

## Trotting Fans Get Closer to the Action

### Norwegian Trotting – Remote Production with NEP Norway

#### The Case

NEP Norway is part of NEP Group and one of the world's largest providers of outsourced production solutions, producing year-round coverage of the hugely popular trotting racing. Trotting is a form of harnessed horse racing in which the jockey is pulled in a two-wheeled cart. It's one of the oldest organised sports in Norway, with its origins in the 1700s where workhorses would be raced on frozen lakes for entertainment and competition and the first organised race taking place in 1832. The races have been broadcast live in Norway on their own TV racing channel since 2000. There are around 4500 races and 520 events taking place annually, with up to 15 races a day transmitted live. The sport has become big business, with over 3.2 billion NOK spent gambling on the races annually\*.

NEP has always been a pioneer in the use of remote production techniques and the Norwegian trotting production system has evolved significantly over the years. Originally the races were covered by a small number of 3 camera SD OB vehicles at each event and a single 15Mb/s MPEG 2 backhaul IP connection. The IP-contribution system was one of the first of its kind in the world when deployed in 2001.

#### The Challenge

The difficulty has always been transporting all the camera equipment and production staff to each track. Norway is 1619km long (1000miles) with almost half of it north of the Arctic Circle. There are many trotting events to cover and long distances between tracks. With events throughout the year, this means travelling over mountainous roads in winter, with OB vans and camera crews and operating in temperatures as low as -20°C (68°F). It has always been a challenging environment for equipment and crews.

Recently NEP began to look at ways to improve logistics and reduce the transportation costs, whilst at the same time improve the experience for the viewer and open up new production possibilities.

#### The Solution

In the summer of 2014, in co-operation with their client and production partner, NEP decided their 500+ productions a year should become 'remote productions' implemented from their Oslo control rooms. With a JPEG2000 codec in use, 3 videos + audio, intercom and control, squeezing into the available 300 Mbit/s would be tight. After looking into various solutions, NEP asked Vislink to add a TSolP facility onto the MVL-HD3 receiver. That way, the already compressed signal from the Clip-On 4 encoder on the third camera could be passed over IP to the MCR in Oslo. No re-encoding, no codec cascading, and most importantly -huge savings in bitrate. In just a few months the receivers were equipped with IP output boards and software, and a new product - the RMD-HD IP receiver - was delivered and mounted in the Oslo control centre.

#### The Result

The HD wireless camera signals are now compressed to 15-20 Megabits at the camera source, all the way through to the Studio in Oslo, which means no increase in IP connection bandwidth was required. NEP have the ability to remotely monitor and control everything whilst still leaving sufficient bandwidth for voice communications and camera control. The MVL-HD3 4way diversity receiver at each site and the 600m remote Triax head capability enabled the existing Triax infrastructure to be utilised and offered a significant cost saving over installing fibre optic.

The new solution has transformed the way NEP Norway can produce coverage of the racing action as all the





wireless cameras are now left available on site. Removing the OB vehicle requirement has saved enormously on transport, maintenance and overnight costs of the crews. The high quality video transmitted from the Clip-On 4 wireless camera systems, together with ISDB-T modulation, means they can roam anywhere on the track. With the antennas strategically and remotely placed, they can interview jockeys and get close-up shots of the horses from inside the stables. The use of locally based camera operators enables pre-shoot material to be easily created and they can react at short notice to events and feed direct to the studio wirelessly from wherever they are on site. The production centre in Oslo can handle video from up to three racecourses at the same time and by utilising the remote monitoring of the MVL receiver they can direct the cameras for the best reception, even in difficult areas. The end result is the viewers get much closer to the action than ever before.

“Vislink understood the difficulties we face with limited bandwidth, and worked closely with us to adjust hardware and software elements of the Vislink solution and make it perfect for our requirements. Vislink originally didn’t have the TSolP facility in the existing MVL-HD3 series, but at our request made the necessary modifications quickly and added a new receiver so that just a few months later we were beginning to deploy the products on track. We have a very limited bandwidth to/from each race track, so using only about 15-20 Mbit/s for one of the 3 cameras with an “encode once, decode once” philosophy was a great way to conserve valuable bandwidth.”

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