



Your CAD/BIM Solutions Provider

CASE STUDY: LOGAN HOMES

Achieving Dramatic Profitability, Logan Homes Integrates Sales, 3D Design, Options, Workflow, and Estimating

Logan Homes Steps Up to 3D BIM-Driven Digital Take Offs, Obtaining Profitability Analysis During the Options-Selection Process

For more than 25 years, North Carolina-based Logan Homes, under the leadership of owner D Logan, has been building top-quality homes in the Wilmington and Carolina coastal areas. Despite the downturn, Logan has flourished – the company is on track to start 150 homes in 2011 – and Logan Homes has found a niche in profitably allowing customers to option out its 78 base home plans, so each start has the look and feel of an entirely custom home. Through Logan Homes web-based systems, and a showroom that's filled to over-brimming with samples, tiles, trim, carpet, and more, the company consistently stays a few steps ahead of the competition, which D Logan knows is just a mouse click away.

Profitable Operations

Today, Logan Homes builds in seven communities, and it will start an average of 12 homes each month, putting the company squarely in the ranks of Top 200 homebuilders nationally. Logan Homes' average home size is 2,200 to 2,400 square feet, and houses prices vary, depending on the community, ranging from \$125,000 to \$500,000. The average sale price is \$300,000. As an indicator of its efficient operations, Logan Homes consistently nets a 10-12% margin on these homes, making the company among the most successful and profitable builders in the country.

With a staff of three superintendents and a sales team of 12 – which works with area realtors – Logan Homes has 78 base plans, and an option package (with “options on options”) that allow for a grand total of 275,000 possible options, company-wide, a stunningly large number. Although Logan Homes runs a physical design center and a sophisticated web-site, the company also builds and maintains as many as 40 model homes over the course of the year, all of which are eventually sold as communities close out.

Software Solutions

Logan Homes runs a complement of best-of-breed software to drive operations forward. The company has implemented Sales Simplicity for customer relationship management, sales workflow, and dynamic webs ite content. A cloud-based solution, Sales Simplicity offers

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D Logan,
Owner, Logan Homes



dashboard-based reporting that can parse out status updates at any level, from a lot-specific options report and contract analysis, all the way up to eMarketing that's based on individual prospect's website visitations.

For its operations workflow, Logan Homes uses every module available from BuilderMT, collectively called the Workflow Management Suite. BuilderMT manages Logan Homes work orders, purchase orders, model options database, scheduling (plus mobile scheduling). Logan Homes also uses BuilderMT's Trade Portal for managing subs, as well as the Superintendent Portal, for allowing Logan Homes' supers to have on-demand, at-a-glance status updates on any project in the Company's portfolio.

For estimating and accounting, Logan Homes run Sage Timberline Accounting and Estimating, which is fully integrated into both Sales Simplicity and BuilderMT, although Logan Homes is actually phasing out Timberline Estimating as a result of a new approach to pricing its homes. Any data captured at any part of the sales and construction-operations process is immediately distributed to any other software model where it is required.

A Digital Conversion

For all the sophistication of Logan Homes' digital workflow and sales management, D Logan recently recognized that he had to bring a similar level of sophistication to his home plan and options management. With 275,000 option combinations, and pricing that differs even for the same models in different communities, D Logan recognized that he needed to move to 3D BIM (CAD-based building information modeling). He had been using a notoriously inexact 2D paper-based drafting method, whose pricing and idiosyncrasies were contained in the human memory of the estimating team members. Additionally, D Logan was determined to find a way to link 3D BIM models to a pricing module, so he could calculate lot-specific cost and profitability on every home, as he sold it.

In early 2011, to make that digital conversion, Logan Homes brought in CG Visions, a leading systems-integrator for CAD, BIM, and 3D visualization solutions. CG Visions is a company that's closely allied with BuilderMT and Sales Simplicity, so the workflow CG Visions implemented with Logan Homes would be vertically integrated into the best of breed software that so effectively ran Logan Homes operations and finances.

"CG Visions was introduced to Logan Homes and attentively listened to what D and his team wanted to achieve operationally," said Tim Beckman, a partner with CG Visions.

"With a heavy focus on structural options, we spent time educating D's team on the pros and cons of the different option management capabilities within the available BIM software tools," Beckman explained. "Vertex is a great tool for managing the interaction of structural options within BIM models, and Logan Homes choose Vertex as its BIM authoring software tool. However, we needed an additional software layer to accurately translate the BIM data into a usable form, allowing it to be directly channeled into BuilderMT. Based upon D's combined strategy of structural and finish options – and the requirement to know the

LOGAN *Homes*

At Logan Homes, we believe that you deserve a well-built home, one perfectly designed to reflect your unique personality. For over 20 years, we've specialized in building quality homes in Wilmington and along North Carolina's coast. And with our straightforward process and straight-talking team of professionals, having your dream home has never been easier.

Building dreams since 1986, Logan Homes has earned the reputation for exquisite home design, attention to detail, and the commitment to superior craftsmanship and service. Through the unprecedented combination of genuine integrity, exceptional quality, excellent customer service and unparalleled value, Logan Homes is consistently raising marketplace standards.

Each home we build within our masterfully planned communities is designed and constructed by creative, skilled professionals to perfectly suit your desire for a carefree coastal lifestyle. Logan Homes uses the latest building technology to ensure that every home is completed on time and within budget. We listen carefully to our customers and offer a wide variety of customization options through our accessible, responsive Design Center.

At Logan Homes, our philosophy is simple: We value and take care of our people...so our people will value and take care of our customers.

Learn more: www.LoganHomes.com

options' impact on the base model – a multi-leveled, high fidelity options manager strategy was required. That options manager is BIM Pipeline. With Vertex and BIM Pipeline, CG Visions showed Logan Homes that it could get an extraordinary level of detail from its take-offs and that the data could be translated into other aspects of Logan Homes operations, like estimating and lot-specific cost / pricing analysis.”

“With Vertex, we were able to strip our 78 home plans down to the bare units, the simplest building blocks,” said D Logan. “With those basic building blocks, we can then option-out the base plans, using community-specific, lot-specific scenarios, where each option is assigned a community-specific price.”

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The Science of Pricing

“When the BIM is driving design and linked to materials – and thus to pricing – Logan Homes' drafting/design department came to understand how their design adjustments affect the estimating department,” said CG Visions Project Manager, Carrie Watkins. “On the other side of the coin, the estimating department soon understood how the raw materials could be extracted from the BIM, so they could estimate accordingly. Once that interaction was understood, pricing of options became very scientific and controllable.”

Logan Homes' goal was to strike the ideal “balance of burden” between the design and estimation departments. This is achieved when A) the designers don't feel as if they are drowning in the detailed requirements essential for accurate takeoffs, and B) the estimating department isn't reapplying take-off methods for each of the plan iterations driven by option-upon-option permutations. Keeping the design and estimation functions “separate but connected” (instead of combined) has fostered Logan's success.

Profitable Pricing

Once Logan Homes' base plans and options packages are set up in Vertex and BIM Pipeline, that data can be seamlessly exported to BuilderMT, where the lot-specific plans can be priced out. With pricing known, Logan Homes can determine his profit for each home before he even starts to build. If the profit margin runs below the desired 10% to 12%, D Logan can determine where that variance exists and easily adjust the option-combination price to prevent any loss.

Logan Homes is fully one third of the way to converting all of its base plans to BIM, but today, the software is working in concert to help the company deliver customized homes, at a profit, in the toughest of markets.



For the construction industry at large, BuilderMT provides highly-customizable workflow and building-process-management software that works in tandem with leading accounting systems and other wireless and jobsite productivity tools, such as CRM and warranty management. Over the past 13 years, BuilderMT systems have been purchased by over 825 corporations and more than 7,000 individuals, as the Company has maintained its status as the sector's best-selling, most award-winning software product. Combined, the Company manages construction for around 20% of the U.S. new-home market. BuilderMT is widely recognized as a leader in process-driven, best-building-practices for builders, as well as customer service, warranty applications, online training and innovative wireless applications.

Learn more: BuilderMT.com



Sales Simplicity Software

Sales Simplicity Software, Inc., based in Chandler, Arizona, is the creator and marketer of leading Sales Automation, Content Management, Lead Management, eMarketing and Reporting Management tools for new single-family, semi-custom and custom homes; condo, multi-family and senior living providers; developers and new-home realtors; and, apartment sales and rental agents.

Learn more: SalesSimplicity.com



Your CAD/BIM Solutions Provider

For the home building industry in North America, CG Visions is the leading provider of turn-key outsource CAD and “Building Information Modeling” (BIM) solution implementation and consulting. As a “technology agnostic” systems-integrator, CG Visions offers BIM software consulting, back-office software integration, panelization, home plan input, training, media services, option management, digital marketing services, and its flex floor plan configurator, e-HomelnVision. CG Visions is also the developer of “BIM Pipeline” which provides the critical bridge between various BIM software tools and back office systems.

Learn more: CGVisions.com