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PRESENTATION

Stacy Aaron Rasgon - *Sanford C. Bernstein & Co., LLC., Research Division - Senior Analyst*

Good morning, everyone. Thank you for coming today. I'm Stacy Rasgon. I cover the U.S. semiconductor and semiconductor capital equipment sector here at Bernstein. And I cannot express what an honor it is to have our guest here today, Rich Templeton, the Chairman, President and CEO of Texas Instruments.

Before I start, I do want to mention if you have questions that you'd like to ask during the presentation, at some point soon, there will be a QR code that will come up on the screen here. You can scan that, that will give you a link to our pigeonhole form where you can submit those questions and we should have time for Q&A at the end.

So Texas Instruments and Rich have been coming to this conference for almost as long as I've been at Bernstein, that's going on a fairly long time. And I always joke, the company is so consistent that I know the answer to every question before I ask and they're kind of the same answer sometimes no matter what the questions are. But this time around, I think, there are some very new interesting dynamics at foot. The company is embarking on a plan for capital investment that we haven't actually seen probably since the beginning of those days when Rich started coming to this conference.

So in today's conversation, you might actually have some real new stuff that actually I can't wait to dig into. And so to do that with me, hopefully, it gives me great pleasure as always to welcome Rich. So thank you so much for coming today. I really appreciate it.

Richard K. Templeton - *Texas Instruments Incorporated - Chairman, President & CEO*

Thank you, Stacy. I'll see if I can stick with just the old answers. I'd like my chances.

Stacy Aaron Rasgon - *Sanford C. Bernstein & Co., LLC., Research Division - Senior Analyst*

So before I get into that, I always hate to use this session for short-term stuff. And I know the answers probably.

Richard K. Templeton - *Texas Instruments Incorporated - Chairman, President & CEO*

Let's just get going.

QUESTIONS AND ANSWERS

Stacy Aaron Rasgon - *Sanford C. Bernstein & Co., LLC., Research Division - Senior Analyst*

But let's go. What is going on out there? What are you guys seeing? I know you are a little different, but you -- and we'll talk about this, but you guys decided to build inventory last year with nobody else but that was probably a very smart decision as it turned out. Your lead times have kind of normalized broadly whereas many other players have not. You've got maybe a little more concentration in China. You're seeing a little more impact from the COVID lockdowns. But just in general, like what is TI seeing right now in this environment?

Richard K. Templeton - *Texas Instruments Incorporated - Chairman, President & CEO*

We've had a chance even this morning talk with some folks. And if you look, and I think it was in July of '21 in the earnings call, we said that we had started to see a shift from just this. We need more of everything to, okay, we need to really make sure we have these unique parts or make sure we have mix right.

And I think we made those comments. I think Dave and Rafael got profoundly boot when they made his comments in July. And I said suck it up, okay, you guys can handle it. And we then repeated that narrative really in October, again in January and again in April because it's kind of the same thing we're still seeing. And I think you see it and everybody in this audience hears it. You still have companies talking about supply chain disruptions and lack of availability and at hand but by the way, their inventories are growing. So clearly, it's a mix issue that must be inside of there.

So I think that's still pretty consistent with what's going on in the marketplace. And as I -- as we joked just in a few minutes before starting, people like, well, you seem very relaxed about it. And I'm like, well, it's because I'm very relaxed about it. And because what it's going to do is it's going to go up until it stops going up and then it will go down. And then after it goes down, it will go up again.

And I just don't care that much because we know where we're going and what matters is the longer term, we know how we'll make those transitions when they occur. And when it happens, it will.

Stacy Aaron Rasgon - *Sanford C. Bernstein & Co., LLC., Research Division - Senior Analyst*

Let's talk about a little few pieces of that. So first, maybe on the inventories. And again, as I said earlier, you guys are one of the few folks that actually built inventory in 2020.

My impression is that, that is a lesson that came out of the financial crisis, and you may have been the only one to maybe learn the lesson. And for those of you that maybe weren't doing this in the financial rations, I mean, you had this big whipsaw and everybody got caught on the wrong foot and lead times have stretched out to -- even for you guys stretched out to amazing levels. And I kind of got the impression that it was -- for you it was like you didn't want ever that to happen again. And the idea was because most of what you're selling, especially now doesn't go stale, there's no real like long-term impact, like you ship it today, you ship it tomorrow, like what's the difference. Like over time, it's the same thing. And you did build inventory, and it seemed like it works. Is that an accurate sort of like way to think about how you guys have been thinking about the inventory strategy?

Because the other piece of this is, you obviously you want to take them higher versus where we are today, right? So I guess broadly, how are you guys thinking about that inventory management and I mean, the idea of taking inventory to 190 days, it sounds like Rafael wants to go even higher than that.

Like what is -- the other piece of this is, I have trouble processing is anecdotally, a lot of the issues when customers are complaining about shortages. In many cases, it's TI parts that they're complaining about. I don't know if that's just because you sell everything to everybody, so like you're -- there's always going to be something like I just (inaudible) all that.

Richard K. Templeton - *Texas Instruments Incorporated - Chairman, President & CEO*

I suspect that the latter is true. When you're on, just about every, board when you have a lot of things on board, you'll tend to be popular. So I think you -- as you said in the introduction, you can ask the question and answer it pretty well and you have.

We do try to learn lessons over time, and we did feel we could navigate this downturn. And remember in April when April of '20, when we said we're going to keep the factories running, there was this kind of general dismay of what you're doing. We said, no, trust me, it's really the right move. And it really paid off. And the only problem was we only got so much inventory built, so it only lasted us until first quarter of '21 before the world kind of caught up and worked it over pretty well.

But you also had, I think, the most important point, which is we could not have done this in the global financial crisis because our mix -- well, we could have done it, but it would have been 40% of our mix, not 75% of our mix because it would be reckless to do inventory builds on vertical markets where your device is essentially custom because there's a very great chance you're going to have an obsolescence risk, and that's just bad business.

So in some ways, our portfolio, and it comes back to these competitive advantage discussions we have, we're able to do things by design, by intent, because we've built this broad portfolio, we can sell these parts to many customers. There's very, very low risk of any obsolescence. So it lets us do things that other companies just aren't going to be able to do on that front.

Stacy Aaron Rasgon - *Sanford C. Bernstein & Co., LLC., Research Division - Senior Analyst*

Got it. And I guess, are you parsing the demand that you're seeing in the sense that like -- are you just like if you can fulfill the order or you're shipping the order, like are you applying any sort of filter to the orders at all? Or...

Richard K. Templeton - *Texas Instruments Incorporated - Chairman, President & CEO*

Where there's limitations, we are providing a strong hand. I think Dave and Rafael talked on the January '22 earnings call. We put an enormous amount of work across our senior leadership team between fourth quarter of '19 and fourth quarter of '21. We actually grew revenue in every end market. And this took extraordinary control and discipline, so you did not allow the noisiest, outrageous customers to commandeer disproportionate amounts. Because many times you get into the large industrial market and the quiet midsized customer gets hurt because somebody is commandeering things.

And so we think that's going to pay great dividends long term that we've really been able to reach across a very large customer base and I think we've done a good job because everybody feels like somebody else is getting their share, but everybody is getting supported.

And so that's been an important element that we've applied to it. And I think you can see it in our -- when we gave the end market update in January of '22 while industrial and automotive incrementally grew. They didn't grow disproportionately. And that was by design. We wanted to keep that consistency across the customers.

Stacy Aaron Rasgon - *Sanford C. Bernstein & Co., LLC., Research Division - Senior Analyst*

Got it. Got it. And I'm going to ask about the new capital plans in a moment. But just as it relates to inventory, I do know you want to take inventory higher.

Richard K. Templeton - *Texas Instruments Incorporated - Chairman, President & CEO*

Yes.

Stacy Aaron Rasgon - *Sanford C. Bernstein & Co., LLC., Research Division - Senior Analyst*

Kind of still like closer to the low end of the width of range, 130 to 190 days?

Richard K. Templeton - *Texas Instruments Incorporated - Chairman, President & CEO*

I think it is -- I think we're below coming out of...

Stacy Aaron Rasgon - *Sanford C. Bernstein & Co., LLC., Research Division - Senior Analyst*

(inaudible) maybe it's below 127. Okay. So you want to go to 190 or maybe even above.

Is this something that you can do in the current environment once the new capacity starts to come online? Or do you actually almost -- would you almost need a bit of a pause in demand in order to give yourselves the opportunity to be able to just have enough capacity to make that inventory?

Richard K. Templeton - *Texas Instruments Incorporated - Chairman, President & CEO*

It's going to be a blend of the 2 is my guess. But we've got things continue to move along well with RFAB2 and with the work with the team up in Lehi they'll be coming on incremental growth from the existing factory. So it will be the combination of what does demand do, what does supply want to do. And we want to get that inventory replenished as quickly as possible because that gets everybody back to we can just service people in an easier way.

And as you can well imagine, Stacy, it's been -- both sides of the supply chain, if you're on the support on the sales side or if you're on the customer side, it's been a tough 18 months for people in that business. And the sooner we can get that pressure off, the better.

Stacy Aaron Rasgon - *Sanford C. Bernstein & Co., LLC., Research Division - Senior Analyst*

Got it. One last short-term question, then we will move on with China. So obviously, you're seeing some impact from the Shanghai lockdown. You're actually seeing a fairly much larger impact than many others are saying. I was really surprised, a lot of folks so far have not really seen much of an impact at all. Now is this like, can you maybe comment a little bit on why -- and for those of you who don't know, TI effect (inaudible) sort of took a 10% [haircut], which was very sell-side-ish, by the way -- which maybe not a bad thing. But like what is driving that? Like why do you think you're having like -- or seeing a larger -- is it just that you're going to closer to the customer, you do more direct, you've got less of a channel act as a buffer? Like what drives that?

Richard K. Templeton - *Texas Instruments Incorporated - Chairman, President & CEO*

Yes. Well, I'm guessing those are parts of why we see things or potentially see things sooner. It's also a case that -- and Dave and Rafael, I think, we were very transparent. You just said it well. We were watching run rates as we started getting 7, 8, 9 days into April, and you had a different rate they were going. And...

Stacy Aaron Rasgon - *Sanford C. Bernstein & Co., LLC., Research Division - Senior Analyst*

Is that when it changed? Was it kind of like in the April?

Richard K. Templeton - *Texas Instruments Incorporated - Chairman, President & CEO*

It was as we were leaving March and going into April. And that's why, as we said on the call, that we were on our way to probably guiding at some number around $5 billion, and I said, we ballparked it at 10% off that. And people are like, really? And just 10% are Like, yes, because things are unknown. And I think we got to call more right than wrong.

And that during April and May, Shanghai had some real challenges. And as we all read, it's starting to open up, but it's not back flowing at the rate it used to be. So in terms of magnitude of impact, I'm careful, let's get the quarter done. We'll find out what the impact of other companies has risen. I think you've seen the range of end OEMs get impacted differently as well on this, so...

Stacy Aaron Rasgon - *Sanford C. Bernstein & Co., LLC., Research Division - Senior Analyst*

To be fair, you guys have a fairly sizable infrastructure in Shanghai. And I can remember what the number is 55% or 60% of your revenue that chips -- doesn't it actually get consumed ultimately in trying to put chips into China? I mean it's pretty high.

Richard K. Templeton - *Texas Instruments Incorporated - Chairman, President & CEO*

It's a higher percentage.

Stacy Aaron Rasgon - *Sanford C. Bernstein & Co., LLC., Research Division - Senior Analyst*

Yes. Okay. Got it. Let's talk about some of the interesting stuff now. And these new CapEx plans, I find very interesting. So there's a few areas. We've got RFAB2, the shell has been built and so my understanding is that as being equipped now, right? And then we've got Lehi, which you -- that was the old Micron XPoint fab you've purchased that will come into volume in the production beginning of next year.

And then Sherman, which ultimately -- who knows how long it will take, but it will be 4 factories, $30 billion of investment in Sherman over that time frame to equip and however long that takes. So that is the sort of universe of the plan at this point.

Now this is not the first time you've embarked on a CapEx schedule that it is different. And so I still remember, I think, it was in 2009 when you first (inaudible) to RFAB1 when you bought the [Command] assets. And people thought you were insane. I still remember, you're going to be underutilized all this, and you were, guys, it's -- we're getting it for $0.10 on the dollar like this is, do you understand the returns on this. And I would say that, that's been proven. And I think you used to have aspirational targets for something like 55% gross margins, like some day, you just printed 70% plus last quarter.

Richard K. Templeton - *Texas Instruments Incorporated - Chairman, President & CEO*

We snuck over there.

Stacy Aaron Rasgon - *Sanford C. Bernstein & Co., LLC., Research Division - Senior Analyst*

So that is all done well. There's some differences now but maybe you could maybe just articulate a little bit of what are sort of -- at a high level, what are the differences of the current CapEx strategy versus what we saw over the prior 10 years.

Richard K. Templeton - *Texas Instruments Incorporated - Chairman, President & CEO*

Yes. I actually believe that the commonalities are higher. Differences are actually pretty minor. And about the only difference is it's not going to be done with discounted equipment, which investors make a big deal about, but, Stacy, as you know, back to a prior life, well, you -- it's great to get equipment at $0.10 on the dollar, but as you know, the real magic of 300-millimeter wafer fab is 300-millimeter, not what did you pay for. And so the rates of return that we'll be able to achieve, the cost that we'll be able to achieve with all of these factors, and you summarized them very well, they're going to be everything that we've ever seen on RFAB1. So we're going to be thrilled with what that looks like.

And the commonality and it's what we loved about the RFAB1 plan is we knew that we had a great growth plan. Everybody internal knew where it was going to be, we could get lined up and then just go about and executing. And so the beauty about the road map that you described of RFAB in Lehi and the 4 facilities up in Sherman, is we've really got a 10 in fact, 15-year road map depending on what the growth rates look like.

And so I've spent -- so I've talked with investors, I think, I've probably had 50-plus video calls with different CEOs and their teams and use the -- in some ways, almost the identical slides that we used on capital management on that capital road map. And the response that we've had from customers is just spectacular. And it's spectacular or not, it's, one, we love the fact that you are specifically targeting 45-nanometer to 130-nanometer because we are going to need that type of technology for decades, not just a year or 2. In fact, 3 decades. And two, we love the fact that you own it and that you don't have to negotiate with foundry suppliers and the whims of what may be in that. We love geopolitically where it is, okay?

And I've had a number of them sit back and say, and we love the idea that you have, in fact, a 15-year road map, and you're looking at your business that way because that's the type of supplier that we need to be working with. And so the strength of the feedback that we've gotten from those calls is really very assuring. It's leading to even more work on a day-to-day basis on becoming one of the preferred suppliers, making sure you've got kind of preference on boards that are getting done because as you can either imagine or well aware, almost all companies are starting to rethink their supply chains and what do they have to do differently to get them more resilient, be more focused, make sure they've got the right partnerships and the relationships on that front.

So I couldn't be more thrilled with how that plan has come together, how that plan is rolled out. The reaction that we've had from customers and the progress that the team is internally making to get this stuff in place.

And then lastly, I think, it does tremendous things to our internal business people and product line managers because they can operate with great confidence that they know where they can put designs and what they will have to support. So that's all really been very effective.

Stacy Aaron Rasgon - *Sanford C. Bernstein & Co., LLC., Research Division - Senior Analyst*

Got it. And I guess in terms of like the amount of capacity that's going on. So you sort of talked about a 10 or 15-year road map, I think, you said over that time frame, the industry can grow 7% or whatever the number was. And you want to have the capacity in place to be able to support that. Is it correct that you're not committing to a 7% growth rate? Is that statement true?

Richard K. Templeton - *Texas Instruments Incorporated - Chairman, President & CEO*

Fair. Wonderful.

Stacy Aaron Rasgon - *Sanford C. Bernstein & Co., LLC., Research Division - Senior Analyst*

I still get that from many clients who believe that you have committed to a growth target, so...

Richard K. Templeton - *Texas Instruments Incorporated - Chairman, President & CEO*

I find this whole growth target thing a silly discussion. Okay. Well, (inaudible) do I have a bid in freight? What about 10? and let's just go do the work and let's go get the results done.

The key thing, and it's what we -- I think, we're successful getting across is if this world wants to grow at 7%, we're going to damn well, make sure we're able to do that. And in fact, if it wants to do more, if we were getting encouragement from customers, and I don't mean orders in the next year or 2 because that's all garbage. I mean relationships that we can truly turn into design wins, the encouragement we're getting is that we ought to think even more ambitiously of. And I'm not that surprised by that sentiment.

And the good news with that road map is we've got the ability to -- the whole reason that we told people we're going to build Sherman One and Sherman Two is we wanted to remove the construction lead time for the second building so that if we want to move faster on that, we can. And we don't have that 18-ish, 20 months of delay in place on that. So that's how I just tend to think about that longer-term growth rate.

Stacy Aaron Rasgon - *Sanford C. Bernstein & Co., LLC., Research Division - Senior Analyst*

Got it. So I have maybe I don't know if it's a provocative question or not, but like how can the returns on these investments be the same as what you saw in RFAB1, which was discount equipment, especially if your steady-state CapEx intensity around 10% is 2x to 3x what you were spending post RFAB1?

Richard K. Templeton - *Texas Instruments Incorporated - Chairman, President & CEO*

So what time frame?

Stacy Aaron Rasgon - *Sanford C. Bernstein & Co., LLC., Research Division - Senior Analyst*

Or maybe that's the question. But from my understanding is the -- I get the initial surge to build up, but it was sort of a steady state like for every 10% (inaudible)

Richard K. Templeton - *Texas Instruments Incorporated - Chairman, President & CEO*

Yes. But you get out past year 5 and you get this absorbed and the P&L is going to perform spectacularly with that degree of 300-millimeter equipment inside of there.

Stacy Aaron Rasgon - *Sanford C. Bernstein & Co., LLC., Research Division - Senior Analyst*

So maybe a better version, why is the maintenance CapEx like 10% versus before when it was like 4%? Like if I'm taking away the -- like the initial surge, what does the maintenance CapEx need to be?

Richard K. Templeton - *Texas Instruments Incorporated - Chairman, President & CEO*

The biggest difference is growth rates between 20 and 30 and growth rates between 10 and 20. As you just said, we probably had 3% growth rate at the company level because you had mix and transitions taking place between 2010 and 2020. And that...

Stacy Aaron Rasgon - *Sanford C. Bernstein & Co., LLC., Research Division - Senior Analyst*

But it's a percentage of revenue, right? So that should take into account.

Richard K. Templeton - *Texas Instruments Incorporated - Chairman, President & CEO*

Yes but growth rate means you have to have it ahead of time to be able to have it ramped up. So the growth rate is the primary difference in terms of...

Stacy Aaron Rasgon - *Sanford C. Bernstein & Co., LLC., Research Division - Senior Analyst*

Okay. And obviously, like -- I know you guys don't care, but people do get hung up on the impact on gross margins. And to your credit, I think, you've been very transparent, you're laughing.

Richard K. Templeton - *Texas Instruments Incorporated - Chairman, President & CEO*

That's true. I laugh because I care, Stacy.

Stacy Aaron Rasgon - *Sanford C. Bernstein & Co., LLC., Research Division - Senior Analyst*

To your credit, you've been very transparent on how to model this, right? I think historically you've said something like a in regulator 75% kind of incremental gross on average and then sort of layer on the depreciation and everything else on top of it.

And I know ordinarily, you don't care about depreciation because that's not cash, the cash gets impacted when the CapEx happens. But it does seem at least for the next like 5 years, whatever, free cash flow will get impacted because the CapEx is there, right? At the same time, you guys tend to run for growth of free cash flow per share. I guess how do we think about that in the sense that I'm not as convinced that free cash flow per share is going to grow at least over, I don't know, 3 years or 5 years or whatever. And maybe the answer is just you're thinking over 15 or 20, maybe that's the answer.

Richard K. Templeton - *Texas Instruments Incorporated - Chairman, President & CEO*

No, I think your statement is the -- let me just back it up a little bit. And I can -- I think, if you say, okay, with that approach, could free cash flow per share be slower year 1, 2 or 3? It's simple math. You've done it. You get to year 5, depending on where you're running revenue, you're going to probably have free cash flow per share that's higher, okay, on an absolute basis. And to me, what matters is where we're going to be in '25 and where we're going to be in 2030.

And we've said even on free cash flow margin, we're not driven by how do you maximize that because there's no awards for who's winning the biggest free cash flow margin contest. The award is what's your -- and I always just clarify, sustainable long term, what's your free cash flow per share going to be in '25? What is it going to be in '30? That's going to be the dominant determination of the value of TI, I believe, from an investor perspective or an owner perspective. And this will clearly get us in a position where we're going to be able to drive that number higher.

You've asked questions, I think, even in the past couple of years we've been here. If you think about the transformation of TI over 15-odd years, from 2004 to '16, a lot of that free cash flow per share growth came from margin improvements and share count improvements, a very small amount from top line contribution, even though you had Analog going great, you had the mix thing place. But if you look at the contributions from '16 to '21, you see revenue becoming what it -- by the way, what it needs to be because we're not going to be able to do the same thing we've done with margins from the past 15 years, I don't know the trick to do that again for the next 15.

Stacy Aaron Rasgon - *Sanford C. Bernstein & Co., LLC., Research Division - Senior Analyst*

I mean that's a broader question. And the Analog that I already -- I always have, which is does growth need to be a bigger part of the recipe because you're not going to get another 1,500 basis points of margin.

Richard K. Templeton - *Texas Instruments Incorporated - Chairman, President & CEO*

Yes. Simple answer. Yes. And so now it doesn't mean that there is an incremental margin opportunities. I think there are. I think there's incremental margin. I think there's incremental share count gains depending on what valuations do and how that works out. But you've got to be looking at revenue as the primary driver. So you've got to have the capacity in place.

And one of the -- and I make a statement kind of in a silly way, but the criticism or the critique that Dave and Rafael kind of felt was, we like the plan, we like the growth, can you do it without the capital? When we think of that? That's a hell of an idea.

Oh, yes, by the way, we like that you control your own manufacturing, like, ah, another constraint. It's just people have actually go, "Oh, we kind of like the plan", is what they're now saying when they look at that. And it's not popular in the West or in the U.S. We've had a 25-year period of where the best models are outsourced the hell out of everything and have no fixed assets on the books. And I just don't think that's a great recipe for everything. And we certainly don't believe that, and our plans are, we think we're going to be able to drive that growth in a very, I think, smart and disciplined way.

Stacy Aaron Rasgon - *Sanford C. Bernstein & Co., LLC., Research Division - Senior Analyst*

How much of your manufacturing capacity today is like self-controlled? And like where does that go to in 5 years, 10 years?

Richard K. Templeton - *Texas Instruments Incorporated - Chairman, President & CEO*

Self-controlled.

Stacy Aaron Rasgon - *Sanford C. Bernstein & Co., LLC., Research Division - Senior Analyst*

Self-controlled. You own it, like you can drill versus like (inaudible)

Richard K. Templeton - *Texas Instruments Incorporated - Chairman, President & CEO*

Yes. Pick 80% of wafers, okay, or internal, 60%-ish of units, all of test is inside -- but the good news, the units we can move quickly because that percent is highly skewed to lower complexity package type. So we can move those pretty quickly when we want to move that. So that 80% wafers will trend up. I think we showed that on that one slide. The units will trend up as well.

Stacy Aaron Rasgon - *Sanford C. Bernstein & Co., LLC., Research Division - Senior Analyst*

Got it. Got it. And I guess just to refresh our memory, like, so you're basically full right now. How much capacity -- just in terms like revenue capacity is coming online with RFAB2. How much is Lehi? And how much is each of the Sherman units?

Richard K. Templeton - *Texas Instruments Incorporated - Chairman, President & CEO*

Yes. Well...

Stacy Aaron Rasgon - *Sanford C. Bernstein & Co., LLC., Research Division - Senior Analyst*

Ballpark.

Richard K. Templeton - *Texas Instruments Incorporated - Chairman, President & CEO*

Yes, I go ballpark because these things always depend on what you build and what the world looks like. But it's kind of simple math of each of those wafer fabs is probably $5 billion or $6 billion of revenue annually, probably closer to the $6 billion depending on what we've got inside of it. And Lehi is a little smaller. So that number is not exact for that, but that's not a bad just approximation for what you can put across those over time.

Stacy Aaron Rasgon - *Sanford C. Bernstein & Co., LLC., Research Division - Senior Analyst*

And it is RFAB2 that will be -- we be capable of running it, assuming the -- I'm not saying the revenue would be there. But if you had $6 billion of incremental revenue, by the end of the year, would RFAB be capable of running it, will it be fully effected that much?

Richard K. Templeton - *Texas Instruments Incorporated - Chairman, President & CEO*

No, you've got to ramp that over time in terms of just a very simple calculation of number of tools per month you can move in and how many tools end up on the floor and that's been the number of months to get all that work done.

Stacy Aaron Rasgon - *Sanford C. Bernstein & Co., LLC., Research Division - Senior Analyst*

Well, how long will it take to ramp RFAB2 like -- because Lehi sort of self-contained, right? It's already...

Richard K. Templeton - *Texas Instruments Incorporated - Chairman, President & CEO*

No, we've got to get a mix of tools in there as well. So it came with equipment, but we've also got unique -- they were building something very different, as you know, than the processes that we'll install in there. So we've got equipment that we'll have to get installed.

Stacy Aaron Rasgon - *Sanford C. Bernstein & Co., LLC., Research Division - Senior Analyst*

So I guess like when is it because everybody is wondering like when the supply constraint ease in for you, like that's the biggest driver you get incremental capacity that comes online. So how long does it take to ramp that stuff?

Richard K. Templeton - *Texas Instruments Incorporated - Chairman, President & CEO*

It's going to take some time to get that stuff going. We had a first equipment move-in occurred in February for RFAB, the team is moving on that. Revenue will have moving across it in the second half. We've talked Lehi as early '23 for production out. We've got a great friendly contest with the Lehi team of (inaudible) get pulled into 2022 to try to move that even sooner. So everybody is going as fast as they can on that.

Stacy Aaron Rasgon - *Sanford C. Bernstein & Co., LLC., Research Division - Senior Analyst*

Okay. Okay. Got it. Got it. It's exciting times. So I guess maybe one last question on this. You talked about, obviously, like there are strategic reasons to bring stuff onshore and they have like fixed assets here in the U.S. subsidies is certainly a big question. I know we're all waiting still for some of the regulations to give this. But presumably, you guys should be very eligible for some of these subjects. Is that having -- is that impacting your decision to actually do this? Because my own view is I think if you need capacity, you're going to build it in the U.S. now it's probably not a bad time to start, right? Is that driving any of the decision at this point?

Richard K. Templeton - *Texas Instruments Incorporated - Chairman, President & CEO*

Zero.

Stacy Aaron Rasgon - *Sanford C. Bernstein & Co., LLC., Research Division - Senior Analyst*

Okay.

Richard K. Templeton - *Texas Instruments Incorporated - Chairman, President & CEO*

We made our site choices. We've picked our locations by where they will be most cost-effective and most efficient for the long term. And so that's about location within (inaudible) engineering. It's about cost of energy and it's about making sure those road maps make sense. And if there is indeed a chipset or hopefully, even a fab [set], it's all -- it's just gravy on top in terms of that. I think we were very clear on that February call that the numbers we're showing on CapEx is what the gross capital expenditures would be and if there's something that changes on that, it will just net it down.

Stacy Aaron Rasgon - *Sanford C. Bernstein & Co., LLC., Research Division - Senior Analyst*

Okay. Got it. Let's talk about some other issues now. I want to talk about R&D investment in OpEx. And so you guys just -- in terms of total OpEx, you're running on a 16% of revenue right now, which is below the target range, which I think is 20% to 30%. And the reason that is primarily is revenues have obviously grown a lot and OpEx has not moved at all. How have you done that? How was OpEx -- I mean, we've got wage inflation and there's need to invest. Like how have you guys managed to keep OpEx only what is -- how should we be thinking about that assuming revenues kind of like stay in this new range?

Richard K. Templeton - *Texas Instruments Incorporated - Chairman, President & CEO*

Yes. I would -- I guess, I would describe it a little differently. And the world gets into this, well, what's your OPSEC model as a percent of revenue. And yes, we've got it. We've said it. But we're also very careful about letting that drive things. What we care about is how we grow free cash flow per share over the long term. And if we think spending more makes sense, we'll spend more; if spending less makes sense, we'll spend less.

Stacy Aaron Rasgon - *Sanford C. Bernstein & Co., LLC., Research Division - Senior Analyst*

I mean can you talk maybe a little bit how you guys think about investing in R&D like what drives...

Richard K. Templeton - *Texas Instruments Incorporated - Chairman, President & CEO*

Yes. I'll go right to the heart of your question. And the other thing that's difficult if you make the comment of what the OpEx trend looks like -- and you look at over a couple of years or if you look at over 10%. And the danger of when you back up over 10, usually, you get better insight with time. we've had a lot of mix changing over a 10-year period as we were bringing down wireless and making some portfolio changes.

But the bottom line, if you look at how we're thinking and how of the even IR operating on a daily basis. We want to be steadily growing, okay, our staffing and our resources, okay, to drive R&D. And that is a recruiting plan, that is a new college hire plan. Just when we lift the building on Tuesday, the halls were full of all the interns that are in for the summer. So the average age had dropped to 24 in the hallway, but there was a lot of energy.

And that is a great way to build the company over time. We've been on that strategy for a number of years. We kept our intern program. We had to do it virtually. We kept it going during COVID. Most companies stopped it, and we are going to benefit by that kind of long-term steady hand of hiring and growing. And so I would expect to see R&D now that most of the portfolio changes are done and in there, you'll find R&D steadily growing, okay, not alarmingly.

You've seen tech companies talk about slowing hiring, and I get asked, are we slowing it. It's not like we never sped it up. So we're not slowing it. We're going to run it on a very, very steady basis regardless of what revenue does and that really is the right way to think about it. And SG&A is, in many ways, the same thing. And the only thing that we'll do a little different on that is to make sure that mix, if we could spend less we would. But if we've got important projects building out capability on ti.com, those are (inaudible) like R&D investments. You need to make those because of the long-term value. And so you're not going to see us gyrate SG&A down, even if you have corrections on revenue as well. It's going to be a very steady hand in terms of where those investments are going and what we want out of that.

Stacy Aaron Rasgon - *Sanford C. Bernstein & Co., LLC., Research Division - Senior Analyst*

Got it. And I guess on a SG&A front, you guys are a lot more direct. You've got probably a lot larger field force and sales force in a lot of these regions. I want to talk a little bit about that move to direct and away in general from distribution. So you guys -- everybody sometimes they -- when I talk to clients about you guys, they look at the distribution of the direct strategy like it's something new. And it's not, like it's, you've been going down this stuff for at least probably 10 years, like maybe longer like different for pieces of it, right?

You've pulled away a lot of the -- I think, you used (inaudible) for fulfillment, but not so much for demand generation. And it's interesting, there are not a lot of other companies that do this, especially companies that sell to 100,000 different customers. Can you talk a little bit about how it is that you're actually able to do this? I mean there's a reason in theory that the distributors exist. You seem to be able to -- and there's always a [contract], they're going to lose share because their (inaudible) are not -- we haven't really seen it, right? They haven't seen those share losses or any of those kinds of share losses developed. So what are you doing that enables you to take that functionality that's sort of the bread and butter with the distributors doing and do it yourself and do it very successfully?

Richard K. Templeton - *Texas Instruments Incorporated - Chairman, President & CEO*

Yes. Well, I think embedded in that question, you gave a lot of help in it. This has been a long-term view. And it's really a very simple thought process of you do not want people between you and your customers because they have other agendas. And I don't want inefficiency or people with other agendas buffering between us and customers. And by the way, if you're closer to your customers, you learn more, you know more and you're going to win more business. And it really is that simple.

Well, the practical then is how do you do it. And if you can do it really well, I actually think, given the way you asked the question, it's a very difficult thing for our midsize and smaller competitors to emulate. So we've built the fielded sales force and application force. We've put business processes and techniques in place to go very efficiently, combine ti.com and even the broader mass markets with app engineers so they can be supported. And if they need help, we've got a way to be able to do that. And those systems are all coming together. And they're coming together very well because we've been working on them with that plan in mind.

And the cycle of COVID and the demand is actually as we started that final phase of moving from 35% direct to 70%. A lot of customers said, yes, okay, we're good. Well, about a year ago, it went from more good to we want in, okay? We want to direct. We want to make sure we're on your list and we want you knowing who we are and having access. So it's we were enormously fortunate to get that all going when we did. It's allowed us to navigate this cycle even better.

And I think strategically, we're going to be in a very, very unique position. when you hear Dave and Rafael will talk about competitive advantages, manufacturing and technology, breadth of the portfolio, reach of the channel, diversity and longevity, those all work together. And we really do believe that the ability to replicate what we do is very, very difficult even for some of our closer competitors because they don't have the breadths, they don't have the manufacturing and technology, take this topic that we're on. They don't have the fielded force. They don't have the infrastructure. They don't have the investments. They don't have investments we've made in logistics. And we keep doing this well. We're just simply going to be the most convenient supplier to do business with. And yes, it's a technology industry. Yes, your parts and your technology matter, but if you do all that well, and you're really convenient to work with, it's a great combination. And that's what we're well on our way to.

Stacy Aaron Rasgon - *Sanford C. Bernstein & Co., LLC., Research Division - Senior Analyst*

Got it. And you have a competitor now that's starting to get closer to your scale. You're not seeing any of this, they're not trying to duplicate anything that you guys are doing. They don't have the capability. Like is there -- do you think there's -- maybe the broader question, do you think there's any broader threats to you guys, like from the consolidation we've seen in the industry that you guys have not participated in like probably since 2011 or 2012, right?

Richard K. Templeton - *Texas Instruments Incorporated - Chairman, President & CEO*

Yes. So we've talked for years, I get asked what are the risks and one is could somebody combine and build up what we've built, so they could play the game the same way. And you've seen some consolidation with acquisitions, especially in Analog. But while it's bigger, it's not as broad and then start working through each of those slices, okay? What's the answer on manufacturing and technology? Not there. The reach of the sales channel, the investments we've made on logistics. So I think -- I'm going to guess we just think about the problem differently. And if we keep doing that, and we stay aggressive on those implementations, I think, it's a difficult thing to replicate.

Stacy Aaron Rasgon - *Sanford C. Bernstein & Co., LLC., Research Division - Senior Analyst*

Got it. Got it. I want to shift over to some of the businesses. I actually want to start with embedded first. What's going on in embedded processing? Like it's undergrown and you've talked about -- I know some of it was delivered, some of it, there was a common piece that was exhibited but some of it was not deliberate.

Richard K. Templeton - *Texas Instruments Incorporated - Chairman, President & CEO*

You haven't heard that from us for 3 years. It was the deliberate.

Stacy Aaron Rasgon - *Sanford C. Bernstein & Co., LLC., Research Division - Senior Analyst*

That was a while back, right? I think it's...

Richard K. Templeton - *Texas Instruments Incorporated - Chairman, President & CEO*

I've been very clear. I think Rafael and Dave have been very clear, business has underperformed.

Stacy Aaron Rasgon - *Sanford C. Bernstein & Co., LLC., Research Division - Senior Analyst*

I just want to [mention] why? What's going on?

Richard K. Templeton - *Texas Instruments Incorporated - Chairman, President & CEO*

I think if you take a look, and we made a leadership change in '19, and I was very clear with [Amicai] when he took over, I said, "I am not looking for quick fixes, don't go chase a bunch of one-off pieces of business. So it looks better in the short term. I want this thing rebuilt for the long term, and long term means that it stabilizes and then as we get into '22 and we get into '23, we start putting together long-term consistent growth like we're experiencing with Analog." And the changes that are being made are just easiest to describe is go get a product portfolio in place that can serve a broad set of customers as opposed to let me go chase a single socket that when you hit it, it's a lot of fun for a couple of years but it doesn't have sustainability and it doesn't have the long-term strategic legs.

So that team has done a great job. I've been pleased with the progress. I'm pleased with the energy, pleased with the product road maps. We're starting to see some of those parts come out. I'm a huge believer that if you want to get a sense of how a team is doing, go check with the sales force because if your parts and your people are not getting customers excited, your sales force won't care. And the great news is that the energy is high, the leading indicators are all good. And then the final piece of that, that could be one of these great, sometimes you just get lucky if you work hard enough and prepare is you've got Lehi showing up with 45-nanometer and 65-nanometer capacity along with a refreshed product portfolio in a time when a lot of the other embedded suppliers have not exactly pleased the world with their supply, and they don't have great alternatives on 65-nanometers.

Stacy Aaron Rasgon - *Sanford C. Bernstein & Co., LLC., Research Division - Senior Analyst*

Are those new products going to take advantage of some of the more advanced processed ones?

Richard K. Templeton - *Texas Instruments Incorporated - Chairman, President & CEO*

Yes.

Stacy Aaron Rasgon - *Sanford C. Bernstein & Co., LLC., Research Division - Senior Analyst*

Okay. And I guess Lehi...

Richard K. Templeton - *Texas Instruments Incorporated - Chairman, President & CEO*

As [Amicai] has said, Lehi is his new favorite city.

Stacy Aaron Rasgon - *Sanford C. Bernstein & Co., LLC., Research Division - Senior Analyst*

Okay. Okay. Do you see that, like, I guess, like longer -- if we're looking out to 2025 or 2030, do you see more of your portfolio actually may be moving to some of those more advanced nodes?

Richard K. Templeton - *Texas Instruments Incorporated - Chairman, President & CEO*

No, I think, what you're going to find and it's why even go back to that slide that the guys used talking $45 million to $130 million, you're going to have die sizes and types of devices, especially analog that you just look at the voltages they want to handle capacitors, sizes of the die, you want to figure out where the cost-optimized wafer lithography is to have. And in many of those, that will be a 90 or 130-nanometer. So we'll be running those nodes for literally decades where they will be the most cost-effective nodes. We'll talk about embedded really the new favorite city is Lehi, but you've got portions of Analog that can go down and take advantage of a 65-nanometer node, and we will certainly do that, and we've got road maps on that. So it will be very dependent on the product, the density, the die size. Where does that make sense the best position at.

Stacy Aaron Rasgon - *Sanford C. Bernstein & Co., LLC., Research Division - Senior Analyst*

Got it. Let's talk about Analog a little bit. So this is the one where you guys have killed it, and I know market share is slow, but it's steady, right? Here on, half a point a year, whatever, but it's been pretty consistent there. I guess can you just maybe talk about just in general how you think about the attractiveness of that market, whether it's content or it's sustainability, it's barriers to entry, it's the terminal value of the portfolio? What is the TI like recipe like within Analog?

Richard K. Templeton - *Texas Instruments Incorporated - Chairman, President & CEO*

Well, I think it's -- it goes back to and even the answer on what we're doing on embedded, I think, it shines light on how we think about it, which is invest and build out product portfolios that can sell across customers, sell across markets and can live for a long time, okay? And by the way, they all tend to be what people would call low average unit prices. And most people say, well, low average unit price must be bad. I'm like, no, no, no.

Stacy Aaron Rasgon - *Sanford C. Bernstein & Co., LLC., Research Division - Senior Analyst*

What is it that you (inaudible)

Richard K. Templeton - *Texas Instruments Incorporated - Chairman, President & CEO*

As long as -- $0.40 isn't a bad number. You just -- we did 50 billion units or something in 2021. And so the AUP is not an issue. What you care about is the margin inside of that thing. So we just -- we are firm believers as we just look at the sustainability of that strategy and the value of that, continue to invest to build that portfolio out and then have highly efficient manufacturing and highly efficient channels, okay, to be able to get those portfolios to customers in unique ways and now continue to strengthen those portfolios and build the margin.

Stacy Aaron Rasgon - *Sanford C. Bernstein & Co., LLC., Research Division - Senior Analyst*

Got it. A couple of minutes left. Should we go to the lightning round? Some of the questions from the audience that we've got.

Okay. Demand leakage, we keep the fab in full and build inventory. If so what is the inventory level you're comfortable with before cutting utilization?

Richard K. Templeton - *Texas Instruments Incorporated - Chairman, President & CEO*

Answer is, yes, we will. Answer is higher and we'll determine at what level we start wanting to not take inventories higher, but stay tuned.

Stacy Aaron Rasgon - *Sanford C. Bernstein & Co., LLC., Research Division - Senior Analyst*

Okay. Can you talk about the competitive landscape in the Analog semis and how it's changed with consolidation of major competitors?

Richard K. Templeton - *Texas Instruments Incorporated - Chairman, President & CEO*

Yes. The simple version is not a great change. We competed against all these companies when they were Maxim and Linear Tech and ADI and now, you compete against these same companies. They just have one name. And it's always been -- we've talked about it, even the question is, do you use those assets differently? And can you get to customers differently? But today, you're competing very much the same way.

Stacy Aaron Rasgon - *Sanford C. Bernstein & Co., LLC., Research Division - Senior Analyst*

Okay. Are any of your segments more or less impacted by the China issues?

Richard K. Templeton - *Texas Instruments Incorporated - Chairman, President & CEO*

Haven't broken it down, let's stay tuned and we'll get an update on that in July.

Stacy Aaron Rasgon - *Sanford C. Bernstein & Co., LLC., Research Division - Senior Analyst*

Got it. What areas in industrial do you believe are the most potential to drive growth and why?

Richard K. Templeton - *Texas Instruments Incorporated - Chairman, President & CEO*

Yes. And we joke a little bit about that. Dave is tired of me saying he starts with his boring speech of 13 end markets.

Stacy Aaron Rasgon - *Sanford C. Bernstein & Co., LLC., Research Division - Senior Analyst*

13, 15. Is it 13?

Richard K. Templeton - *Texas Instruments Incorporated - Chairman, President & CEO*

It's 13. And we love them all. And it's the which-is-your-favorite-children discussion. And we've got focused teams, and we've got work in all those areas. And it will know one of them is ever going to be subject of an annual report, the subject of strategic disseverance concept -- conference, but the addition of all of them, the thing that's exciting about that broad industrial market is the same semiconductor content growth that you see and electric vehicles gets used as the best example of it because you've got mechanical objects thrown out and you've got batteries and semiconductors and electric motors replacing it. Well, that's just literally taking place across all those industrial markets is our customers are trying to get their equipment smarter, easier to service, using less power, able to connect and be smarter. So I think that's going to be a great collective set. We love all those markets.

Stacy Aaron Rasgon - *Sanford C. Bernstein & Co., LLC., Research Division - Senior Analyst*

Got it. I might ask the same question actually on auto. Like auto, you have what, 5 subsegments. I think you've talked about all of them doing like -- well, safety was one and I know for a little while was a little bit of an issue. But how do you think about the auto segments?

Richard K. Templeton - *Texas Instruments Incorporated - Chairman, President & CEO*

It really is the same and that -- and even today, if you bring up automotive, I think, most attention goes to electric vehicle because it's so topical, it's growing fast. But by the way, it's going to do that for a long time when you look at the fusion curves of what are still in front of us. But we've -- I think, one of the great things that we've done, and I think it's why you've seen a decade plus of consistent outperformance on automotive bias. We don't change single application, single customer, single exciting things. We've got teams deployed to all 5. We joke, we get excited about the tail lights as we do about EVs and you go in and look at motor drives, you go in and look at ADAS, all of those are wonderful opportunities with growing semiconductor content.

Stacy Aaron Rasgon - *Sanford C. Bernstein & Co., LLC., Research Division - Senior Analyst*

Got it. Rich, we are unfortunately out of time. I wish we had another hour, I could sit here and (inaudible) but I think that's as good of a place to call it (inaudible), isn't it?

Richard K. Templeton - *Texas Instruments Incorporated - Chairman, President & CEO*

Excellent. Stacy, thank you, as usual.

Stacy Aaron Rasgon - *Sanford C. Bernstein & Co., LLC., Research Division - Senior Analyst*

Thank you so much for coming.

Richard K. Templeton - *Texas Instruments Incorporated - Chairman, President & CEO*

Appreciate it.
