PSE PROFESSIONAL SYSTEMS ENGINEERING

EDUCATIONAL TECHNOLOGY AND SYSTEMS RENOVATION

ENERGY • LIGHTING • A/V • SECURITY • LIFE SAFETY • COMMUNICATIONS

STRATEGY + SPECIFICATIONS + TECHNOLOGY

PROFESSIONAL SYSTEMS ENGINEERING, LLC 1-800-839-5060 WWW.PROFSYSENG.COM

EDUCATIONAL TECHNOLOGY

CONSULTING | DESIGN | ENGINEERING

Educational Technology

PSE's principle objective is team collaboration to incorporate the best technical requirements available and partner on its implementation to meet highly competitive budgets. PSE's staff has the experience and skill sets in networking, data management, communications, audio/visual/video, acoustics, and noise and vibration control engineering to manage single classroom renovations, entire college, courthouse planning, or corporate upgrades.

PSE's experience includes large digital infrastructures, designs of server rooms, intrusion protection/firewall systems, noise and vibration control, multi-media management, high definition interactive displays, paging, public address, mass evacuation, and virtual learning, as well as preparing specifications and detailed contract documents for bid or installation.

Converging Technologies

The convergence of these technologies requires a firm with a wide diversity of talent, as well as a deep level of experience to provide targeted specifications, reports, contract documents, and studies to create a sustainable communication platform across educational, corporate, and agency levels. We have the capacity to provide comprehensive services and complete documentation including single study, report, or schematic design through full documentation and commissioning.

Expanding Personal Communication Environment

The expanding personal communication environment needs to be continuously addressed. The continuous uprooting of bandwidth by social networks and higher technologies on platforms as diverse as web browsers, mobile device applications, messaging, and newer personal communication methods requires meeting a challenge that is a moving target. Centralizing your consulting and design capabilities into PSE's staff provides cost efficiencies and tangible benefits directly to the shareholders' and stakeholders' bottom line.

Communications

Communications Expertise

PSE has provided advanced systems for communications, educational technologies, multi-media, acoustics, and related building systems since 1986.

We have extensive experience providing complete tele/data communications infrastructure, wireless networks, information technology systems through expert planning, design, and engineering services.

Experience

We specialize in site-wide communications systems in special environments that include academic, performing arts, theaters, museums, justice, conference centers, and diverse government and corporate clients nationwide. Our services include network information technologies, classroom, multi-purpose space, teleconferencing, multimedia systems, integrated voice/recording, and processing systems.

Client-to-Cloud Solutions

Complete client-to-cloud solutions were delivered to a national museum in the eastern U.S. and court systems across the country the south. Both solutions included client needs studies, broadband services, Citrix connectivity as-well-as legacy adoption and all new computers, fiber switching, and network operations/server room designs.

Cutting-edge solutions were included in New Jersey K-12 school projects which are designed to fulfill a Department of Education (DOE) mission to build technologically-rich learning environments for all students across the State. PSE was selected as tele/data communications infrastructure and technologies experts for several projects notably a new magnet technology high school, a cooperative effort with New Jersey Institute of Technology (NJIT). Schools and Sciene applications inlcude, Quorum Conference Center for UCSC, Princeton University, Stevens Institute of Technology, and other institutions.

PSE offers complete engineering and tele/data communications infrastructure consulting services directly to clients, architects and allied design professionals to facilitate project planning, design, inception and completion. The firm does not sell, provide or represent any products, equipment, manufacturers and vendors. We are a non-vested engineering firm providing innovative solutions to challenging projects.

Digital Tele/Data/Video Communications

PSE has extensive experience providing complete Tele/Datacom infrastructure and information technology systems planning, design and engineering services. With over 35 + years of procurement support services, we have developed RFP's in communications reflecting over $20 million in purchases, installation and deployment -- all on schedule.

Wireless Data/Voice Systems

- Wi-Fi
- WiMAX
- Cellular Data
- Microwave Systems
- 700/800/900 MHz

Wireless Network Applications

- Mesh Networks
- Point-to-Point
- Wireless Backhaul
- Wireless LAN/WAN
- Hot Spots
- Wireless Network Infrastructure Planning

Wireless Network Equipment

- Autonomous Access Points
- Lightweight Access Points
- Wireless Network Switching
- Wireless Network Management
- Wireless Network Security Data

Data Network Types LAN

- WAN/MAN
- High-rise Networks
- Multi-Building Campus Networks

Network Communication Applications

- VoIP
- Unified Messaging
- Video Conferencing
- Video Delivery and Storage
- VPN

Network Integrated Building Security

- IP CCTV Systems
- IP Intercom Systems
- Networked Access Control Systems
- Network Integrated Building Security

Infrastructure Planning

- Structured Cabling
- Campus Wide Infrastructure
- City/County Wide Infrastructure
- Wireless Backhaul
- Aerial Cabling Systems
- Ductbank Systems

Telecom Service Planning

- POTS
- MAN/WAN
- Metro Ethernet
- T-Carrier
- Cable Modem
- Multi-Tenant VoIP

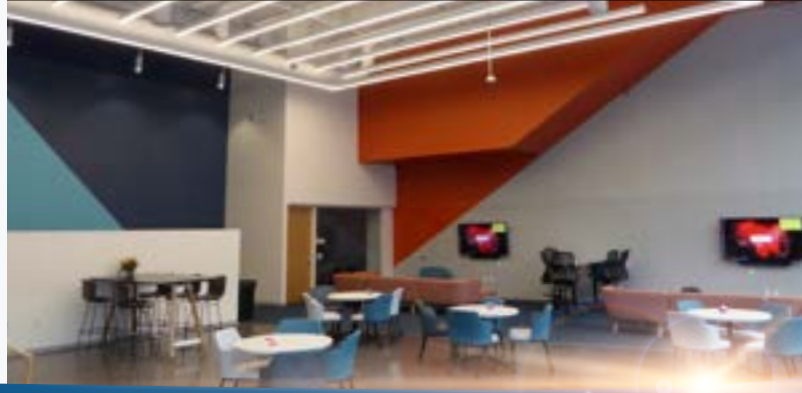
Data Centers/Design/Security

- IPS/Threat Management
- Server Architecture
- Storage Networking
- Data Back-up Systems
- Critical Power Systems
- Network Monitoring
- Server Consolidation
- VLAN Coordination
- Legacy Systems Migration
- Virtualization of Servers

Quorum Conference Center for UCSC

Audio Visual Technology

Philadelphia, PA



The University City Science Center (UCSC) is the first and largest urban research park in the United States. It provides laboratories, offices, classrooms, and conference spaces that nurture and sustain new technology development.

Professional Systems Engineering, LLC (PSE) provided audio/video (A/V) consulting, design, and construction observation services for a newly constructed 14-story, 340,000 SF building. The building is home to multiple different entities, so the A/V designs in each area were tailored to the needs of the associated user group.

Quorum – Drop-in lounges, signature programs, and event spaces. PSE's designs for these areas included:

- A large, 300-person lecture hall which can be divided in half for simultaneous dual-use. Full presentation systems are provided, including large laser video projectors, ceiling speakers, presenter inputs, touch screen control panels, touch screen annotation monitors, video conferencing camera, and ability to integrate with BYOD devices for webcasting or web video conferencing.
- Two approximately 20-person meeting rooms. Presentation systems were provided, including large flat panel displays, ceiling speakers, presenter inputs, touch screen control panels, video conferencing camera, and ability to integrate with BYOD devices for webcasting or web video conferencing. These rooms also have the ability to see and hear the lecture halls for use as overflow spaces.
- Multiple small conference and meeting spaces. Presentation systems were provided, including large flat panel displays, sound bar speakers, presenter inputs, and the ability to see and hear the lecture halls for use as overflow spaces.
- First and second floor lounges and pre-function areas which can be used for networking events and/or waiting areas for the lecture halls and conference rooms. Audio systems were provided for background music, announcements, or audio from the lecture halls for use as overflow spaces.

First Hand Labs – science classrooms/labs for children. PSE's designs for these areas included:

- Four classroom/lab spaces for approximately 16 students each. Each includes a large flat panel display or projection screen, sound bar speaker or ceiling speakers, and teacher inputs.

Science Center – corporate offices for the UCSC. PSE's designs for these areas included:

- One 14-person executive conference room. This area included a large flat panel display, ceiling speakers, and presenter inputs.
- One 8-person conference room. This area included a large flat panel display, sound bar speaker, and presenter inputs.
- One reception area. This area included a large flat panel display with local inputs for welcome messages, cable television, and digital signage.
- One kitchen/break room. This area included a large flat panel display with local inputs for cable television and digital signage

Pennsylvania Academy of the Fine Arts (PAFA)

Communications/Security for Historic Buildings

Philadelphia, Pennsylvania

With the $30 million expansion project, which involved the renovation of the Federal Building, PAFA stands as an icon to art education and learning as a valuable internationally recognized institution. Our designs complement the work of noted Philadelphia architect, Frank Furness.

Professional Systems Engineering, LLC served as security, data/telecommunications, and A/V design consultant on the $30 million renovation/expansion for the Pennsylvania Academy of the Fine Arts (PAFA). With the $30 million expansion project, which involved the renovation of the Federal Building, PAFA stands as an icon to art education and learning as a valuable internationally recognized institution. Our designs complement the work of noted Philadelphia architect, Frank Furness. PSE updated the security for the existing historic Furness Building and provided the design and construction administration for the new security systems, telecom/data infrastructure and hardware, and A/V presentation/education environments for expanding into the 190,000 SF, 11-story, historic Federal Building adjacent to the historic Frank Furness property.

Services Provided

Telecom/Data Infrastructure

- Telephone, IDF, MDF planning
- Data network/architecture
- Video conferencing infrastructure
- WAN/LAN connection
- CAT 5E and fiber optics distribution
- Switches and hubs
- CCTV

Telecom/Data Hardware

- Telephone PBX
- Telephone system
- Computer network servers/design
- Network software
- Power-over-ethernet wireless connectivity

A/V Presentation Rooms

- Acoustics/sound
- Video presentation
- Monitors and displays
- Computer presentation
- Room configuration
- Remote controls

Security

- CCTV
- “Track lighting” camera integration
- Digital video network
- Intercom
- Integrated systems
- Card access
- Photo ID
- Master control security design

Newark Central High School

Tele/Data, Communications & A/V Design Services

Newark, New Jersey

Science Park High School sets a new standard of technical excellence for high schools across the nation, featuring state-of-the-art methods and equipment with accommodation for future technologies including direct connectivity to Internet2 services.

Professional Systems Engineering, LLC supplied digital data design, educational technology, consulting, and engineering services for this state-of-the-art $70 million, 250,000 SF high school with student capacity of 1,200 students.

PSE supplied tele/data design services included all network, server, data center, and digital design to meet the advanced technology requirements of the Central High School mission. The network is capable of backbone speeds of 10 gigabit and provides 1 gigabit Ethernet to each desktop. A dedicated network connection provides direct access to the resources of several local universities. The network offers wireless access throughout the building.

PSE modified the project bid documents to coordinate with project's E-rate requirements. PSE also ensured the cabling system design meet the Newark Public School's District Standards. A custom tailored A/V system infrastructure design was included to meet the specific needs of the subject matter to be presented. Systems included video projector, flat panel display, computer interface, Smart Boards, digital overheads, and other video services.

- Data center, TDF, MPOP, and fiber channel designs
- Full network/firewall/server/computer architecture
- Multiple incoming fiber service
- Tele/data structured cabling systems
- Equipment racks
- Fiber and UTP patch panels
- CAT6 distribution cabling
- Wireless access point enclosures
- Uninterruptible power supplies
- CATV system with IP networked video feeds
- IP based media retrieval system
- Classroom A/V presentation systems for smart classrooms
- Audio/video input/output outlets and cabling

Hudson County Schools of Technology (HCST) High Tech High School

IT/Communications, Security, Education Technology, Acoustics & A/V Design

Secaucus, New Jersey

This project provided a new facility for the HCST – High Tech High School to merge existing North Bergen and Jersey City campuses and provides a school for 2,000 students and 200 administration and staff members, with a gross building area of approximately 335,000 SF. It is to be the first "Fully Digital" high school in the nation.

This project provided a new facility for the HCST – High Tech High School to merge existing North Bergen and Jersey City campuses and provides a school for 2,000 students and 200 administration and staff members, with a gross building area of approximately 335,000 SF. It is the first "Fully Digital" high school in the nation.

Professional Systems Engineering, LLC (PSE) prepared bridging documents and provided consulting and review services for the Owner during the design build phase for IT, communications, security, education technology, and audio/visual systems for the new $175 million Hudson County Schools of Technology (HCST). The school spaces support the curriculum of Project Based Learning for various Career Academies, providing state of the art education and career paths for students. The building houses the School of Vocation Trades, School of Architecture/Engineering, School of Applied Sciences, and School of Performing Arts. Classrooms provide flexible teaching environments, along with spaces for remote learning and group collaboration.

Receiving LEED® Gold certification, HCST achieved the high standards and requirements for sustainability. It has been recognized as the green project of the year for schools in the State of NewJersey by the U.S. Green Building Council.

Services Provided

Audio Visual
- Classroom presentation
- Sound system
- Interactive monitors
- Control system
- Digital signage
- Paging system
- Digital clock system
- Coaxial distribution

Security
- Access control system
- Intrusion detection system
- Video surveillance
- Emergency call box system
- Parking access
- Door release
- Intercom
- Emergency control center
- Backup emergency control center

Auditorium/Theater
- Video presentation
- Sound system
- Cabling
- Control system
- Lighting system
- Rigging system

Blackbox Theater
- Video presentation
- Sound system
- Cabling
- Control system
- Lighting system

IT/Communications
- MDF/IDF rooms
- Structural cabling
- Fiber optic cabling
- Cat 6A cabling
- Tele/data service

Perth Amboy High School

IT/Communications, Security, Education Technology & A/V Design

Perth Amboy, New Jersey

Professional Systems Engineering, LLC (PSE) provided engineering consulting services related to IT services, communications, security, education technology, and audio/visual systems for the new Perth Amboy High School. The new $283.8 million, 576,000-square-foot, three story Perth Amboy High School began on . Boulevard Monday with a groundbreaking ceremony.

The school is slated to opend in 2024, serving about 3,300 students, grades 9 to 12. This project is being completed through the NJSDA program, by design build project delivery. The design build process is using fast tract multi-phase design delivery to meet the NJSDA's project schedule.

Services Provided

Audio/Video

- Classroom presentation
- Sound system
- Interactive monitors
- Control System
- Digital signage
- Paging system
- Digital clock system
- Coaxial distribution

Security

- Access control system
- Intrusion detection system
- Video surveillance
- Emergency call box system
- Parking access
- Door release
- Intercom
- Emergency control center
- Backup emergency control center

Auditorium/Multipurpose Rooms

- Video presentation
- Sound system
- Cabling
- Control system
- Lighting system

Blackbox Theater

- Video presentation
- Sound system
- Cabling
- Control system
- Lighting system

IT/Communications

- MDF/IDF rooms
- Structural cabling
- Fiber optic cabling
- Cat 6A cabling
- Tele/data service

Audio / Visual / Video

Audio/Visual/Video Expertise

Since our founding in 1986, PSE has worked on many challenging assignments earning the firm an excellent reputation for audio/visual/video consulting and design. Our expertise extends to auditorium technologies, communications, and related systems.

For clients ranging from corporate and private institutions to government agencies, PSE has provided solutions for conference rooms, theaters, and other specialized areas for a variety of facilities. In education, both college/university and K-12, PSE has provided the full range of consulting and design services for areas in academic facilities including classrooms, hallways/lobbies, music rooms, auditoriums, gymnasiums, mechanical and electrical spaces, and other locations.

We routinely supply services directly to owners or as part of a design team in the pre-design phase.

Project Experience

PSE has substantial experience in projects for school districts including complete auditorium renovations, noise and vibration control, and television/radio recording and training studios. Our higher education experience includes University City Science Center, Thomas Jefferson University, Princeton Theological Seminary, Temple University, Penn State University, and many others.

Our clients benefit from our key staff's 35 years of experience in architectural acoustics for auditoriums and theaters coupled with sophisticated technologies.

PSE offers complete engineering and tele/data communications infrastructure consulting services directly to clients, architects and allied design professionals to facilitate project planning, design, inception and completion. The firm does not sell, provide or represent any products, equipment, manufacturers and vendors. We are a non-vested engineering firm providing innovative solutions to challenging projects.

Audio/Visual/Video/ Signage/Acoustics

PSE integrates sophisticated electronic systems designed to work together in a practical, reliable manner. A necessity by design, integration is mandatory in today's digital workplace.

Audio/Visual/Video

- High-Definition (4K) video
- Streaming/Digital On-Demand
- Touch Control
- Sound Reinforcement
- Theatrical Performance Audio
- Video Projection
- Computer Graphics
- Exhibition/Multi-room Sound
- Audio/Video Teleconferencing

Acoustics

- Architectural Acoustics
- Sound Transmission Loss
- Reverberation Analysis
- Performance/Theater Acoustics
- Noise Control
- Vibration Control
- Sound Shaping
- Sound Spectrum Analysis
- Vibration Analysis to 0.002 G-force
- 3-D Acoustic Modeling

Networked A/V and Conferencing

- IPTV - Dedicated TV Net
- AVB - Audio/Video Bridging
- COBRA.net® Platform
- Q-SYS® Platform
- DMX Control
- Presence® Rooms
- Huddle Rooms
- HD Share Rooms
- Zoom® Rooms
- Lutron® Integration

Home Theater/Media Rooms

- Surround Design
- THX/Dolby Digital
- Classical/Contemporary
- Full Light/Heat/Sound Video/Shade Touch Control

Digital Signage

- Interior Design Integration
- MUFIDS
- Programmed Replay
- Live High Definition Distribution
- Exterior Design/Integration

Communications

- VoIP/Network Engineering
- Secure Wireless
- Audio Distribution
- Video Distribution
- RF Distribution
- Video Conferencing
- Telecommunications
- Data Communications
- Microwave Communications
- Wide Band Communication Systems
- Fiber Optics/Broadcasting
- Digital Distance Learning
- Satellite Feed/Distribution

A/V Automation

- BAS/Water Feature/Pool Integration
- Sound/Audio/Visual/Satellite/Radio/Cable Control
- Wireless Touch Panels
- Custom Touch Panels
- Custom Video Walls
- 1-Button Conferencing

Stevens Institute of Technology – Gateway Complex

A/V Systems Design/Technologies

Hoboken, New Jersey

The Stevens Institution of Technology (SIT) is one of the oldest technological universities in the United States and is located on 55 acres. Professional Systems Engineering, LLC (PSE) provided audio/visual consulting for this project. The SIT – Gateway project consists of two new academic buildings, North and South Wing, connected by a sky bridge. Both buildings have four floors, plus a basement level, and will contain classrooms, labs, offices, and meeting/conference spaces. The scope of the A/V systems design will include classrooms, smart classrooms, lab spaces, conference rooms, common areas, the Atrium, and TED space.

The A/V system design for classrooms consisted of interactive projectors with options for analog or digital inputs as well as mobile device sharing. Each room was equipped with an all-in-one A/V control and switching system to make operation by instructor or students as easy as possible. Some of the lab spaces included video streaming and recording for presenting lectures outside of the classroom space. Several Smart classrooms are designed with multiple A/V "Hubs" where several small groups of students worked together at separate desks. Each desk had its own A/V set up, and content from any desk could be shared or broadcasted to an individual or all other desks. Conference rooms were provided with audio and video conferencing capabilities.

Multiple collaboration spaces are located throughout the open spaces within the buildings with touchscreen displays and content sharing. A TED presentation space was provided for students to give important presentations to a larger sized audience. The A/V design of this space mimicked that of a small auditorium; complete with sound reproduction and large format video projection. The control system was design to allow pre-programmed settings for easy turn on and go presentations, but also allow for more advanced audio control for signal processing and mixing, if needed for outside presenters.

Services Provided

Audio/Visual/Video

- Video display monitors
- Ultra-short throw projectors
- Interactive displays
- Analog and digital video inputs
- Video cameras
- Digital signage
- Microphones, wired and wireless
- Audio reinforcement
- A/V conferencing
- Control system
- Mobile device applications
- Infrastructure
- Digital whiteboards
- Assistive listening systems
- Audio and Video Switching
- Auto-tracking video cameras for remote learning and live lecture capture
- Technical furniture

Princeton University - Corwin, Bendheim, Fisher

A/V Systems Design

Princeton, NJ

Professional Systems Engineering, LLC provided A/V design and consulting for the Corwin, Bendheim, and Fisher Hall buildings at Princeton University. This project includes architectural renovations and technology upgrades to the existing buildings. The buildings each are composed of four floors plus a basement level and include faculty offices, graduate student collaboration and working spaces. The overall goal of the project was to provide a design that enabled productive presentations and collaboration between students and staff, both within the building spaces and from remote locations via soft video conferencing. For the adaptive reuse of space at the Princeton University – Corwin, Bendheim, and Fisher Hall PSE provided infrastructure and equipment to support small A/V systems as well as A/V systems for large seminar and conference rooms.

The design of the A/V upgrades for these buildings included collaboration rooms where students and staff could gather around a table and display material in detail everything from zoning and border maps to an image only a few square inches on a large screen display all with HD quality. This specialized conference room is also capable of sharing this imaging, as well as various camera views of the room, through video conferencing with ceiling microphones to cover audio throughout the entire space. Other spaces were provided with displays and collaboration tools for smaller, in-room presentations and meetings. These rooms were provided with sound reproduction at various levels, depending on room size. Conference rooms with touch screen controlled presentation systems, and conference rooms with multiple independent displays were also provided.

Services Provided

Audio/Visual/Video

- Video display monitors
- Interactive displays
- Analog and digital video inputs
- Video switching systems
- Video conferencing
- Document cameras
- Beamforming microphones
- Personal and Room audio reinforcement and reproduction
- Touch screen control systems
- Mobile device integration
- Wireless content sharing
- A/V system Infrastructure
- Network coordination
- Assisted listening systems for Americans with Disabilities Act (ADA)

Dayton Avenue Educational Campus

IT/Communications, Security, Education Technology & A/V Design

Passaic, New Jersey

The new $163 million, 448,000 SF school will educate approximately 2,760 students in grades pre-kindergarten through eight.

Professional Systems Engineering, LLC (PSE) provided engineering consulting services related to IT services, communications, security, education technology, and audio/visual systems for the new Dayton Avenue Educational Campus. It will include a Pre-Kindergarten, Elementary, and Middle School on a 12 acre site. The new $163 million, 448,000 SF school will educate approximately 2,760 students in grades pre-kindergarten through eight.

This project is being completed through the NJSDA program, by design build project delivery. The design build process is using fast tract multi-phase design delivery to meet the NJSDA's project schedule.

Services Provided

Audio/Video

- Classroom presentation
- Sound system
- Interactive monitors
- Control System
- Digital signage
- Paging system
- Digital clock system
- Coaxial distribution

Security

- Access control system
- Intrusion detection system
- Video surveillance
- Emergency call box system
- Parking access
- Door release
- Intercom
- Emergency control center
- Backup emergency control center

Auditorium/Multipurpose Rooms

- Video presentation
- Sound system
- Cabling
- Control system
- Lighting system

Blackbox Theater

- Video presentation
- Sound system
- Cabling
- Control system
- Lighting system

IT/Communications

- MDF/IDF rooms
- Structural cabling
- Fiber optic cabling
- Cat 6A cabling
- Tele/data service

Kennedy Elementary School

Audio/Visual Systems & Tele/Data Communications Design Services

Harrison, New Jersey

PSE's staff has experience at Penn in academic housing, research, auditoria, high rises, museum, and Penn Towers engineering including security, fire protection, acoustics, A/V, noise & vibration control, mass evacuation, and networks throughout the campus.

Professional Systems Engineering, LLC provided audio/visual and telecom/data communications design services for New Jersey Schools Development Authority for the new Kennedy Elementary School in Harrison, NJ. The $36 million project consisted of a new academic three story building for pre-kindergarten, kindergarten, and first grade. The structure contains typical classrooms, several specialty classrooms, staff offices, a music room, a gymnasium, and a cafetorium that includes a stage. The new 65,500 SF, three story Kennedy Elementary School is designed to educate 392 students in grades Pre-K to first grade.

This communications infrastructure supports systems that will be state-of-the-art at the opening with the ability to continue to support newer systems as technology advances.

Services Provided

Audio/Visual Systems

- TV and video distribution system
- Large format displays
- Ceiling mounted speakers
- Audio Amplifier
- Speech enhancement system with lanyard-worn wireless microphones for teachers
- HD video camera
- Local music playback
- Paging, clock, and bell scheduling

Gymnasium

- Large format projector
- Music playback system
- Audio processing and amplification equipment
- Wired and Wireless Microphones
- Assistive Listening System
- Wireless Touchscreen Control System

Cafetorium

- Large format projector
- Music playback system
- Audio processing and amplification equipment
- Wired and Wireless microphones
- Assistive Listening System

Science Lab

- Demonstration video camera with large format display and wireless controls

Security

Security Solutions

The PSE team has more than two decades of professional experience in providing consulting and engineering services for security and communication systems. We specialize in large-scale projects in a campus setting, primarily college campuses, universities, laboratory/high performace spaces, and corporate business centers. Our expertise is in security master plan development, comprehensive security surveys, risk and needs assessments, security operations and procedures evaluation and program development, systems design and engineering, as well as a full complement of services for individual system components.

Balanced Programs

We offer a balanced team approach by combining the expertise of professionals representing physical hardware and systems, operations, policies, and procedures. The PSE team is comprised of security management specialists, security risk experts and planners, communication specialists, engineers, and CAD designers. Backed with the resources of a multi-disciplined team, PSE provides our clients with well-coordinated security programs that fully integrate physical security hardware components with procedures and operational aspects.

Experience

Our clients' projects have involved protecting facilities and building contents ranging from artifacts to state-of-the-art technologies, proprietary information, systems, and equipment. Currently, our security and communication designs are protecting college students, company executives and employees, government officials, police, judges, inmates, and the public at major building campuses. PSE's considerable repeat business in airport, corporate, and prison security is a testament to the level of expertise our staff has attained.

Qualified Staff

Led by nationally recognized security, communications, and fire protection experts, PSE employs a uniquely qualified and technically diverse team. Continually meeting the challenges of sensitive projects, we have earned a national reputation for supplying advanced technologies and maintaining strict project cost and schedule requirements.

Physical & Electronic Security Technologies

With proper procedures and controls, our clients' staff, facilities, and operations perform to their full potential. Supplying solutions that properly safeguard facilities, property, and people yields an improved work environment, mitigated losses, and reduced liability for our clients.

Security Management

- CPTED Crime Prevention Through Environmental Design
- Crime Exposure and Risk/Threat Assessments
- Site Surveys/Studies, Analyses and Recommendations
- Security Design and Planning for Critical Facilities
- Personnel Screening
- Mail Screening
- Contingency Planning and Procedures
- Applications Design and Engineering
- Specification Preparation
- Bid Analysis
- Personnel Procedures and Training
- Security Systems Integration and Design
- Perimeter Security Measures
- Automatic Parking Ramp Controls
- Security Safety Programs and Training
- Computer Security Measures
- Workplace Violence Consulting
- Equipment Sourcing and Procurement

Hardware Coordination

- Magnetic Locking
- Strikes/Bolts/Locks
- Motorized Locking
- Secure Openings Consulting
- Electronic Controls
- Life Safety Operations
- Life Safety 101 Egress
- Card Access

Physical Security

- Barriers
- Special Gate Design
- Optical/Physical Turnstiles
- Locking Systems
- Pneumatic/Electro-Mechanical

Systems Management

- Systems Integration
- Security Communications
- Secure Site Analysis™
- Enterprise Level Card Access
- Video Surveillance
- Intrusion Detection
- Intercom
- Motion Detection
- Elevator Control
- Systems Testing
- Proprietary Monitoring

University City Science Center

Security Assessments & Improvements

Philadelphia, PA

The University City Science Center (UCSC) is the first and largest urban research park in the United States. It provides laboratories, offices, classrooms, and conference spaces that nurture and sustain new technology development.

Professional Systems Engineering, LLC (PSE) provided survey, assessments, and recommendations services for access control, door hardware, and video surveillance systems for the University City Science Center owned buildings at their Center City campus. The scope of the assessments initially included one building, but has since expanded to four more. Through a multi-year relationship, all of the Science Center's existing buildings will be assessed.

At the conclusion of the assessments and recommendations phases, PSE was approved to proceed into designing video surveillance system upgrades. These upgrades include improving existing camera coverage, adding new coverage to meet security and operational needs, and integrating throughout the campus to provide for central monitoring and review capabilities. PSE provided design, documentation, bid support, and construction observation and close-out services.

The estimated total cost of the systems designed projects to approximately $600,000 for all campus buildings spread across four blocks and including buildings totaling up to 2 million SF.

Services Provided

Access Control Assessments

- Existing access control equipment condition and suitability
- Existing staff and visitor flows
- Visitor management
- Central and distributed monitoring
- Potentially notable fire code conditions

Door Hardware Assessments

- Existing door hardware condition
- Potentially notable security conditions
- Potentially notable fire code conditions

Video Surveillance Assessments

- Existing camera condition and quality
- Existing coverage areas and coverage quality
- Existing recording and monitoring
- Existing infrastructure

Video Surveillance Upgrades

- Replacement of existing cameras with current technology high resolution IP cameras
- Addition of new cameras to increase coverage quality and investigative ability
- Replacement of recording and viewing equipment
- Coordination with existing campus networks for campus-wide integration

Coppin State University

Electronic Security & Door Hardware Design

Baltimore, Maryland

PSE's scope of work included all electronic security systems to include video surveillance, access control, public safety, and intrusion detection. We also provided door hardware services and selection including schedules and specifications for the new Science and Technology Center.

Professional Systems Engineering, LLC provided design and engineering services for Coppin State University's new 135,000 SF Science and Technology Center. The new building addresses the University's critical needs in science -- this included the Departments of Mathematics and Computer Science and Natural Sciences while consolidating the Information Technology Division, and providing a campus data center. Our services included programmatic, schematic, and design drawings for the issuance of construction documents. Our scope of work included all electronic security systems to include video surveillance, access control, public safety, and intrusion detection. We also provided door hardware services and selection including schedules and specifications for this new center.

PSE's scope of work included all electronic security systems to include video surveillance, access control, public safety, and intrusion detection. The design also included integration to the existing Central Command Center on campus for monitoring and control of this new building. We also provided door hardware services and selection including schedules and specifications for the new Science and Technology Center.

Services Provided

Electronic Security

- Access control system/card access
- Intrusion detection
- CCTV surveillance
- Control/monitoring
- Public safety office integration
- Blue light emergency phone system
- Operational sequence for security and control

Door Hardware Design

- Security and builders hardware
- Door hardware schedule
- Key conferences

Plainfield School District

Multiple Schools & District-Wide Security Standards

Plainfield, New Jersey

The Plainfield School District Administration and PSE provided unique and valuable solutions to important District Technology issues that transgress ordinary limitations of technology.

Professional Systems Engineering, LLC (PSE) was entrusted to program District Wide Standards. The Plainfield School District Administration and PSE provided unique and valuable solutions to important District Technology issues that transgress ordinary limitations of technology. PSE provided expert consulting services for the design, bid, and construction administration of technologies for the following:

- Clinton Elementary School
- Emerson Elementary School
- Clinton Temporary School Phase 1 & 2
- Cook Elementary School
- Plainfield Middle School

District-Wide Access Control: Foresight and planning dictated that a single, centralized access control system incorporating a one-card proximity solution, centralized database, and data sharing would best serve the District. PSE organized a “shootout” between premier security manufacturers to choose the one that best suited the operations and needs of the District.

Services Provided

Educational Technology Systems

- Classroom monitors and projectors
- Smart Boards
- Audio/video/visual portable carts

Tele/Data Communication Systems

- PBX and telephone requirements
- Fiber optic and cabling requirements
- Data networks–wired and wireless
- Switches and hubs

Data Communication Systems

- PBX and telephone requirements
- Fiber optic and cabling requirements
- Data network–wired and wireless
- Switches and hubs
- Outlet plate types and locations

Security Systems

- Access control systems
- Video surveillance/digital recording
- Door locking/control and parking lot gate control
- Security monitoring/integration
- Operator console and equipment room design and layout

Fire Protection / Life Safety

PSE provides consulting engineering and design services for complete fire detection, suppression, and life safety systems. Our services encompass signaling, sprinklers, monitoring, proprietary command centers, NFPA code requirements, and related components.

Led by nationally recognized fire protection experts, PSE employs a uniquely qualified and technically diverse team. Collectively, our staff has more than two centuries of excellence on hundreds of projects. Our specialties include both new and renovated systems, multi-system integration, infrastructure design, and centralized control systems. PSE does not sell, supply, or represent any equipment manufacturer or vendor.

We specialize in systems design for major building campuses, high-rises, and unique building envelopes. PSE has considerable experience in educational campus facilities, performing arts centers, corrections and justice facilities, corporate campuses, and government facilities. We are in our second decade of providing solutions for:

- Large-scale, networked fire detection system renovations
- Fire alarm specifications that meet or exceed NFPA codes
- Proper phasing of large-scale fire alarm/fire suppression projects
- Seamless phased replacement of existing systems to new systems
- Construction administration expertise
- Thorough surveys encompassing all systems and requirements

Life & Property Safety

PSE provides a wide range of services for life safety and property protection including consulting, engineering, system design, construction administration, inspections and testing, and other related services. PSE designs fire and life safety systems that protect our clients from loss from fire, security issues, and other emergency situations.

Code Compliance/Evaluation

- IBC Architectural Evaluation
- Building Fire Code Analysis
- Fire and Life Safety Analysis
- JCAHO Standards Compliance Including Statement of Conditions
- Life Safety Plans
- Intellectual Property and Patent Claims
- Product Proof-of-Performance Evaluations and Claim Management

Life Safety

- High-Rise Compliance
- Fire Alarm
- Mass Evacuation
- Biological Hazards
- Chemical Agents
- Command Centers
- Stair Pressurization
- Smoke Containment
- Smoke Evacuation
- Smoke Detection
- Addressable Monitoring
- Evacuation Plans
- Brigade Manuals
- Commissioning and Testing

Alarm/Evacuation

- Audio Evacuation
- Wireless Mass Notification
- Bio/Chem Hazard
- LEL/LFL Alarms
- Nuclear Alert
- Audio Messaging
- Pager Integration
- Synthesized Response

Detection Systems

- Pharma and Electronics Fabrication
- Process Gas/Detection and Alarm Systems
- Bio/Chemical Introduction
- Organic/Inorganic Gases
- Smoke/Heat/Fire/Incipient
- Explosion Inerting

Fire Protection

- Wet Sprinkler
- Dry Sprinkler
- Standpipes
- Fire Pumps
- “Green” Inerting Gases
- Carbon Dioxide
- Purge Control
- Pre-Action/Single and Double Interlock
- Deluge

Systems Management

- Systems Integration
- Egress Plans Production
- Proprietary Monitoring
- Radio Control/Transmission
- Dispatch/Control Center
- Door Control
- Digital CCTV
- Card Access
- Environmental Monitoring
- Intrusion Detection
- Hardware Compliance
- Correctional Systems
- Parking Controls
- Fencing Systems
- Motion Detection
- Elevator Control
- Systems Testing

Richard Stockton University - Cultural Arts & Theater

Fire Alarm & Fire Suppression System Design/ Commissioning

Pomona , NJ

PSE completed over $2 million of work including construction oversight for installation of systems in Housing Units I, II, and III, and all cultural, arts, theater, and academic buildings. Project concluded under budget and ahead of original project schedule.

Professional Systems Engineering, LLC met the project objective of installing a code-compliant fire suppression system on a tight schedule for theater, student library, media center, student residential facilities and academic buildings. All systems are concealed to reflect the aesthetic nature of the properties. PSE provided significant construction management expertise through full commissioning of all systems.

PSE completed over $2 million of work including construction oversight for installation of systems in Housing Units I, II, and III, and all cultural, arts, theater, and academic buildings. Project concluded under budget and ahead of original project schedule.

Cultural, arts, and theater projects were installed and commissioned during full occupancy Housing Unit I consists of 255 garden apartments contained in 16, two-story buildings constructed in 1971 to house 1,020 students. Housing Unit II is a three-story dormitory that provides housing for 525 students. The complex consists of 11 connected modules. Housing Unit III is a three-story dormitory consisting of five modules housing 300 students. Academic buildings are comprised of over 200,000 SF of space that was renovated during full occupancy.

This project consisted of three phases:

Planning/Testing: Conducted study to develop conceptual planning document including testing flows for campus' potable water systems, hydraulic calculations, descriptions and plans for installation of required fire suppression infrastructure with costs and time schedules. Hydrat/supply testing was included.

Phase I: Design and development of contract documents for installation of automatic fire suppression system in Housing Units II and III during a three-month period.

Phase II: Design and development of contract documents for installation of automatic fire suppression system in Housing Unit I. Fire pump deficiencies were corrected.

Services Provided

Fire Protection / Suppression

- Fire suppression infrastructure
- Potable water systems
- Hydraulic calculations
- Hydrant/supply testing
- Fire alarm interconnections
- Fire pump redesign
- Design for installation of automatic fire suppression system

Services

- Program/study
- Schematics final design
- Bid/award
- Water supply flow test
- Electric supply test
- Water supply redesign
- Permitting
- Construction administration

Rose: Residences, Juilliard, American Ballet – Lincoln Center

Residential, Studio & Theater Fire Protection & Life Safety Engineering

New York, New York

PSE provides fire alarm and life safety engineering services for Lincoln Center in New York City. This challenging environment requires in depth knowledge of public assembly theater spaces, classrooms, studios, and high-rise 31-story student housing requirements.

Professional Systems Engineering, LLC provided fire protection consulting engineer for the Rose Building Tower, which houses the student and administrative offices of The Juilliard School and the School of American Ballet, the balance of which houses students in the 31-story residential tower.

PSE is serving as both fire protection and life safety consultant and the dormitory/high-rise classroom safety consultant for elevators, life safety, and evacuation controls. This challenging environment requires in depth knowledge of public assembly theater spaces, classrooms, studios, and high-rise 31-story student housing requirements. The square footage of the space totals 445,000 SF and the project budget is approximately $4 million.

Specially protected spaces include black box performance theater, ballet practice studios, rehearsal studios, and executive offices. Apartment suites are clustered on each of the high-rise floors. PSE provided an in-depth program study evaluating new NYC 2014 codes, applying NFPA72 codes for new fire alarm engineering requirements. Evaluations included new infrastructure requirements, controls and cabling needs, and opinions of probable cost.

Services Provided

Life Safety/Fire Protection

- Fire detection systems
- New addressable fire alarm control panels
- Addressable initiating devices
- ADA horn/strobes
- Remote annunciators
- Computer networking/ interface system
- Site-wide fiber optic network
- Access control review
- Proprietary receiving alarm system design meeting NFPA and UL
- Smoke evacuation control
- HVAC remote controls
- New fire command center layout/design
- New security desk design recommendations

Alice Tully Hall – Lincoln Center

Fire Protection Analysis & Renovations

New York, New York

PSE provides fire alarm and life safety engineering services for Lincoln Center in New York City. Diverse code requirements of building plan approval date, NYC fire codes, and NYC building codes required sifting through plans and system designs to appraise design concept.

Professional Systems Engineering, LLC was the fire protection consulting engineer for Alice Tully Hall's fire curtain deluge system possible deactivation due to possibly detrimental activation in a false occurrence. The systems design was analyzed, as well as all detection systems as the activation would transition motorized acoustical clouds vertically, possibly causing operator interference.

PSE provided fire alarm and life safety engineering services for Lincoln Center in New York City. Diverse code requirements of building plan approval date, NYC fire codes, and NYC building codes required sifting through plans and system designs to appraise design concept.

In addition to the potential threat to operators, false activation of the deluge system would undoubtedly damage the rare materials used in construction. Through thorough research into the New York City Building and Fire Codes and in addition to fire modeling and response time calculations, a plan of action was developed and will be reviewed by FDNY and NYC DOB officials. The proposed actions, when brought to fruition, will mitigate the current risks without reducing the level of protection for the performers, staff, and audience within the theater.

Fire Protection Analysis and Renovations

- Fire curtains analysis
- Fire detection systems analysis
- Deluge sprinkler analysis
- Incipient smoke detention review
- Sprinkler and heat detector activation calculations
- NYC BC F1, F2, and A building code review