Photo courtesy of Sagar Kolte via Wikimedia Commons

Extron NAV Pro AVoIP Connects Researchers at Korea Institute for Advanced Study with Peers Worldwide

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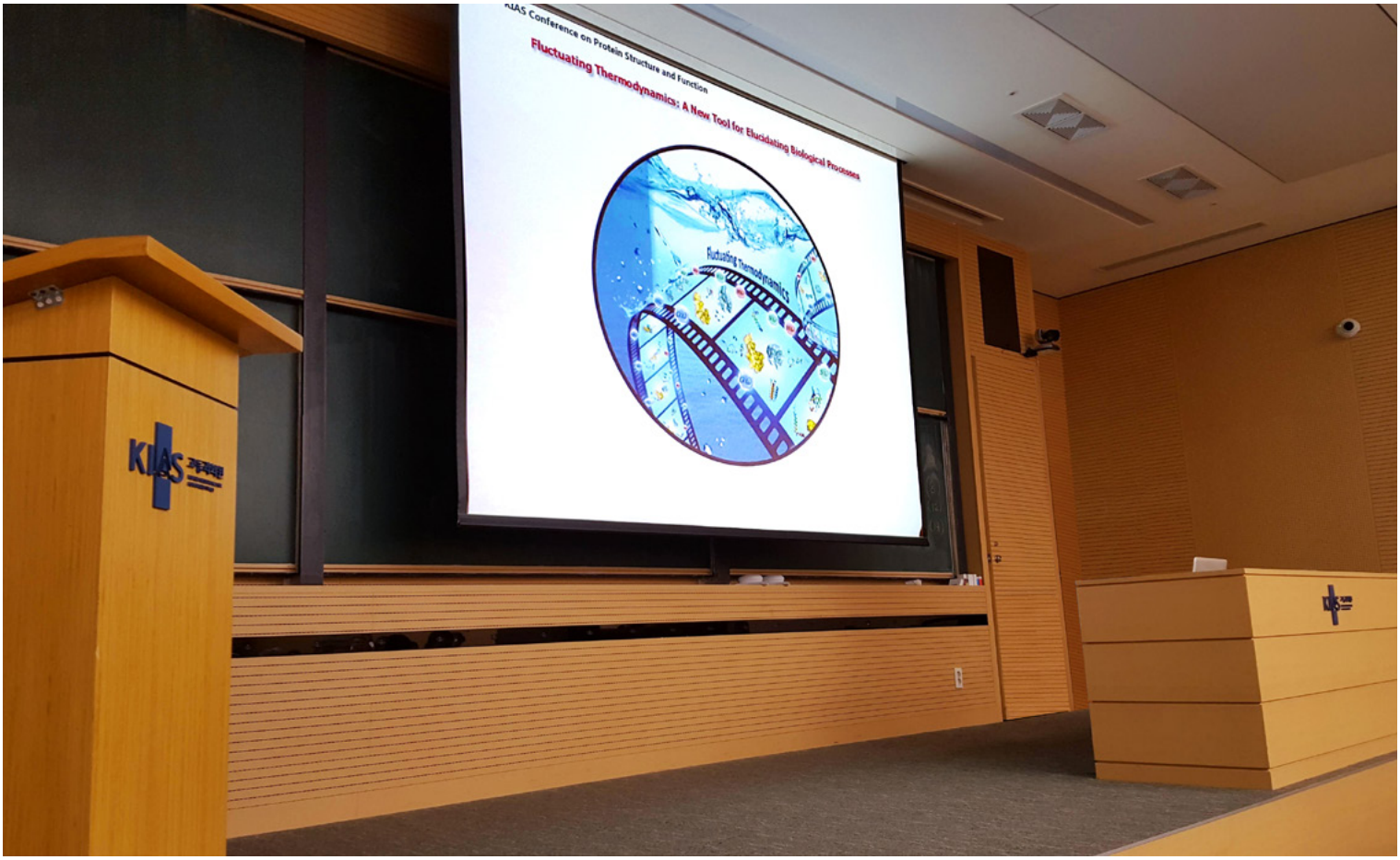
>
> Mr. Dong Hee Ahn
> General Manager
> Neuroo Digitech

Korea Institute for Advanced Study - KIAS - was founded in 1996 by the government of South Korea to promote research excellence in the basic sciences. KIAS is located on a 30-acre site in Seoul, where its members are provided with a research-friendly environment that fosters the advancement of learning and the discovery of new ideas in the fields of mathematics, physics, and computational sciences. The Institute is a destination for scientists from all over the world to conduct collaborative research. It hosts international meetings, seminars, workshops, and seasonal schools where participants exchange ideas across disciplines and disseminate research findings.

Challenges

To further its collaboration goals, KIAS embarked on a project to equip its facility with a robust and professional VTC, video teleconferencing, capability to connect its collaboration sessions, meetings, and seminars to presentation spaces throughout the building and to scientists anywhere in the world. After conducting an initial survey of potential VTC system vendors, KIAS engaged its long-time AV supplier, Seoul-based pro AV integrator Neuroo Digitech, who arranged a design consultation at the Extron Regional Training & Support Center in Seoul. KIAS came away from that meeting impressed with Extron's products and people and decided



Knowledge sharing in action at Korea Institute for Advanced Study lecture hall. Photo courtesy of Korea Institute for Advanced Study.

that a solution using Extron's NAV® Pro AV over IP platform was the most cost-effective way to reach endpoints near and far.

Design Solution

KIAS required video teleconferencing connectivity between four meeting spaces within their main building, including a large 100-person lecture hall and three 30-person meeting rooms. These venues also needed VTC connectivity to overseas participants via the Internet. Neuroo Digitech completed the system design in one month, then proceeded with installation, which took 15 days. The inherent simplicity of distributing AV over the existing enterprise data network infrastructure made such a rapid design and install schedule possible.

Lecture Hall VTC System Includes Multiple AV Sources and Displays Connected Via NAV Pro Networking

Attendees at sessions held in the lecture hall watch 4K video on a projection screen and two 129" flat panel displays. AV sources available to presenters include a PC, three PTZ cameras with joystick control, and a VTC hardware codec. A ceiling array microphone captures room sound. Presenters speak into wireless microphones. All mic audio passes through a DSP audio conferencing processor and audio mixer to combine the various sound sources, perform echo cancellation, and apply other sound conditioning before delivery to ceiling speakers. Content is streamed to remote audiences via the VTC hardware codec and through the Zoom unified communications platform.

A 1 Gbps Ethernet switch performs AV matrix switching to route AV signal sources to their destinations. The AV sources interface to the switch via six NAV E 101 encoders which convert HDMI signals to Ethernet. The switch sends the selected sources to the desired displays through five NAV SD 101 decoders which convert Ethernet back to HDMI. The NAV encoders and decoders are configured by a NAVigator Pro AV over IP System Manager which, augmented with the NAVigator 96 Endpoint Upgrade LinkLicense®, controls matrix switching.

Smaller Meeting Rooms Equipped with Scaled-Down Version of Lecture Hall VTC System

The VTC systems in the three 30-person meeting rooms share the same design as the 100-person lecture hall. The meeting room VTC systems are identical to the lecture hall VTC system, except that these smaller venues are equipped with one camera and one 55" flat panel display. This reduced the number of NAV Pro endpoints per room to four encoders and four decoders. KIAS decision-makers were delighted with how the design scaled so easily thanks to the versatility of NAV Pro AV over IP networking.

The lectern. Button panels plus an interactive touchpanel GUI on an iPad comprise the VTC-AV user interface. The lectern PC's display is at left. A guest laptop can connect via an Ethernet cable in the compartment upper right. Photo courtesy of Neuroo Digitech.

Intuitive Control of Presentation Materials and VTC Functions from the Podium

Presenters can advance their PowerPoint presentation slides, perform on-screen annotations, and control the VTC system without distraction, all from the podium. They select VTC modes and functions using clearly marked buttons on the podium's NBP 50 and NBP 200 Network Button Panels. With a simple press of the clearly labeled buttons, presenters or moderators can select AV sources, turn displays on and off, and raise, lower, or mute audio volume through an IPCP Pro 250 or IPCP Pro 550 control processor. Pre- and post-meeting AV system configuration is performed via an interactive user interface on the podium's iPad Air® tablet. An IPCP Pro 350 control processor translates user selections from the iPad Air into AV system hardware commands and performs the tasks. The LinkLicense for User Interfaces upgrade on the IPCP Pro 350 allows the AV system control functionality on the iPad Air.

Results

As they finalized the requirements for their video teleconferencing system, KIAS reached out to several AV system suppliers to explore options. Of all the suppliers KIAS approached, only Extron provided the level of support that KIAS felt their project deserved.

KIAS was impressed with the solid, actionable technical information available on Extron's website, as well as the case studies on the website that chronicled user experiences with applications similar to theirs. KIAS's comfort level with Extron was bolstered by the responsiveness and technical expertise of the people at Extron's nearby Seoul Regional Training & Support Center.

Extron's quotation was not the lowest bid, but KIAS recognized that the NAV AV over IP system was the most cost-effective solution for long term needs. Once the VTC system was installed and fully operational, all stakeholders at the Institute were fully satisfied. In fact, according to Mr. Dong Hee Ahn, Neuroo Digitech General Manager, "Once KIAS decision-makers saw how the NAV Pro AV over IP design scaled so easily to accommodate meeting spaces of various sizes, they almost immediately began planning for future phased expansions of their VTC capabilities by adding more NAV Pro endpoints to extend the reach of their knowledge sharing events."

The three conference rooms are each equipped with an AV rack containing four NAV Pro encoders and four decoders that implement the AV over IP network in conjunction with the Ethernet switch at the top of the rack that works with the building's enterprise data network. Photo courtesy of Neuroo Digitech.