



University of Television and Film Munich, Germany

Lights, camera, action – with a starring role for safety

As part of a new construction project at the University of Television and Film Munich, four film and TV studios were fitted out with technology that is worthy of an Oscar. LED and daylight spotlights, LED background lighting, and electrically traversing telescopes and lighting fixtures offer completely new opportunities for aspiring filmmakers. And the safety technology also plays a leading role in this project.

The new University of Television and Film building, which is both aesthetically pleasing and functional, is located right in the center of the Bavarian metropolis of Munich. "A special highlight of our educational offering is the four TV and film studios equipped with state-of-the-art lighting technology," emphasizes professor Peter C. Slansky, head of Department II Technology at the University of Television and Film Munich. For example, instead of

the halogen technology previously used, the considerably more modern and versatile LED technology was selected in the two TV studios.

Up to 200 spotlights in the four studios ensure perfect lighting and the right mood for the artistically ambitious final film products. All the technical equipment was supplied by Arri Lighting Solutions GmbH of Berlin, a company with a long tradition in camera and lighting technology. The majority of the film

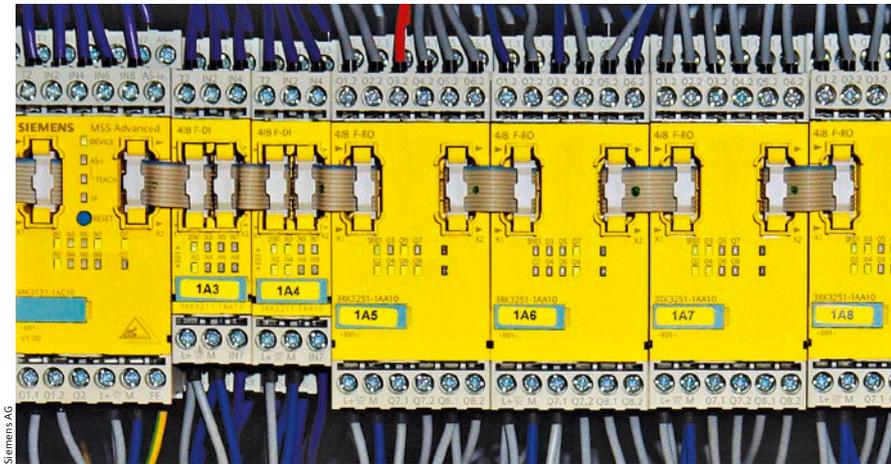
and TV equipment can be moved via motors from a central control room. "This is why we had to fulfill considerably higher safety standards than usual during the implementation," explains Thomas Luther, technical manager at Arri.

Technology with high safety requirements

Due to the complexity resulting from the many setting and moving options of

Safe concept – Advantages

- Sirius 3RK3 modular safety system (MSS)
- MSS ES software
- Sirius 3RA6 compact starters
- Sentron 3VL circuit breakers
- Sirius 3UG current monitoring relays
- Sinamics G120C frequency inverters
- Safety Evaluation Tool



The MSS 3RK3 is the ideal safety solution for the University of Television and Film Munich

the lighting equipment, it was necessary to select a safety solution that was flexible yet at the same time as efficient as possible. "We found this solution with the Sirius 3RK3 modular safety system (MSS)," says Luther. In addition to meeting the requirements stipulated by the new Machinery Directive, the designers also had to keep in mind that not only qualified technicians would work with the lighting, but also university students. This resulted in hazard categories SIL2 and SIL3 as defined by EN/IEC 62061 and PLd and PLe according to EN ISO 13849-1. The supplier was able to quickly and easily meet these standards through the preassembled function elements supplied by MSS.

In the film studios, lamp holders are moved via cables, and telescopes are moved for individual spotlights in the TV studios. For safe switching off in hazardous situations, Arri installed MSS Advanced with a Profibus connection. Up to nine expansion units can be added to the central module, which is already equipped with eight sensor inputs. While only one device may be used during operation by a student, up to six spot telescopes can be moved simultaneously in "qualified operating mode" by a technician. Luther confirms that this is no problem with MSS Advanced: "Due to the scalability of the MSS, we could provide the necessary safety solutions in an especially compact, clearly arranged, and economical manner."

One notable characteristic of MSS Advanced is that it is possible to add a turn-on delay time to any connected device by checking the appropriate box in the MSS ES software. This is very helpful at the university, since, for example, in TV studio 1, 60 frequency converters, 60 switched-mode power supply units, and 60 LED power supply units are connecting to the grid at the same time during start-up.

Safe drive technology is also integrated: Sinamics G120C frequency inverters are used for the traversing axes of the telescopes, the mobile flying equipment, and the lamp holders, which prevent unwanted starting thanks to the integrated Safe Torque Off (STO) function. An extra MSS Basic was added to the curtain-lowering mechanism for safe brake control.

Multiple diagnostic options, simple documentation

Engineering, programming, and parameter assignment are performed with the MSS ES software, which is able to evaluate and display comprehensive diagnostic information and, due to its graphical set-up, makes troubleshooting especially easy. "Because of the comprehensive diagnostic options, the service requirements of the entire plant are significantly reduced," explains Jörg Müller, studio technician at the University of Television and Film Munich. All

the drives are switched via Sirius 3RA6 compact starters that deliver important diagnostic information. By accessing the compact starters via MSS, individual drives or drive groups can be switched off selectively during an emergency stop without making the entire plant currentless.

With the Safety Evaluation Tool, available online, users are also able to very easily create the documentation that has been required since the end of 2011 by the Machinery Directive. In this process, the program determines the safety level by selecting and allocating the components used.

Simple solution for complex tasks

Altogether, four full versions of MSS Advanced are responsible for the safety of the two film and two TV studios at the University of Television and Film Munich. "A comparatively simple solution for a complex requirement," conclude Luther and Müller. Professor Slansky is also pleased with the "safe" equipment he is able to provide for his students: "Only with optimal performance, including in the area of safety, is it possible to train the creative filmmakers of tomorrow." ■

INFO AND CONTACT

siemens.com/sirius-mss
rudolf.kubiczek@siemens.com