



## Case Study



### Multi-channel, high availability subtitle transmission - Swift TX at Arqiva

Arqiva operates at the heart of the broadcast and mobile communications industry and is at the forefront of network solutions and services in an increasingly digital world.

They provide much of the infrastructure behind television, radio and wireless communications in the UK with a growing presence in Ireland, mainland Europe and the USA.

Their operations encompass three business units, in the UK Terrestrial Broadcast provides transmission for all UK terrestrial TV broadcasters, including the new networks being built for the Digital Switch Over. Additionally Arqiva provides transmission for BBC Radio and most commercial radio stations, across both analogue and DAB. The company owns and operates two of the six UK digital terrestrial TV multiplexes, enabling major media companies to bring their TV and radio services to Freeview.

The Satellite & Media arm provides global communication platforms to enterprise, government and broadcast customers around the world. It owns and operates teleports at key locations including Los Angeles, Washington, London and Paris, as well as comprehensive satellite capacity, an international terrestrial fibre network and extensive media facilities. These enable Arqiva to provide world leading organisations with a comprehensive range of services to deliver their data, broadcasts and media across the globe.

Wireless Access provides cellular, wireless broadband, voice and data solutions for the mobile communications, public safety, local government, and commercial markets. Arqiva is the largest independent provider of radio sites in the UK and Ireland. With its own spectrum, the company can provide complete mobile communications networks including backhaul links.

Arqiva has its headquarters near Winchester and other major UK offices in London, Warwick, Buckinghamshire and Yorkshire. Major customers include ITV, Channel 4, Five, the BBC, BSkyB, Classic FM, the five UK mobile operators, the RNLI and the Metropolitan Police.

#### The challenge

Arqiva required a high availability solution for time-of-air transcoding of subtitles from teletext to DVB. The solution would be required to handle subtitle transmission across all of their UK channel operations over digital terrestrial (DTT), digital satellite (DSAT) and Virgin Media cable. Additionally it was desirable to have the ability to optimize bandwidth utilization for best use of network capacity, while also being mindful of the cost and efficiency of operations.

#### Challenge

- Subtitle transmission for all UK operations across DTT, DSAT and Cable platforms, with time-of-air transcoding from Teletext to DVB.

#### Solution

- Swift TX subtitle transmission units from Softel with seamless integration into time-of-air transmission in a high availability configuration.

#### Benefits

- High density transcoding reducing rack space requirements, saving power, cooling and maintenance costs.

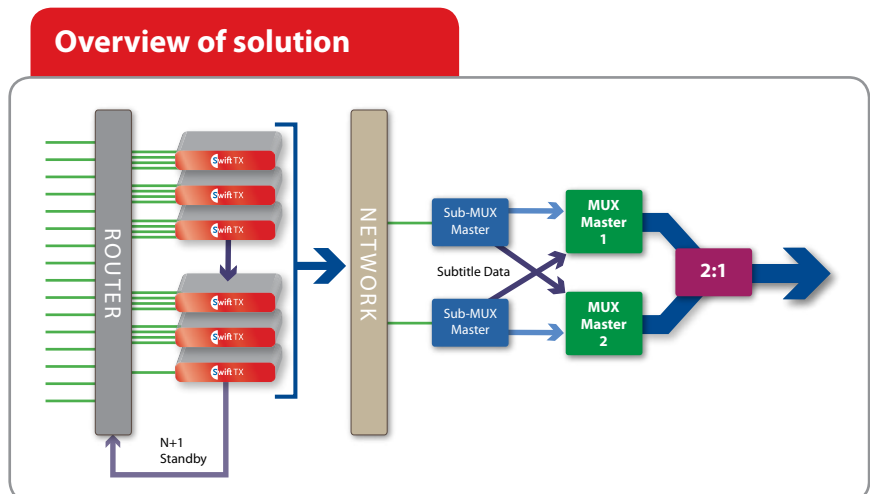
## The solution

Working closely with Arqiva project management and engineering personnel, Softel developed a project and system commissioning plan, which they were then actively involved in executing in tandem with infrastructure and compression supplier Tandberg.

At its' core, Swift TX multi-channel transcoding units with Swift TX subtitle multiplexers were implemented in N+1 configurations with Master/Standby input in the main multiplex (MUX). The Master/Standby units were connected with multi-path PCR connections, so that the MUX would receive constant input in the event of any failure.

Swift TX ingested teletext subtitle data from the MPEG stream, transcoding on the fly into DVB format, feeding into the MUX.

Another feature of Swift TX that added value to the solution was the ability to 'pool' available bandwidth for subtitle transmission. This effectively means that bandwidth across multiple channels could be aggregated to take advantage of slack space during subtitle transmission, with automated bit rate switching taking place between the MUX and MPEG encoder.



As the Swift TX transcoders were multi-channel, it meant that each unit was handling 4 channel inputs, this enabled Arqiva to consolidate rack space requirements, which in turn provided cost benefits in terms of reduced floor space, power and cooling, as well as reducing management and maintenance overheads.

## The outcome

Utilising the flexibility inherent in the Swift TX design enabled Softel to deliver a solution to Arqiva, that not only met their requirements for the broadcasting of subtitles with their multiple video streams, but also offered them very high availability with reduced rack space and energy requirements.

Offering consolidated multi-channel, multi-platform subtitle transmission that seamlessly integrates with the other aspects of their infrastructure, has meant that this area of operations is made as efficient, cost effective and easy to manage as possible.

Softel ensured that as well as addressing the core functionality called for, they also delivered a solution that enabled an extremely high level of service across all platforms and channels. Their deep understanding of the technical issues and the tight integration of the product went a long way to achieving these aims.

Andrew Sumner, Head of Technical Sales at Softel said, "We're proud to be associated with a network operator of the stature of Arqiva, working with them and Tandberg to deliver this solution has been a pleasure. We believe that our technology makes a significant contribution to the high level of service that they deliver and is expected by their customers, while at the same time helping to control costs."

## About Softel

With three decades of broadcast experience Softel is a global leader in key TV & video technologies including interactive TV, MPEG stream processing & multiplexing, Opt cuing, Teletext and captioning/subtitling. These solutions are delivered through a combination of products, professional services and bespoke development, contact Softel to find out more or visit our website at [www.softel.co.uk](http://www.softel.co.uk).

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