



Innovative light control in Hamburg's new musical theater

## Beckhoff lighting control for the musical, "Das Wunder von Bern" (The Miracle of Bern)

The new "Stage Theater an der Elbe" in Hamburg, Germany opened in November 2014 with the world premiere of the musical, "Das Wunder von Bern" (The Miracle of Bern). The facility is the first new theater built by musical production company Stage Entertainment, and sets new standards in the world of musicals for advanced stage equipment. The success story of Stage Entertainment – which operates 25 venues around the world, including eleven in Germany – began in 2001 with a performance of Disney's "The Lion King", which has delighted audiences to the tune of over 10 million attendees to date.

With "The Miracle of Bern" (which is based on the Sönke Wortmann film of the same name), Stage Entertainment producer and owner, Joop van den Ende deliberately decided on a production with a German theme. Set against the background of the German post-war era and featuring a touching father/son story, the musical tells the story of Germany's first World Cup soccer title in 1954. The "Stage Theater an der Elbe", with investment costs estimated at 65 million euros, was built in less than three years in the port area of Hamburg. The impressive building, with its high glass façade and domed roof with shimmering stainless steel shingles, was built on steel and concrete supports drilled into the Elbe River sand. Various foyers, the auditorium, with a capacity of 1,850; the main stage with an area of almost 350 m<sup>2</sup>; the two auxiliary stages; the service building with dressing rooms; as well as the workshops and plant rooms, cover an area of 10,200 m<sup>2</sup>. The "Stage Theater an der Elbe" meets all the requirements of a modern musical theater and a global destination, designed with Stage Entertainment's very elaborate productions in mind.

### Flexible lighting control via Embedded PC and DMX Terminals

Playing key roles in modern musicals – in addition to the music, songs, dance routines, stage design and costumes – are light, sound and special effects, much more so than in classical theater and opera performances. Lighting, in particular, is an important tool to grab the attention of viewers, create tension, and to rouse emotions. In addition to the stage lights, so-called non-dims (switchable power supplies), blue light, backstage way lighting, video streams, and architectural lighting installations must be controlled. Typically, this is accomplished with a lighting control console. "In addition to the main lighting control console, we have a second, independent lighting control system referred to as Scenestore, which we use for rehearsals or for backup lighting in the event of a fault," said Andy Peistrup, Stage Entertainment's lighting coordinator. "In lighting control systems, we often have the problem that, in principle, only one DMX transmitter feeds into the system. Even in constellations with a main desk and an emergency desk, the DMX output





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takes place at a single point. If this device fails, the lighting system, including the room light, is no longer controllable, and the auditorium and the stage are in the dark. The Scenestore, developed by Stage Entertainment, enables the room light to be activated in the event of a fault, and the data from the lighting control console to be suppressed. Power supplies that are switchable via DMX (non-dims), such as for moving lights or video cameras, can also be controlled with the Scenestore.

"If there is ever a problem at the lighting control console, for example a short-term DMX loss during saving, fixture cloning, or rebooting, the non-dims are de-energized and these consumers are switched off. Restarting and activating a rig with possibly 120 moving lights may take 15 to 20 minutes," said Andy Peistrup. Failure of the blue light could severely disrupt a show. "That's why it is important to be able to control these 'channels' independently," noted Stage Entertainment's lighting expert. "This is where our Scenestore control panel comes in, controlling the channels independently of the lighting control console. The channels remain at their set values – regardless of the state of the lighting control console and/or the operator." Scenestore is also used during rehearsals: the saved lighting scenes can simply be called up through the control panels on the stage or by the usher, thereby avoiding the need to start up the lighting control console. A specialized lighting technician is no longer required. The same goes for maintenance or cleaning operations, as Scenestore, or various flexible auxiliary control panels, enable the room light to be switched on without the need to power up the main lighting control panel. The auxiliary control panels are linked to the central controller in the control cabinet and can also be locked from there.

The Scenestore is controlled by a CX5010 Embedded PC with directly attached DMX terminals and further I/O modules for controlling distributed sensors



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The "Stage Theater an der Elbe" in Hamburg, Germany is the first new theater building created by musical production company, Stage Entertainment on its own. It is equipped with state-of-the-art stage technology and breaks new ground in the world of musicals.



Scenestore is a secondary lighting control system developed by Stage Entertainment. The system is independent of the main lighting control console and used for rehearsals as well as for backup in the event of a fault.

and actuators. "We decided to use the PC-based control platform because it is designed for continuous industrial operation, and components can be supplied within 24 hours. With a total of nine performances running seven days a week, reliable technology is a must-have for us," Andy Peistrup added. "The operating system and programs are stored on a removable memory card, so that system troubleshooting and service are easier in the event of a fault. After our first positive experience with Beckhoff, we intend to use the technology in other shows."

Further information:

[www.stage-entertainment.com](http://www.stage-entertainment.com)