



Remote Production



Helping Slash OB Production Costs
and Maintaining Quality of TV 2's
Key Summer Programming



norwia

Customer Experience

miniHUB @ WORK!

■ The customer

TV 2, the largest commercial television station in Norway is a wholly-owned subsidiary of Egmont, a leading Nordic media group.

TV 2 broadcasts television around the clock to all Norwegians. TV 2 broadcasts sci-fi to trekkies, news to those who never sleep and Norwegian football to everyone, whether they are using a TV, PC or mobile device.

The TV 2 Group transmits on a main channel and a number of niche channels. TV 2 News has broadcast news 24 hours a day since 2007. In the same year TV 2 launched its own sports channel, TV 2 Sport, and has since expanded the Sport focus to three HD channels solely broadcasting English Premier League. These niche channels complement TV 2 Zebra that has broadcast entertainment to younger Norwegians since 2005. The film channel, TV 2 Filmkanalen broadcasts films 24 hours a day.

■ The situation

The TV 2 Sommertid (Summer time) program is a key part of the TV 2 summer schedule.

This live 1-hour program runs 4 days a week for 9 weeks during the summer months. Traditionally the TV 2 'Sommertid' program was shot on the roof of the TV 2 facility house. For 2014, TV 2 decided it would be more dramatic and exciting if the backdrop were the bustling Oslo harbour, marine docks and restaurant area of Oslo. To facilitate this, the production set is situated on a floating pier on which local and international talent are interviewed and interweaved with live musical segments. Normally this would necessitate using an OB truck.



Oslo harbour, Norway. 'Sommertid' on air

Normally this would necessitate using an OB truck. However, OB trucks are relatively expensive and the floating-pier location meant that the OB truck would have to be at least 300 meters from the cameras, adding a great deal of cabling leading to higher complexity and set-up and running costs.

TV 2 had already used Norwia's miniHUB to simplify operations at various live news-based events and wanted to explore the possibility of extending this cost saving and complexity reduction to the production of 'Sommertid'.



■ The decision

As an important part of the summer schedule it's critical that the quality of 'Sommertid' is not affected adversely by technical changes to the way the program is made.

TV 2 had to be confident that the solution chosen would be technically up to the challenge. It was critical that video and audio quality would be just as high as previous years.

More than that, the TV 2 technical team also had to be sure that the control of the cameras and lighting would not be adversely affected by the distance between the studio and the OB location.



Location site 'Sommertid', miniHUB on show



Closeup of the miniHUB Remote production solution

Additionally there's a third test that has to be overcome – and this is not about technical issues, but all about the human interaction between the teams. Put simply, the 'communication test' is: can all production staff communicate efficiently so that the program can be made just as well when the audio engineers, lighting controllers, technical directors and vision directors are kilometers rather than meters away from the cameramen and the talent on screen.

The TV 2 technical team looked at IP-based systems, however they believe that the solutions on the market today are not yet mature enough for the Sommertid project.

The technical team knew that any but the most minimal latency would produce control and communication issues. It was therefore decided to choose a solutions contributing uncompressed video from the OB location to the studio, because as the TV 2 technical team commented, "transporting uncompressed video just kills the latency issue".

Another advantage was that TV 2 already had cameras that were coax enabled, reducing the requirement to purchase additional hardware in the form of SMPTE Hybrid Elimination Devices.

Additionally, for such an important OB event, it was critical that TV 2 could be absolutely sure that the solutions chosen were as reliable as possible. Norwia solutions had already demonstrated their reliability to TV 2, which has had a handful of Norwia miniHUBs at important Norwegian locations. The Norwia solutions have been powered-up and ready for action, 365/24/7 for over 4 years, during which time TV 2 has enjoyed 100% up time from the miniHUBs.

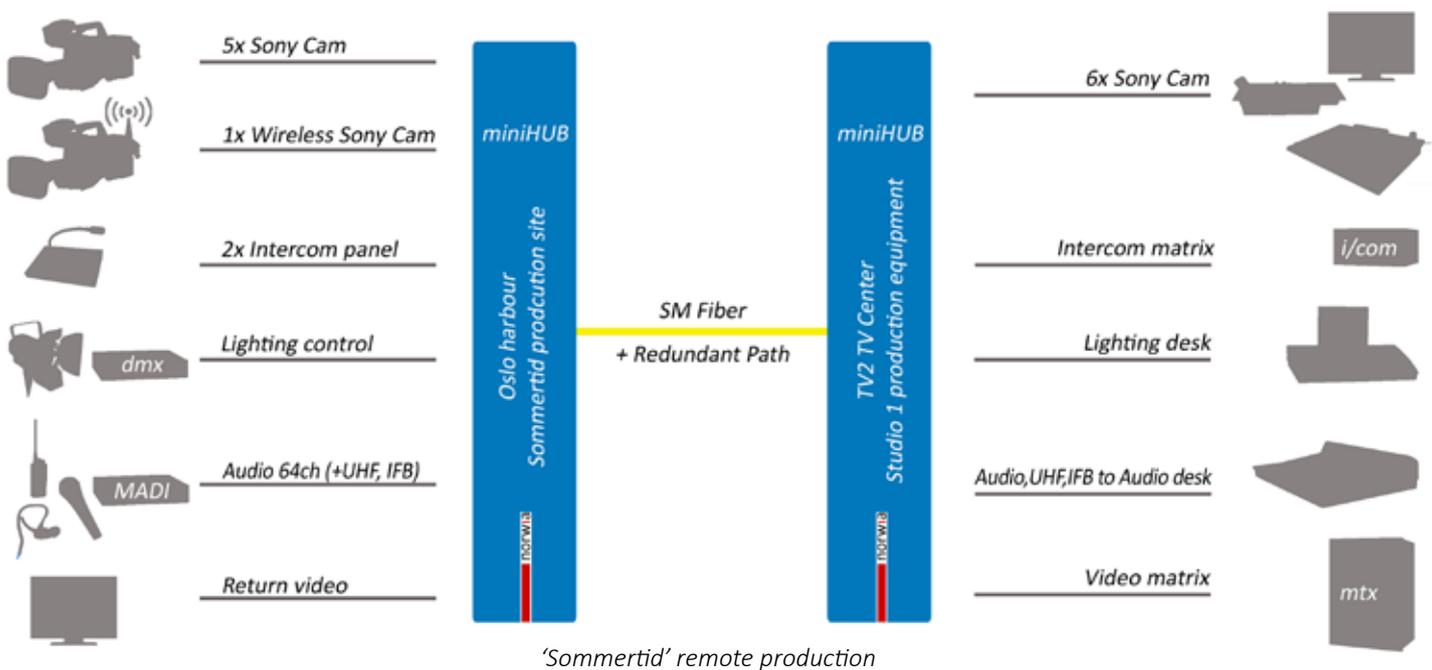
After trialing equipment from a number of vendors, TV 2 decided that deploying Norwia miniHUBs fed by Sony HDC-1500 cameras operating in coax mode with uncompressed video could pass the technical, control, human interaction and reliability tests above.



■ The solution

Key equipment in the deployment:

- 4 x Norwia miniHUBs – two at the OB location and two at the studio
- 5 x Sony HDC-1500 3G-SDI enabled cameras operating in coax mode on the pier
- 1 x SONY P1 camera operating in coax mode capable of operating off the pier, with GigaWave RF Transmitter for video and a Coriel 3G/4G mobile phone data modem for camera control
- 2 x Riedel intercom panels
- 1 x DMX gateway for lighting control
- 64 audio lines in each direction via MADi connection
- UHF, IFB radio interface
- Return video, PGM and preview sources
- 1 x Gigabit Ethernet circuit



The Sony HDC-1500 cameras were operated by on location cameramen in coax mode. These 5 main cameras were connected to the miniHUB by 50m coax cable. Riedel keypanels were connected to the miniHUB and allowed for full control and connection back to the Studio. The UHF and IFB were also connected via the miniHUB. The Norwia miniHUB sent the video, audio and control signals to and from the studio over fiber.

Each camera was operated by a cameraman, with full CCU control and including black levels, iris control, white balance, tally, and camera talkback enabled via the miniHUB back at the TV2 studios. The miniHUB enabled studio camera control to be just as effective as if the event was being shot in the Oslo studio.

The lighting engineers in the studio controlled the lighting remotely, with the control data being sent over fiber from the studio to the Norwia miniHUBs at the pier, the control data then being passed on via Ethernet and a DMX gateway to the lights. As designed, the solutions' lack of latency enabled the lighting engineers to control the lights in time with the music just as easily as if they were meters from the action rather than 5 kilometers away.

The Norwia miniHUBs supported 64 high-quality MADi audio channels in each direction. This may sound like overkill, but when you're using audio for control and communication purposes as well as feeding uncompressed audio for mixing, it's easy to use a high number of audio channels.

The Norwia miniHUB and its AutoSFP® technology provided a system that used just one type of card for many different signal types. This meant that cards could be interchanged with ease and reduced the number of spares required. Another key point is the built-in system redundancy, where every channel is separated by the CWDM, so that if one channel should go down it will not affect the next. The miniHUB also provided this level of robustness for the signal path.

The miniHUB's flexibility was shown to its full advantage, with TV 2 taking a system it already owned that was originally used for video distribution and adapting it for Gigabit Ethernet and MAD1 for the Sommertid



TV2 Studio control room

■ The result

'Sommertid' did not suffer in quality at all from the exciting changes to the production methodology or location. The Norwia equipment operated fault-free. The fiber circuits operated without issue. All in all, this new way of working was a technical, monetary and creative triumph.

Everyone involved at TV 2, from audio engineers to production accountants were delighted with the result of deploying the Norwia miniHUBs.

After initial concerns, the audio engineers were happy that the system "just worked". The lighting engineers were happy that they could operate just as efficiently from 5 kilometers away as they could from 10 meters. For the cameramen it was situation normal, they just got on with recording the action. The video editors were happy to be working in their normal day-to-day studio environment, rather than in the less familiar surroundings of an OB truck.

The flexibility of the Norwia miniHUB enabled TV 2 to deploy a miniHUB they had already purchased, providing hardware cost-savings. Additionally, TV 2 reduced costs by removing the requirement to hire an OB truck and through reducing the number of people that were required to work on location.

■ The quotes

Bård Egil Torgersen from TV2 Norway who played a key role in the project from day 1, commented: “The Norwia miniHUB performed flawlessly. The transport of pristine quality full HD video, operator acceptance, easy setup and the large reductions in production costs enabled by miniHUB are key benefits hard to ignore!”

“Norwia’s industry leading levels of support and fiber expertise were fully evident throughout the project. The miniHUB remote production solution is a powerful package that’s a real production game-changer. Norwia’s solution has already provided us with major benefits and we look forward to exploring how it can continue to enhance the way we make and transport programming,” concluded Torgersen.

The technical team was pleased to have reduced cost and complexity and the accountants at TV 2 were of course very happy that the budget for distributing the video and audio from the location to the playout centre was slashed by up to 70%.

The technical team at TV 2 expects that it will be using Norwia miniHUBs more often in the future for its OB events and is already planning to use a similar solution as part of its autumn and winter programming.



Bård Egil Torgersen from TV2 Norway



CCU's connected via the miniHUB



Sony HDC-1500

Discussing the TV 2 project, Lars Erik Eriksen, Norwia CTO said: “The Norwia AutoSFP® functionality enabled TV 2 to virtually morph the system into whatever they liked. I know this sounds like magic, but the incredible flexibility of the miniHUB optical distribution platform is real and truly unique.”