Secrets to Improving Building Efficiency

LOS ANGELES—A high-quality, well-built, efficient asset will pay for itself. Syska Hennessy Group co-presidents Gary Brennen and Cyrus Izzo tell GlobeSt.com exclusively. We sat down with the two executives—Brennen in L.A. and Izzo in New York—of the consulting, engineering and commissioning-services firm to discuss engineering and design trends in a development environment largely dominated by repurposing.

GlobeSt.com: As an engineering and design firm with clients throughout the globe, what commercial engineering trends do you anticipate will be most impactful in 2015?

Izzo: Commissioning, or the process of improving a building’s efficiency through a third-party review, will continue to emerge as an important trend this year as the renovation and repurposing of older buildings continues to rise.

In dense urban cities such as Chicago, Los Angeles and New York, where little new land exists for new construction, the repurposing and renovation of older buildings has become a necessity. Commissioning for existing buildings, sometimes referred to as retro commissioning, allows owners to take advantage of the historic architecture of these decades-old buildings, while simultaneously making a building functional, modern and efficient for today’s workforce.

Brennen: Evaluating the mobility of a building will become a key focus for updating and repurposing of existing real estate. Of course, the latest MEP (mechanical, electrical and plumbing) technology will always be a vital component to updating a building, but today’s renovations must also focus on creating an untethered workspace. This concept is paramount in today’s business world as employees must be able to work from anywhere within a building and access technology.

Also fueling the rise in commissioning are the changing building codes throughout the nation. For example, in California under the CAL GREEN code, commissioning is now mandated for all new buildings and even tenant improvements over 10,000 square feet. While some view this mandate for commissioning as a burden due to the added costs and time, one must keep in mind the ROI associated with commissioning. Quite often, we see commissioning identify overlooked flaws in a building’s plans, and/or provide potential plan improvements that can quite easily make up for the initial cost.
GlobeSt.com: Net-zero-inspired building standards and regulations have continued to increase over the past few years. Moving forward, how do you anticipate building owners will accommodate and handle these changes? Do you believe we will reach the 2030 Challenge goal of new buildings being carbon-neutral by 2030?

Brennen: While there are some strong examples of buildings that have reached the goal of net neutrality, these projects are few and far between in today’s commercial landscape. The fact is, net zero is a leap that is simply too large an investment for most owners. Instead, we are seeing the majority of our clients working toward what we like to call “near-net-zero” buildings. These owners are implementing many energy-saving features without investing the amount of capital it would require to reach net zero.

We also are seeing that net zero cannot be achieved without creative thinking about how to create more impactful “energetic” spaces that enjoy abundant daylight, enhanced indoor air quality and an engagement with the environment; in other words, we have to create better-built environments that use dramatically less energy.

Overall, while we are certainly on the road to net neutrality, and the technology has begun to catch up to the 2030 Challenge goal, we need to continue to see pricing fall as the technology innovations scale up production in order to realize this ambitious goal.

Izzo: The economics are the key here. Energy efficiency and net neutrality are excellent goals, but the process has to make sense to owners from an ROI standpoint. If technology doesn’t advance quickly enough to justify the investment, this goal will indeed be a longer road than originally anticipated.

That said, as the economy begins to improve in the US, we are seeing owners taking greater leaps and making larger investments into new technology that, in time, will allow for near-net-zero and net-zero buildings to be achieved. Increasing regulations at local, state and national levels will also help to push net zero forward in the coming years.

GlobeSt.com: Syska Hennessy is known for developing high-performance engineering solutions. With this in mind, what one piece of equipment would you recommend building owners upgrade in 2015 that would impact their building performance and bottom-line most significantly?

Brennen: When it comes to building upgrades, there really isn’t a one-size-fits-all answer. The upgrades that make the most sense for a building will always greatly depend on a building’s location and climate. For example, upgrades such as solar paneling are not as beneficial in volatile weather environments as they are in buildings located in sun-soaked climates. That said, if I were to recommend one upgrade, lighting retrofits leveraging the emergence of LED use are the simplest for most building owners to execute and provide an easily calculable ROI that will only improve as pricing falls.

Izzo: Control systems can also be a valuable upgrade for building owners who want to improve their building’s performance. However, it’s important to note that an owner can’t change control systems in a vacuum. In order for control-system upgrades to make an impact, owners must also upgrade the components the controls operate.
Because buildings are extremely interconnected, a holistic approach to building-performance upgrades is most beneficial. Owners who look at the overall picture when working to impact building performance will make the most profitable updates.

GlobeSt.com: With engineering trends and technology advancing so quickly in today’s marketplace, what technologies do you see moving from revolutionary to ordinary in 2015?

Brennen: One technology that is in process of moving from revolutionary to ordinary is offsite pre-fabrication. Virtual building design really became the norm over the past decade, and as a result, in recent years the practices of fabrication and modular construction have become commonplace as well. Offsite pre-fabrication is now the next step, and it is a trend we are already seeing emerge into a common building practice in 2015.

Izzo: As offsite pre-fabrication becomes widely used in the marketplace, many believe 3-D printing will really be the next evolution in the building process. While 3-D printing has increasingly been used to construct building models, we are now seeing this technology implemented on a larger scale to actually fabricate buildings themselves. While this will have the greatest implications in single-family housing first, in the long term we believe this will become a common fabrication method for commercial buildings as well.

GlobeSt.com: Data centers are a hot topic today as the increase in cloud storage continues. What can we expect in the data-center arena next year, and how will this impact the commercial real estate industry?

Izzo: More than 60% of the world’s population is still not connected to the Internet. For the data-center industry, that means there is an enormous opportunity for growth as about 4 billion potential Internet users will increasingly come online in the coming decades and steadily increase the demand for data storage. As the usage of data continues to increase in the foreseeable future, where and how to store this information will continue to be an important factor for both commercial real estate companies as well as businesses in general.

Brennen: As the need for data centers continues to grow, we will also see increased consolidation in this sector. This consolidation is in terms of both the number of players in the data-center industry as well as, quite literally, space consolidation as companies increasingly use co-location and the cloud. During this process, only the strongest data-center providers will survive and will simultaneously become stronger.

GlobeSt.com: What should commercial real estate professionals keep in mind when it comes to commercial engineering in 2015?

Brennen: It all boils down to this: find partners with true talent when building or renovating commercial properties. The fact is, a high-quality, well-built, efficient asset will pay for itself. Owners and investors who work with the right partners will benefit from increased value over time.

Izzo: I second that notion. The entire process is cyclical, in a way. By hiring talented developers, engineers, architects, etc., a company can create an energy-efficient commercial space that is desirable. The space then attracts strong tenants, who are able to attract strong employees, and the building owner benefits from the ability to charge higher rents while paying lower operating costs. The process is a win-win for all.