Company Name: Texas Instruments
Company Ticker: TXN US
Date: 2017-04-25
Event Description: Q1 2017 Earnings Call

Market Cap: 82,330.33
Current PX: 82.36
YTD Change($): +9.39
YTD Change(%): +12.868

Bloomberg Estimates - EPS
Current Quarter: 0.958
Current Year: 3.761
Bloomberg Estimates - Sales
Current Quarter: 3498.407
Current Year: 14065.839

Q1 2017 Earnings Call

Company Participants

- David Pahl
- Rafael R. Lizardi

Other Participants

- Harlan Sur
- Stacy Aaron Rasgon
- John William Pitzer
- Toshiya Hari
- Amit Daryanani
- C.J. Muse
- Christopher Brett Danely
- Blayne Curtis
- David M. Wong
- Tore Svanberg
- Ambrish Srivastava

MANAGEMENT DISCUSSION SECTION

David Pahl

Q1 Highlights

Revenue

- I'll start with a quick summary of our financial results
- Revenue for Q1 increased 13% from a year ago
- Demand for our products continue to be strong in the automotive market and continued to strengthen in the industrial market
- Personal electronics also grew compared with a weak year-ago quarter

Core Business

- In our core businesses, Analog revenue grew 20% and Embedded Processing revenue grew 10% compared with the same quarter a year ago
- Operating margin increased in both businesses
- EPS were $0.97 which included an additional $0.08 discrete tax benefit not in our original guidance

Business Model

- With that backdrop, I'll provide details on our performance, which we believe continues to be representative of the ongoing strength of TI's business model
- In Q1, our cash flow from operations was $795mm, and we believe that FCF growth, especially on a per share basis, is most important to maximizing shareholder value in the long term
- FCF for the trailing 12-month period was $4.2B, up 11% from a year ago
- FCF margin was 30.7% of revenue, up from 29.5% a year ago

Product Portfolio

- We continue to benefit from our improved product portfolio that is long-lived and diverse, and the efficiency of our manufacturing strategy, the latter of which includes our growing 300-millimeter analog output and our opportunistic purchase of assets ahead of demand
- We believe that FCF will be valued only if it's productively invested in the business or returned to owners
- For the trailing 12-month period, we returned $3.8B of cash to owners through a combination of dividends and stock repurchases

Analog

- From a year ago, Analog revenue increased 20% due to growth in all three product lines, power, signal chain and high volume
- Embedded Processing revenue increased by 10% from a year ago due to growth in both product lines, processors and connected microcontrollers by about the same amount
- In our other segment, revenue declined $57mm from a year ago, primarily due to a move of royalties to OI&E, which Rafael will explain later

Automotive and Industrial Demand

- Now I'll provide some insight into this quarter's revenue performance by end market vs. a year ago
- Automotive demand remains strong with most sectors growing double digits
- Industrial demand continued to strengthen with broad-based growth
- Personal electronics grew compared with a weak year-ago quarter
- Communications equipment grew slightly from the year-ago and sequential periods
- And then lastly, enterprise systems declined
  - We continue to focus our strategy on the industrial and automotive markets, which are where we have been allocating our capital and driving initiatives
- This is based on a belief that industrial and automotive will be the fastest growing semiconductor markets due to their increasing semiconductor content, and that they will provide diversity and longevity of products which translates to a high terminal value of the portfolio

Rafael R. Lizardi

Financial Highlights

Gross Profit

- Gross profit in the quarter was $2.14B or 63% of revenue
- From a year ago, gross profit increased primarily due to higher revenue
- Gross profit margin increased 220BPS

Operating Expenses

- Operating expenses in the quarter were $808mm or 23.8% of revenue, and on a trailing 12-month basis, they were 22.8% of revenue, in the lower half of our model
- Over the last 12 months, we have invested $1.4B in R&D, an important element of our capital allocation
- Acquisition charges were $80mm, all of which was the ongoing amortization of intangibles, which is a non-cash expense

Operating Profit

- Operating profit was $1.25B, or 36.8% of revenue
- Operating profit was up 27% from the year-ago quarter
- Operating margin for Analog was 41.4%, up from 36.6% a year ago
- Embedded Processing was 29.9%, up from 25.7% a year ago
- Our focused investments on the best sustainable growth opportunities with differentiated positions enable both businesses to continue to contribute nicely to FCF growth
- Net income in Q1 was $997mm or $0.97 per share, which included an additional $0.08 discrete tax benefit that was not in our original guidance

Capital Management Results

- Let me now comment on our capital management results, starting with our cash generation
- Cash flow from operations was $795mm in the quarter
- Inventory days were 132, consistent with our long-term model of 105 to 135 days
- CapExs were $127mm in the quarter
- On a trailing 12-month basis, cash flow from operations was $4.76B, up 9% from the same period a year ago
- Trailing 12-month CapExs were $534mm or 4% of revenue
- As a reminder, our long-term expectation for CapExs is about 4% of revenue

FCF

- FCF for the past 12 months was $4.22B or 30.7% of revenue
- FCF was 11% higher than a year ago

- Our cash flow reflects the strength of our business model
- As we have said, we believe FCF growth, especially on a per-share basis, is most important to maximizing shareholder value in the long term and will be valued only if it is productively invested in the business or returned to owners

Dividend and Share Repurchasing

- In Q1, we paid $500mm in dividends and repurchased $550mm of our own stock for a total return of $1.05B.
- Total cash returned to owners in the past 12 months was $3.82B.
- These combined returns demonstrate our confidence in our business model and our commitment to return excess cash to our owners
- Over the last 12 months, we paid $1.76B in dividends or 42% of trailing 12-month FCF, which demonstrates the affordability and sustainability of our dividend growth
- Outstanding share count was reduced by 1% over the past 12 months and has been reduced by 42% since the end of 2004, when we initiated a program designed to reduce our share count
- In fact, we have reduced shares every quarter year on year for 52 consecutive quarters

Debt

- In March, we retired $250mm of debt
- This leaves total debt of $3.375B with a weighted average coupon rate of 2.32%
- Our cash management and tax practices are fundamental to our commitment to return cash
- We ended Q1 with $3.05B of cash and short-term investments, with our U.S. entities owning about 80% of our cash
    - This onshore cash is readily available for multiple uses

Outlook

Revenue

- Turning to our outlook for second quarter, we expect revenue in the range of $3.4B to $3.7B and EPS in the range of $0.89 to $1.01, which includes an estimated $30mm discrete tax benefit
- Before moving to Q&A, there are three changes that I want to explain to help you better understand our first quarter results and our second quarter outlook
- The first is to remind you that in Q4 2016, we adopted a new GAAP standard that impacts the accounting of taxes for stock-based compensation
    - While this adoption has no impact on our cash balance, it does result in a discrete tax item that impacts our effective tax rate and EPS
- To help you model the tax rate and discrete tax items, I am sharing the quarterly assumptions and their impact
- We will continue to report how our results differ from our guidance just as we did this quarter

Operating Tax Rate

- To start with, our operating tax rate for 2017 is estimated to be about 30%, unchanged from previous guidance
- This operating tax rate assumes no discrete items and it's what you will need to use as a starting point for your longer term models
- Next, we are assuming discrete tax items of about $30mm, $20mm and $10mm in the second, third, and fourth quarters of 2017 respectively
- Therefore, the effective tax rates which include discrete tax items translate to about 28%, 29% and 30% in the second, third and fourth quarters respectively
    - These are the quarterly effective tax rates you should use for your 2017 models

Tax Items

- If you do the math using these numbers, you will get an effective tax rate of 27% for the year
- I advise you not to use 27% in any quarter as the size of discrete tax items vary quarter-to-quarter, particularly in first quarter
- We will post a chart summarizing our assumptions for these discrete tax items as well as the retrospective impact of this new standard on our website at ti.com/ir
    - Hopefully providing these discrete tax item assumptions will be a good start in dealing with this new accounting standard

OpEx and Cost of Revenue

- The second item is a GAAP standard that we adopted in Q1 2017 that requires us to report certain pension costs in other income and expense, or OI&E, that were previously reported in OpEx and cost of revenue
- This change is small, typically about $15mm of costs in a quarter, with about 70% coming out of OpEx and the balance out of cost of revenue
- A chart summarizing these changes and their retrospective impact will be available on our website

Other Income and Expense

- The last change is also effective Q1 2017 and impacts how we handle royalties
- We will no longer recognize royalties in revenue
- Instead, they will be recorded as income in other income and expense
- As Analog and Embedded have become a much larger part of the company, royalties now represent a little less than 1% of our overall revenue
- They were about $30mm in Q1 2017, about what they were a year ago
- We expect royalties to continue to run generally at about this level for many years into the future
    - However, given their decreasing significance to our core operations, they are now recorded as other income and expense rather than in revenue as of our first quarter 2017 results

- I'm hopeful that spending some extra time talking through these accounting details will help you in understanding our results

Conclusion

Now to wrap up, we remain focused on growing FCF per share over the long term and investing to strengthen our competitive advantages

We believe our first quarter results continue to demonstrate our progress

QUESTION AND ANSWER SECTION

<Q - Harlan Sur>: Solid job on the quarterly execution. From a product and end market perspective, it appears that demand is relatively broad based. I'm wondering if you can comment on demand by geographies. I'm assuming that that's also fairly broad based as well, but wanted to see if there were any regions which are exhibiting any weakness.

<A - David Pahl>: Yes, Harlan. Yes, I would say that the demand was very broad based and included regionals. Y-over-y, revenue was up in Asia, Europe and the U.S. And revenue was about even in Japan from a year ago. You have a follow up?

<Q - Harlan Sur>: Yes, I do. Thanks for that. Auto, a solid market for the team last year with that end market up 23%. I think you mentioned that it's up double digits again in March. You've got a very diversified business here as well. There's been some concern around the global auto markets and the potential for a slowdown, given indications that production and/or demand after two solid years might start to slow. Just wanted to get the team's sense on the health of this market kind of near to midterm.

<A - David Pahl>: Yes. I definitely, as we stated in the opening remarks, that we saw our demand for our products in automotive continued to be strong. And so like you said, we've built that business across a very diverse set of sectors. And in fact, we've got five sectors inside of automotive. So it's diverse not only in the products that we sell into, but it's diverse across customers, across geos. So we feel very good about our position in automotive.

And then over the medium and longer term, we think that our pipeline of designs continues to be very strong. And if you look at the average content in a car today, I think most people would put it somewhere between $350 and $400. That's roughly about 1%, or a little more than 1% of the sales price of a car. And I think a lot of analysts inside of a 10-year timeframe have that moving somewhere closer to 2%. So that's we continue to invest in it, and we're really pleased with the position that we've developed so far.

<Q - Stacy Aaron Rasgon>: First I wanted to ask about OpEx. Did that come in in line with your original plan for the quarter or was it different? And how should we think about the OpEx trajectory into Q2?

<A - Rafael R. Lizardi>: Yes. Thanks for the call. I'll handle that one. On OpEx, everything came in about as expected. What I would tell you, the way you want to think about OpEx, high level, we've talked about our model where we want to run OpEx between 20% and 30% of revenue and in stable markets at the lower end of that, the lower half. And that's exactly what we've been doing for the last couple of years. And in fact, on a trailing 12-month basis, we're just below that. So as you think forward, you should model us along those lines.

If you're thinking kind of on a tactical level first to second, I would remind you that second quarter does have three months of higher pay and benefit raises vs. only two months in first quarter. So you may have some of that played in kind of similar to what happened last year, maybe a little less than that.

<A - David Pahl>: Do you have a follow-on, Stacy?

<Q - Stacy Aaron Rasgon>: Yes, yes I do. On your capital management update from a month or two ago, you had given some indicators of where 300-millimeter loading was, but it only went up a little bit in 2016. I think it went from about $2.2B y-over-y to $2.5B, so maybe $300mm, suggesting a good amount of headroom left for that transition to continue. How should we expect that trajectory to evolve this year in 2017? Is it just dependent on growth? Is there volume in 200-millimeter that's ramping down as 300-millimeter is ramping up? Like how should we think about where that might end up exiting this year in a normal demand environment?

<A - David Pahl>: Yeah, Stacy, in the capital management update, if you remember, we talked about the fact that we've put in place about $8B of 300-millimeter capacity. Last year we had, as you stated, about $2.5B, so we're in a great position to be able to support growth. And essentially, we've been releasing for sometime now really probably going back to 2010, almost all of our new Analog products to 300-millimeter.

So there's some exceptions to that, of course, on some older technologies that don't make sense to do, but the vast majority of them have been released there. So as you think about the Analog business growing, you can think of that incremental growth essentially being built on 300-millimeter. And if you look at last year, that came pretty close to what happened. So we had about $300mm of growth, so it's very consistent with that. So, thank you, Stacy, and we'll go to the next caller, please.

<Q - John William Pitzer>: Dave, you were kind enough in your prepared comments to go through end markets in the March quarter on a y-over-y basis. I think the comm equipment was the only market you gave sequential color. I'm just curious if you can talk a little bit about the sequential growth into March. It was well above seasonal and sort of in the same vein, to your guidance in June, you're guiding below seasonal. So how should we think about that from an end market perspective?

<A - David Pahl>: Okay. So a couple of things. We thought the comms equipment market has been choppy in recent past, so we thought that that would be helpful, and that's why we provided it. If I'd just comment on the other markets sequentially, automotive market, as we said, continued to be strong. It increased with most of the sectors growing. Industrial demand was strong across almost every sector that we ship into. And just as a reminder, we've got 14 different sectors there. I won't put everybody to sleep by going through them, but we do have quite a number of sectors that are inside of that and literally hundreds of end equipment that fit inside of that. So it's very, very broad based. Personal electronics decreased. You usually see that seasonally. And then enterprise systems was about even.

So, when we look at our guidance for second quarter, if we're looking at that sequentially, the low end of our guidance would suggest that revenues would be flat. The high end of the guidance suggests that it would be up 9%. And if you look at that, John, on a year on year basis, the low end would be up 4% and the high end would be up 13%. So we think that that's fairly robust growth inside of Q2. So you have a follow-on, John?

<Q - John William Pitzer>: Yes, that's helpful. And I guess as my follow-on, I might have missed this and I apologize, but did you give an orders number for the quarter? And just in general, how are lead times either of your products or your competitors' products, because there has been some buzz that perhaps lead times within the industry are starting to stretch out?

<A - David Pahl>: Yes. So orders were up 14% year on year to $3.5B. They were up about 2% sequentially. And I think from a lead time standpoint, our lead times have remained stable. And just as important as that, our on-time delivery metrics also remain very high. So our shipping to our commitments that we make to customers remain very high. So with that said, we do have some isolated process and package combinations where lead times have stretched, but we've worked very aggressively on those. So we're very pleased with where we are to be able to keep ahead of demand. Well thank you, John. And we'll go to the next caller, please.

<Q - Toshiya Hari>: My first one is on inventory, Dave. I guess exiting the quarter, inventory days were at 132 days, toward the high end of your guided range. How comfortable are you with that level? And what are you seeing in terms of the distribution channel?

<A - Rafael R. Lizardi>: Yes, we are – well, I'll answer our inventory days and then I'll let Dave comment on the disti channel. But we're comfortable with our inventory days. It's well within our range. Always remember inventory days is a backwards looking metric, so what we have it there for is to support growth. And the other key point to remember is as we have focused our strategy more on industrial, automotive and on catalog type of parts, the risk of obsolescence on this part is really minimal. So it makes sense from a longer-term standpoint to have that inventory available to support revenue growth.

<A - David Pahl>: Yes, and from a disti standpoint, Toshiya, we saw our inventory days kind of remain near their current levels, at four weeks. That benefits from our consignment programs we have with our distributors. It actually was down sequentially, and it was down from a year ago. So we think that those are in good shape. Do you have a follow-on?

<Q - Toshiya Hari>: Yes. Thank you. I just wanted to get your updated thoughts on M&A. You guys have been pretty consistent in the past, and you've pointed to valuation and the lack of opportunities as reasons to stay sidelined, but was hoping you could potentially give us an update there, if any changes.

<A - Rafael R. Lizardi>: Yes, I'd be happy to comment. The update is no change. It's the same strategy for M&A. We looked at – we're always considering options and looking at things, but it has to be an opportunity that is focused on industrial, it's focused on automotive, catalog type of parts, Analog catalog. So it has to be a good strategic fit from that standpoint. But then the other component that has to be there is that the numbers have to make sense. So when we have both of those combinations, then we are willing to move forward on considering that further.

<Q - Amit Daryanani>: Couple questions from me as well. I guess one, fairly impressive growth in the Analog side. I think it was up like 20% y-over-y. Is there a way to think about the growth in the segment excluding the consumer side, where I think you may have had somewhat easier comps? Just trying to get a sense of what the baseline number could be on Analog as you go through the year.

<A - David Pahl>: Yes. I think first of all, let me just make a comment at the company level. We talked about that the demand was driven from the strength that we saw in the industrial market as well as automotive. That represented about 70% of the growth, and certainly we did benefit and see growth inside of personal electronics off of the easy compare, as we all remember a year ago that we were working through an inventory correction in that particular end market. So the great news is that's very consistent with what we saw inside of Analog, and so the growth is very, very broad based. So we've got contributions from the industrial market, contributions from the automotive market, and as well as we did see contributions from the personal electronics market. So do you have a follow-on?

<Q - Amit Daryanani>: I do. I guess just in the automotive segment, could you just talk about if there's a way to think about maybe what percent of your auto revenues today are infotainment-centric vs. more mandate driven around fuel efficiency or battery management or safety? And is there a way to think about the geographic split in the auto business as well? Thank you.

<A - David Pahl>: Yeah, thanks. That's a great question, Amit, and thanks for the opportunity to comment on it. You know, I think that the great thing that we've been trying to do, or the thing that we've been trying to do and why we're happy with the results, is that our automotive business isn't just built on just either infotainment or an ADAS business. It really is broad based. So when we look at kind of the order of the sizes of those business, the infotainment is the largest. Safety systems is the second, followed by advanced driver assist systems, then power train, which includes hybrid and electric and then body, electronics and lighting.

So, and if you dive into any one of those areas, it's not dominated by one technology or one product. And we've got more than half of our 60 to 70 product lines that ship products into the automotive business. So we're very diverse from a product standpoint. We're also very diverse from a geography standpoint as well, so we're really seeing a benefit and additional revenue growth from all of the geos. So thank you, Amit. And we'll go to the next caller, please.

<Q - C.J. Muse>: Apologies for, I guess first question, I got on a little bit late, so just have a point of clarification. In terms of the royalty commentary, the $30mm, was that included for Q1 as well? So net-net with that, top line would have been $30mm in gross margin, 100% of that $30mm better?

<A - Rafael R. Lizardi>: Yes.

<Q - C.J. Muse>: And then from here, we should be using that same amount?

<A - Rafael R. Lizardi>: So the change in royalties was included in our guidance, meaning that the royalties were in other income and expense, just like how they came in in results. And on a go-forward basis, they will stay in other income and expense. So for modeling purposes, you can look at how that other income and expense line came in and then model it similar to that on a go-forward basis.

<Q - C.J. Muse>: Okay. Thank you. And I guess as a follow up, can you walk through some of the work that you're doing on the gross margin side? It sounds like internally, the 75% is not enough and you want to take that higher. And would love to hear what you're working on, and I'm assuming that includes not only front end but back end manufacturing and would love to get an update there, if you could.

<A - Rafael R. Lizardi>: Yes, sure. As you think of the company on a go forward basis, the biggest driver of our gross margin is revenue, revenue growth. And that's what we're focused on industrial and automotive. Those are the best opportunities that we have ahead of us because of the constant growth of semiconductors in those spaces.

Now, beyond revenue growth, then we have 300-millimeter manufacturing, the efficiency of our manufacturing, particularly with 300 millimeter. As you probably recall from the capital management strategy, I walked through why 300-millimeter is such a competitive advantage, and that's because the cost of the chip is significantly less. In fact, it's 40% less at the chip level than on 200-millimeter. So what that translates to is not just higher gross margin but more importantly, higher FCF, And then FCF per share that we can return to the owners of the company.

<Q - Christopher Brett Danely>: I'm going to use up my first question on just a couple of revenue clarifications. So in response to an earlier question on the, I guess the stronger than expected revenue, so are you telling us that your automotive business was responsible for the upside in Q1 on revenue and comm was a little weak? And then on Q2 guide, you're basically guiding up like 4.5%. That's below seasonality and also below what you guided sequentially for last year. So you're not seeing any weakness or no change in Q2 forecasts over the last like month?

<A - David Pahl>: Yes. So the first is that our revenue came inside of our guidance, and so we didn't really have any surprises there. If you look at all of the businesses and if you look at the end markets, we really saw strength across the board, Chris. So there really wasn't an area that we would point to that singularly drove the revenues in the quarter or from the midpoint of the guidance, if you will. So very broad based overall. And then secondly, again, I think going back to John's question, when we look at our sequential growth rates of kind of the low end of flat to up 9% or on a year on year basis of 4% to 13%, we think that that's a pretty strong second quarter. So do you have a follow-on?

<Q - Christopher Brett Danely>: Yes. Just a longer-term question. I think you've talked about currently being outfitted for somewhere around $18B in revenue capacity. What sort of revenue level would you start to need to order more equipment? I assume you wouldn't wait until you're 100% utilized before you start to put those orders in. Is it 90% utilization, 95%? Maybe give us some color there.

<A - Rafael R. Lizardi>: Well, I'll give you some color and then I'll let Dave chime in. But, we think of our strategy, as stated in the capital management strategy for many years, is that we want to add capacity well ahead of demand. And that's because this is an asymmetrical bet. This capacity we can buy. When we buy that way, we can buy used equipment and we can buy it at pennies on the dollar where the carrying cost is minimal but the upside potential is tremendous for the reasons that I talked about earlier and the great fall through that we get to FCF. So we're thinking longer term, 10, 15 years out when we're making capacity decisions.

<A - David Pahl>: Yes, and I'll just add, Chris, like you pointed out, we had a little over $13B in revenue last year. We've got just under about $6B of open 300-millimeter capacity. We have open 200-millimeter capacity inside of that footprint. So we've got plenty of room to grow for some time. But like Rafael said, if we had the opportunity tomorrow to buy another wafer fab or make a large purchase and it was at the right price, we'd make that move, because it is an asymmetrical bet. So thank you, Chris, and we'll go to the next caller please.

<Q - Blayne Curtis>: When you look at the guidance, well actually if you just look at the overall business, you're not the only ones seeing double digit y-over-y growth in all of your businesses. Even if you've taken out personal electronics, the rest of the business is up strong. And the commentary actually suggests that it remains strong. So I guess kind of two parts here.

One, how do you foot the gap between what, I know there is content gains in semis, but between what some of the end markets are doing, what's your perspective as you look out the rest of the year? Do you think the semi market is a little ahead of itself? And then I guess as you look at your June guidance, did you guys apply any sort of conservatism to that guidance to account for anything along those lines?

<A - David Pahl>: Yes, so I think if you walk through the end markets, Blayne, as we've commented, automotive has remained strong. You saw that that business last quarter had grown at over 20%. It's been growing very strongly for some time. And again, that business and that growth isn't built on just one OEM or one car model or one end market. So it's very, very diverse, and we feel good about that positioning.

When you look at the industrial market, that strength has continued to build. So we're seeing that come in nicely. We already talked about the personal electronics markets and some of the other markets in detail. So again, that strength, and as you pointed out, is broad based. Others are seeing it as well.

So kind of on the other thing is, to your question, are we double ordering or seeing inventories build. I'd just make the comment that overall the economy does feel a little stronger than it did a year ago. However, it's really still to be seen to what extent will we see this growth over a longer period of time. So, we have no indications that inventories are growing or double ordering, but I'll also point out that history suggests that you never really see that ahead of time, right? So I think it's important to qualify what we can see.

I mentioned earlier our lead times have remained stable. When you look into inventory, we've got good visibility into distribution inventory, and as I commented earlier, that remains steady, about four weeks. It's down sequentially. It's down from a year ago. So we think that's in real good shape.

Our visibility into customer inventories really varies depending on if they're on consignment or not. So on consigned OEMs, we've got great visibility into their inventory because we're holding it on our books, actually our inventory, and they pull it only when they need it. And we're not seeing any unusual signs there, so things like expedites and things like that that would suggest that there's an issue overall.

And our visibility into inventory, of course beyond our customers' manufacturing operations and down in their channels, of course is very low. So, as we have been doing for a long time with our manufacturing, our internal inventory strategies, we'll just stay focused on keeping lead times steady, and delivery metrics very high, because that's ultimately what gives customers confidence, that they can get support from us when they need it. Do you have a follow-on?

<Q - Blayne Curtis>: Great and I apologize. I missed the very beginning, so if you already said this, I apologize. But in terms of your guidance, I kind of get gross margins flattish, maybe down a little bit. I just wanted to make sure that that's the right range.

<A - Rafael R. Lizardi>: The way I would comment on that is, we have said before that our revenues fall through between 70% and 75%. So if you do that math on a sequential basis, you'll get somewhere close to where you need to be.

<Q - David M. Wong>: You talked about how your investment priorities were in industrial and automotive. Can you give us some idea within automotive, are there specific types of products or specific capabilities that you're directing your investments at?

<A - David Pahl>: Yes, David. As I mentioned before, we're very intentionally trying to make investments across a very broad number of areas. So they include things that are very popular like ADAS systems and infotainment systems, but also embody electronics and lighting. So we've commented before that that includes areas like turn signals. There's a couple of dollars of content in an LED turn signal and our sales teams get pretty excited about things like that. But also sensors on door handles and inside of the infotainment system, the touch buttons to control the AC or the audio system, haptic systems that may sit inside of the steering wheel or in driver's seats, and LED lighting inside of a car. There's a lot of areas. So we're really trying to direct that investment to be very, very broad based. Do you have a follow-on, David?

<Q - David M. Wong>: Yes. Well, similarly for industrial, you mentioned the 14 areas you were going to bore us with. Are there any additional areas on top of the 14 that you will be able to go into because of your investments?

<A - David Pahl>: Yes, so I'll resist the temptation to bore you and run you through those. But if I just take one like Medical, as an example, that sits inside of there, there's literally hundreds of end equipment that will sit inside of medical. And if you think of at the high end, there may be a magnetic resonance imaging machine that may sell for millions of dollars, and then all the way down at the other end, you have a blood glucose meter that may sell for less than $50. So we actually have over 100 different end equipments that will sit inside of a sector like medical, and as we make investments, we look to funnel those investments, not just in one area like something like factory automation and control, as an example. We really want to funnel those investments on a very broad basis. So thank you, David, and we can go to the next caller, please.

<Q - Tore Svanberg>: My first question on lead times. So you mentioned your lead times are very stable. You're maybe seeing some stretch in certain specific areas. But if you look at the general environment, does it feel like the supply chain is overly nervous about getting product, or does it feel like it's pretty controlled?

<A - David Pahl>: Yes, Tore. Again, I can really only speak for what we see and what we're doing. And again, I think we're advantaged because we've got a large portion of our revenues on consignment, so we're actually controlling that inventory up and to the point that it gets pulled. We also, for many customers, we'll get long-term forecasts. Those consignment forecasts literally sometimes can be on an hourly basis, but certainly on a daily or weekly basis and typically go out for six months in some cases. Now that doesn't mean that they can't change very quickly, and we've seen that before in the past and they can strengthen or weaken and that usually happens very quickly. So again, our lead times are remaining very stable besides those isolated areas that we're working very aggressively to fix. The vast majority of our products remain stable. Do you have a follow-on, Tore?

<Q - Tore Svanberg>: Yes. That's very helpful. As a follow up, I think you mentioned industrial strengthening. So I assume that means it's going to be up more in June than it was in March. And again, is that strength broad based, or is there any region that's waking up a little bit more than others? And I'm especially thinking about China, because there's been some recent weakness there. I'm just wondering if that region is holding up as well in industrial.

<A - David Pahl>: Yeah, Tore, the comment was around the quarter that we reported, and we've seen industrial strengthen now for a number of quarters in a row. Our guidance for Q2, we just provide the top level and EPS. If there is anything that's unusual going on in an end market, we always provide that color to be helpful. And we haven't had to provide that obviously for second quarter. So thank you, and I think we've got time for one more caller, please.

<Q - Ambrish Srivastava>: I had a question on R&D and as it relates to OpEx. Rafael, you kind of articulated that the OpEx will be in the band that you have provided in the past, so no change there. But R&D on a y-over-y basis in absolute dollars has been growing, and in your last filing, you mentioned that you would be reallocating from manufacturing as well as SG&A into R&D. So just kind of like a two-part question is, one, what should be the trajectory of R&D as we model through the year? And then kind of related to that, qualitatively if you could help us understand where the focus is for the R&D investment. Thank you.

<A - Rafael R. Lizardi>: Yes. Let me address the second part of that question first. That's clear, we've been focusing on industrial and on automotive. That's where we have been biasing our investments for a number of years, and that's why we're getting strong results in both of those end markets. Now over half of our revenue is coming from industrial and automotive, so those investments are paying off.

On your first part of your question, I would take you back to my earlier comments. We like, our stated goal or model is 20% to 30% OpEx. I know you're asking about R&D, but we like to look at it as OpEx because there are a lot of pieces there that we think of as investments, investments in sales, in the sales force, in ti.com, and a few other things that help us build those competitive advantages. So OpEx 20% to 30% in stable times, in the bottom half of that, so 20% to 25%, and we have been running like that for now 27 months. So you should think about that way when you're modeling our OpEx. Dave, you want to add?

<A - David Pahl>: Yes, I'll just add, Ambrish. As you know, when we look at making investments, whether it's in R&D or in OpEx, as we pointed out in our capital management presentation that we gave earlier, investing in the businesses is a top priority. So, and what we're try to do, as Rafael indicated by market, but we also want to strengthen our four competitive advantages.

So those include the first one which is manufacturing and technology, ensuring that we're developing great process technologies and strengthening our position with 300-millimeter. The breadth of the portfolio is the second, and we've talked about that a lot and how that plays out through industrial and automotive. The third is the reach of our marketing channels and strengthening that, and that continues to be our investments in ti.com as well as how that's coupled with our sales force and apps teams. And then we want all those things to lead to the diversity and longevity, and that will lead to good FCF per share growth, and that's really what we want to do. Did you have a follow-up?