

Customer Case Study

California State University, Northridge



California State University, Northridge Uses Prolog® Software to Increase Efficiency and Reduce Staffing Needs on \$350M Capital Improvement Plan

California State University, Northridge (CSUN) is a vibrant, diverse university community of nearly 36,000 students and more than 4,000 faculty and staff. Founded in 1958, CSUN is situated on a 356-acre campus in the heart of the Los Angeles' San Fernando Valley. The University's nine colleges offer 64 baccalaureate degree, 52 master's degree and 55 teaching credential programs, as well as a variety of extended learning and other special programs. After 50 years of operation, CSUN has established a distinguished record of accomplishment as a regionally focused, nationally recognized institution of higher learning, and a tradition of commitment to student success and excellence.

Capital improvements are continually being made at California State University, Northridge (CSUN) to accommodate the needs of its growing student population. In 2006, the Board of Trustees approved a campus improvement master plan, and in early 2007, the university entered one of its busiest building phases in recent history. In addition to the 75 minor capital outlay projects that are completed each year, planning and construction got underway for more than \$350M in major capital improvements, including a new student housing complex, a four-story science building, a three-story, 120,000 square foot student recreation center, a 1400-stall parking structure and a 1700-seat, 163,000 square foot Performing Arts Center.

To prepare for the surge in campus construction, CSUN's Facilities Planning, Design and Construction department began devising a plan for handling the increased workload. According to Ken Rosenthal, manager of construction services, the department's existing project management software, which had been in place for 10 years, no longer met their demands. Not only was network stability an issue, but the program could not be customized to conform to the California State University's construction management structure. A more flexible application was needed to support future work.

CSUN's sister campus, California State University, Channel Islands (CSUCI), had recently purchased Prolog software from Meridian Systems. To investigate Prolog's capabilities, Rosenthal attended a training session at the CSUCI campus that was presented by Rotech, Inc., a Meridian Global Reseller and construction technology consulting firm based in California. He was impressed with what he saw and felt that Prolog would be a good fit for CSUN's needs.

"With Prolog, we've never had a down day; it's been 100 percent stable. I can't imagine handling the amount of information flowing through our hands right now without it."

Ken Rosenthal

*Manager of Construction Services
Facilities Planning, Design and
Construction*

California State University, Northridge

Up and Running in 30 Days

During the lull before the 2007 construction program began, the Facilities department purchased Prolog Manager and Prolog WebSite through Rotech and hired the consulting firm to lead their implementation efforts. During initial discovery, an implementation roadmap was established that covered everything from hardware needs and security issues to training and customization.

Initially, partial Prolog functionality was rolled out on a small pilot project. Group training for this first phase concentrated on document control, including requests for information (RFIs), meeting minutes

and inspection reports. Within 30 days, the department was up and running in a limited capacity. They spent the next three to six months refining the program to meet their specific requirements. This included turning off functions that wouldn't be used and making nomenclature changes to reflect the department's terminology. Potential Change Orders (PCOs), for example, were changed to Field Instructions.

As Rosenthal became more proficient with Prolog, he took over training efforts within the department so Rotech could focus on customizing reports and providing the technical support needed in a complex university network environment. Rotech was able to communicate with network IT staff on a technical level to ensure that Prolog was installed within CSUN's stringent setup and security guidelines.

By the time the new construction program was in full swing, the 11-person Facilities department – and their on-site extended project team (an additional 8 persons) – was using Prolog to manage everything from RFIs to contracts to inspections.

Increased Efficiency Reduces Staffing Needs

Prolog's earliest impact on the department was increased efficiency. Although the Facilities team is now managing more work than ever, the elimination of manual paper-pushing has allowed them to handle the extra work without adding additional support staff. The department is still dealing with the same information and asking the questions that need to be asked, but instead of sharing information by hand, they move it forward electronically.

The Facilities department has been able to consolidate project controls personnel and responsibilities, meaning increased efficiency allowed the department to reduce project controls staff assigned to projects. At \$40K to \$60K per person per year, the cost was significant. By using technology to streamline project management and automate previously time-intensive tasks, the department has been able to reduce staffing overhead. With the four projects in progress at the time of this writing, for example, they would have hired four people to handle project controls. Today, the department employs a single project controls employee, which saves the department \$120K to \$200K a year.

Prolog WebSite Expedites RFI Resolution

Pairing Prolog WebSite with Prolog Manager to deliver project management functionality to third parties via the Internet is one of the main reasons why the Facilities team has been able to increase efficiency. Each project uses a variety of consultants to provide services like architecture, engineering, lab and audio consulting, construction

management and inspections. With Prolog WebSite, communications between the in-house architect and the consulting engineer, for example, are enhanced and streamlined.

Resolving RFIs is one area where Prolog WebSite has made a significant difference. In the past, the project engineer would receive hard copies of RFIs from the general contractor (GC), photocopy and distribute them manually to the architect for review and enter them into the previous construction management database. Answers would follow a similar manual path: they would be routed back to the project controls person who would fax them back to the GC and enter the responses.

With Prolog WebSite, the process has changed. Instead, the GC logs in and enters their own RFIs, which are electronically routed to the architect. If the architect needs additional input from other consultants or in-house project managers, the request is also made through Prolog. And all of this happens without involving the project engineer. Processing an RFI used to take a week to 10 days. That process now takes just a day or two.

Project Visibility Mitigates Risk

From a management perspective, a primary concern within the department is having visibility into the status of each project. Before, information was often received so late that an issue would already be a problem by the time managers were aware of it. To alleviate this issue, auto queries have been set up in Prolog to deliver key information in real time. This provides at-a-glance access to information like the number of open RFIs and Field Instructions and who has them, and whether a GC is submitting change orders on a timely basis. In addition, a week's worth of inspection reports can easily be reviewed.

Auto queries also provide a quick overview regarding the health of each job and the ability to ascertain how well people are performing on a day-by-day, or even hour-by-hour, basis. By having the information needed to address potential problems sooner rather than later, risk is mitigated.

Prolog Fulfills a Mission

Today, Prolog is used to manage CSUN's entire master plan construction program and the Facilities department has a partnered relationship with Rotech. The consulting firm continues to refine Prolog and

Meridian Partner Profile

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manage technical issues like program updates. Rosenthal feels that Rotech has been very responsive to the department's needs and successful at adapting Prolog to the way they do business.

The department has also achieved the project management functionality and program stability needed to support the completion

of projects on time and on budget, which helps facilitate the University's overall mission of educating students. "With Prolog, we've never had a down day; it's been 100 percent stable," states Rosenthal. "I can't imagine handling the amount of information flowing through our hands right now without it. Prolog is a very effective construction and project management solution."

California State University, Northridge Project Profile

Campus Improvement Master Plan Projects Located in Northridge, CA

A campus master plan program, approved in 2006 by the California State University (CSUN), Northridge Board of Trustees, will focus on the design and construction of new facilities, renovation and renewal of existing facilities and improvement of the campus environment. The program, which includes major and minor capital projects, comprises 750,000 square feet of building area.

Major Capital Construction Projects

- ▶ Valley Performing Arts Center – 163,000 sq. ft. center to support academic programs within the College of Arts, Media and Communication, including 1,700-seat performance hall with state-of-the-art acoustic and A/V capabilities; 200-seat flexible theater; 200-seat tiered lecture hall; a campus radio station; supporting spaces like dressing and control rooms
- ▶ Science V (Chaparral Hall) – 97,000 sq. ft. science facility for the College of Science and Mathematics with instructional spaces and research labs; faculty offices; large lecture rooms
- ▶ Student Housing Phase I – new 400 bed 67,000 sf student housing complex
- ▶ Parking Structure G3/East Campus Road Upgrades – 1,500-stall G3 parking structure with road upgrades designed to ease traffic flow and congestion; the G3 structure will also provide convenient parking for the Valley Performing Arts Center
- ▶ Hydrogen Fuel Cell Satellite Plant – satellite heating and cooling plant that uses hydrogen fuel cell technology to generate cost effective, environmentally sensitive electrical power during peak load periods; a simulated rain forest environment is being developed adjacent to the fuel cell satellite plant
- ▶ New Student Recreation Center – fitness and weight training facilities; three basketball courts; workout studios; a racquetball court; an indoor running track; outdoor recreational pool and artificial turf sports field; rock climbing wall; orientation to provide optimal territorial and mountain views; open building design to promote interactive recreational and social activity; administrative offices and a design that incorporates a host of sustainability initiatives

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- ▶ Orange Grove/Observatory – revitalization and improvement, with extension of the orange grove walk, relocation of a pond and addition of walking paths throughout the grove
- ▶ Matador Bookstore Complex – a second floor addition constructed within an open atrium space that provides approximately 130 additional indoor seats

Master Plan Budget: \$350M+

Start Date: 2006

Completion Date: Phased completion through spring 2010

Anticipated results: From providing an economic stimulus for the surrounding region and improving traffic flow, to setting an example in environmental conservation, the improvements made through the campus master plan are sure to enrich the educational experience of the entire CSUN student body.



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