An exclusive interview with Len Moore of Moore Industries

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Moore Industries prides itself on being customer-driven. Its chairman and president, Len Moore, says that he founded the company because no one else seemed to be listening to the customers.

This installment of our Corporate Decision-Makers series features an interview with Leonard W. Moore, founder, chairman of the board, and president of Moore Industries-International, Inc. (in Sepulveda, CA). Moore was recently elected an ISA Fellow to recognize his contributions to the advancement of signal conditioning instrumentation and monitoring systems, including RFI and EMI protection. To date, his major scientific and technical achievements include five U.S. and several foreign patents for unique innovations relating to electronic instrument packaging, signal conditioning and instrumentation, and monitoring systems.

After attending Iowa State College, Moore developed his reputation for creating industry-first, yet practical, instrumentation solutions while with Swanson Engineering and Waugh Controls Corporation.

In 1968, recognizing an unmet need for process signal interfaces, he founded his own company, Moore Industries-International, Inc. This Los Angeles-based company, which started with three people working out of a garage, currently is one of the major suppliers in the process instrumentation and control marketplace. Today, the company employs hundreds of people worldwide.

Hickey: What problems have to be solved to maintain growth in your market?

Moore: We are facing a changing industry. Analog signal interface technology, which earned us our start in this business, is giving way to digital. Of course, we don't view this as a problem—it's an opportunity. To maintain growth, we now aggressively pursue the development of digital interface innovations in addition to analog. With the new digital interface products we already have, along with the ones we have in the works, the analog to digital switch is providing us with a lot of exciting ways to go.

Leonard W. Moore is founder, chairman of the board, and president of Moore Industries.

The fieldbus situation is also creating opportunities. Delays have led users, eager to take advantage of digital communication, to go with ready-to-go protocols like HART, MODBUS, and PROFIBUS. These, and others like them, are in use in thousands of nodes worldwide, and have essentially become de facto standards. It is unlikely many users will be able to afford, or even want, to scrap large numbers of installed instruments that are working just fine.

Of course, political wrangling isn't the only thing slowing the universal acceptance

of any given fieldbus standard. It has always been unrealistic to expect a single communications protocol to meet all of the needs of every user, in every application. For some, a full-blown, multilayer fieldbus might be the answer. For others, implementing a complex communication method may be overkill. These users will stay with what they have, or look to a simpler, less expensive digital protocol. It is conceivable that some will choose to mix and match a number of communication methods to suit the different situations within their plants.

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For reasons of economy, throughput speed, and many other application-specific considerations, a single protocol doesn't make sense for everyone. This will increase opportunities for companies like Moore Industries. Signal interfaces, protocol converters, and gateways will be more necessary than ever to tie everything together.

It is also important to note that while everyone is talking about digital technology, changes don't happen overnight. There are a lot of folks out there—often the ones that have kept plants running through good times and lean times—that are just fine with the analog instruments they've always counted on. They're comfortable with how they work, and with how to make them work. The comfort factor remains very important to customers and users in the control field.

That's why we will continue to provide useful new instruments for our customers that choose to stay analog for a variety of very good reasons. Improved analog interface instruments will remain the choice for many retrofits, some small- to medium-size new projects, and for after start-up troubleshooting—such as to solve ground loop problems. We expect to sell our analog instruments long into the future, in much the same way pneumatic interfaces have remained a best seller for us, despite predictions of their demise for decades.

Hickey: Considering the number of new products you announce, you must have an aggressive R&D program. How much do you invest in R&D, and what are some of the areas you are currently emphasizing?

Moore: Since day one, we've realized that R&D can't be shortchanged. To stay on top and grow, you have to develop the best new products. For us, R&D starts at the marketing level. This is basic, but often ignored.

Technological breakthroughs are exciting, and we've certainly had our share of them. But to be commercially successful, you have to know what the customers need so you can provide useful new products that they will buy and use. That's the only way you'll hang around long enough to come up with innovations. It is surprising to me how many forget this basic requirement.

Right now, we spend more than six percent of worldwide sales on R&D. On top of this is a big investment in inbound marketing to gather ideas and then validate their value.

We're concentrating our efforts on developing instruments that offer exceptional versatilty and functionality, while still addressing important user interface concerns.

Engineering, purchasing, and maintenance staffs are smaller now. Hence, there's less time available to users to evaluate and specify products. So they want versatile instruments that can do a wider range of common functions. Purchasing agents like this trend because universal products mean dealing with fewer vendors and fewer purchase order line items. Maintenance staffs like this too, because there are fewer product learning curves and fewer spares to stock.

When looking to provide enhanced functionality, the mistake some manufacturers make is that they sacrifice simplicity for universality. Instruments that are difficult to understand, configure, install, and maintain will not save anyone time and money. And, in fact, may end up costing a whole lot more in the long run.

When we engineer universal products, we take user interface very seriously. The trick is to balance functionality with ease of use. For example, our new PC-programmable temperature transmitter will handle nearly every application out there, yet it configures in a minute or less from a single software window. There are no tiny jumpers or switches to mess around with. In fact, you don't even have to open the user's manual to get it going. For those that don't use PCs, we offer instruments with on-board controls and inte-

gral displays that guide them through setup.

In addition to simple operation, new instruments have advanced diagnostic capabilities that save time and money. In the field, in the middle of the winter, or in the middle of summer, and inevitably in the middle of the night, the last thing someone wants is a long stay outside tracking a problem.

As an answer to this, we developed what we call Total Sensor Diagnostics, an advantage now available on our newer transmitters. This feature, which is our patented technology, tells you when a sensor problem happens, and then makes maintenance simple by diagnosing where the failure is located.

The bottom line is, plant personnel deal with dozens of multivendor devices daily. The easier you make it to use your devices, the more they'll want to use them. We want our customers to like to use our products.

Hickey: What enhancements to existing products are you making to help your company remain competitive?

Moore: The most visible enhancements to our products are happening at the output side. Analog transmission, primarily 4-20 mA, was the staple for years. Now it's the various digital communication protocols. We've already put many of these into our products, and will continue along this path.

However, no matter how you communicate process data, much of the magic in data acquisition is in the techniques used to protect the integrity of the primary source signals. Basically, you have to condition weak, low-level signals to formats that will withstand transmission through a noisy plant. It's the interface instrument's job to take care of signal isolation, RFI, linearization, and temperature compensation.

One of our major strengths is our front-end signal conditioning technology. We pioneered the art of protecting process signals from plant noise, harsh environments, and fluctuating ambient conditions. For example, one of our first patents was for an instrument terminal block that incorporates a radio frequency filter. With this filter, the RFI generated by walkie-talkies, motors, and the like is not a concern.

The thing is, lots of companies out there will offer products that communicate using exactly the same standard protocols. In this respect, everyone will be playing on an even field. Our advantage, and we believe it's a major one, is that we know how to apply up-front signal conditioning technology. This allows our customers to take full advantage of digital technology to achieve their data acquisition goals.

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Hickey: Tell me how your company develops marketing strategies that lead to product development opportunities.

Moore: Whether you call it marketing, product development, or just plain listening to what users need and then providing practical solutions, our approach is the result of our being a customer-driven company. In fact, we started Moore Industries because we heard customers talking when no one else seemed to be listening.

Our inbound, or predevelopment, marketing is an organized effort in which we encourage active participation from our employees, sales force, and customers. Capitalizing on the intelligence that comes in every day is the key to uncovering new opportunities. That's why we have systems in place to efficiently gather, organize, and evaluate product ideas.

From the dozens of ideas we receive every year, we pick those that appear to be the most attractive, then validate their value to our customers. Validation is accomplished by looking at both "soft" and "hard" information. Soft information includes opinions and good old-fashioned intuition. Hard information is obtained through customer interviews and surveys, and product performance, window-of-opportunity, and return-on-investment studies. The best ideas make it into new product development.

We also put extensive effort into our post-development marketing. Most companies don't take their marketing communications seriously. As a result, even though they may have the best product in the world, potential customers don't always hear about it. Once we've taken the time to design customer requirements into our products, we make sure folks know about it.

Attacking niche markets is another area

where we've turned up the heat. It's not enough to just sell interface instruments to users in the process industries. You have to target specific people with your solutions to their everyday problems. In other words, we strive to reach identified customers with specific products that meet targeted applications. Intelligence and communication are the keys here. We have a parallel system in place to identify niche customer requirements, then come up with and communicate our solutions to those that can benefit from them.

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Hickey: A lot of companies are private labeling products to bolster their own capabilities. Is this part of Moore Industries' strategy?

Moore: If we determine that a new product is needed, and ROI studies justify an investment in engineering and marketing, we prefer to design and manufacture it ourselves.

We're very protective of our reputation for quality. In fact, our ISO 9001 certification was relatively easy because we had most of what was needed already in place.

Our standards for product performance and reliability are very high for good reason: a customer can have hundreds of your instruments operating virtually invisibly year in and year out, but the one that will be remembered is the one that caused trouble. The customer doesn't care whether or not you actually manufactured it. If your name is on it, it's yours. And you have to take responsibility for it.

From time to time, we do take advantage of partnerships to fill holes in our product line. We do this, in most cases, when we want to complement our core products, but anticipated sales volume won't pay the bill for using our resources on development and tooling.

We take on someone else's product only afer we've raked it through a stringent quality assessment process. Frankly, most of the products we look at just don't measure up, and we won't put our name on them.

Hickey: Is there one special service that sets you apart from your competitors?

Moore: I'd say that would have to be our willingness, and ability, to engineer customer specials. Believe me, this can really be a headache. But to be successful in the signal interface world, you not only have to speak a lot of "languages," sometimes you have to speak "dialects" as well. In other words, you have to offer solutions that may be unique to a customer, or unique to an application.

Customers come to us all the time with strange requirements. They need widget A to talk with widget B, and no one is willing to help because the volume's not there.

We maintain a staff of engineers and technicians whose specific job is to figure out solutions that will help these customers. Virtually overnight, we can take one of our standard products and reengineer it to meet the requirements of the application.

Just because we may be the only game in town, and the customer is absolutely desperate for a solution, we refuse to gouge for this service. We charge a fair price for the product we provide. That way, everybody wins. I can't tell you how much goodwill this has generated over the years, and how many big orders have followed as a result of our helping an engineer out of a "hole."

Hickey: What type of distribution channels do you use—both here and abroad?

Moore: Our distribution strategies vary from market to market. In the U.S. we use independent representatives supported by regional sales managers. Over the years we've cultivated our network to a point to where I believe it is, without a doubt, one of the finest in the business.

Realizing this strength, we're routinely approached by overseas companies that want to penetrate the U.S. market using our distribution network. If a partnership makes sense for us and our reps, we talk. But generally, we're not eager to share this strength. We protect our reps' time because they don't have extra to go around. We want them to use as much time as possible selling our product.

Nearly 40% of our income now comes from overseas sales. We maintain direct sales offices in strategic markets throughout the world. These are supported by independent agents in markets that are in various stages of

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development. With the success we are experiencing in rapid-growth markets, especially those in Asia, we expect our sales mix to shift even more towards overseas sales. Our global diversity has consistently promoted our growth, even in the early '90s when the domestic pace slowed.

Hickey: Companies are placing more and more emphasis on the development of a strategic plan that can help them meet today's global competitive pressures. What approach do you use to come up with a successful strategic plan?

Moore: Before I respond to that question specifically, I'd like to talk about an aspect of our operation that is important to me, and very much related to our game plan. It has to do with our working environment. We take our responsibilities seriously, but we also believe we can do our best job and still enjoy what we do for a living. This may sound trite, but it really is something we strive to achieve.

In 1996, we started down what we call "The road to success." Basically, it's our business plan for the next five years. What's different about our plan is that it isn't a top-down mandate from management with no employee buy-in.

Every single person in our company has the opportunity to help develop and play a part in goal-oriented strategies that will ensure our continued success—from employee annual reviews to reducing manufacturing costs to new product development.

Teams made up of employee volunteers figure out the best ways to get the job done. Then the same people are responsible for doing the job.

Our teams have completed a dozen or more major projects that have substantially improved our work environment and competitive position. I'm very proud of this program, and more importantly, our employees are proud of themselves.