Tales From the Vault

The 2025 AIST Hogan Memorial Lecture

By Richard P. Teets Jr.

Good morning, everyone.

Tom, thank you very much for that kind introduction. And a heartfelt thank you to all of you for joining us this morning and helping Tom and me to recognize today's award recipients.

The steel industry's continued success lies in its ability to innovate — to make steel stronger, more durable and more affordable all the while producing it more safely — and the people we are recognizing today are responsible for some of our best thinking on how to do just that. They embody the sense of invention and problem-solving that drives so many of us in our daily work.

As someone who has the privilege to judge technical papers submitted to AIST, I can say that they all continue to be exemplary. I'm amazed at the increasingly sophisticated science and level of ingenuity expressed in them. The problems that people are investigating, and the solutions they're finding, are just terrific. Your work is valued and respected.

I also would like to thank Ron and the AIST staff for organizing another stellar conference. That we have another record-breaking year is testimony to the value of AISTech — and the care that you and the team put into organizing it each year. You should all be proud of

what you have accomplished, and, on behalf of all of us who make it a point to be here, thank you sincerely.

Now, one last thing I'd like to mention before I begin my formal remarks: Ron brought me out of retirement to give this speech, and some of the greatest things about being retired are that I do not have to impress anyone; I cannot be fired; nor do I need to dress the part of a steel executive. I could have thrown on a pair of jeans and a Hawaiian shirt this morning. But I wanted to look nice for you guys!

Just to be sure, though, I'll be walking through the exhibition hall later today, and when I do, I'll be wearing my best Hawaiian shirt, just as I did in the past.

Now, we could spend hours on singular topics such as new plants, mill design, green steel and competing products, to name a few. But I think there is plenty of time for that discussion later this week ... like, for example, tonight at the Omni hotel bar.

So instead of focusing on the business and engineering of steel, I wanted to make this an enjoyable discussion about some of my experiences in steel, and I wanted to orient my thoughts toward the young people in our industry. Youth, of course, is a relative term. You are only as old as you feel.

Some of you may feel like time is an abundant, never-ending resource. But it is not. It's scarce. And, trust me, it goes by pretty damn quick.

Therefore, you need to make the most of your time, and since this lecture is in memory of an economist, efficiency is a worthy topic to include today.

The Reverend William T. Hogan wasn't just an economist. He was the steel industry economist of his time.

Sometimes known as the "Steel Priest," he lived for a time at Duquesne University while he worked at U. S. Steel and researched his dissertation on steel productivity. It was the first in-depth study on the subject ever made, and his methods of productivity measurement were detailed in his first book — and they are still relevant to this day.

Incidentally, I, too, lived in Pittsburgh and earned my M.B.A. from Duquesne. So Father Hogan and I share an alma mater, but we share one other thing — he swore a vow to God; whereas I've sworn a few times in the mills.

But anyway, economics fundamentally is about decision-making and how resources are allocated. So if you'll indulge me over the next 10 to 15 minutes, I thought I would try to share with you some of the wisdom and learnings I've accumulated in my 40 years in this industry.

No. 1: Be Proud

My first bit of advice is to be proud of what you do for a living. Be proud of your company. And be proud of this industry.

The steel we make, where we make it, who we make it for — it all matters.

Steel has revolutionized every industry we've worked with — construction, food and agriculture, transportation, the list goes on. Steel's versatility, its strength and cost-effectiveness make it THE ideal material.

Steelmaking is a cornerstone of the global economy. Around the world, we employ more than 6 million people, and many more than that when you count all of the downstream jobs. We support scores of industries, and contribute significantly to GDP. In regions where steel production is a major economic driver, communities thrive and local businesses flourish. The industry's economic impact extends far beyond the mill, influencing trade, investment and technological development.

Yes, I know, I am preaching to the choir, but even the choir needs to be reminded regularly. Because in my time, I've found that when people in this industry talk about working in this industry, they do so in the most shrinking, apologetic way possible, as if that is necessary.

Look, there's no doubt that our early record on labor, safety and the environment was poor. But do you know who dwells on it the most? Us! In many of the steel-related conversations I've ever had with people, I've found that its fellow steel professionals who bring up the past, not others in the public.

Self-reflection is certainly a good thing, but I think we've reflected, a lot, and learned from it. Let's maybe reflect a bit more on what we're doing now, which is working to make a very necessary material in the safest, cleanest and most socially responsible way possible.

I started in this business in Pittsburgh in 1970s, one of the worst possible times and places to begin a steel career. Engineers were being terminated, mills were idling production assets and all of southwestern Pennsylvania was in a malaise. Nevertheless, once I started in this business, I realized this is all I ever wanted to do.

Maybe some of you have found yourselves questioning whether this was the right decision. I can tell you it is. This is an honest line of work, with a chance to advance quickly and see places you might not otherwise have visited.

This is a place for problem-solvers. The innovations that have come out of this industry are nothing short of spectacular. And by this industry I mean all of it — the mills, the equipment manufacturers, the service providers.

We've figured out how to make steel that rivals aluminum in weight. We've figured out how to melt scrap, cast it and then roll it into finished shapes in a single step, transforming a number of batch processes to a continuous process. And we've figured out how to design entire plants such that just a few people in remote pulpits can control the entire operation.

No one likes a braggart, but in our case, we've earned the right to tout the work that we do.

No. 2: Be Safe

Now, pride in work is a good thing. It's a great thing, actually. There's really nothing as satisfying as coming up with an idea and seeing it work. But I do want to caution you about accomplishment leading you to a place of overconfidence. Because, let me tell you, overconfidence

doesn't always pair well with safety. Overconfidence leads to statements like, "It's fine. Nothing is going to happen." Or "It's not going to happen to me."

So here is my next piece of advice, and I want you to remember this: Yes, something can happen. And it can happen to you or a friend.

My point here is that safety must always, always, always, be at top of mind. There is no shortcut, no work-around, no bypass for safety.

When I started at J&L Steel, they had a one-year training program for new engineers that rotated you through different plants and departments. It essentially was a two-way interview: managers had a chance to see if you'd be a good long-term fit, and you were exposed to working in a variety of areas, like plant engineering, plant construction, underground coal mining, research and development, and so on.

In one of those rotations, I was working underground in the coal mine, 800 feet down, 5 miles from the main shaft, and we went underneath a lake. I was working on a longwall unit which is stripped out of the whole vein of coal. Depending on the height, that vein could be 6 feet high, could be 12 feet high. And once you took the coal out and the equipment advanced, now there was a void behind you, but you had to bring it down — or it could have been a catastrophic collapse on all of us.

So I said to my colleague, "Hey, you bring the dirt down, how come the lake doesn't drain? Come down through a crack and drown us all?"

He said, "Ah, kid, don't worry about it. It can never happen."

Okay. I didn't know. Well, word got back to the management, and one of my rotations was over. They did ask me to stay and continue my career in coalmaking, which thank God I didn't do. But as I was leaving, the guy said, "So you decided to go to the steel mills?"

I said, "Yeah, I'd like to experience that."

He asked, "Well, you think they're safer?"

I said, "Oh, I don't know. I've never worked in one."

And he said, "Well, let me tell you, there's more fatalities in steel per capita than in coal mining. You just don't hear about them. When fatalities happen in coal mines, they're in big numbers. In a steel mill, they're one at a time."

Fortunately, today, you don't hear about steel fatalities as often because they are becoming infrequent in mature steel industries, which came about when the industry made a collective effort to improve. It may not seem like it, but in the long arc of history, the effort began just a short time ago.

I'll go back to my rotation at J&L. One of my other assignments was with plant engineering construction. This is a hard thing to believe, but one of my jobs in this assignment was working at Pittsburgh Works on the South Side. We were installing two electric arc furnaces in an operating open hearth. And we tore out the middle three open hearths to put in two EAFs.

Therefore they had to take off the roof and make access for the ductwork to go out to the baghouses. Well, my job was to go up with a consultant and we torqued every bolt in the superstructure and the roof assembly to confirm that the contractor did their job. I can't even fathom today even thinking that you would have to do that, but that's what my assignment was. So this guy and I, we go up day after day, working up there, walking the steel, and as much as it seemed like a balance beam from gymnastics — a beam 4 inches — I don't think guys ever walked a steel beam narrower than 8, probably 10 or 12 [inches]. But we were 120 feet off the ground, no tie-offs, no safety netting, nothing. It just wasn't done.

One day we're up there working, and all of a sudden we have a thunderstorm, and it's pouring rain. And in the midst of this, coming up through the roof opening was the heat and the dust from the operating open hearths. And it was kish, which is like a graphite material, which is a lubricant.

My buddy said, "Hey, let's get down, get to the construction trailer, get out of the rain."

And all the ironworkers were running by me to get to their shanty that was up on the roof. So I start going down it and next thing you know, I slip, go back, hard hat comes off. It went out of sight it was so far down.

I couldn't believe it, and I was frozen. I just froze in my spot. This guy Lou said, "Hey, I'm gonna take the torque wrench off your shoulder. I don't want you to lose your balance."

He said, "Okay, get down, sit on the beam and shimmy down to the joint and we'll move on."

Well, I made a comment later: I didn't know I knew so many ironworkers because they were all running by me, calling me by my first name, because then they had to run a different route.

But that's how was in those days, the "good old days." Trust me, the good old days weren't always so good. I had a high school friend room with me in Pittsburgh who worked construction, building one of the skyscrapers downtown. One day he came home early, and he told me that an ironworker fell to his death that afternoon, so they were all sent home for the balance of the day. As we discussed what the company's responsibilities were, he told me matter-of-factly that for every 40 floors of height, the company adds US$1 million to their bid because they expect to lose one worker. This was in 1978.

We must always improve. We must go home safely. And injury free.

No. 3: Ask Questions

So, as I've said, don't be so overconfident that you forsake safety, but at the same time, I'll tell you that you shouldn't be so underconfident you're disinclined to ask questions, fearing that doing so may leave others with doubts about your competence. You should be asking questions. Often, and with candor. And at all stages of your career.

Back when I joined Nucor Steel in Crawfordsville, Ind., it was to build the world's first commercial-scale thin-slab caster and hot mill. On my second day on the job, I walked into the construction trailer and said to the construction manager, "Hey, I've never been involved in a project this big. What do you have to do to get permission to build a steel mill?"

He said, "Oh, right there on that placard in my window."

The placard said: "By the order of the Montgomery County, Indiana, Fire Marshall, Nucor Corporation is allowed to build a steel mill at the intersection of 400E and 400S."

I looked at him and said, "You're telling me a fire marshal from here in county is all you need?"

"Yep."

I couldn't imagine that that was correct. So, I left. The only attorney that I was given a name for was a power attorney. I called him and said, "Hey, I got an issue. I think I need to talk to IDEM."

He said, "Well, let me make an appointment for you."

Two days later, I'm down in Indy in front of IDEM with about 30 or 40 people from all the different departments. And they said, "We're all the people representing the permits you need."

"Oh, how many do we have?"

"None."

So I introduced myself and said, "Yeah, I'm here because we're building a steel mill in Crawfordsville."

And they said, "No, you *want* to build a steel mill in Crawfordsville?

I said, "No, *we are* building a steel mill in Crawfordsville. I went there this morning. They're hanging iron."

They were shocked, and they said, "Oh, this is bad. This is bad."

I wasn't smart enough to know how bad it was, but they said, "Okay. Well, we can't deal with you. You're going to have to go up to Chicago and see the EPA."

I said, "Well, do I need an attorney?"

They said, "Yes, man, everyone up there is an attorney. You better get one."

I said, "Okay, I'm new to town. Who would you recommend?"

They said, "Well, we can't do that. It wouldn't be professional."

I said, "Okay. If, tell me if you walk into the court, who don't you want to see at the other table?"

So [at the attorney's office], I sat for about four hours waiting for an appointment, because I didn't have one. I walked in and said, "I need an attorney." When I told him the story, he said, "Oh, yes, you do."

Immediately when I got back to the plant, I told Keith, "Hey, we got an issue here." So we called Ken Iverson back in corporate and told him, and his words were, "I don't care what they're threatening you with. Negotiate through it. Keep working, because this technology is revolutionary and we can't afford to lose one day."

We never stopped.

It was, again, eye-opening, coming from the integrated community into this different type of world.

My point here is that questions open the door to new knowledge and understanding. Questions lead to information that can help us grow both personally and professionally. And questions encourage us to think critically and analytically.

A good example here is my own company. Today, SDI is the largest steel producer providing pre-painted coils in the U.S. It's been a fantastic business for us. And would you care to guess where the idea for that business originated? It certainly wasn't in the boardroom.

It was on the floor at our Butler mill in Indiana, at one of our galvanizing lines. One day, one of our new employees on that line asked, "Who's this XYZ company we're shipping all these galvanized coils to?" Our team went on to explain that those coils from us get painted and then re-sold to their own customers. And that prompted the question, "Well, why don't we just paint the coils ourselves?"

Asking questions leads to continual improvement. When I moved into production management, one of the things I routinely asked my team was, "What do you need from me to do your job more efficiently?"

No. 4: Trust Your Instincts

Now, I told you the story about the construction permit for Crawfordsville because it helps to illustrate another point I'd like to make, which is that you should trust your instincts.

When I arrived at Nucor, I had 9 years of experience, but none in environmental engineering. I could have ignored that feeling, and carried on with the project, but I didn't. And you shouldn't either. Trusting your instincts allows you to make quick, confident decisions. Remember, your instincts are based on your accumulated knowledge and past experiences. Trusting them means leveraging all the wisdom you've gained over time.

I remember when we were starting Steel Dynamics — Mark Millett, Keith Busse and myself were pounding on the doors of investment bankers all over the world, trying to persuade them that our project was a worthy investment. Time and time again, we'd hear something like, "You're a good group of guys; great story; but no thanks — steel is just not the thing to invest in at the moment."

We must have heard this refrain, I don't know, maybe 30 times. Well, one day, we met with GE Capital. We made our pitch, and they said, "You are a good group of guys; you have a great story; but ..."

Well, Mark apparently had had it, or at least sensed something we didn't. Because before they could finish the sentence, Mark responded by saying, "Why don't you just admit that GE doesn't have the cajónes to do this project."

Keith and I were surprised that he'd say something like that. But you know what, it was just enough to keep the conversation going, and they responded by saying, "Well, we wouldn't do a project like that without a partner."

And in the end, GE got together with Bain Capital, and each contributed US$20 million. After about two years, those investments returned a profit of around US$140 million to each.

So you talk about trusting your gut …

When you rely on your gut feelings, good things can happen. You reinforce your self-trust. This builds confidence, which in turn can inspire others to trust and follow you.

No. 5: Failure Is a Part of Innovation

Once you have persuaded people to follow your lead, you'll need to lead them somewhere. And if you're doing it right, you're providing them with the time and support to explore and to innovate. But here's a dirty little secret — innovation is hard work.

Yes, innovation requires creativity and out-of-the-box thinking, but it also needs to be balanced with discipline and rigorous management, but mostly discipline, by which I mean stubborn determination.

Innovation involves venturing into the unknown, which can be risky and unpredictable. There's just no way around it — the search for solutions involves a significant investment of time, a willingness to fail and the ability to learn from failure.

Back when I was working at Nucor, their CEO, Ken Iverson, said, "Don't fall into the trap of ruling out failure. Risk, by definition, carries the possibility of failure. See that possibility. Study it, but never, ever hide from it."

Great words of advice.

No. 6: Invest in Your Professional Network

At some point you are going to find yourself, maybe not failing, but struggling with a challenging problem or a vexing issue. Whatever this issue is, it will cause you to wring your hands, grind your teeth and maybe lose some sleep.

But you don't have to suffer alone. I can almost guarantee that out there, somewhere, someone has, or currently is,

dealing with the very same issue, or something close to it, like those in the crowd today.

This is where having a strong professional network will pay you dividends.

Building that network takes time, but you can make it so much easier by involving yourself in this organization. This is the great benefit of an AIST membership. AIST offers so many ways to connect with your peers and share know-how.

Without a doubt, one of the best things you can do is to join AIST and embrace all that this organization has to offer. Take part in a committee meeting. Apply to present a paper. Volunteer to help organize an event.

I say this because the people you meet here are your colleagues and peers. And maybe with a little bit of luck, eventually, your friends. An acquaintance you make today could very well be the person who helps you out tomorrow — even if they work for a competitor. Your competitors, in fact, can be your allies.

Case in point. One time, I received a call from one of the Big 3 equipment manufacturers asking for help. One of their customers lost a bearing on a straightener, they had no spare, and they were going to have to wait eight months for a replacement. As it turns out, I had the same straightener, and I had a spare.

So he said, "Will you be willing to loan a tool?"

I said, "Well, under certain conditions, certain financial pay, whatever."

We negotiated it and I ended up loaning a tool.

Well, when my boss found out about it, he was pissed.

He said, "What the hell? You had a competitor down for eight months."

I just said, "Hey, bad luck isn't just with them. It can come around to anybody. You're not immune from it. It floats around and it'll eventually land on you. Nobody can have every spare in a warehouse."

No. 6: There Is No Such Thing as a Routine Day at the Mill

We've talked about some serious things this morning, but I don't want to end on a heavy note. So I saved this last thought for the end, as there is no such thing as a routine day at the mill, which is one of things I absolutely love about this business. Every day brings some new challenge, or some story that will stick with you — and everyone who was there to see it.

For me, that story is the time Keith Busse decided it was time for me to buy a new car.

A quick story … he used to call these meetings at a local country club, and I drove there from work. I had my mill ride, and if I was running late, I'd pull up to the valet and say, "Park the car, please. I know every dent and scratch on this car, and if I come out and there's a new one, I'm going to own this golf course and you'll work for me."

Well, that got back through the chain to Keith, and he said I had to get a better car.

And it was an ‘85.5 Escort. I have to say a half because they changed engine sizes back in ‘85. And he wanted to melt it to get rid of it. And so as part of our 10-year anniversary party, he had an auction and auctioned off the car. And it raised almost US$15,000. Now, as it was my wife’s car — I’m the one who turned it into a mill ride — she gave the proceeds to three or four charities in Northeast Indiana.

True story.

So anyhow, we take the car and it’s already prepped, so they’ve taken off the gas tank, they’ve taken off the fuel lines, they’ve taken off the oil pan and whatever they thought might explode.

They put the slings through the windows as they smashed them out, picked it up, took it toward the north furnace, and then they held it over and the undercoat ignited. And I’m telling you, the flames went as high as the roof! Everyone in the shop was looking at it. And then little further, it takes the dive, down in it goes, and finally it gets sucked into the melt and it was gone. So we had a ton of fun with it. It was a teambuilding effort.

Conclusions

To bring this all back to where we began, we’re celebrating individual achievements today. But I want you to always remember that we are building on a foundation laid by those who came before us.

Look at any piece of equipment in a mill. Taken as a whole, it’s incredible, an amazing piece of engineering. It undoubtedly took hundreds upon hundreds of man-hours to size every drive, select every fastener and design every gear.

And all of that collective effort has produced something remarkable. I see it every time I step into a mill. Even after all these years, I am still struck with a sense of awe at the scope and scale of what we do.

Don’t let anyone tell you otherwise: we are at the forefront of technological innovation. From the adoption of advanced manufacturing techniques to the integration of artificial intelligence and robotics, steel producers have found ways to improve efficiency, reduce costs, and enhance product quality. These advancements are not only transforming the production process but also enabling the development of new steel grades that will expand applications and new markets for steel.

As we look to the future, the steel industry will continue to play a vital role in addressing the challenges of the 21st century. And the challenges will be many. I need to say that I just made a trip to the new Aluminum Dynamics mini-mill in Columbus, Miss. I tell you that there is nothing "mini" about it, and I had the same chills of excitement as I did when I first showed up in Crawfordsville.

Being challenged is a good thing. That gives each of us an opportunity to succeed, considering our collective passion for finding safe ways to do it better, faster and less expensive. These were all goals that Father Hogan surely would have approved of.

This industry is worth the effort. It will provide for you, and it will take you places. We're engaged in something truly spectacular. As I said, I've been at this for some time, but I still can't help but think: What an amazing business to work in. And I hope you feel that way, too.

Thank you. ✦

The full AISTech 2025 President's Award Breakfast can be viewed on AIST's YouTube Channel: ***youtube.com/aist186***