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PRESENTATION
Timothy Michael Arcuri - UBS Investment Bank, Research Division - MD and Head of Semiconductors & Semiconductor Equipment

Yes, for the next session, very pleased to have Texas Instruments. I'm very pleased to have Rafael Lizardi, who is the CFO of TI. Thank you for coming. Good morning.

Rafael R. Lizardi - Texas Instruments Incorporated - CFO and Senior VP of Finance & Operations

Thank you. Good morning.

QUESTIONS AND ANSWERS
Timothy Michael Arcuri - UBS Investment Bank, Research Division - MD and Head of Semiconductors & Semiconductor Equipment

So I'll just lead off with a couple of questions here. So Rafael, I'll ask you the first question that I get a lot, which is, when people look at your long-term model and they look at 10% CAGR and they look at all the CapEx dollars that you're spending to add all this capacity, people have a hard time seeing how the growth can be 10% over the longer term. Can you sort of explain some of the underlying growth drivers that you think will transpire over the next five to seven years that justify you spending all this money?

Rafael R. Lizardi - Texas Instruments Incorporated - CFO and Senior VP of Finance & Operations

Sure. So a couple of things. First, that 10% is optionality, it's enablement. So it's -- we can -- the investments that we're making, so about $5 billion a year for the next four years through 2026, are going to position us to be able to achieve that type of growth if the market -- if it comes to fruition in the market and as we gain share. But it's not a forecast that it's what's going to happen, right? But given the dynamics of our market, you're much better off being ready for that upside and -- than not being. Because the downside of having that equipment in place in those fabs is very low, because those fabs and that equipment lasts for a long time.

So if you have it a year or two ahead of schedule, then it's okay. You adjust the CapEx at some point in the future, and it all rectifies pretty easily. If you don't have it, you missed out big on potential, not just short-term revenue cash flow opportunities, but the market share and the relationship with those customers that could take you for many, many years.

Now with that preamble, let me tell you why we have confidence in that potential for 10%, or whatever it ends up being. One, of course, the secular growth in semiconductor use. Everywhere where you look around you, more semiconductors are going into play. That is particularly the case in the two markets where we have been strategically focused. That's automotive and industrial. Automotive, EV is obvious. There's just a ton of semiconductors in order to make an EV go. But even in internal combustion engine cars, with more automation, more safety features, more little bells and whistles, everything that's going into cars, that requires more and more electronics, and I'm sure all of you have seen that in your own experiences.
In industrial, it’s a little hidden out of the way because we don’t all go to factories to look at these things or look at the inside of buildings, but all kinds of automations are happening there. And by the way, all those are automation investments that pay for themselves by -- with lower energy, more safety, lower costs. So those are investments that are happening, will continue to happen.

As of last year, two-thirds of our revenue was in industrial and automotive. So the two spaces that are growing the fastest and are expected to continue growing the fastest for a long time, that's where we have two-thirds of our revenue. So we are very well positioned.

The last point I'll bring to support our thesis is the geopolitically dependable nature of these investments, right? So in the current world, with all the dynamics that we read about in papers and are concerned about, our investments on the fab side, which is where the bulk of investments are happening, they're all in Texas and Utah. They are geopolitically dependable. Our customers are giving us their feedback that they really like that. They want the dependability. And by the way, we're getting CHIPS Act, ITC money to help support that. We're also applying for grants. And we took that into account when we made these investments. So that's also going to help support those geopolitically dependable investments.

Timothy Michael Arcuri - UBS Investment Bank, Research Division - MD and Head of Semiconductors & Semiconductor Equipment

Great. And how much of that geopolitical -- and you're talking about that more and more as being a big piece and a big driver for why you're actually spending all this money. But do you think that -- are domestic content requirements part of that? Do you see, for example, carmakers having or headed towards having domestic content requirements?

Rafael R. Lizardi - Texas Instruments Incorporated - CFO and Senior VP of Finance & Operations

My sense is that their key care-about is, is the supply chain robust, geopolitically speaking. So we know what we're talking about the two countries that are facing off in some of these challenges, and sometimes they put restrictions on each other, and customers just don't want to be in the middle of that. So I don't think it's so much about domestic content, U.S.-based or so forth, but they just don't want to be in the middle of a potential export or import restriction.

So take, for example, our fabs, I just said they're in the U.S. primarily, or entirely -- the new investments. Our assembly test operations, they're across the world, but we're making significant investments in Malaysia. We have a significant presence in the Philippines. We also have a presence in a few other places, including Mexico. So those are all dependable locations.

Timothy Michael Arcuri - UBS Investment Bank, Research Division - MD and Head of Semiconductors & Semiconductor Equipment

And just to that point, how much of your experience from last cycle feeds into your plan going forward? Because if you kind of look at what happened last cycle, you look at your share, your share of SIA Analog revenue -- I think we all asked about this on the earnings calls from time to time -- is down 200 basis points versus where it was pre-COVID.

And I think a lot of that really is because you didn't have the supply in the upturn. You weren't pursuing NCNRs the way that some of your peers were. So your share is artificially lower, and you should get that back coming out of this next cycle. But how much of the shortages that you experienced during the last cycle is sort of informing your decision to spend this money?

Rafael R. Lizardi - Texas Instruments Incorporated - CFO and Senior VP of Finance & Operations

Yes. Well, let me maybe reframe it a little bit. I would suggest you look at it, maybe peak to peak would be a good framing to look. So look from like 4Q '18 to 1Q '22, and look at how we performed compared to our peers, because actually, early in the cycle, we were the ones that had the inventory.
If you recall -- well, I recall 1Q '20, we exited that quarter with 166 days of inventory, I think it was, and at the time that was high. And our peers were decreasing. I think it may have been 144, and then we went to 166 days by 2Q, something like that. So our peers decreased their inventory. We actually kept our factories building, so then we built inventory, and that put us in a great position. If you recall, automotive customers cut their orders by a ton, and then they came back. So we had a period of a couple of years where we -- our revenue grew a lot faster than our competitors.

Now we got to a point where -- and we'll -- we have to wait until this cycle plays out. But we got to a point where over the last three or four quarters, our competitors appear to have held the revenue better, until recently.

And you mentioned LTAs, long-term agreements, that may be part of it. Our contention is that, that doesn't create demand. That just makes customers mad because now you're forcing them to take parts they don't need. And that just delays the reckoning for that particular engagement.

There's also been some pricing that's played in that. But frankly, at the end of the day, we have to wait to see how the cycle develops before we can really assess what's really happened. So we're focused on doing what we think is right. We're deploying that CapEx to build the capacity. We're building the right inventory to be prepared. We're strengthening our competitive advantages, and we'll be ready for the next upturn. We are ready for the next upturn.

Timothy Michael Arcuri - UBS Investment Bank, Research Division - MD and Head of Semiconductors & Semiconductor Equipment

Can we talk a little bit about competition in China? I know you get asked about this a lot. We see all this money that they're investing in mature node, foundry. We have domestic Chinese companies like Silergy recently talking about taking 10%-plus share in domestic China for high-end analog, and in the long run, thinking that they can also take share beyond China.

Has the competitive environment in China, has it gotten tougher? And how much of a risk do you think it is to your business? Are we all sort of like worrying too much about that in relation to TI?

Rafael R. Lizardi - Texas Instruments Incorporated - CFO and Senior VP of Finance & Operations

Yes. So as you said, SMIC in particular is deploying a lot of capital to build fabs in China, and there are plenty of strong good Chinese competitors, fabless companies there. Now at the end of the day though, the way we compete with those companies, that combination of those fabless companies and SMIC, the same we compete with everybody else, is where our competitive advantage is.

First, we have our manufacturing and technology competitive advantage, and that's the 300-mm best-in-class, cost-advantage factories. Then we have the broad portfolio, so tens of thousands of parts that go into tens of thousands of customers, tens of thousands of end applications and that is -- for particularly an industrial customer, but also an automotive customer, it's very important to deal with a supplier that can provide you a broad set of parts as opposed to 20 suppliers that each one specializes in one vertical. And that's what tends to happen with Chinese competitors as they're going after vertical parts of the market, personal electronics, phones, where they can get really good at one part and then sell hundreds of millions of parts.

So in the industrial and automotive space, having that broad portfolio really plays well. But frankly, at the end of the day, we also compete in the personal electronics space. Having that 300-mm cost advantage puts us in a position that we can compete in everything.

One more point, I'm sorry, on that. About 20% of our revenue comes from China-headquartered customers. And that -- everything that I said applies specifically to that -- to your question.

The other 80% of our customers are not headquartered in China. They're obviously North America, Europe and other places. North America and Europe are the main ones and other parts of Asia. So they care about all those competitive advantages that I just talked about, plus the geopolitically dependable footprint that we're putting in place.
Timothy Michael Arcuri - UBS Investment Bank, Research Division - MD and Head of Semiconductors & Semiconductor Equipment

Great. Can we talk about your Embedded business? You've done a very, very nice job there. You've really invested. There was a time, five or so years ago, where you were lagging. You've done a great job. And the business really has held up much better than the Analog business has.

Can you sort of deconstruct why the business has held up better? Do you think it's just the end market exposure of that business? And can you talk, maybe brag a bit about the successes that you had in Embedded? And is Embedded maybe a little more susceptible to competition in China? Or do you think it's the same for Embedded as it is in Analog?

Mike Beckman - Texas Instruments Incorporated - Director, Investor Relations

Yes, maybe I'll take that. So strategically, if you go back 2019, you probably saw that we made some changes to our Embedded organization. And very pleased with the progress that we've made. The first order was to stabilize the business and then begin to return to growth and be able to consistently do that over time. And I think we need to see many years of that to feel like we were where we want to be, but certainly are pleased with the progress that we've made.

In terms of competitiveness compared to Analog, they both play in very similar end markets. I don't think there's a vast difference between the sensitivity there between the two. But as we think about, more near term and tactically, the differences, I think what you're just seeing is as Embedded has historically had a little bit higher exposure to external manufacturing, it's caught up quite a bit.

The nice thing is that moving forward, we now have Lehi that provides 45-nm, 65-nm, which Embedded does have a portion of it that sits in those nodes, so a greater percentage of it can run internally longer term, which is going to be helpful.

Timothy Michael Arcuri - UBS Investment Bank, Research Division - MD and Head of Semiconductors & Semiconductor Equipment

Great. And is part of why it's held up also -- I know that a significant piece of the wafers, particularly on that side of the business, come from external foundry, and the constraints there seem to have lasted a bit longer. So is that part of also why the Embedded business has held up a bit better than the Analog business, do you think?

Mike Beckman - Texas Instruments Incorporated - Director, Investor Relations

Again, I think it's more that it had to catch up because there was weakness there, as I just described. And so again, that's kind of those -- that tightness has loosened a bit. It's caught up, probably -- that's more tactically what's gone on. But also we did want to stabilize the business, and we are seeing some good progress there. A big part of it strategically has been building out a more catalog portfolio of products. And you go to the website, you'll see what the team has released there. It's very compelling.

So again, over time we see both Analog and Embedded very important pieces of our business long term. Again, pleased with the progress, and it's going to be really exciting is now a greater percentage of it can run internally -- 45-nm, 65-nm again coming internal is going to be very helpful for that business.

Timothy Michael Arcuri - UBS Investment Bank, Research Division - MD and Head of Semiconductors & Semiconductor Equipment

Rafael, one thing that I've noticed, I think, last call you sounded definitely more confident that you'll get, I think you said, a significant amount of money from the chipset. You sound more confident now that you've applied and you sound -- you're an American company. You're in Texas. You have three fabs. There's a $3 billion per fab cap, I believe. So in theory, you could get $9 billion out of the $39 billion that's been allocated toward front-end manufacturing. So can you talk just a bit -- I'm not asking for guidance on how much you'll get from the CHIPS Act, but can you just talk a bit about that whole process?
Rafael R. Lizardi - Texas Instruments Incorporated - CFO and Senior VP of Finance & Operations

Yes. So we're still in the process of applying. We haven't applied yet, but we're in that process. But we -- when we came out with our most recent capital management guidance in February, that was after CHIPS Act passed last year. So we comprehended that in our decisions to take our CapEx from $3.5 billion per year to $5 billion. And at the end of the day, we're the poster child for what we think the Commerce Department is looking for in terms of investments -- the type of products that we sell, the end markets where we sell them, obviously the location, the acceleration that we're putting in place, those fabs being put in place either ahead of demand or, as we said earlier, to enable that potential optionality.

So I think all of that fits very well. But at the end of the day, it's a decision by the Department of Commerce. So we'll be working with them, submitting that application. We'll see what happens.

Timothy Michael Arcuri - UBS Investment Bank, Research Division - MD and Head of Semiconductors & Semiconductor Equipment

Is it right to think that three times three is a theoretical maximum that you could get?

Rafael R. Lizardi - Texas Instruments Incorporated - CFO and Senior VP of Finance & Operations

Tell me how you came up with that again?

Timothy Michael Arcuri - UBS Investment Bank, Research Division - MD and Head of Semiconductors & Semiconductor Equipment

Well, you have three projects and there's -- and as I understand it, there's a $3 billion per project cap.

Rafael R. Lizardi - Texas Instruments Incorporated - CFO and Senior VP of Finance & Operations

Yes, that's a cap, right? There's also -- there's a loose -- it's not guidance, but a number the -- I think Commerce threw out is that they're looking at 5% to 15% of support, but that's 5% to 15% of the projects that they like, and based on the criteria, et cetera. So -- it's unclear to me. But we're -- again, I think we're a great candidate for that and be disappointed if we don't get a fair amount on that.

Timothy Michael Arcuri - UBS Investment Bank, Research Division - MD and Head of Semiconductors & Semiconductor Equipment

Great. Can we talk for just a bit about gross margin? I know there are some bad optics right now in gross margin because your depreciation is going up. But if I exclude your depreciation, your gross margin hasn't really changed very much. You have the same drop-through you always had. You seem to have reached a point now where you don't want to keep putting product on the balance sheet. So you are beginning to reduce loadings in the factories.

So can you talk just a little bit about where we should think about gross margins over the next few years? Is the 75% drop-through, is that still -- if we exclude depreciation, that's still the right way to think about it?

Rafael R. Lizardi - Texas Instruments Incorporated - CFO and Senior VP of Finance & Operations

So yes. Yes, it is. Let me answer that quickly, and that's just fall-through ex-depreciation, then you have to add depreciation. But that's one point. The other point, remember, depreciation is an accounting formula, and today we depreciate equipment over five years, but the true economic life of that equipment is a lot longer than that, right? So you have to -- that's why we don't optimize for depreciation. We don't optimize for gross margins. We're optimizing for free cash flow growth over the long term, just like you would in any personal investment, right? You're going to invest $100 today, you expect to get how much over the years, and what return is that. So that's how we think about it.
The other angle you gave was the underutilization. So I think as we have positioned inventory for the next upturn, and we have grown inventory over the last three or four quarters, as that inventory has come into fruition, we have slowed down the rate of growth of inventory by slowing down the wafer starts. So three quarters ago, we grew inventory by $500 million, then $500 million. Then last quarter was $180 million. We did that through that slowdown of wafer starts. And we expect to continue that slowdown in fourth quarter, and that's played into the guidance that we gave.

What happens beyond that, it depends obviously on revenue expectations. But we are -- I expect a continued upward pressure on inventory levels, but similar to what happened in the last quarter, right, a much lower rate than we were growing before.

Timothy Michael Arcuri - UBS Investment Bank, Research Division - MD and Head of Semiconductors & Semiconductor Equipment

Maybe since you brought up your guidance, I'll just give you a chance if there's anything that as the quarters progress, do you feel good about the guidance? Do you feel good about how things are progressing through the quarter?

Rafael R. Lizardi - Texas Instruments Incorporated - CFO and Senior VP of Finance & Operations

We do not update the guidance mid-quarter, so...

Timothy Michael Arcuri - UBS Investment Bank, Research Division - MD and Head of Semiconductors & Semiconductor Equipment

I was just going to try. So let's talk about OpEx. So you sort of run OpEx a bit differently than I think a lot of other companies do. You invest more strategically and more longer term as you do generally. So is it more sort of a case where you're just adding head count ratably over time? So we should just think about OpEx growing at a fairly consistent rate for the next few years.

Rafael R. Lizardi - Texas Instruments Incorporated - CFO and Senior VP of Finance & Operations

Yes, I think that's about right, and let me give you some context. So OpEx for, I think, 2017 to 2021 was $3.2 billion, steady for all those years. There were some changes inside, right? There was a little more R&D, a little less SG&A. Even inside of R&D, there's always some pruning and some additions. But net-net, it was flat.

Since then, you've seen ticking up. So the '22 was $3.4 billion. This year, we're turning to $3.6 billion, $3.7 billion. So that's about the growth rate, so mid-single digits or so as we just -- commensurate to the opportunity that we see ahead, we're increasing R&D in some places as that makes sense.

Now to give you -- and Mike, maybe you want to chime in and add to that -- but let me give you some other angles to R&D. One is geographically. We have the largest R&D centers, in Dallas obviously, but we have large centers in Santa Clara from the National acquisition, in Tucson nearby here. We also have a really large center in India. They do great work, and in fact, we're expanding there. And we have a few other smaller ones.

Another angle is how that R&D is deployed, meaning the bulk of it, or a large percentage of it, is in the product lines, and those are the teams that actually release parts for revenue. So they work with sales and marketing, with customers, and they release families of products, and we release 400 to 500, 600 products per year. So that's where a large portion of the R&D goes.

Another bucket that's significant is process technology, and they're releasing the recipes for the next level of process that will -- then the design -- the product lines eventually will design on. And we probably have 10 different families or more of product -- process technologies. And then every year, we kind of upgrade that a little bit by changing different features that the customers -- that the designers can use.
Alongside process is packaging technology. So another – because as you make the chip smaller and smaller and more efficient, different things you need, package becomes a really important feature and make it smaller, more efficient, be able to dissipate heat, et cetera.

The other angle is, we call it Kilby Labs after Jack Kilby, the Nobel Prize winner, was an employee at TI many years ago. And those are about 80 PhDs that work on – who work on things that are not directly tied to revenue, so they're not releasing products, but they're releasing -- they're working on concepts that then -- but they work hand in hand with the businesses so that when one of those things works out well, eventually we can take that to market through different products.

Do you want to give...

Mike Beckman - Texas Instruments Incorporated - Director, Investor Relations

If you look deep down into those organizations, the product teams that we have, you've got product line managers, business unit managers, they're incredibly talented. And their job is to build out a creative backlog of ideas they want to go off and work on and build. But you can imagine there's a list that's very, very long, and you got to decide as a leader where that -- where the line should be in terms of what we want to go after.

And part of the responsibility of our leaders there is also to go, okay, I see an opportunity here where I can go deeper in and invest more, and we do that. And so it really is a great team that just has the ability to look at that creative backlog to prioritize it and to make sure it's invested properly. And we release around 600 new products a year with a big focus on them being successful. So that's something we're going to continue to do.

Timothy Michael Arcuri - UBS Investment Bank, Research Division - MD and Head of Semiconductors & Semiconductor Equipment

And how much -- you have a very different model to some of your peers' distribution, you've actually brought it down a lot. And TI.com is a very, very big channel for you. So can you talk about just what sort of an advantage that provides you? I mean, have you seen tangible evidence, not just TI.com, but having more direct and cutting out disti, how much of a benefit has that driven for the...

Mike Beckman - Texas Instruments Incorporated - Director, Investor Relations

Yes. And I'd even go back even further than the last few years. If you go back more than a decade, we've made the change long ago to own and control our sales and marketing portion of finding chips on boards. And when we did that, we found a lot more sockets were on boards than were apparently there before. And that has served us really, really well.

Now as you've seen this investment that we've been making over the years improve, you've seen expansion in making it really easy to do business with TI. So thinking about TI.com and the ability now to do large order quantities, being able to do things like local currency transaction, importer of record, some of that messy stuff that you wouldn't want to normally do, we've been able to create that and then scale it. And what it means is for a customer, if you want to have a part tomorrow, you can do that. If you want to order through a -- direct through to TI, you can do that. And if you like to still order through a distribution partner, you can do that, too. What we've seen over the last several years is as we open that up to more customers, they've decided they wanted to move direct in many cases, just because of that environment we've made for them.

Timothy Michael Arcuri - UBS Investment Bank, Research Division - MD and Head of Semiconductors & Semiconductor Equipment

Great. Rafael, one thing. Last earnings call, there was a little bit of a change in the depreciation outlook for 2025. I think you've been saying 2.5 and now you're saying 2 to 2.5. And I got a lot of questions, well, does that mean that they're not going to grow as much? Is there some change in their growth outlook? Can you just kind of talk about that?
Rafael R. Lizardi - Texas Instruments Incorporated - CFO and Senior VP of Finance & Operations

No, that has nothing to do with the growth outlook or the CapEx. The CapEx is $5 billion per year. That is steady, and no change in that. It's just we have -- as we've gotten closer to -- in time, we just have a better sense on the timing. And maybe a little more specific, the depreciation on buildings, depreciation doesn't start until the certificate of occupancy is issued. But that's really not the driver of the change. The driver of the change was more on the equipment side. It's not -- depreciation doesn't start until the equipment not only arrives but is installed and then qualified and then turned on, right? So that's when depreciation starts.

So some of that was just not quite right in our initial forecast. So -- and it was as you pointed out, the difference is not significant. But we -- but it's come down a little bit as we've rationalized that better. So we gave you those numbers for this year. It's shy of $1.2 billion; next year, $1.5 billion to $1.8 billion; and then 2025, $2 billion to $2.5 billion is the latest expectation.

Timothy Michael Arcuri - UBS Investment Bank, Research Division - MD and Head of Semiconductors & Semiconductor Equipment

I guess if there was some change in your growth outlook, you'd be cutting CapEx, but you're obviously not doing so.

Rafael R. Lizardi - Texas Instruments Incorporated - CFO and Senior VP of Finance & Operations

Correct. Yes. And by the way, depreciation, I think I said it earlier, we do not optimize for depreciation. We do not optimize for gross margins. At the end of the day, it's accounting, right? We optimize for free cash flow, and depreciation is just equipment divided by five over five years, right? And -- but that equipment lasts a lot longer than that.

Timothy Michael Arcuri - UBS Investment Bank, Research Division - MD and Head of Semiconductors & Semiconductor Equipment

Can you talk about autos for a moment? You've done a very, very nice job in autos. You have very broad exposure. You've gained a bunch of share in autos at least the way that we measure it. And it doesn't appear you've benefited from ASP increases, maybe some of your peers have.

So can you just talk a bit about just the auto segment? And I know all of us are worried that autos are the last shoe to drop, and there are some cracks here and there. But can you just talk about all that and sort of whether we should be concerned about your autos business?

Mike Beckman - Texas Instruments Incorporated - Director, Investor Relations

I mean, in near term or as we look through the cycle, who knows how that's going to play out, we'll have to see. Longer term, clearly, there's a great opportunity in automotive. It's an end market that has -- we define with five different sectors. A few of those include things like ADAS, powertrain, infotainment, body electronics and lighting, things like that.

And as you look into those end equipments inside the vehicle, there's not just one component. There's dozens, sometimes hundreds of components that are in there. And a typical vehicle that's an ICE vehicle, somewhere in that $400 or so of content. If you go to an EV, that doubles or triples in some cases. And so the exciting part of that is we can play in a huge portion of that. So that is a very exciting market long term. And part of what's led us to be successful there is that's been a bias for us and focus for a long time. We didn't just decide two or three years ago this is going to be something we're going to do. This goes back quite a ways, I think more than 10 years, beginning to bring automotive broadly across the businesses.

So if you look into our product lines, the vast majority of them build products for automotive, but also for industrial and personal electronics and comms, enterprise. So just having that as part of the DNA inside the organization has really helped us have a great portfolio. It comes back to the present portfolio.
Timothy Michael Arcuri - UBS Investment Bank, Research Division - MD and Head of Semiconductors & Semiconductor Equipment

Great. Well, we're just about out of time. So again, thank you to both of you.

Rafael R. Lizardi - Texas Instruments Incorporated - CFO and Senior VP of Finance & Operations

Thank you.

Mike Beckman - Texas Instruments Incorporated - Director, Investor Relations

Thanks.