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PROMOTING REMOTE PRODUCTION

TVBEurope asks eight experts for their views on the benefits, challenges and future of remote production

WHAT DO YOU VIEW AS THE BENEFITS OF REMOTE PRODUCTION?

WOLFGANG HUBER, PR MANAGER, LAWO

The primary aim of live remote production is to move as much equipment and as many staff as possible from the remote location back to the studio facility. Thus, remote production offers the possibility of both dramatically reducing production costs at the higher-end and improving quality at the lower-end. This is achieved by redesigning the production workflow such that the majority of tasks take place in the studio rather than at the remote site. Ideally, the only task taking place at the remote site would be signal acquisition - the capture and conversion of camera and microphone signals into a form transportable over wide-area networks. In this model, all signals are transported back to a studio facility, where the program production takes place. Contrast this to conventional remote broadcasts, where the production process happens on-site, and only the finished pictures and audio are backhauled to a broadcast facility for distribution.

MICHAEL GEISSLER, CEO, MO-SYS ENGINEERING

When you take travel and rest time into consideration, the top operators might only be doing the job at which they excel for maybe 40 days a year. With remote production, those people could be working for maybe 200 days a year. That is not just a massive boost in productivity, it represents a huge reduction in carbon footprint, by eliminating long-distance travel and specialist clothing. Production companies are already talking about saving half a million dollars a year.



PICTURED ABOVE:
Michael Geissler

PETER MAAG, CCO AND EVP STRATEGIC PARTNERSHIPS, HAIVISION

The beauty of employing a remote production model is that it allows broadcasters to do more, with less. Remote production offers broadcasters the opportunity to produce more high-quality content

to meet the rapidly growing demand while simultaneously creating efficiencies. And the efficiencies gained by using a remote production model are dramatic. By eliminating the costly and complex logistics associated with deploying OB trucks full of expensive equipment and production teams to the field, broadcasters can instead focus on optimising the use of their resources to produce more high-quality content. For example, a replay operator on-site at a sporting event might be only utilised for three hours during a four-day period. If the replay operator is at home, however, they could be running replays around the world, all the time.

DAVE LETSON, VP OF SALES, CALREC

Like the rest of the industry, we see multiple benefits to remote production, though it's important to highlight that while the principals are the same not all remote productions are created equally in terms of scale. Firstly, using OB trucks is no longer necessary at every single live event. This is beneficial in multiple ways: fewer staff need to travel and therefore better employee welfare; far less equipment is required on-site; it's environmentally more sustainable; and there is far less equipment downtime at the central production location. There's also the fact that multiple sports events – football matches being a prime example – can be covered in a day or over a weekend because the centralised production technologies aren't committed to a single event. In the long run all this adds up to significant cost savings.

ON WHICH AREAS OF CONTENT DO YOU SEE IT HAVING THE BIGGEST IMPACT?

DR REMO ZIEGLER, HEAD OF PRODUCT MANAGEMENT, VIZRT SPORTS

Remote production will have its biggest impact on any live production that is typically faced with big travel and logistic costs. Sports and news production are prime examples.

With regards to sports, various aspects will benefit from remote production. The bigger leagues and federations with dedicated connections to stadiums enable the transmission of high-quality, low-latency signals to a centralised production location. Only small production crews, comprised mostly of camera and audio technicians, are required on-site, while the rest of the production equipment and operations staff remain back at the production centre. The impact of remote production is amplified



PICTURED ABOVE:
Remo Ziegler

when one considers the opportunity of distribution through OTT. Many more signals, or specialised cuts, can be produced which are tailored to different customer segments. Producing all these outputs is heavily facilitated through remote production.

WH: The impact applies to all productions covering events that happen outside the studio, like in arenas or stadiums, for which many signals are required to cover the event - and particularly sports with long distances between the camera and microphone positions, like football, rugby, biathlon, motorsports, but also open-air concerts



PICTURED ABOVE:
Wolfgang Huber

of a large scale. It also opens up the possibility of extending the depth and range of live event coverage into areas previously inaccessible through cost. For example, more specialised sports, lower league and regional coverage, even to college and university level. The industry sees an unquenchable public thirst for sports and other live events coverage and remote production provides the means to broadcast more of it.

MG: Anything that is somewhere for a short time will feel the impact – anything that today is covered by an OB truck or flyaway kit. Obviously, sport heads the list, but it also includes music and entertainment. It will also have a huge impact on corporate events. Product launches and business presentations will be raised in quality, not least through the ability to afford more cameras. Production-as-a-Service will have an impact on linked events: fashion weeks, for example, could see the same skilled production team covering every major event.

PM: Remote production has the most significant impact on events – and it's not just limited to live events. Whether it's for a sporting event, esports, a press conference, or a political panel, a remote production model reduces the number of people and resources required on-site, allowing production costs to be lowered. Even for events that aren't broadcast live but where speed is critical, remote production can dramatically accelerate the production process. At-home/REMI workflows are particularly attractive options when it comes to tier two and tier three events such as college football, for example, where deploying resources on-site is simply not cost-effective. In this instance, remote production enables broadcasters to expand their coverage to meet demand while keeping production costs in check.

HOW SOON WILL IT BECOME THE INDUSTRY NORM?

RICHARD MCCLURG, VICE PRESIDENT MARKETING, DEJERO

We're already there. Dejero has enabled remote production workflows for over a decade. Dejero enabled the first live coverage of the Vancouver 2010 Olympic Games torch relay, delivering unprecedented live coverage following the torch as it travelled 45,000km across

Canada. In 2013, another first enabled Sky Sports to broadcast live from all 92 English Football Clubs in a single day. Using revolutionary wireless technology at the time, Dejero blended multiple cellular connections and provided enough bandwidth to deliver high-quality live broadcast content, at significantly less expense and complexity than traditional video transport technology.



PICTURED ABOVE:
Norbert Paquet

NORBERT PAQUET, HEAD OF LIVE PRODUCTION SOLUTIONS, SONY PROFESSIONAL SOLUTIONS EUROPE

Consumers are demanding more content, available whenever and wherever they choose, without any drop in quality. With this escalating pressure on broadcasters, remote production will naturally become the norm and act as a silver bullet to help keep up with growing industry demands.

We've already seen overall connectivity (mobile or fibre networks) become a

major game-changer for our industry, particularly when it comes to live production. And, with remote production set-ups, resource sharing and a more collaborative, faster turnaround time, it's becoming even more popular. At Sony, we've been at the forefront of this revolution and have, to date, worked with many customers around the world to develop remote production set-ups in news, magazine and live production.

LARISSA GOERNER, DIRECTOR OF ADVANCED LIVE SOLUTIONS, GRASS VALLEY

The biggest hurdle to widespread adoption of at-home models is the challenge of latency. As we look to the future, though, broadcasters and production companies will continue to drive toward more captivating experiences that draw in viewers, using higher resolutions and more camera angles that will put greater stress on the network and available bandwidth. More efficient encoding solutions – JPEG2000, JPEG-XS and MPEG – offer an attractive alternative. These options deliver ultra-low delay, comparable to transporting the signal over fibre, and come at a significantly reduced cost while ensuring there is no difference in the viewers' experience.



PICTURED ABOVE:
Larissa Goerner

RZ: When we look at some of our leading customers, remote production is already the norm, since they have adopted Vizrt solutions that facilitate a remote production workflow. However, our larger customers are not the only ones benefiting from remote production. Many smaller productions also take advantage of the same concepts to reduce their cost and the size of their footprint. The rise of

IP and the availability of software-defined productions tools, which in turn can be virtualised in the Cloud, will make remote production the norm for the majority of media productions.

HOW BIG A PART DO YOU THINK 5G WILL PLAY IN REMOTE PRODUCTION?

NP: 5G will play a key role in powering remote production for many organisations. Firstly, the low-latency transmission offered by 5G is crucial for any productions such as sporting events or news broadcasts where delays are unforgivable. Secondly, the higher bandwidth 5G offers helps deliver less compressed content to the mobile viewer but also unlocks additional applications for remote production too. Finally, given 5G enables Cloud-based production models, it helps reduce the deployment of physical OB resources, which makes productions much more sustainable.

LG: As an emerging technology, 5G will play a significant role in the broadcast industry as a reliable way to deliver content to consumers. In terms of remote production, 5G can be utilised for its greater capacity benefits. However, bandwidth is not unlimited in 5G and as we are still seeing an increasing uptick for live UHD content, baseband cannot be transported over 5G and has to be encoded in order to handle demand for this format. This adds another step in the creation process and will

slow down adoption for high-end live sports production. Currently, for tier two and three productions, 5G is a means to end in providing easier contribution to the remote location and is a good candidate to enable more creativity in content production.



PICTURED ABOVE:
Peter Maag

PM: There's nothing mystical about 5G: it's a faster, wireless, mobile network. As 5G gathers momentum and begins to easily handle multiple video streams from a venue it will definitely act as a catalyst to accelerate the adoption of remote production. However, very fast, reliable, and affordable network pipes are already available from any venue today and it's important to remember that a network is just a network and all networks are getting faster; both wired and wireless. What's more impactful than the network are technologies like the open source Secure Reliable Transport

protocol (SRT), pioneered by Haivision, which enables video transport over any network.

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DL: From a Calrec perspective, little will change with 5G. RP1 one was deliberately designed to be transport agnostic. From our perspective, it does not matter whether we are piggy-backing audio on a camera feed via a JPEG2000 path or via a closed AES67 wide-area network. For our clients though, 5G offers vast potential. It's not implausible to consider a camera at a field of play sending pictures directly back to base over 5G. Companies have already achieved this with multiple 4G links. 5G technology could offer a true paradigm shift in areas ranging from traditional SNG to Premier League football. However, where there are local commentators or reporters, some local IFB mixing will still be needed and RP1 becomes even more relevant.

HOW DO YOU INCORPORATE SUSTAINABLE PRACTICES IN REMOTE PRODUCTION?

RM: Remote production is no doubt reducing the industry's carbon footprint. The amount of kit and crews required to travel to live events is greatly reduced compared to the traditional production workflows. Less OB and larger SNG trucks are on the road. Centralising production staff at the broadcast facility means that fewer people are having to travel to the field, cutting airmiles and transport. Initiatives, such as 'Find a Provider', which is featured in Dejero's Cloud-based management system, enables broadcasters to find freelancers across the globe, making it easier to find local resources to acquire content. Dejero's MultiPoint Cloud service enables broadcasters to share field resources and contribute the pool feed simultaneously to many broadcasters, geographically dispersed.



PICTURED ABOVE:
Richard Moelurg

LG: In general, the decrease in travel brought about by remote production already has a significantly lower impact on the environment. However, we believe more can be done. Enabling workflow consistency for a variety of content productions is a goal for us. Grass Valley cameras, switchers and replay products all enable the highest flexibility for any workflow, therefore allowing the creative talent to be where they are most needed to add better value. Recurring tasks can easily be centralised and produced with fewer operators, ultimately allowing more content to be created at a consistently high quality. Our DirectIP solution, for example, enables almost all production and technical staff to work from a centralised location. We also give customers the flexibility to locate creative talent either at the venue or the production hub. We continuously strive to innovate across the entire portfolio providing the latest software and hardware technology to enable sustainable production in the market.

RZ: Remote production reduces the number of required people and equipment on-site. That means fewer people travelling, and fewer pieces of production equipment shipping, by plane, train, and

automobile. Furthermore, a remote dedicated production centre, designed around software-defined production practices, reduces hardware usage, power consumption, and the need for active cooling versus inefficient mobile units.

MG: The headline benefit is that fewer people need to travel to the event, meaning is a significant reduction in carbon footprint. As remote production becomes ever more sophisticated – with remote camera operation, for example – so the reductions become greater. This does depend upon complex technologies becoming mainstream and commoditised, to simplify the installation and the power consumption of rig and connectivity. The recent coronavirus outbreak is seeing a very large reduction in business travel. The ability to control cameras from a central hub in any place of the world will be extremely attractive to productions, not least because of the reduced environmental impact.

WHAT WILL BE THE CHALLENGES FOR REMOTE PRODUCTION AS IT GROWS?

WH: Growing demand for content and tighter schedules of events to be covered are challenging on the administrative side, as equipment needs to be available reliably at any time for a new production as soon as it is not used anymore for the previous one. Access to and reliability of the fibre infrastructure must be guaranteed. There the System Monitoring and Realtime Telemetry for Broadcast Networks like Lawo's SMART come into play to allow for constant control and monitoring over the complete IP network installation from capturing to playout. And the more concurrent productions that are happening, the more essential it is to have such a monitoring system in place to ensure signal, sync and packet integrity and thus flawless operation.

MG: The real issue will be the management of change, particularly for people. It is a different pitch for operators: taking them away from immersion in the action and giving them comfortable, familiar working environments in exchange for greater productivity. The people issues, and the shifts in budgeting, are cultural changes, which always see a natural resistance.



PICTURED ABOVE:
Dave Letson

DL: Connectivity is a key issue. Also getting staff to understand and adapt to it, though our customers tell us that once it's been explained and tried, this stops being an issue! The other thing, of course, is reliability. For Calrec, this hasn't proved an issue either. Lastly, for quick turnaround projects, or where there are multiple events in a row/ across a season, technical and workflow practices have to be set in stone. But we don't see any reason that remote production use won't grow significantly from here. ■