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## **VDC in the cloud - Journey to LEAN construction**

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Many of us have read, "Refabricating Architecture: How Manufacturing Methodologies are Poised to Transform Building Construction" by Stephen Kieran and James Timberlake (Nov. 2003). When I first met James Timberlake, his strategy of re-fabrication seemed like a futuristic pipe dream for all but the largest projects (e.g. Gehry's Disney Concert Hall). Now the dream is being realized.

In 2012, Dassault Systemes announced their "Lean Construction Experience" which was the culmination of several years of planning to enter the AEC market. What if, they said, we applied the same processes and technology that are proven in other industries (e.g. aerospace, automotive, life sciences, etc.) to the construction industry? Even though firms like Gehry are using Dassault products to design buildings, Dassault never really focused on the construction industry--until now. Dassault has a market cap of \$16.7 billion and when a firm that large enters into the AEC industry, it is time to take notice. As a comparison, Autodesk's market cap is \$8.75 billion.

Virtual Design & Construction (VDC) is the term used by Contractors to "virtually construct" a building in a computer before they actually construct it on-site. It is not to be confused with the Architect's Building Information Modeling (BIM) which is primarily focused on design and creating drawings as their product. BIM does not generally address means, methods, schedules, costs, safety, logistics, inventory, manufacturing, etc., but VDC does. As good as BIM is, it is only optimizing a sub-process. Dassault is optimizing the entire lifecycle of a structure with the processes, technology, and people to support it. If BIM in the Cloud (AECBYTES article by this author, Feb 4, 2010) took the industry by storm, imagine what BIM-VDC in the Cloud would do!

Benefits of VDC in the Cloud

Lean Construction - Eliminating Waste from Construction Process

Agility & Mobility - Adapt to market forces quickly from any location

Collaboration - Assemble the best team no matter where they are located

Cost Reduction - For the building and the infrastructure for Construction

Leveling Playing Field - Small/Medium Firms can Compete with Big Boys

Using this new platform for Lean Construction, owners and the construction industry are realizing spectacular levels of prefabrication (up to 70%) which provides the owner with a better quality building, fewer change orders, lower cost, and faster build schedule. The Construction industry is now able to benefit from the lean manufacturing strategies that other industries already enjoy.

The full version of this article with images is available at <http://www.advance2000.com/VDC-in-the-Cloud-Article/>

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