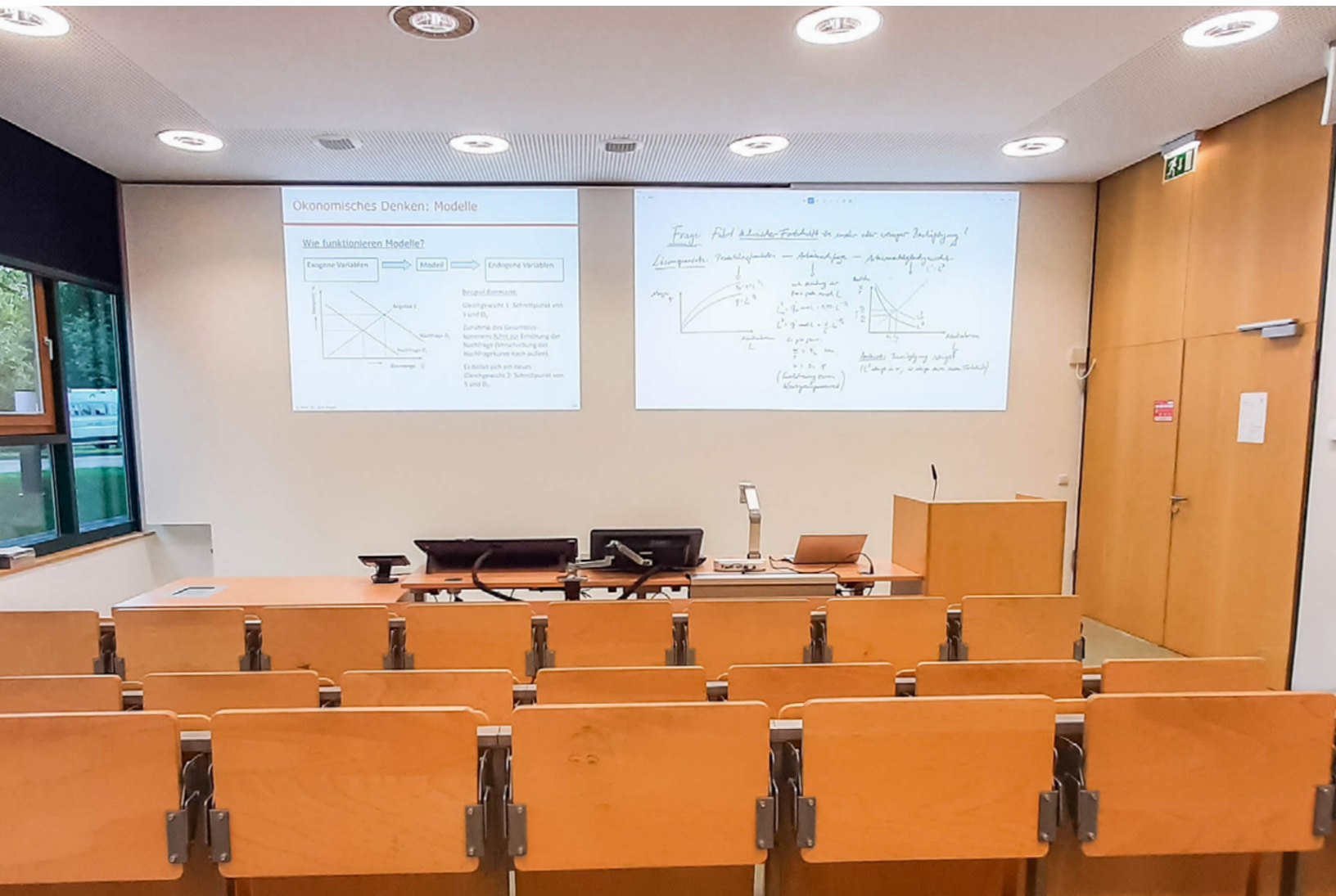ATLONA
a PANDUIT company

Visualizing an Interactive Learning Environment

Technology managers as Stralsund University upgrade the AV and IT
infrastructure in two auditoriums to create modern learning spaces

The northern coastal regions of Germany are often referred to as the German Riviera, and for good reason. With two distinct seacoasts – the North Sea on the western side and the Baltic Sea to the east – there is a lot to love about the picturesque villages that dot the coastlines. The same goes for lightly inhabited islands like Rugen that favor idyllic scenery above all – leading many to refer to the region as Germany's best kept secret.

Just across the water from Rugen to the mainland lies Stralsund, itself a beautiful city far from the action of Berlin and other better-known cities. One association of the town that is not a secret to young and innovative minds is Stralsund University, an applied sciences institution that specializes in technical education fields such as electrical engineering, computer science and mechanical engineering.

It makes sense then that technology managers at Stralsund University have been thoughtful about modernizing their learning infrastructure. In fact, they were so sure that upgrades were imminent that they recently hired a regional electrical contractor to run a network cabling infrastructure for two auditoriums that serve as modern, interactive learning spaces. The idea was that upon finding the right technology partners, the appropriate infrastructure would be in place for the AV and IT system upgrades required to support their vision of an interactive learning environment.

That search was answered when a representative from Atlona shared a concept that connected with their vision. It wasn't long before IBB Elektronik was brought on board to bring the conceptual design to fruition, specifying gear from Atlona, Biamp, Panasonic and Wacom for the installation. IBB Elektonik's Technology and Sales Manager Martin Bade took the lead on specification and systems design before overseeing the integration of all AV systems – a process that moved along quickly once on site.

"This was one of most well-organized projects we have worked on thanks in large part to the end customer's advance preparation," said Bade. "They knew exactly what they wanted – we just had to realize their vision. Once we were on site, the installation took two or three days at most."

> **"The Velocity control environment provides flexibility to support different workflows."**
>
> -Martin Bade, Technology and Sales Director, IBB Elektronik

Choose Your Own Layout

Two Wacom Cintiq Pro pen displays contribute to a dynamic learning experience in each classroom, which instructors leverage as annotation devices. One display is larger than the other (one Cintiq Pro 24, and one Cintiq Pro 32), and learning content from both pen displays can be added to the network on demand through an interactive touch screen. Instructors can also draw and adjust content before sharing.

An Atlona OmniStream networked AV system feeds that content to three ceiling-mounted Panasonic laser projectors, with OmniStream's fast, flexible switching allowing instructors to feed the projectors in any combination with immediate results. The system includes AT-OMNI-111 AV encoders and AT-OMNI-121 AV decoders, the latter of which receive and prepare the signals for presentation through the projectors.

The projectors display the content on a white wall behind the instructor's desk, and the instructor can choose the layout (standard mode, cinematic mode and more) that represents the most effective presentation for each lesson.

"The AV system is managed by a centralized Velocity Gateway on the network with an Atlona touch panel. Content from the source PCs in the room can routed to the projectors over the network via OmniStream," said Bade. "The content is fed to one or more projectors, depending on the subject and the goal of the instructor. OmniStream's fast switching capabilities ensure that the instructor can switch between sources and display modes with no latency, which creates a consistent learning experience for students."

For example, the middle projector offers wider image projection and will be used when the instructor wants to present information in what he calls "cinematic mode"; that

projector can be turned off when the learning content is best presented through the smaller projectors at left and right, with different content from each Wacom panel. Instructors can choose these and other projection layouts using an Atlona Velocity AT-VTP-1000VL 10-inch touchpanel, which also serves as the control surface for many additional AV functions in the room.

"It is also possible to create an individual video distribution for any of the three projectors," said Bade. "Some professors just want a standard template for educational lessons they can quickly call up and use across all classes. Others want very specialized templates they can use with the interactive panels, or individual layouts they can easily modify. The Velocity control environment provides that flexibility to support different workflows."

It's a Hybrid World for Learning

The "individual video distributions" Bade speaks of often come from the Atlona AT-HDVS-CAM added to the back wall. "This is the visual element that makes online education possible," he said. "When they do hybrid lessons, they can take advantage of six preset positions that will allow remote learners to see individual screens or a complete classroom overview. It can also be adjusted to focus on the instructor during a lecture."

Bade installed an Atlona Omega AT-OME-MS42 4x2 matrix switcher that is often used when a professor wants to bring his laptop into the visual environment or use other media such as a document camera, which is also connected to the switcher. "When instructors connect to the OME-MS42

switcher, they have immediate access to the camera and, in one of the spaces, a Nureva HDL300 soundbar. That provides an audio and microphone solution in the smaller auditorium, and the OME-MS42 can add the audio as needed."

The larger room features a Biamp Nexia DSP conference system, which offers 10 mic/line inputs and six mic/line outputs. The OmniStream system generates an AES67 audio stream to move audio sources on and off the network. "We have wireless microphones with headsets and a cable microphone on a stand. These and other audio sources are combined into the DSP to present clean sound for those physically in the room as well as for hybrid learners. Instructors can also activate different audio presets on the Velocity touchpanel."

The OmniStream networked AV ecosystem also supports longer distance signal distributions, including USB connections from the Atlona camera and the Nureva system. OmniStream AT-OMNI-311 USB to IP adapters prepare the signals for transport over the network, and AT-OMNI-324 convert the IP signals back to USB at the destination. The entire OmniStream distribution environment, including the AV encoders and decoders, connect to a Netgear managed switch.

"OmniStream is the reliable transport mechanism for all this longer distance traffic, and really makes it possible to present visual content in so many flexible ways," said Bade. "With a Velocity hardware gateway at the center of it all to map and control signals, the Stralsund team has achieved precisely what it set out to do."

SELECT FEATURED PRODUCTS

MODEL	DESCRIPTION	
AT-VTP-1000VL	The Atlona AT-VTP-1000VL is a Velocity 10" touch panel with integrated surround LED lighting. It features contemporary, refined styling with 1280×800 native resolution, and a capacitive glass surface that supports multi-touch.	
AT-HDVS-CAM	The Atlona AT-HDVS-CAM is an enterprise-grade PTZ camera designed for use in video conferencing and other applications such as lecture capture and distance learning. It features a USB 2.0 interface for video and camera control.	
AT-OME-MS42	The Atlona AT-OME-MS42 is a 4×2 matrix switcher with USB-C, DisplayPort, and HDMI inputs, plus HDMI and HDBaseT outputs.	
AT-OMNI-311	The Atlona AT-OMNI-311 works in tandem with the AT-OMNI-324 for extending USB from peripheral devices to a PC over Gigabit Ethernet. The OMNI-311 interfaces with a PC or other host device.	
AT-OMNI-324	The Atlona AT-OMNI-324 works in tandem with the AT-OMNI-311 for extending USB from peripheral devices to a PC over Gigabit Ethernet. The OMNI-324 features a four-port USB hub for peripherals.	
AT-OMNI-111	The Atlona AT-OMNI-111 is a networked AV encoder for HDMI sources up to 4K/60 4:4:4 and HDR (High Dynamic Range), plus embedded audio and RS-232 or IR control pass-through.	
AT-OMNI-121	The Atlona AT-OMNI-121 is a networked AV decoder for HDMI output supporting resolutions up to 4K/60 4:4:4 and HDR (High Dynamic Range), plus audio embedding and de-embedding, and RS-232 or IR control pass-through.	

ISO 9001:2015 CERTIFIED

ACADEMY TRAINING