





# Technology consulting











People and nature come first

Engineers have a reputation for complicating things. But at PAE, we like to keep it simple: People and nature are our driving forces. Internally, we look out for each other and the spaces we occupy, and the same applies to our work.

The buildings we design keep people comfortable, healthy, and productive inside, while restoring the natural world outside.

We've been honing our expertise in high-performance building design for over 50 years. Founded in 1967, PAE now has more than 200 employees providing an array of services in mechanical and electrical engineering, building analysis, commissioning, and technology-system design. With offices in Portland, Eugene, Seattle, and San Francisco, PAE serves public and private sector clients throughout the western United States and beyond.







#### **TAILORED TECHNOLOGY SOLUTIONS**

If engineering is known for being complex, the technology side of things can feel especially inaccessible. We've got you covered. Our technology consulting team works closely with seasoned mechanical and electrical engineers to develop tailored solutions that promote efficiencies and facilitate connection.

Before design work begins, our accredited team collaborates with clients to understand their unique technology needs. We look at how existing technologies such as phones and computers can integrate with the systems we design—from physical-security and audiovisual systems to communications and data-network infrastructures.



## Services WLAN & WMN MOBILITY STRUCTURED CABLING IN-BUILDING WIRELESS DAS Our VENDOR MANAGEMENT Expertise DATA CENTERS ATTHINAYS AND SPACE AUDIOVISUAL OUTSIDE PLANT CABLING



#### **KEY MARKETS**



































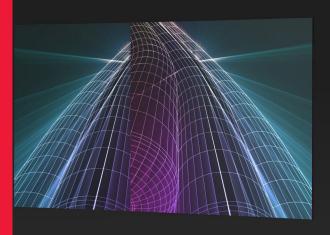


#### **DIVERSE PERSPECTIVES**

As an integrated part of an established firm, our technology consulting team has an edge. For over 50 years, PAE has been at the forefront of sustainable engineering design, driving conversations on industry best practices and innovations. That depth of experience allows efficiency and creativity to flourish in our technology work.

The technology team has direct access to experts in the firm's other core disciplines—in many cases, they sit side by side. This not only improves communication and coordination on projects but also brings diversified perspectives to the technology challenges we seek to solve.



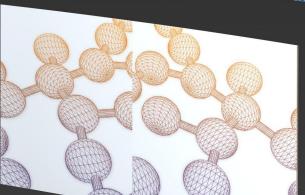
















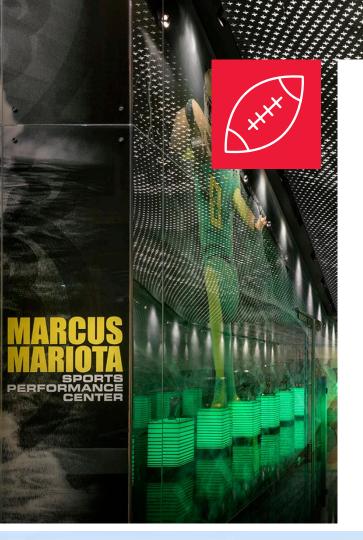
#### **AHEAD OF THE CURVE**

Perhaps more than any other discipline, technology moves fast—the future is now, and always evolving. The long-term cycle of construction means that by the time a project is complete, technology may have already moved on. Our technology consulting team responds to current needs while anticipating what's to come.

From user-interface and RFID-tracking technologies to augmented reality, we're constantly investigating new ways to improve the occupant experience. We don't rest until a building is fully up and running, and our team monitors performance on an ongoing basis so that we can adapt as technology advances.







#### Marcus Mariota Sports Performance Center, University of Oregon

EUGENE, OREGON

SIZE: 25,000 SQUARE FEET

PAE provided telecommunications and audiovisual design for an interior renovation of the University of Oregon's Mariota Sports Performance Center. The center houses cutting-edge sports-performance technology: performance testing areas; movement monitoring; fitness, equipment, and uniform storage; high-density compact storage; office space; and laundry facilities. There are onsite motion-capture cameras and force-plate instruments for performing diagnostic tests and motion analysis.

PAE designed the supporting infrastructure for the sports-analysis equipment, working closely with exhibit designers to ensure technology systems were tightly integrated with the building's existing structure.



#### Redwood City Campus, Stanford University

REDWOOD CITY, CALIFORNIA

SIZE: 1,050,000 SQUARE FEET

PAE is providing audiovisual, security-system, and structured-cabling design services for the first phase of this 30-year development plan. The Redwood City site is located less than 10 miles from Stanford's main campus and will become the new home for essential personnel. Anticipated to be move-in ready by late 2019, the campus will encompass 550,000 square feet of office space and 500,000 square feet of parking garages and landscape elements. It will host roughly 2,200 administrative workers.

Responding to rapidly evolving requirements, PAE's audiovisual design includes presentation and conferencing systems, sound systems, digital signage, and room scheduling. The security-system design includes electronic access control and video surveillance. The structured-cabling design includes layouts of new telecom rooms, which will connect to the campus data center. The intra-building backbone will allow flexibility for in-building wireless, IP security, network switching, and video transport.



#### Hayward Field, University of Oregon

EUGENE, OREGON

SIZE: 277,000 SQUARE FEET

PAE provided mechanical, electrical, and technology-system design for the University of Oregon's storied Hayward Field. We worked on the new grandstand and track expansion, as well as the renovation of the existing grandstand and facilities operations. This involved lending our expertise in track-timing infrastructure for features such as start guns and race cameras. We also created new support spaces, including locker rooms, concessions, and a kitchen in the Bowerman Sports Science Center.

The design called for a robust fiber-optic infrastructure to provide ample head-room for future broadcast technologies, WiFi, and DAS. The project involved special coordination with key staff from University of Oregon's event-planning team and with national and local broadcast organizations.



#### North Pacific Aquarium

TACOMA, WASHINGTON
SIZE: 31,600 SOUARE FEET

PAE is performing mechanical-engineering and technology-system design services for the expansion of the aging Point Defiance Zoo & Aquarium's North Pacific Aquarium in Tacoma, Washington. Initial lifecycle cost analysis helped the owner select the aquarium's life support system, which will provide heating and cooling to maintain environmental conditions in the exhibits. PAE also assisted in developing sustainability goals, establishing baseline energy and water usage levels, and providing a high air-exchange rate. The renovations will help the aquarium meet rising international standards and improve the health and safety of animals and staff.

Technology-design services included infrastructure design for the aquarium's structured-cabling systems. PAE's designs ensure strong communications connectivity to the aquarium's interpretive elements, including projectors, interactive flat-screen TVs, and exhibit proximity sensors. The need for corrosion-resistant cabling systems suitable to a marine environment made this project unique. Throughout the engagement, PAE coordinated with other project trades to work within structural constraints—for example, systems had to fit within thick concrete, designed to hold tons of water.



### Get in touch

We'd love to hear from you! Connect with us at

technology@pae-engineers.com or by calling one or our offices.

Portland, OR

522 SW 5th Avenue Suite 1500 | 503-226-2921

Seattle, WA

1501 East Madison Street Suite 300 | 206-596-8606 Eugene, OR

44 West Broadway Suite 430 | 541-735-6222

San Francisco, CA

48 Golden Gate Avenue 415-544-7500