **Clarus XC 170** 2D/3D screen, the other a **Matt White** screen. The Clarus XC 170 screen was used to showcase current generation xenon projection both in 2D and 3D whilst also supporting Barco's 6P laser projection technology. The Matt White screen will be used to showcase Christie's 6P laser projection offerings. Harkness also has a number of tools to help exhibitors. .



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This year's offering was the fifth in their range, a Digital Screen Planner. From physical screen curvature and tilt through to specifying the physical sheet size, the Digital Screen Planner is a tool for ensuring that construction design elements and the actual screen specified are correct prior to the project, helping to prevent potentially costly on site delays or mistakes from occurring. Harkness also soft-launched a reality capture tool, to assess the potential look of a space in a very short time. It is a CAD tool that can help with asset registration, and create drawings of a potential new site or authenticate existing drawings.

For its part, Strong MDI launched Premium HGA. The company claims that this screen is suited to premium cinema and delivers 40% more brightness than silver screens and has the largest viewing angle of any comparable screen.

China's Star Screen and Bosste put up silver or white screens in China and they shared 85% of the market in 2015, according to China Film Equipment.

Software

CJ CGV, active in so many areas this year under its own banner, has also now launched its own cinema software solutions for sale to other exhibitors. These include CRM (Customer Relation Management), NOC (Network Operation Center), TMS (Theater Management System) and PhotoTicket products.

Leading cinema software provider, Arts Alliance Media, launched Thunderstorm, a game changer in the provision of cinema software. This is a cloud-based platform forming an online app store for cinema exhibitors, allowing them to choose from a range of apps that suit their business. Up until now, cinema software has been developed and sold direct to exhibitors by a relatively limited number of companies. This would allow third parties to develop software for cinemas, and place that tool on Thunderstorm. This makes a scalable way to create software. AAM sees this as a way for exhibitors to engage with their customers, and generate extra revenues. Current examples of apps on the platform include existing AAM offer Cinecardz (personalises on-screen messages), Cinema Conversations (shared social media experiences in the lobby), Cinema Intelligence (not my one, but the predictive analytics solution from Share Dimension) and iPlateia (brings second screen (mobile) promotional interactivity to the cinema via proprietary sound recognition). AAM also released a press statement in early April that it has three new partners on board Thunderstorm: Cheerfy (real-time recognition of customers), Incode Cinema (digital signage programming) and Smart Pricer (dynamic pricing software).



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Another European leading company engaged in this area through its TMS (as well as electronic delivery) is Unique Digital. A deal signed at Cinemacon enabled Unique Digital to bring the cloud-based monitoring and support platform Cielo to EMEA, opening up the Internet of Things to the cinema industry (according to CE+S). The platform was developed and commercialised by Cinema Equipment and Supplies (CE+S), and launched at Cinemacon last year. It is in 2,000 cinemas across the Americas and Unique Digital will make it available to 260 cinemas in Europe straight away. CE+S will also rollout Cielo to the 2nd largest Ecuadorean circuit Multicines (six sites/47 screens).

Indian circuit PVR (now the largest circuit with over 500 screens) has signed up GDC Technology to monitor its digital cinema equipment and automated systems.

GDC Technology launched the TMS-2000 theatre management system.

Virtual reality

The world's first VR cinema has now opened in Amsterdam, the first concrete step linking cinema and the fast-moving world of VR. Many studios are backing VR, and several of the leading technology and computing companies are also heavily investing but so far an application in cinema has been elusive.

Technology innovator and ambitious Korean exhibitor CJ CGV has now launched "4DX VR", on top of SDscreenX and 4DX, which is an actual VR experience on a motion-controlled seat. This is part of an evolution of experience that CGV is continuously developing, aligned with the company's "Cultureplex" philosophy of an entertainment hub that offers multifold experiences beyond cinema.

Gaming

Gaming is moving into cinema, certainly at an eSports level, which can be hosted by a cinema and streamed online as well. Cinema screens can also be used for in-auditorium gaming.

Projector manufacturer Cinemeccanica has launched ESPARENA, a solution enabling a cinema to transform from a cinema to an eSports arena. The first venue is Movie Planet Cinema, in Milan, which hosted a League of Legends event (the most popular eSports brand) between two teams.