



## Live Broadcasting Rallies to the next stage

QinetiQ's world leading live video relay service, Skylink, delivers groundbreaking programming of the World Rally Championship for the BBC.

### Key Benefits

- *A world first - live, multiple camera programming for a geographically dispersed event such as WRC. Skylink enabled what previously could not be done.*
- *Resilient solution in an extremely hazardous environment meant optimal programming choice for programme directors.*
- *>50% cost savings in the delivery of the solution.*
- *>98% video relay availability.*
- *Integrated video and radio relay solution, produced further cost savings.*
- *Reduced project risk.*

### Background

On Sunday 9th November 2003 the final stage of the World Rally Championship (WRC) was scheduled for live broadcast across the globe for the first time and a team consisting of ISC (International Sportsworld Communicators), NorthOne (formerly Chrysalis) and the BBC was tasked to make this happen.

ISC has held the TV and commercial rights to the WRC since April 2000 and their investment in ground breaking technology helps deliver innovation to the footage year on year. The BBC, through BBC Resources, works for many clients in supporting, developing and producing projects across the country. NorthOne is a public company that incorporates radio broadcasting, music publishing/recording, book publishing and mobile content within its core business.

### Challenge

The challenge for the World Rally for many years was to move from recorded shows to live shows so, with a huge amount of publicity surrounding the final stages of the championship, relaying live action to racing enthusiasts and broadcasters was crucial to furthering the event's popularity.

"There is increasing competition for scheduling time for broadcasters who must deliver improved return on investment. For years people have asked us when we were going to provide live coverage but the challenge was always how to bring multiple camera shots into the programme." states Simon Long, MD, ISC.

Getting pictures from mobile on-board cameras is traditionally achieved using either a terrestrial RF (Radio Frequency) receiver network or helicopter RF repeaters. Terrestrial networks are inflexible and typically uneconomic for geographically dispersed events, as they require significant installation, security, maintenance and support. The use of helicopters as a stand-alone solution for supporting multiple on-board cameras is expensive and unreliable since the helicopters are unable to fly in bad weather.

The challenge of delivering simultaneous pictures from each of the four cars on the stage, could not

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***"We could not have achieved what was ultimately a spectacular and ground breaking programme without Skylink."***

***Phil Aspden, Commercial Manager of BBC Resources.***

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be satisfied with these traditional solutions and a new outside broadcast solution was required.

## **Solution**

QinetiQ have been working with the BBC since 1996, using smart antenna technology for enhancing wireless camera systems. This collaborative work formed the basis of the solution to the WRC problem.

QinetiQ were required to prove the capabilities of Skylink to the BBC in a live environment and showcased the commercial service in action at events including the Tour de Suisse and the Zurich Grand Prix. QinetiQ then completed two successful field trials during August and September 2003, after which the team was awarded the Wales Rally contract.

Stephen Watson, Skylink Product Manager at QinetiQ, commented "The broadcasting industry as a whole has been wanting to produce live rally coverage for many years and QinetiQ was delighted to be able to leverage its expertise to enable the BBC in this groundbreaking effort"

The QinetiQ lead team delivered an integrated solution for the BBC consisting of the aircraft and the antenna technology. The solution was designed so that the BBC were able to optimise value for money by integrating the video relay solution with the existing platform used for the radio communications for the WRC. Additional, extensive, savings were realised in the support costs offered by a single plane solution versus the alternative of using four helicopters and associated support crews.

As the antenna has no moving parts and steers the beams electronically it was able to manage feeds from each of the four cars on the stage dynamically, allowing complete programming choice for the directors

## **Results**

The use of Skylink ensured a world first in the delivery of live, multiple camera, geographically dispersed programming of such an event. This event was watched live by over 80 million viewers and in total by over 1 billion across 3,000

broadcasts amounting to 130,000 minutes – a step change from half hour highlights programmes delivered 48hours later. It offered the programme makers a new dimension to their portfolio and is likely to change the way the viewer can participate in future events of this kind.

Tracking four camera uplinks simultaneously from one plane provided significant cost savings (approximately 50%) over a multiple helicopter solution, whilst maintaining the airborne flexibility to cover a different rally stage if required. To overcome the challenges of tree cover on the circuit the plane maintained a 1.5km triangular flight path above the stage; this ensured that the uplink angle between the transmitter and the plane was minimised which kept the RF break-up to a very low level. In fact, Skylink delivered >98% video relay availability.

Neil Duncanson, MD of NorthOne, commented "We wanted to produce WRC live and we were told in no uncertain terms that it couldn't be done. But the team proved everybody wrong and core to the solution was QinetiQ's antenna technology. It worked like a dream and they will play a key role in the future development of live WRC TV."

Skylink went on to cover the London Marathon for the BBC later that year.

### **QinetiQ Solutions**

*Skylink is the world's first video relay service at 30,000ft, enhancing wireless camera reliability and capability in all outside broadcasts. The QinetiQ phased array technology making this happen offers:*

- *Electronic steering of multiple beams*
- *Low profile antenna radome*
- *Configurable for different events and customers*

*Based in Zurich, Skylink is a partnership with Lions Air who own and operate the Skylink aircraft: a Pilatus PC-12. This pressurised aircraft enables Skylink to operate in all weathers, over any terrain and for up to 7.5hrs – unique benefits not available with any other video relay service. When required, Skylink can also provide video link equipment and full production capability via Global Link and TV Production Centre Zurich.*