



**An Evening with Jim Morgan, Chairman of the Board, Applied
Materials, in conversation with G. Dan Hutcheson, CEO, VLSI
Research**

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Dave House: With that, let me now introduce our interviewer, Dan Hutcheson, he is CEO of VLSI Research. I think most people here in the [Silicon] Valley know him because he has been highly visible for the last 30 years and during that time has been associated with Jim Morgan in a number of different ways, as a well-known visionary for the semiconductor industry, he has known most of the executives here in the Valley and the leaders in the Valley. He has also published numerous publications; he has developed many industry models; he has researched just about every aspect of the semiconductor industry. Nowadays he spends his time mainly advising companies in strategic and tactical marketing and business management and manufacturing trends and in productivity and strategy. He has a Masters Degree in Economics from San Jose State; he studied Engineering at UC Berkeley, Dan.

[Audience Applauds, Dan Hutcheson comes to the speaker's podium]

Dan Hutcheson: One of my first projects was for a company called Eaton who made truck axles and they were interested in buying Applied Materials. And at the time, Applied had just come out of its time where it was really terrible. It was a basket case. And the stock was starting to rise very quickly, and it turned out that it never went through because by the time I finished the project, Jim had engineered such a turnaround that, had they bought Applied Materials, he would have been the largest stockholder in Eaton. Just because of the difference in the two PE's [Price/Earnings Ratio]. So, you know, that sort of is a good prelude to Jim. He came to Applied in 1976, and he is probably one of the longest standing CEO's in the Fortune 500. I could talk about his medals and different awards that he has gotten, and we would be here until tomorrow. But he has gotten the National Medal of Technology; he has gotten the SIA's Bob Noyce Award, and what is amazing is that he has not been known for being a great technologist like a lot of people that get interviewed here. He's been a great catalyst of what has happened. And, in fact, when I think of Jim, he has been an executive; he has been a statesman; but most importantly he has been a catalyst for our industry and also one of the most, when I think about him, I want to think of one word, I always think integrity because of his integrity. So, anyway, I would like to invite you up, Jim, and start talking about how things came to be.

[Audience applauds, Jim Morgan comes onstage and sits with Dan Hutcheson]

Dan Hutcheson: So, you are really not from the Valley, are you? How did you get here in the first place?

Jim Morgan: Hah! By accident. You know, I grew up in the Midwest in a family canning company, so I got some exposure to equipment and manufacturing and service. Which I didn't know I would need later, but it was good. Fortunately, I got into Cornell, got my Engineering and MBA, did my tour in the army and went with Textron and they eventually sent me to Northern California to a company some people here probably know called Dalmo Victor. And so I had the part of Dalmo Victor that was in trouble for awhile, and then they wanted to move me back to the East Coast and Vicky and I talked that over and we decided that between us, we could figure out how to make a living on the West Coast, and so we told them we were going to stay. Fortunately, I got a chance to work in the venture capital business for four years with a group called WestVen, which was a Bank of America partnership and some venture capital guys some of you probably know, like Berge Jamison, Rick Flugel, people like that, and Phil Greer. So I did that for four years and kind of got the urge to get back to doing something, but one of the interesting things I had happen to me while I was at Dalmo that got me a little oriented to the Valley, or gave me a little exposure to the Valley. That was one day the president had this Western Electronics Manufacturing

Association, some of you now know it as the AEA [American Electronics Association] were having a dinner down in Pal Alto Country Club, and Roy Ash, who probably most people here never heard of, but he was your first head of the office of budget and management for the country and he was the CEO of Litton Industries, president of Litton Industries, was going to speak and so the head of our group couldn't go, and his number two couldn't go, so they ran into me in the hallway and said, "Jim, would you like to go we got tickets?" I said, "Sure, I'll go." I didn't have anything that night, so I went. And so the group that was there was Bill and Hewlett, and Dave, and the Berriman brothers and kind of all the names that some of you probably have heard of in the Valley, you know. There was about 50 people there and me, and so I thought, "Geez, these are pretty interesting people", so it was kind of my intro to below Belmont [California] where I was. Anyway, that's how I got here.

Hutcheson: What led you to fly in the first place?

Morgan: Well, I wanted to go back to running a company, running something. I wasn't a very satisfactory venture capitalist, I really needed to kind of be in the action. I've never been a good spectator sportsman; I kind of like to be in the action. My partnership said they would support me if I could find a company run kind of this executive in residence deal that some of them do now. And I looked and, you know, they had some great opportunities in Huntsville, Alabama and Kansas City and Ohio, and I was having a hard time finding something between San Francisco and San Jose, which was one of my criteria. Sandy Robertson took Applied public in 1972, so this was in 1976, and I had a discussion with Mike McNeely, who was a founder of Applied, and he asked me if I would consider coming there and I said I would if I could have a free reign to kind of do what it needed then. So the board asked me if I'd come. I was a little worried about that because they were, you know, I was only thirty-something, 36, and I didn't look very old. I looked about 30, so I frosted my hair just a little bit here. My kids kind of kid me about that once in awhile because they are about the only people up until now that know that story. But because of that old look that I had, the experienced look, they offered me the job. Of course they were about to go bankrupt so not many people wanted it.

[Audience Laughs]

Hutcheson: Now, one of the interesting things is, you know, in those days a lot of people that went into the VC [venture capital] industry, they turned the companies around and then they left. But you stayed and, what was it that you saw at the time about the industry that you found so attractive?

Morgan: Well, frankly, all my friends thought I was crazy that I joined the industry at that time because it kind of wasn't established; didn't have a very good reputation, and it was a pretty tough industry. We had a couple, three cycles. Applied was founded in 1967, so this was 1976, and the investors and the board were kind of used to some variations in the revenues but they were really, the industry came back and Applied didn't in 1976. So it was clear something needed to be done. And it was really running out of cash so that's why they were willing to take me in. But my really original goal was just to get it turned around. I didn't have much of a... because it wasn't clear we'd make it. Fortunately, we were able to get enough cash out of the business that we didn't have to raise any equity. B of A [Bank of America] helped us, and we got some tox loss carry backs, which helped us a little bit, and we started shutting down about five out of six businesses. My goal originally was just to get it to survive. But after I got out about five out of six activities, I began to look at the possibilities with the company. And the more I looked, the more I

thought the industry is in its infancy. I looked around, didn't see any other company that really deserved to be a leading company, particularly. You know, Perkin-Elmer was there, Varian; there are a lot of fairly good reputable companies in those, but none of them really necessarily ought to win.

Hutcheson: They weren't really focused, were they? They were in a lot of different areas.

Morgan: They were diversified, most of them, this was kind of a adjunct to their business. So I cut it back from about \$26 million to \$14 million on a run rate. With that \$14 million we focused on the equipment business and began to build that, and after about a year, and spent some time in the industry, I thought it would grow. I first thought, well, if we can get it to \$50 million maybe we could sell it, but then another year or so, spent some more time thinking about it, and it was clear that it was kind of a fundamental key to the information age eventually and so we stayed with it.

Hutcheson: What was it like trying to get money for a tech company in those days? When you look at the stock market, what were the valuations, that sort of thing?

Morgan: Well, I looked at the tech companies that were in the venture business because the industry was so bad. I mean high tech was in such a bad name. Actually, when Applied Materials became public, Sandy Robertson suggested we take... it used to be called Applied Materials Technology, and so Sandy said well, you know, you ought to take technology out, it really is a bad name, bad term. So that's why it's Applied Materials, and I couldn't understand why my customers kept [saying], AMT, "We like AMT." or "You did this at AMT.", and who the hell is AMT? And it turned out it was us.

[Audience Laughs]

But it worked. I looked at that time, because we were looking in the venture business looking at buying public companies as a possibility. It wasn't our charter. And I think I figured out that if you took Varian and Hewlett-Packard out of the companies, the pool of high tech companies, I think the total valuation of high tech companies in Silicon Valley was somewhere between \$500 million, \$750 million dollars? We could have bought them all. AMD was about bankrupt. I mean they weren't because they owned all their land and stuff. Applied must have been about \$12 million dollars. Intel was maybe \$30 million dollars or maybe \$100 million dollars. Intel was a little bigger., But, you know, you add them all up it wasn't a big number. Tymeshare; a lot of companies people knew.

Hutcheson: So it must have been a pretty attractive force for you because you knew the growth was going to be higher, right?

Morgan: Not really. I just needed a job in the Bay Area that would keep two kids and a wife paid, so it just worked out.

Hutcheson: Okay. If you look at Applied today, you have been close to \$10 billion dollars in revenues. How did you get it there?

Morgan: Well, after we got the cash flow turned around we had a real opportunity for a return on investment, for those financial types that are here. Because we had \$1 million in equity and \$9 million in debt. So if you get any earnings, your return on equity was well leveraged and would have worked really well. So we set up a strategy that we get a broadened product line, that we would diversify our markets, not by industry, but into different geographies because primarily we were selling in the U.S. and some in Europe. And, so, the whole goal of the management team, once we got the survival side taken care of, was to see how many new products we could get out and how many new markets we could successfully penetrate and we were pretty successful in that. It worked really well.

Hutcheson: It's interesting in the early documents that you were circulating to people. One of your key vision points that I read was your belief in persistence and how important that is to making a company when you are really down like that. It's a fascinating concept.

Morgan: I don't know where I picked that up, but I have a sign in my office about intelligent people and so forth, but the key is perseverance and persistence. That became kind of a motto at Applied and we just were kind of relentless and that works since we are a cyclical business because every time times would get tough, kind of the whole group would really hunker down and take advantage of that. So we always kind of blew out of these, really took off in the upturns every time. And I think it's just because, and people really got, they didn't get depressed and stop performing, everybody kind of engaged and hunkered down and when we came out, we would always grab some market share and grab some new products and get some new people and we just always enhanced the company. It was just a relentless kind of thing.

Hutcheson: I know that's a word a lot of your competitors used to describe you. [Laughter]

And it's really funny because in the early days in the industry, you're right, the Perkin-Elmer's, these companies, these were all big corporations and people went home at five o'clock and it was a very different world. Now, one of the things you did that was really fantastic was you cleaned up the product line at Applied. How did you decide what stayed and what went?

Morgan: Well, the way I always evaluate product lines and what we were going to do and not do is I would go through our talent pool. If we had a good concept and we had a core team, then we would fund it. When we kind of ran out of core team, then we stopped funding. So that's kind of how we got out of the hot wall [furnace] business in 1981, and we were about five, six years before we came back in with the CVD-5000, which really took over the industry. Because we had the third team on the hot wall business and I just never run with the third team. So when we ran out of really top notch teams, we kind of stopped.

Hutcheson: I remember Bob Graham telling me this story about, because you had brought him in to run marketing, from Intel, and he said that there was the hot wall furnace that you had and there was so much vibration from the pumps that the wafers weren't circling in the boats and Bob said, "Who in the hell would want to buy this thing and why would they want to buy it from us?" And the engineers said, "Because we're Applied Materials." And he said that was when he knew they had to kill it.

Morgan: That's right.

Hutcheson: And it's amazing how those things turn. Now, one of the most interesting things that I find about you that I think most people don't know, is we have all learned in the last maybe five or ten years from Jack Welch, how important people are, but one of the interesting things about Jim, if you go back, you always focused on people from the very beginning. You know, you weren't really focused on technology as much as the people. Like your point about you made the choices by whether we had the core team or not.

Morgan: Well, I'm learning, really, back at the factory that there are really good people and then there are some that are not quite as good. Then, in the venture business, I had a lot of chance to select people, you know, for jobs. And I always believed in having the best people and giving them enough emotional space that they could be part of the management. In other words, they weren't subordinated to me for emotional space, I didn't take up all the emotional space. I think that was probably important because people like Dan [Maydan] are really proud and capable guys, as Dr. Maydan, who is our president, Jim Bagley, who was our president for awhile, or Bob Graham, a lot of really, really competent people have been at Applied fortunately. I think probably that allowed them to stay until either the business changed and something else needed to kind of carry it forward or they stayed the whole way until they retired.

Hutcheson: I remember you hired Glen Tony and one of the things that I found really fascinating about one of your annual reports is, because every year in my business, you have to go through every single annual report. You were the only tech company that featured the guy from HR [Human Resources].

Morgan: Actually, when I came to Applied, and I knew this from my investing through the venture industry in Silicon Valley, is that when I came to Applied, I probably knew every venture capitalist and every high tech in the top three executives here. I mean, it's hard to believe because today I don't even know the people in my subsector of our business. It was a small world then. But the one thing I kind of learned from talking to them, nobody paid much attention to human resources. And so I looked throughout for the number two human resource person in every company in the Valley, and I finally got somebody from Johnson & Johnson because I knew from my history on the East Coast that they really had a pretty good HR group. And so I brought that in and emphasized that early on. And there's a lot of things that we did. We always made sure that people could talk through the HR group and we would resolve issues with managers, because, you know, some engineers are not great managers. Some are, I'm not saying that, but some of ours weren't. So having a little help there really was useful. Then, a little later on, I learned of Glen Tony, who was really one of those outstanding people who, he is a PhD computer scientist, but he was the assistant superintendent at the Palo Alto High School at the Palo Alto High School District. So he was going to go into the industrial side. I brought him in and trained him. And then he eventually kind of was our social conscience and our human resource conscience for many years and was one of the great contributors to the Valley, of course. Because I just felt that it was really important, and, you know, most of our people, you know, some people got better opportunities and left but a big core group of our people have been there a long time.

Hutcheson: Speaking of those annual reports, one of the things I also noticed is that a lot of companies really cater to the shareholders as if they were the only stakeholders. But if you look at yours, it's not clear that you always had this single-minded focus on shareholders.

Morgan: I always believed that you had multiple stakeholders, and you had to manage. The executive team had to be responsible for all of them. We had to be responsible for the customers first; and the employees; and the shareholders, of course; and our suppliers and partners that we had; and the community. And so we always believed that and our board believed that, and we followed that cultural thing because I believed that the shareholders would make out long term if we kept a balance. You can do a lot of things for shareholders on a short-term basis, but if all those five aren't supporting your organization, over a long period of time, there is no way you are going to build a great company. And really after, in 1978, we concluded that, and we put that in our mission statement, it seemed a little crazy when you think back at it. That we were going to be the leading supplier of semiconductor equipment and services on a global basis, or something close to that. And, at that time, we were maybe \$20 million dollars, and we did it. I think a lot of it was because all the stakeholders hung in there with us during tough times and gave us breaks and so it worked.

Hutcheson: One of the interesting things is as we fast-forwarded into the early 1980's, you get appointed to be head of SEMI [Semiconductor Equipment and Materials International], of the board, right? One of the jokes in the industry at that time was that whoever got to the head of SEMI, usually their company went into decline.

Morgan: Yes, I remember that.

Hutcheson: And you were...

Morgan: I was a little nervous about taking that job. [Laughter]

Hutcheson: But one of the first things you did... I mean, it's interesting because if you have the focus on people, you can leave to go do these things, but the other thing is you really had a focus on industry. You went to Walt Matthews, who was doing PR for SEMI at the time, and you told him that the world needs to see equipment and the equipment industry as a separate industry from chips. What was that all about?

Morgan: You know, I have wondered about that. This seemed obvious. I think maybe when I was young, when I was a teenager, my dad used to take me to trade shows for the food canners and distributors, I think it was, it was usually in Chicago. And I really liked the people in the industry. Fortunately, I didn't go into the industry; I almost did. And I just felt that industry was important and as I got to SEMI, you know, at that time it wasn't a big organization like it is today. I think we had eight board members, an executive secretary and two clerks, or something like that. And the eight board members did a lot of work. And I just felt that we needed to work together to have a position in industry, because you have to remember that our customers didn't think highly of us particularly, most of them really believed that they could manage our businesses better than we could. They may have been right. Although the ones that have come in, it has taken them a little while to make that transition, I notice. because it is a tough business. I just thought that if we could get our business, our people, our group together, we could have a more effective relationship with our customers. And I also felt that we had to get standards in place, and so that SEMI was the best way to get standards in place because all of our customers were having different wafer sizes and they were all trying to differentiate...

Hutcheson: Notches verses flats.

Morgan: Notches... all that stuff. And, so, if we didn't really get our industry pulled together, we weren't going to be successful with them. And then, also, the investment community, I mean, they didn't know us from anything, and so one of the jobs that Walt had and others was to build our relationship with Wall Street and I think that was important, and also with the governments. And so eventually SEMI evolved to be an influential organization on a global basis.

Hutcheson: That's interesting because that's something you have in common that I learned from Bob Noyce, also I learned it from you, is just the importance of industry, and that to really rise as a company you have to have a sense of industry, not just a sense of your own corporation.

Morgan: Yes.

Hutcheson: And I think that is characteristic of you both. Intel is a leading company and Applied is a leading company. You mentioned earlier that you started to look at the global part of the world and Applied was selling primarily in the United States and Europe. One of your great legacies is the push into Japan. In fact I can remember when GE was talking about how great they were going to be in Asia, you already had something like 40 or 50 percent of your business in Japan and nobody else could crack it. Why don't we talk about that a little bit?

Morgan: Okay. Well, when I came to Applied in 1976, I had never been outside of North America. So my first trip outside of North America was to Japan in 1977, to our trade show. I was very impressed. I happened to go to JAL [Japan Airlines]. I was very impressed from the time I got on the plane until I got there. Of course when I got off, in those days they had this choice. You come into Narita Airport and it says "Japanese". That's one of the lines you can go through on immigration, And then the other one was "Aliens". So I just kidded my friends that that was one of those barriers to trade. It's not that they thought you were different. But I was impressed with the quality. I was impressed with the relationship between the customers and the suppliers, and by the people I met and by a young fellow named Tetsuo Iwasaki, who was the salesman/rep for the trading company we had.

Hutcheson: You didn't have an organization at Applied officially, right?

Morgan: No, we were working through _____ at that time. And when I got back on the plane to go home, I had already made a decision in my mind that we really had to go direct in order to get to the customer. And, so, a couple years later Iwasaki-san had been uncomfortable with his trading company and was going to go off on his own. So Bob Graham and I talked to him and we decided to kind of set up an Applied Materials Japan and he led that from the beginning and did a great job. And the customers were willing to work with us.

Hutcheson: Overnight you were really big, right?

Morgan: Yes, and so we began to, you know, we had credibility; we had good products. Some good, we didn't have many, but we had some good products and once they believed that we were committed to them, because the big problem in those days, most U.S. companies, or foreign companies, would commit, then they would come in, they would sell you some stuff and then they would disappear. If there was a downturn, they wouldn't support you. So they were pretty much determined to set up their own industry and we gave them an alternative to that. Then, over time, we eventually became a leading supplier in Japan in our industry, as well as every other geographic region. And it kind of set the model for the going direct in all the other geographic regions.

Hutcheson: One of those funny things about your history was in those days you had Europe, U.S. and ROW [Rest of World].

Morgan: Right.

Hutcheson: And you had this guy, Bill Delaney, who used to be in charge of ROW and he used to have this funny thing he always said.

Morgan: He would come home, you know, and he'd say, "Well, I'm in charge of the rest of the world!". And that kind of kept shrinking, well, it kept growing, but it kept shrinking because once we got a unit to be big enough we would spin it out as a separate group. Actually, our strategy at that time was, I felt if we could do a good job in the U.S., and we could hold our position, this is in the early 1980's in Europe, and Europe was really having tough times and we decided that we would stay there and continue to invest. We decided we would upgrade our management, in fact, Franz are you here someplace? There he is, Franz got hired about that time, he was working at IBM and he came to us and then Lou and some of that group. So we actually accelerated our efforts again in Europe at a time when everybody else was cutting back. So we came out of that, we lost money probably two or three years, but we came out of that with a solid position in Europe, a solid position in the U.S. So as we started competing more, getting tougher in Japan, we had a real collective mass that was effective. And, fortunately for us, the Japanese companies were kind of hesitant about going outside of Japan. That began to build our global culture, which is just one of the great strengths of Applied today, and has been for, I don't know, a couple decades.

Hutcheson: One of the interesting strategies that you took that I always found interesting, was most companies, they create like an organization in Japan and then they go back to business as usual. You looked at it and said, "Gee, we want to have 30, 40 percent share of the global market. We want to have that share coming from Japan". So you just said to your people, all your VP's and everything, "You are going to spend that percentage of your time in Japan."

Morgan: We took, you know, it was clear at that time that most of our people didn't have a clue about Japan. I didn't really, either, but we were determined to learn. So in 1984, we took 20 top people from around the world and about six from Japan and we went to Japan for ten days and we went to the trade show. We went to a marketing program. We went out and visited Honda City, Honda assembly plant. We went to Tsukiji anybody been to Tsukiji at four in the morning? That's a fish market in downtown Japan. And the other thing that we did. We went to a middle school on Saturday morning at eight o'clock. You had a choice when you got there. You could go in and sit with the students who were taking English or you could sit with the students who were taking math. Between the trip to Honda, the trade show, and the

visit to the middle school, it became very obvious to our management team that we had to get our act together to compete because the Japanese were coming, clearly. That worked out to be a great bonding experience because I had hired people from GE and TI [Texas Instruments] and IBM and different places, and AT&T, and it really gave us a chance to kind of get our act together collectively and to see the same thing, and to think about the same thing. And we spent a couple days on the weekend in two teams. One team was Applied and another team was like TEL, Tokyo Electron, a Japanese company that we were going to compete with. So we had both of them strategize how to beat the other one. And we came back with a pretty good vision about being successful in Japan.

Hutcheson: What is so amazing about that is, I remember a meeting with the head of NEC Manufacturing in the late 1980's, early 1990's, and he was complaining to me because he couldn't get his people to buy from Anelva, sputtering systems. And Anelva at the time was owned by NEC, and they had been the world's largest sputtering system unit and you guys were just rolling over them. I said, "So why can't you buy from them? You can just tell them to buy". He said, "No, I can't tell them to buy, they have to make the decisions themselves". I said, "So what is it they like so much about Applied?" and he said, "They have all the best things about a Japanese company and they have all the best things about an American company, and so you can't beat them".

Morgan: That's interesting. Well, one of the things, actually, about NEC, they were very helpful. NEC agreed to help us with our quality. They took us to one of their best factories, our top management team, about 20 people, not the same time, this is a different time in a different group, or some different group. They went through everything they did from what the worker did to how they took care of the equipment, to how their engineering process is relative to a quality program. We had a lot of help from Japanese companies. Toyota, you know, we have had a long relationship with Toyota, and they...

Hutcheson: Didn't you appoint Dr. Toyota to your board at some point?

Morgan: That's a different Toyota, but I will come back to that, remind me. But Toyota, of course, has a great manufacturing vendor and processing quality and stuff, and so we asked if they would come help us with setting up our quality processes, working with our vendors and things like that. They would send teams of ten people over for two weeks at a time until we kind of got some of the basics together right. So we have had a lot of support. Same way with Komatsu, who was a joint venture partner. So we have had a lot of support from these Japanese companies.

Hutcheson: It was interesting because you told me the story once about getting into the LCD business and you were driven to that and you guys basically just made the agreement at a trade partners conference in Hawaii, right?

Morgan: Yes. I will go back a little bit further because you mentioned Dr. Toyota. We wanted to get a Japanese board member. The problem in trying to get a Japanese board member is one, getting them to speak English in those days. Two, if you got one from Toshiba, NEC didn't like it, and if you got one from Hitachi, then somebody else didn't. So we had to get a neutral. So it took us about three years. Iwasaki and I worked on this, and finally we came up with this fellow, Dr. Toyota. Dr. Toyota was the head of the LSI [Large Scale Integration] program for Japan in the 1970's. Then he was at the main research center for NTT [Nippon Telegraph and Telephone]. And he is a tall, really wonderful, wonderful, smart person.

His father was the head of technology for Hitachi when they were up on the coastal town, the old town of Hitachi. So he is a really sharp person, wonderful wife and just a great person. He joined our board, was a great contributor. One of the things he contributed was, he said, "You really should get serious about this liquid crystal active matrix liquid crystal display business equipment." And we said, "Well, we don't know much about it and we don't quite know how" But it is clear wafers were getting bigger. So maybe we could look at that. So Iwasaki arranged for the head of Toshiba's semiconductor and head of Sharp, and myself and Dr. Toyota to get together in Hawaii. SEMI sponsors this trade partners conference which got companies from both sides, both semiconductor and equipment companies together. And we put together a deal to get us in to build equipment for active liquid matrix liquid crystal displays. You know, it's like a billion dollars in orders this year. So it's not a bad business. We can thank Dr. Toyota. And it's also the lead into the solar business because some of the same machines we can use to make thin film solar cells.

Hutcheson: Boy, that's a stroke of luck. So an interesting thing about Applied Materials is a long time ago you decided to allocate, what, one percent of profits to philanthropy?

Morgan: Yes, we got the board to agree to dedicate one percent of pretax profits to community types of things, education. Things like that.

Hutcheson: Now you did that in 1978. Who was doing that in 1978?

Morgan: I don't know, we just thought it was important. At that time we supported The United Way, that was one of the bigger ones. It was interesting to see because times when we were having a labor reductions, we were at the same time getting increased donations from our employees because they felt that other people were probably having a tougher time than they were. It's part of the culture. It has been, I think, kind of a real important part of Applied.

Hutcheson: Well, in a way, it has created some opportunities to you because you then invested at some point in the Nature Conservancy and then that kind of gave you the understanding of the energy issues to lead you to solar.

Morgan: Well, actually, Applied directly didn't ever participate in the Nature Conservancy. We tended to focus more on things related to our communities that we were in. For example, we did several programs, a lot of you know about here, the Tech Museum and Center for Science and Technology in Society and a lot of the education programs. Overseas we tried to help in those areas and you have seen a couple of them. One was the breast cancer climb on Mount Fuji, which kind of got huge publicity all around the world because breast cancer is not talked about in Japan so all the press covered it everywhere. We probably got I don't know how many millions of hits on that, on that story. But, for example, one of the things we did is we put a million dollars into the Shanghai Research Fund to support, this was back in the 1990's, to support early testing and stuff like that. So that was really-- so it was a little bit of money sometimes, as a result we got huge numbers of really great people out of there so it has paid off. It has been a great thing. But the Nature Conservancy is something I have just kind of done personally.

Hutcheson: Do you find it interesting when you get out there in those organizations and you meet people you wouldn't meet through the normal connections in the industry?

Morgan: Yes, I think it pays to work with some, at least one nonprofit. I kind of never did more than one, but I think you learn some management ideas. You learn to look at the world from a different view. I mean it has been exciting to me with the huge explosion and potential for Applied in solar, kind of in parallel with the real focus of the world on environmental, which I'm seeing through the Nature Conservancy, I'm on the global board, you know, it's kind of like a fire hose of information coming at you and it is exciting and fun and it just kind of gives you a sense of just a huge potential that is out there.

Hutcheson: Why don't we roll into the future. You know, there are lots of issues today around globalization. You have been there, done it. What do you think about globalization?

Morgan: Well, I think it is here to stay. All you had to do was, I don't know how many of you took a trip to Eastern Europe after the wall, about the time when you could get in there, but you see what happens if you don't engage and compete. I mean, it's just sad.

Hutcheson: Especially when you go there today, because if you were there then and you go there today...

Morgan: Right.

Hutcheson: Such an amazing turn.

Morgan: And somewhat the same way in China, I mean, that has been an amazing transformation. But I think you have to compete, and I think the danger we have with these trade agreements where we are trying to beat up on these trade agreements. You may need to modify them some and stuff like, I'm not saying that, but not to engage, to think you cannot compete, you can survive by isolating yourself is stupid because there is no way. Just think about Applied. Why did we become really good as a competitor? Because we took the standard of the best customer and also our best competitor on any product or any service anywhere in the world and made that our standard of excellence. So we have three core values. One is close to the customer. Number two is mutual trust and respect both internally and with our customers, partners and competitors. And third is world class performance. Well, you are not going to have world class performance if you don't know what it is. And so if you look at the companies that get killed, it's when they ignore what their competitors are doing. I mean you see what happens to the auto industry and other industries. So you have to be, you have to engage in order to know how to compete. That's why I really always like to have a few competitors; I just didn't want them too strong.

Hutcheson: You know they called them "Morganisms" over at Applied Materials, but, you know, what I can learn from you I could write a book. But you have this great saying, "Good news is no news; no news is bad news and bad news is good news."

Morgan: Right, that's true.

Hutcheson: And I think people always go, "What?"

Morgan: Well, you know, they always give me good news so good news is really no news, right? You know they are going to give you the good news, probably four times. I mean if I run into three people and there is good news, I will get it from all three of them if they know about it, right? But no news is really bad news because, boy I start panicking, you watch me begin to get agitated if it is quiet. I just really get nervous. And bad news I just love because you can do something about it. So we kind of went through, in all the top, at least the top couple of us that work together so closely over the years, they were different, but we just fortunately, we were lucky never to have a big negative surprise. And I think that is because, you know, we got, people weren't afraid to talk about the bad news. In fact, it was sort of honored. We were waiting to get a piece of bad news so they would always try to give you one, and of course, lots of times it was more than you wanted, but that is a different problem. But you got to do something about it, that's the key.

Hutcheson: [Reading from audience question cards] So first question here is: "Jim, what country will be your biggest customer ten years from now, and today and five years and twenty years?"

Morgan: Probably China. I mean, as we get into solar and light emitting diodes and some of these other businesses, we will have a market. We will be in countries we weren't in before, but I think probably China unless it has some big really long-term hiccup, is really poised to be a major, major factor. Of course I may be a little biased because I went there early in the opening. Jiang Zemin at that time was vice-minister of electronics, visited Applied Materials in 1983. And he happened to get his promotion, or we at least heard about it, through the consulate in San Francisco that day that he was promoted to minister of electronics. So Dr. Benzine and Bob Graham and myself and several others, we took him to Ming's in Palo Alto, the old Ming's and had dinner with him. We talked and clearly, to me, he had a vision. He and I were about six percent apart on a vision of where high tech and Asia was going to go over the next five, ten years. It was just a great awakening for me. So he was my host when I went there the next year. We set up a service group there and we sort of struggled along for several years. Then, as they moved forward in technology, clearly we got a big opportunity out of that. But it was, I think it is incredible. I have been a lot of places there and a lot of exciting things are going on.

Hutcheson: There is a story that you had your son live with a Japanese farm family to really learn their culture; is that true?

Morgan: Actually, I have not had that much influence on my son. He is sort of independent for those of you who know him. But I did expose both he and Mary to people from other cultures and they both picked up on that, fortunately. In Jeff's case, he was at Cornell in architecture school and he came to work for Mehar, who I saw, where are you, Mehar, at Hewlett-Packard. And he tried to get Hewlett-Packard to send him to Japan and they wouldn't send him to Japan. So he went skiing for three months and went over to Japan and got a green card. And Ann Brannan, who was somebody at Applied, had a place up in the mountains and she let him stay there with no heat. And he had a Japanese English teacher teach him Japanese and he worked as construction and then he got a job with Mitsui and he stayed there two years, so that's how he got his Japanese experience. I didn't have much to do with it.

Hutcheson: So if 1967, the year that Applied was founded, was a year in which changed the real dynamics in the semiconductor industry, was 2007 a year that Applied began building solar cell production equipment a similarly significant year for the solar industry?

Morgan: Well, we hope so.

Hutcheson: John, did you write this one?

Morgan: As I look ahead I am as excited about the next couple decades as I was in the early 1980's about the next couple decades. The whole tech thing is going to continue to grow but a lot of the areas in thin films and things like that are just right up your alley and if we do a good job, which we should, we should lead in the silicon solar cells and also in thin film solar cells. Those will really be a great opportunity for the company if we just capitalize on the opportunity that is there because we have been preparing for it for forty years. It's not like we don't have the capability to take advantage of it. Because you need some core things: you need thin film capability; you need the ability to kind of do really sophisticated large scale machines; you need the capability to distribute and support those around the world; and probably as important as anything, you need a global culture inherent in the organization. And we have all four of those in spades. So it is ours to lose and I hope we don't.

Hutcheson: That is an interesting segue into the next question and that is: How did you think of KLA-Tencor or other competitors? What model do you use or have of competition in the marketplace? And I actually know the answer to that one because one day I called you. I had been in an annual meeting and you said we really didn't have any competition and I came over to have lunch with you and said, "Jim, that's the most arrogant thing you have ever said. Can you explain yourself?" And I don't know if you remember what you told me. You told me, "Well, I really feel that way. I have always felt like the biggest competitor was ourselves not other companies."

Morgan: Well, I think you kind of mis-framed the front of that question, [laughter] because at least in public I would always say that we have enormous competition around the world and that's part of one of our disclaimers that goes up at the beginning of any investor conference. Actually, the thing that frustrated me probably the most in 30 years is that we were always our number two competitor, and I just hated that. Because we lost because we didn't do what we had the potential to do. And the others are good; we have good competitors, but that was why we tended to lose. I mean, somebody like KLA has kind of been the leader in their area. So we have just been trying to catch up with them, but some of the others, once we got in the lead we had an advantage.

Hutcheson: It was definitely along the comment you made about solar, and that is that it is yours to lose.

Morgan: Right.

Hutcheson: And it has always been a fascinating part and something that I learned about you or from you is that if you are following and chasing after your competitors you are just always going to be behind them.

Morgan: Oh, that's a good point, yes. I really encourage our people to focus on where we're going. You have to understand what your competitors are and so forth, but, really, if we get the right strategies, our competitors will either be successful or not, but we can't make a hell of a lot of impact on them. But if we do our things right, we will probably get the opportunity.

Hutcheson: Yes. Last question here: If you could do one thing differently, better obviously, what would that be?

Morgan: Get younger, maybe, I don't know. [Laughter] It's kind of like take this on again. It would be great in today's world to be 45, wow, there is just so much going on. I mean, there are business product areas or so forth we might have done differently, but I really enjoyed what I did. I was lucky to have really terrific people to work with all the way along. We were fortunate to get the opportunities and take advantage of them. And there was fun. I mean, we worked awful hard, but we had a lot of fun. So a lot of interesting things, got to know a lot of interesting people. I don't know as I would do it much differently.

Hutcheson: Well, Jim, thank you very much for a delightful evening.

[Audience Applauds]

END OF LECTURE