

# 2016 Looking Good for Steel-Related Companies

By Larry Kahaner

With a robust 2015 behind them, companies involved in steel construction look forward to an even stronger 2016.

“Business is strong, and 2015 was another record-breaking year for SidePlate, both in number of new projects and overall contract value,” says Jason Hoover, Eastern Regional Business Manager, Industry Outreach Executive for SidePlate Systems, Inc ([www.sideplate.com](http://www.sideplate.com)). “To keep up, we’re currently hiring engineers for our main office in California and a few other positions across the country.”

Terry Kubat, Partner/Software Engineer at IES, Inc. ([www.iesweb.com](http://www.iesweb.com)) agrees. “We were blown away by our growth over the past two years. I think that a lot of structural engineers are starting to see IES as a new source of tools. Even though we’ve been in business since 1994, our software-quality has improved tremendously since about 2011 due to modern software development practices and the hiring of Adam Stordahl, P.E. Recently we’ve added another structural engineer, Garrett Drake, P.E. as well. Having smart, young professionals with more recent field experience is really helping IES better meet customer needs. We regularly see new customers adding IES tools alongside (or instead of) some older or more historically popular products.”

Hoover says that his company’s latest innovation is the SidePlate Bolted Special Moment Frame, which is a slight variation on their field-bolted connection, which has been very popular over the past few years. “The biggest advantage of the SidePlate Bolted SMF is speed. There is no field-welding involved, so there are no weld inspections, and the beams literally drop into place. It could hardly be easier. We recently completed five full-scale lab tests that validated the seismic performance of the connection, and we’re starting to roll it out on high-seismic, R=8 projects.”

He adds: “Many of our projects are now coming down to speed versus a few years ago where there was more of a focus on simply reducing construction costs. The SidePlate Bolted connection has really opened a lot of eyes and proven that we can do both: significant time and hard-cost savings. And for structural engineers, they’re continually being asked to do more for less. At no charge, SidePlate’s engineers offer a second set of eyes and can offer design options that SEs would otherwise be unable to offer their clients.” Says Hoover: “We continue to fight misconceptions that SidePlate is simply another 1:1 connection option, or that we manufacture something. The reality is that our designs improve the entire lateral system, and the connections themselves are built by any steel fabricator. We partner with the entire project team, from the structural engineer to fabricators and erectors, to ensure everything goes smoothly.”

IES’s Kubat notes that his company has a number of product upgrades in the works for 2016. “We are completely overhauling our flagship product VisualAnalysis to better take advantage of multi-processor architectures, parallel processing and background threading. The bottom line for customers will be a much improved interface for creating structural models, and running analysis and design checks. In addition, we are improving other products such as our free VARevitLink for two-way BIM communications with Autodesk’s popular Revit product. We are expanding our VAConnect tool for steel connection design that works stand-alone or integrates with VisualAnalysis.”

He would like SEs to know that IES has always tried to lead the way with user-interface improvements that greatly enhance an engineer’s learning curve. “It is extremely difficult for engineers to change software tools for a variety of reasons, such as time to

*continued on page 59*

evaluate and cost. We work very hard at IES to overcome these problems on all fronts: small-sized downloads, completely self-service free trials, and free technical support during your trial-period. A typical engineer can get up and running with VisualAnalysis in less than 30 minutes, and be working productively on a real-world project with the trial product.”

Kubat concludes: “Sometimes I am amazed at the questions engineers will ask us – ‘Does VisualAnalysis do both lateral and gravity in the same model?’ Our response: Of course it does, and has for 22 years. Why would you want something different?”

At New Millennium Building Systems ([www.newmill.com](http://www.newmill.com)), they see a clear trend on learning to think like a building owner. “Traditionally, this was the primary role of the architect, but increasingly it will be the role of every design-impacting participant on the project,” a spokesperson says. “This will be especially true on larger projects and multi-building campuses requiring blends of steel building systems.”

Why take the owner’s point of view? “Thinking like the building owner means thinking deeper about how to achieve the design intent while taking into account the cost of the total project, short-term and long-term,” the spokesperson says.

New Millennium now offers an expanded range of steel building systems. This includes cladding systems that bring a highly aesthetic range of architectural options, and exposed architectural deck ceiling systems that bring high esthetics, acoustic control, long-spans, and MPE integration. “We also now design, engineer and manufacture

*“Thinking like the building owner means thinking deeper about how to achieve the design intent while taking into account the cost of the total project, short-term and long-term.”*

long-span composite floor systems. Having all these system options brings new meaning to value-add,” says the spokesperson. “We can offer the right system or systems based on lowest costs over the life of a project. When we are involved early on a project, we can show the pros and cons of the currently contemplated building system versus other system options, concrete or steel. If a project will benefit from a long span approach, we offer different steel building system options for this. We can help you look holistically at a range of if-then cost scenarios. We can remove the risk of a more near-sighted value-added recommendation that can actually value-subtract from an owner’s total-project perspective.”

Marinos Stylianou, CEO at S-FRAME Software Inc. ([www.s-frame.com](http://www.s-frame.com)), says that their Release 11.2 of the S-FRAME suite of products is being very well received by the structural engineering community. “It delivered significant updates and new functionality to our analysis and design suite of products: S-FRAME, S-STEEL, S-PAD, S-CONCRETE, S-CALC, S-VIEW and S-FOUNDATION.” Adds Stylianou, “R11.2 includes important new functionality and many

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He says: "We've also partnered with ADAPT Soft and provided our clients an integrated solution between S-FRAME's S-CONCRETE and ADAPT's Builder, and the results from 2015 are very encouraging. The oil and gas industry has been negatively impacted by lower oil prices, but our clients are well diversified and global. We've seen strong growth in the U.S. and Asia, especially from companies that chose to use our advanced structural analysis and design platform in particular for newer trend-setting tall buildings." (See ad on page 4.)

"Business has never been better," says Stuart Broome, Engineering Business Manager (USA) for Tekla ([www.tekla.com](http://www.tekla.com)), a Trimble Company. "There seems to be plenty of work out there and a shortage of engineers. Firms are more open than ever to look for ways to improve productivity and at Trimble we feel we are very well placed to provide a full solution, from concept through design to construction and operation."

Broome says that Tekla Structures v21, was released in 2015, brings much more drawing and information management capabilities to their BIM solution. "Tekla Structures is well known around the world as being the most widely used and complete solution for steel and concrete detailing, but is less well known as a structural engineer's tool for producing construction documents and general arrangement drawings. We'd like to change that."

Version 21 included many new features specifically for engineers to make drawing production more efficient than ever before, says Broome. "Because all of the detail is contained in the actual model, there is no need for additional 2D line work – even dimensions and labels are automatically produced on the drawings. Improvements have been made to the Organizer tool to allow Engineers to create quick, custom reports automatically after creating the model. Creating material take-offs and checking model accuracy has never been easier. Lastly, a change management feature has been added to enable engineers to keep track of what's changing with each iteration of their own models or their client's models, making tracking those changes a much less laborious task."

The company last year also released their latest versions of TEDDS and Tekla Structural Designer (TSD). (See ad on page 3.)

"Although Lindapter ([www.lindapter.com](http://www.lindapter.com)) has been pioneering steelwork connections for over 80 years, we are still coming up with innovative solutions for connecting steel, such as our Hollo-Bolt that allows a faster technique for connecting Hollow Structural Sections (HSS)," says Marketing Manager Wayne Golden. "We are delighted to announce that the Hollo-Bolt is the first and only expansion bolt for structural steel to receive full seismic approval from ICC-ES. The significance of this is that Structural Engineers



now have an alternative to drilling, bolting and welded HSS connections that is independently approved for use in all seismic design categories A through F."

Golden adds: "Hollo-Bolt is quickly and conveniently installed by simply inserting the fastener into a pre-drilled hole and tightening with a torque wrench, which ultimately saves the contractor time and money. This unique connection also provides the highest resistance to tensile loading in accordance with AC437, while ensuring compliance with the 2012 international building code. The Hollo-Bolt has been used as a structural connection on projects all over the world with some impressive applications, such as securing the HSS framed roof at the Kimmel Center in Philadelphia. However, since getting the full seismic approval, more and more structural engineers appreciate that the Hollo-Bolt is a viable connection solution for large-scale projects on the West Coast. We are now seeing the Hollo-Bolt used on major projects including the Wilshire Grand Center, Los Angeles and the ARTIC transit center in Southern California. There's been a huge step-up in the use of Lindapter's products, and it's rewarding to see the fruits of our labor, especially when we put so much R&D into these products."

At The Steel Network ([www.steelnetwork.com](http://www.steelnetwork.com)), Nabil Rahman, Director of Product Development, wants SEs to know about StiffWall, a pre-engineered system intended to simplify and optimize the design and installation of strap bracing shear walls to resist wind or seismic forces and provide required lateral stiffness. "The system eliminates the need for plywood, OSB, or steel sheet sheathed shear panels, all of which require excessive and complex fastener schedules. The system also eliminates the need for corner gusset plates traditionally used in strap bracing shear walls. In the StiffWall, the load path for shear forces through floor slabs is simplified by using corner boot connections and through bolts. StiffWall has been effectively used in residential and commercial low and mid-rise cold-formed steel applications. The product is designed and manufactured to meet the performance requirements of each project."

Says Rahman: "The StiffWall system is composed of panels where each panel connects two floors vertically. For a multi-story building, the number of panels for a single StiffWall system equals the number of stories. The panel consists of several structural components, which are the vertical end columns (vertical chords), the diagonal strap

bracing, the corner boot connections, and the floor-to-floor through bolts. StiffWall Column/Boot Assemblies come preassembled for ease of installation.” He adds: “SteelSmartSystem software provides an intuitive, complete design and detailing solution for TSN’s StiffWall, and all your light steel framing design needs.” (See ad on page 83.)

At RISA Technologies ([www.risa.com](http://www.risa.com)), Vice President, Operations, Amber Freund says they are continuing to hear from engineers that design projects and construction are growing. “We are hoping to see this growth continue in 2016,” she says.

“New for RISA-3D v14.0 is time history analysis capabilities. This allows the user to enter their loading as a function of time and then analyze the structure over a time period to see how it reacts, including momentum and accelerations,” says Freund. “This feature is ideal for vibrating equipment on a structure. For years, RISA-3D has been used for industrial design, and engineers wanted to be able to look at the response of their structure to equipment vibration. The introduction of time history gives RISA-3D users the design tools they need to complete these industrial designs.”

As for trends, Freund notes: “We are still seeing BIM as a major topic with owners, architects and engineers. The implementation of BIM varies within the different construction industries and individual companies, but it is definitely being used more in the design process.” (See ad on page 84.)

Thomas Van Lann, CEO of CloudCalc, Inc. ([www.cloudcalc.com](http://www.cloudcalc.com)) says that, because CloudCalc is a new concept, it will require

education before the engineering community fully understands the benefits it offers. “CloudCalc provides a cloud-based structural engineering software application. Like a lot of other engineering software, it can analyze steel structures for static and dynamic loads and check the results against the AISC ASD and LRFD codes. But what differentiates us from the others is that CloudCalc is not tied to an individual PC. Because it runs in a browser (such as Chrome or FireFox), on any computer or Android tablet, an engineer can access, modify, and rerun his or her analysis from anywhere – a client’s office, a job site, or a hotel’s business center. We expect to soon have a phone-based version which will let engineers check stress levels and make minor modifications whenever or wherever they wish.”

The concept for CloudCalc came from understanding customer needs. Says Van Lann, “Earlier in my career, I spent nearly 15 years as CEO of COADE, Inc., a very successful engineering software developer. During that time, our customers were very vocal in regards to their wish list: software that enabled collaboration among their distributed project team; device independent software that supported mobile devices, in order to permit more informed decisions in meetings or on site; flexibility to balance software licenses against the needs of cyclic project workloads; reduced dependence on IT support; shorter update cycles; and software that would appeal more to the app-driven lifestyles of the younger generation. With the expected generational shift-change expected in this industry,

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the Facebook-ers, tweeters, Instagram-ers of today will be leading the engineering projects of tomorrow.”

Tim Ellis, Simpson Strong-Tie ([www.strongtie.com](http://www.strongtie.com)) Product Manager, says his company is offering their Strong-Rod Systems for seismic and wind design solutions for light-frame, mid-rise wood construction.

“Simpson Strong-Tie Strong-Rod continuous rod tiedown systems feature code-listed components and optimized rod-run assemblies, giving designers cost-effective and code-tested options for light-frame, mid-rise wood construction,” he says.

“The Strong-Rod Anchor Tiedown System for shearwall overturning restraint (ATS) and Strong-Rod Uplift Restraint System for roofs (URS) address many of the design challenges specifically associated with mid-rise buildings that must withstand seismic activity or wind events. These systems are designed to restrain both lateral and uplift loads, while maintaining reasonable costs on material and labor,” Ellis says.

“Strong-Rod ATS solutions address the many design considerations necessary for ensuring proper performance against shearwall overturning, such as rod elongation, wood shrinkage, construction settling, shrinkage compensating device deflection, incremental loads, cumulative tension loads and anchorage. Strong-Rod URS solutions focus on effective performance against roof uplift, taking into account factors such as rod elongation, wood shrinkage, rod-run spacing, wood top-plate design and anchorage.”

Adds Ellis: “It’s complicated designing multi-story buildings for these conditions. We want to share our testing and design expertise with designers so they have the safest building possible, with materials specifically designed for this application. With our new Strong-Rod systems product offering, we are delivering streamlined and innovative system solutions that are code compliant and cost competitive.” ■



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