

Construction Case Study

Tocci Building Companies



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*John Tocci, CEO
Tocci Building
Companies*

Tocci Building Companies Uses Prolog® Software Integrated with Vela Systems to Save Millions of Dollars in Construction Costs

Tocci Building Companies are third generation successors of John Tocci & Sons, a general contracting business founded in 1922. Tocci's core business consists of construction management, design/build services and site development. Industries served by the firm include hospitality, multi-unit residential, senior community projects, retail space, corporate building construction and mixed-use developments. Tocci's long term success can be partially attributed to the blending of immigrant values and hard work with a modern day commitment to advancing the science of building delivery. The company has had several projects featured in the Real Estate and Construction Review, Mid-Atlantic Edition, for Most Innovative, Unique and Challenging Projects. It has also received multiple recognitions for safety from both the Associated General Contractors (AGC) association and the Associated Builders and Contractors (ABC) association.

In the mid-1990's, when many construction companies still shied away from new technology, Tocci Building Companies embraced it. In fact, with its purchase of Prolog Manager from Meridian Systems in 1996, Tocci was one of the earliest adopters of this industry standard project management software.

More than 10 years later, Tocci is still on the leading edge of technology utilization. Known throughout the construction industry as a “technology visionary,” the firm has taken a project-centric approach toward unifying its systems. “At Tocci, we continually strive to take technology to the next level by integrating our systems for cohesive workflow,” explains Brian Bouchard, Tocci's IT Director. “Our core, or master database system, is Prolog software. Everything else that we use – including our accounting program, document management software and e-mail system – integrates with Prolog on some level.”

Creating Prolog Power Users

With just 75 employees, Tocci generates annual revenues of \$150M a year, managing approximately 10 concurrent projects and completing four to six jobs each year. This is accomplished, according to Bouchard, by making everyone in the company a Prolog Power User.

Throughout each project, tasks and responsibilities are assigned according to role. For example:

- › Project managers enter issues, potential change orders (PCO's), subcontractor change orders and contract information
- › Superintendents in the field enter the daily reports (how many man hours are used each day, the amount of subcontractor labor on the job, weather conditions)
- › Administrative assistants tweak the contracts, update meeting minutes and print daily reports for the project managers
- › Assistant project managers perform nitty-gritty stuff on behalf of the project managers, such as writing the RFI's for their approval
- › Estimators use Prolog to create bid packages
- › Clerical staff write purchase orders in Prolog
- › Executives use Prolog's reporting capabilities to evaluate global activity related to the project

The end result, says Bouchard, is that everyone becomes a Prolog Power User for their particular tasks (with cross training where appropriate), which helps ensure that details don't fall through the cracks. "Although none of us use all the functions available in Prolog, we understand our role in creating this huge database and the importance of fueling a centralized system of documentation," explains West. "As Prolog Power Users for our tasks, we become aware of each other's responsibilities to the company and to the project. Prolog takes Tocci to a higher level by helping us become a unified and respectful team."

Amy Thompson West, Tocci's Director of Marketing and Director of Labor & Community Relations explains why Tocci put Prolog at its core. "As construction managers," she states, "our function is to not only manage the process, but to also manage the people involved in the process. We need to accurately communicate critical information to the owners, banking institutions, architects, engineers, 30 to 40 subcontractors and their crews. To stay organized on projects that might last two to three years, we need a coherent system to track everything and a way to share information among all of these entities. Prolog is that system."

Tocci's internal use of Prolog has been so successful that it has chosen to deploy Prolog WebSite as a tool for outside collaboration. "Our vision with Prolog WebSite is to enable owners and architects to access items such as RFI's, submittals and meeting minutes for fast communication without having to send an e-mail or make a phone call," says Bouchard. "With Prolog WebSite, Tocci can put project information at the owners' fingertips."

Solving a Punch List Problem

In January 2006, Tocci adopted another technology solution to automate punch list tracking. "With Prolog, we know when we need an RFI or a change order written," says Bouchard. "But punch list items weren't being recorded in Prolog. Instead, the field engineers and job superintendents were writing punch lists on paper."

This was problematic because paper work forms would sometimes get misplaced or information wouldn't get communicated to the subcontractors so they could complete or correct work. "When work issues invariably arose," continues Bouchard, "we would call in alternate subcontractors to perform rework. Back-charge management, in these cases, was difficult. So we ended up throwing huge amounts of money out the window."

To resolve this common construction management issue, Tocci turned to Vela Systems, an authorized Meridian Independent Software Vendor (ISV) and developers of mobile software solutions that streamline construction field operations via Tablet PCs. The Vela Software Suite extends Prolog's functionality to

the field and expands on that functionality to automate specific processes. Tocci chose Vela's Work List and Punch List application to record and manage punch list items in the field.

While traditional punch lists are created near the end of a project, Tocci uses Vela to track punch list issues (also called work list issues or pre-punch list items) throughout the project lifecycle. Two-way integration between Vela and Prolog creates seamless communication between the products. And, most importantly, quality issues (recorded in Vela) are easily turned into PCO's (in Prolog) for cost recovery from subcontractors.

Integrated Technologies Yield Millions in Results

Using the Vela Systems Integration Adaptor, setting up Tocci's Vela program and integrating it with Prolog was fast and easy. "It literally took me 20 minutes to set it up," says Bouchard. "Synchronizing data between Prolog and Vela is even faster: thousands of inputs can transfer in as little as 10 minutes. This has been an easy tool to use compared to other solutions that I've integrated with Prolog. "

Today, Tocci's field staff uses Tablet PC's to record punch list items. Projects in Prolog, including contact information, populate Vela for automated setup. Then, punch list items, details and cost data entered into Vela populate corresponding fields in Prolog. This information automatically synchronizes with Vela's hosted Web server, which seamlessly sends the data to Prolog. The workflow continues back and forth as punch list items are continually entered and resolved.

"We now have an automated punch list tracking mechanism that provides a strong system of accountability and is auditable," states Bouchard. John Tocci, the company's CEO concurs. "Vela Systems, in sync with Prolog Software, will have huge monetary ramifications at Tocci: savings in the millions."

Prolog Contributes to Repeat Business

"Prolog is an invaluable and consistent construction management tool that provides us with a common backbone for our office and field-based staff to exchange project information," concludes Tocci. "Prolog has been particularly beneficial in the area of change management, where we estimate at least \$50K in savings per project because we now have accurate back-up data that supports equitable resolution of disputes."

Independent Software Vendor (ISV) Partner Profile

Vela Systems, Inc.

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Somerville, MA 02144
Phone: (888) 835 2797
Web: www.velasystems.com

In addition to recouping revenue previously lost to paper-based project management, Prolog also contributes to Tocci's continued business development. "A critical element of marketing is using relationship management to build repeat business," states West. "Having a project management system that delivers a high level of accountability and allows you to provide quick, accurate answers is an invaluable tool. Prolog software helps Tocci create strong, lasting relationships with project owners and other partners."

Tocci Building Companies Project Profile

Russell Street Condominiums, Cambridge MA



Russell Street Condominiums in Cambridge, MA is a luxury condominium property converted from a handsome, 1965-built nursing home structure. The project reflects a national trend toward repurposing antiquarian urban buildings to meet a burgeoning demand for city housing.

Each of the building's 24 units were space and amenity customized. Subsequently, each unit was treated as a single, architect-designed home. Keeping track of each unit's systems and finish requirements drove the need for a structured punch list phase once substantial completion objectives were met.

In construction, up to five percent of project work remains outstanding at substantial completion. Corrective direction originates from multiple sources and must be directed back out to multiple subcontractors and then re-inspected accordingly, typically via separate, paper-based forms and notes.

Tocci ended the closeout madness by adopting Vela Systems' Punch List & Closeout application and integrating it with Prolog Manager. Vela replaces a clipboard with a mobile Tablet PC. Changes and corrections



submitted, ordered and accomplished are recorded electronically and data entered in Vela is synchronized with Prolog. This ensures that the entire project team accesses the same information base for viewing or editing posted entries.

Client: Quadrant Development, Cambridge, MA

Architect: Weaver Associates & Architects, Belmont, MA

Construction Manager: Tocci Building Corporation / Russell Street Builders LLC

Contract Value: \$6.5M

Completion: May 2007

Key Project Elements

- › Major conversion of 100-year-old former nursing home to luxury condominiums
- › Asbestos removal
- › Restoration of original brick exterior with addition of new metal ornamentation
- › Addition of mansard-style penthouse fourth floor
- › Addition of below-grade parking & open parking deck
- › Addition of curtain wall entrance
- › Replacement of HVAC and MEP systems
- › Installation of new elevator system
- › Re-partitioning of interior into 24 unique living units
- › Luxury amenities including high-ceilings, crown molding, hardwood and tiled floors, granite countertops, stainless steel appliances, built-in cabinets and track lighting

Result

Bob Tierney, Tocci General Superintendent summarizes: "We have all lost paper-based work orders under our car seats or among other paperwork on our desks. The electronic punch list and back-charge capabilities of Vela Systems have helped us eliminate most of those headaches. Now, punch list and back-charge can be done on the same day, saving us significant time and money. Most importantly, by synchronizing with Prolog via the Web, team members are always on the same page. Thanks to the open architecture of Prolog, we have automated an important close-out process."



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