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## **Building Information Modeling (BIM) and lean construction: Prerequisites for sustainable buildings**

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There is more to sustainable building than LEED certifications and green cleaning products. The methodology behind lean construction minimizes waste, promotes pre-fabrication with on-time delivery, while encouraging collaboration and efficiency across all project disciplines. The use of professionally executed Building Information Modeling (BIM) ensures that lean, green facilities are developed in the most cost-effective manner.

New BIM solutions are constantly entering the marketplace. However, buyers should assess the value of each product or service prior to purchase and implementation. Many outsourced BIM services result in simple 3D renderings that are used only for clash detection. These "pretty pictures" lack attention to actual project constructability, as well as any operational intelligence. Professionally executed BIM produces a 100% accurate, construction-ready model that represents the building as it truly exists, and can be used for future expansion, space planning, and infrastructure upgrades.

In its purest form, BIM fits the very definition of sustainability. The ability to capture real-time data about a building's infrastructure throughout its life cycle is the return on investment that is desired from BIM. Technology now exists that maximizes a building's efficiency from design through operations, and owners are looking to these solutions to streamline their facilities.

Nucleus6D is a facilities management tool that links BIM with building operations. Using a BIM model, the program enables instantaneous access to HVAC systems monitoring, energy auditing, and facilities maintenance task logs. Nucleus6D enhances the sustainability of the building model by maximizing the efficiencies of building operations and facilities management, without risk of obsolescence or waste.

It is time for all of us to take the next step in sustainable building. Through the use of BIM and other technologies, facilities managers can monitor, adjust and service building systems to the fullest operating potential.

John Cannistraro, Jr. is the president of J.C. Cannistraro, LLC, Watertown, MA, [www.cannistraro.com](http://www.cannistraro.com).

New England Real Estate Journal - 17 Accord Park Drive #207, Norwell MA 02061 - (781) 878-4540