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# Auditoria

Annual 2009

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# Collaborative effort

The design of a high-tech communication and presentation system for a pharmaceutical company's new 'campus of knowledge'

**Right: Novartis's auditorium, in full configuration**

Novartis, operating in 140 countries with a head count of nearly 100,000, is one of the world's leading pharmaceutical companies. The company's headquarters in Basel, Switzerland – home to numerous research, production and administrative buildings – has been transformed, in Novartis's words, into a "campus of knowledge, where interaction and encounter is encouraged and innovation inspired". The long-term campus master plan by Vittorio Magnago Lampugnani, professor of city planning history at the Swiss Federal Institute of Technology in Zurich, includes not only architecture and landscaping but also functional, ergonomic and cultural considerations. The campus aims to offer Novartis employees and visitors a well designed, comfortable platform for collaboration.

The keystone of the campus is an all-glass building designed by Frank O. Gehry, positioned at a prime location on the intersection of two new main streets. Below grade, the building includes an interactive computer learning facility and a divisible master auditorium.

"For Novartis the auditorium is to be understood not as an end in itself but as a tool for communication and collaboration," says Daniel Zurwerra, general manager of Virtually Audio. "As such it needs a degree of technical flexibility, connectivity and functionality."

Combining know-how and manpower, WSDG and Virtually Audio – both experienced AV technology consultant and engineering offices – teamed up on the AV design and consultation, designing systems employing

next-generation audio, video, system control and conferencing technology. As well as design architect Gehry Partners, others working on the project included local architect ANW, and Kilchenmann Telematik – which was responsible for the AV installation.

The room can be divided – as a full auditorium it seats 632; while with the division wall in place (which takes up some seat space) it is split into an upper auditorium (with 298 seats) and lower auditorium (with 171 seats). The upper and lower auditoria can be used simultaneously and independently – support spaces such as lobbies, audio video control rooms and translator booths are available for both. Entrance doors and a dedicated pre- and post-show area are located on two separate floors. While in terms of seating arrangement and density the upper auditorium is of a longitudinal, traditional approach, the lower auditorium offers an almost semi-circular seating arrangement that allows quasi face-to-face proximity and interaction in large, but nevertheless compact groups.

The moveable partition wall manufactured by IAC is designed to provide extreme noise isolation for simultaneous use of both upper and lower auditoria. A large lift handles the use of the centre section – this is used either as a motorised stage (in split configuration), or to hold more seating (in full configuration). The seating blocks are moved using a pressurised air 'hovercraft' system.

Although it is below-grade, the auditorium receives daylight through a skylight and the sand-blasted glass ceiling panels. Selected panels are motorised to allow the acoustics to be varied according to the different room configurations.







**Above: The lower auditorium in split mode**

**Below: The technical control room**

### Audio technology

A Studer Vista 8 mixing console and a CobraNet network serve as the core of the fully digital audio system. A key feature is the 'shared resources' concept that allows high flexibility in patching, optimising and routing incoming source signals (such as microphones, teleconferencing feeds, media players and floor tank inputs) to the receivers, which include the main loudspeaker systems in the main hall and lobby, broadcast feeds and translator booths.

All main loudspeakers are line array systems provided by Nexo, complemented by EAW subwoofers. A BSS Soundweb digital signal processor is used for modifying the loudspeakers' radiation pattern and sound pressure levels according to the auditorium's configuration. The svelte distributed mode surround loudspeakers – Tannoy's Mirage product – are covered by motorised wood panels.

The audio system is capable of delivering theatre-quality 5.1 surround sound in full auditorium configuration and offers appropriate monitoring conditions in the main control room. In split configuration, a Yamaha LS9 mixing console is used in the proprietary control room for the lower auditorium. Infrared-based infrastructure for simultaneous translation in three languages is provided, as well as an induction loop system for people with impaired hearing. The speaker lectern holds a high-sensitivity Microtech Gefell cardioid plane microphone designed for excellent speech intelligibility with low camera obstruction.

### Video technology

The video system, with its core component being a 64x64 Network high-definition serial digital interface (HD-SDI) routing matrix, is laid out for full HD 1080i capability. Computer signals are routed by an Evertz optical/electrical 32x32 routing

matrix. Fibre optical cabling enables long runs without impairing the 1920x1200 pixel-by-pixel accurate DVI transmission. Portable VGA/DVI transmitters are available for use at floor tanks.

The two motorised Stewart film screens (one in the centre for split configuration, and a wall-filling one in the front for full configuration) are illuminated by Christie 3-chip HD digital light processing projectors. In split configuration, the lower auditorium uses a rear projection system. The space is equipped with motorised Sony HD cameras at front and rear viewpoints. A Ross video mixing console and a title generator can be used to create broadcast-quality transitions and effects.

A Polycom video conferencing system is used to link audio and video to the world – be it a remote auditorium or an offsite research team. Internal and external webcasts can be created and streamed directly from the control room. Full broadcast-grade connectivity is available for hook-up of third-party broadcasting vehicles.

### Auxiliary technology and system control

An ADB theatrical stage light controller is used for operating the various moving head lighting fixtures. Site-wide AV control is implemented by Crestron touch-panel systems with standardised functional layout. This includes an automatic system status and fault detection console in the control rooms.

"The campus auditorium thus is ideally equipped for the various user scenarios that Novartis has envisioned for the space – from large media conferences and addresses from the CEO to scientific collaboration and exchange meetings," says Dirk Noy, general manager of WSDG's European office. ■

[www.wsdg.com](http://www.wsdg.com)

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