

Hector Ruiz, PhD.
President and Chief Executive Officer of AMD
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ANDREW PARKER: Good afternoon, ladies and gentlemen. . . .

The session today is an interview, and I'd like to introduce our press interviewer. Mr. Andy Reinhardt is the emerging technology correspondent for *BusinessWeek*. Mr. Reinhardt is the primary correspondent for *BusinessWeek* in Europe. He also contributes general tech news stories to the regular *BusinessWeek* International and US domestic editions. He was formerly *BusinessWeek's* Deputy Bureau Manager in Silicon Valley, and the Executive Editor News at *PC World*, and the West Coast's Bureau Chief for *Byte Magazine*.

Ladies and gentlemen, Mr. Andy Reinhardt.

ANDY REINHARDT: Good afternoon. It's a great honor for me to be here. I was very flattered to be asked to have the opportunity to interview Dr. Ruiz, who I had the great pleasure of meeting several years ago when I did a story about him in *BusinessWeek*, but of course, he's been known for many years before that to those of us who pay attention to the semiconductor business.

Dr. Ruiz, as you know, is the President and CEO of Advanced Micro Devices based in, largely, Sunnyvale, California; also Austin, Texas and Dresden, Germany, among other places. Dr. Ruiz joined AMD in January of 2000 as president and chief operating officer, and he was named CEO at the board meeting in April of 2002.

Prior to that, he served as the president of Motorola's Semiconductor Products Sector. And in his twenty-two year career with Motorola, he held a variety of executive positions in the U.S. and overseas. He also worked at Texas Instruments in Dallas, in the company's research labs and manufacturing operations. And he also serves on the Board of Directors of the Eastman Kodak Company.

So without further ado, please welcome Dr. Hector Ruiz.

DR. HECTOR RUIZ : Thank you, Andy, and good afternoon everyone.

It is indeed an honor for me to be here at CeBIT, one of the most prestigious events for the information and computer technology industry. But it's of particular interest to me and a privilege to also participate in the ICT World Forum, which is a great place for executives, at all levels, to exchange ideas about our industry – Where is our industry going? What are the issues that our industry faces today?

The reason I say it is a privilege is that I cannot imagine any industry more able to contribute to the quality of life around people, around the world, than the information and computer technology industry. So it is really quite a privilege to be part of such an industry.

One of the things that I hope to share with you in my conversation with Andy today is to be able to talk about the fact that we, as leaders in the information and computer technology industry, have a tremendous responsibility of trying to figure out how to get this industry back on track. Because, as you know, we've had now two or three years of somewhat of a slowdown in the industry. I think it is time for us to collectively take some time and think about what it would take for our industry to come back.

But before I engage with Andy in some questions, what I'd like to do is tell you a little bit about two parts of the industry. I'd like to talk a little bit about the information and computer technology industry—where I think it's going, what it might take for investment to come back. But I also would like to tell you about the semiconductor industry, of which AMD is a part. And I'd like to do that in the context of what we at AMD do, and also relate it, as much as I can, to the information technology industry.

Let me start with the ICT sector. First of all, I don't think I am as capable of telling you what the ICT sector executives are thinking as many of the other executives that you will be hearing from later during the week. But it is clear to me that there are two things that the ICT sector is facing that could have a huge impact on our industry.

One of them is data-intensive applications. I mean really data-intensive applications; that is facing our industry today more than ever going forward. And the other one - I can only think of one word to describe it - is 'connectivity.' Those two things, data-intensive applications and connectivity, in my view, are two challenges and great opportunities that are facing our industry today.

But as they say, the devil is in the details. And although these two things are incredibly important, one of the details that's missing, that we don't really have a good handle on, is timing. It is the timing of these things that can be so crucial. And as budgets begin to stabilize in the industry, and spending begins to take place, it will be crucial to really understand the timing.

Because I believe when the industry begins to recover, we will start where we left off. That means we're going to go back to these data-intensive applications, such as ERP, CRM and extensions of those things. But as you will hear throughout the week from other very knowledgeable executives, they are going to be compounded by other needs that are appearing to be very intense today, such as business intelligence, data analytics and, perhaps, advanced security. All of these things are going to even further compound the very data intensive needs of the traditional European CRM industries.

And now, with the Internet, a connectivity medium that's so pervasive, the challenge that we face is phenomenal. Because we now have intelligent devices that are capturing huge amounts of data, like PDAs, laptops, phones - a number of devices that are collecting this phenomenal amount of data. And the data is growing and is very complex.

As a matter of fact, some of your surveys in the IT industry indicate that the amount of data is doubling every year, and that the amount of data is getting more complex. In addition to the doubling, its complexity is going up. The challenge of dealing with the data is awesome.

Whether you're talking about an ERP thread that you are trying to follow, or a CRM data file that you are trying to exploit, or perhaps the digital image of a human fingerprint, these things are going to just be taxing and taxing our ability to effectively deal with these challenges of data.

Now it is very well known that these incredibly data-intensive applications require 64-bit processing. Therefore, it's no magic that companies like HP and IBM have put 64-bit processing at the very high end of their offerings.

One of the reasons that this is happening is because the memory capability - the bandwidth that these systems can access - is being stripped. And the limitations, both from physics as well as architecture, that 32-bit systems present demand that we migrate to 64-bit technology.

So I think it's fair to say that this [migration] is inevitable, but there are two things that are going to determine how fast this occurs. One, first of all, is how rapidly the cost of memory can decline so that it is affordable to have this very large storage available for the enterprise. Well, fortunately, that seems to be happening on time. As a matter of fact, the cost per bit of DRAMs continues to decrease at 18% to 24% per year. And unfortunately if my friend, CEO from Infineon, were here, he wouldn't like that; the rest of us think this is very good news that the cost of memory will actually be affordable.

At those rates of 18% to 24% decline per year, that means we're on the verge of high insistence in the enterprise; having a memory cost that is going to be approaching very soon the memory cost of a high-end PC. So that's pretty incredible.

The other piece is the cost of 64-bit computing. I mean this is where things get really interesting. First of all, there are already 64-bit processing systems in the industry. What's interesting is that customers and users in the enterprise are not asking for another proprietary 64-bit system. They don't want a new one. That in itself is very interesting.

What's missing, though, is how do we make the transition from 32-bit to 64-bit seamless? How do we make it so that it's compelling? How do we make it so that it actually costs zero dollars to be able to make that transition? To be able to do it in such a way that the whole ecosystem - such as the operating system providers, the application system providers, the system integrators, the middleware providers - is run at 64-bit technology, that all these people can make that transition in a rather seamless fashion? That is what needs to occur.

And if somebody could do that, think how compelling that would be, how sophisticated that transition could be, how elegant, how wonderful. AMD would like to call that transition AMD Opteron™ and AMD Athlon™ 64 [processors]. We believe that this will be a very interesting year.

This leads to my second subject, which is the semiconductor industry. We are fortunate to be part of an industry where silicon and software have replaced plastic and steel as the building blocks of everything we do. And silicon and software have become pervasive in everything that we do and touch.

It is estimated that the average business person - in a one day at work - gets up in the morning and goes to work, comes home at night, and comes in contact with 100 microprocessors during the day. When you think about that, you say, "wow, that sounds kind of like a large number," except when you think of the fact that the moment he gets into a Mercedes, say it's 500, he immediately, just by getting in the car, already is in touch with 62 microprocessors. So you're already well on your way to the 100.

And so we've touched everything. Silicon and software, the plastic and steel of the today's industry, are in everything we do. It's the DNA of everything that we touch - from agriculture to medical electronics to automobile transportation. We are very fortunate to be a key component of the IT industry.

However, with such a strong, pervasive presence comes huge responsibility. We must ensure that the technology we offer and develop is meaningful to our customers and our customers' customers. And what is the difference between real, meaningful technology that we call 'innovation' and technology just for technology's sake? We believe that the difference is customers. Customers are what make a company deliver true innovation.

Given the current scenario that we are going through, two or three years of a significant slowdown in high-tech, I think it behooves us to reset our thinking in the industry and reset it around the customer.

Being a customer-centric company demands that we understand not only the needs of our direct customers, but the needs of their customers also. In doing so, we are a much better partner, a much better part of the solution they're going to offer, and we are in a much better position to create technology that's going to be truly innovative, not just a piece of technology for technology's sake.

If you are a semiconductor company, and you believe that Moore's Law is the most important law in your business, that means you are a self-centred company focused only on yourself. Because, frankly, why do customers and their customers care about Moore's Law? It has no applicability to what they need or want.

However, there is another law in semiconductors we think is applicable. We refer to it as Metcalf's Law. Metcalf's Law simply states that a network's power, a network's quality, a network's usefulness, goes up exponentially as the number of nodes in the network increase. And if you apply that to a business or a company, what it says is that in a connected business model, the number and quality of those connections – with your employees and your partners and your customers - and the ecosystem that you're creating, will make you a powerful corporation and allow you to deliver truly innovative solutions to your customers and their customers.

I mention the quality of these connections because, going forward, partnerships are absolutely key to the future of our industry. We are now in an environment where collaboration is a must. Our collective dependence on each other is huge. We cannot succeed as part of any ecosystem if the other members of that ecosystem do not succeed.

Quite contrary is the state of the PC industry today. It is an industry, where, frankly, most PC makers are losing money. One of the few players that can derive return on investment in that ecosystem is the player that makes the microprocessors.

In my view, the migration that I think we collectively have to work through is one to a connected business model that allows us to have the customer-centric innovation that will lead to the creation of that true innovation that will get our industry moving once again.

I think the successful way to create that next wave of investment, the next wave of economic growth, the next wave of wealth creation, is going to be to make that model work, to build that ecosystem of collaborative effects among all the players in industry so that we can deliver - whether it's an automobile or a PC or an enterprise system - a truly innovative piece of technology that will bring value to our customers and their customers.

So Andy, those are a few of the things that I just thought we might throw out and start our discussion.

ANDY REINHARDT: Thank you so much. Thank you for setting the agenda. I have more questions to ask than we have time for, so I will do my best to limit my curiosity and to indulge yours at the same time.

I thought maybe I'd start at sort of a micro level and just talk about your business and about the semiconductor business, and then we'll sort of build out from there.

The Semiconductor Industry Association is forecasting 12% growth this year in microprocessors. I'm wondering if you're comfortable with that number. What do you think are going to be some of the primary drivers for growth? What could accelerate growth beyond expectations? And, unfortunately, what might slow growth? What are some of those risks?

DR. HECTOR RUIZ: Yes, there are some risks that we believe that we cannot spend a lot of time worrying about, because we can't control them – for example, geopolitical issues are going to be set aside as far as we're concerned until they get sorted out. That being said, we believe that it is reasonable to expect this year to be a double-digit growth for microprocessors, and probably for the industry in general.

However, I truthfully believe that we could be surprised on the upper end. I really believe that the opportunity for our industry to collectively create a phenomenal amount of useful products and useful technology is just there waiting on the verge of occurring. With broadband availability coming faster, with the cost of silicon continuing to go down and replacement cycles in the industry beginning to get older, I think we could face a situation that we could go out of here at a significantly higher run rate than just 12%.

ANDY REINHARDT: That's interesting about the replacement cycles, because I certainly get the impression that in the last couple of years, in a period of economic weakness, people have slowed down their replacements. I'm wondering whether you think that will kick in later this year. Do you have some confidence in that?

DR. HECTOR RUIZ: I think it's going to have to, pretty soon. I believe this year is probably the year that we'll begin to see some of that replacement cycle taking place.

ANDY REINHARDT: Well, now the other thing. Of course, this is like waving a red flag in front of a bull to ask a semiconductor executive this question, but I sometimes wonder whether the virtuous cycle that occurred between PCs and software, which caused people to upgrade every couple of years because the software was getting more complex and they had need for better hardware to run it on, whether in some ways that cycle has been broken. In other words, why should a consumer upgrade these days? What do they get by buying a faster computer today if what they're mainly doing is surfing the Internet?

DR. HECTOR RUIZ: Well, what we're seeing today is that, frankly, the consumer is becoming incredibly smart at shopping and selecting technology that is useful to them. As a matter of fact, I think that consumers today, around the world, are as sharp as they've ever been in selecting products. And what we've seen, frankly, is more of an intelligent thoughtfulness going into selecting when to upgrade, if at all.

And I think what we're seeing is for people that are using a computer mostly for either what I would call very crude Web surfing or for small business applications, there is not a lot of motivation to upgrade. For people that are more into streaming a video or downloading of large amounts of data, they feel some need to upgrade. And then we have people that have access to broadband. Their appetite gets whetted by their ability to be able to do things much better, so you see them now wanting to upgrade.

And I think what is going to happen as all of this technology becomes more and more pervasive - it is estimated that these next two or three years are going to be the real explosion of broadband - I think that will really whet the appetite of people to want to upgrade.

What I think people are going to be looking for more and more is meaningful technology that can really change their experience. Either they do something a heck of a lot better

with it, or it brings a far more rewarding consumer experience - whether it's 10,000 colors versus 2,000 colors or better sound. We're going to see a very smart consumer.

ANDY REINHARDT: One last question on PC demand. What kind of hope do you attach to further penetration of the PC into the developing world, and into regions where it hasn't been as well penetrated? Are you optimistic that there will continue to be demand?

DR. HECTOR RUIZ: Yes. As a matter of fact, I think that the PC as we know it today - which we normally think of as a keyboard and a display and a box - is definitely in great demand in emerging markets - in India and China, particularly. I was just visiting those countries recently, and I can tell you that there is a tremendous appetite for products of that nature.

However, the rest of the world - the more developed world - has migrated to very high-performance systems. Nowadays, it's very simple to obtain a 2 GHz type of machine very easily. The rest of the world, really, would like to just be able to get on a modem and get on the Internet and do some simple applications at home. And those are things that perhaps the rest of us in the industry need to recognize. In places like India and China there's a huge demand for a "people's PC" that is very low cost and allows them to do the things they can do today and eventually migrate to higher performance systems.

ANDY REINHARDT: Now of course I've only been talking about PCs and you have many other aspects to your business. I wonder if we could talk, just quickly, about some of those others. In particular, I know you have a small communications silicon business, and you have a very significant Flash memory business. Are there other areas that you're pursuing as well? Are you looking more into the mobile sector, for example, or portable computing devices, handheld devices? Do you see those as future directions for AMD?

DR. HECTOR RUIZ: Well, one of the things that we're trying to do is to capture the inflection points in technology that are naturally occurring for us and to try to capitalize on that. We believe this is the year to begin 64-bit computing as an example. So we are launching pretty aggressively, in trying to create the 64-bit computing wave from an AMD perspective.

For communications, we've created an architecture that we believe is a powerful solution for mobile computing, and mobile communications that is really aimed at trying to intersect the needs of the marketplace around the 3G scenario, which we think will really begin to excel in the next eighteen to twenty-four months.

We also have those products and acquisition that we made called Alchemy Semiconductor that has created some very, very exciting hardware reference designs that will allow that to occur. There is a lot of interest in that.

As you mentioned Flash, you know any product you use today - it doesn't matter if it's a computer, an automobile, a PDA or cell phone, whatever - they're all inundated with Flash memory. And so we've made a huge investment in Flash, and we'll continue to. And as a matter of fact, I think Flash memory will become the ubiquitous pervasive memory in all systems, and I'm going to say that at some point in time it will even surpass DRAM as the kind of memory that will be more available on systems. So we're looking at all these particular things - changes in the industry, the inflection points.

We believe that communications and connectivity are going to determine the next wave of productivity gains, as opposed to just plain computing.

ANDY REINHARDT: And you think you are reasonably well positioned to exploit that?

DR. HECTOR RUIZ: We believe we are. We believe that we're in the middle of it. We're in the midst of it, and our customers seem excited about the products we're offering.

ANDY REINHARDT: I'd like to drill down a little bit on 64-bit, because I think it's a really interesting area. For the members of the audience who perhaps may not have followed this as closely, I wonder if you could take a minute to explain the difference in the approach that you're taking to get to 64-bit computing versus that of your cross-town rival.

DR HECTOR RUIZ: Sure. We made a decision that we thought that there are a lot of 64-bit systems around today - a lot of them proprietary - and that they have a very limited set of ecosystems around them, because they've been focused in a propriety nature at each of the suppliers. We made the decision to create a 64-bit migration plan that would allow our customers to continue to benefit from the huge investment they've made in 32-bit software and 32-bit ecosystems, and allow them then to transition to 64-bit at their own pace.

Frankly, it turns out that we ended up exceeding our expectations in that approach because the 64-bit system that we've created actually takes 32-bit applications and performs them better than the 32-bit system would. So now you get a benefit of a better 32-bit system environment and the potential of migrating to 64-bit, at your pace, and based on the same investment you've made before.

So we believe that has been attractive. As a matter of fact, those of you who have followed the industry know that Microsoft and Linux and others are very supportive of the approach we've taken because it has allowed them to transition the development from 32-bit to 64-bit without the fear of, "what if the applications don't take off very fast?" You can still run 32-bit applications.

We took a very different approach. I think it's paying off and I believe this is the year for it.

ANDY REINHARDT: The thing I don't understand about this is it all seems so obvious to me. I don't mean to sound like I'm picking sides, but the approach that you're taking - if it's possible to do it this way, which it clearly is - why didn't Intel? Now I know you can't speak for Intel, but what's the logic of doing the clean break that they've done versus the migration path such as you've done?

DR. HECTOR RUIZ: That's a good question. For those of you in the audience who are knowledgeable about software and operating systems, you know that an instruction set has never been shown to have an impact on performance. And therefore, by somebody wanting to change an instruction set going forward, the only thing you have to conclude is that that company is trying to exploit a proprietary position of that instruction set and is not as concerned about the customer. From every angle that we've looked at it - from a technology point of view and a business point of view - there is really no valid reason to change the instruction set.

And sure, instruction sets tend to get older, but technology has moved so fast that, for those of you who are familiar with the industry, we used to refer to the x86 instruction set as a CISC instruction. But technology changed so fast that it is no longer in CISC. Now people talk about it like it's RISC-like, because you can now do more than one instruction per cycle and the architecture is so much more sophisticated. Therefore, performance has never been limited by that. So, to me, it is an incredibly good business strategy to develop a migration path that allows you to retain all the investment you've made in the past.

I believe that, to answer your question specifically, Andy, in one case is a company trying to establish a monopolistic position on a proprietary system; in the other case, is a company trying to exploit the desires of their customers in the marketplace to benefit from what's already been invested.

ANDY REINHARDT: Just one last question on this subject. Is there a downside to what you're doing? In other words, does your architecture run the risk of not having as long of a lifespan?

DR. HECTOR RUIZ: Well, we don't believe so, because we believe technology will continue to move. As a matter of fact, we already have a large number of engineers working on our next generation of architecture, which we internally call K9. It's a product that's the next wave of the 64-bit architecture, which will take performance even further. So we don't at all see this as being limited in the future.

ANDY REINHARDT: I'm going to switch gears now and talk about some subjects that I know are very interesting to you - what you call the "connected business model"- and also "free and open competition."

We've heard for many years about the notion of a business ecosystem that a platform provider needs to draw around them- software people, applications people, system integrators and so on. Maybe you could talk to us a little bit about what it is you mean specifically when you talk about a connected business model vis-à-vis AMD.

DR. HECTOR RUIZ: First of all, we believe at AMD that technology has become really complex and challenging. It is very difficult for any one company to monopolize good ideas and great technology. But as the industry has segmented itself, there are great people and great companies doing things incredibly well. And if we could find a way to create an ecosystem that would attract these great companies to provide a solution, you'd have then the best of the best.

An example of that is when you look at our platform that we provide at AMD together with NVIDIA, for example, with GeForce architecture; when you combine GeForce's architecture from NVIDIA with and architecture for AMD, you get an incredibly powerful platform that's really tough to beat. And the reason is because NVIDIA is focused on that, and they do the best of anybody at creating these very high-end graphic solutions for computer technology. We're focused on the processor and we put a lot of effort into it.

I think it's very difficult now for a fully vertically integrated company to create every single piece as necessary and make each one of them the best. And a good example of that is the recently launched product called Centrino by Intel. It turned out to be an okay platform for wireless mobile computing, but it's not the best because there are so many great companies like Broadcom and others who are providing phenomenal solutions.

So our approach to this is: It's a huge pie, if we all intelligently share it, everybody gets to make a good return and the customers benefit from the best solution. And then if on top of that, when you have an overlay of free and fair competition, you'll really create an ecosystem that's powerful.

ANDY REINHARDT: Okay, well now I have to, not quite tease you, but "free and fair competition" - that sounds like code. There's something behind that. What do you mean when you talk about "free and fair competition?"

DR. HECTOR RUIZ: Well in this case, I have to congratulate the approach that the European Union takes. The European Union approach in creating free and fair

competition is to really allow the laws to be established so that competitiveness never gets hindered. Whereas the approach taken in the US, frankly, in my view, is old-fashioned; they say, no, the approach in the US is more to protect the consumer today. But by doing so, often they actually harm the consumer in the long run.

What we mean by free and fair competition is providing an environment where the best products, the best solutions can win on their own merit. Not because there is some monopolistic behavior on the part of a competitor that through market development funds or just downright buying business you could create a scenario where a product or an architecture or a standard gets established that is not really in the best interest of the consumer.

I really think that it, for this connected business model to work well, is incredibly important to let free and fair competition occur.

ANDY REINHARDT: I'm going to switch gears again and talk about innovation a little bit. I think it's a little worrisome - not only have of course the public markets softened up, if not fallen completely out of view, but even private investment, the amount of money going into venture capital funds, the amount of money being invested by venture capital funds, the amount of R&D spending by major corporations, have all declined in the last couple of years.

Can you talk as an elder statesman in the industry about whether or not you worry about innovation over the long run and what AMD is doing to help solve that problem?

DR. HECTOR RUIZ: We're going through a cycle right now where venture capital people, particularly in the United States, are re-thinking and re-evaluating their approach to investment. It's now more and more along the lines of being more thorough in trying to analyze what this investment actually creates - is it a product that brings value to customers or consumers?

To be honest with you, Andy, I think a few years ago venture capital people in the U.S. just threw money at things, and one out of ten stuck. Frankly, there is not a lot of science behind that. There were so many great ideas, so much money to go around. In the year 2000, when the market was at an all-time high, there was plenty of this funny money from the stock market to go around to fund these things.

And I think people now are dealing with real money. And real money demands that you do a much more thorough analysis of the things. And think we're seeing a reset of things through innovation; that this thing is really providing, we think, a survival product that can create value in the marketplace.

My view of that, actually, is the other way; is that I think that this is going to spur even more of the right kind of innovation. I think we're going to see a high-tech boom, in my opinion, come about in the next five to ten years beyond anything we've ever seen before.

ANDY REINHARDT: Now, speaking of real money, AMD has invested a lot of real money in Dresden and the former Eastern portion of Germany, and built a very successful semiconductor fabrication facility there. I know the decision to invest in Dresden was made before you were CEO, in fact before you were at AMD, but could you just walk the audience, who I think might be interested in this, through why AMD decided to go there and how it's worked out for you.

DR HECTOR RUIZ: First of all, let me start with a summary. Our Dresden investment has been a phenomenal success. It's a factory that in 2001 was named 'Fab of the Year' by Semiconductor International. It has the highest yields from productivity of any

factory AMD's ever had. The quality of its products is outstanding. We've been able to go through a transformation from one technology to another faster than any factory has ever done. It's just a great success. And at the root of that success are three things.

First and foremost are the people in Dresden. We have a highly educated workforce that's very motivated, and that has been a big, big factor.

Second is the work ethic. Coming in an environment that used to be called Eastern Europe, where there was high unemployment. 32% of the employees at AMD today in Dresden used to be unemployed prior to joining there, so they have a very strong work ethic and are very motivated to really go do a great job.

The third piece is that the government of Saxony was very futuristic in their thinking, seeing that this was a foundation of jobs and success that was important for them to help create, and they provided the financial incentives to attract AMD.

All of that is combined in a great product, the AMD Athlon microprocessor.

ANDY REINHARDT: What's the future for that facility and for that area? Are you planning to take it up to next-generation manufacturing technology?

DR. HECTOR RUIZ: In the fourth quarter of last year, the facility just completed a conversion to 130-nanometer from 180. And we are in the process of putting in place the work to start the conversion to 90-nanometer before the end of the year.

ANDY REINHARDT: One last question. I think we're running out of time, but I just want to talk very briefly about Asia, because there's so much going on, particularly in China, also in Taiwan. It's an important area for you; I think a lot of your customers are there. I'm wondering how much you are investing in that area and whether we might see you starting to do design work there, or whether that's likely to remain more of a US and European phenomenon.

DR. HECTOR RUIZ: First of all, Asia - if you think of China and India together - is roughly 40% of the world population, so it's a very important market for us. We are investing in both China and India particularly. We think what happens there will benefit other emerging regions like Latin America. We believe that it's imperative that we participate in the design portion also, so we intend to establish design centers in both of those markets. As a matter of fact, in one of them we already have.

Make no mistake. China is going to become the electronics manufacturing center of the world. China will export more than any other country in the world here in the next few years. And it's already the number two PC consumption market in the world, and by next year it will be the number one cell phone consumption market.

With all of this, we're looking at ten years of fairly aggressive growth. So we have a lot of interest in those regions and intend to invest in those significantly.

ANDY REINHARDT: Regretfully, I have to stop my questions now. We could keep going for another hour, but I think you have a few concluding remarks.

DR. HECTOR RUIZ: Thanks, Andy. I want to thank you all for your patience and participation in listening to the dialogue. I thank Andy from *BusinessWeek* for his help and support.

What I would like to leave you with is that we, as I stated earlier, are privileged to be part of this industry. It's an industry where the DNA of what we do is on everything we

touch. And as such, we have the responsibility of trying to figure out how to get this economic growth engine back on track.

How do we put it back on track and start developing the wealth and job creation that we know it's capable of doing? My suggestion to you is, let's make sure that we change the business model to one that is more of a partnership model, collaborative, and that we focus on technology developments that are true innovations for consumers, customers in the marketplace, and so that we, this industry, can change life for the better again, and again, and again.

Thank you.