“The whole concept is to build less than 100 units of ultra-luxury living, featuring great architecture and excellent design, with very livable residence layouts and extraordinary amenities and services,” says Kevin Venger, Co-Developer of the project. “This group is all about investing in superb architecture.”

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The new Center for Science and Technology is taking shape on the sun-soaked grounds of Chapman University in Orange, California.

Designed to facilitate the best in collaborative learning and research while putting science on full display, the 140,000 square-foot (plus 145,000 of subterranean parking), $130 million structure will be the largest and most costly in the school’s 156-year history. The building will house the Hall of Science and the Hall of Technology and Engineering and bolster opportunities for students in science, technology, engineering and mathematics (STEM).

"In Chapman University’s academic trajectory, where we have brought on 10 different colleges in the past 20 years, one of the areas that we were lacking in was a state-of-the-art science program," says Kris Eric Olsen, Vice President of Campus Planning and Operations for Chapman University. "Our current science program building is a 1967 structure, so we really needed to build a world-class STEM building not only to fill a physical need but to also fill out our entire program of being a comprehensive school."

COLLABORATIVE SPACES
The project will help facilitate the university’s Schmid College Grand Challenges Initiative, which seeks to help current and future sciences work across disciplines. The building’s 18 teaching labs, 22 research labs and six study areas are intentionally arranged to encourage this collaboration.

"In working with our lab planner, we worked very closely with faculty researchers," says Parrish Dyer, Senior Project Manager for Abacus, the firm overseeing the construction management process. "We came up with collaborative research stations where we have two or even four researchers working in one area together with peer support."

Outside class time, generous collaborative study areas provide a focal point where students can gather and talk about what they are learning.

"Students not only have a place to discuss and do their work, but it’s also an opportunity for the professors, students and staff to intermingle, instead of having each entity be isolated," Olsen says. “We really wanted to have more of a community atmosphere.”

Even passers-through will feel involved in the science happening within the Center.

"The whole concept of ‘science on display’ is throughout the whole building," Olsen says. "We made a real point of having a lot of fully glazed walls where people can see into the labs. Even though you may not be in that class, you are part of the science experience because you can see what’s going on."

SUSTAINABLE STRUCTURE
There is also science that cannot be seen in the new building.
"The chilled beam system that we have in the building allows us to use smaller and fewer air handlers that condition the air that's required by the building, using less energy," Dyer says. "The chilled beams act like aquifers—hot water and chilled water are actually run through those beams."

Also, the steel structure is made of 90 percent recycled material and windows that electronically change tint to control light and heat. Glass building façades on the east and west sides do not reflect the sky, lessening the danger of bird collisions.

"We have green roof technology on the upper decks that run the length of the building," Olsen says. "One hundred percent of our storm water runoff is filtered through our planters, which helps to take any toxins out of the water."

HONORING HISTORY
The building's exterior architecture pays homage to the Old Towne Orange Historic District that surrounds the campus, consistent with the other campus buildings added over the past 20 years.

"It's compatible with the Historic District's integrity," Olsen says. "One of the types of architecture found in the district is Prairie School Architecture—a proponent of this style was Frank Lloyd Wright. This particular building was modeled after Wright's Robie House in Chicago. We gave the inspiration to the architects, AC Martin Partners, and they ran with it as a design theme."

Another factor was the background of outgoing university President Jim Doti, who headed Chapman for 25 years and has now returned to teaching.

"He oversaw the past 25 years of campus development, with over 3 million square feet of structures added," Olsen says. "He grew up in Chicago in the neighborhood of the Robie House and a number of other Frank Lloyd Wright structures. As a student at the University of Chicago, he was involved in an effort to save it."

The plan for the Center ran into some initial snags, as it replaced campus tennis courts, parking and football stadium seating.

Generous contributions were made to solve the tennis court issue, making construction of the Lastinger Tennis Center possible. The facility will increase the number and quality of the courts and raise Chapman's tennis status in the Southern California Intercollegiate Athletic Conference (SCIAC).

"We had some land that became available on the west side of the campus," Olsen says. "We are in the final stages of building the new complex. We had only four courts before, and now we're going to have seven on line in August. The surface parking is now being accommodated in the subterranean levels of the science building."

Perhaps most intriguing, in terms of solutions, is the plan for the football bleachers.

"We may have the only science building in the world that actually has stadium seating in it," Olsen says. "In part of this structure, we built in over 800 seats on the athletic field side. For the most part, they are going to be acting as an amphitheater for outdoor classes, but when it comes to football season, they're perfectly set up to be the visitors' seating. It's fascinating how the architects incorporated that and how it all fit together very seamlessly."

The university broke ground on the project in March 2016. Completion is scheduled for August 2018.