SIBUR Enhances Communication and Collaboration at Headquarters with Extron AV Systems

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> **Petr Esilevskiy**
> Director of the Department of Multimedia Systems at Asteros

SIBUR is Russia's largest integrated gas processing and petrochemicals company, employing more than 27,000 workers who are spread across 26 facilities from Moscow to Western Siberia. Execution of large investment projects, extensive business activities, and recent efforts to rebrand SIBUR as one corporation rather than 26 companies made a full-scale IT infrastructure and AV systems overhaul at their Moscow headquarters mandatory. To improve corporate operations and efficiency, office space was repurposed into collaboration rooms of varying sizes and functionality. The new area consisted of 22 meeting rooms, a divisible training room, and an executive conference room.

Each room required a digital switching system to be installed in a credenza with independent AV control. Because of the man hours and expenses associated with rebranding as a single global entity, it was critical to select equipment that was quick to install, reliable, economical, and easy to operate. SIBUR wanted to have all systems installed and operational in four months, presenting an additional challenge for the project. Asteros Group was brought in to actualize SIBUR's vision for the new area using Extron DTP® and XTP® digital switching, audio, and control systems, plus GlobalViewer® Enterprise – GVE software for centralized AV resource management.

"We recognize Extron as a world leader in the fields of video switching, audio, and device control, and their wide variety of systems and products are suitable for solving problems of any complexity," says Petr Esilevskiy, Director of the Department of Multimedia Systems at Asteros. "Extron's DTP and XTP matrix switchers, Pro Series control systems, and GVE software fully correspond to the concept of the SIBUR HQ project."

Extron

DTP: All-in-One Solution for Meeting & Training Rooms

System designs were based on a set list of products. This allowed operational standardization across functionally similar rooms. Each room provides at least a Philips 84" 4K or 65" Full HD flat panel display, a local computer, along with AV and network connectivity. Larger meeting rooms provide three or more displays and offer access to a Polycom videoconferencing system.

Asteros installed the Extron DTP CrossPoint 84 4K IPCP MA 70 8x4 scaling presentation matrix switcher, which provided all SIBUR needed in a single enclosure. The comprehensive features and built-in signal processing capabilities replaced several individual system components. Also, the 2U enclosure fit easily into the credenza with the rest of the AV equipment.

When the main display is the 84" model, the credenza with the DTP CrossPoint® matrix switcher is positioned close enough to allow 4K video transmission over HDMI cabling. The independent scaler on each DTP output optimizes the video output for the flat panel displays mounted on side walls. Bidirectional RS-232 signals are transmitted alongside the AV signals over the CATx cable, enabling remote control without needing additional cabling.

A two-sided Extron Cable Cubby 1400 Series/2 Cable Access Enclosure embedded in the table and an Extron Retractor Series/2 Cable Retraction System mounted beneath it provide AV connectivity and power for personal devices. The retractor systems include three-foot (0.9-meter) lengths of HDMI, VGA, and audio cables. Communication and power are over the Ethernet cable, reducing the total number of independent power and network drops.

Source signals are switched and extended to the DTP CrossPoint matrix switcher via an Extron DTP T USW 233 three-input switcher/transmitter mounted next to the retractor system. It is configured for auto-switching among the active HDMI and VGA sources, and input audio is set to follow the video switch. AV and control signals are sent to the matrix switcher over one shielded twisted pair cable, saving installation time and cost. In all rooms that feature multiple flat panel displays, a DTP HDMI 4K 330 receiver is mounted behind each display.

"Extron's DTP CrossPoint matrix switcher is the multi-function presentation device that has become the key AV and control signal switching and processing device for general meetings and training area," says Esilevskiy. "Accommodating all necessary scaling, switching, and control processing devices into a single housing simplifies support and significantly reduces gear acquisition costs."

Audio

The full DSP capabilities of the DTP CrossPoint 84 IPCP MA 70 matrix switcher's built-in audio processor, along with the integrated Class D mono amplifier, further streamlined the application by serving as the core components of the 100V distributed sound system. Although it was an unusual request, Asteros configured the processor and then trained SIBUR's IT staff to use Extron DSP Configurator software to manage audio processing requirements.

For remote displays in larger spaces, signals are extended using Extron DTP HDMI 4K 330 Series transmitters and receivers. Photos courtesy of SIBUR.

Extron FF 220T Flat Field® speakers were selected for their patented technologies and low-profile enclosure. The plenum-rated speakers provide consistent, listening area sound levels and wide room coverage, requiring fewer units to support the room. Small meeting rooms use the speakers built into the display for sound reinforcement.

Control

The master design called for user-friendly system control across functionally similar rooms. An additional client request was to have a touchpanel that could be removed or hidden when not in use. To meet these requirements, an Extron TLP Pro 720C 7" Cable Cubby® TouchLink® Pro Touchpanel was installed in the table. When the flip-up lid is opened, the touchpanel automatically wakes and turns on the room's AV equipment. The TouchLink Pro touchpanel is connected to the Gigabit Ethernet switch on the DTP CrossPoint matrix switcher's integrated IP Link® Pro control processor. Working together seamlessly, they provide a complete AV control system. "The advantage of TouchLink Pro touchpanels from the end user's perspective is that all switching and intermediate steps are hidden; they only interact with the touchscreen to select the source and display devices," says Esilevskiy.

Asteros used Extron GUI Designer software to customize the touchscreen interface. The design includes as few menu pages as possible while providing full control over source selection and play back. In rooms with videoconferencing capabilities, the Polycom codec is controlled through the touchpanel's teleconference mode controls to provide easy connection and clear communication with remote SIBUR offices, vendors, and customers. The consistent AV system control interface makes it easy for employees to use any room.

Divisible Training Room

The project included new training facilities with a two-way divisible room designed to help improve internal communication. Each area provides

an instructor table, a main display, and a DTP CrossPoint presentation matrix switcher in a credenza. An Extron Cable Cubby 1400 enclosure with network and AC power connectivity and a Retractor system with Extron Show Me® HDMI, VGA, and audio cables are installed in each instructor table.

One difference between the training room installation and the AV systems in the other rooms is the sound system. It consists of an Extron DMP 128 C P AT audio processor and audio amplifiers that feed the distributed speaker system. The DMP 128 supports the various audio tasks, including audio processing for inputs and outputs, acoustic echo cancellation — AEC for conferencing, and automixing of the microphones. Its POTS analog phone interfacing supports the conference bridge, and the Dante™ capability enables digital audio distribution over the corporate LAN.

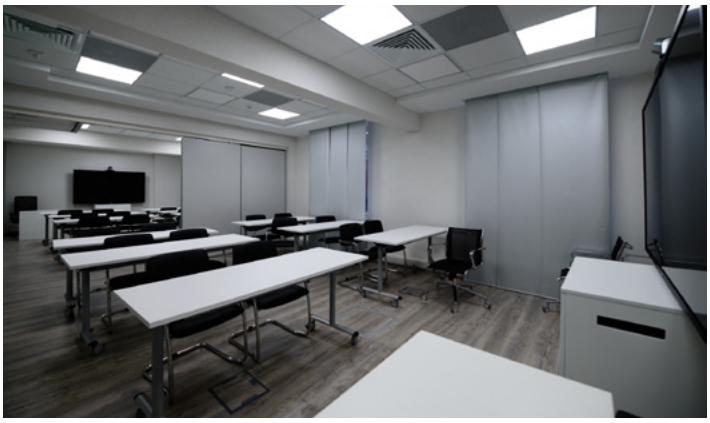
XTP System Facilitates Effective Communication within the Executive Conference Room

A key requirement for this project was the creation of an Executive Conference Room in the Moscow facility that could support communication with all company divisions simultaneously. It also had to allow communication with remote locations while displaying and sharing a variety of materials to support the decision-making process.

A 3x3 videowall is at one end of the long rectangular room, and flat panel displays are mounted on the side walls. Source devices and access options are the same as in the other meeting rooms, but on a scale appropriate for the room. The AV system had to be simple to operate, with as much of the installation automated as possible. SIBUR also wanted a design that was easy to support and offered an upgrade path for later system expansion. Extron's XTP Systems® were chosen to fulfill the extensive AV signal routing and upgradability requirements of the executive conference room.

For signal switching and distribution, an Extron XTP CrossPoint 3200 modular matrix switcher configured to 16x20 is rack-mounted in the adjacent equipment room. Two XTP CP 4i HDMI input boards support the local sources, and XTP CP I/O boards enable signal extension between the XTP endpoints and the matrix switcher. An XTP CP 4o HDMI output boards is dedicated to the Extron Quantum Connect videowall processor.

To support KVM and the USB flash drives connected to one of the rack-mounted computers, the design includes three Extron USB Extender Plus transmitter and receiver pairs. Two Extron TLE 710 enclosures and eight Cable Cubby 500 enclosures, each paired with a Retractor Series/2 cabling system, are installed at the table to provide AV connectivity and AC power. Three Extron XTP T USW 103 switchers mounted beneath the table are set to automatically switch between connected HDMI and VGA devices, enabling unmanaged source selection. An Extron XTP SR HDMI receiver mounted with each side-wall display scales images to the optimal resolution.



To facilitate AV signal switching and distribution of 4K video resolutions over HDMI, a DTP CrossPoint matrix switcher is installed in each room's credenza. Photo courtesy of SIBUR.

Similar to the training room, a DMP 128 C P AT and an XPA 2002-100V amplifier form the sound system and FF 220T Flat Field speakers provide clear speech and high-fidelity sound at each seat.

The meeting rooms and training area DTP CrossPoint presentation matrix switchers are tied into the XTP CrossPoint 3200 to enable access to the shared AV resources and to send a local presentation to other locations within the building. This arrangement also allows content and videoconferencing sessions held in any room to be streamed and captured with an Extron SMP 351 for overflow and archival purposes.

Multiple Points of Control

Two TLP Pro 720C Cable Cubby and one TLP Pro 1020T tabletop TouchLink Pro touchpanels provide system control from locations around the long conference table. The two 7" TLP Pro 720C touchpanels are mounted next to TLE 710 enclosures, which provide easy access to AV, data, and power connections. Each touchpanel is configured to operate the displays, including the videowall, and the other resources. Two Extron IPCP Pro 550 control processors act as the brains of the AV system to provide centralized AV control.

A Virtual Window to the World of SIBUR with Extron Quantum Connect

The system design incorporates an Extron Quantum Connect videowall processor to drive the 3x3 videowall, and easily scale and magnify images across the displays. The videowall enables the Moscow conference room to serve as the company nerve center, enhancing communication and collaboration within the corporate headquarters, and increasing information sharing with SIBUR branches, subsidiaries, independent affiliates, and outside organizations.

The Quantum Connect enables simultaneous windowing of material sourced from resident and portable equipment, including documents, schematics, maps, and camera feeds from offsite locations. Multiple input sources are displayed with maximum detail and can be precisely aligned and configured on the 3x3 video wall to meet application requirements. Factory-configured with two two-input HDMI cards and five two-output HDMI cards, the HDCP-compliant videowall processor

The 3x3 videowall driven by an Extron Quantum Connect processor enables the Moscow Executive Conference Room to serve as SIBUR's corporate nerve center. Photo courtesy of SIBUR.

receives four HDMI signals from the XTP CrossPoint matrix switcher at the source's output resolution.

The installation within the Moscow executive conference room allows SIBUR corporate officers and staff to focus on the business at hand, without the distractions of operating a complicated AV system. "The SIBUR installation was designed to provide unrivalled AV and control signal switching, quick content sharing, and easy compatibility with the videoconferencing and UC platforms. The combination of XTP and a display system that includes a 3x3 videowall supported by the Quantum Connect processor enables picture-perfect presentation in the executive conference room," says Esilevskiy.

GVE for Centralized Monitoring & Control of Systems

An important part of the facility upgrade was providing enterprise-wide centralized control and operation. SIBUR uses Extron's GlobalViewer® Enterprise – GVE server software to remotely control equipment in any of the new rooms. When a room is selected, GVE opens a simulation of the control interface from that room's TouchLink Pro touchpanel and provides the same AV system operational capabilities. This allows the IT team to support users from a remote location. The software provides a wide range of capabilities for equipment monitoring in each room, including operating status, condition, errors, and warnings issued during operation. These functions are useful for checking the status of a device such as the videowall displays and to quickly intervene when an end-user needs assistance.

The IT team also uses GVE to create equipment operation schedules and combine equipment into groups for easier control. For example, grouping the medium-sized meeting rooms equipped with three flat panel displays allows all displays to be turned off with a single command. This functionality is especially beneficial for equipment in the Moscow executive conference room. They are able to grant different access rights to groups of employees for various system functions as well. "GVE has the perfect combination of flexibility and power for centralized AV resource management at SIBUR," says Esilevskiy.

Results

Over a period of five months, the rooms were constructed and Asteros equipped them with the latest AV and videoconferencing technologies. Configuration and commissioning of the AV systems took approximately one month, including the time spent for changes in technical solutions and user interface development plus client approval. Asteros successfully created a unified, ergonomic, and future-proof AV infrastructure at SIBUR headquarters.

The new executive conference, training, and meeting rooms with Extron equipment have helped improve company operations, efficiency, and quality of management decisions at SIBUR headquarters. "SIBUR now has the ideal environment for communication and collaboration at their headquarters and throughout their organization because of the facility remodel and integration of Extron DTP and XTP systems, Pro Series control products, and GVE," says Petr Esilevskiy at Asteros.

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