AISTech 2006

The Iron & Steel Technology Conference and Exposition
May 1–4 • Cleveland, Ohio, USA

Impressive Numbers Add Up to a Successful AISTech 2006

5,831
attendees

67
technology sessions

304
technical presentations

367
exhibiting companies

51,900
square feet of exhibit space

$35,000
raised for AIST Foundation

AISTech 2006, held May 1–4 at the Cleveland Convention Center, Cleveland, Ohio, proved once again to be the North American steel industry's most important event of the year with a record attendance of 5,831. Key steel producers, suppliers, corporate executives and industry leaders, academia and students had the opportunity to attend more than 300 technical presentations during the four-day conference. The accompanying exposition, representing one of the largest in the world, attracted 367 exhibits for a sold-out show floor covering 51,900 square feet.

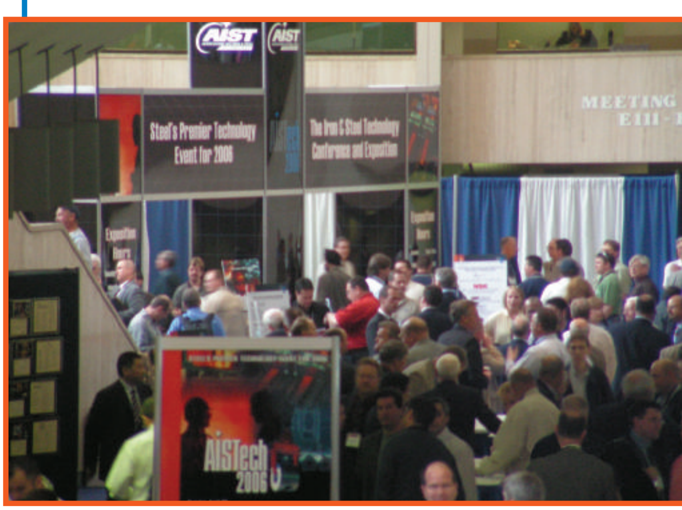
AIST FOUNDATION GOLF CLASSIC

AISTech 2006 kicked off with the third annual AIST Foundation Golf Classic on Sunday, April 30 at Stonewater Golf Club in Highland Heights and Fowler's Mill Golf Course in Chesterland. The upscale courses and challenging layouts had 236 players using the best of their scoring strategies, raising $35,000 for AIST Foundation programs. The winning foursome included **David Berdusco**, Paul Wurth Inc., **Rick Schat** and **Owen Struiksna**, Dofasco Inc., and **David Amadio**, Algoma Steel Inc. (Read more about the sponsors and other prize winners of the AIST Foundation Golf Classic on page 23.)

EXHIBIT HALL and TECHNICAL SESSIONS

The musical theme of Cleveland's Rock and Roll Hall of Fame was carried throughout the show floor. There were 367 exhibitors, compared with 250 at AISTech 2005. Show floor space grew to 51,900 square feet compared to 38,000 square feet in 2005.

The conference program, developed by the AIST Operating Committee members representing iron and steel producers, suppliers and academia, focused on all aspects of ironmaking, steelmaking, finishing processes and equipment technologies. All AISTech registrants were invited to join their colleagues at the Welcome Reception on Tuesday, May 2 for an evening of socializing. A total of 304 technical presentations grouped into 67 technology sessions were offered, up from 55 sessions in 2005, as well as nine panel discussions with 39 panelists. Conference attendees totaled 5,831, an increase of more than 2,000 from AISTech 2005.



BRIMACOMBE MEMORIAL LECTURE

The conference began on Monday, May 1 with Dr. John R. Stubbles presenting the "The Minimill Story" as the 2006 Brimacombe Memorial Lecture and AIME Keynote Address. Known throughout the steel industry as a historian, Stubbles reviewed how the minimill business started and developed in North America. His lecture also recognized the accomplishments of Dr. J. Keith Brimacombe and other industry pioneers, including Jerry Heffernan, Gordon Forward, Willy Korf, Ken Iverson and Ron Lincoln, who opened the door to technological advances in electric steelmaking. The Brimacombe Memorial Lecture honors J. Keith Brimacombe's outstanding accomplishments in the area of process metallurgy, his dedication to the steel industry and his profound effect on people in the industry.

TOWN HALL FORUM

Leading industry executives gathered on Tuesday, May 2 to participate in a panel discussion that has quickly become a signature event of AISTech. The Town Hall Forum, moderated by John D. Callaway, offered extensive dialogue on steel issues and concerns by industry leaders, followed by an open discussion of questions from the audience. Panelists included **John H. Goodish,** chief operating officer, United States Steel Corp.; **John F. Kaloski,** senior vice president — operations, AK Steel Corp.; **Malay Mukherjee,** chief operating officer, Mittal Steel Co.; **Stephan H.J.V. Weber,** general manager — technology and operations, HIsmelt Pty.; **Rauke Henstra,** executive director, Corus Strip Products Division; **Mark Millett,** vice president and general manager, Steel Dynamics Inc. Flat Roll Div.; and **Joseph Rutkowski,** executive vice president — business development, Nucor Corp. (An abridged transcript of the AISTech 2006 Town Hall Forum panel discussion begins on page 25.)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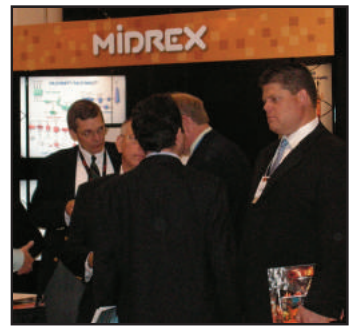
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PRESIDENT'S AWARD BREAKFAST

AIST President Richard E. O'Hara hosted the President's Award Breakfast on Wednesday, May 3 with a crowd in excess of 1,100 in the public auditorium inside the Cleveland Convention Center. Numerous awards were presented during the event (see July 2006 *Iron & Steel Technology,* pp. 80–86).

Of particular note, **Daniel R. DiMicco,** vice chairman, president and chief executive officer of Nucor Corp., received the 2006 Steelmaker of the Year Award. DiMicco was honored for his steadfast guidance of Nucor through a period of significant growth and changing global dynamics, as well as his vision of future steelmaking opportunities. In an unassuming and humble acceptance of the award, DiMicco asked for the numerous Nucor employees present in the audience to stand and be recognized as the "true steelmakers of the year."

PLANT TOURS

The Timken Co. and Mittal Steel USA – Cleveland hosted a total of four plant tours held in conjunction with AISTech 2006. Two tours focused on the meltshop, while the other two focused on the rolling area. Approximately 120 conference attendees traveled by chartered buses to participate in the tours, which included the EAF steelmaking and long product facilities at Timken's Faircrest Plant and the BOF steelmaking and flat product facilities at Mittal Steel USA – Cleveland.

STUDENTS AT AISTECH

Nearly 60 students participated in the first-ever student events AISTech 2006 in Cleveland. The activities focused on educating engineering students about the tremendous opportunities available and on encouraging careers in the steel industry. The events kicked off with an orientation and dinner on Sunday. During the conference, students participated in a Steel Scavenger Hunt over a two-day period which led them through sessions, events and networking opportunities with AIST members, including incoming AIST president, Dick Teets. There were opportunities to attend plant tours and participate in a session round table. Students were encouraged to attend the Steel to Students Connection — Industry Recruiting and participate in the three contests offered. There were 18 steel and steel-related companies in attendance to recruit students. AIST thanks these companies for supporting this event and the future of the steel industry: Carpenter Technology Corp., Ellwood Group Inc., IPSCO Steel, Leavitt Tube Co. LLC, Lechler Inc., Lone Star Steel Co., Middough Consulting Inc., Mittal Steel USA, MultiServ, Nucor Steel, Pruftechnik Service Inc., Republic Engineered Products Inc., Severstal North America Inc., SMS Demag Inc., Steel Dynamics Inc., The Timken Co., United States Steel Corp. and V&M Star.

"Take Stock in Your Future With Nucor" Student Competition — Sponsored by Nucor Corp.

The winner of the Nucor Corp. contest was Tim Nance, from the University of Missouri–Rolla, who won 10 shares of Nucor stock and a trip to a Nucor facility. Tim is pursuing a bachelor's degree in metallurgical engineering accompanied by minors in business and economics, with an expected graduation date in May 2007. Tim has visited both Nucor and Timken plants and is interning at Wells Manufacturing during the summer. Tim's interest in the steel industry


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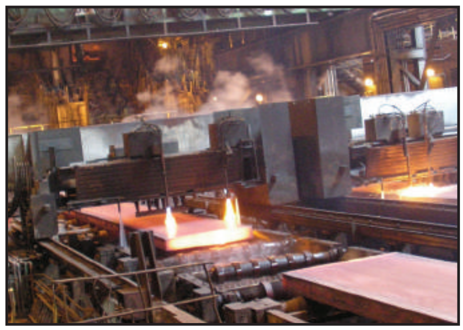

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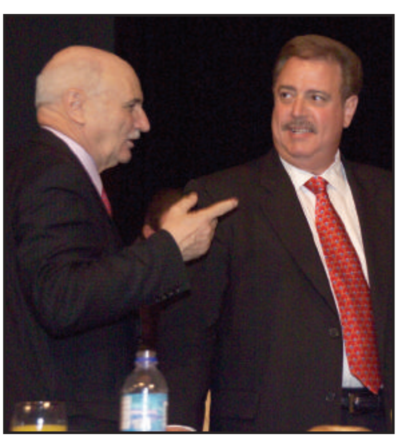

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has grown tremendously, and he hopes to one day have a career within the steel or iron industry.

"Are You Ready for the Challenge?" Student Competition — Sponsored by The Timken Co.

The winner of the Timken Co. contest was Megan Quick, who won $1,000 toward school expenses, and a trip to world headquarters for a tour of the Faircrest Steel plant and a private dinner with W.J. "Tim" Timken Jr., chairman of the board of directors, and Salvator J. Miraglia Jr., president — steel. Megan attends Case Western Reserve University. While earning her bachelor's degree, Megan works part time at Foseco Metallurgical Inc. She has plans to earn her master's degree by completing an investigation into SEN design using particle imaging velocimetry (PIV).

"Show Us What You're Made Of" Student Competition — Sponsored by United States Steel Corp.

The winner of the United States Steel Corp. contest was Jacob Heithold, who won a laptop computer, the opportunity to visit a U. S. Steel facility and a chance to interview for a position or an internship. Jacob is entering his senior year at the University of Missouri–Rolla as a metallurgical engineering major. He is in his second summer as an intern at Nucor Hickman, working on the effect of argon stirring in the desulfurization of the ladle steel, and working at the caster with preventing oxygen pickup.

AIST EXPRESSES THANKS

The AIST board of directors and executive committee extend special thanks to **Kevin Bertermann** of AMEPA America Inc., AISTech 2006 Conference Planning Committee chair; **George Koenig** of Berry Metal, session chair for the Town Hall Forum; **Dale Heinz,** AIST Foundation Golf Committee chair; **Lou Valentas,** exhibits chair; and all AIST member volunteers, authors and exhibiting companies who were involved in planning a successful event.

PLAN NOW FOR AISTECH 2007

AISTech 2007 — steel's premier technology event — will be held at the Indianapolis Convention Center, Indianapolis, Ind., May 7–10, 2007. A call for papers has been issued. Visit www.aist.org for complete information on how to submit an abstract.

More than 170 companies have already purchased exhibit booths for AISTech 2007. Don't be left out! For more information or to reserve your booth space, contact Geraldine Kane (ext. 639 or gkane@aist.org), Jeffrey Campbell (ext. 640 or jcampbell @aist.org) or Stanley Koliscak (ext. 627 or skoliscak@aist.org) at (724) 776-6040.

AISTech 2006 Conference Planning Committee chair, **Kevin Bertermann.**

AIST 2005–2006 executive committee (left to right): **Nicholas M. Rymarchyk Jr.,** officer-at-large, **Thomas C. Graham Jr.,** past president, **Andrew S. Harshaw,** officer-at-large, **Richard E. O'Hara,** president, **Theodore F. Lyon,** treasurer, **Richard P. Teets Jr.,** first vice president, and **Ronald E. Ashburn,** executive director and secretary.

AISTECH 2006 TOWN HALL FORUM

On May 3, 2006, a panel of leading industry executives took part in the AISTech 2006 Town Hall Forum, attended by more than 1,400. Pictured: (front row, left to right) **Mark Millett,** vice president and general manager, Steel Dynamics Inc. Flat Roll Div.; **Malay Mukherjee,** chief operating officer, Mittal Steel Co.; **John H. Goodish,** chief operating officer, United States Steel Corp.; **John F. Kaloski,** senior vice president — operations, AK Steel Corp.; and **Stephan H.J.V. Weber,** general manager — technology and operations, HIsmelt Pty.; (back row, left to right) **George J. Koenig,** president, Berry Metal Co., session chair; **Rauke Henstra,** executive director, Corus Strip Products Division; **Joseph A. Rutkowski,** executive vice president — business development, Nucor Corp.; **Ronald E. Ashburn,** AIST Executive Director; and **John D. Callaway,** Town Hall Forum moderator. *The following transcript is an abridged version of the Town Hall Forum panel discussion.*

George Koenig: This is our fourth Town Hall meeting. We've come a long way from the doom and gloom that existed three years ago, and the steel industry has made a remarkable comeback. We are in the midst of a changing industry, and today we will get a little more insight on where the industry is going. One thing for sure, it's not your father's steel industry anymore. The new steel is here and will be continually changing and improving. We have put together a panel of individuals who have made the difference in what we are seeing in the marketplace. Let me introduce our moderator, John Callaway, noted Chicago broadcaster with more than 45 years experience as host, news anchor, reporter and analyst. Welcome to the 2006 Town Hall Forum.

Callaway: One of the things that we want to look at is how we got to where we are today. Mr. Goodish, I want you to begin and pretend you are meeting with a reporter who says, "I haven't covered the steel industry, and I need you to bring me up to date. Most of the news I'm reading about the industry is pretty good. Since I'm not familiar with the steel industry, how did you get to this point? What is the story?"

Goodish: I think the main driver that got all of us to a more productive market was really two issues. One of them was consolidation in the industry, and the second one was the United Steelworkers contract that was first negotiated with ISG, which streamlined our operations and allowed us to become more efficient. Take the new United Steelworkers contract, which allows us to get 20 to 25 percent more people out of the work force. Then take consolidation, which allowed us to create synergies in our manufacturing costs. That is combined with a total improved economy throughout the world. Virtually no economy today is in a recession. A lot of the recovering economies are developing markets, such as Eastern Europe and the Far East, and their demand from their consumers has increased significantly, which puts a demand on steel. Data shows that you need 2.3 percent of GDP growth in order to spur the steel industry on. We've also seen a dramatic increase in the productivity in China. It has caused a great demand on raw materials. That has driven up raw material costs, but it's also had the impact of leveling the playing field from a cost perspective. While some of the third-world countries have significantly lower labor costs than we do in North America, the increase in raw material costs and energy costs has driven up their manufacturing costs, to the place where we in North America believe we can produce a steel coil, a hot rolled band, for about the same cost that they can produce it in China. In fact, that has also driven up the scrap pricing and has probably put us, as an integrated producer, on a level playing field with a lot of the new modern minimills that are electric furnace–based.

In addition we also have streamlined the way we do business. Our administrative forces are significantly leaner today than what they were just three years ago. If you go back to 2003, before United States Steel purchased National Steel, we had about 22,000 workers in the United States. Today we have 7 million tons more production capability in the United States, and we have only 16,000 workers so we've become more efficient.

We've also changed some things in the way we manage the business. In the old days we would produce. We would go out and forward sell when the market started turning down in order to keep our facilities full. By gaining synergies from consolidation and streamlining our cost, we can now become more efficient at lower productivity levels. We do a better job of keeping the supply of our products in line with customer demands, don't build excessive inventories, and don't go out and forward sell. So it's not one thing that we've done; there are many things that have happened, and some of it's been improved just by the market economies themselves.

Callaway: You talked about the management. If you go back to the days when business wasn't good and then look at where we are today, was the change brought about by the people who had been managing during the bad years or was there a new infusion of blood in management ranks of steel?

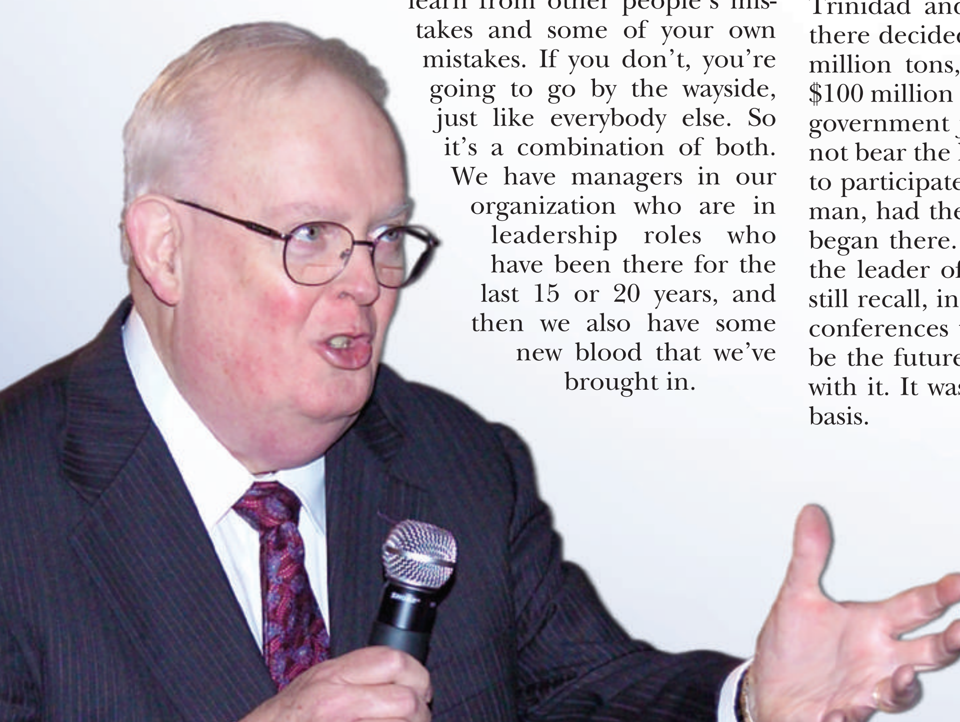
Goodish: Well, since I was one of the managers in the bad days, I'd have to say it's a combination of both. (Laughter.) I think that there has been some new blood that has come into the industry, but we also have a more versatile union agreement that allows us to be more competitive. We're not managing through an adversarial relationship, at least with our United Steelworkers, like we've had in the past. We also have economies of scale, and we recognized we could not continue to go on as we were. In a matter of four or five years, some 40 steel companies went bankrupt in the United States. You have to learn from other people's mistakes and some of your own mistakes. If you don't, you're going to go by the wayside, just like everybody else. So it's a combination of both. We have managers in our organization who are in leadership roles who have been there for the last 15 or 20 years, and then we also have some new blood that we've brought in.

Callaway: Talking about blood, what if this reporter said to you, "Well, I remember the consternation over the layoffs and pension programs that weren't funded. Did you make this change on the backs of real working people?"

Goodish: I do not believe that we made changes on the backs of working people. If you look at United States Steel Corp., we have honored all of our commitments to our retirees. We have a pension plan that's reasonably well funded, we continue to make payments to our retirees, we continue to pay retiree health benefits — I don't believe that we've built our corporation on the backs of retirees.

Callaway: Mr. Mukherjee, Mr. Goodish mentioned consolidation. Again, playing the role of the reporter, I ask you, "I've heard some rumors that you know something about consolidation, and I wish you would expand on how that occurred. It sounds like it may be quite a complicated piece of business to pull off over a few years."

Mukherjee: I fully agree with what John Goodish mentioned about what has happened in the industry. But I would like to add that it started with governments deciding that they had no business being in the steel business. It all started with the privatization that began in the early 1990s, when governments decided that it would not be possible for them to keep running these industries and suffer tremendous losses. When you look at it from that perspective, you start understanding how development took place in the '90s and how it led to the consolidation. The Soviet Union collapsed. The total socialistic pattern of industry that had been propagated by the Soviets went away. The bad players in the market were really government owned who never realized that they were there to make money but only thought about creating employment. That attitude changed. All this led to the situation where the consolidation process started with privatization. The first one we know of took place in Trinidad and Tobago in 1988, when the government there decided to privatize their steel plant. It was only 1 million tons, but that company was losing more than $100 million a year. What did the government want? The government just wanted to hand over these plants and not bear the losses. There were not many who were keen to participate in this privatization. Mr. Mittal, our chairman, had the vision. He started the participation and it began there. And I do believe that Mr. Mittal has been the leader of the consolidation process in the world. I still recall, in 1995, when he indicated at one of our big conferences that consolidation and globalization would be the future of the steel industry. Many did not agree with it. It was clearly felt that steel works on a regional basis.



There are nationalistic feelings in the steel industry. Every country in its time of growth had a steel industry and wanted to keep it that way, but it changed. Soon we found that even countries like the C.I.S., the Russians, were giving up their steel companies for privatization. Then consolidation in the industry began in a different way, where people forgot their nationalistic views on the industry and started looking at it on a global basis.

Today we can see that this globalization and consolidation has created sustainability in the industry. We are still far away from saying that we have reached total sustainability. But at the same time, what has happened over the last four years does indicate that the process of globalization that started with privatization is creating value for the industry. Shareholders, financial institutions, employees are looking at the industry differently. Today there is a lot of interest coming from those who had already written off the steel industry as a viable industry. I believe that the consolidation is going to go further, and maybe even in a few years we will have countries producing 200 million tons of steel.

Town Hall session chair, George J. Koenig.

Callaway: If I'm hearing correctly, Mittal played a huge part in this consolidation. Was it a fairly easy path of consolidation, or would you say there were dramatic moments, that this was a hard battle that Mr. Mittal and the rest of you fought?

Mukherjee: In the first stage, it was easy. No one wanted to touch any of the privatized assets in the emerging markets. I think the first confrontation was when we did face U. S. Steel in Poland regarding the former Polski Huty Stali, where we really did have a battle to win over the asset. But the issue that comes up is not whether it was a battle or not; the issue was who believed in it. Mr. Mittal believed in it much earlier than the rest of the industry did. At the first instance, he was alone.

Callaway: Would you say there are still regional concerns? Suppose, for example that you wanted to take a firm that was in Luxembourg. (Laughter.) Would we find that that would make headlines?

Mukherjee: Well, I'm sure your reporter must be reading the headlines. All the newspapers are writing about it. There are so many people involved in trying to find out the merits of a case, we don't analyze as much as we read the newspapers to find out what is happening.

Callaway: Mr. Rutkowski, what would you add to what you've heard already?

Rutkowski: The first thing I would say is, in the bad old days of 2003 and before — which really wasn't very long ago — we had very, very desperate players, and that led to very, very desperate actions. This was totally detrimental to everyone. Whether or not you were a very efficient producer or an inefficient producer, you got killed by desperate actions of desperate people.

Callaway: What do you mean?

Rutkowski: As John said, we had 40-some companies that went bankrupt, and bankrupt companies generally did not get there because they made great decisions.

Callaway: What kinds of things were they doing that were so problematic?

Rutkowski: They would make pricing decisions to try to keep people employed, rather than trying to make money, which led to a detrimental effect on the entire marketplace.

Callaway: Remember, I'm acting as a young reporter. I don't understand how a little company can make a pricing decision that affects the Nucors and the U. S. Steels and the Mittals. Can you explain?

Rutkowski: Well, we weren't quite as big as everyone back then. It wasn't one little company; it was a number of little companies, and some big companies. Bethlehem Steel wasn't a little company. National Steel wasn't a little company. They were big companies. And LTV wasn't a small company. So we're not talking about little tiny guys, we're talking about the majority of the industry. They were letting blood fly everywhere, and everyone had to dance to that beat. Today, those companies are part of healthy companies, and those healthy companies are trying to make money. In the first six months of 2005, we had a tremendous inventory overhang, which in the old days would have led to blood everywhere on everyone's income statement. Rational thinking provided for making sure we only met customer orders that were available. Everyone cut back production, everyone didn't make as much money, but we didn't do stupid things.

Callaway: "How did you do that?" asks this naive reporter. "Wasn't the Justice Department concerned? Wasn't one of the breaks on consolidation that the Justice Department all along was saying, 'Well now, don't get too fancy here. Keep this thing competitive'? How did that work out to get us where we are today?"

Rutkowski: Every company was now a healthier company and made better decisions. Look, it's a big deal to take on bankrupt assets. You have to take care of those people, and you have to make sure your costs are in line. All of those surviving companies have done that and have done it successfully. But you can't lose sight of where they came from, and you don't want to go back there. So we made better decisions independently.

Callaway: Mr. Kaloski?

Kaloski: The Justice Department comment could be directed to the fact that in 1984, United States Steel made an attempt to acquire National Steel, and the Justice Department would not agree to that because it was consolidation of competition. Or so they said. Today, leadership roles in steel companies are held primarily by business people making business decisions. We're driving our entire organizations to be businessmen as opposed to being good operators. They have to be good operators. We need to know how to manufacture steel, we need to know how to service our customers, we need to know how to produce quality products, we have to stay focused on safety and environmental issues. We have to do all those things, but we have to be business people above all. Some of the decisions that were driving increased inventories were operating decisions as opposed to business decisions. I think that's probably a big change in the management culture of companies today.

Callaway: Mr. Henstra, give us a European perspective on this question of how we got to where we are today.

Henstra: Many things have been said about the position of the steel industry in 2002 and 2003. What we have noticed in Europe is the same type of driver that has been explained. Capacity utilization was in the area of 85 to 86 percent worldwide at that time. This basically means that there was substantial overcapacity, where if there's irresponsible behavior, you drive the prices in a downward spiral.

We have seen changes in the market since 2004, when the utilization worldwide was close to 93 percent, which means that the steel industry was almost at full capacity to serve demand. 2005 went a little bit lower, around 90 percent. 2006 was expected to be lower, but was again around 90. I think people see that they are able to utilize their capacity in a sensible way, to use discretion in the marketplace to serve the customer in the right way, and even to have a much more stabilized price process than what we had before, where drivers like iron ore prices and energy have raised the bottom level to a certain degree that was understood in the market. I think the problem we see still in the steel market is volatility in pricing, caused by what I would call perception of stock levels and perception of underlying demand, is still an issue. But in general I think the business drivers are much more sensible than we have had before. I think the steel industry has basically learned a lesson from what happened in the early years of 2000 to 2003.

Callaway: Mark Millett, what are some of your thoughts?

Millett: There are a couple of things. John, in his suggestion of how we got here today, neglected to mention the upstart minimill industry, which did bring new blood, particularly into the flat sheet arena. This introduced more of an entrepreneurial spirit, more people-driven companies that had very little bureaucracy. I think that has driven the industry to new norms, new standards. The Nucors of the world and ourselves, we're under three-tenths of a man-hour per ton in producing a ton of hot band.

Callaway: And that's a major part of this story, is it not?

Millett: Coming from that upstart industry, yes, I think it's a major part. Another thing that has been mentioned is that we're here today because of the events in 2001 and 2002, when over 44 percent of our steel industry was in bankruptcy, principally from the pressure of foreign imports. That pressure was principally driven by currency, the strength of the dollar. Back in 2002, the Euro was roughly $0.8. Today, it's $1.2. Having a weaker dollar is certainly helping our global competitive posture.

Callaway: John Kaloski, do you have something you want to add to this — how did we get here?

John H. Goodish

Kaloski: This is more of an economics game than an operator's game, and it has been for quite some time. As the companies realized that, those who could do it stepped into the role of economic experts in the steel industry and managed the businesses for those economics. Those who couldn't, as Joe pointed out, became desperate people who did desperate things, and those things are over now. But overall, the fact that business has managed itself from an operator's perspective, a technical perspective and from all of those perspectives into a global economic business is probably one of the keys to success in addition to all of the others mentioned.

Callaway: Mr. Weber, you've come a long way for this meeting and you've been listening patiently. What do you have to say to our young reporter from an Australian perspective?

Weber: Australia is a relatively small player if you talk about steel production in particular. But if look on the iron ore side, it's a big player. We provide about 50 percent of the iron ore worldwide to the industry, mainly in Asia and in Europe. So from that perspective, Australia is an important player. But the iron ore industry is a very consolidated industry, and I think the steel industry has a lot to learn from that.

Callaway: Gentlemen, thank you for giving us this overview of how we came to be where we are. If you look at recent headlines, where we are seems to be a very good position. But is this just a nice, two-year blip, or is something going on here that is breaking a cycle, and is there something going on that is sustainable? Mr. Goodish, are we breaking a cycle and moving on to something that is sustainable?

Goodish: Unfortunately, having been in this business for 36 years and seeing many cycles, it's very difficult for me to abandon the cycle theory. We have had a couple of good years, probably the best years in the history of a lot of our companies, even though we have a lot of young companies here. U. S. Steel has been around for 103 years, and 2004 was a record year for us. 2005 was our second-best year ever. As it was noted earlier, 2006 — if you look at all the projections by economists — was not supposed to be the kind of year that at least it has been through the first quarter and appears to be in the second quarter. I would be a little reluctant to say that we have completely moved away from the cycle phenomenon. It does appear that, when we get into cycles now, the troughs will not be as deep as they were and the mountains will not be as high as they've been in the past. But I think we're still going to see cycles. I think we saw some of that in 2005, when we saw the large inventory builds in the service centers in January, and it took almost all year to liquidate those inventories and people responded to that. The other thing is that the cost of raw materials and energy sources has tended to level the playing field among all the producers. Whether you're a mini-mill producer in North America, or whether you're producing in the Far East or Eastern Europe, manufacturing costs are roughly the same today. This means that the returns to the steel producer have to be in the same ballpark in order to make money.

Callaway: But when you talk about the factors that go into facing more cycles in the future, are you talking about major macroeconomic things that might range from currency disruptions to terrorist acts, those kinds of things that are perhaps beyond your control? With respect to consolidation and the kinds of things that you do have control over, are you in a better shape for something that we would call sustainability?

Goodish: I think we are probably all in a better position today than we were three years ago to go through some type of cycle. What's going to drive a business downturn? Who knows? It could be an act of terrorism, it could be an economy in a particular country falling off, it could be exorbitant oil prices, but the economy seems to be fairly resilient to that at the moment. Will consumers spend more on fuels, on both natural gas and gasoline for their automobiles, and not on consumer spending? How long will those troughs be? Those are all indicators. There's probably not one thing that's going to happen; it's probably going to be a series of things. Will a devaluation of a currency in one country cause a significant problem, such as the Russian ruble back in the early '90s? I don't think that would happen. But there is a series of economic circumstances that could come about that could cause a cycle downturn again.

Callaway: Mr. Mukherjee, all of those things that you can't control aside, are you in a better position today because of consolidation, better management, etc., to have something approaching sustainability, or do we have a lot further to go from a global perspective?

Mukherjee: As was mentioned, 2004 was one of the best years. 2005 was similar. What drove the process in 2004? In 2004, all of us agreed that it was the China's phenomenon that worked. There was a huge demand from

China, and that created the value in 2004. What happened in 2005? We learned. We learned that the way we had operated in 2004 was maybe an overkill. We understood that we needed to change our methods in order to create a sustainable industry. The best part of it: what has happened is that we have realized that we are masters of our own destinies. It is no longer that somebody else is deciding whether the steel industry will be sustainable or not. As was mentioned by John today, yes, there may be unforeseen circumstances that might lead to it. But let's look at it in 2005 from an economic point of view. In Europe there was practically no growth in 2005. Even then there was a drop of about 3 percent of consumption of steel. But even those factors did not reflect on how the steel industry would react. To that extent, 2005 was a learning year. It enabled us to be sustainable, and it allowed us to create much better results than we have had in the past.

Callaway: When we first had this meeting four years ago, I think the top three producers in the United States controlled about 25 percent of the market, and now those top three probably control about 70 percent of the market. But then with the global market, if you were able to complete a big deal, you would still have only 10 percent of the global output. There's apparently a lot of consolidation left to do globally. What is the optimum for consolidation in the United States and globally as you move forward? Are we where we ought to be or are we on a second wave, a second tier?

Mukherjee: If you look at the iron ore industry from a global perspective, the three players have 70 percent of the global trade of iron ore in what moves overseas. If you look at the automotive industry, the first five are dominating 60 percent of the market. Look at the tire industry. The first four have 75 percent of the global market. To that extent, if you look at it from what is happening in other industries, we definitely are far away from the optimum consolidation. But the good thing that has happened with consolidation in the steel industry is that it has taken place on a regional basis. The first three in the United States are dominant. The first three in Europe today have about 55 percent of the market. Then there are Asia, Africa and China. China is the black sheep yet, where although its production level is nearly 35 percent of the world production, it still does not have consolidation that we can talk about. I'm told that they have 1,200 plants that are producing about 400 million tons. So, these are the issues, and I'm sure that going forward, these will be addressed.

Callaway: How do you view this, Joe?

Rutkowski: John, I think consolidation is a regional issue, although eventually it's going to be on a world stage, and I think that Mittal does lead the charge there. But if you look at the States, one thing that you can't forget is that all those companies that were bankrupt are now owned by the survivors. They're no longer managed by the hierarchies that were being protected while they were going through bankruptcy. So you have more rational decision-makers; the survivors are making the decisions that include all of those bankrupt assets. And as you said, here in the States, there are individual markets. You have bar, you have beams, you have plate, you have sheet. And within sheet, you have hot rolled, cold rolled galv, and of course you have all sorts of types of different products. But in almost all of those marketplaces today, the top three players are over 60 percent.

Callaway: But about the question I first raised, you just had a very good first quarter. Do you feel you are now on track for sustainability?

Rutkowski: Let me say this. In 2004, no one worldwide saw what was going to happen to the extent it happened. We had a record year; almost every company here had a record year. And we all said, "Boy, we'll never see another one like this." In 2005, we had a record year. If you listen to the analysts, they'll tell you we'll have another one this year. Now in that respect, we do believe we are much more sustainable because rational decisions are made. But you can't forget the fact that energy prices are going up, all raw materials are going up, alloys are going up, refractories are going up, electrodes are going up, everything we use is going up at tremendous paces. So you better still mind your Ps and Qs or you better block and tackle every day very efficiently, because if you lose sight of that, you're going to lose.

Callaway: Your company has a very good reputation with respect to research and development. But do you find, now that steel companies are the darlings of Wall Street, that one of the problems of sustainability might be the trap of being more attractive to Wall Street, which is

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paying much more attention to you? Now more than ever, might you be tempted to fall into the trap of taking action in the short term to boost your quarterly report, rather than doing as much over the long term?

Rutkowski: Absolutely not. For every Enron and Worldcom, there are a whole bunch of legitimate businesses out there where they're managed by legitimate people who make very good, honest business decisions. We happen to be one of those. So you manage the business for sustainability and taking care of your customers, your employees and your stakeholders. If you do that, you'll be there.

Callaway: Mr. Weber, tell us a little about your business before we get you to comment on this question.

Weber: HIsmelt is a research and development company that Rio Tinto has been developing for the last 20 years and spent more than a billion U.S. dollars on. This led to a plant which has been built in Western Australia, the first industrial-scale plant which was built as a joint venture with four partners — Rio Tinto with 60 percent, Nucor with 25 percent, Mitsubishi Corp. with 10 percent and Shougang Corp. of China with 5 percent. It started up and is running well.

Callaway: And how is business generally?

Weber: Generally, Australia is booming. Western Australia in particular is booming. In Western Australia for the last four or five years, business has been growing like China — we're talking by 9–10 percent a year. So there is a skill shortage there; there are issues about getting good people.

Callaway: Does the word "boom" also bother you when we talk about sustainability?

Weber: It does, it certainly does. And not only for HIsmelt, but for our mother organization, Rio Tinto, as well.

Callaway: But all of those big issues like terrorism and macroeconomics aside, do you think that in your business, you're on track for some kind of sustainability?

Weber: I think we are. In R&D, we are biased because we always look into the future. Yesterday at dinner we were discussing CO_2 emissions. I think there are things coming up that will make sustainability and the environment part of our everyday business dealings and decisions. And I think caps on CO_2 and those kinds of things will come all over the world, and new technologies will be a key in accessing and directing those new developments.

Callaway: Mr. Millett, how do you feel about sustainability versus cycles? Are we going to be back here in a couple years saying we're on one of these down cycles again?

Millett: The crystal ball is pretty cloudy; it has been for many years now. But this too shall pass. Economics and commodities, they all cycle, they go up and down. But what I think is important is the financial health of our industry. Is that sustainable, not just volume or the markets? If you look at last year, 2005, Joe said it was a great year for all of our companies. But from a market strength, volume standpoint, it wasn't that great. In 2004, pricing went sky high, and a lot of imports came in at the end of the year. Customers were double ordering. Suddenly those orders came in, and there was a huge inventory overhang going into 2005. March and April of 2005 was a very soft market. Virtually every one of us throttled back, so to speak, taking capacity out, yet we still had an excellent financial year. I think one needs to focus on the margin and our financial health.

Callaway: Mr. Kaloski, how's business? What is your view as to whether there's something structurally or managerially going on that's pretty healthy that will sustain this industry?

Kaloski: I think you have to characterize it as a *more* sustainable business. I think there are a number of reasons. One that didn't come up is that the cyclicality, in some cases, in years past was driven by information and the way that information traveled. In this age of information technology and the evolution of more and faster information, it takes some of the dynamic error out of the system. More sustainable through better management, more sustainable because of consolidation? Absolutely. More sustainable because of the markets we sell into and the structure and discipline that are in those markets these days? Absolutely. In looking at Wall Street, one of the things we learned in this industry is to not blow our own horn very much because of the cyclicality of the business. We have spent as much time on our backs as we have on top, and to that end, I think most of the industry prefers a little lower profile. The Wall Street attention is very nice, but it's best to keep a lower profile with

regard to proclaiming to the masses that sustainability is here.

Callaway: With the success that is going on, do you feel any extra quarterly pressure?

Kaloski: No. The quarterly pressure is something that comes with some of the businesses that didn't succeed. The businesses and companies that are in it for the long term have their share of quarterly pressure but certainly have a much more uniform long-term look.

Callaway: So it's a balancing act as you go along. Mr. Henstra, how's business?

Henstra: Look at 2004 and 2005, and they are a mirror of each other. The first half of 2004 was medium to moderate, while the second half reached a high peak. 2005 started high, but it ended up medium to moderate in the second half. Expectation levels in 2006 are something like the second half of 2004. To start with, we see more excitement in the market, basically driven by the higher demand figures that have been mentioned. How long it will last is difficult to forecast, of course. Here you look at the economic drivers of our customer base, and if I look to Europe I think the forecast for this year would be around 3 percent. This is basically what you need to sustain a reasonable business. Recent forecasts said it will go even a little bit higher. Worldwide, you'll also see that it's higher than the 5 percent that has been forecasted for this year, so those indicators are positive. If I would comment on the issue of sustainability, first make sure you have your own house in order. In other words, make sure you address the issues of your cost base when the market is good. You should do that when you have the money to enjoy the nice things in the market. If you do address that, many companies will be able to sustain and I think that's part of general business at the moment.

Callaway: Mr. Goodish, U. S. Steel has had a couple good years. You have some money. You have an audience here that is 60 to 70 percent suppliers. Everyone in this audience wants you to do well. People who are providing services and new products want you to do well. What are you doing with those profits?

Goodish: We are banking some of them, and others we are reinvesting back into the business. In our case, during the poor years, we spent only about $22 per shipped ton on capital spending, whereas an average for the industry is $37 to $38 per ton. We're doing things now that we didn't do in the past because we had to survive. We just built a new blast furnace in Gary, Ind., No. 14. We have a new galvanizing line under construction in Košice, Slovakia. We have a new air separation plant that's under construction there as well. We have many other infrastructure projects in which we are upgrading our facilities for the sustainable future, so that when the downturn comes we still have facilities that are modern with high technology and can continue to operate and generate revenue for us.

Callaway: Mr. Mukherjee, I read a piece that indicated that Mittal Steel has good income. The more interesting news is how you have to spend it as part of that narrative of acquisition and consolidation. Some of the properties that Mittal has acquired have needed work. Is that true and how is that coming?

Mukherjee: Yes, it is true. The amount of investments required in acquired properties is high. We have increased our capital spending from approximately $1.2 billion to $1.7 billion. We have a number of big projects going on. We are building a new hot strip mill in Poland; a new color coating line; a new galvanizing line. We have a number of activities going on in Western Europe. Our basic trust has been to spend money on upgrading the assets and upgrading the product.

Callaway: Do you think you're on track with that? Do you have a decent balance?

Mukherjee: Yes, we do. But the other aspect of it that is also important — which I think is more unique to us — is that we are looking at a total supply chain. We are investing a considerable amount of money in mining activities. We are planning to expand our own iron ore mining from about 13 million tons to about 18 million tons.

Callaway: So this is what you mean by the efficiencies that can be obtained when you have consolidation. It's kind of like a story you can write.

Mukherjee: The advantage we have is being global. For example, with our mining activities we will be able

John F. Kaloski

to source the material for our different plants. We are going ahead with our investment in Liberia that will supply our Sparrows Point plant, which it had done about 15 years back. These are the sort of investments we are looking at. Even on the coal side, we are looking at substantial investments because we would like to reduce the volatility that comes from high prices for the raw materials.

Callaway: Mr. Rutkowski, I'm under the impression that Nucor has always invested. One of its hallmarks has been investment in research and development all along. But with a better financial picture now, are you even more deeply into that?

Rutkowski: Yes. Our biggest challenge today, quite frankly, is trying to find enough uses for our money. We have $2.3 billion in cash and short-term investments on our books right now. We're generating cash every month. We are investing in a number of R&D projects. We have about five new technologies in the incubator — we'll be rolling them out over the next year or two. We have a new strip casting plant we're getting ready to build in Arkansas at our Nucor-Yamato steel plant. We have said publicly that we hope to announce an international joint venture for a strip casting plant this year. We have the HIsmelt technology that we are a partner in. We are looking at how to increase our metallics inhouse. We have a pig iron plant in Brazil, and we're looking for more metallics projects. We have a new iron plant in Trinidad and Tobago right next to a Mittal Steel plant, and we'll be making DRI there, which will be coming on in the fourth quarter. We'll spend about $400 million this year on just normal capital expenditures; the Castrip will be on top of that. We have a number of other projects that will probably be announced this year, but we can't talk about those until they are ready to come out. Also, we have acquired a number of companies in the last five years and we continue to look at those. I will say that evaluations today are a little bit different than they were just a few years ago.

John Stubbles asks a question from the audience.

Callaway: What do you mean?

Rutkowski: Things are more expensive. People and making money, and you base the cost of any acquisition on the cash flow potential. Today, it's much more expensive, which makes it much more difficult. Private owners or public owners who are willing to look to get out are trying to maximize their return to their shareholders. It makes for an interesting dynamic right now.

Callaway: How about this other side? How will you be spending the profits?

Millett: I think we would invest more if the equipment prices were a little lower. (Laughter.) Everyone is on the bandwagon wanting to improve their margins. But you just have to be prudent businessmen. We're at the top of the cycle. We're all improving our balance sheets with anticipation of a poorer cycle in the future. We're all reinvesting, not only in growth projects where we have to expand, but also in our existing equipment to make sure that it's well maintained and can sustain at the operating levels that we have seen.

Koloski: Enhancements to current equipment, processes and products are always worthwhile investments. One of the more meaningful investments we're making right now at AK Steel is in the electrical steel business, developing both capacity and product in that area. In today's more energy-efficient times, there is a big demand for electrical steels, both in this country and abroad. Enhancing the capacity that we have in place and making it more suitable and more efficient for electrical applications is something that we've taken to investing in over the last few years.

Henstra: Corus has learned from what we did in the years 2002 and 2003, when our investments were very low because of the financial position we were in. We are back now to a level close to almost 30 percent of depreciation. This is equivalent to about $800 million on a yearly basis. We have a restoration program going on in the U.K. in long products as well as in strip. In Holland we have extensions, as well as building a galv line and a cold mill, and we will continue to do so for the next two or three years.

Callaway: Mr. Weber, you're in the middle of a boom. How are you spending your money?

Weber: From a Rio Tinto perspective — iron ore — we are spending on the development of new mines. From a HIsmelt perspective, we have a plan to double the capacity of our plant over the next five years. We have the environmental permits all in place for that.

Goodish: There is one other thing every company up here, I believe, has been involved in but no one talked about it. We're in business to produce steel and service our customers, but we have a responsibility to create value for our shareholders. One of the other uses of cash when it is generated is to give a return to your shareholders, either through stock buyback programs or through increasing the dividends or, as in some cases, special dividends back to the shareholders. But we all have some loyal shareholders who invest money in order to make money, and it's our job to help them do that. We have to create shareholder value, and returning money to the shareholders is also part of our responsibility.

Callaway: There have been many front-page headlines about another industry that is making a lot of money — billions of dollars in quarterly reports apparently. And there is a certain amount of press paid to executive compensation in that industry. In my reading and research, I don't hear war stories of executive compensation in the good years of the steel business. Mr. Goodish, is that fair to say that there's a decent balance there compared to other stories?

Goodish: I think that a lot of the issues that have come up — as a result of Sarbanes-Oxley and the Securities and Exchange Commission becoming more active — have brought compensation issues more in line than where they have been in the past.

Callaway: Anyone else want to say anything on compensation?

Rutkowski: One comment, John. Our boards, because of Sarbanes-Oxley, are under tremendous pressure today. So, I don't know how some of the things you read come about, because I certainly don't see our board allowing anything like that to happen, because of their own concerns for liabilities and things along those lines. And like John Goodish was saying, I think that's driving much more rational decisions on compensation.

Callaway: Thank you very much. Now there may be those in the audience saying, "That's all well and good, and thank you very much for your views, but there's an elephant in the room and you really haven't discussed it yet." Mr. Mukherjee, we'll start with you. I'm going to ask you to talk about China. Mr. Mittal said, "We are overplaying China. They have so much scarcity of resources." What was he trying to say there when he says "We're overplaying China"? I get the impression that you just can't talk enough about it — that it's so important.

Mukherjee: Last year, I was here and I addressed the AIST President's Award Breakfast, and I did mention the same issue about China, that we certainly are overplaying China. Let us look at it from the perspective of what is happening in China. There is definitely tremendous growth in that country. Their need for steel is going up. They have come up to a level today of about 400 million tons of steel consumption, which again, if you look at it from an international perspective, it would be about 280 to 300 kg per capita, which is still lower than many of the other countries. Korea is at about 800 kg per capita. To that extent, China needs steel. There is no doubt China needs steel. But what about the cost at which they make the steel? John mentioned that China has reached a stage today where it has to import its raw materials. What is the advantage they have? They only have the advantage of the labor cost side of it. But when you look at the productivity of the plants, I know of plants producing 5 million tons having more than 100,000 people working. What happens is that this 100,000 does not appear in the balance sheet, it appears in a subsidiary balance sheet, with only about 20,000 appearing in the plant. These are the additional costs that they have to carry. At the same time, what we are seeing is that they are really facing a shortage of energy. Electricity costs in China are about 8 to 10 cents. They do not have any oil and gas reserves. They have to buy practically all their oil and gas reserves. All this has led to a position where prices for all these items have gone up all over the world, and they have gone up for them also. To that extent, we do not see China becoming a major exporter of steel around the world.

Callaway: But they now are a net exporter, are they not?

Mukherjee: Hardly. If I look at March figures, there would be a net export of about 200,000 tons.

Callaway: Ok, but that could increase. There are circumstances under which that could increase greatly.

Mukherjee: If you want to export and not make any money on it, that's a different issue. But if you look at it from a cost basis, today they definitely are equivalent. Let me give you another example. If I look at China as a big exporter of wire rods to the United States, and if you look at their August and September bookings, they are pricing themselves out of the market.

Mark Millett

They are looking at pricing of about another $100–120, and nobody in the U.S. is ready to bite on that. Now why is that happening? It is happening because they are definitely facing the results of high alloy costs, they are facing the results of high natural gas and oil prices, and it was not imaginable even about two years back that China would have to start importing coking coal. So to that extent, we definitely do not believe that China is going to become a threat.

Callaway: Now just let me challenge one of your assumptions. You say if they really played on a real-cost basis, you wouldn't have that much of a problem. But with state subsidies, you don't have a real-cost basis.

Mukherjee: We do certainly see some change, in that we have seen for the first time that interest rates have been raised.

Callaway: That took you by surprise, didn't it?

Mukherjee: It did. We were not expecting it. The second thing is, having now become a part of Chinese industry in terms of shareholding of a big company of about 10 million tons, we do have much more insight on what is happening in China. We do see the difficulties that many of the steel organizations are having now to get permission for funding expansions, permissions for other investments that they had planned to do. I am told today that in China, it is taking 18 to 24 months in order to just get a clearance for even moving ahead on a project. Now these are good signs. I'm sure, as you mentioned, that 60 to 70 percent of the people here are the suppliers, and I'm sure they must also have a lot of insight on what is going on in China. At least, from what I hear, from the Big Three, there is definitely a slowdown in orders coming in for projects in China.

John Callaway gains insight from Veena Sahajwalla.

Callaway: I think you're familiar, Mr. Mukherjee, with the American expression, "All politics is local." I got the impression in having a conversation with you last night that, instead of us just thinking of a monolith of China, there are a lot of things on the ground in the localities that are in play, and we should be aware of those nuances and differentiations. Could you expand on that for a minute?

Mukherjee: We often look at it as a dictatorial country, in terms of everything being decided in Beijing. That is far from the truth. China has its provinces, and the provincial governances have a lot of say in terms of what investments are to take place in their particular provinces. That is one of the reasons why the consolidation in the steel industry is far from being what it should have been in China. It is the provincial governments who are standing in the way of these consolidations. The other issue that is important in China is that, when the provinces decide on creating a value for their steel industry, they look at it very much in terms of only the regional demands. They are still not looking at it in terms of total demand that is in China. For example, look at the northwest of China, where there is not much development. There are plans for a lot of development, but the steel industry there is hardly 3 million tons, whereas the demand in that area is about 10 million tons.

Callaway: Mr. Goodish, you just got back from China about three weeks ago. What did you see or hear there that interested you that you could share with us?

Goodish: I was at a China Iron & Steel Association conference, and the China steel producers are very upbeat about where they are going on expansion. They really don't talk that much about government control and the approvals, although we do understand that there are some projects that are taking 18 months to 2 years to get approved. But they are upbeat about continuing their expansion. They of course believe that the growth in their country is going to continue and they are going to consume the majority of the steel there, but they're not apprehensive about saying that they may have to export as well. So it's going to be interesting to see what happens there. As Mr. Mukherjee says, from a cost perspective, we believe everything we see from their manufacturing cost is either equal to or slightly above where ours is today. So they would have to export those products and lose money if they were bringing them to the United States. But we see that happening. We see oil country tubular goods have increased by over 50 percent in the last year, so there are signs in some product lines that they may be willing to do that.

Callaway: When you look at the breakneck speed of Chinese expansion, and you factor in the interest rate

increase that was announced recently, do you see the central government as able to put the brakes on in some rational way?

Goodish: I think it's going to take time to do that. A 10.2 percent economic growth in China may not be good for China, but it's good for us. But if you watched this a year and a half ago or so, when they were in the 9.5 to 10 percent range and they wanted to control it to 9, it took almost a year to get that under control. So this is like a giant freight train that's moving down the tracks. The interest rate change alone is not going to accomplish that. It's going to take a longer period of time for the adjustment to occur.

Callaway: I just want to quickly go around the panel and poll all of you regarding China. Mark Millett, what I'm getting at is, what is your view of China as a wild card? What do you expect? What can you control about that knowledge or not?

Millett: Personally, I'm a little more bullish on China than others. As Mr. Mukherjee said, it's a very regional, very fragmented steel industry. There are over 400–450 different steel companies. And the regions like steel because it employs a lot of folks. The only way the central government can control or can influence their country is at the border, from a standpoint of imports and exports. I think you'll see, as they treated export credits, as they've tried to put a limit on the iron ore price increases, it's a controlled economy. The central government controls the country, and personally, I think they've got their act together. The governors are not unlike the rest of us. They're engineers, they analyze, they're thinking forward, they're not pandering to the public for campaign contributions or to get into office next week. They truly are looking to grow that country in a very uniform way. And they've got to consolidate their industry. The iron and steel industry over there is consuming far too much infrastructure, far too much power. They don't have enough water to go around. So it's in the best interest to control it. The only way they can do that is to maintain or constrain exports to push the industry into some sort of recession and to push for the consolidation that we've seen recently. There's no way — I believe anyway, with a trade surplus — that for 5, 10, 15 million tons of exports they are willing to sacrifice the trade of manufactured goods.

Malay Mukherjee

Callaway: Mr. Kaloski, of all the things on your mind when you go to bed at night, do you have daydreams or nightmares about China?

Kaloski: I characterize China as less than fully controllable, although I'd have to make some exception to what Mark just said. I don't see the controls that they've attempted to put in place as being terribly effective so far. There has been some evidence of slowing down the train that John mentioned, but quite honestly, to say that they're effective, in my opinion, is a bit of a stretch. First of all, you can't ignore the cost structure. It's a huge, huge piece of the world today. If you look at the market and the demand in China, that's something that can be portrayed as very desirable. But from a cost perspective, especially in this business, the last year or so has shown us some things that maybe the cost advantage that got a lot of hype back in 2004 wasn't quite there.

Callaway: Like labor?

Kaloski: Labor is a very good point. Again, in my opinion, John, I think that labor in China is, in the broader scope, a temporary economic advantage in that the expectations of the people there and the people in the industry will increase, and as they increase, labor will become more costly. That doesn't cancel any of the other advantages that China has, but it certainly doesn't put them in a better perspective in regard to total cost and competing with our industry.

Callaway: Mr. Henstra, from the European standpoint?

Henstra: From the European position, we do not see China as the important player that people mentioned. There are a few aspects to this. One has already been mentioned here, and that is the cost base. I think the general cost base is not competitive, so the exporting they do is artificial. As for competition, the Big Three do not have more than 50 percent, whereas only 15 companies have 5 million tons, and there are more than 400 companies in total. So they have to make quite an effort there, and exports cannot be the majority of their activities. There is some concern about fewer imports going into China, the indirect effect being that Europe could be an easy target for material not accepted by China. In that case, we have to deal with imports going into Europe always falling between 30 and 80 percent, and we have to live with that.

Callaway: Any other comment on China? Joe?

Rutkowski: Two things on China. One, we hope they continue to grow, and we hope they do not become a net exporter. We hope that they consolidate their industry. That's one side of it. But there's another side of it that affects our industry here in the States tremendously. With their currency pegged to the dollar, artificially, it is taking a lot of our industrial customers and consumers of steel to China. That is not good for this industry. That currency needs to fluctuate and needs to go to a real system of trade. When that happens, I think then China, if they do also consume what they make, will be fine. But right now, a number of our customers have been going and are continuing to go to China. That's just not in the U.S., it's also happening in Europe, and it's mainly because of the currency being both subsidized and pegged to the dollar, which undervalues currency by approximately a 40 percent.

Callaway: 40 percent?

Rutkowski: Yes. And that's not good for us and it's not good for the world.

Callaway: What about Western Australia?

Weber: We look at China and see that today it's 30 percent of the steel production of the world, so we think it's going to get to probably 50 percent of the world's steel production in the next 10 years. And how will they do that? This is one of the issues we're facing. China today is shaped to build up new business. And if the business does move to China from South America, from Europe, from North America, that justifies the increase of steel production. And the government has been good in keeping the word on what they're doing.

Callaway: Mr. Mukherjee, I want to go back to your keynote address of last year. You said that the BRIC countries — Brazil, Russia, India and China — with a combined population of 2.7 billion people, will double the global consumption of steel over the next 40 to 50 years. Is that well under way?

Mukherjee: If I look at 2005, yes, it has happened.

Callaway: Can you talk about the other emerging markets? We've talked about China. Let's talk about Brazil and India.

Mukherjee: In India, the steel consumption grew by about 10 percent in 2005, as it did in 2004.

Callaway: So it's on track?

Mukherjee: What we predicted in 2005 to happen over the next 40 years is quite a far-reaching statement. But today, having our presence in the C.I.S., we definitely see the Russian market growing. Last year, the growth in the Russian market was about 12 percent in steel consumption, whereas in India, it was about 10 percent. If this continues on an annual basis, it will be much higher than what we stated it would be in 40 years.

Callaway: I just want to go back to China for a minute. If we were to overhear a conference in China, let's say in the higher reaches of government, would they be saying, "Look, we really need to consolidate." And if they were saying it, are we going to be seeing a great deal of consolidation of the Chinese companies?

Joe Rutkowski, Malay Mukherjee and John Goodish.

Mukherjee: The central government, at least, definitely is in favor of this consolidation in China. But as I've already indicated, it's the regional governments that stand in the way of this consolidation. But obviously, we have seen the Anshan-Benxi combination already, which has happened in the Liaoning province. We are definitely seeing Baosteel becoming a major player. What they have indicated is that they want to be a 50-million-ton player in the Chinese market. So we definitely do see that there are chances of consolidation taking place in the Chinese market, but it will obviously depend on how the provincial government and the central government get together in order to move this. The central government by itself cannot do it.

Callaway: I was going to ask you, What is their view on moving toward privately held, considerably less-subsidized enterprises versus the outwardly state-owned and the more subtly state-subsidized companies? Are they trying to move in that direction?

Mukherjee: There are a few private players today, but I don't think that either the provincial governments or the Chinese government has decided on really privatizing the steel industry. All they are looking for today is trying to get a strategic partner in order to create either a better valued product, or to create technological advancements in the steel industry.

Callaway: We saw the headlines when a Chinese company tried to buy a United States oil company. Is the day coming when we're going to wake up and one of your companies is going to be in the headlines because the Chinese want to buy it?

Mukherjee: Quite possible, but at the same time, I think the world is moving more toward private ownership rather than public ownership. There will have to be an end to public companies in China buying private companies in the rest of the world.

Callaway: We're in this whole area of raw materials sourcing. What factors are driving raw material and alloy prices, and who holds the power in these marketplaces? Somebody help me with that.

Henstra: I will give it a try. Look at the fact that — and I think this has already been mentioned by Mr. Mukherjee — 70 percent of the seaboard trade in ore is governed by three companies. If you look at the steel industry, even if you take out the big players, they present no more than 20 to 25 percent of iron and steel trading, so the balance of power is fairly out of range. I think that's the driving factor behind consolidation, getting a balance of power, more than the changes in raw material pricing. Also look at 2002 through 2005. There's no sustained behavior in getting something settled. I think the big challenge for the raw material people is to find the balance between profiteering and fair pricing. The challenge for the steel industry is to get acceptance in the customer base, so that if we have substantial raw material price increases, it is passed on to their customers and finally to end markets. Where is the right equilibrium? I think it is very difficult.

Callaway: That's exactly what I was getting at. How do you get that right balance?

Mukherjee: The question of getting a right balance means "What would you call right?" In today's context, if you look at it, definitely the steel industry has been squeezed between the consolidation of both the customer base and the supplier base. We are trying to come out of it by creating our own consolidation. What is bound to happen is that the raw material suppliers will reach a stage where they can no longer go on trying to get more advantage from the steel industry, because the backlash will be that the steel industry will get into their business. And that, I do believe, is bound to happen.

Joseph A. Rutkowski

Callaway: And that's what you're doing, right? You're getting into that more?

Mukherjee: Yes, fortunately for us, we had a base and we are now expanding on the base.

Henstra: If you look to Europe, I think it's one of the essentials for the European players because Europe has basically no raw materials, so everything has to be shipped in. And we are fully vulnerable to the volatility of these prices. So you see companies considering getting a footprint outside of Europe and trying to get access to vertical integration, not because the steel industry likes it, but to mitigate risks. If raw materials suppliers do not understand that profiteering will change the game, and has to change the game, we will face a very difficult position for both of us. If you take a quick look at what happened in Armenia, there you see where hedging is a fairly common practice. You now see this year that all the customers of Armenia are out of the hedging period, and you get steep pricing, affecting our customer base as well. So the game is there, and it's basically all big players, and they start to understand that they have to change the game. So the steel industry has to learn from that.

Goodish: Vertical integration is not new. Andrew Carnegie built an integrated steel company. LTV/J&L was an integrated steel company. Bethlehem Steel was an integrated steel company, right down to the railroads. Part of what's happening today is driving all of us to become somewhat vertically integrated again. Bear in mind, we got rid of vertical integration or tried to spin it off in periods of time when we were in one of the cycle troughs and we were trying to get rid of overhead so we could survive.

Callaway: You really meant to do that, didn't you?

Goodish: Yes we did. We as a company, at one point, almost sold off our coke batteries and our ore reserves, and it would have been exactly a year after that when the boom in the steel industry took place, and we would have been out trying to buy all of those commodities on a market basis. I think producers do need some vertical integration. Do we need to be 100 percent vertically integrated? I'm not sure. If there's not going to be any troughs any more in the cycle, probably. But we're all being driven more to have our own minds. Bear in mind those suppliers that we're talking about: do I want to pay higher prices for ferroalloys and zinc and all that material? No, but in a lot of cases, those guys also had financial difficulties. Coal mines are an example. Go back four years ago when you could buy coal for $25–$30 a ton. Try to buy a ton of metallurgical coal for $25–$30 a ton today.

Callaway: What is it today?

Goodish: It's $85–$90 a ton, and contracts are being let for $120 a ton. It all depends on what you're trying to buy. But the mining industry saw exactly the same thing as the steel industry did. A lot of those companies went bankrupt. Yes, you have Consols and you have Masseys and you have the Alphas, but there were a lot of small guys out there who competed and kept prices down and went out of business, and now the prices are going up. It's demand. In a lot of cases, the coal mining guys couldn't get enough equipment or trucks or rail cars to haul the commodities. We had to help them with that, and in some cases, *we* couldn't get them. So it goes back to that being one of the reasons why there needs to be some vertical integration. But what's going to happen to the iron ore industry? Even though it's consolidated, if they're not careful, the iron ore industry is going to spend a lot of money. They're going to expand their capability, and they need to make sure that, from a cost perspective, they don't expand their capacity so much that, if we do get into a trough, they can't be profitable. They still have to be profitable.


AIST Foundation president, Bill Breedlove, converses with Town Hall panelist Stephan Weber.

Callaway: So other people have this balancing act they they're dealing with.

Goodish: Everybody has it. It's not just limited to us.

Rutkowski: John, one other point of competitive tension that will keep iron ore suppliers in check. In 2005, after a 71 percent increase, there was absolutely no possibility of getting them in a discussion about "You guys are going to eventually put this golden goose in jeopardy." Today, you can at least see that they are starting to recognize that marginal iron ore deposits that are available around the world — usually not in a place that has the infrastructure, and usually not the greatest quality — may possibly come on board. And so, if they continue with outlandish price increases, a lot of these projects will come on board, and it will help with that competitive tension.

Callaway: I want to bring up a topic that maybe will bring you sustainability or which will be impediments. We talked about this last year, and I want to know if there's any progress on this — the steel industry and transportation and, specifically, railroads. Is anything happening? Are you guys getting together? Are you having conversations saying, "This isn't working, let's make it good"? What's going on?

Rutkowski: Nothing good. We've tried everything. We've tried every railroad, all the way up to the CEOs. We as an industry have gone to the rail transportation board, and said, "Look, when you allowed for these mergers to happen, there were promises made to support customers, and what are you going to do about it?" We've tried everything at this point in time, and I can say that we've had somewhere less than 0 percent success.

Callaway: What's missing? Do you have to go outside of steel and get together with eight other industries?

Rutkowski: It's already happening. Everyone's in the same boat here, John. Coal was king if you were a railroad guy, and the coal guys are not able to get cars, they can't get stuff to the port, they can't get anything to their customers. This is a problem all the way across the nation for anybody who uses the railroad.

Compared to other industries, like, let's say coal, instead of moving thousands of railcars from point A to point B, we want to move 20 railcars from point A to points C D, E, F, G, H, I and J. And we also want to move railcars from various places in small quantities to us, and that's a real difficulty for them, and they have not reinvested in cars, so the car fleet in our business — the gondolas, the coil cars, the bulkheaded flat cars — are in tremendous demand and there aren't enough of them. Under normal terms, you would say, "Well, we'll go to another industry to service that." But the trucking industry right now is at a shortage, the barge industry is very short of barges right now, so this is an infrastructural problem.

Callaway: What is the cost? Can you say what the cost of this problem is to your company?

Rutkowski: From a cost perspective, it is not make or break. It is the incremental cost of having efficient transportation and inefficient transportation — just from a cost-of-delivery point it is not tremendous. The problem is, John, you have no way of running your business well, and then you let down your customers, you can't get materials in to run your business as efficiently as you'd like. So when you add up those costs — what's the cost of losing a customer, what's the cost of a disappointed customer who's running a manufacturing business you can't get material to? — those costs end up being very, very high.

Callaway: Well, John Goodish, if indeed this not only is railroads, but it's barges and it's trucks, if there's really a major transportation issue, is this a national transportation issue that should go to the level of the presidency and the Congress to help not only the steel industry but also this nation and this world?

Goodish: The transportation problem is a national issue. But the last place we need to go is Congress. We'll end up being more regulated, there will be more things that we have to do, and we'll still have a transportation problem. We were faced with a similar problem in Europe. We were, frankly, dumb Americans trying to operate in Eastern Europe. During the Communist era, they did not maintain railroad infrastructure, so what we ended up doing over there is leasing and rehabilitating a group of railroad cars to move our own product. And that seems to work reasonably well. In this country, you can sit down with the CSX and Norfolk Southern and the Canadian National, and they'll all tell you how they have these investment programs, how they're buying locomotives and how they're buying railroad cars, but you can never find them. I'm not saying they're not doing it, I'm just saying that we've not really seen an easing (at least at U. S. Steel) in the transportation prices that we've had over the last three years. What it has meant for us is that we've had to drive up inventories, particularly of raw materials, in order to be able to operate. It's not our optimum level, and then we inconvenience customers. Trucks are hard to find, not because the truck itself is hard to find, but it's hard to find a qualified driver for the truck. But also this gets back to vertical integration. I think, over time, more of us are going to own more of our own rolling stock. We're still going to be dependant on railroads for the power to pull them, but we're going to own more of our cars. We have a lot of railroad cars ourselves at U. S. Steel — not enough, but we have them. We have a barge fleet, but we need to be replacing our barge fleet because there are periods of time during the year when we can't get enough barges. Particularly, in grain seasons on the Mississippi, you just can't get them. So, I think there's going to be a compromise between us and the railroads on what we're willing to do and what they're willing to do. They will tell you that they don't want to see that trough come again when they have railroad cars parked. They're not thinking that if I buy them, I'm going to use my cars and theirs are still going to be parked. They're not thinking about that, but that's what's going to end up happening. But I don't think the government is going to help us out of this. You go to the National Transportation Board, and they sit there and shake their head. They listen to your complaint and they leave, and you never hear anything out of them.

Callaway: Do you have those issues in Western Australia?

Weber: Well, I think from an iron ore producer perspective, all three big iron ore producers own their own railways, their railcars, everything. Because you just can't do it another way.

Callaway: What about Europe?

Henstra: I don't think it's a big issue in Europe.

Callaway: At this point, we should say a very warm thank you to this wonderful panel and to our audience. Gentlemen, thank you very much and have a great year.

George Koenig: John, thank you for your effort in putting this all together and for a great performance. I think we can say that the industry is stronger and in a better place. There are still going to be a lot of surprises and unknowns, but at the end of the day, one thing is for sure, it's going to be a better industry. Thank you, panelists. We're looking forward to next year.

Stephan H.J.V.
Weber