

# University of California, Irvine Overhauls BAS, and Adds FDD Using SkySpark® Analytics

We are thrilled to showcase an insightful case study featured on the **Nexus Labs** website, which highlights the University of California, Irvine's partnership with **Altura Associates** in advancing toward the modern era of building automation.

UCI partnered with Altura Associates in 2016 to modernize its building automation systems (BAS) across campus, with a focus on energy efficiency, operational efficiency, and scalability. The project involved 23 buildings (25% of the campus) and has led to significant savings and operational improvements.

## Background and Goals:

UCI's previous BAS lacked consistency and efficiency, hindering their ability to deploy energy-saving strategies at scale. The goal was to standardize and modernize the system using advanced fault detection diagnostics (FDD) and supervisory control systems, which would also support UCI's leadership in smart laboratories with critical climate control needs.

## Key Components:

- BAS Overhaul:** A fragmented and proprietary system was replaced with a standardized, non-proprietary approach using Niagara, which facilitated vendor flexibility and competitive bidding.
- OT Networking Overhaul:** The network was restructured for better scalability and communication across all buildings. UCI IT played a crucial role in supporting security and network requirements.
- FDD and Automated Commissioning:** SkySpark cloud-based analytics and FDD were implemented to improve building performance and efficiency. Automated commissioning allowed UCI to conduct testing across all devices, identifying issues and improving workflows.

## Achievements:

- UCI saved approximately \$750,000 annually in energy costs.

The screenshot shows the Nexus Labs website interface. At the top, there is a navigation bar with links for Membership, Library, Courses, Buyers Hub, People, Login, and Join Nexus. The main content area features a large image of the University of California, Irvine building with the text 'CASE STUDY: UNIVERSITY OF CALIFORNIA IRVINE OVERHAULS BAS, ADDS FDD'. Below the image, there is a '10 min read' indicator and the author's name, Brad Bonavida. The title 'Case Study: University of California Irvine overhauls BAS, adds FDD' is prominently displayed, along with the date 'February 13, 2024'. A sidebar on the right promotes joining the Nexus Pro community. The main text area contains an introduction, a 'Case Study Data' section listing technology categories, key stakeholders, vendors, and project dates, and a 'Case Study Outline' section listing introduction, background, technical overview, challenges, and conclusion. A 'Background' section follows, detailing the university's history with Altura Associates and the project's goals.

- The SkySpark platform provided valuable insights into building performance, helping prioritize energy-saving projects and improve user experience.
- The project is approximately 25% complete (as of the time the article was written) and has led to standardization that benefits both new construction and renovations.

### Challenges and Lessons Learned:

- Network Topology: A comprehensive OT network was critical to the success of the project. Early collaboration with IT would have mitigated network reliability issues.
- Vendor Coordination: Ensuring vendors adhered to new standards was essential for consistency across the campus.
- Security and Cloud Integration: Early planning for network security and cloud connections was crucial to avoid delays.

### Conclusion:

UCI's project is a model of how institutions can achieve energy savings, streamline operations, and enhance building performance by breaking down silos, both technologically and organizationally. The success highlights the importance of vendor agnosticism, a well-defined OT network, and collaborative project management to future-proof building automation systems. ■

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Access the original article at <https://www.nexuslabs.online/content/case-study-university-of-california-irvine-overhauls-bas-adds-fdd>.



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**Altura Associates** is a seasoned team of engineers and environmental performance experts focused on improving energy, environmental, and financial performance. For more information, contact the Altura team at <https://alturaassociates.com/>



**University of California, Irvine (UCI)** is a member of the prestigious Association of American Universities and is ranked among the nation's top 10 public universities by U.S. News & World Report. For more information, contact the UCI team at <https://uci.edu/>



The new frontier is to efficiently manage and analyze data to find what matters™.



### SkySpark® – Analytics for a World of Smart Device Data

The past decade has seen dramatic advances in automation systems and smart devices. From IP connected systems using a variety of standard protocols, to support for web services and xml data schemas, it is now possible to get the data produced by the wide range of devices found in today's buildings and equipment systems.

Access to this data opens up new opportunities for the creation of value-added services to help businesses reduce energy consumption and cost, and to identify opportunities to enhance operations through improved control, and replacement or repair of capital equipment. Access to the data is just the first step in that journey, however. The new challenge is how to manage and derive value from the exploding amount of data available from these smart and connected devices. SkyFoundry's SkySpark directly addresses this challenge.

## SkyFoundry

### About SkyFoundry

SkyFoundry's mission is to provide software solutions for the "Internet of Things". Areas of focus include:

- Building automation and facility management
- Energy management, utility data analytics
- Remote device and equipment monitoring
- Asset management

SkyFoundry's software helps customers derive value from their investments in smart systems. Learn more and request a demonstration at [www.skyfoundry.com](http://www.skyfoundry.com).