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BROADCASTING AND PRODUCTION IN INDIA

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PRODUCT OF THE MONTH

PIXOTOPE REVEAL

THE NEW AI TOOL TRANSFORMS LIVE BROADCASTING



Exclusive Interview

Pete Romano

Innovator in Underwater Cinematography and HydroFlex Creator



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THROUGH THE CRYSTAL BALL

As we bid farewell to 2024, a year that many of us feel flew by in the blink of an eye, we find ourselves on the cusp of a new beginning. Do you agree that time seemed to accelerate this past year? With the dawn of 2025, we embark on a fresh journey, filled with anticipation and curiosity about what the future holds. While we cannot predict the exact path ahead, one thing is certain: the rapid advancements in technology promise to bring about significant and potentially disruptive changes.

When we speak of "disruptive" changes, it's important to recognize that disruption can be a force for positive development. The media and entertainment industry, in particular, is poised to adapt and thrive amidst these technological innovations. The year 2025, much like its predecessor, is set to be an exciting and transformative period for our industry.

At Digital Studio India, we are gearing up for what promises to be a groundbreaking year. The trade shows scheduled for this year are expected to unveil revolutionary developments that will shape the future of media and entertainment. From cutting-edge production techniques to innovative distribution methods, the advancements we anticipate will not only enhance our capabilities but also redefine the way we create and consume content.

As we navigate through these changes, our commitment to bringing you the latest insights and trends remains unwavering. We are excited to explore the new possibilities that 2025 will bring and to share this journey with you. Together, we will witness the evolution of our industry and embrace the opportunities that lie ahead.

Here's to a year of innovation, growth, and exciting new horizons. Welcome to 2025!

SWAPNIL RAJE
EDITOR
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Subscription

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ADVISORY BOARD

DIGITAL STUDIO INDIA ADVISORY BOARD

Introducing the Digital Studio India Advisory Board: The board, composed of television and broadcast industry veterans and thought leaders, provides insights on market trends, feature ideas, technology, and editorial contributions.

**UJWAL N. NIRGUDKAR**

Member - The Academy, Member - Science & Technology Council of The Academy, Chairman- SMPTE-India Section

Ujwal Nirgudkar is a pioneering figure in the Indian film industry, known for his significant contributions to film technology. He is the first Indian invited by the Oscar Academy to join the Science & Technology Council and the Technical Category, serving as an Oscar Awards Jury member since 2017. Nirgudkar has also facilitated the translation of the Oscar Academy's "Digital Dilemma" books into Marathi and Hindi. His career spans roles from Technical Manager at Filmcenter Laboratory to Chief Technical Advisor for the National Film Heritage Mission under the Government of India.

**DINESH SINGH**

Chief Technology Officer, NDTV Limited

Singh has over 22 years of experience with companies like NDTV, NVL Ltd - Sony Broadcast equipments, Thomson, etc. Some of his notable projects include India's first digital production set up with robotics camera in the Parliament, film-based project in Ramoji Film City and turnkey project of Bangladesh National Open University, Bangladesh that includes four studios with PCRs, radio audio studio, microwaves and FM transmitter.

**RAJASEKHARAN HARIKRISHNAN**

Sr.VP & Head of Media Technology Services, Viacom 18 Media

Harikrishnan heads the technical operations of Viacom 18 Media since the last four years. He has a rich experience in broadcast TV industry, production and post-production environment and also in designing and systems integration. He earlier headed technology and operations at Neo Sports Broadcast and has also worked with NDTV.

**PIYUSH GUPTA**

Group CTO, India Today

With over 19 years of experience in TV and broadcast, prior to managing technology and integration within India Today Group, Gupta has been with Network 18 for almost 15 years and has headed operations and technology development for CNBC TV18, CNBC Awaaz, CNN-IBN, HomeShop18 and Colors.

**SUBASH SAHOO**

VP, FWICE and General Secretary-WIMPTSEA

An alumnus of FTII Pune, Sahoo has been part of Bollywood for over 22 years as sound designer. He has won the National Award, besides several state awards. Sahoo is currently the general secretary of Western India Motion Pictures & TV Sound Engineers Association, and VP of Federation of Western India Cine Employees.

**AK MADHAVAN**

Founder and CEO, Assemblage Entertainment

AK Madhavan launched his entrepreneurial venture, Assemblage Entertainment, at 55, after spending 14 years as CEO of Crest Animation Studios. Previously, he has managed senior roles with Dalal Street Journal and with DDE-Org Systems, a information technology solutions provider, where he also began his career.

**SHIVANI KOCHHAR**

Senior Manager Sales Systems, Technology and Operations, APAC Warner Bros. Discovery

With over 20 years of experience in the Media and Broadcast Industry, she is an expert in enterprise applications. she has spearheaded the implementation of various technical solutions across Asia, New Zealand, and Latin America at Discovery Inc.

**FARZIN NAJMI**

Senior VP – Sports Technology CTO – Enterprise IT & BPE at Viacom18 Media With over 23 years of experience in the M&E Industry, currently leads Live Sports Technology, Enterprise IT, and Business Process Engineering. His expertise spans media broadcast technology, post-production, live content solutions, enterprise IT, digital transformation, and automation. With a rich history at esteemed organizations like Star India and Times Television Network.

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Blackmagic Design Announces Pre-Orders for URSA Cine Immersive Camera for Apple Immersive Video

Blackmagic Design is set to begin accepting pre-orders for its groundbreaking URSA Cine Immersive camera, the first commercial camera system designed specifically to capture Apple Immersive Video for the Apple Vision Pro. Deliveries are expected to begin in early 2025, and the camera is poised to transform the way filmmakers create immersive content for the latest immersive video platforms. Alongside this, DaVinci Resolve Studio will be updated early next year to fully support the editing of Apple Immersive Video, offering filmmakers a streamlined workflow for creating high-quality immersive experiences. Apple Immersive Video is a 180-degree media format that integrates ultra-high-resolution video with Spatial Audio, allowing viewers to experience the action from a truly immersive perspective.

The URSA Cine Immersive camera features a custom-built, fixed lens system designed specifically to capture immersive video for the Apple Vision Pro. The camera's sensor delivers an impressive 8160 x 7200 resolution per eye with pixel-level synchronization and 16 stops of dynamic range, enabling filmmakers to shoot 90fps 3D immersive cinema content in a single file. The lens system is engineered for the URSA Cine's large-format image sensor, providing extremely accurate positional data that is read and stored during manufacturing. This data is then embedded within the Blackmagic RAW file, allowing for precise post-production workflows and seamless integration throughout the editing process.

A new version of DaVinci Resolve Studio, set to release in the first quarter of next year, will introduce a range of powerful features to help filmmakers edit, color grade, and produce Apple Immersive Video captured with the URSA Cine Immersive camera. The software will include a new immersive video viewer that allows editors to pan, tilt, and roll clips, enabling them to view content on both 2D monitors and the Apple Vision Pro for a truly immersive editing experience. Additionally, the update will include the ability to bypass transitions rendered by Apple Vision Pro using FCP XML.



metadata, ensuring clean master files. Export presets will also allow for quick, seamless output to a format that can be viewed directly on Apple Vision Pro.

The Blackmagic URSA Cine platform serves as the foundation for several models designed for the high-end cinema industry. Built with a durable magnesium alloy chassis and lightweight carbon fiber polycarbonate composite skin, the URSA Cine is designed to be portable and quick to

set up on any film set. The camera is equipped with 12G-SDI out, 10G Ethernet, USB-C, and XLR audio, ensuring that filmmakers have all the connectivity options they need. The camera's fold-out monitor features a large 5-inch HDR touchscreen and a dedicated assist station with a second 5-inch HDR touchscreen, making it easy for crew members to work around the camera without the need for external monitors.

The Blackmagic URSA Cine Immersive camera comes with 8TB of high-performance network storage built in, which records directly to the included Blackmagic Media Module. This media can be synced to Blackmagic Cloud and DaVinci Resolve media bins in real time, allowing editors to work on shots from remote locations as the shoot is happening. The camera also features Blackmagic RAW Immersive file format support, ensuring seamless integration with the entire post-production workflow. This new file format captures essential metadata, lens data, white balance, and LUTs to maintain consistency throughout production and post-production.

The Blackmagic Media Dock accelerates post-production workflows by making it faster and easier for editors to start working on immersive video content. By mounting up to three Blackmagic Media Modules, users can gain high-speed access to media from multiple URSA Cine Immersive cameras simultaneously. The camera also supports high-speed 10G Ethernet, allowing up to four separate edit workstations to connect directly for fast and collaborative editing.

BLACKMAGIC IP VIDEO

Blackmagicdesign



Blackmagic Design has everything you need for 2110 IP video systems!

Now you can build affordable live production and broadcast systems with SMPTE-2110 video! Blackmagic Design has a wide range of 2110 IP products, including converters, video monitors, audio monitors and even cameras! You get the perfect solution for integrating SDI and IP based systems. Plus all models conform to the SMPTE ST-2110 standard, including PTP clocks and even NMOS support for routing.

Build Professional SMPTE-2110 Broadcast Systems

The Blackmagic 2110 IP Converters have been designed to integrate SDI equipment into 2110 IP broadcast systems. The rack mount models can be installed in equipment racks right next to the equipment you're converting. Simply add a Blackmagic 2110 IP Converter to live production switchers, disk recorders, streaming processors, cameras, TVs and more.

Conforms to the SMPTE-2110 IP Video Standard

Blackmagic 2110 IP products conform to the SMPTE ST-2110 standard for IP video, which specifies the transport, synchronization and description of 10 bit video, audio and ancillary data over managed IP networks for broadcast. Blackmagic 2110 IP products support SMPTE-2110-20 video, SMPTE-2110-21 traffic shaping/timing, SMPTE-2110-30 audio and SMPTE-2110-40 for ancillary data.

Uses Simple 10G Ethernet for Low Cost

Blackmagic 2110 IP Converters are available in models with RJ-45 connectors for simple Cat6 copper cables or SFP sockets for optical fiber modules and cables. Using simple Cat6 copper cables means you can build SMPTE-2110 systems at a dramatically lower cost. Plus copper cables can remote power devices such as converters and cameras. There are also models for optical fiber Ethernet.

Incredibly Easy to Install

One of the biggest problems with SMPTE-2110 is needing an IT tech on standby to keep video systems running. Blackmagic 2110 IP converters solve this problem because they can connect point to point, so you don't need to use a complex Ethernet switch if you don't want to. That means you get the advantage of SMPTE-2110 IP video with simple Ethernet cables, remote power and bidirectional video.

**Blackmagic
2110 IP Converters
From Rs 27,980**



→ Learn more at www.blackmagicdesign.com/in

Price includes custom duties only. Excluding VAT and Octroi. Price is FOB New Delhi.

Doordarshan Partners with Hockey India League for Nationwide Coverage of Historic Hockey Leagues

India's National Broadcaster, Doordarshan, has partnered with the Hockey India League to transform IndiaKaGame Hockey into a nationwide celebration and make hockey players household names across the country. This year's edition of Hockey India League (HIL), set to commence on 28th December 2024 is historic as it marks the inaugural season of the Women's Hockey India League, alongside the much-anticipated men's competition.

Renowned for its legacy of promoting Indian sports, Doordarshan will bring the electrifying action of HIL to millions of viewers across the country. The league will feature 8 men's teams and 4 women's teams, competing across Rourkela and Ranchi, showcasing top-tier talent from India and across the globe. The addition of the women's league underscores Hockey India's commitment to advancing gender inclusivity in sports and promoting women's hockey on a grand stage.

Talking about the association, Hockey India League (HIL) Governing committee chairperson Dr Dilip Tirkey said, "We are thrilled to partner with Doordarshan as the official broadcaster of the Hockey India League. This year is particularly special with the launch of the Women's HIL, a landmark step in promoting women's hockey. Doordarshan's unparalleled reach and commitment to sports perfectly align

with our vision of taking hockey to every corner of the nation. Together, we aim to inspire millions and elevate the HIL to unprecedented heights."

Hockey India League (HIL) governing committee member Bhola Nath Singh added, "Hockey is more than just a sport for us—it's a symbol of our unity and pride. The addition of the Women's HIL this season is a giant leap forward in ensuring equality and recognition for women athletes. With Doordarshan as our partner, we're ready to present a spectacular season of HIL. 'Hockey connects us, and this partnership strengthens that bond.'

Sh. Gaurav Dwivedi, CEO Prasar Bharati expressed, "Doordarshan is privileged to partner with Hockey India League, a platform that celebrates our national sport and unites communities across India. Through our comprehensive coverage, we aim to bring the electrifying spirit of hockey, including the historic debut of the Women's HIL, to viewers everywhere, bridging urban and rural divides



and amplifying the league's impact."

Now, fans across the country—from every nook, corner, and village of India—can enjoy live telecasts of all Hockey India League matches on Doordarshan, ensuring seamless access for hockey enthusiasts nationwide.

In a historic step, Doordarshan's partnership with Hockey India extends to all National Championships. Going forward, all Hockey India National Championships across various categories, as well as all hockey events in India owned by Hockey India, will be telecast on DD.

Alfalite Unveils MATIX Technology for High-Resolution LED Panels at 2024 Partner Meeting

Alfalite, Europe's only manufacturer of LED screens, launched its new MATIX AlfaCOB & AlfaMIP technology for high-resolution and high-brightness applications at its 2024 Partner Meeting in Huelva, Spain. Nearly 90 global partners attended the event, where Alfalite showcased its latest innovations in LED display technology.

"We are honored to introduce MATIX to the market," said Jesús Cabrera, CEO of Alfalite. "This achievement by our engineering team sets a new standard in image quality, marking a milestone in LED display technology." The MATIX process encapsulates LED modules with multiple layers of advanced materials, featuring flip-chip-mounted diodes, offering reduced glare, enhanced resistance to impacts and chemicals, and liquid protection. The technology also delivers an extended viewing



MATIX technology. Available in five pixel pitches, Neopix panels are ideal for Rental, Broadcast, and Virtual Production environments. They offer 1900 nits of brightness (indoor) and 5000 nits (outdoor), a 20,000:1 contrast ratio, and a wide color gamut covering 99% DCI-P3 and 87% REC.2020. "These new panels offer unmatched reliability and performance," said Luis Garrido, Executive Director.

Alfalite further presented its UHD Finepix Series, also incorporating MATIX technology, designed for Control Rooms, Corporate, and Broadcast applications.

Additionally, the company showcased its Modularpix series for demanding fixed installations in Entertainment, Corporate, and Retail sectors. The event concluded with the presentation of "Certified Partner" plaques to recognize global collaborators.

angle of 175°, ESD protection >10kV, improved thermal dissipation, and exceptional color and brightness uniformity.

At the Partner Meeting, Alfalite also unveiled its Neopix series, which integrates

Moments Lab Unveils API for AI-Powered Video Metadata and Search Solutions

Leading AI for video understanding and search company Moments Lab is pleased to announce its public API, which allows organizations to enrich their media assets with powerful metadata that can be integrated into any software. Moments Lab's AI indexing technology MXT generates time-coded, searchable metadata on media files, capturing what's happening in every moment of a video and describing it like a human. It's capable of identifying people, logos, shot types, landmarks, speech, and highlighting the most impactful quotes in a transcript.



and new ROI opportunities."

Organizations simply make their files available to Moments Lab, where they're temporarily stored and analyzed by MXT, before the generated metadata is sent to an existing DAM, MAM, CMS, or other software.

"When we first released MXT, many people asked us how they could embed our video understanding technology within their own product, and leverage the data to boost content discoverability or serve other use cases," said Frederic Petitpont, Moments Lab co-founder and CTO. "Our API is here to enable them to do just that, unlocking software, ensuring portability, accuracy, and transparency.

Proton Camera Innovations Unveils World's Smallest 4K Broadcast-Quality Camera at Hamburg Open

Proton Camera Innovations, a German pioneer in miniaturised camera technology, is set to unveil its latest innovation, the world's smallest 4K broadcast-quality camera, at the Hamburg Open (Booth B6.512). This groundbreaking camera is more than two times smaller than its nearest competitor and offers an aggressive price point of just €2,000, significantly lower than similar models.



With its compact 28mm x 28mm x 33mm build and feather-light 37g weight, the PROTON 4K brings 4K resolution to spaces and setups previously thought inaccessible. Built with Proton's proprietary imaging chip, the POLARIS chip, it achieves superior image quality, featuring vibrant colour accuracy, exceptional dynamic range, and advanced low-light performance. The camera includes a 97° wide-angle view and offers additional lenses from 35° to 124°, enabling stunning, distortion-free visuals in a variety of shooting conditions. Its ultra-low power consumption (just 6W) and 1/4" thread for easy mounting make it ideal for drones, remote

mounts, and portable rigs, further expanding its versatility for cinematographers, directors, and broadcasters alike. The onboard stereo audio and tally light round out its broadcasting feature set, providing powerful yet efficient tools for in-the-moment production.

The new 4K camera not only surpasses HD resolution but also positions itself as a preferred option for major global sporting events, where 4K has become the industry standard. Additionally, a major UK broadcaster has shown

Miagui Studios Makes Global VFX Debut with Netflix's Senna



Brazilian studio Miagui has made its international VFX debut with Netflix's highly anticipated series Senna. Tasked with recreating iconic racing scenes from the 1984 and 1988 Monaco GPs, Miagui digitally reconstructed over 120 buildings, Formula 1 cars, and drivers with stunning accuracy and detail.

Led by directors Cássio Braga and Carlos Kulpa, a team of 60 artists spent a year blending historical precision with creative freedom, including complex rain simulations for the legendary 1984 race. This milestone positions Miagui alongside global VFX giants, marking a significant achievement.

interest in the camera for the delivery of natural history and wildlife documentaries, while live broadcast fashion shows are leveraging their compact design to capture unique angles. In essence, the camera represents the ideal solution for any application where the capture of stunning, immersive visuals from unique and creative angles is essential.

"We've received incredible feedback from early adopters who are keen to move into 4K production" said Marko Hoepken, CEO of Proton Camera Innovations. "At the price we have been able to offer, we represent a far more scalable and flexible proposition than our competitors: entry-level production companies are able to futureproof their setups and become 4K ready, whilst major global broadcasters and sports events are able to kit out production trucks with multiple units, remaining confident of the build quality, reliability and usability that they have already come to expect in Proton cameras. The new PROTON 4K is a truly a game-changer in miniaturised, high-resolution production."

IMDb Reveals 2024's Most Popular Indian Movies and Web Series

It has been a roller coaster ride for Indian entertainment sector with movie-going audiences getting extremely choosy, finding successful films is like finding a needle in a haystack. Hindi cinema is finding it even more challenging to lure audiences. Going by the reception of movies past 5 years, Indian cinema is being resuscitated by stars from the Telugu-Kannada and Tamil film industries. The year opened with Prabhas' Kalki 2898-AD and the year's ending on a high note with Allu Arjun's Pushpa: The Rule – Part 2.

IMDb announced the 10 Indian movies and 10 web series that were the most popular with IMDb customers worldwide in 2024. IMDb year-end lists are based on the actual page views of the more than 250 million monthly visitors to IMDb worldwide.

"The IMDb Most Popular Indian Movies and Web Series of 2024 lists not only celebrate the year's titles, but also offer valuable insights into viewer preferences, guiding both creators and fans in their entertainment choices," said Yaminie Patodia, head of IMDb India. "From big-budget spectacles like the No. 1 movie Kalki 2898-AD to compelling dramas such as the No. 10 movie Laapataa Ladies, and from the return of beloved franchises to groundbreaking

original series, these lists showcase the incredible breadth of Indian storytelling that captivated global audiences this year."

Nag Ashwin, director of Kalki 2898-AD, the No. 1 ranking movie of 2024, said, "It's truly amazing to see Kalki 2898-AD being celebrated as IMDb's Most Popular Indian Movie of 2024. This recognition is a testament to the love and support of our incredible audience, who embraced the film with open hearts. We poured our souls into the film and it's so humbling to see it resonate with all ages across the world. A big thank you to IMDb and the fans who made this journey so memorable. Your encouragement inspires us to keep pushing the boundaries of storytelling."

While moviegoers are throwing a curve ball to the Box-Office, the streaming market of OTT has expanded significantly. Understanding its potential, even movie directors are getting a piece of the pie. Filmmakers like Zoya Akhtar, Rohit Shetty and Sanjay Leela Bhansali have taken the plunge by clinging to the optical fibre. Major OTT platforms have offered astronomical budgets to known filmmakers to attract more viewership and the gamble has paid off to some extent.

Tanya Bami, Series Head of Netflix India,



expressed pride in the recognition of Indian series like Heeramandi: The Diamond Bazaar, which became a cultural phenomenon. Maamla Legal Hai (ranked No. 6) and The Great Indian Kapil Show (ranked No. 10) also gained popularity, highlighting Netflix India's diverse content. These series' inclusion in IMDb's Top 10 Indian Web Series of 2024 reinforces the success of long-format storytelling."

The future risk of OTT platforms lies in the 'Subscription Fatigue' with too many apps to choose from, there remains a challenge for the content providers to sustain subscribers' interests.

Deltatre Names Peter Bellamy as Chief Revenue Officer to Drive Growth

Deltatre, the tech company behind the media and sporting moments that matter, announces the appointment of Peter Bellamy as Chief Revenue Officer (CRO). He will oversee new business, customer management, strategic partnerships, growth services, and marketing.

Peter brings two decades of proven success in the ever-changing media landscape, including key roles at BSkyB, NeuLion, Saffron Digital, and Endeavor Streaming (Endeavor/IMG). His career has progressed in step with the rapid rise of digital and smart devices, as they've shaped media and streaming platforms, websites, and apps into essential destinations for film, TV, sports, and news. He has extensive experience across media rights, production, digital consultancy, and the deployment of large-scale consumer-facing digital experiences.

Peter's expertise has been integral to some of the industry's most transformative moments, including launching global streaming services for major Hollywood studios and deploying BSkyB's first iterations of TV Everywhere and



on-demand Premier League and Champions League offerings. Additionally, he oversaw the delivery of both BSkyB's and BT Sport's PPV Box Office services and UEFA's first direct-to-consumer service, UEFA.tv. More recently Peter worked closely with AMC Networks on upgrading their portfolio of entertainment streaming services.

"Today's media and sports organizations

need agile, scalable platforms that empower them to captivate their audiences, and our goal is to ensure that more organizations can benefit from our products," said Andrea Marini, CEO of Deltatre. "Peter's deep expertise in deploying scalable, performant technologies will be instrumental in driving this adoption to a greater share of the market."

Peter joins an accomplished team with plans to build on Deltatre's recent successes by offering an unmatched portfolio of full-ecosystem digital services, including fully integrated premium video solutions. He believes this approach provides real differentiation for both Deltatre and its customers. With significant product development and platform investments, these solutions can now be deployed cost-effectively, catering to both smaller media and sports properties as well as large-scale, tier 1 organizations.

With Peter on board, Deltatre further cements its position as a global authority in streaming and digital. Peter and the Deltatre team will be in Las Vegas during CES in January 2025.

ACCESS Europe and JioGames Partner to Revolutionize In-Car Gaming with Twine4Car

ACCESS Europe GmbH, a leading provider of advanced In-Vehicle Infotainment (IVI) and Smart TV solutions, today announces an exciting new partnership with JioGames, a division of Jio Platforms Limited, India's leading digital service provider. This collaboration will significantly enhance the content offerings available through ACCESS Twine for Car (Twine4Car), enabling automotive OEMs to deliver an unparalleled in-car gaming experience. ACCESS and JioGames expect to announce their first joint customer soon.

"We are excited to collaborate with JioGames to bring a comprehensive gaming experience to the in-car environment," said Masahiro Aono, CEO of ACCESS Europe. "This partnership aligns perfectly with our vision to expand Twine4Car to meet the growing demand for immersive in-vehicle gaming entertainment. Together, we are setting a new standard for what car passengers can expect from gaming."

Through this strategic alliance, Twine4Car will integrate JioGames' expansive game



library, featuring exciting genres such as action, adventure, racing, sports, board games, edutainment, and many more. This integration not only enhances the entertainment value of the Twine4Car platform but is also an important step towards making in-car entertainment experiences as immersive as those at home.

"With millions of users already enjoying our platform, this partnership is a significant step forward in our mission to make JioGames a ubiquitous name in the gaming world," commented a JioGames spokesperson. "The automotive market represents a new frontier for gaming. By integrating our services into Twine4Car, we are enabling OEMs to offer an engaging and seamless gaming experience to their customers, that enhances the overall journey."

Key offerings from JioGames integrated with Twine4Car include Instant Games, 50+ free-to-play games, optimized for quick play, are perfect for short trips and casual gaming sessions. With a diverse range of genres, including action, adventure, racing, sports, and board games, there's something for every gamer to enjoy. For automotive, this partnership offers a unique opportunity to enhance satisfaction and build car brand loyalty by providing a diverse range of entertainment options beyond traditional media. By offering this rich gaming ecosystem, Twine4Car empowers automotive brands to not only differentiate their offerings and strengthen brand loyalty but also to stay ahead of evolving consumer demands in an increasingly digital and connected world.

Skandha Media Services Appoints Neha Modi as Managing Partner for MENA Expansion

Skandha Media Services, a leader in scalable managed playout, broadcast, and OTT services that leverage cloud technology, automation, AI, and machine learning, has appointed Neha Modi as its Managing Partner of Product & Growth to lead the company's expansion into the Middle East and North Africa.

MENA is a key market for Skandha. The demand for live streaming of sports and events has rapidly increased since the region began investing heavily in sports infrastructure and hosting events such as F1 and FIFA 2022 World Cup. According to The World Economic Forum, the Middle East's sports industry is expected to grow by 8.7% by 2026 – compared with global sector growth of 3.3% over the same period.

"The region's growing fanbase of mass-appeal and niche sports, as well as the demand for local and Arabic content, is presenting new revenue opportunities for rights holders, content aggregators and advertisers," says Nitin Jain, managing partner, Business & Solutions Engineering at Skandha Media Services.

"We can add real value to OTT/streaming platforms in the region by helping them realize and maximize on these new commercial opportunities and to navigate the nuances that come with Ad-supported models. With Neha's

deep-rooted knowledge and familiarity with the decision makers in this market, we can engage the region's most innovative M&E organizations in meaningful conversation."

Modi will assume a strategic role at Skandha, focusing on the market penetration of its cutting-edge cloud and on-prem playout services and monetization platforms. She will also help steer the direction of the company's product roadmap, leveraging market insights and feedback from her extensive network of industry peers, innovators, influencers and potential customers in MENA.



"With Skandha's proven success in South Asia where there is a similar diversity of users, viewer preferences, interests and languages, their expertise in tailored and scalable playout operations and AI-powered Ad delivery and verification tools is of high value to the MENA region, particularly when it comes to the generation of new revenue opportunities in the streaming of live events and sport," observes Modi.

Modi brings a wealth of experience from her 13+ year career in the M&E industry, spanning technical support, testing, QA, and product management roles. Based in Dubai for over a decade, she has been instrumental to the success of numerous user engagement and monetization initiatives at some of the region's most high-profile broadcast and OTT platforms.

Most recently, at OSN, Modi contributed to the development of new features on the OSNtv box, including On-Demand, TVOD, and a Gen AI-powered recommendation engine, resulting in a significant increase in user engagement. While serving at STARZPLAY for eight years, during which time its customer base grew from a few thousand to 2.5 million, Modi held various product management roles where she led cross-functional teams, shaped strategic roadmaps, and optimized resource allocation.

ARRI Launches ALEXA 265: Compact 65mm Camera with Enhanced Image Quality

ARRI introduces ALEXA 265, a new-generation 65 mm camera that responds to feedback from users of the ALEXA 65, its predecessor. ALEXA 265 combines a small form factor with a revised 65 mm sensor, delivering higher image quality through 15 stops of dynamic range and enhanced low-light performance. Featuring the same LogC4 workflow, REVEAL Color Science, and accessories as ARRI's state-of-the-art ALEXA 35, plus a new filter system, ALEXA 265 makes 65 mm as easy to use as any other format.

The ALEXA 265 camera body is based on the compact ALEXA 35 and despite containing a sensor three times as large, is only 4 mm longer and 11 mm wider. Using this body design means ALEXA 265 is less than one-third the ALEXA 65's weight (3.3 kg vs. 10.5 kg) and takes advantage of ARRI's latest cooling and power management technologies. While the camera's small size and weight allow it to be used in ways never imagined for 65 mm—from drones and stabilizers to the most space-constrained locations—its efficiencies make it faster to work with on set. Boot-up time and power draw have been improved, and compatibility with the ALEXA 35 accessory set opens vastly more rigging options.

Feedback from ALEXA 65 users over the last decade made the dramatic reduction in form factor a design priority for ALEXA 265, but also determined the approach to image quality. Filmmakers wanted to retain the 6.5K resolution and large pixel pitch, but were interested in higher dynamic range and improved low-light performance. A brand-new and comprehensive revision of the 65 mm sensor was therefore developed for ALEXA 265, increasing the dynamic range from 14 to 15 stops and the sensitivity from 3200 to 6400 EI (ISO/ASA), with crisper blacks, greater contrast, and a



lower noise floor.

Delivering this higher image quality is a simple and efficient workflow that utilizes ARRI's latest developments. The new-generation LogC4 workflow and 3D LUTs introduced for ALEXA 35 are now shared with ALEXA 265, which records ARRIRAW in-camera to the Codex Compact Drives used in all current ARRI cameras. Standard drive readers and docks can be used, as can Codex HDE (High Density Encoding), reducing file sizes by up to 40% without diminishing image quality. On-set monitors can be set up in HD or UHD, displaying SDR or HDR, or both. ARRI is updating its SDK to ensure that ALEXA 265 images are compatible with all major third-party software tools.

A unique feature of the ALEXA 265 is its filter cartridge system, which allows special filter trays, encased in a protective cartridge, to slide in front of the sensor. ARRI FSND filters from zero to ND2.7 in single-stop increments will be available with ALEXA 265 at the time of launch, and many more creative



filter options are in the works. An encoded chip on the filter tray conveys information about whatever filter has been inserted; this information is available in the user interface and is also recorded in camera metadata for use on set and in post.

ALEXA 265 images are processed in-camera using ARRI REVEAL Color Science, introduced with the ALEXA 35 and also compatible with ARRIRAW images from the ALEXA Mini LF. REVEAL is a suite of image processing steps that collectively help the camera to capture more accurate colors, with subtler tonal variations. Skin tones are rendered in a flattering, natural way, while highly saturated colors and challenging colors such as pastel shades are displayed with incredible realism. All ALEXA 265 and ALEXA 35 cameras are super color-matched to each other, simplifying color grading, and the ALEXA 265's advanced LED calibration streamlines virtual production and LED volume work.

The list of ALEXA 65 films and filmmakers over the last 10 years is a roll call of the industry's most visionary projects and people. While 65 mm may only be accessible to relatively few productions, this historic format inspires many and represents the pinnacle of mainstream image acquisition. Now, with the launch of ALEXA 265, a new era of 65 mm begins—one that will redefine the format's creative possibilities.

ALEXA 265 will be available to productions from early 2025.



K+ Leverages Broadpeak's SSAI Technology for Targeted Ad Monetization

Vietnam's leading pay-TV operator, VSTV (K+), has partnered with Broadpeak to monetize live channels and its AVOD service using Broadpeak's server-side ad insertion (SSAI) technology via the broadpeak.io SaaS platform. This integration enables targeted ad placements across 40 live channels, including Formula 1 and Premier League broadcasts, and 10,000 hours of VOD content,

enhancing viewer engagement and boosting ad revenues.

"K+ is pioneering targeted video advertising in Vietnam, and we're proud to support them," said Jacques Le Mancq, CEO at Broadpeak.

The partnership reflects Broadpeak's continued innovation in video delivery and monetization solutions globally.

Atomos Shinobi II Gets Enhanced Camera Control and Focus Features

With the release of firmware update 11.03.00, Atomos' extremely popular Shinobi II monitor gets camera control support for even more camera models, improved touch to focus for already supported models, as well as other feature improvements.

Launched this summer to wide acclaim, Shinobi II is a slim, lightweight, 5-inch daylight viewable, 1500nit HDR monitor that's perfect for vloggers, creatives, and photographers.

In response to customer feedback, touch to focus was added with a firmware update in October. This feature has now been further enhanced with the 11.03.00 update to include setting a focus point in AF tracking mode for already supported cameras. Touch to focus has also been extended to the following camera models: Canon EOS R1, Canon EOS R5 Mark

II, Canon EOS R7, Nikon Z8, Sony FX3, and Sony FX30.

"It's a Christmas present to our loyal users, the overwhelming success of AF touch to focus from our Shinobi II HDR screen has meant a new improved workflow for videographers and photographers alike," commented Jeremy Young, Atomos CEO. "Now, with support for the most popular Canon, Sony and Nikon cameras, this is a true revolution in camera operation. We are listening to customers and supporting the cameras they use; we will continue to upgrade Shinobi II based on this feedback," added Young.

This firmware update also adds camera control for Fujifilm X-T5, X-T4, X-T3, Fujifilm F-LOG2 Log/HDR conversions, as well as bug fixes and reliability improvements.



Shinobi II costs USD/EUR 349 (GBP 295, AUD 545), excluding local sales taxes, and is available from Atomos authorized resellers now. The 11.03.00 firmware update can be downloaded from here.

Ateme Elevates Kyrion Line with Advanced HDR by Technicolor Integration



Ateme, a global leader in video compression and delivery solutions, today announced the integration of Advanced HDR by Technicolor into its renowned Kyrion product line. This latest enhancement reflects Ateme's commitment to continually evolving its offerings, providing content owners with the tools they need to enrich live content distribution through dynamic HDR.

With the addition of Advanced HDR by Technicolor, Ateme enables content providers to deliver unprecedented video quality, particularly for live sports content where the viewer experience is paramount. The integration offers scene-by-scene HDR optimization, going beyond static HDR to deliver a richer, more immersive visual experience. This dynamic HDR capability creates new opportunities for engaging fans and enhancing the live broadcast experience, especially when combined with next-generation audio for a fully immersive experience.

"As HDR adoption grows, particularly for sports broadcasts, Ateme continues to push the boundaries of video quality. By integrating Advanced HDR by Technicolor into our Kyrion product line, we are enabling content owners to deliver stunning, dynamic HDR that brings every moment to life," said Julien Mandel, Sr. Solution Marketing Director, Contribution and Distribution, at Ateme.

"This integration marks another step in our commitment to enhancing our entire portfolio, following the successful deployment in our TITAN offerings."

Ateme's Kyrion product line offers high-performance, versatile, and future-proof video contribution and distribution encoding and decoding hardware solutions with ultra-low latency, exceptional video quality, and multi-codec support. It offers robust connectivity options for professional broadcasting across SD to UHD applications.

"This announcement illustrates how Advanced HDR by Technicolor enhances the ability of Ateme's Kyrion to deliver stunning visual quality while seamlessly converting SDR content to HDR in real time," said Valerie Allie,

Sr. Video Solutions Group Director, InterDigital. "This ensures broadcasters can elevate their existing material without complex workflows as they deliver content to HDR and SDR audiences alike."

A proven technology that has been deployed for nearly a decade, Advanced HDR by Technicolor is a collaboration between Philips, InterDigital and Technicolor. Advanced HDR by Technicolor is a suite of HDR production, distribution, and display solutions that utilizes machine learning to enhance image quality for superior consumer viewing experiences, automatically converting HDR and SDR content in a single workflow to meet the standards of both HDR and SDR displays.

The integration of Advanced HDR by Technicolor into Kyrion also highlights the growing use of 1080p (Full HD) as a critical format for HDR, paving the way for an easy transition to UHD HDR. By leveraging specialist partner solutions, Ateme ensures that Kyrion remains at the forefront of delivering the highest video quality, maintaining its reputation as a trusted choice for content owners.

This announcement follows the recent integration of Advanced HDR by Technicolor into Ateme's TITAN offerings, showcasing Ateme's ongoing efforts to advance its entire product line. With the Kyrion integration, Ateme provides content owners with a robust solution to elevate live broadcasts with superior video and audio quality, driving deeper viewer engagement.

TED Upgrades Live Production with Clear-Com's Custom Communication System

Clear-Com recently teamed up with TED Conferences LLC's to upgrade their live production capabilities with a custom intercom solution centered around the Arcadia Central Station. This solution is tailored to TED's high-stakes live event environment, providing robust, real-time communication across both on-site and remote production teams.

Clear-Com's industry-leading applications team, represented in this instance by John Ferrante, led the installation at TED's New York production facility in July 2024, configuring an end-to-end system that supports TED's complex communication needs. The installation introduced the Arcadia Central Station, upgraded to the latest firmware release, and included an extensive suite of FreeSpeak II digital wireless products, IP transceivers, wireless beltpacks, and remote connectivity through Clear-Com's award-winning Gen-IC virtual intercom. As part of the upgrade, TED also transitioned from its legacy analog wired intercom to HelixNet Digital Network Partyline System. This configuration allows TED's production team to streamline on-demand communication across multiple teams, making it adaptable for both live shows and distributed production workflows.

TED's Head of Production, Mina Sabet, identified the need for the best intercom



technology on the market to match TED's world-class production standards and cutting-edge content delivery. "We needed the best communications tool to handle our fast-paced, high-stakes events in our home office theater in New York City. There was no question Clear-Com was the best solution," said Sabet.

The heart of TED's new communication system integrates seamlessly with TED's existing network, allowing Clear-Com equipment to connect with other audio systems across the venue with minimal latency and pristine audio fidelity. Integrated IP and Dante-enabled channels further expand TED's ability to manage communication in real time. This setup enables TED to retain established

communication flows, while introducing the flexibility and scalability of Arcadia as they gradually transition to this new infrastructure.

Gen-IC adds a new level of remote connectivity to TED's operations. Six IVClinks connect remote team members directly into TED's on-site Arcadia infrastructure, delivering seamless integration between remote and local team members. This functionality is facilitated by an LQ Series IP Interfaces connected to the Gen-IC Cloud, which provides TED's production

team with dynamic control over remote and local communication channels. Gen-IC's capability to integrate remote users easily has been transformative for TED's production, allowing the organization to remain agile while maintaining high standards in audio quality.

Clear-Com's commitment to ease-of-use extended to on-site training, with Ferrante equipping TED's Technical Director, Chi Yim, to independently manage Arcadia and Gen-IC. TED's team can now configure channels, assign users, and manage remote links, providing TED with a future-proofed system that scales in step with the organization's growth. "Clear-Com's solution has transformed our ability to manage complex productions," said Yim.

Mediaproxy Receives Dolby Approval for Advanced Audio Compliance Monitoring

Mediaproxy, the global standard for software-based IP compliance solutions, announced that it has been awarded formal approval by Dolby for the Dolby Digital Plus and Dolby AC-4 decoders. This highly significant development adds support for all Dolby's distribution codecs and the Dolby Atmos immersive audio format to the LogServer compliance monitoring software platform and Monwall multiviewer.



Dolby is the leading developer of Next Generation Audio (NGA) technologies for cinema, broadcast, streaming, music and gaming. Its Dolby Atmos immersive system features on major feature films and is also a key element in many movies and high-end drama series streamed on Netflix, Amazon Prime and Disney+. Dolby Atmos is an object-based audio (OBA) format that is also a feature

of Dolby AC-4, which offers a wide range of features including dialogue intelligibility, audio description and alternative languages and commentaries, all with a high degree of personalization.

The Dolby AC-4 codec is part of the approval Mediaproxy has received from Dolby, along with its other key compression technologies: AC-3 (also known as Dolby Digital 5.1 surround

sound) and E-AC3, branded as Dolby Digital Plus, which supports up to 15.1 audio channels. The LogServer suite of software, including its Monwall multiviewer, now provides full monitoring and analysis of all these formats and the multiple channels and audio objects that comprise them.

Mediaproxy's chief executive, Erik Otto, adds, "Dolby is not only a highly respected brand in the professional broadcasting and audio worlds, but also a name recognized by consumers as a guarantee of high quality and exciting sound. We are extremely proud to have received approval. As the leading company in our section of professional broadcast engineering, our customers expect us to provide the highest possible standard in our product. Having attained Dolby approval underlines our ongoing commitment to engineering excellence."

Matthew Goldman Joins Media Excel's Technical Advisory Board to Drive Video Innovation

Media Excel, a global leader in real-time video solutions, has announced the appointment of Matthew Goldman to its Technical Advisory Board. A distinguished pioneer in digital television and video transport technologies, Goldman brings over three decades of expertise to Media Excel at a pivotal moment in the evolution of video streaming and broadcasting.

Goldman, currently Vice President of Strategic & Technical Initiatives at Sinclair, Inc., has been a trailblazer in developing digital television systems. Among his notable achievements are contributions to the MPEG-2 Systems standard, co-developing the ATSC Program and System Information Protocol (PSIP) standard, and defining the industry's first compressed-domain program splicer. With multiple Technology & Engineering Emmy Awards and recognition as a former president and current Fellow of SMPTE, his impact on



the industry is profound.

"We are honored to welcome Matthew Goldman to our Technical Advisory Board," said Narayanan Rajan, CEO of Media Excel. "Matthew's unparalleled experience in digital video transport and broadcasting will play

an important role in pushing Media Excel forward as the company continues to deliver industry-leading transcoding and compression solutions. As we expand the capabilities of our products to meet complex industry challenges, Matthew's guidance will be invaluable."

On joining the Technical Advisory Board, Goldman commented: "I am excited to collaborate with Media Excel, a company which shares my vision for driving industry change through innovation and an unwavering commitment to advancing video technologies. I look forward to contributing to its mission of shaping the future of media and entertainment."

Goldman is a senior member of the IEEE, and an inductee of the Academy of Digital Television Pioneers and is also Chairperson of the North American Broadcasters Association Technical Committee. He holds Bachelor and Master of Science degrees in Electrical Engineering from Worcester Polytechnic Institute.

IIMC Campus Construction Moves Forward with Bidding



imparting world class education in the field of mass communication to the students in this region.

Situated in the western Vidarbha region of Maharashtra and established in 2012, IIMC Amravati is an apex institution in the field of media and communication and it is a deemed university under the Ministry of Education and an autonomous body under the Ministry of Information and Broadcasting. It is being constructed by the Ministry of I&B with a budgetary provision of 90 crore rupees in Badnera town of Amravati district at about 15 acres of land.

Secretary Jaju while giving more information about the construction of this campus said, the tenders are being invited on the CPWD website etender.cpwd.gov.in and the last date for submitting tenders is 27 of this month. He also expressed hope that the construction of some of the educational facilities in IIMC Amravati would be completed by the academic year 2026-27.

IIMC has five Regional Centres across the country that offer Journalism courses in English, Hindi and in the local languages. Amravati in Maharashtra Dhenkanal in Odisha, Aizawl in Mizoram, Jammu in Jammu and Kashmir and Kottayam in Kerala currently cumulatively run the Post-Graduate courses in Journalism.

Profuz Digital Enhances Literary Festival with Live Subtitling



Profuz Digital returns to the Sofia International Literary Festival, providing real-time live subtitling for key sessions using SubtitleNEXT. The platform ensures accessibility and inclusivity, allowing audiences to fully engage with renowned Bulgarian and international literary voices, including Booker Prize-winning author Georgi Gospodinov.

SubtitleNEXT displays real-time subtitles on strategically placed screens, overcoming background noise and enhancing audience experience. CEO Ivanka Vassileva highlighted the platform's role in creating inclusive events.

Celebrating its 2nd consecutive year at the festival, Profuz Digital reinforces its commitment to advancing live event accessibility through innovative subtitling technology.

Mac mini Mounting Solutions from Sonnet Technologies for 2024+ Models

Sonnet Technologies introduces the RackMac mini (2024+), DuoModo Mac mini Module (2024+), and MacCuff mini (2024+), custom-designed mounting solutions for the latest M4 and M4 Pro Mac mini computers. These solutions offer secure, efficient integration in racks or desks, with enhanced airflow and theft deterrence for various professional environments.



sitting on a desk. Sonnet's new Mac mini mounting solutions — all designed and manufactured in the USA — enable users to mount their computers securely, while supporting the computer's airflow needs and power button operation.

What They Do: The fully assembled, 5 1/2-inch deep RackMac mini (2024+) rackmount enclosure secures one, two, or three Mac mini computers side by side in a 2U rack space. The DuoModo Mac mini Module (2024+) mounts one or two Mac mini computers in a Sonnet DuoModo rackmount enclosure next to a two- or three-card slot Sonnet Thunderbolt to PCIe card expansion system. The MacCuff mini (2024+) mounting bracket with a locking bar secures a Mac mini beneath a desk, or to a wall or the back of a monitor.

Why They're Important: Mac mini computers, famous for their compact dimensions and impressive performance, are essential tools in diverse environments, from home offices and schools to professional audio and video settings. Their small size makes them challenging to securely integrate into equipment racks, and vulnerable to theft while

How They're Distinctive: Constructed of heavy-duty steel, the RackMac mini (2024+) securely holds Mac mini computers without trapping them in hot, recirculating rack air, enabling them to stay as cool in a rack as out on a desk. To enable power cycling with the computers installed in a rack, a dedicated power button is provided for each, while the enclosure's design provides open access to the computer's front and back ports. Space is provided beneath each computer to house a Thunderbolt or USB SSD. The enclosure is ruggedized and utilizes firm rubber cushions that securely hold the computers in place during transport, making this Sonnet solution ideal for use in molded rack cases or most any travel rack to make Mac mini computers mobile.

Constructed of heavy-gauge steel, the MacCuff mini (2024+) secures a Mac mini to any desk, table, wall, or the back of a monitor via its extra VESA 75 or 100 mounting holes, while giving full access to the computer's front and back ports and power button. With the locking bar installed and secured to the bracket with a padlock (sold separately), the MacCuff mini (2024+) is pry-resistant and provides theft deterrence on all sides.

When You Can Get Them: The RackMac mini (2024+) rackmount enclosure is expected to ship Q1 2025. The DuoModo Mac mini (2024+) Module is expected to ship during Q1/Q2 2025. The MacCuff mini (2024+) mounting bracket is expected to ship in January 2025.

Christie Unveils Spyder-S Series and Mastering Gateway at LDI 2024

At LDI, Christie introduced two groundbreaking solutions: the Spyder-S Series, a multi-screen windowing processor for live events, broadcast, and sports venues, and the Mastering Gateway, enabling seamless HD, 4K, and 8K video distribution over IP networks for post-production and live events.



flexibility and scalability for professionals across industries.

Clark Williams, EVP of Broadcast and Professional Video Group at Christie, highlighted their commitment to delivering

compatibility for HDMI 2.1, DP 1.4, and SDI 12G.

Mastering Gateway ensures real-time, zero-latency transmission of uncompressed video, audio, and metadata over IP, supporting ST 2110 standards and HDR workflows with 12-bit color depth.

Both innovations reflect Christie's focus on advancing technology to meet evolving demands in live events, broadcast, and post-production sectors.

Our footprint in India

The collage features several magazine covers from Indian publications. From left to right, top row: 'Manufacturing Today' (issue 100, March/April 2024) with a gear and industrial background; 'COMMERCIAL DESIGN' (issue 100, March/April 2024) showing a group photo of attendees at a design awards event; 'Construction Week' (issue 100, March/April 2024) featuring a group of professionals. From left to right, bottom row: 'HEALTHCARE RADIUS' (issue 20, March/April 2024) with a large green '2024' graphic; 'hotelier india' (issue 15, March/April 2024) showing a group of industry leaders; 'digital studio' (issue 100, March/April 2024) with a futuristic digital face graphic; and 'ARCHITECT and INTERIORS INDIA' (issue 100, March/April 2024) featuring a group of professionals.

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PETE ROMANO: INNOVATOR IN UNDERWATER CINEMATOGRAPHY AND HYDROFLEX CREATOR

Pete Romano, ASC, a former U.S. Navy Diver, revolutionized underwater cinematography with his inventions at HydroFlex, Inc. His designs, like the HMI underwater lights and RAC MK5 housing, have been pivotal in shaping the industry. Known for his work on iconic films such as *Titanic* and *Inception*, Romano's technical expertise and creative vision have earned him two Academy Technical Achievement Awards. As a leading underwater Director of Photography, he continues to push boundaries in both cinematography and equipment innovation, ensuring a lasting legacy in film production.

ALEXA

Pete Romano, ASC, is a former U.S. Navy Diver and member of the Pacific Fleet Underwater Combat Camera Group. After his Navy service, Pete was determined to find work in the motion picture industry, eventually landing employment as an Assistant Cameraman at ILM, the renowned visual effects facility, where he built his first underwater housing for the Gismo 16 mm camera. In 1985, while working as a Camera Operator at Boss Film in LA, he was contracted by the Cousteau Society to design and build their state-of-the art underwater camera housings. That same year, he built his first underwater housing for the Arri 35-3 film camera after recognizing the industry need for standardized equipment to simplify and enhance the underwater shooting process. Soon after, camera rental houses were representing his product and HydroFlex, Inc. became a viable business.

In 1988, HydroFlex was the first to design high power HMI underwater lights that were developed specifically for James Cameron and his film *The Abyss*. Since then HydroFlex has continued to design camera and lighting equipment for the evolving needs of the motion

picture industry, including their most popular housing the RAC MK5, which accommodates over 30 camera bodies plus a wide variety of lenses; our splash bags for wet set work; and our Hydrohead, which can be mounted on a variety of cranes, especially useful for sequences where the camera must move in and out of the water. HydroFlex has also developed a wide variety of lights, both high powered like the HMI's and Par lights, well as softer lighting like tubing for the Kino-Flos and Asteras. More recently, our underwater housings for the Sky Panel lights have proved popular with film makers.

As cinematographers from other countries showed interest in HydroFlex products, we began making products available for the rental market through a worldwide network of agents, representing the best camera rental houses internationally. Along the way, HydroFlex and Pete have been honored with two Motion Picture Academy Technical Achievement awards. The first was for the HMI housings and their ability to work safely on wet sets. The second was given for our camera enclosures, most especially the RAC MK5.

As an Underwater Director of Photography,

Pete has amassed numerous movie, television and commercial credits, notable among them are: *The Abyss*, *Titanic*, *Saving Private Ryan*, *Free Willy 1, 2 & 3*, *Waterworld*, *Pearl Harbor*, *Men of Honor*, *Tree of Life*, *Inception*, *Edge of Tomorrow*, *Mission Impossible: 3, 4 & 5*, *Ad Astra*, *Gemini Man*, *Call of the Wild*, *Quiet Place 2* and many more. Pete is a member of the ASC (American Society of Cinematographers) and the Academy of Motion Picture Arts & Sciences. Additionally, he holds awards for Excellence in Cinematography (shared) from the AICP (Association of Independent Commercial Producers), and both a Lifetime Achievement Award and a Technical Achievement Award from the Society of Operating Cameramen.

How did your time in the Navy and as part of the Pacific Fleet Underwater Combat Camera Group influence your approach to underwater cinematography?

I joined the US Navy to learn more about photography. After Navy photo school I was stationed in Southern California shooting uninspiring projects and ceremonies which led to boredom on my part. As fate and

circumstances would have it, I became aware of an open billet at the Combat Camera Underwater Photo Team. Never having done SCUBA diving, I volunteered to become a Navy diver anyway, not knowing if I would qualify. I can still remember my first breath underwater; it was the moment that changed my life.

My time at Combat Camera trained me as a commercial/working diver and the experience I gained working with SEAL Teams and other US military dive teams across the Pacific Ocean gave me the confidence to pursue a career in underwater cinematography. Because I was always working in real time, I had to develop a sense of where the action was developing and be there to capture it. There were no second takes.

Underwater cinematography presents unique challenges. What are the most significant obstacles you've encountered, and how did you overcome them?

Lack of visibility, I believe, is the most significant obstacle all underwater cinematographers



Scarlett Johansson: *The Island*

face. In the ocean, a lake or river you are at the mercy of the elements which you have no control over, so you get what you get. Shooting in tanks and pools with heating and filtration offer safety and comfort for crew and cast. In my experience, the importance of water filtration has always been underestimated. Generally, it is easier to start with clear water visibility which we can add particles or milky products to if it needs more dimension or dirtiness. By the end of a shoot day, the water will get dirty anyway and the tank will have to be filtered overnight. The visibility is usually dependent on the goals of the scene which can vary from crystal clear to turgid.

The comfort of your actors is another variable. Some of the talent is extremely comfortable in the water and can do many of their own stunts. Mark Wahlberg is someone who comes to mind.

Key Highlights

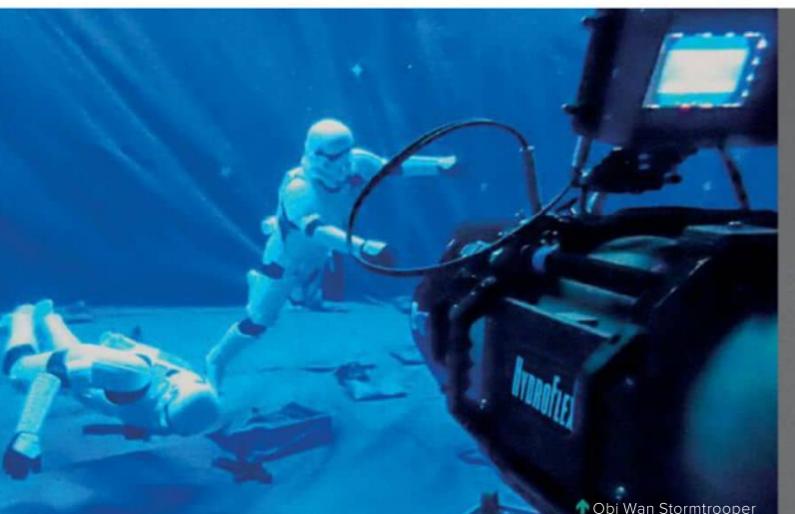
- Pete Romano's career in underwater cinematography began with the U.S. Navy's Pacific Fleet Underwater Combat Camera Group.
- Romano founded HydroFlex, creating groundbreaking underwater equipment like HMI underwater lights and the RAC MK5 housing.
- Romano worked on major films like *The Abyss*, *Titanic*, *Inception*, and *Saving Private Ryan*.
- Academy Awards Recognition: HydroFlex and Romano won two Academy Technical Achievement Awards for their underwater lighting and camera housing innovations.
- HydroFlex expanded worldwide, with products like underwater SkyPanel housings continuing to shape cinematography

“I joined the US Navy to learn more about photography. After Navy photo school I was stationed in Southern California shooting uninspiring projects and ceremonies which led to boredom on my part. As fate and circumstances would have it, I became aware of an open billet at the Combat Camera Underwater Photo Team.”

”

I have done several movies with him and he has always been a champ. On the other hand, I've had situations when the actor or actress has a fear of the water and doesn't swim. Most of the action can be covered by stunts, but often the director will need a close up anyway. I might coax the actor to stand or kneel on a platform and just dunk their head underwater so I can get a shot.

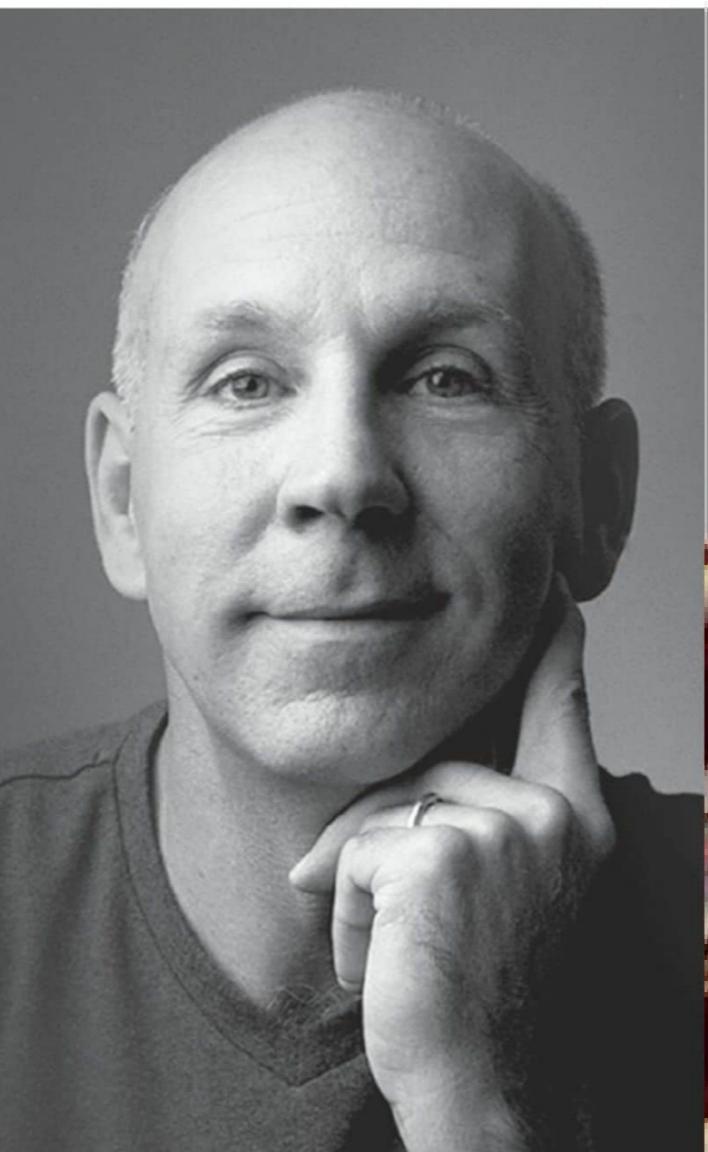
Likewise, sometimes a director will ask for a shot that is impossible to realize. That's mostly



Obi Wan Stormtrooper



Message in a Bottle Lighter



Armageddon



due to the director's unfamiliarity with working in the water. If you know something cannot be done safely or logistically, it is important to have some solutions in mind. For example, if you know the tank is too shallow to give a director the long upward swim he or she wants, you might suggest the actor swim on a diagonal or horizontal angle and tilt the camera so that the action looks like what was requested, and you have successfully cheated the frame.

Set design can sometimes be an issue, as well. If a designer doesn't understand that materials like steel can rust in water, or if wood isn't treated properly, the wood will absorb water and paint or decoration will peel off. It's important to understand how certain materials react in water. The same holds true for costumes. Some materials can get so heavy that they weigh the actor down and make it difficult to move. Or, if other materials are very light and diaphanous, the materials will float upwards in the water. Oftentimes, the costume department will have to sew weights into the outfit to keep it more stable.

HydroFlex has introduced game-changing technologies like the HMI underwater lights and the RAC MK5 housing. Which innovation are you most proud of, and why?

The innovation I am most proud of is the Remote Aqua Cam. In 1998, Caleb Deshanel, ASC, contacted me about putting an ARRI 35-3 film camera with a zoom lens in an underwater



“The innovation I am most proud of is the Remote Aqua Cam. It encloses existing film production cameras in a tubular shape which is far more hydrodynamic than the angular housings. The Remote Aqua Cam has gone through many changes and upgrades and continues to be adaptable as camera technology advances.

“You've worked with directors like James Cameron on iconic films such as “The Abyss” and “Titanic”. How does collaboration with visionary directors shape your work as an underwater cinematographer?

James Cameron is certainly a generational visionary. He has a very clear picture of what he wants to accomplish. My primary job was to give him what he wanted when he wanted it. I

have worked with several other directors with the same expertise and reputation – Steven Spielberg, Christopher Nolan, Michael Bay – to name a few. It is both exciting and filled with pressure. People like that surround themselves with the best crews with the highest level of expertise. I can't say it shaped my work, but it's taught me how to work under a lot of stress without it affecting my ability in a negative way. I had to remind myself that no matter who was calling, “Action,” I was prepared and had the skills to accomplish what they wanted.

The industry is evolving with trends like virtual production and immersive storytelling. How do you see the Pros and cons impacting cinematography?

We are at a pivotal moment in cinematography and filmmaking, in general. The issues are so far reaching. But for cinematography, the pros of being able to put characters in faraway and complex backgrounds, has benefits; also changes can be made quickly, and the environment is more controlled. But a VR stage is expensive, and the technology isn't always of the realism level that a filmmaker might be looking for. We are in the middle of so much technological development that it's hard to see where we will land.

The combination of water filming with motion capture and an animated realism has been successfully done by James Cameron in the first couple of Avatar films. It is certainly one aspect on the filmmaking process. But there is still an appetite for stories told in a more naturalistic way, that I hope won't be disappearing in the foreseeable future.

Lighting plays a crucial role in creating underwater visuals. How have HydroFlex lighting solutions transformed the way underwater scenes are lit?

Before the Abyss, underwater lighting was mostly of a documentary nature. There were underwater lights available, but they were used primarily on submarines and underwater vehicles, used as work lights for manned submersibles.

When I approached Jim Cameron to be the Director of Photography for the ABYSS “Miniature Unit”, I was hoping my experience working at George Lucas's Industrial Light & Magic would make me a viable candidate. During our meeting, which went very well, Jim, out of the blue, asked me if I would like to bid on designing and constructing the underwater lights for the movie. Of course, I said, yes! My then partner and I set about convincing Jim

“James Cameron is certainly a generational visionary. He has a very clear picture of what he wants to accomplish. My primary job was to give him what he wanted when he wanted it.”

that developing a high-powered HMI that would be safe and water-tight was the best way to go. We developed a prototype, set up some tests, and Cameron gave us the go-ahead to build 20 lamps, complete with barn doors, scrims, gel frames, diffusion and snoots. We also constructed 50 1K's for that project, too.

Jim Cameron's vision to write and direct such a massive underwater film was groundbreaking in so many ways, and set a standard for many water-oriented epics to follow, including his own film, Titanic.

As technology continues to evolve, where do you see underwater cinematography heading in the next decade?

I've never been a crystal ball person, but it's notable that cameras are getting smaller and of higher resolution all the time. Our company, HydroFlex, is already designing enclosures for some of these new systems. Underwater blue and green screen photography has been done for many years, and now volume walls are being used underwater, enlarging the filmmaking surface. More and more story ideas are becoming possible to shoot during production, instead of in post. Artificial Intelligence will certainly have an impact on the film industry as a whole, but how that will translate to underwater cinematography beyond VFX remains to be seen. No doubt, it is coming.

Your career spans a blend of artistic cinematography and technical innovation. How do you strike a balance between creativity and engineering in your work?





Pete Romano accepting the Digital Studio India Award 2024 from Ujwal Nirgudkar

I discovered photography as a teenager. When I joined the Navy I knew I wanted to learn the art of cinematography where composition, lighting and camera movement help tell the story. Finding the water portion of cinematography was a happy accident, and one that felt very natural to me. I love working in a three-dimensional environment and feeling the energy of the frame as I move the camera through a viscous environment.

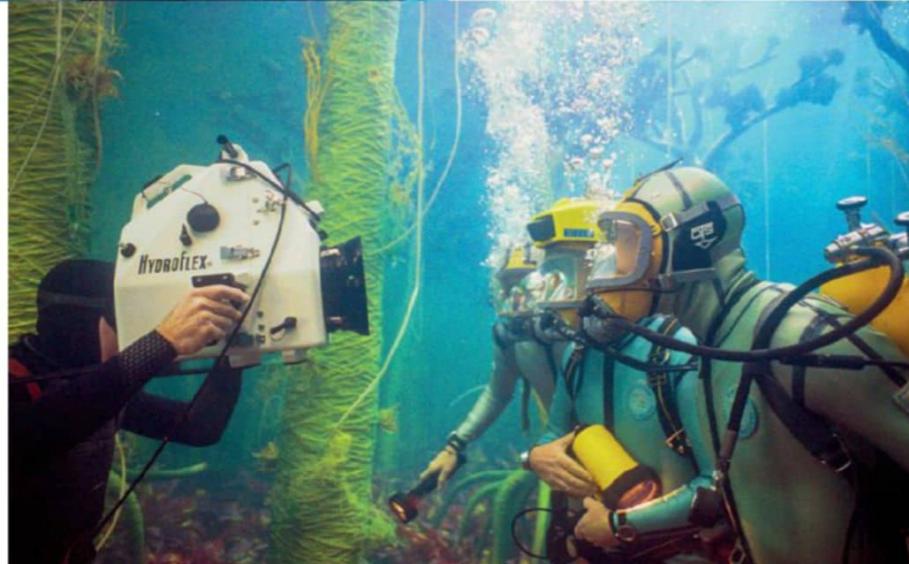
I realized early in my career that if I was going to be able to pursue a specialty in underwater cinematography, I was going to have to design and build the equipment to achieve my goal, as there wasn't much available on the rental market.

I didn't know immediately that I had a mechanical aptitude, but when I first left my Navy service and was looking for work as a cameraman, one person told me I would only be useful to him if I knew how to repair cameras and underwater housings as well as shoot film. I took him at his word and enrolled in a two-year machining program at which I excelled. When I had completed the course, that same person hired me as a machinist and documentary camera person.

Although being a photographer is a passion that hasn't waned since boyhood, I get satisfaction from the technical/design side of my life. Design allows me to use a different part of my brain, where I can problem solve using shapes, precision measurement, create and build parts and figure out unforeseen challenges; it's all exciting to me – and often frustrating.

HydroFlex has expanded globally with rental agents across the world. How has the international cinematography community influenced your designs and solutions?

Generally, the international cinematography community has been very welcoming of the

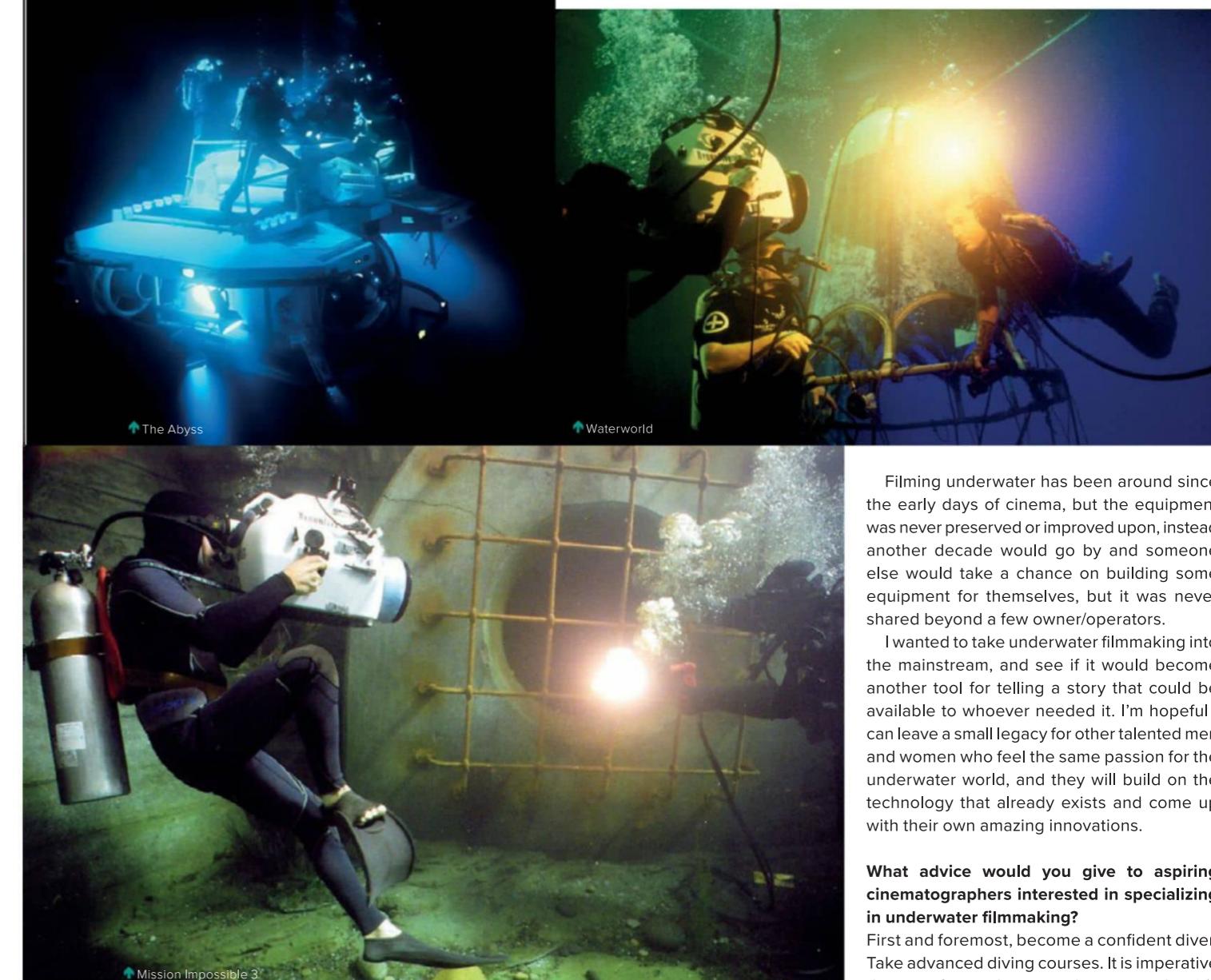


opportunity to use HydroFlex equipment. They occasionally ask for special parts or rigs to be made, but otherwise they look to us to provide equipment that is dependable and well built, so they can concentrate on the creative side of getting the shots they need. It has been gratifying to meet people from so many equipment companies, and the filmmakers from around the world who have shared their different approaches to water-oriented scenes, and have related how much more water work is done in narrative films because there is equipment available to help them achieve their goals.

You've worked on iconic films like "Inception" and "Quiet Place 2". Which project stands out most for you, and what made it special?

There are several projects that stand out for various reasons. It's impossible to distill down to one:

“Before the Abyss, underwater lighting was mostly of a documentary nature. When I approached Jim Cameron to be the Director of Photography for the ABYSS ‘Miniature Unit’, I was hoping my experience at ILM would make me a viable candidate.”



forget this experience.

Armageddon – Another great honor was being allowed to shoot Ben Affleck, Bruce Willis and some of the actual astronauts in the actual National Buoyancy Lab, where all the astronauts train for their space missions.

Waterworld – The enormous scope of the movie was staggering. The complexity of the sets built on the ocean offshore from the island of Hawaii, and the crew it took to manage the operation was like watching a small army. Shooting on the ocean in Hawaii for months and being at the mercy of the weather and the seas was a constant challenge.

Pearl Harbor – this movie spoke deeply to my Navy background, and when I was in the Pearl Harbor location filming all the sailors who had gone overboard (I was dressed as one of them to blend in) it became a very personal experience for me. Of course, the most sacred moment for me was when I was given permission film on the sunken ship, the Arizona, which had laid at the bottom of harbor since 1941. I will never

HydroFlex has received multiple technical awards, including two from the Academy. How does such recognition impact your motivation and innovation?

For the recognition and the awards, I am very grateful and honored, but my motivation for innovation comes from the desire to create new tools to enhance the possibilities of underwater cinematography. The invention of LED lights in recent years spurred us to develop underwater Astera and Titan tubes and create housings for ARRI S30 Sky Panels.

We are currently working on some camera housing modifications for some of the newest cameras. There is still a market for some Imax equipment development, as well. We are currently working on IMAX equipment for Hoyte Van Hoytema that will work on Christopher Nolan's next film.

What most drives me is that I love this unique specialty. It was such a small niche when I found it, and I wasn't even sure I could make a living devoting myself solely to shooting underwater.

Filming underwater has been around since the early days of cinema, but the equipment was never preserved or improved upon, instead another decade would go by and someone else would take a chance on building some equipment for themselves, but it was never shared beyond a few owner/operators.

I wanted to take underwater filmmaking into the mainstream, and see if it would become another tool for telling a story that could be available to whoever needed it. I'm hopeful I can leave a small legacy for other talented men and women who feel the same passion for the underwater world, and they will build on the technology that already exists and come up with their own amazing innovations.

What advice would you give to aspiring cinematographers interested in specializing in underwater filmmaking?

First and foremost, become a confident diver. Take advanced diving courses. It is imperative that you feel at home underwater – that it's second nature – because your main job is to capture images to be put on the screen. There can be a lot to contend with on a movie set – stunts, crew, topside direction and camera, nervous actors, and the list goes on.

Learn the principles of how an underwater camera lens distorts the images we plan to shoot underwater. It's important to know how to set focus to compensate for this distortion when using a dome port, because a flat port is utilized only at the water's surface or when doing a split screen shot. So, an understanding of 'dome port theory' is essential.

Make it your job to meet people who are working in the underwater segment of the film business. Even getting a job as a PA on an underwater team, will expose you to the protocol of how an underwater set operates and how many moving parts there may be. Watch how the Underwater DP or Operator handles the crew and what kind of tips and tricks he or she may employ to get the shot. This kind of observation can help so much when it becomes your turn to hold the camera.

TRADE SHOWS: CATALYSTS FOR GROWTH IN THE MEDIA AND ENTERTAINMENT INDUSTRY

Trade shows have become indispensable in the Media and Entertainment (M&E) industry, acting as vital platforms where innovation, networking, and business opportunities converge. These events are more than just exhibitions; they are the driving force behind the industry's growth and success.



Traditional values have been shaken by rapid urbanization [100]. In India, 1.542 billion people, or 45% of the population, live in urban areas [101]. The rate of urbanization has increased from 2.1% in 1991 to 3.1% in 2011 [102]. This increase in urbanization has led to a significant increase in the number of people living in slums [103]. Slums are characterized by poor living conditions, lack of basic amenities, and high levels of poverty [104]. They are often located in the periphery of cities, where land is cheap and available [105]. The rapid growth of slums has led to a significant increase in the number of people living in poverty [106]. This has led to a range of social problems, such as poor health, lack of education, and lack of access to basic services [107]. The government has taken steps to address these issues, such as providing basic services like water and sanitation, and improving infrastructure [108]. However, more needs to be done to ensure that all citizens have equal opportunities and access to basic services [109].

one of their men at long range shot the mark in at fifteen feet, when another hit him a couple of feet from where he was aiming at and past the top of the barrel, even as most of the other marks were clear misses, and so on. I think my gun had no time to get it's bore lined up previous to getting one of you up in the air.

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... your brain. You would be 20-25% more intelligent than you are now and have a much better chance of success. I also want to help you not feel like you are going to fail.

515 "He always asks you, 'I have a collection of 5000, can we import something?'.
He's collected them from him and he's taking care of them, showing off, making things I understand
and we have a relationship over there which is, 'I know if it can make it by being special
and unique, we can bring it here, something like a new antique car.'

With such speed along comes the old saying "If you want to go fast, go alone; if you want to go far, go together." The motto for today's long-term office real estate market.

Cloud si Bane si li laiye rev Cloud. Inchi maha ngi cu tan mani beng
tan mani cu man di Bane, cu maha long mani cu cu Bane cu mani, cu
maning cu mani. It is Bane. It is cu mani. Bane cu cu cu mani beng

Conclusion The adoption of CDR as a new lighter car or by using long-life steel through the latest mass access or fast transport car can all reduce the production cost of the vehicle. The new light car has a higher efficiency and lower costs.

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As a result, many of the patients, who had been treated using the 1.5% lidocaine gel, could not tolerate the 1% lidocaine gel because they found it to be too painful. This was also true for those patients who had been previously treated with 1% lidocaine gel. The authors conclude that the 1% lidocaine gel is the preferred choice for topical anaesthesia in dentistry.

"You are ridiculous as a commonest contemptible name in the open country would not be more odious than this," said I. "The day you married is a day that will be in your memory as long as you live, and that is better not long; it is time up there, people will be scared to death if they hear that you have got married, and that is not good for a wedding, and a wife for nothing long it may I tell you or I will make one of you the big most foolish man in the world. You will be a fool all your life, and that is a misery, and it makes long for a woman. We never hear such talk among us as this. You are mad. Please to get out of here, and go to some place where you can be a free master," said I.

2025 SHOWS

FEBRUARY

BES - BROADCAST ENGINEERING SOCIETY EXPO 2025

Thu, February 20, 2025 - Sat, February 22, 2025
10:00 AM - 06:00 PM
Pragati Maidan, New Delhi, India

The Broadcast Engineering Society Expo (BES Expo) 2025 is scheduled to take place from February 20th to 22nd, 2025, at Pragati Maidan in New Delhi, India. This international conference and exhibition focuses on broadcast and media technology and marks the 28th event in the series organized by the Broadcast Engineering Society (India). The BES Expo provides a platform for professionals in the broadcast and media industry to explore the latest technological advancements, network with industry peers, and attend informative sessions and workshops.

The event will showcase a wide array of products, equipment, and services related to terrestrial and satellite broadcasting, studio and post-production technology, audio-visual systems, broadband, automation, and networking solutions. Attendees will have the opportunity to engage with leading manufacturers, dealers, and distributors, as well as participate in informative sessions, workshops, and discussions tailored to address current trends and challenges in the industry.

Whether you are an engineer, manager, consultant, videographer, or entrepreneur in the radio and television broadcasting sector, BES Expo 2025 provides an unparalleled platform to network, share insights, and discover technologies shaping the future of broadcasting. Mark your calendar for this must-attend event!



APRIL

NAB SHOW

Sat, April 5 2025- Wed, April 9 2024
Las Vegas Convention Centre, USA

The innovation driving the future of broadcast, media and entertainment is here. Join thousands of industry leaders from around the globe in Las Vegas this April to explore the latest advancements in AI, the creator economy, sports production, streaming/OTT, cloud virtualization and so much more. Discover the tools and technologies that will revolutionize how you create, distribute and monetize content. There is so much going on behind the scenes, you won't want to... and you really shouldn't... miss out on what's to come.

No other industry event or platform boasts the capability to connect you with such a comprehensive and diverse audience of professional audio and video buyers. Whether

your focus is on broadcast, cinema, streaming, or any related industry, the efficiency of engaging with diverse professionals through our three uniquely crafted brands is immeasurable.

MAY

CABSAT

Tue, May 13 – Thu, May 15, 2025
Sheikh Saeed Halls 1, 2, 3
Dubai World Trade Centre

CABSAT is the only dedicated event that attracts over 18,874 industry professionals and media markets in the MEASA region. The entire industry is in attendance, from Engineers, System Integrators and Broadcasters within Digital, Content, Broadcast; to Content Buyers, Sellers, Producers and Distributors.

This year, CABSAT celebrated 30th Anniversary and proudly welcomed a

significant number of new exhibitors. Additionally, the Chinese, French, German pavilions featured a diverse range of media technology manufacturers.

Hear from the media industry's thought leaders as they discuss the hottest topics of the hour. Panels and keynotes present their opinions about the future of broadcast content, giving you key insights into emerging trends. Listen, engage, ask questions and take forward learning to craft the next generation of content output!

THE MEDIA PRODUCTION & TECHNOLOGY SHOW (MPTS)

Wed, May 14-Thu, May 15, 2025
Olympia Grand Hall, London

The Media Production & Technology Show (MPTS) 2025, scheduled for May 15-16 at Olympia London, is set to be a landmark event





for the media and broadcast industries. As the UK's largest event of its kind, MPTS brings together professionals from across the globe to explore the latest advancements in production technology and content creation. Attendees can expect a comprehensive showcase of cutting-edge tools and solutions that are driving the industry forward, from state-of-the-art cameras and editing software to innovative production workflows and distribution methods.

In addition to the extensive exhibition floor, MPTS 2025 will feature a robust program of seminars, workshops, and panel discussions led by industry experts. These sessions will cover a wide range of topics, including the impact of artificial intelligence on media production, the future of streaming technologies, and the integration of virtual and augmented reality in content creation. Networking opportunities abound, providing a platform for professionals to connect, collaborate, and share insights. Whether you're a seasoned veteran or a newcomer to the industry, MPTS 2025 promises to be an invaluable experience for anyone looking to stay ahead of the curve in media production and technology.

BROADCAST ASIA

Tue, May 27-Thu, May 29, 2025
Singapore Expo, Singapore

BroadcastAsia 2025, scheduled for May 27-29 at the Singapore Expo, is set to be a pivotal event for professionals in the broadcast, media, and entertainment industries. As part of Asia Tech x Singapore, this expo will showcase the latest advancements in broadcast technology, including cutting-edge solutions in 5G, AV/Media/Production, IT, and more. Attendees can expect a comprehensive program featuring insightful discussions, hands-on demonstrations, and networking opportunities with industry leaders. The event aims to foster innovation and collaboration, helping professionals stay ahead in the rapidly evolving media landscape.

In 2024, BroadcastAsia attracted close to 15,000 attendees, highlighting its significance as a major gathering for industry professionals. The expo drew a diverse crowd, including broadcasters, content creators, and solution providers, all eager to explore new technologies and trends. Building on this success, the 2025 edition promises to offer even more opportunities for learning and engagement. Whether you're looking to discover the latest broadcast technologies or connect with key players in the industry, BroadcastAsia 2025 is an essential event for anyone involved in the media and entertainment sectors.

JUNE

CINE GEAR EXPO

Thu, June 5-Sat, June 8, 2025
The Studios at Paramount HOLLYWOOD, California

The Cine Gear Expo LA 2025 is poised to be a landmark event for professionals in the technology, entertainment, and media industries. Scheduled for June 5-8, 2025, this expo will be held at the historic Warner Bros. Studios in Burbank, California. The event will feature a wide array of exhibits showcasing the

latest in cinematic technology, from cutting-edge cameras and lenses to innovative production tools and software. Attendees can look forward to complimentary seminars led by industry leaders, master classes, film competitions, and an awards ceremony. This expo provides a unique platform for hands-on training, networking, and discovering the newest advancements in the field.

In 2024, the Cine Gear Expo LA was a tremendous success, attracting thousands of attendees. The event drew a diverse crowd of filmmakers, cinematographers, production designers, sound engineers, and other industry professionals, all eager to explore the latest trends and technologies. Building on this success, the 2025 expo aims to offer even more opportunities for learning and collaboration. Whether you're a seasoned professional or an aspiring filmmaker, the Cine Gear Expo LA is an essential event for anyone looking to stay at the forefront of the cinematic industry.

SEPTEMBER

INTERNATIONAL BROADCAST CONFERENCE (IBC)

Fri, September 12 – Mon, 15 September 2025
THE RAI, AMSTERDAM



The International Broadcast Conference (IBC) 2025, scheduled for September 12-15 at the RAI in Amsterdam, is a premier event for professionals in the creation, management, and delivery of entertainment and news content worldwide. This annual conference brings together industry leaders, innovators, and experts to explore the latest trends and technologies shaping the media landscape. Attendees can expect a comprehensive program featuring keynote speeches, panel discussions, and hands-on workshops covering topics such as AI, 5G, cloud computing, and immersive experiences. The event also includes an extensive exhibition where over 1,350 exhibitors showcase cutting-edge products and solutions.

In 2024, IBC attracted over 45,000 attendees from 170 countries. This impressive turnout highlights the conference's significance as a global hub for media and entertainment professionals. The 2025 edition aims to build on this success, offering even more opportunities for networking, learning, and collaboration. Whether you're a seasoned professional or a newcomer to the industry, IBC 2025 provides a unique platform to connect with peers, gain insights from industry leaders, and discover the

latest innovations driving the future of media and entertainment.

latest innovations driving the future of media and entertainment.

OCTOBER

BROADCAST INDIA SHOW

Thu, October 9 – Sat, October 11, 2025
Jio World Convention Centre, Mumbai

The Broadcast India Show 2025, scheduled for October 9-11 at the Jio World Convention Centre in Mumbai, is a premier event for professionals in the broadcast, media, and infotainment industries. This annual show brings together the latest technological innovations, including advancements in AI, immersive media, OTT solutions, and next-generation production techniques. Attendees can expect a dynamic environment filled with opportunities for hands-on demonstrations, insightful discussions, and networking with industry leaders. The event aims to showcase the paradigm shifts in infotainment technology and provide a platform for professionals to connect and experience these advancements firsthand.

In 2024, the Broadcast India Show attracted approximately 10,764 attendees, highlighting its significance as a major gathering for industry

professionals. The event drew a diverse crowd, including broadcasters, content creators, and technology providers, all eager to explore new trends and establish trade connections. Building on this success, the 2025 edition promises to offer even more opportunities for learning and collaboration. Whether you're a seasoned professional or an aspiring media enthusiast, the Broadcast India Show 2025 is an essential event for anyone looking to stay at the forefront of the broadcast and infotainment industries.

NAB SHOW NEW YORK

Wed, October 22- Thu, 23, 2025
Javits Centre

The 2025 NAB Show New York promises to build on the remarkable achievements of the 2024 edition, which drew over 12,000 attendees and 250 exhibitors, including 50 first-timers and 20 product launches. As the leading East Coast event for broadcast, media, and entertainment professionals, it has cemented its position as a vital hub for exploring innovations in AI, live and virtual production, the creator economy, and more. With its timing in Q4, the event empowers professionals to finalize purchasing decisions and strategize for the year ahead, making it a key moment in the media calendar.

Attendees in 2025 can look forward to an expanded array of educational sessions, cutting-edge technology showcases, and influential speakers. Building on 2024's highlights, themes like generative AI, immersive content creation, and cross-platform streaming will take center stage. Exhibitors will unveil transformative tools for content creation, distribution, and monetization, ensuring the event remains at the forefront of industry innovation. The NAB Show New York continues to attract a diverse audience, from leading enterprises to independent creators, reinforcing its reputation as a must-attend event for shaping the future of media and entertainment.





TRANSFORMING INDIA'S 3D VISUALIZATION LANDSCAPE: AJJAY PARGE AND QUBIT'S INNOVATIVE VISION

Over the past three decades, Qubit, backed by Digital Art India's 30-year legacy, has revolutionized 3D visualization with expertise in scale accuracy, real-world materials, and advanced lighting. Their collaboration with KIA Motors leveraged Epic Games' Unreal Engine to create fully digital automotive films, reducing logistical challenges and enhancing creative flexibility. Qubit's digital workflow eliminates the risk of leaks, streamlines production, and enables remote direction, delivering cinematic-quality content efficiently. With applications extending to real estate, retail, and architecture, Qubit is shaping the future of virtual production across industries. KIA film is done jointly by Qubit and Elemental Films

Ajjay Parge
Founder of Qubit India and Digital Art India Pvt. Ltd

Mr. Ajjay Parge is a prominent figure in the 3D visualization industry, bringing over three decades of extensive experience to his esteemed role as Founder Director at Qubit. Since its inception in 2023, Qubit has swiftly established itself as a pioneering VizTech company in India, achieving a remarkable ₹10 crore turnover in its first year. Mr Parge is also the visionary behind Digital Art India Pvt. Ltd., the parent company of Qubit, where his leadership continues to drive innovation and excellence. His commitment to advancing the visualization sector is further demonstrated by his involvement with the Media and Entertainment Skills Council (MESC), which is administered by the government of India. As skill committee member of the Animation, Visual Effects, Gaming, and Comic (AVGC) Task Force, Mr. Parge actively advocates for a National AVGC-XR Mission, contributing his expertise to shape the industry's future. With a diploma in computer science from the prestigious Symbiosis Institute of Technology, he has consistently demonstrated a deep commitment to exploring the potential of emerging technologies. He recognizes the transformative power of 3D visualization, augmented reality (AR), and virtual reality (VR) across industries such as real estate, automobiles, and architecture. Founder Director of Qubit and Digital Art Founder Director of Qubit and Digital Art Founder Director of Qubit, established in 2023, operates as an innovator, focusing on augmenting user experiences through comprehensive product visualization. The company is transforming the understanding and experience of luxury and premium products, positioning itself as a leader in the industry under Mr Parge's guidance.

Ajjay Parge, Founder of Qubit India and Digital Art India Pvt. Ltd., is a trailblazer in the 3D visualization industry, blending over three decades of expertise with a vision for transformative storytelling. Under his leadership, Qubit has swiftly emerged as a leading VizTech innovator, revolutionizing industries like automotive, architecture, and real estate through cutting-edge visualization techniques. His collaboration with KIA Motors showcased the potential of fully digital cinematic production, eliminating traditional logistical challenges while maintaining exceptional quality. As an active member of India's AVGC Task Force, Parge advocates for a National AVGC-XR Mission, driving industry-wide progress. His commitment to leveraging AR, VR, and immersive 3D technologies continues to set new standards, positioning Qubit as a catalyst for digital transformation across sectors.

What specific advancements in 3D visualization have Qubit developed over the past three decades, and how do these innovations improve product presentations?

Over the past three decades, 3D visualization has continuously evolved, with significant advancements accelerating in the last three years. While Qubit itself is a young company, just 1.5 years old, its parent company, Digital Art India Pvt. Ltd., has a rich 30-year legacy in the 3D visualization industry. This foundation has enabled Qubit to bring unparalleled expertise to the field, leveraging decades of experience in areas such as scale accuracy, real-world materials and textures, and advanced lighting techniques—key elements for creating immersive and realistic visualizations.

In the realms of automotive cinematics and architectural visualization, understanding

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“Our goal at Qubit is to redefine how products are experienced through visualization, bridging the gap between imagination and reality”

“

these aspects is critical to delivering impactful presentations that resonate with customers. Qubit's team has honed these skills over years of producing standard visualization projects, and this expertise now serves as the backbone for its innovations. By combining this deep-rooted knowledge with the latest advancements in 3D technology, Qubit is redefining how products and projects are presented, making them more engaging, precise, and customer-centric.

Can you explain the process and technology behind creating a cinematic film entirely on computers, as done in your collaboration with KIA Motors?

The process of creating a cinematic film entirely on computers is both innovative and technically intricate. In our collaboration with KIA Motors for the KIA Carnival car, the journey began with receiving a CAD grayscale 3D model of the vehicle, along with multiple high-quality still photographs showcasing the car's colors and finishes.

The first step in the process was optimizing



the CAD model to ensure it was suitable for real-time rendering while maintaining a high level of detail. Our team then meticulously applied materials and textures to the 3D model, replicating real-world elements such as paint finishes, metal, glass, and other intricate surface details. This step was crucial in achieving photorealism, ensuring the car looked identical to the physical product. For this project, we used Epic Games' Unreal Engine, a cutting-edge software widely known for its real-time rendering capabilities and cinematic quality output.

Once the car model, complete with accurate colors and textures, was approved by KIA's officials, we moved to the next phase: building the virtual environment. Guided by the approved storyboard, our team created detailed digital landscapes and settings that aligned with the narrative of the film. This included designing the lighting, weather conditions, and background elements to create an immersive and visually appealing world where the car could be showcased.

One of the unique advantages of using Unreal Engine was the ability for the director to interact with the virtual environment in



real time. Camera angles, movements, and transitions could be adjusted on the fly, providing an unprecedented level of creative flexibility. This allowed the team to experiment with dynamic perspectives and ensure the story was told exactly as envisioned.

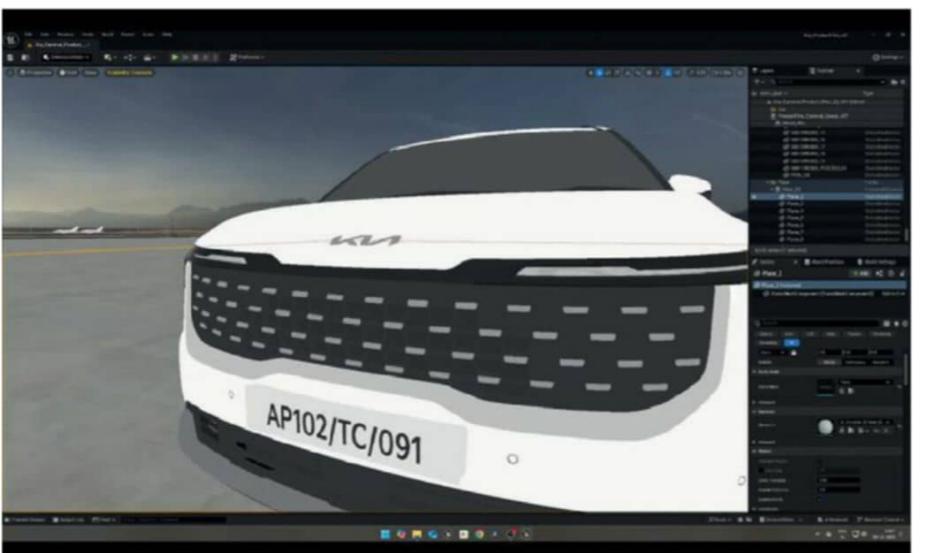
After finalizing the virtual environment and camera movements, we proceeded to animate the car within the scene. From smooth driving sequences to close-up shots highlighting the car's features, every animation was crafted to accentuate the vehicle's elegance and functionality. Once the animations were complete, the final shots were rendered at high resolution and edited to ensure seamless transitions, color grading, and the addition of any post-production effects.

The end result was a stunning cinematic film that not only captured the essence of the KIA Carnival but also provided an engaging visual experience for the audience. This entirely digital process showcases the power of advanced 3D technology in creating high-quality, impactful presentations without the logistical challenges of physical filming.

What were the key challenges in traditional automotive filmmaking that Qubit's approach effectively addresses, and how does it improve the overall production process?

Traditional automotive filmmaking presents numerous logistical and technical challenges that Qubit's innovative approach effectively overcomes, revolutionizing the production process. In a conventional automobile cinematic shoot, a massive crew is typically involved, often numbering in the hundreds. This includes spot boys, lighting technicians, directors, camera operators, and even specialized personnel whose sole responsibility is to ensure that the

car remains spotless for the shoot. Additionally, high-security protocols are implemented to prevent leaks of sensitive information, such as photos or specifications of the vehicle. This often involves deploying multiple security agencies to monitor the set and enforcing strict no-mobile-phone policies for everyone present. These elaborate measures highlight the complexity and logistical challenges of traditional automotive filmmaking.



In contrast, Qubit's approach simplifies and streamlines the entire process by shifting it to a completely digital environment. For instance, in the case of the KIA Carnival film, the car model was created and handled entirely on computers in a secure, closed setting. This digital workflow drastically reduces the need for large crews, as the project was executed by a small team of skilled artists. By leveraging advanced 3D technology and tools like Epic Games' Unreal Engine, the entire film was created in a virtual space, eliminating the need for physical shooting locations, weather dependencies, or on-site logistical challenges.

One of the most remarkable aspects of this process was that the director, based in Bangalore, was able to oversee and direct the entire project remotely via Zoom calls. This not only eliminated the need for travel but also showcased the flexibility and efficiency of digital filmmaking. Real-time collaboration tools allowed for seamless adjustments to camera angles, lighting, and animations, all without the constraints of a physical set.

The digital approach also ensures an unparalleled level of confidentiality, as sensitive car models and details are never exposed to a physical environment. This heightened security is particularly critical for high-profile projects, where leaks could lead to significant commercial or reputational risks.

Moreover, the quality of the final output is significantly enhanced in a virtual environment. Unlike traditional shoots, where camera movements and angles are restricted by physical limitations, digital filmmaking allows for limitless creative possibilities. Virtual cameras can achieve dynamic movements and perspectives that are nearly impossible to replicate in the real world, resulting in visually stunning and highly engaging films.

Overall, Qubit's approach not only addresses the logistical and security challenges of

Key Highlights

- Industry Pioneer:** Ajjay Parge, Founder Director of Qubit, brings over three decades of experience in 3D visualization, driving innovation in product presentations across industries.
- Cutting-Edge Virtual Production:** Qubit leverages Unreal Engine to deliver cinematic-quality films, revolutionizing automotive advertising with photorealistic, secure, and cost-effective solutions.
- Streamlined Workflow:** Qubit's digital approach eliminates physical setups, reduces production time, and ensures confidentiality for high-profile automotive projects.
- Cross-Industry Impact:** Beyond automotive, Qubit's technology is transforming real estate marketing with immersive platforms like Navigo.
- Vision for the Future:** Ajjay Parge envisions virtual production becoming an industry standard across sectors, driving efficiency, creativity, and global scalability.

traditional automotive filmmaking but also elevates the creative and production process, delivering superior results with far greater efficiency and flexibility.

How does Qubit's method of eliminating physical setups help protect against leaks of new car models, which is a common issue in traditional automotive advertising?

Qubit's method of eliminating physical setups provides a highly secure environment that effectively protects against leaks of new car models, a common challenge in traditional automotive advertising. In conventional shoots, sensitive vehicle details are exposed to a large crew, including spot boys, lighting technicians, and security personnel, creating multiple points of vulnerability. Strict protocols, such as banning mobile phones and deploying security agencies, are often necessary to prevent unauthorized leaks. Despite these measures, maintaining absolute confidentiality in such complex and crowded setups remains a challenge.

In contrast, Qubit's entirely digital workflow keeps the car model within a controlled, closed environment. The entire process—from handling the 3D model to creating the cinematic film—is conducted on secure computer systems by a small team of trusted artists. Because there is no physical car involved, there is no risk of unauthorized access, accidental leaks, or the need to rely on large on-site teams, where confidentiality can be difficult to manage.

Additionally, this method allows remote collaboration without compromising security. For instance, in the KIA Carnival project, the director, based in Bangalore, directed the entire film remotely via Zoom, eliminating the need for physical travel or location setups. This virtual approach ensures that sensitive car models are never exposed to external environments, significantly reducing the risk of leaks while maintaining strict control over the project. This heightened level of security is a key advantage of Qubit's innovative digital method, making it an ideal solution for safeguarding the confidentiality of new car models.

The entire KIA project was completed in just four weeks. What factors contributed to such an expedited timeline, and how does this compare to traditional production times?

The completion of the KIA project in just four weeks was made possible by Qubit's innovative digital workflow, which streamlines the entire production process compared to traditional methods. Several key factors contributed to this expedited timeline:

- Digital-Only Environment:** Unlike traditional productions that require extensive on-site setups, including physical car models,





elaborate lighting, and large crews, Qubit's approach is entirely digital. By handling the 3D model on secure computer systems, the need for location scouting, equipment transport, or weather considerations is eliminated, drastically reducing the time required for pre-production and setup.

2. Efficient Collaboration: The project was executed by a small, focused team of skilled artists, which minimized coordination delays typically encountered in traditional shoots involving hundreds of personnel.

Additionally, the director, based in Bangalore, was able to oversee and guide the project remotely via Zoom calls. Real-time feedback and adjustments ensured that the creative process remained seamless and efficient, without the logistical delays of travel or on-location shoots.

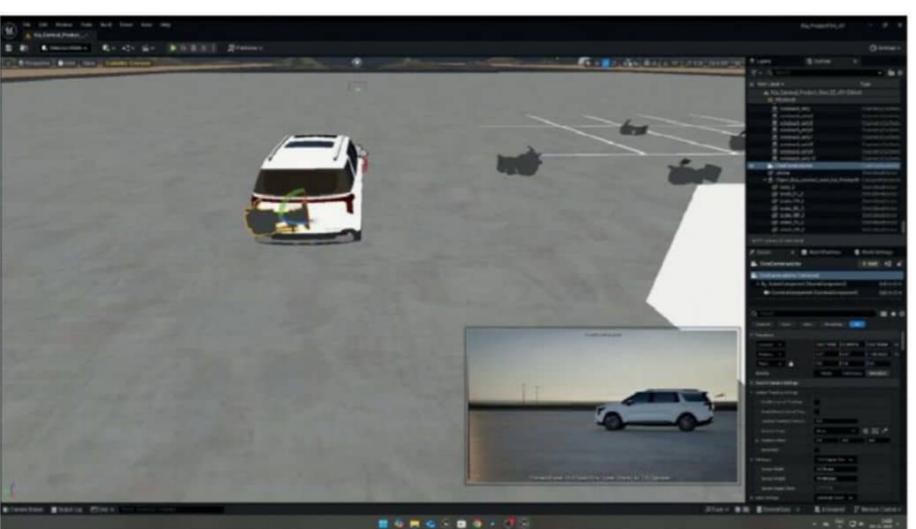
3. Advanced Technology: Qubit leveraged Epic Games' Unreal Engine, a cutting-edge real-time rendering software, to create a highly realistic virtual model of the KIA Carnival and its environment. This allowed for instant

visualization of changes, such as camera angles, lighting, and animations, enabling faster approvals and revisions compared to traditional workflows, where physical reshoots can be time-consuming and expensive.

4. Reduced Logistical Complexity: Traditional automotive advertising involves significant logistical challenges, including transporting cars, managing large crews, and securing locations. These steps often add weeks to the production timeline. By eliminating these requirements, Qubit bypassed these delays, allowing the team to focus purely on the creative aspects of the project.

5. Unparalleled Flexibility: In the virtual environment, changes to camera movements, angles, and lighting could be made instantly, something that is nearly impossible in real-world shoots. This flexibility not only sped up the production process but also allowed for a level of creative exploration that is often constrained by physical setups.

When compared to traditional production times, which often span several months due to the complexities of physical shoots, Qubit's method represents a dramatic improvement. By leveraging technology and a streamlined workflow, the entire project—from CAD model optimization to final delivery—was completed in just four weeks, setting a new



benchmark and the a reference point in the industry for how fast we can move from idea to execution. This way you wouldn't be held up by anything other than your own creativity and vision. It's about being able to move quickly and efficiently, and that's what we did."

Qubit's process of working with the KIA team involved a lot of back-and-forth communication between the two teams. "It's a bit like a dance," says Chaitanya. "You have to make sure that both teams are on the same page, and that's what we did."

Chaitanya emphasizes that the success of the project came down to the team's ability to work together effectively and efficiently. "It's all about having a good communication channel and being open to feedback and suggestions."



“Virtual production isn't just about efficiency; it's about creating experiences that captivate and connect with audiences on a deeper level.”

For Hyunsoo, moving to a virtual studio setup meant many conveniences in a short amount of time. "It took us only three days from day one to start the shoot and three days to finish the shoot, which is better than the time it would have taken in a real studio that would require a month to produce."

On the efficiency front, Chaitanya adds, "With our new tools, we're able to do CAD-to-CGI integration. If I have a CAD model, I can import it directly into our software and have it ready for rendering. This is a huge time saver, especially for a car manufacturer who has to constantly update their CAD models, and it's a huge advantage for a virtual studio because it makes the process smoother, faster, and more efficient."

Chaitanya highlights the cost savings aspect of the virtual studio. "We are finding ways to reduce costs by using AI and machine learning to optimize the workflow. For example, we can use AI to predict what kind of changes are needed in the scene, and then automatically apply those changes. This saves time and reduces the need for manual intervention, which is a significant cost-saver."

Hyunsoo agrees that the success of the studio lies in its ability to work with the client and understand their needs. "It's not just about the technical aspects of the studio; it's also about the client's vision and how well we can translate that into the final product. We are always looking for ways to improve our processes and stay ahead of the competition."

Overall, the studio's goal is to continue pushing the boundaries of what's possible in virtual production, and to help clients create compelling stories through innovative technology.

approved storyboard, we design immersive virtual environments tailored to the narrative of the film. This could range from open highways to urban landscapes or futuristic settings. Every detail of the environment, including lighting, weather conditions, and background elements, is carefully crafted to enhance the storytelling.

5. Real-Time Collaboration: One of the unique aspects of using Unreal Engine is the ability to collaborate in real time. Directors and stakeholders can review camera angles, movements, and lighting setups instantly, allowing for creative adjustments on the fly without the delays typical of physical reshoots.

6. Animating the Scene: Once the car and environment are ready, our team animates the vehicle within the virtual setting. This includes dynamic driving sequences, close-up feature highlights, and camera movements that would be impossible or highly challenging to achieve in a traditional shoot.

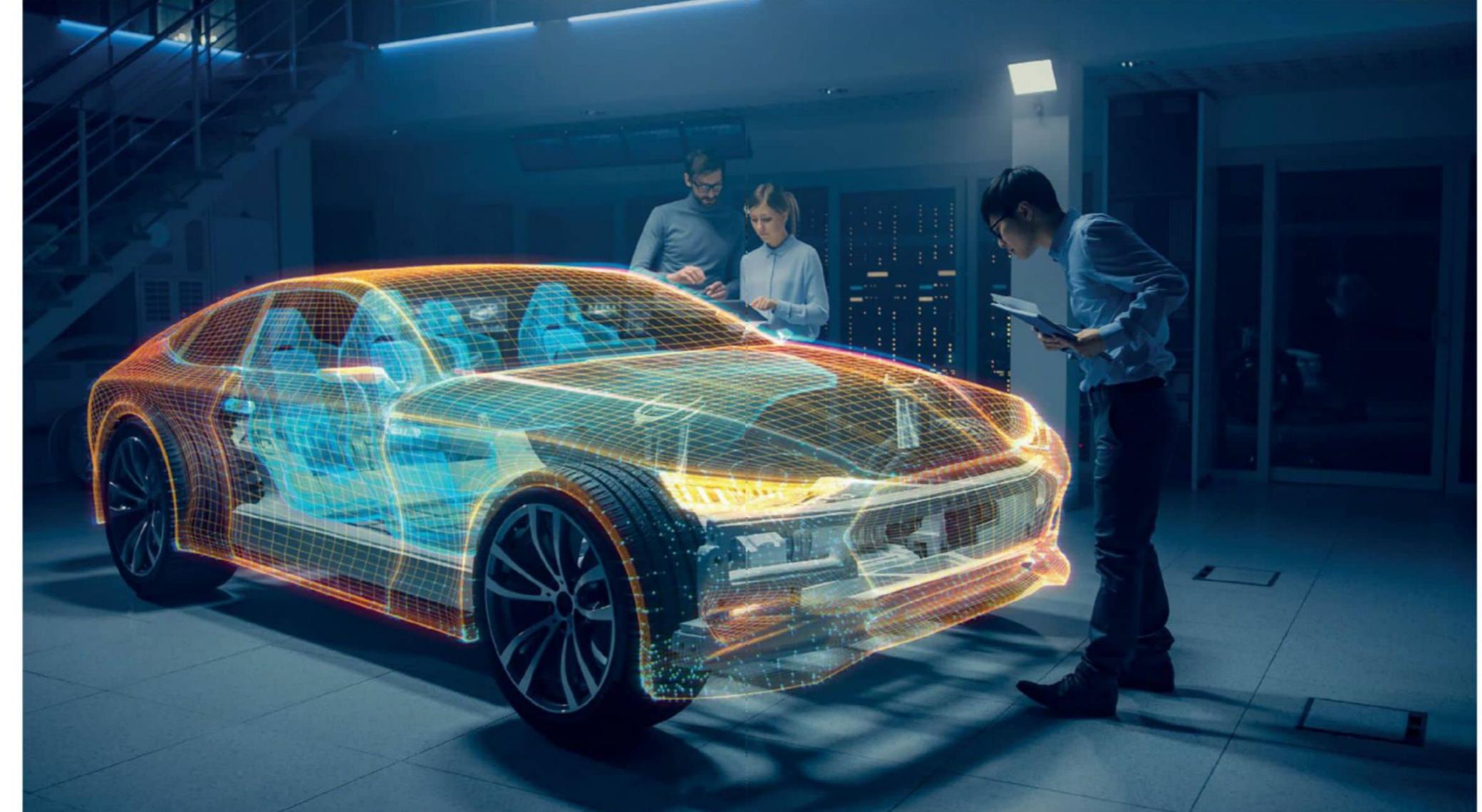
7. Rendering and Post-Production: The final animation is rendered at high resolution, creating stunning visuals that maintain fidelity across screens of any size. In post-production, we add elements such as motion effects, color grading, and sound design to ensure the film is engaging and polished. Through this process, Qubit transforms basic technical inputs into cinematic experiences that not only captivate the audience but also provide an immersive and detailed showcase of the product. By combining the power of cutting-edge technology with creative expertise, we deliver films that elevate brand storytelling and set new benchmarks in the automotive and real estate industries.

In what ways is Qubit's approach to virtual production considered revolutionary in the automotive advertising industry, and how does it offer a more cost-effective solution?

Qubit's approach to virtual production is considered revolutionary in the automotive advertising industry because it eliminates many of the logistical, financial, and creative limitations of traditional production methods, delivering superior results with far greater efficiency. Here's how it transforms the industry while offering a more cost-effective solution:

1. Elimination of Physical Setups

Traditional automotive advertising involves extensive physical setups, including transporting cars, scouting and securing locations, assembling large crews, and managing weather dependencies. Qubit's virtual production eliminates these requirements entirely. The entire process—from handling CAD models to creating cinematic films—takes place in a secure digital



environment, significantly reducing the time and costs associated with physical logistics.

2. Streamlined Production with a Smaller Team

Conventional automotive shoots often require hundreds of people, including spot boys, lighting technicians, directors, security personnel, and catering teams.

By contrast, Qubit's projects are managed by a small, focused team of skilled artists working in a controlled environment. For example, in the KIA Carnival project, the entire film was directed remotely via Zoom by a director based in Bangalore, removing the need for travel or on-site coordination. This streamlined workflow reduces overhead costs while maintaining high creative output.

3. Real-Time Flexibility and Efficiency

Using advanced tools like Epic Games' Unreal Engine, Qubit allows for real-time visualization and collaboration. Directors can instantly

adjust camera angles, lighting, and animations without the delays associated with reshooting on a physical set. This not only speeds up the creative process but also allows for a level of experimentation and precision that traditional methods cannot match.

4. Enhanced Security and Confidentiality

Traditional shoots often involve strict security measures to prevent leaks, including banning mobile phones and employing security personnel. Qubit's digital approach keeps sensitive car models and details within a secure, closed environment, eliminating the risk of unauthorized access. This is especially critical for new car models, where leaks can lead to significant financial and reputational risks.

5. Creative Freedom Beyond Physical Constraints

Virtual production offers limitless creative possibilities. Cameras can move

through angles and perspectives that are physically impossible in real-world shoots. Environments can be customized to match the client's vision, whether it's a futuristic cityscape, an open highway, or an entirely imagined world. This level of flexibility allows for visually stunning and highly engaging films, often surpassing the quality of traditional productions.

6. Cost-Effectiveness Without Compromising Quality

By removing the need for physical locations, large crews, and extensive equipment rentals, Qubit significantly reduces production costs. The time savings from a streamlined workflow further add to the cost-effectiveness. For example, the KIA Carnival project, which would traditionally take months to complete, was delivered in just four weeks, demonstrating both speed and cost efficiency.

7. Superior Output for a Global Market

The combination of photorealistic visuals, immersive environments, and seamless workflows ensures that Qubit's virtual production delivers a final product of exceptional quality. This is particularly valuable in a globalized industry, where brands seek to create high-impact advertising materials without incurring the logistical challenges of physical production across multiple regions.

In summary, Qubit's revolutionary virtual production approach redefines automotive advertising by offering a faster, more secure, and cost-effective solution while delivering creative outputs that set a new standard for quality and innovation. This method not only reduces expenses but also enhances flexibility, scalability, and confidentiality, making it a game-changer for the industry.

Looking forward, what do you see as the

future of virtual production in automotive advertising, and how do you plan to expand the application of this technology in other sectors?

Looking ahead, the future of virtual production in automotive advertising is incredibly promising, as advancements in technology continue to push the boundaries of what can be achieved. We see virtual production becoming the industry standard, offering unparalleled efficiency, security, and creative flexibility. Tools like Epic Games' Unreal Engine, combined with the expertise of teams like ours, are set to transform how brands showcase their vehicles, making the process faster, more cost-effective, and visually compelling.

In automotive advertising, virtual production will continue to replace traditional methods, reducing logistical challenges such as physical shoots, large crews, and security concerns for unreleased models. Brands will increasingly adopt virtual workflows to create high-quality, photorealistic content that can be easily adapted for global campaigns across multiple platforms, from television to digital and immersive experiences like AR and VR.

Beyond automotive advertising, we are already expanding the application of this technology into other sectors, particularly with our Navigo platform in real estate. Navigo leverages the same principles of virtual production to create immersive experiences for homebuyers. Instead of relying on traditional marketing methods, such as physical show flats or brochures, Navigo allows potential buyers to virtually explore their exact future homes, complete with real-world materials, views, and lighting conditions. This technology eliminates the stress and uncertainty often associated with real estate purchases, providing buyers with clarity and confidence in their decisions.

We also see immense potential for virtual production in industries such as architecture, retail, and even education. In architecture, for example, virtual production can bring designs to life before construction begins, helping clients visualize spaces in unprecedented detail. Similarly, in retail, brands can create immersive virtual environments to showcase products in ways that are both interactive and engaging, enhancing the customer experience.

Our future plans include further refining the technology, integrating AI-driven tools for greater customization, and expanding our presence in global markets. With our upcoming office in Singapore and ongoing projects in the UAE, we aim to lead the adoption of virtual production across multiple sectors, setting new benchmarks for efficiency, quality, and innovation. By continually evolving and adapting this technology, we are confident in its ability to revolutionize not just automotive advertising, but a wide range of industries.

No Green Screen? No Problem! Check out- Pixotope Reveal

Imagine this: In a live sports broadcast, you want to display sponsor graphics seamlessly behind field commentators, or your news anchor wants to interact with breaking news visualizations in real-time.

Until now, achieving these effects was either impossible or required complex green screen setups, expensive LED walls, or other specialized equipment. These challenges have long limited creative possibilities, forcing broadcasters to compromise on their storytelling and miss out on valuable sponsorship opportunities.

The Challenge of Real-Time Graphics Integration

Live broadcasting has always faced a critical limitation: while overlaying graphics on video is relatively simple, placing them naturally behind talent has been nearly impossible without elaborate setups. Traditional solutions, such as chroma screens or manual rotoscoping, are



Pixotope Reveal revolutionizes live broadcasting with AI-powered talent extraction, eliminating the need for green screens or complex setups. This cutting-edge tool seamlessly integrates 2D and 3D graphics behind or in front of on-air talent, enhancing storytelling, streamlining workflows, and unlocking new creative and revenue opportunities for broadcasters.

“ By reducing setup time and operational complexity, Pixotope Reveal allows broadcasters to focus on delivering high-quality, engaging content to their audiences. ”

impractical for live productions, especially for augmented reality (AR) applications. This meant that effects like having presenters walk in front of or behind graphics were often unattainable. That's where Pixotope Reveal comes in.

What is Pixotope Reveal and How Does it Work?

Pixotope Reveal is an AI-powered background segmentation tool designed to simplify and elevate live production. Whether used as a standalone tool to generate key and fill signals or integrated within a Pixotope Graphics workflow,



it makes complex visual effects effortless. By leveraging advanced machine learning, Pixotope Reveal enables real-time talent extraction without the need for green screens or specialized setups. It seamlessly integrates 2D and 3D virtual elements in front of or behind talent, using the standard broadcast hardware you already own.

Gone are the days of cumbersome green screens and chroma keying. With Pixotope Reveal, you can enhance storytelling by placing graphics behind a TV anchor during a news segment or adding sponsorship logos behind sports commentators—all with ease and flexibility.

AI-Powered Talent Extraction

At the core of Pixotope Reveal's value is its AI-driven talent extraction capability. Unlike traditional methods that require extensive setups, Pixotope Reveal simplifies the process to just a few clicks.

This innovation is a game-changer for live broadcasts, where time and resources are limited. Producers can instantly insert graphics, or AR elements - without sacrificing visual fidelity or slowing down production.

By reducing setup time and operational complexity, Pixotope Reveal allows broadcasters to focus on delivering high-quality, engaging content to their audiences.

The ROI Case for Pixotope Reveal

Pixotope Reveal isn't just a technical breakthrough - it's also a smart investment. The ROI is compelling:

- Eliminate costs associated with green screen infrastructure and maintenance
- Reduce setup time from hours to minutes
- Deploy anywhere without specialized studio requirements
- Create new revenue streams through dynamic sponsorship opportunities
- Increase efficiency with simplified workflows



Pixotope Reveal Use Cases in Broadcasting
Pixotope Reveal's versatility shines across multiple broadcasting applications. Let's explore some of the key use cases:

Sports Broadcasting:

In sports, production teams can integrate sponsor logos and statistical graphics behind commentators or enable studio analysts to interact with dynamic game visualizations in real-time—all without the need for green screens or costly set-ups. Additionally, Pixotope Reveal allows broadcasters to replace venue backgrounds with sponsor content or switch sponsors instantly, based on region or demographic.

News Broadcasting:

In news, Pixotope Reveal makes it easy to integrate breaking news graphics and data visualizations, whether behind or in front of the talent, maintaining the professional polish viewers expect while enhancing the content.

Entertainment:

For entertainment and reality shows, Pixotope Reveal enables producers to adapt virtual backgrounds on the fly and create AR effects that respond to talent movement, elevating the production value without increasing complexity.

Corporate Communications:

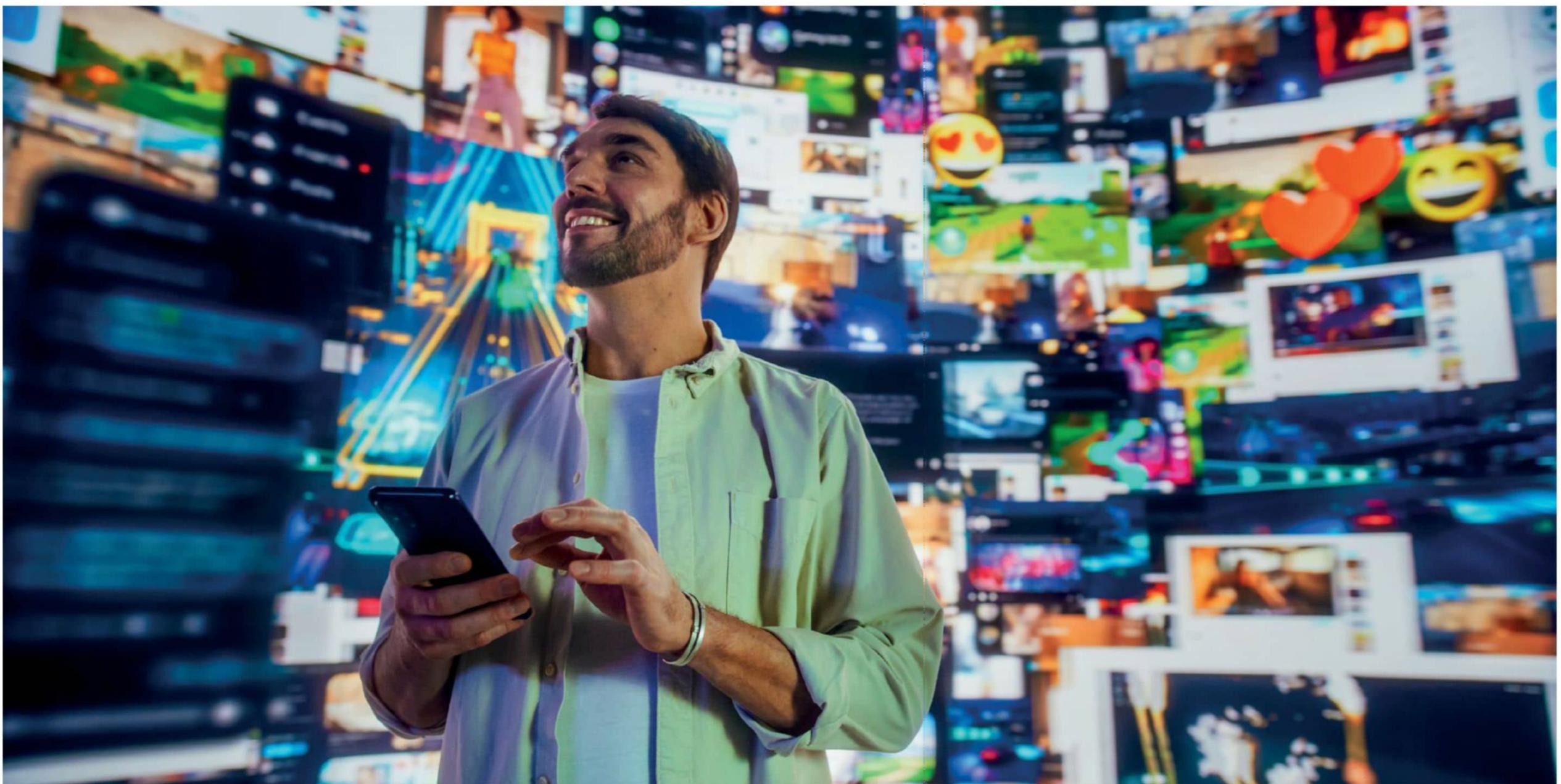
Beyond traditional broadcasting, corporate teams can use Pixotope Reveal to create professional-grade virtual presentations and promotional content, without needing extensive studio infrastructure.

In each of these scenarios, Pixotope Reveal's ability to extract talent without the need for complex setups opens new creative possibilities previously impossible to achieve in live environments.

Pixotope Reveal: The Future of Broadcasting
Pixotope Reveal is more than just a shiny new AI tool - it represents a fundamental shift in broadcast production. By removing traditional barriers to high-end graphics integration, we're empowering broadcasters to focus on what matters most: creating compelling content that engages audiences and drives new revenue opportunities.

Are you ready to revolutionize your broadcasts? Contact us today to learn more about how Pixotope Reveal can transform your production workflow: <https://www.pixotope.com/products/pixotope-reveal> or get in touch with our local representative in India.

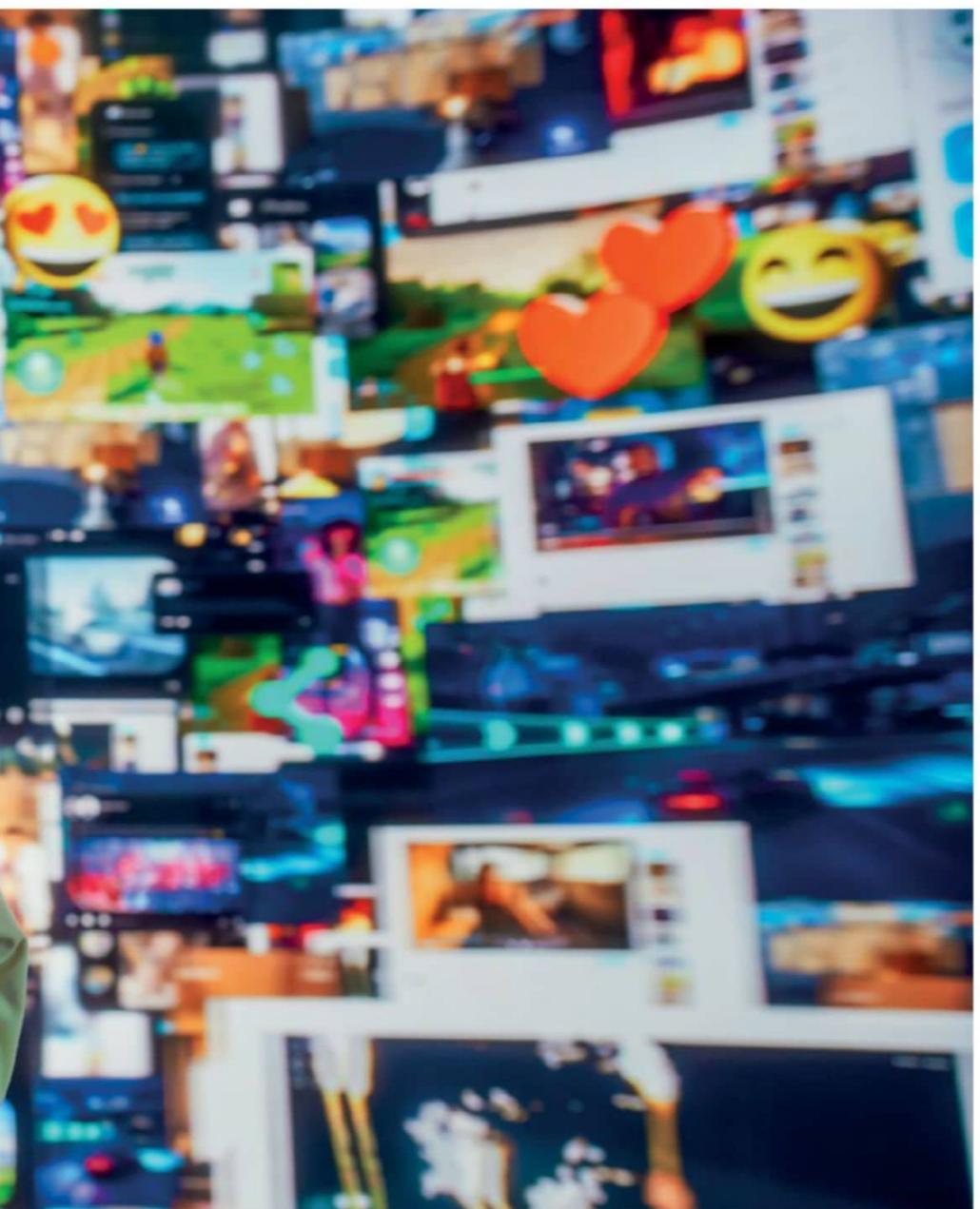
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INTERNET CONTRIBUTION: MOVING BEYOND SINGLE VENDOR SOLUTIONS

Media companies are shifting from private networks to using the Internet for broadcast contribution, seeking cost-efficiency while facing challenges in ensuring interoperability between different vendor solutions. The adoption of the RIST protocol offers a potential solution, allowing media companies to adopt a multi-vendor strategy while maintaining the quality and integrity of their broadcast content.

By Dr Ciro Noronha, RIST Forum President



Media companies are continually seeking out ways to improve cost efficiency, and this is driving many to switch from using private dedicated links to using public unmanaged networks such as the Internet for contribution. However, while using the Internet for contribution enables media companies to significantly reduce costs, a challenge arises because Internet performance is inconsistent. For the uninitiated, this variability leads to packet loss and quality issues, so transport protocols are used to protect the content during this process and ensure that quality and integrity of the video remains intact. However, there are a number of protocols used across the industry and they are not all compatible, so broadcast equipment using one protocol is not necessarily interoperable with equipment using a different protocol. This

Key Highlights

1. Media companies are turning to the Internet for cost-efficient contribution but face interoperability challenges.
2. Vendor lock-in restricts flexibility, limiting the ability to select the best tools for broadcast workflows.
3. The RIST protocol ensures true interoperability, protecting content from network fluctuations and packet loss.
4. A multi-vendor strategy enhances flexibility, operational efficiency, and allows for innovation.
5. The future of broadcast contribution relies on interoperable solutions and the widespread adoption of unmanaged networks.

IMPACT OF VENDOR LOCK-IN

Although interoperability is a given, when broadcast and media companies are limited to solutions from a single vendor, they may not be

Rather than risk products from different vendors not operating together as they should, many media companies find themselves in a situation where they are using products from the same vendor across their contribution workflow.

is problematic for media companies involved in sending and receiving broadcast video content.

For this reason, rather than opting to mix and match equipment from different vendors, many media companies are avoiding the issue by using solutions from single vendors as a means of assuring interoperability. While this is one way to ensure interoperability of components during contribution, it also has some significant drawbacks, as no single vendor can provide solutions that meet all possible requirements. So how can media companies and broadcasters ensure that equipment is interoperable while also having the freedom to choose the best tools that meet their needs?

INTEROPERABILITY MATTERS

When transporting valuable broadcast content, senders need to be completely certain that the content will reach the receiver without any loss of quality. Reliability, quality and security are critical factors in this industry and are only achievable if all components in the network are working properly together. Without interoperability, media companies can't be sure that equipment and solutions from different vendors will integrate, and this can result in video quality and integrity being degraded.

Media companies know that content encoded with an encoder from one vendor can be contributed over the Internet and then decoded with a decoder from the same vendor. So rather than risk products from different vendors not operating together as they should, many media companies find themselves in a situation where they are using products from the same vendor across their contribution workflow. This is where the problem lies.



able to select the best tools for their needs. The implications of this are huge. The M&E industry is incredibly competitive and so to stay ahead of the competition, rather than being locked into restrictive end-to-end systems, broadcasters need the ability to pick and choose the best solutions for their unique needs.

When a media company can mix and match, they have the freedom to cherry-pick the equipment that best meets their requirements, regardless of who the vendor is. A multi-vendor approach can also lead to enhanced operational and cost efficiency, as well as greater flexibility. This flexibility makes it easier for companies to innovate and adopt the latest technologies, which can help to gain a competitive edge and make it easier to adapt to market changes.

NOT ALL TRANSPORT PROTOCOLS ARE EQUAL

There are several different transport protocols out there that manufacturers may adopt when building their products, however, not all are equal. They haven't necessarily all been developed to the same technical level, and these differences can limit not just a solution's capabilities and functionality, but also its interoperability. True interoperability enables solutions to work in harmony, allowing content to flow freely without any packet loss, with minimal latency, and with adequate security.

“If we can establish an environment where content can move freely over the Internet between networks, the entire industry will benefit.”

Designed with interoperability in mind to achieve this aim, the Reliable Internet Transport Stream (RIST) protocol is an open industry specification based on existing standards. Its technically advanced design protects content from being disrupted by fluctuations in internet service and network outages, so that the video quality is retained, and the content reaches its destination intact without packet loss. As a truly interoperable transport protocol, it allows broadcasters to adapt their workflows and implement solutions from different vendors with ease.

Additionally, as an open specification with a minimum set of functionality and behavior that needs to be common across all implementations, the RIST protocol enables vendors to innovate within their

own implementations by adding advanced functionality on top of the core specification. Many technology vendors have already utilized the RIST protocol within their contribution products to benefit from this advantage.

ADOPTING A MULTI-VENDOR STRATEGY

Broadcasters and media companies clearly have more control over their workflows and have more flexibility if they avoid vendor lock-in. But this is only possible if equipment is truly compatible so that it can send and receive content without any interoperability issues resulting in quality loss. And as more and more media companies adapt their workflows to use the Internet for contribution, interoperability is only going to grow in importance. Media companies want the freedom to choose the vendor solutions that best meet their needs at the same time as assurance that solutions are interoperable.

There's little doubt that we're heading towards a future where the use of unmanaged networks for IP contribution is the norm. Therefore, it's critical that manufacturers, technology providers and technical experts work together to create a broadcast ecosystem that operates to the highest technical standards and enables true interoperability. If we can establish an environment where content can move freely over the Internet between networks, the entire industry will benefit. ■

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Counter Balanced	0-7
Tilt Range	+90°C/-75°C
Bowl Diameter	100mm
Temperature Range	-40°C/+60°C
Height Range	670-1760mm
Weight	6.98kg
Spirit Level	Bubble
Material	Aluminium
Tripod Stages	2

TCE-ALG FLUID HEAD & TRIPOD KIT

Max Payload	7kg
Tilt Drag	0-3
Pan Drag	0-3
Counter Balanced	0-3
Tilt Range	+90°C/-75°C
Bowl Diameter	75mm
Temperature Range	-40°C/+60°C
Height Range	720-610mm
Weight	4.6kg
Spirit Level	Bubble
Material	Carbon Fiber
Tripod Stages	2



TS 150AL FLUID HEAD & TRIPOD KIT

Max Payload	20kg
Tilt Drag	0-7
Pan Drag	0-7
Counter Balanced	0-7
Balance Step Button	1 Step
Tilt Range	+90°C/-75°C
Bowl Diameter	100mm
Temperature Range	-40°C/+60°C
Height Range	690-1780mm
Weight	7.87kg
Spirit Level	Bubble with led light
Material	Aluminium
Tripod Stages	2



EP-L300V/A BATTERY V-MOUNT/GOLD MOUNT

Mount	V-Type/Gold Mount
Voltage	14.4V
Capacity	19800mAh (285wh)
Weight	1.40kg



XP-L96UD BATTERY

Voltage (V)	14.4V
Capacity	6600mAh (95wh)
Weight	0.4kg
Compatible With	Sony BP-U60/30



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Mount Type	P Type
Input Voltage	AC100-240V, 1.8(max) 50/60Hz
Output Voltage	16.8V-1.65A 16.8V-1.65Aa
Current(A)	3.30A 1(Battery), 1.65a (2 Battery)
Size	5.3 x2.5 x 1.3
Size	0.34kg

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