LADWP's La Kretz Innovation Campus: Meet the Cleantech Future of Water and Power

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When you think of Downtown Los Angeles, what comes to mind? Innovation? Clean technology? L.A.'s green economy? Probably not, but it should.

More than eight years ago, in what was once a neglected part of Los Angeles, a four-mile strip of industrial-zoned business development was emerging along the Los Angeles River, and it was nicknamed the Cleantech Corridor. While it may not have achieved the status of a second Silicon Valley, a cleantech vibe is most certainly developing in what is now considered the Downtown Arts District.

The La Kretz Innovation Campus, located in the downtown Los Angeles Arts District, is home to the one of the world's leading Cleantech incubators and LADWP's Customer Engagement Lab and Sustainable Living Lab.

At its hub, you'll find LADWP's La Kretz Innovation Campus (LKIC), named after Morton La Kretz, a local real estate developer whose philanthropic efforts helped launch the campus. La Kretz is home to LADWP's Sustainable Living and Customer Engagement Labs, and the LA Cleantech Incubator (LACI), a place where entrepreneurs, engineers, scientists and policymakers can collaborate, promote, and support the development of clean technologies and L.A.'s green economy.

Officially launched in October of 2016, LKIC is already making its mark locally and around the globe. For starters, it is the first facility of its kind in which an incubator is housed in the same building as the R&D labs of a major utility. Then, you have the building itself. Originally a furniture manufacturing warehouse, the building's refurbishment plan was carefully orchestrated so it could stand as an example of best practices for other builders who are committed clean technology and a green economy.

Sustainable Energy & Water Features

"The La Kretz Innovation Campus has some unique features that help it qualify for the LEED Silver distinction. But we wanted more than that, so our Efficiency Solutions Engineering Team stepped in to add a few additional emerging tech features, such as a greywater system and a microgrid to help the facility apply for the highest LEED status," said Terry Brungard, LADWP Efficiency Solutions

engineering supervisor and project team leader. LEED provides the world's premier green building rating system and certifies buildings on based on resource efficiency. "Now, not only are we on track for LEED's Platinum rating, we have a building for future innovators, a living demonstration lab where every part is a learning experience," Brungard added.

Brungard isn't exaggerating. Even the parking lot educates visitors with its low-profile bioswale collecting run-off water and solar panels generating up to 1,000 kilowatt-hours per day. Enter the building and it just keeps going.

The beautiful reception area is equipped with the obligatory comfy seats and charging outlets, but it has something most lobbies don't: a living wall–a daily reminder that La Kretz is all about ensuring a sustainable future.

Microgrid

Continue through to the Sustainable Living Lab and you'll run into LADWP's microgrid, a small on-site energy control system that manages the Battery Energy Storage System (BESS), the use of grid supplied power and the use of the on-site solar power, which is a distributed energy resource. The microgrid at La Kretz is powered by the city's electric grid and from its onsite 175 kilowatt solar photovoltaic system, which generates clean, renewable energy while also charging the energy storage system located within the facility.

Ultimately, this framework provides economic benefits by using stored energy and solar energy to reduce the campus's demand on the L.A. power grid. The microgrid's BESS project is also a test case to determine the reliability, safety and cost-effectiveness of energy storage systems, working together with solar, for future use in the larger citywide power grid. Recently, the La Kretz microgrid was recognized as a 2017 Project Excellence Award winner by the National Electrical Contractors Association.

Case Study Home

Next door to the microgrid is LADWP's Case Study Home, a hands-on experience featuring some of the latest appliances and technologies available to consumers. Visitors can use the refrigerator's touch screen for fun as well as for practical purposes. Need some mood music for a small dinner party or the score from today's game? This fridge has an app for that. Need help managing your food budget? Do

you ever buy too much or toss spoiled food? Your fridge has an app for that too.

Without even opening the door, you can take advantage of your smart fridge's features to keep track of what food you have in stock and what is about to spoil, then sync it all to your phone. Not only does this save time and money, it saves energy by cutting down on the number of times you open the fridge's door.

Continue touring the Case Study Home and you'll start thinking about how to morph your own place into the home of the future. Among other things, you'll see a dimmable skylight and a smart thermostat you can control from anywhere on the planet. You'll see that in a smart home, everything is connected. In the age of the "internet of things," all kinds of smart devices are connected in cyberspace and you can easily control them all through an app on your phone.

"The Department is looking at all smart technologies, meaning Wi-Fi connected, that allow our customers to control their appliances remotely so they can save on their water and power usage even when they aren't home," said Dale Thompson, Efficiency Solutions engineering supervisor. "But smart devices can have a wider application and benefit. For example, with a customer's prior consent, the Department will one day be able to help manage a resident's energy load by simply sending a control signal to shut off certain large appliances during periods of high energy demand. He added, "One smart home can serve as a learning tool. Thousands of smart homes could be a real asset to our distribution system."

(From Left) Dale Thompson, Mark Fernandes, and James Kemper of Efficiency Solutions Engineering Group and La Kretz Labs worked closely on designing the Case Study Home, researching and

installing its energy efficient, high-tech measures.

All of this is happening in just half of the cleantech campus. Walk across the hall to the LACI side of campus and you'll be among the 42 active portfolio companies who are hard at work developing, nurturing, and releasing to market their cleantech innovations. Residing under the same roof as the nation's largest municipal utility gives these startups an opportunity to demo their wares to LADWP staff who can evaluate their future applications and relevance for the Department and our customers.

Recognized as one of the most innovative business incubators in the world by UBI Global, a Swedish-based data and advisory firm specializing in mapping and highlighting the world of business incubation, LACI identifies local entrepreneurs across multiple cleantech business sectors and guides them to market, creating jobs that advance L.A.'s green economy. In just five years, LACI has helped 67 companies raise $135 million in funding, created 1,500 jobs, and delivered more than $335 million in long term economic value for the city of Los Angeles.

(Top photo by Art Mochizuki)

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La Kretz Innovation Campus