A CONCISE GUIDE TO...

UNLOCKING THE SMARTER REMOTE PRODUCTION OPPORTUNITY
Live TV events, especially sports, create an unrivalled buzz, anticipation and excitement among viewers the world over, but there are three major trends that the live production sector needs to recognize and address to ensure continued success. The rise in popularity of Subscription Video on Demand (SVOD) services is the first, underlining that consumers want more content – and more choice. The second is a greater focus on improved sustainability and employees’ wellbeing. Traditional live production set-ups require huge amounts of equipment and a large crew to be transported to the live location – not to mention several days’ worth of setup and take-down time. Finally, consumers are prepared to pay for fresh content, principally live sports. The trouble when it comes to live content – particularly sports – is that, as the cost of producing more live coverage is driven up by surging demand, it is not being met by the price that consumers are willing to pay. When you add in the rising outlay for hotly contested rights, the pressure is on broadcasters to find ways to produce more content more affordably – without compromising on quality.
GOING GLOBAL

But all is not doom and gloom. The globalization of TV and rising viewer demand for more choices has unlocked huge potential, growing audiences and prospective revenues in new territories. For example, over the 2018/19 season, around 40 million viewers in North America watched English Premier League soccer (football in the rest of the world), within a global audience of 600 million people across 200 countries. In fact, on a typical Saturday, there are more games shown for free in North America than in England!

This phenomenon is not exclusive to high-profile sports leagues. The opening of boundaries offered by lower cost communication and the internet has allowed formerly niche TV sports and sporting entertainment, such as wrestling, surfing, karate, volleyball, and lacrosse – and the rapidly emerging esports sector – to reach new audiences through syndication and direct to consumer models. WWE wrestling, for instance, has 1.5 million paying subscribers globally to its 24/7 streaming network, generating $200 million in annual TV revenues – an impressive feat from a cold start in 2014. Across the world, there are many emerging sporting leagues and organizations that could monetize their events in a similar way – providing the cost of production can be reduced, without compromising quality, to deliver a worthwhile return on investment.
BECOMING SMARTER

This move towards smarter, more flexible – and ultimately lower cost, high quality production – is being led by innovators, including The Switch. The company’s pioneering remote production service has been adopted by major broadcasters, such as ESPN and CBS, and supported by traditional sports leagues, including the NFL, NBA, NHL and esports giants such as ESL.

This guide looks at the fundamental business case and economic model supported by technology and modern workflows that ensures smarter, more efficient live production. With an examination of real-world deployments, the guide showcases how both major brands and newcomers are utilizing innovative methods and lower-cost connectivity to break into new markets and meet consumer demands. It also examines the rolesmart and creative production can play in enabling interaction between fans as they watch live content – particularly in areas such as esports. The guide looks at how this approach to production can have a huge impact on the number of trucks deployed and personnel needed to support live event coverage, helping broadcasters achieve greater efficiency. And it explores how reduced travel offers a better work-life balance for employees, which means happier, more productive production crews. Finally, the guide looks to the future, as consumers demand richer, more engaging live content that includes features such as gamification, player-cams, 360-degree video, live data feeds and, one day soon, Virtual/Augmented Reality.
THE CONSUMER SHIFT: MORE LIVE SPORTS AND DEEPER REACH INTO NEW MARKETS

The TV business has experienced more change in the last decade than at any other point in its history. For the first time since television emerged as the dominant entertainment medium in the 1950s, linear TV viewing has experienced a dramatic decline as audiences migrate to new forms of entertainment, such as social media, gaming and on-demand video. The old model of 16 minutes of advertising per 60 minutes of broadcast TV continues to be under threat as the competition for audiences’ attention increases and the value of 30-second advertisements lessens.

GROWTH WITH DIVERSITY

Some sports are relatively new to certain markets and building a significant audience – such as European soccer/football in North America and basketball in Asia Pacific – while others like mixed martial arts, indoor cycling and even esports are still experiencing rapid growth globally as TV content. Indeed, broadcasters are recognizing that diversifying sports coverage may more than compensate for any decline in big-ticket sports. This diversification has even led to growth in live event coverage: according to Nielsen, in 2017, 134,000 hours of sports programming was aired, roughly double the amount a decade before. What’s more, in 2018, individual viewers watched in total more than 1 trillion minutes of sports on TV across the big four US sports broadcast networks – ESPN, ESPN2, Fox Sports 1 and NBC Sports Network – an increase of 40 percent compared to a decade earlier.

The old national syndication model has also gone international and today global audiences for sports are increasingly important. Take the English Premier League, where international broadcasters paid £4.2bn for rights between 2019-2022. In contrast, the value of the league’s domestic broadcast rights fell by eight percent to £5bn for the next three-season cycle – highlighting the growing importance of audiences beyond the United Kingdom. Another example is the NBA, which is seeing growth from its overseas rights and ‘NBA League Pass’ SVOD over-the-top service. In 2016-17, the Pass generated 26.7 million game views across domestic and international subscribers and in 2017-2018, the NBA digital subscriptions to NBA League Pass were up 63 percent from the previous season. Non-US subscriptions to NBA League Pass were up a further 21 percent in 2018-19, in part due to the growing impact of international players in the league, with the top five markets outside the US being China, Australia, Brazil, Canada, the Philippines and the UK.

2 https://sports.abs-cbn.com/nba/news
THE PRODUCTION SHIFT: MEETING DEMAND FOR A BROADER RANGE OF LIVE SPORTS CONTENT

Consider the above consumer trends together – growth in non-traditional TV sports, the addition of “smaller” sports, globalization of content – then add in millennial audiences that want sports on a different set of devices, along with new subscription and payment models, and it becomes clear that there is a need to produce a broader range of compelling new sports content – especially live events that generate both sustained and expanded audiences.

The big challenge is that live sports production is expensive. There is the sunk CAPEX cost of broadcast facilities – which for sports tend to only be used for part of the year. What’s more, these facilities need to scale up to meet the needs of peak capacity, such as playoffs, or to accommodate quadrennial events, such as the FIFA World Cup and the Summer and Winter Olympics. For newer events with less defined or niche audiences, justifying CAPEX spend on facilities where viewership is measured in the 100,000s is a challenge. In addition, keeping up with the pace of technological change adds to the growing cost of traditional live sports event production.

COST AND COMPLEXITY

Aside from rights packages, below-the-line production OPEX costs are somewhat difficult to estimate on a per-event basis, as many of the vendors work on multi-game contracts inclusive of one or more seasons of game play. Additionally, not all games warrant the same complexity. For instance, the cost to produce a mid-season college game is vastly different from the cost of a tournament, playoff or championship event. Indeed, daily estimates for a college football game, for example, can vary from $75,000 to $175,000+ depending on the complexity of the production, number of cameras, number of replay machines and other factors such as crewing costs, travel, shipping and additional on-site support.

Live events also pose a significant challenge in terms of planning and logistics. Managing all the moving parts – people, equipment, sites and broadcast schedules, along with a high level of redundancy – also has an associated staffing cost. As the number of live sports events covered by broadcasters increases, new entrants and even larger networks with the economies of scale to absorb these CAPEX/OPEX costs are looking at alternatives, including smart remote production, to reduce costs associated with headline sports and, more critically, to make niche sports more financially viable for broadcast.
Smart remote production, such as the leading-edge service by The Switch, offers the ability to produce live broadcasts more efficiently at a distance from the actual event, by transmitting camera feeds, audio, and equipment control over a telecom infrastructure to a central studio facility – from where operators have the capability to remotely configure cameras and other equipment at the event site. By tapping into remote capabilities, broadcasters and other content providers can centralize production at their home studios or at a dedicated third-party location, such as one of The Switch’s remote production studio facilities in Burbank or Los Angeles.

A typical on-site live broadcast relies on large trucks and tons of gear. With remote production, there is no need to send large OB production trucks to the venue and fewer staff resources are required on site, saving money and substantially reducing the carbon footprint of a live broadcast. Expensive and scarce talent such as directors, editors, production staff and high-level above the line crew can remain in the central production facility, working in their own familiar environment – creating less personal stress – while just a few camera operators and a limited technical staff go on-site. Broadcasters can even have the flexibility to remotely control cameras and other equipment at the event site.

Remote production is a practical, deliverable and proven option. Transporting signals over private fiber with high security and very low latency is now possible, while built-in redundancy eliminates disruptions. With remote production, as many camera feeds as needed (up to 35) can be delivered to the central broadcast facility, either as uncompressed feeds or lightly compressed feeds using JPEG2000, for example, to ensure the lowest possible end-to-end delay.
Because the actual production and control of cameras and other on-site equipment is performed from the central studio, **minimal delay (latency) in remote production is a significant advantage.** Multiple audio feeds are also brought back from the venue, either embedded in the video feed or as discrete native audio files. Audio for intercoms is also central to ensuring that producers, technicians, camera crew, and reporters can communicate efficiently.

Cost savings associated with remote production can be upwards of 35 percent or more – in addition to the beneficial impact on staff – and include:

- No need for larger OB trucks and much of the equipment traditionally required at the venue, saving purchase, rental and maintenance costs;
- Reduced overall costs, including freight, transportation, air travel, hotel accommodations and support for staff on-site;
- Same day production of multiple events, from multiple locations, using the same equipment while maximizing staff utilization;
- Ability to deploy dedicated camera feeds across various screens to produce more content that can be monetized in new ways – such as direct to social platforms, player cams and localized (dubbed) feeds;
- Ability to consistently deploy high quality technical positions (Technical Director, Audio, EVS Replay and graphics) without regard to geographical limitations;
- Availability of the same low latency offered in live production, allowing the on-site teams to communicate with the remote production teams to make real-time adjustments without delay;
- Improvement in the quality of life and retention of production staff that have high levels of stress through continual travelling and time away from home.

**KEEPING IT SUSTAINABLE**

As broadcasters increasingly look to produce more content more efficiently, sustainable production workflows allow them to maximize resources and deliver the high production values consumers demand more cost-effectively. Sending smaller crews, less equipment, and fewer (and smaller) vehicles around the world makes a positive impact on the environment, offering a compelling alternative to complex OB set-ups. Centralized remote production also allows the same production team to support multiple live events in a day and allows broadcasters to leverage the best operators, editors and on-screen talent across more productions.

As the demographic of professionals within live broadcast becomes younger, social and environmental concerns will increasingly come to the fore. According to a recent survey, nearly 40 percent of millennials have chosen a job because of company sustainability – compared to around 25 percent of Generation X. With 98 percent of an employee’s work-related carbon footprint accounted for by travel to work, **changing the way production teams operate can have a huge impact on an organization’s environmental sustainability profile.**

Then there is production team sustainability. By centrally locating production crews and enabling them to produce more than one live event per day, the impact on resource requirements and work-life balance can also be transformed, making careers more sustainable – and in the process team members happier, less stressed and doubtless more productive. It also means the pool of talent widens, as skilled people unable or unwilling to constantly travel will want to work in the sector.

1 https://www.duppal.com/blog/4x-why-remote-working-reduces-the-carbon-footprint-of-your-company
THE SWITCH’S REMOTE PRODUCTION SERVICE IN ACTION FOR THE NFL NETWORK

When the NFL Network launched its 10-game Conference USA college football schedule in 2019 to showcase the league’s next generation of athletes, The Switch supported a slate of remote productions from one of its new control rooms (Burbank, California). One of the first productions of a CUSA game, the Army Black Knights versus the University of Texas at San Antonio (UTSA) Roadrunners in September, was run as a complete remote production with multiple Hard Cameras (both 25-yard lines, the 50-yard line, Reverse 50-yard line, End Zone, Sideline Cart, 2nd End Zone with one unmanned play clock camera). Each suite also included an unmanned booth Cam for Talent-On-Camera.

The NFL Network provided the producer and talent for the broadcasts, while The Switch delivered a complete crew, including director, associate director, production assistant and remote below the line staffing (camera operators, A2, Lighting for booth, V1 and a stage manager). The Switch also provided a director, technical director, audio, SMT tech, bug operator and EVS/graphics operators.

Encoding on site included 1080p 59.94fps signals coming from the Alamodome in San Antonio and decoding was handled in Burbank via The Switch Access boxes. The Switch facility ran four mezzanine encodes of the produced output using both AWSDX and ZIXI protocol, feeding multiple transcode instances across the globe. Each transcode instance transcoded the 1080p 59.94 signal into three renditions and distributed RTMP streams to a total of over 30 different destinations globally.

By uniquely combining its production, transmission and distribution services together as a turnkey managed service, The Switch provided a finished product delivered to NFL Network’s master control integration and release point at Encompass Atlanta, GA. The result is that NFL Network reduced the production cost of each remotely produced game by approximately 25 percent while simplifying the workflow to an all-IP delivery that is tailor made for distribution to national and international affiliates. In addition, the production had more camera positions than a typical onsite broadcast of a similar college game last season – offering more options to the gallery director to create a richer viewing experience.

“When we picked up one game per week from Conference USA, we put out bids and responses from traditional production [companies], but The Switch came back with an at-home [remote] model,” says Leon Schweir, Vice President, Broadcast Operations at NFL Network. “There was a price point we wanted to hit, and I think they helped get us there.” He adds: “I often had directors or producers come in and be amazed at the crew they had. I called it the house band because they’re always there.”
ARE YOU READY FOR THE FUTURE OF SPORTS BROADCASTING?

The headline benefit of remote services reducing live sports TV production costs by 25-35 percent is enough to grab any broadcaster or other rights holder’s attention. Greater flexibility along with radically improved environmental and social sustainability are other major pluses. These advantages should also be considered within the wider context of IP enablement, which helps live content producers better prepare for the future.

At present, the majority of sports coverage is consumed via linear broadcast, most commonly viewed on the “big TV” in the family room. However, in common with all media consumption, sports TV is increasingly viewed on mobile devices and via streaming services such as Amazon and Hulu. These distribution methods are IP-centric and rapidly becoming globalized, which requires broadcasters to adapt content to support versioning requirements such as local language, branding and ad-insertion.

Soon, this will require multiple production workflows that serve multiple, digital destinations – facilitated by having all the camera and audio feeds available at the remote production center. For example, one workflow might produce a feed for square format social media consumption, another workflow for the home team and a separate one for the away team, with different commentary. Concentrating all the camera feeds at the remote production center may mean that a single game could have six different productions workflows, with some being done traditionally and others, for more cost sensitive destinations, done through AI driven automation – but all benefiting from the economies of scale offered by production consolidation. Looking further out, elements of audience interactivity may emerge whereby the viewer is able to select their preferred camera shots from a range of camera feeds as the game progresses.

Looking still further into the future, the rise of new technologies could require significant transformation to broadcasting processes that are made easier within a remote production methodology that already utilizes cloud-based processing. Virtual/Augmented Reality and 4K/8K are just some of the technologies that could be utilized to transform live sports coverage. Last year, one of the first 360-degree live sports events was broadcast to audiences in Germany – including viewers using the Magenta Virtual Reality service offered by Deutsche Telekom. The last FIFA World Cup was broadcast in 4K, the next may well see 8K coverage for the first time in a major sporting event. What is clear is that sports broadcasting is pushing the boundaries in its attempts to engage fans and ensure relevancy in an era where audiences have a lot of viewing alternatives.

The move towards remote production is a recognition that sports TV production must adapt to meet these changes by employing innovation and flexibility that overcomes many of the traditional limitations while providing a better product for viewers. For brands such as the NFL Network the move is low risk and high reward as proven by the success of Conference USA college football, which has been lauded by fans – even though the production process was radically different than in years past, the on-screen output was flawless.
However, the move to remote production will also be appreciated by smaller sporting organizations and platforms streaming emerging live sports events that are keen to explore TV broadcasting opportunities but struggle with CAPEX/OPEX. In growing areas such as esports, early pioneers such as ESL are already working with The Switch to bring its events to a total global esports audience that has grown from 134 million globally in 2012 to 395 million viewers and is projected to rise to more than 600 million by 2022, according to figures from industry analyst Newzoo.

The call to action for the adoption of remote production is simple and reminiscent of the ethos of Bill Belichick, Head Coach, New England Patriots: “If you sit back and spend too much time feeling good about what you did in the past, you’re going to come up short next time.”

ABOUT THE AUTHORS

Glenn Adamo, Managing Director, The Switch Production Services
Glenn brings almost four decades of experience in media, technology, broadcasting and entertainment to The Switch. Prior to joining The Switch, he was Vice President of Production at NFL from 2003 to 2016, overseeing Media Operations, Broadcasting, Scheduling and NFL Films. He was responsible for the launch and creative execution of NFL Network, Thursday Night Football, NFL International production and NFL Sunday Ticket. Before joining the NFL, Glenn worked as Vice President, Broadcasting and Community Development for the Stanley Cup Champion New Jersey Devils (2000-2003) after spending seven years (1993-2000) with the National Hockey League (NHL) as Group Vice President of Broadcasting & Scheduling and was founder of NHL Productions. Prior to that, he spent 15 years (1978-93) with NBC Sports as a Coordinating Producer.

Ed Delaney, Head of Production and Operations, The Switch Production Services
Ed has launched and managed some of the most successful sports broadcast networks in the US, including the YES Network (Yankees) and FOX Sports 1 (FS1). A 12-time Emmy Award winner, Ed is an expert in end-to-end production services and delivery for sports and entertainment. Ed was Executive Vice President, Operations at FOX managing the national FOX Sports network, a multi-billion-dollar production and programming division of 21st Century FOX. At the YES network, Ed was responsible for the networks launch and he successfully scaled YES’s operations to accommodate its 400% growth. Prior to YES, Ed led TV production, broadcasting and operations with top organizations including NFL Enterprises, The Baseball Network and ABC Sports where he started his career in a series of roles ultimately becoming an ABC Sports Production Executive.

George Lopez, Senior Vice President of Operations, The Switch
George is responsible for the global operations of The Switch, overseeing teams in the U.S and Europe. He has more than 25 years of leadership focusing on developing and delivering technology-driven broadcast and digital media business services and solutions. George joined The Switch in 2016 with the acquisition of Pacific Television Center, where he was SVP Operations from 1995-2016, overseeing company growth and expansion into global markets across North America, EMEA and APAC. He has extensive experience in studio services, production, broadcast transmission, remote live events, satellite media tours and all other aspects of video production and delivery. George oversees all operations for The Switch’s production and studios in Los Angeles, New York, Burbank and London.