

Three-legged race

Three German-based firms have collaborated to provide integrated planning for media technology in venues, including a Formula 1 racetrack in Austria

Oliver Hackhausen, HMP Architectural Acoustics, Germany

Planning for highly engineered buildings such as media and broadcast centres have to be carried out under enormous pressure on time and costs. This has led to a unique working group of three offices being established to specialise in planning all areas of media technology required for the development of sports and entertainment venues of all sizes.

The partners within the group are three German-based firms: HMP Architectural Acoustics, Mirus Broadcast Design and sono Studiotechnik. Every partner within the group focuses on a specific field in broadcast centre planning.

HMP Architectural Acoustics is a firm of architects and engineers specialising in designing rooms that meet the highest acoustic demands. Many years of experience in requirements and workflow in media production enables the company to work as independent consultants for owners and the project developers. HMP employs

engineers for building and room acoustics, HVAC and structural design, as well as architects and interior and product designers, so that plans for a broad spectrum of services and advice can be offered. These range from the assessment of legal situations to the possibility of building in a desired neighbourhood, and from first drafts all the way to the complete planning of the project.

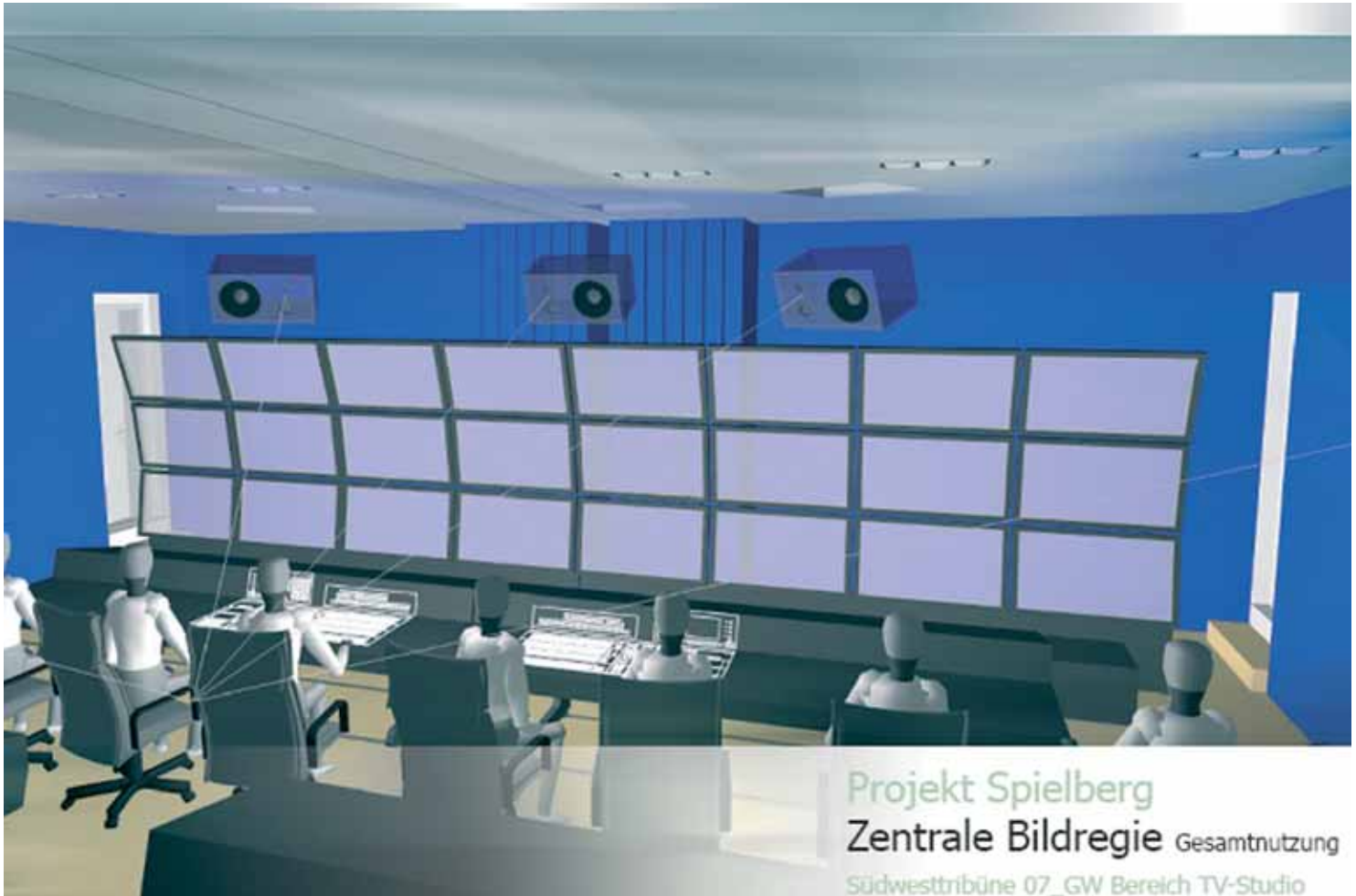
The second company, Mirus Broadcast Design (MBD), is an independent consulting company, offering specialised consulting, system design and project development in the broadcast and surveillance domains, emphasising individually customised solutions. MBD focuses on the implementation of new technologies and production workflows. With specialist experience in video and control networks for all facilities and applications, HDTV, fibre optics and wireless broadcast, the company offers qualified evaluation of latest technologies and related equipment, along with professional design skills.

Having started in 1987 as a service provider for radio and TV broadcasters, sono Studiotechnik, the company completing the trio, soon added system integration and design to meet the growing demand from customers. Until now sono has been involved in over 30 outside-broadcast van projects for public and private broadcasters, various studio and venue installations, and international mobile broadcast projects. Since 1999 sono has been constantly expanding its consultancy and system design department. Today sono offers full-scale consulting and system design services covering audio, video, intercom and electrics for recording and broadcast facilities, indoor and outdoor venues, live performance and live broadcast.

Three dimensions

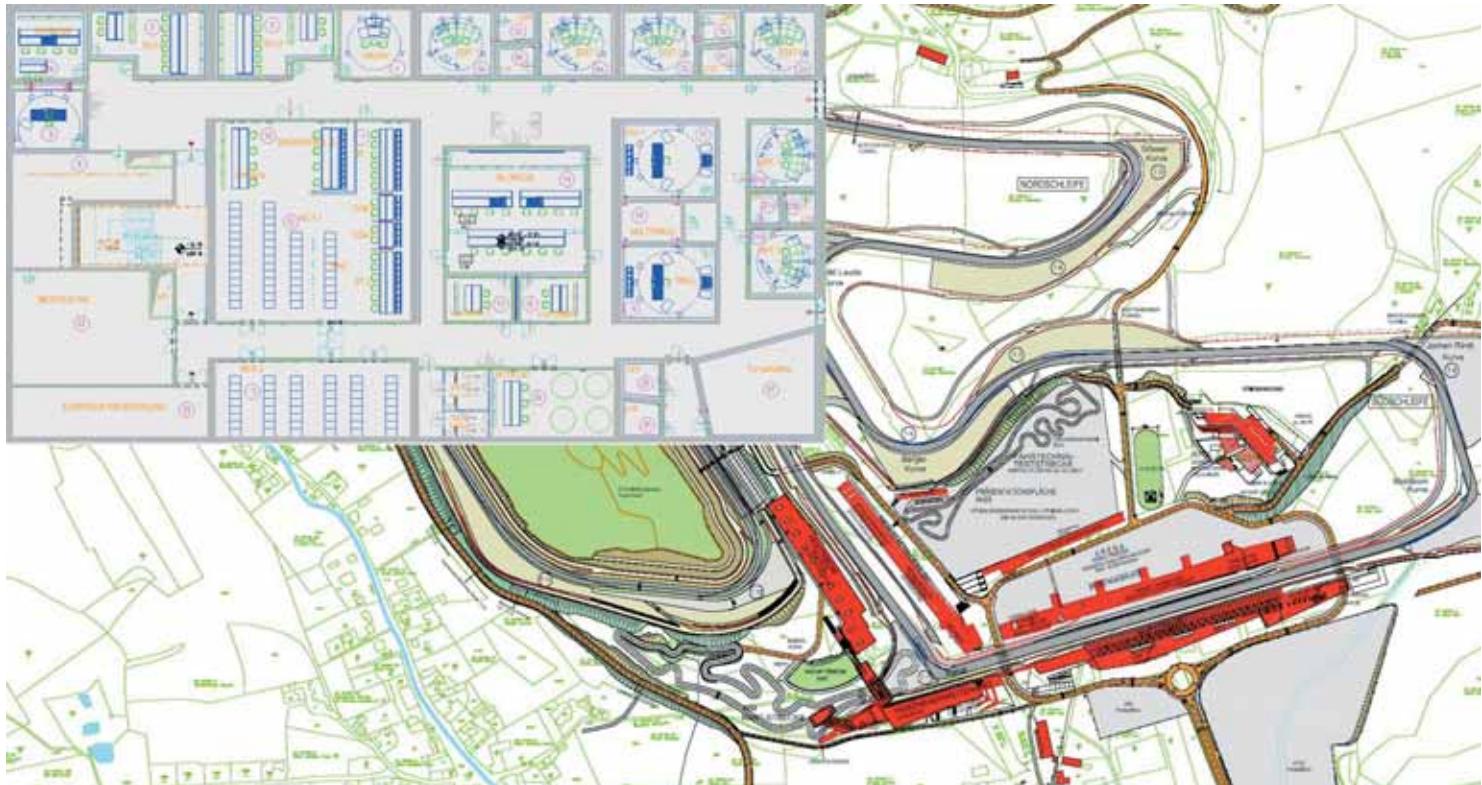
Together, the working group helps project developers and owners to find the required engineers for a particular project, right from the beginning. The different members believe in





[Opposite, above and below] 3D visualisations of studios and control rooms





Floorplan of the broadcast centre and a view of the Formula 1 racetrack in Spielberg, Austria

dealing with projects from the customer's perspective, rather than the supplier's.

The working group has been operating in the professional television and broadcast business for almost 20 years and offers all services needed in planning media technology for all types of venues such as multipurpose arenas and sports facilities. The services include live broadcast services, outside productions, system design and integration for TV outside-broadcast trucks, production studios, news production studios, play-out facilities and post-production facilities.

Since the beginning, due to ongoing research activities, the engineers have increased their theoretical knowledge and know-how in all fields of media production, post-production and transmission. Rules, regulations and principles are followed accurately within the design work to achieve the best possible solutions for customers and to meet their needs in terms of time and money. To help with the various tasks, the most advanced design tools and software are employed, such as AutoCAD 2006; ORCAD; VISIO; Eagle; EASE (for loudspeaker performance simulation); TSF-Designer database applications based on Microsoft Access; Microsoft-based software and a database for tenders and proposals.

As well as the most modern equipment for test procedures, such as acceptance tests and quality control, work with all the necessary test and measurement equipment for analogue and digital, audio and video, fibre networks, MPEG data streams and RFSignals, electro acoustics and room and building acoustics is used.

Because of the co-operation of all the different specialist engineers under one umbrella, the working group provides a variety of services unique in their field. The benefits for customers are multiple. There is one contractual partner for the whole media and event project instead of many individuals. The worked-out concept from draft to

tender documents and one-stop construction management also minimises the risk of incorrect planning and project delivery.

The race is on

Using their range of skills, the partners were able to generate all integrated media plans as independent engineers for a new Formula 1 racetrack, with its own broadcast centre, hotel and academy for aviation and motor sports, in Spielberg, Austria. The project had to be completed within just eight months.

The task covered all fields from building, room and electro acoustics, audio and video to all different networks and broadcast techniques. First, all the specific requirements for a racetrack were

The partners generated all integrated media planning within eight months

studied thoroughly. For this process to be successful, it was mandatory to study the existing workflows at racetracks and work out a concept covering all the areas involved with the show production, such as electro acoustics, communication and network techniques on the one hand and the broadcast production, such as pre-production, creation of content, post-production, content management and transmission on the other. This phase was undertaken as a team approach together with the client, based on mutual exchange between the parties.

During the modelling and design stage the working group discussed solutions for the system layout, room layouts and acoustic treatments of studios and control rooms through alternative

proposals. At this stage, specific products were then defined. After having finally discussed and outlined the system with the customers, the detailed design stage was entered. All the necessary drawings were provided, such as block schematics, system wiring and piping, mechanical construction, ergonomics and acoustics, and calculations and simulations for PA systems. Within this phase, hardware and software specifications were also defined.

The planning was completed within the extremely short period of eight months, from first concepts to final implementation planning.

The next steps of work (after the final acceptance of the designs by the client) will be the creation of the tender documents and assistance during their negotiations with manufacturers and system integrators. During the construction process the working group takes care of the project management and survey of installations. It will also assist with approvals, define and control test procedures, and carry out acceptance tests. As soon as the system is ready for start-up, the working group's specific engineers will assist the client's engineers in getting familiar with "their system" and check all functions and software implementation. Before the systems are nearing completion the working group organises and runs seminars and training classes both for operators and service engineers.

The start of construction work on the racetrack is advised for January 2006, with the first races expected in 2008.

Besides the planning for the Austrian racetrack, the working group recently worked on different projects including designs for a new 24-camera HDTV outside-broadcast van for TVN in Hannover, Germany; the new headquarters of Beijing Television and China Petrol Plaza in Beijing; and the integrated security and safety system for the Johannesburg Metropolitan Police Department JMPD in South Africa. ■