



SIS LIVE operates two teleports, Milton Keynes and MediaCityUK, both in the UK. Photo courtesy SIS LIVE ●●●

SIS LIVE: the transition to a connectivity company

SIS LIVE is a prominent provider of services to the global satellite communications industry. It distributes more than 100,000hr/yr of satellite broadcasting and contributes 80 percent of the UK's live news feeds. SIS also provides satellite mobile broadband and IP connectivity throughout the world, in addition to connectivity services such as terrestrial fibre and teleport facilities. Amy Saunders visited SIS LIVE's Milton Keynes Teleport and spoke to David Meynell, Managing Director, and John Bozza, Commercial Director, to find out about SIS LIVE's development and capabilities.

SIS LIVE operates two teleports, Milton Keynes and MediaCityUK, both in the UK. Between them they have 20 antennas, provided by General Dynamics. The teleports are linked to each other, as well as many major broadcast venues around the UK, via fibre.

The Milton Keynes Teleport has been operational since 2006 and is home to 11 antennas with sizes in the range of 2.4-4.7m that operate on Ku, C and DBS bands. The site distributes 93hr/day of live transmissions and uses 60-70 percent of its installed capacity.

MediaCityUK went live in 2012 when SIS LIVE relocated its headquarters from London to Salford. It is the largest teleport in the north of England, and has nine antennas that range from 3.8-9m and operate on Ku, Ka, C and DBS bands.

The site distributes 250hr/day of live transmissions and uses less than 50 percent of its installed capacity.

According to Meynell, the biggest challenge from the relocation to MediaCityUK was the continuation of uninterrupted, high quality services and the retention of key talent. Continuity and quality of services during the move were primarily tackled with excellent planning and project management.

Location packages were offered to all staff, which allowed them to move either to MediaCityUK or Milton Keynes and a good percentage of talent was retained.

Both teleports have best in class back-up capabilities, including UPS power supplies with backup generators in case of power cuts. The teleports can therefore operate for many



hours without external power and each one backs up the other.

SIS LIVE does not currently have expansion plans at either teleport, although new antennas were installed at Milton Keynes in 2015 and the MediaCityUK teleport has spare capacity to accommodate further growth of services.

Both teleports have Network Operations Centres (NOCs), which provide 24/7 coverage, 365 days a year. The NOCs control and monitor the teleports and collect satellite data to be routed to galleries and studios on site or through central hubs like the BT Tower in London. They also monitor SIS LIVE's expansive fibre infrastructure for multiple clients, delivering uninterrupted services on multiple platforms.

The two NOCs are interchangeable in terms of disaster recovery, although for some services they have different capabilities. They are manned by engineers, whose skill sets have had to change over the years, as the boom in IP technologies has meant that a mixture of broadcast and IP skills are required, whereas in the past those skill sets existed separately.

Global satellite capacity

SIS LIVE sources 500MHz of permanently leased capacity from many satellites around the world. It also has a significant amount of occasional use (OU) capacity. Most of its capacity is in Europe as it is mainly a UK-based provider, although in the last 12-18 months, SIS LIVE's global coverage has grown. Recent investments include capacity over the Middle East through Eutelsat, as well as a new deal that gives it access to SES' full fleet of global satellites. In the coming year, SIS LIVE's satellite capacity is likely to grow by 10-20 percent.

As the company has evolved from an SNG to a

connectivity company, its needs have changed. While the new HTS satellites coming online enable a lot of new opportunities, SIS LIVE bases its capacity leases around what makes the best deal for its customers, be it satellite, microwave, fibre, or a mixture of all three. The majority of its recent deals have been for hybrid services.

For sporting events in the UK, a shift is being seen from satellite to fibre. Part of the driving force is that fibre is usually better for broadcasting HD and Ultra HD feeds due to the increased bandwidth required. Changes in remote production are also providing a boost to fibre popularity; broadcasters are increasingly requesting more feeds be delivered simultaneously to a central gallery to reduce production costs. This also requires large amounts of bandwidth that fibre can provide more easily and cheaply.

There are, however, some events that will always be covered by satellite, like golf. The remote locations only host one or two events each year, making fibre installations there uneconomical. "If we're providing content from St Andrews, we're not going to cover the cost in a twelve or even eighteen-month contract for the installation of fibre," said Bozza. The development of enhanced modulation technologies that reduce bandwidth requirements are helping satellite retain its feasibility for other applications, and it remains the best method for broadcasting to wide-spread and remote locations.

Fibre networks and hybrid connectivity

The company has an extensive fibre network throughout the UK that connects the Milton Keynes and MediaCityUK Teleports with key sporting venues, major broadcasters, network operators and connectivity providers. Locations include BT, Virgin, the BBC, ITV, all Premier League football



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grounds, Alexandra Palace and the Olympic Stadium. Anything from low-rate bit-stream and Ultra HD to data and audio can be broadcast.

SIS LIVE currently has around 70 connected venues, and plans to expand by 30-40 percent to more than 100 in the next year, with a focus on more race courses and sports venues. Bozza said that SIS LIVE's next fibre frontier is the international stage. The company is considering establishing more overseas capabilities, including fibre connectivity, teleports and NOCs.

SIS LIVE works with a variety of telecommunication companies, enabling it to offer 'dual path' solutions; at certain venues, it has fibre capabilities from two different providers. This allows more back-up options to customers, which, Bozza pointed out, is important because, "We're expected to deliver a service that is commensurate to the significant amount that is being paid for, especially when it comes to major sporting events."

The value of hybrid broadcasting was highlighted during one of SIS LIVE's recent events. During the 2015 Rugby World Cup, Prince Harry flew his helicopter into Twickenham directly in front of the microwave path, which was completely outside of the company's control. "It was a good thing that we weren't relying on just one route out of the stadium!" said Bozza.

There are, however, also challenges to consider with hybrid broadcasting. NOC engineers must be trained in a much wider range of technologies than ever before, and the service must look seamless to the customer. Knowing when

to switch between fibre, microwave and satellite, whether SIS LIVE or the customer is in control, takes a great deal of knowledge and experience.

Record-breaking satellite uplinks

SIS LIVE is a major player in the SNG sector and the largest provider of satellite uplinks in Europe. It provides fixed and mobile uplink services to a range of customers, from the broadcast and blue light sectors to the military. Its first live broadcast of a non-sports event was of the fall of the Berlin Wall in 1989.

One of the company's most note-worthy moments came in 2013, when SIS LIVE provided what was, at the time, the world record for the largest number of simultaneous live feeds (31) during the Red Bull Music Academy's (RBMA) 15th birthday celebration. For the event, each of the 30 pods on the Coca-Cola London Eye hosted a different DJ or artist, which were broadcast live and simultaneously streamed online. There was also a bespoke Channel 4 live webcast. A total of 31 RF feeds were broadcast to SIS LIVE's RF hub vehicle, encoded by eight servers and broadcast further afield via fibre.

Bozza and Meynell explained that a standard hybrid broadcast event takes one week to six months to plan and costs around £5,000/day. The planning timeline is extended by 30-90 days and the costs are greater if fibre needs to be installed, while complex events take longer still to plan. The 2015 Rugby World Cup, which had a viewership of three billion



SIS LIVE currently has around 70 connected venues. Photo courtesy SIS LIVE ●●●

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and was the third most-watched event of 2015, took SIS LIVE more than six months to plan. Satellite and fibre were used for the 13 venues and 48 games, while microwave was added for the four tier one venues; Olympic, Millennium, Wembley and Twickenham. While this service cost a great deal, as Bozza pointed out, for events like these, there is literally no second chance to get it right.

SIS LIVE is currently pushing further into the government and blue lights services sector with new product development and collaborations with resellers and partners. The company recently won a new contract to provide LoStow antennas, which are often used on ambulances, to an Australian blue lights customer.

In the next year, SIS LIVE will provide services for several major recurring events like the Premier League, for which Sky has paid around £20m for the rights to each game. There will also be lots of ad-hoc events that the company will bid for, including the EU Referendum and the Scottish Election. The company is also doing some distribution for live music events like Glastonbury Festival.

Not just a services provider

In addition to its services, SIS LIVE also produces a variety of products that come with optional satellite capacity. This includes antennas, from 0.6m units with no movable parts to 1.8m vehicle mount units, as well as uplink and production vehicles. Its ad-hoc SNG fleet has 19 vehicles, in addition to its 50 contracted SNG vehicles that work for companies like ITV and Sky News.

The products are leased on short or long-term contracts or sold to the broadcast, military, government and emergency service sectors. Sky News Arabia recently bought two antennas that it uses with its own networks, for example.

The uPod and the LoStow antennas have historically been SIS LIVE's biggest sellers, although Meynell believes that, moving forward, the ManPakT will become the biggest seller. The company's sales have changed in recent years from being focused in the broadcast industry to now including a significant number of government sales.

All of SIS LIVE's products are manufactured in Milton Keynes. The small design and manufacturing team of around 20 means that the company is able to be very responsive to customer needs. Amplifier, up-converter and frequency band modifications are all easily achieved.

Developing a significant market presence


SIS LIVE was originally established to provide in-house services for the racing and betting sectors, but the company grew over the years by providing services to third parties as its SNG fleet and infrastructure expanded. SIS LIVE was separated from SIS in April 2015 to become a standalone business.

SIS LIVE is a major player on both the local and international markets. It provides more than 100,000hr/yr of satellite broadcasting and delivers 80 percent of the UK's live news feeds. The company's turnover is £35m and its profit is increasing year-on-year.

SIS LIVE's largest market is UK race courses. Its services for sports events are also growing, particularly in the UK, where demand for live sports is 'huge.' Overseas, the company does the most business in hardware sales. It sees the most

opportunity in the short and medium-terms in the expansion of its product range, although it has partnered with General Dynamic to sell services in the USA.

SIS LIVE's market share in the SNG segment is not insignificant, and although it has been hit recently by competing technologies like cellular bonding, according to Bozza and Meynell, the company has the biggest independent SNG fleet in the UK, and probably the world. SIS LIVE plans to be the biggest UK broadcaster in the SNG and sports fields within two years. In terms of critical connections in contributions services in fibre, the company has around 20 percent of the UK market, and plans to grow that to 50 percent in the next two years. In contrast, its teleport services cover only a small portion of the market share and are mainly contributed to by occasional use (OU) services. SIS LIVE is, however, starting to make more long-term deals for teleport services and has just signed a new fixed service contract for a long-term uplink to a specific satellite.

Despite competition from other technology, SNG demand remains high. Lots of SIS LIVE's SNG trucks were quickly transported to Brussels on 22nd March to report on the terror attacks there. At such a major event, there are a number of challenges, including network contention. In some terror attack events, the police shut down all of the terrestrial networks, which means that cellular bonded connectivity faces difficulties. In contrast, with an SNG vehicle, there is guaranteed service. 



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