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Global Developments in the Frame & Truss Industry: What Trends Will Shape the Next 40 Years?" by Gene Toombs

The following speech was delivered by Gene Toombs, Chairman, President and Chief Executive Officer of MiTek Industries, Inc., at the 2000 Frame Australia Conference held in Melbourne, Australia, on July 17. MiTek provided WOODWORDS the exclusive rights to reprint these remarks.

When the connector plate was invented in the 1950s, it took up to four hours to design a single, simple truss by hand. Today we can measure the time in minutes or less.

Forty years ago, when we heard the term “automation,” we thought of new and faster tools. We still do—but we also understand it to mean the computerization of entire factories.

In the late 1950s, our industry was fragmented within markets, which were fragmented within countries—except we didn’t think of ourselves as fragmented. We thought of ourselves as small “truss shops.” Today, our industry continues to mature and consolidate, increasing the need for us to become more efficient, to provide better products and services, and to become more customer-focused.

And 40 years ago, our industry was—at most—national in scope, or regional within national boundaries. Today, our industry is global.

With all of these changes we’ve seen, one thing is certain—the next five to 10 years will be even more dynamic than the last 40—more challenging and more exciting than anything we’ve seen yet.

Three trends are already shaping the next 40 years of our frame and truss industry—and of each of our companies and businesses. The first trend is consolidation, the second is globalization and the third is information technology and automation.

TREND #1 - CONSOLIDATION:

Two major factors are driving consolidation in our industry. Larger companies are buying smaller ones, and investors—financial buyers—are seeing opportunities to profit.

As customers and suppliers have consolidated, the industry has moved from a local to a regional perspective, and from a regional to a national or global perspective. The trend in the United

States is the consolidation of fabricators and connector suppliers, builder merchants and homebuilders.

The more we consolidate, the more our companies have to become customer-focused. There was a time, not so long ago, when we could get away with providing customers with whatever we had available. This is no longer the case.

At the same time, successful consolidation means supplying customers with a greater number of products. It also means selling increased volume to existing customers, and in turn helping them sell more to their customers.

Customer service has increasingly become the industry's watchword. And for a very good reason. Our industry is about 40 years old. Our customers have matured in their knowledge of what they need and what's possible from their suppliers. Our customers' competition, at one time local, is now moving to a more regional approach. And just as our own experience with and knowledge of computers and software has grown and expanded, our customers' experience with and knowledge of our products has grown and expanded.

In short, we've helped our customers become more aware, more advanced, more selective and more demanding. They're beginning to recognize, for example, what software can do, and all the possibilities—and challenges—that software presents. They are also very knowledgeable about the universe of suppliers—what we can and cannot do.

But enhanced customer service is not sufficient in an industry changing as rapidly as ours is changing. We're moving from an industry of customer and vendor relationships—what we might have once called the "good old boys with the best price"—to an industry of customer and supplier partnerships—what we might call the "smart people with surprising software to help solve your problems."

The trend toward consolidation is transforming customer service.

TREND #2 - GLOBALIZATION:

Globalization is something of both an understatement and an overstatement.

It is an overstatement in that brands remain extremely strong in local markets, and are likely to remain so for the foreseeable future. I don't see the advent of intercontinental contests between competitors.

But globalization is an understatement in that in terms of our industry's intellectual capital—the ideas and innovations that keep driving us forward to solve our customer's problems—globalization is already here.

Historically, there has been little sharing of knowledge and information between each player in our industry. Everyone acts independent of one another: architects, nailplate manufacturers, frame and truss manufacturers, and so on.

The same factor driving increasing connections between all of us—software and computers—is now beginning to drive connections between the various steps in the industry chain, as well as between regions and world areas. As they learn more and understand more, and as the economics of the marketplace become more demanding, customers are increasingly hungry for whatever can make them more successful. Oftentimes, these solutions are found by taking the best ideas in local markets around the world and transferring them quickly to customers. And we see this as the future—taking the best ideas from around the world and localizing them, using the strong local brands as the vehicle. This means taking advantage of all available resources—wide-area networks, the internet, better software—and being smart enough to use it all in innovative ways that work for our customers.

From the perspective of intellectual capital—the knowledge, experience, ideas and learning that power our companies—we have to be global yet local. Relying upon what we've always done won't work any more, if it ever did. It won't work for us and it certainly won't work for our customers.

Our frame and truss industry possesses strong regional and local brands and global intellectual capital. Because of that, we can selectively leverage the best ideas from around the world, demonstrate them to the customer first on a computer screen, and then apply them in local markets to meet the customer's needs. And we can do that at a speed—Internet speed—that's dazzling.

TREND #3 - INFORMATION TECHNOLIGY & AUTOMATION:

The third trend is information technology and automation. And let's consider it by reviewing a little history of the use of computers within the frame and truss industry.

- In the 1960s, companies began writing in-house software programs to reduce cost and time. Many, many engineers quickly became Fortran programmers—often self-taught, because computerization had yet to make an impact at college and university engineering schools.
- During the 1970s, software programs began to expand beyond the needs of engineers. These programs began to include such applications as the cutting of timber and the pricing of frames and trusses. By the end of the decade, we all knew that the computer revolution had begun in earnest in the frame and truss industry—and we all began to utilize the rapidly evolving

technology.

- In the early 1980s, we started writing DOS-based programs, and the potential value of computerization clearly began to emerge. Software from that time forward has become a prime selection criterion for evaluating connector supplies—and suppliers. The better software not only reduced overhead costs in the office but also reduced timber and labor content in the truss as well.
- By the early 1990s, more user-friendly and graphical software changed the face and substance of our industry forever. New programs enabled, for example, the design of complex roof structures. Networks enabled us to do more than ever before. And with the advent of the worldwide web, we can now book orders on-line. New markets are opening up, competitors are rapidly changing, and we're learning that we can have sales offices in places where we have no physical presence.

Computerization has been changing our industry for the last 40 years. And with these changes, a product such as a small connector plate has come to represent a bundle of data, technology and service.

In the very near future, I expect to see the accelerated use of the worldwide web to link all phases of building construction, which, as we all know, is a solution looking to be applied to a basic problem in our industry. One of the prime problems to solve is the reasonable calculation of labor costs—which remain one of the biggest, if not the biggest, problems we have. Imagine using a CAD program that is not only accessible and usable across the spectrum of construction but can also pinpoint labor costs at the very beginning of a project.

I expect to see the worldwide web power us into a transformation of training, with the expansion of distance and on-line virtual training and instruction programs.

Furthermore, I expect to see all buildings eventually "constructed" first on the computer. In fact, the direction in industry software is to consolidate all of the engineering for the entire building. New software, for example, can calculate the transfer of loads in buildings from the roof to the walls to the floors and footings.

Closely connected to computerization is automation in the manufacturing plant. For the last decade or more, we have been investing in new machinery and equipment to increase efficiency and reduce cost. The changes in machinery often seem bewildering—computer-aided design and computer-aided manufacturing equipment; just-in-time production, automation of the supply chain, as well as electronic data interchange.

For example, computer-aided manufacturing enables customers to use the same set of information over and over again via electronic data transfer—eliminating the need for multiple human inputting and interpretation of the data. One-time data entry enables them to make multiple uses of the same data—increasing their productivity, accuracy and quality. A truss is designed on a computer screen and the data is transferred to a computerized saw. The same data is transferred through a laser beam to the assembly table, and the actual product is then created. And this is done at a speed that would have been thought impossible only a few years ago.

Research and development is underway that will significantly automate the material handling process and continue to reduce the labor content in every truss or frame.

Increasing automation has been transforming our manufacturing plants into what can only be described as integrated, productive and very fast. Automation is fundamentally changing the manufacturing pro-cess, the supply chain process, and transportation and delivery.

Overall, computerization and automation deliver benefits throughout the value chain:

- For the truss designer, it means one application, one set of rules, and more integrated technology with reduced complexity and reduced opportunities for input errors.
- For the building designer, it means an overall effective, efficient and quick design.
- For the material supplier, it means “value engineering”—making sense out of all of the materials going into a building.
- For the manufacturing manager, it means virtual manufacturing until the very last step in the process—better information and better decisions, with greater accuracy and efficiency and reduced labor costs.
- For the sales representative, it means a faster and more profitable way to secure new business. Ima-gine a sales rep utilizing a laptop computer and bidding a job on site. This is happening now and soon it will be the norm.
- For the customer, it means the ability to see and experience the building long before construction begins. Virtual reality is becoming a reality in our industry.

Computerization and automation of manufacturing will mean making the most building for the least cost—because computer software gives us the ability to take cost out.

CUSTOMER SERVICE - THE OVERARCHING TREND:

These are the three trends driving the global frame and truss industry:

- First is consolidation—of our own companies as well as those of our customers, our suppliers and our competitors.
- Second is globalization, but with a twist—global intellectual capital that can be localized and adapted quickly to meet customer needs.
- Third—and most importantly—is information technology and software, and with them the ability to reduce costs and transform and integrate each step of the building construction process, providing our customers with a very different kind and depth of product and service.

The common theme in all three trends is customers. Customer focus will become even more of an obsession than it is today. Our customers will become more aware and more demanding—because we’ve done a very good job of serving them and educating them. Our customers will expect us to provide them with a virtual building—because we have learned to construct it first on the computer screen. Our customers will demand better and faster service—because our software has connected all of the formerly unconnected steps in the process. Our customers will expect more and better ideas—because we have been able to draw upon innovations from all over the world and adapt them to the local market.

And the companies who learn how to do all these things for customers better and faster than anybody else will succeed.

Gene Toombs serves as chairman, president and CEO of MiTek Industries, Inc. Based in St. Louis, MiTek is a global supplier of engineered products and services for the building components industry.

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