Chris Fitzsimmons reports from the new Berlin headquarters of the Heinrich Böll Foundation, where consultant Thomas Hülsmann has overseen the installation of a suite of conference and meeting rooms as well as a digital signage network and OB facilities.

# The green agenda

## Tech-Spec

**Audio**

Beyerdynamic Wireless Microphone systems – AT 70 antenna, SLG900, Opus 900.

Biamp Vol 8 wall controllers, AudiaFLEX including AEC2 modules

Bose – Freespace 3 sub and surround sets

Bosch Security Systems – DCN conference system + accessories

Fostex 6301 BX near field monitors

Kling & Freitag – CA 1001 loudspeakers, SW 115E subwoofers

Klotz Digital cables

KME – QSA 120 active loudspeakers

QSC CX 168, CX 254 amplifiers

Yamaha DM 1000 + cobranet cards

The Heinrich Böll Stiftung or Foundation is a publicly funded political think tank in Germany, which concerns itself with the Green political movement. The foundation's mission statement reads "our main tenets are ecology and sustainability, democracy and human rights, self-determination and justice." And it was in keeping with these aims that the foundations were laid in the middle of 2007 for a new headquarters.

The result features some of the most advanced applications of energy efficient technology in the world today. From the photovoltaic systems on the roof, to the highly efficient air conditioning system and the use of the heat from server racks to warm the rest of the building.

The headquarters even makes use of so-called bass-traps in each room. These absorb low frequency energy from the sound in the room. This enhances the acoustic properties and reduces environmental impact of the building.

The new building serves two key functions. Firstly it provides new working offices for the foundation's 185 employees. Secondly on the first floor, the so-called Belletage constitutes a conference and convention centre capable of serving more than 300 visitors.

Consultant Thomas Hülsmann's involvement in the project began back in 2006 when he learned that the foundation was seeking advice on its new facility. "Initially from a fore-sight page from the institute I created a concept, which not only contained the media technology but also what would be important considerations for the other disciplines involved to make the AV part of the project successful. I was employed as a technical consultant for the overall consultant."

The AV project was then put out to tender via the OJEU system, with Fleischauer being the successful bidder. The company carried out the installation according to designs originated by Thomas, who was also responsible for managing the project throughout.

The ground floor reception area leads to a ground floor refectory and up a wide flight of steps to the entrance to the convention centre. The convention centre itself is made up of two small conference rooms, a large and a small auditorium – both of which are divisible – and a library. The first floor also houses a pair of equipment rooms and a foyer, which can be used for public functions.

At first glance, the reception is scantily equipped with AV equipment, a quartet of JVC 40" LCDs is mounted on one of the supporting columns – a part of the digital signage network. These are controlled by four Dell PCs mounted in the ceiling space.

Closer inspection reveals a number of concealed floor boxes, with access to the building's AV infrastructure, data network and power outlets.

Also installed in one corner is a discretely hidden AV equipment selection. A Panasonic PT-D5700 projector is mounted on an Audipack DL 3050 motorised lift, and concealed in the ceiling. This is matched with an Atrium electric projection screen. Also hidden in the ceiling is a pair of KME QSA 120 active loudspeakers, providing stereo sound reinforcement. Sources for the speakers and projector can be introduced locally via the floor boxes, or via the central AV infrastructure.

The other half of the ground floor is taken up with the canteen, this is also equipped with a couple of JVC displays on the digital signage network. Sound reinforcement comes from a pair of Bose Freespace 3-II systems, set to operate on low-impedance, one each for left and right audio channels. Each set consists of a sub and four satellite speakers.

Visitors to the conference facilities enter via a wide flight of stairs, decorated with a slightly disconcerting carpet – the design is an aerial photograph of a field full of

sheep. The entrance area at the top features a single TFT screen, and more QSA 120's from KME to provide sound reinforcement. The area is intended more as a reception space and is therefore lightly equipped.

The larger of the two auditoriums can seat approximately 200 people when in its combined state. It is divided by a removable wall approximately 2/3 along its long side and each half is equipped with an independent pair of projectors and sound system. A mobile staging set allows for a number of different arrangements in the room depending on the function.

To accommodate this flexibility, Thomas had to come up with a highly flexible AV solution, enabling projection in a number of different directions as the "centre" of the room moved. To overcome this challenge, he mounted one of the Panasonic PT-D5700 projectors on a motorised Audipack ceiling mount, which was in turn mounted on a track in the ceiling, allowing it to be moved along the long axis of the room. To match this, there is a similarly installed Atrium screen, which can be manoeuvred along with the projector.

A Sony BRC 300 PTZ camera is ceiling mounted in roughly the

centre of the space, allowing for future integration with a videoconferencing system or to record proceedings. Media control is provided by Crestron TPMC-8 kits.

Sound reinforcement is handled by Kling & Freitag CA 1001 boxes and an SW 115E sub, which are powered by QSC CX series amplifiers (these are mounted in one of the equipment rooms). FoH mixing comes from a Yamaha DM 1000 V2 digital mixer, equipped with Cobranet cards, and monitoring at the FoH position comes from a pair of Fostex 6301BX loudspeakers.

The smaller auditorium is equipped with the same K&F / QSC sound reinforcement but with a fixed projector solution. Here a Panasonic PT-D5700 and a PT-D4000 provide the projection, once again paired up with Atrium motorised screens from the ProfiClassic range.

The pair of conference rooms are equipped roughly the same. They both feature a Panasonic PT-D4000 projector mounted on Peta ceiling mount. Sound reinforcement comes from KME QSA 120 active loudspeakers and media control is via a Crestron TPMC-8X touch panel.

Three mobile equipment racks were built for use in any of the rooms. They contain audio and video monitoring / preview facilities, as well as a mobile PC, Panasonic DVD player/recorder and wireless keyboard / mouse for the projection system. The PC runs Beyerdynamic's Steno-S discussion recording software.

The foundation was also supplied with an extensive inventory of Bosch Security Systems DCN-NG/video wired conferencing equipment. This is intended for use with either of the auditoriums and includes 20 discussion units, plus chairman units and a translation system. The translation unit is mounted in a movable booth, which can be installed in either auditorium. The larger auditorium is fitted with Bosch infrared radiators enabling wireless language distribution to the wider room.

Located on the first floor are two technical rooms, these hold the patch-bays for the convention centres AV infrastructure, as well as the AV control and audio routing systems.

Each room contains a pair of Biamp Audia Flex CM DSP boxes equipped with IP2 (input) and OP2

A. The large auditorium is equipped with a dual projection system from Panasonic, which can be moved to suit the function taking place.

B. Biamp wall mounted Vol8 controllers select sources and volume.

C. Detail of the Panasonic PT-D5700 mounted on its motorised Audpack mount.

## Tech-Spec

**Video**
Audipack projector mounts
Atrium projection screen
Crestron TPMC-8X Control system
Extron MDA 4SV EQ S-video distribution amplifier
Kramer VP43 XL
Panasonic PT-D5700, PT-D4000 projectors
Peta projector mounts
Sony BRC 300 cameras
Wohler VAMP 1 Monitor

The larger of the two conference rooms seats 20, and features a single projection arrangement.

▶ (output) cards. The Biamp units perform two functions. Firstly they are used for audio EQ in each of the rooms. This is necessitated by the large amount of parallel glass walls, and hard floors in the centre. Several notch filters were needed to reduce feedback.

They are also used to provide corbranet interconnects between rooms if they are used in conjunction with each other. Biamp Vol8 wall controls are used throughout the building for basic volume control and source selection.

Also in the racks are Crestron Pro2 controllers, which interface between the TPMC-8X panels and the various matrices in use. Hülsmann had some tricky decisions to make when it came to specifying the control software.

"We had to compromise between making control pages for the technicians, giving them good access to the equipment and producing a simple pre-set configuration solution for the user. This was very difficult to get right. In the end we made a step-by-step configuration process for the user which was like walking them through matrix set up: 'I am in this room, which I am using for this type of event, my stage is here, and I am using this floor box for inputs.' We were successful in the end, but we had several meetings with the foundation to get the right solution."

A key component of the AV infrastructure on the first floor are the floor tanks. Each contains two power connections, four data access points, a pair of audio channels, fibre optic interconnects, S-video connections and VGA connectors.

The principle behind the cable infrastructure in the building was to make it as neutral as possible. The AV connections are two way, meaning that video or audio signal can be input at a floor tank or taken as an output.

A great deal of bandwidth has been built into the video system, which is capable of delivering HD-SDI signals up to 120 m without any need to boost signals or reclock. This enables video feeds from broadcast cameras, located inside, to be sent to an OB-Van or HD feeds to be shared around the building. The fibre infrastructure was also installed with the HD age firmly in mind.

Routing switchers located in the technical rooms make this pure infrastructure possible. The VGA system is switched over a 12x8 Extron Crosspoint matrix, the S-video has 24x24 channels (switched by an Extron MAV 2424 SV) and for the audio there is an Extron MAV 3232 A for both auditoriums.

The final piece of the puzzle is the digital signage solution. Like the rest of the systems, Thomas designed it to be as flexible as possible: "I wanted to have the screens available for a classic digital signage solution. Meaning you bring text and everything else over a data network, onto a PC, which plays in via a DVI or VGA connector. On the other hand I wanted it to be possible to just watch TV on any of the screens. So by using the media control remote unit, you could go and select a channel for the room you are in."

The result is that each monitor is equipped with a Dell PC running JVC's digital signage software, as well as being connected to the foundation's internal DVB-T and RF infrastructure.

And the fruits of Hülsmann's labours? Well they are an effective and easy to use media system, which fulfils the needs of the customer very well. Despite competing with construction contractors for concrete space and electrical contractors for cabling real estate the project ran smoothly and was ready for the official opening. The building was officially opened on September 25 at ceremony attended by Federal President Horst Köhler. ◈