Alex Pannell, Managing Director of Satellite and Media ●●●

Q&A

Supporting the broadcast world

Arqiva is a leading UK communications infrastructure company pioneering an always-on, always-connected world. Its infrastructure and associated services enable millions of people and machines to connect wherever they are through TV, radio, mobile and the Internet of Things. Alex Pannell, Managing Director of Satellite and Media at Arqiva, opines on the rapidly-evolving broadcast sector and the involvement of blockchain technologies.

Question: Can you provide a brief overview of Arqiva's capabilities and expertise?

Alex Pannell: We primarily address two markets. We have a telecoms division, and in that part of the business, we serve the mobile operators and UK utility sector with managed communications services. Through our infrastructure in the UK, those mobile operators deploy equipment and connectivity to deliver voice and data services to their customers. The other part of this business is to target and address the utility market, where we have Smart metering capabilities. We hold the contract for the North of the UK, to 10-11 million homes, delivering Smart metering for the gas and electricity sector. Using common technology platforms, we also serve the water utility market, for Thames Water and Anglian Water, for Smart water meters.

We also serve the needs of content owners and broadcasters, both in the UK and around the world. We help these clients get their content to the point of monetisation through our UK digital terrestrial TV (DTT) network, digital satellite delivery, fibre, Internet and OTT services. Also, within the satellite media division, we have a datacoms business where we support the oil and gas industry, the utility sector, and the maritime and aviation industries. We effectively get data to hard-to-reach places, whether that's a plane in the sky, an oil rig in the middle of the ocean, or a gas node in the middle of the countryside.

Essentially, we're a managed services business

Question: The broadcast sector has seen a great deal of change in recent years, with OTT and VoD really shaking things up. What's your assessment of this change, and the opportunities for companies like Arqiva?

Alex Pannell: The change is coming from the fact that there are new ways to view content. People are viewing content differently now to how they were five years ago with YouTube, Netflix, etc.

For us, whether it's 500 or 1,000 or 10,000 live events a year, the process is the same, and it's entirely scalable ●●●

The proliferation of high-speed broadband connections has changed everything.

The needs of the content owners are changing as their models are changing. They're having to invest more and more in unique content models, and that's putting pressure on more traditional services. They're spending more on content, therefore they need more efficient delivery models, but they also have to invest more to get their content onto OTT systems.

We're lucky today that we're operating in a growing market. The transition from traditional core services to new OTT services is going very well. That's been going on for the last five years.

What's really different now for us is down to the advancements in cloud technology and services, and that's enabling us to make more efficient models, more flexible commercial models, through the use of those software-based solutions. We need to make sure they interoperate at a technical level with the more traditional service models. That's a big opportunity for us, but we've got to make sure that we're delivering managed services across that value chain, whether it's traditional DTT, satellite, fibre, or Internet and OTT. In the last few years, we've been investing heavily in new software solutions with this in mind. We don't have to deploy thousands of people in order to deploy thousands of IP streams, and that really is fundamental towards our ongoing success in the market.

Question: Arqiva recently launched its first suite of virtualised media management services covering playout, OTT managed head end and VoD processing using Amazon Web Services (AWS). What can you tell us about this suite, and the benefits for customers?
Alex Pannell: We've announced a big programme and we're now launching the first new services with AWS.

What's really different is the customer experience; if you're a live sports broadcaster, you've spent millions on sports rights, and you're trying to launch a new online service where people consume that content over the Internet. You've got to get those feeds from the sports stadiums to delivery over the Internet in a scalable way. If you are working out your schedule and are not yet clear if you are supporting 5-20, or even more concurrent events, that becomes quite complex, especially if you're trying to avoid building lots of up-front infrastructure. The way we use the cloud makes that a completely different experience. For example, if you're growing your live sports content market, you need to have confidence that you're working with someone who can scale up, but without lots of up-front costs. That's really about the commercial model.

On the operational side of things, if you need to support 30 live events, the old model would have required at least three to six months of planning ahead because the service provider has to build encoding streams, do a lot of preparation and testing, and make sure everything is ready. Our model is different. What we deliver to the customer is a host of technical interfaces and APIs, which means that the client can spin up the services on the day before broadcast to test that everything is working, and then spin them up again an hour ahead of the event and keep it running until after the event. With this, the client only pays for a small amount of usage and cuts out a lot of human interaction and preparation. The customer experience is completely different. The ability to monetise their rights more quickly is what we're using the cloud for.

For us, whether it's 500 or 1,000 or 10,000 live events a year, the process is the same, and it's entirely scalable. The cloud has completely changed the commercial and operating models.

Photo courtesy of Arqiva ●●●

Question: Why are so many companies basing their technologies on AWS right now?

Alex Pannell: It's true to say that not all clouds are equal. If you compare Amazon with the next nine cloud operators, Amazon's infrastructure is 15-20 times bigger than the next nine combined. Amazon also has a number of tools that we could use and integrate to build services that we felt were far better suited to the nature of our business. They also had a very good insight in the media streaming workflows, so we were able to work with them and another company called Cloudreach to build an integrated toolset.

Question: As technologies have advanced, the broadcast sector has been increasingly moving towards virtualised cloud services. What's your assessment of this trend?

Alex Pannell: I think there's going to be a massive continued trend towards using more software services. On the public cloud, the commercial models are more modelled towards ad-hoc events and sports events, just because of their nature. It's true to say that putting the infrastructure on the site today is probably better for setting up a permanent channel, but for one-offs, virtualised services are a great solution. Because of the commercial pressures of the industry, we've all got to create more efficient systems with more automation. This software is going to lend itself to that.

Going forwards, because of the continued convergence between content and connectivity, mobile and content, all the IP and software is where we're going to get interoperability at a technical and commercial operator level. All those things are going to come together, so it's not just a trend in virtualised environments, it's also going to include the hardware and software. The whole industry is going to have to move more towards a software model.

Question: Blockchain technology has come on in leaps and bounds in recent years, finding new applications in a whole host of sectors. Can you outline blockchain's role in the existing video value chain?

Alex Pannell: Most people know about blockchain from cryptocurrencies. It's the underlying distributed ledger that makes cryptocurrencies work. If you think about the concept of a distributed ledger, it's constantly updated, very hard to hack, and that has some interesting applications.

There's a lot of activity in the music industry right now about how you monetise and pay for use of music rights. There are various digital formats, there are lots of different players, and there's a lot more standardisation in the marketplace. Blockchain is a good technology because it allows you to have that single ledger of truth that shows who's used it and can be a great help in monetisation and showing payment transactions. A lot of people can be removed from the traditional process using blockchain.

If we think about how that could apply to the broadcast industry, how can we track who's using OTT content? Usually, there's a transaction, someone pays for the content and then receives that content, and most people don't try to abuse those rights. In more complicated markets, where you might not be able to employ sales and legal people, the blockchain can be used as a safe distributed ledger to automate the process, create commercial content models, and perform all the transactions in a safe way. A lot of the costs of that process can be cut, enabling content owners to reach much wider markets where traditionally they would need sales people, lawyers, and complex distribution chains. That's one user case of blockchain in broadcast.

The other potential user case is in peer-to-peer (P2P) networking. There's a company in France called Streamroot; rather than having all the costs related to content delivery networks, they're using P2P technology in a neighbourhood area to stream content from one point to another. In order to establish which set top box homes have access to which content, these types of content optimisation models could use blockchain to control the process and user groups in a much more accurate and secure way – ensuring viewing and content rights are logged, tracked and updated using such distributed ledger capabilities that blockchain provides and also scale up very, very quickly. It also helps them control, audit and fulfilment the

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monetisation process, for example.

Another conceptual user case can be found in the satellite world. If the Internet of Things (IoT) is going to keep growing, then satellite and mobile networks, as part of the communications infrastructure, will need new commercial models that can bridge that infrastructure. We can expect to see complex revenue sharing models between these different infrastructures which could be simplified and secured using a distributed ledger. It's an interesting idea, particularly for the satellite industry.

Question: What are your expectations for Arqiva for 2019 and beyond?

Alex Pannell: In my part of the business, satellite and media, I'm expecting that we will make very big strides in helping our content owners take their content across new forms of distribution and help monetise them. Ultimately, my real expectations are that we will have quite a different commercial model spreading across the market and our range of technologies.

I also hope that we'll be able to develop a whole new set of applications for the data world, relating to the IoT, GEO and MEO satellites. Ultimately, I think the data market will become a lot more relevant in the satellite industry as new applications gain traction.

I also think people underestimate how much of a growth opportunity that HD remains today. There's all this hype around UHD, but Sky UK is still only broadcasting 20 percent of its channels in HD. I think it's important to highlight the potential for growth in this area.

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