Panasonic
BUSINESS

Professional Camera

Panasonic Cameras in the Slovenian Parliament

For the purpose of transmitting the National Assembly sessions, RTV Slovenija installed Panasonic cameras. By using the remote-control directing process, the cameras are either filming or transmitting live events in the Parliament in a way that is completely unobtrusive for the members of the Parliament, while at the same time allowing access to such broadcasts for the creators of public television news shows.

Client - The Slovenian Parliament
Location - Ljubljana, Slovenia
Products Supplied - AW-HE130

Challenge
Due to specific circumstances in the Parliament, we required highly efficient lenses due to different framing with cameras installed in a fixed position, while the recording was also required to be unobtrusive for the members of the Parliament.

Solution
For the purpose of recording the Parliament sessions, we bought the Panasonic AW-HE130 cameras and wall mounts adapted specifically to this camera model, which are all operated by remote control from the RTV building.

> "Panasonic cameras proved to be the only ones that satisfied our requirements. Sensitivity related to a moderate size of the camera (F8 at 2000lx), a good S/N ratio (-60 dB) and picture quality, an efficient camera lens and the fact that the camera is built into a quick and silent P/T system were the deciding factors in opting for the Panasonic cameras."

Matjaž Fajdiga, Head of TV Engineering, RTV Slovenija

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RTV Slovenija is a public institution of a specific cultural and national significance, and a member of the EBU (European Broadcasting Union), which is an international association of public RTV centres. We are the largest producer of informative, cultural, entertainment and sports content for television, radio and internet in Slovenia. Five television programmes, eight radio programmes, and a web portal reuniting all types of content and services are created in the framework of RTV Slovenija. In addition, three regional RTV centres that create regional content and content intended for the Italian and Hungarian minorities, operate under our institution.

The server technology used in recording and broadcasting the footage comprises the EVS and sQ servers, with the latter being a part of the Quantel News production system. The ORAD graphic stations fitted with suitable software are used to ensure the graphic-related part of the task. They also allow us to configure a virtual studio in two of our real-life studios.

Video walls are used in three studios, whereby two of them have cubes manufactured by Eyevis and the third one is equipped with a LED video wall manufactured by Retop (the wall size is 60 m^2, the pixel pitch 1,925 mm, and the resolution 2×4 K). We also use the ORAD graphic stations fitted with suitable software for preparing and broadcasting content on all video walls.

As far as the organisational, contextual and, partially, also technical aspects are concerned, the TV production is divided into a long- and short-track production. The short-track production entails news and sports shows (including major sporting events, such as the Olympic games, world championships etc.), as well as other shows. Such programmes are characterised by a large amount of material, which makes it necessary for the content to be fully reunited in a single production system. We use the Quantel sQ production system, which features 12 HD-SDI ingest channels (capture), 20 HD-SDI outgest channels, 20 x 100 Mbps capture channels, as well as 18 high-definition montages and 120 low-definition montages.

The long-track programme (documentaries, live action programmes, educational programmes etc.) uses another production system. The DDN SAN, Adobe montages and graphic elements, as well as a PAM manufactured by IMC are used in the post-production process. The creators can choose between nine montages and a disk array capacity of over 400 TB.

We also have four synchronisation studios, which are fitted with the Avid Pro tools audio-editing equipment. We use iNews for the NRCS. The master control room is based on the Trinix HD matrix (GV) and an intercom/4W system manufactured by Riedel.

A large part of production is also created in the field (sporting, cultural and other events). For the process of external production, we use two HD broadcast vehicles (one containing eight cameras, and the other one thirteen). Both broadcast vehicles were configured (i.e. the equipment was integrated) by Sony. While all equipment is equal to the one provided in the studios, we use the Lawo audio production mixing consoles for audio processing.

For wireless connections, we use a DSNG vehicle (which also contains one camera and all strictly necessary studio equipment), a Ka-band vehicle, and a large amount of portable equipment that is used during live news reports through a 4G network. For broadcast vehicle reporting, we use the MPLS system, optical connections, and a DSNG vehicle.

The recording content is stored in a permanent archive based on the NOA system, which allows the material to be inserted and archived as well as inventoried and searched through. We developed our own application (SW Adam for capturing, inventorying and searching through programmes) for the previous (production) archives used by over 300 users. Both systems (archives) use the Xenadata HSM system and the LTO Qualstar library.

An important part of our content is related to events in the National Assembly of the Republic of Slovenia (the Parliament). In addition to informing the public about the events in the Parliament through news shows, one of our television programmes (i.e. the Parliament Programme) is dedicated to broadcasting sessions. Accordingly, we installed appropriate technology at the RTV premises and in the Parliament.

Two directing set-ups used in broadcasting the Parliament sessions, which are configured as remote-control direction processes, are located at the RTV Slovenija premises and connected with the Parliament by means of two optical fibres. 25 Panasonic cameras are located in the Parliament. Together with other video/audio connections, we use over 50 wavelengths from both the CWDM and DWDM wavelength range.

What requirements were taken into consideration when choosing the cameras?

The cameras, which are mounted on walls in three halls and two meeting rooms, must allow to be remotely controlled from the direction room. Due to the specific circumstances in the Parliament, we required a good picture quality in less than ideal lighting conditions, and in order to be able to provide different framing with cameras installed in a fixed position, we required the camera lens to be highly efficient. Since the recording must be unobtrusive for the speakers, cameras have to be able move fast (the P/T function), at a minimum speed of 60°/s, and without making any noise.

We chose the Black Magic Design company to provide us with the remaining audio/video equipment. This equipment also turned out to be sufficiently reliable during broadcasts of long sessions. Emergency-case solutions are, of course, provided for each direction room, but there has been no need to use them so far. Due to the efficiency of the control system, each direction room needs only one operator.

Why the Panasonic cameras?

Panasonic cameras proved to be the only ones that satisfied all of the required parameters. The most decisive factor in opting for the Panasonic cameras was the sensitivity (F8 at 2000lx), a good S/N ratio (-60 dB), and a built-in hybrid noise silencer, which allows the use of at least 3 dB reinforcement without any visible additional picture noise. When recording events in the Parliament, high picture contrasts also appear due to the ambient light and contrasts in clothes colours, which are too intense for television broadcasting. Due to its built-in DRS (Dynamic Range Stretch) function, the Panasonic cameras can be adapted to said high contrasts, which also contributed to our choice of the cameras. Since the camera is provided with an optical image stabiliser, there are no visible shaky movements when the camera image is broadcast during movement (e.g. transmissions of ceremonial sessions featuring special guests). Our camera settings use the image produced by the HD-SDI output, and we use the IP output for monitoring purposes and to adjust the camera. The camera parameter settings made through a built-in WEB server allow the use of a camera control system, which can be done through a PC and proves to be an additional safety feature in case of any control system malfunctions. Since the camera provides a picture on both HD-SDI and IP outputs, we can use the said setting to provide a backup distribution of a video signal from the Parliament, thus further increasing the reliability of the system.

The lens of the camera is efficient enough to cover all required frames in a parliament of 90 members. The speed of the lens is also an important factor. When we installed one total-frame camera in each of the rooms, we had to equip each camera with a wide-angle lens (0,8×) to allow the zoom in function, which means that one can use the said camera for most other frames as well (we can use such a camera instead of a classic camera in case of ceremonial sessions, which means that we do not have to install additional cameras for such events, as is the case in some other parliaments).The scope and speed of horizontal (+/-175°) and vertical (-30° to 210°) movements is largely sufficient for broadcasting events from the Slovenian Parliament.

The camera offers a sufficient number of picture parameter settings, thus enabling us to achieve a satisfactory picture quality. The equalisation of pictures from cameras is an extremely quick and precise process. Manual settings, which are used mostly during session broadcasting (AWB, black point setting, shutter, RGB reinforcement etc.), are available through our control system, since the PC access proved too slow (but still extremely appropriate for general settings of the camera upon replacement), which shows yet another advantage of the camera IP control, i.e. the parallel camera control from different sources (devices).

What equipment was supplied? Were there any additional appliances or solutions used?

We bought the Panasonic AW-HE130 cameras and wall mounts adapted specifically to this model. We use the control system developed by the Slovenian company TSE to allow remote control of the cameras. To provide the basic settings and camera equalisation, we use the in-built WEB interface which allows us to set the cameras via Ethernet. Four cameras were each fitted with a total-frame lens in order to provide frames from individual halls or meeting rooms. In addition to a video mixing console, which allows the audio level setting for the sound mixed by the audio direction team who are stationed in the Parliament, and provides the video matrix, the direction system includes a character generator and a two-channel recorder to record video/audio signals.

How and where are cameras used, what is their main purpose?

The cameras are placed at the premises of the National Assembly in order to broadcast live and/or recorded sessions of the Parliament, working groups and committees. Without physical presence of the camera crew, we can change the camera settings, choose the recording direction and angle, and enable viewers to see and hear the speaker at all times - all through a direction crew located in the

Branislav Simkanin, Sales Manager
branislav.simkanin@eu.panasonic.com
+421903447757
business.panasonic.co.uk

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