

## Customer Case Study

# Torcon, Inc.



### Torcon Takes Long Term Use of Prolog® Software to the Next Level by Adding Off-Site Hosting and a Mobile Field Solution

Founded in 1965, Torcon, Inc. is a privately-held construction management and general contracting firm with approximately \$400M in annual revenues. Headquartered in New Jersey, with additional offices in Philadelphia and Puerto Rico, Torcon's expertise includes biotech and pharmaceutical plants, healthcare facilities, academic buildings, retail and commercial centers, office buildings and transportation construction. The company's growth over the last four decades is attributed to its responsiveness and personal attention to its customers' needs. Torcon is ranked #173 on ENR's 2008 Top 400 Contractors list and #56 on ENR's 2008 Top 100 CM-at-Risk Firms list. Twenty of the company's project sites have been accepted into OSHA's Voluntary Protection Program (VPP), which recognizes outstanding efforts to achieve exemplary occupational safety and health.

When Torcon purchased Prolog Manager from Meridian Systems in 1996 to replace its in-house system of ad-hoc programs, the company was looking to standardize and centralize its document and data management processes. When researching solutions, Torcon's choices were limited. Yet Prolog clearly stood out from the competition.

Early benefits achieved with Prolog included greater efficiencies and the standardization of project management processes, which lessened the learning curve for new employees, as well as staff that moved from project to project.

"The standardized format and centralized data repository of information within Prolog increased our productivity by 10-20 percent compared to our previous methods of project management," says Brian Makowski, Torcon's Director of Engineering.

#### Prolog Withstands the Test of Time

Over the years, Prolog has withstood the test of time at Torcon. The company manages about 30 projects a year with the software and has 160 Prolog licenses. "From vice presidents and project executives to the project administration support, just about everyone in the organization accesses Prolog data or reports," explains Makowski.

In addition, Torcon now uses Prolog WebSite, a Web-based application that integrates with Prolog and supports collaboration among the extended project team. Using Prolog WebSite, owners, architects and engineers can access project information and Prolog functionality from any Internet connection.

The company's use of Prolog has been refined and expanded over time, and processes are fully documented in a Torcon-produced standards book that details step-by-step instructions for each task. "This ensures that we have consistent tracking across all projects, which reduces the risks associated with improper documentation," explains Makowski.

This consistency has been a huge help around conflict resolution because Torcon has documented dates and activities in Prolog to support its position. "We've been able to go back and prove that a subcontractor was delinquent in providing shop drawings to us, for example, which saves our clients money in claims," says Makowski.

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*Brian Makowski  
Director of Engineering  
Torcon, Inc.*

## Off-Site Hosting Reduces Costs

Three years ago, Torcon engaged The Cram Group, a Meridian Service Provider Network Partner with offices in New York and India, to host its Prolog solutions. Although Torcon owns its Prolog and Prolog WebSite licenses, the programs are hosted and maintained by Cram and deployed via the Internet using Cram's ProjectXnet Portal.

ProjectXnet delivers excellent program speed and performance, and off-site hosting reduces the expense associated with in-house hardware and maintenance costs. Of particular importance to Torcon however, has been the ability to customize the ProjectXnet access portal to support the company's brand.

"When clients log into the system, it looks like they're logging into a Torcon site, rather than a Meridian or a ProjectXnet site, which is very important for the continuity of our brand," says Torcon's Engineering Applications Manager, Richard Zavali. "About 75 percent of our business comes from repeat clients," adds Makowski, "so our brand name is very important to us."

Torcon couldn't be happier with Cram. "As a technology partner, The Cram Group has provided us with great service and support," says Makowski. "Cram allows us to be a little leaner and totally reliable," states Zavali, "which are great value-adds for our clients."

## Project Visibility through Custom Reporting

One benefit of having Cram handle the company's Prolog hosting is that it leaves Zavali free to focus on things like custom Prolog report creation. He has created an extensive library of reports and letters that are customized for Torcon use. "What we like about Prolog," says Zavali, "is that we can take standard reports and letters and customize them to meet our needs, rather than starting from scratch. We can even create a specialized report to meet a particular client's information needs."

Since every project is now executed using standardized processes and a single database, Torcon has also been able to create custom cross-project reports to identify trends such as subcontractor safety. "Safety is one of our top priorities," says Makowski, "and Prolog provides the tools we need to make sure that our contractors are providing a safe environment for themselves and the other workers."

## Encompass Takes Prolog to the Field

With its Prolog processes well established, Torcon has recently begun to investigate add-on applications to enhance its usability of the system. In addition to researching document management solutions, the company has contracted with Project Team Solutions, Inc. (PTSI) to

implement a tablet PC-based field technology solution called Encompass, which integrates with Prolog.

"Encompass will take our Prolog data and make it accessible and updatable in the field from a tablet PC," explains Makowski. With Encompass, tasks such as punch list updates, safety notices and daily field reports will be available from the field, and Torcon anticipates using the mobile application to further increase efficiencies, especially around punch list management and request for information (RFI) initiation.

"Right now, the punch list process involves using a pad and pencil to write down information, which must be re-entered into Prolog," says Makowski. "Having mobile technology to document the condition once, will eliminate the duplicate data entry step. Moreover, we feel like we'll do a much better job of communicating to the entire team by having a system that is truly field based. By using Encompass with Prolog to streamline our punch list process, we should be able to save at least four to eight hours a week over a three-month closeout period."

Starting RFI generation in the field will be another benefit from Encompass. "With the tablet PC," explains Zavali, "we're able to take pictures of an issue in the field and post it to an RFI in Prolog, allowing us to add a visual perspective to the RFI Process."

Having information available in the field increases overall production and communication on a project, says Makowski, because you don't have to walk back to the office to look up information. "When information is at your fingertips, you can address the situation in the field in a real-time condition," he says.

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## Prolog: Part of the Company Culture

At Torcon, Prolog has become part of the company culture and the number one go-to source for project information. "Because our owners know how powerful Prolog is, when they ask for specific information, they'll usually say, 'Can't you get that out of Prolog?'" Makowski explains. He attributes this cultural adoption to Meridian's stellar performance as a long term solutions provider.

Zavali agrees. "Meridian is very much open to working with business partners," he explains. "Not just us, but third-parties like Cram and PTSI. If a company offers a good solution that will enhance Prolog, they're very much open to it, which is one of the reasons we've stayed with Meridian for so long."

"And Meridian doesn't limit itself to one good idea," adds Makowski, "The company is open to multiple software developers of the same type of system so clients have choices around add-on solutions. For Torcon, Meridian has a really good business plan in place and we look forward a continuing partnership."

## Torcon, Inc. Project Profile

Renovation and New Construction to MannKind Corporation's Inhalable Insulin Manufacturing Plant  
Located in Danbury, CT.

MannKind Corporation is developing an inhalable insulin product that is currently in Phase III of FDA clinical trials. MannKind hired Torcon as the construction manager to renovate and expand its manufacturing plant so that it would be ready to produce the new drug after receiving FDA approval. The fast track project was completed by Torcon in close partnership with CRB Engineers and Kling Stubbins.

The project consists of interior demolition and renovations to an existing 120,000 sq. ft. building. The renovations are occurring within the same building as MannKind's current clinical manufacturing suite, which remains in operation during construction. Because of the need to maintain sterile production conditions, extensive planning and phasing have been used to keep these areas cGMP compliant and operating.

In conjunction with the renovation work, Torcon is also building a 140,000 sq. ft. addition to the existing plant. The new space will accommodate additional manufacturing, product filling, packaging, warehouse and office functions.

The project includes space for bulk manufacturing operations with a formulation room. The new building will house filling and packaging lines as well as refrigerated warehouses for incoming and outgoing materials. Over half of the renovated facility will house new manufacturing operations and a central utility plant.

### Key Project Elements

- › Interior demolition and renovations to existing 120,000 sq. ft. building
- › Construction of a 140,000 sq. ft. addition to the existing building
- › Utility upgrades to the renovation area, including new WFI stills, tanks and distribution loops and clean steam generation distribution
- › New HVAC systems to include electrical gear, boilers and chillers

**Contract Amount:** \$114MM

**Start Date:** December 2006

**Completion Date:** August 2008

**Results:** Torcon provided comprehensive preconstruction services including estimating, scheduling and procurement, working closely with the designers and owner as an integrated team. The company also participated in design reviews and made significant value engineering and constructability recommendations. Work is being phased to complete the renovation prior to the new packaging area. This approach will permit commissioning, validation and regulatory review to begin early.



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