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OVERVIEW:

Co. reported 2Q12 revenues of TWD128b and EPS of TWD1.61. Expects 3Q12 revenues (based on current business expectation and forecast exchange rate of TWD29.76) to be TWD136-138b.

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Steven Pelayo *HSBC - Analyst*

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PRESENTATION

Elizabeth Sun - *TSMC - Director, Corporate Communication*

Welcome to TSMC's second-quarter 2012 earnings conference and conference call. This is Elizabeth Sun, TSMC's Director of Corporate Communications and your host for today.

This is the first time that we are combining the quarterly earnings conference with the conference call and the event is webcast live via TSMC's website at www.tsmc.com. If you're joining us through the conference call, your dial-in lines are in listen-only mode. As this conference is being viewed by investors around the world, we will conduct this event in English only.

The format for today's event will be as follows. First, TSMC's Senior Vice President and CFO, Ms Lora Ho will summarize our operations in the second quarter and give you our guidance for the next quarter. Afterwards, TSMC's Chairman and CEO, Dr. Morris Chang will provide his general remarks on the business outlook and state a couple of key messages. Then we will open the floor to questions.

For those participants on the call, if you do not yet have a copy of the press release, you may download it from TSMC's website at www.tsmc.com. Please also download the summary slides in relation to today's earnings conference presentation.

Before we begin, I would like to remind everybody that today's discussions may contain forward-looking statements that are subject to significant risks and uncertainties which could cause actual results to differ materially from those contained in the forward-looking statements. Please refer to the Safe Harbor notice that appears on our press release.

And now I would like to turn the podium to TSMC's CFO, Ms Lora Ho.

Lora Ho - *TSMC - SVP & CFO*

Thank you, Elizabeth. Good afternoon, good evening and good morning to everyone. We had a very good second quarter. The financial results came in at the high end of each of the guidance.

Revenue grew 21% Q-over-Q to set a record of TWD128b. The strong demand for mobile computing devices and our leadership in 28-nanometer gave us a strong growth in the second quarter.

On the margin side, second quarter gross margin was 48.6% or 0.9 percentage point higher than that in the first quarter. The increase of gross margin mainly came from the higher capacity utilization across all technologies. Although 28-nanometer gross margin is currently below corporate average, we expect it will reach to corporate average by the first quarter 2013.

Operating margin was 36.5% in second quarter, up 2.9 percentage points. Both R&D and SG&A expense as a percentage of revenue decreased by about 1 percentage point each.

You may notice that we had a loss of TWD0.8b in our non-operating items. This is mainly due to a one-time impairment charge of TWD2.68b on our 5.6% holding in SMIC shares. This contributed to TWD0.09 drop of our second quarter EPS.

Overall, our second quarter EPS was TWD1.61. ROE was 26%.

Let's move on to revenue by product segment. We have seen revenue from all applications increase sequentially. Among the four major product segments, Communication increased by 27%, Computer increased by 20%, Consumer increased by 9% and Industrial-related revenue increased by 39% in the second quarter.

The high growth of Industrial and Standard applications is mainly due to strong demand for ICs used in mobile computing devices, such as power management IC and touch controllers.

In terms of technology, revenue from 28 grew nearly 90% in the second quarter. We expect shipment of 28 to double in the third quarter. Revenue from advanced technologies, that is 65-nanometer and below technologies -- and beyond technologies account for 61% of our second quarter revenue.

Take a look at the balance sheet. The cash and marketable securities ended the second quarter at TWD188b. Accounts receivable and inventory amount went up as a result of business growth. Current liabilities increased by TWD86b mainly due to the accrual of dividend payable of TWD78b.

On the cash flow side, we generated TWD70b from operations, invested TWD59b in capital expenditures, repaid TWD3.9b in short-term loans. As a result our cash balance increased TWD7.6b to TWD178b at the end of the second quarter. Free cash flow generated in the second quarter was TWD10.5b.

Let's look at the capacity. Our Fab-15 began volume production of 28-nanometer in the second quarter and we expect to ramp at a faster pace in the second half of this year. Given our CapEx, we expect our total capacity to increase by about 14% year over year and 12-inch capacity will increase about 21%.

Now let me provide you our guidance for the third quarter. Based on our current business expectations and a forecast exchange rate of TWD29.76, we expect our revenue to be between TWD136b and TWD138b, which is a sequential growth of 6% to 8%. We expect the third quarter gross margin is to be between 46% and 48% and operating margin between 34% and 36%.

This concludes my remarks. Let me turn the podium to the Chairman.

Morris Chang - *TSMC - Chairman & CEO*

Thank you, Lora, and good afternoon mainly, ladies and gentlemen. Today, I will make a few comments on second quarter and third quarter and then I will also give you some color on the world economy, the supply chain inventory and our fourth quarter outlook. And then I will talk about a few major technologies of ours. And then lastly, I will talk about the CapEx, capital intensity and growth.

Our second quarter was a good one. We were actually quite pleased with it. This year, every quarter, the major effort has been to ramp up 28-nanometers and in doing so of course we did incur a lot of costs. And also as a result, the gross margin of 28-nanometer all year this year will not be up to the corporate average standard.

But in spite of all that and also in spite of an extraordinary item in the second quarter which Lora mentioned, the impairment charge of SMIC shares, which actually accounted for TWD0.09 earnings per share -- in spite of the unusual costs in the 28-nanometer ramp-up and the unusual item relating to the impairment charge of the SMIC shares, second quarter was good, was quite good.

And we expect a good third quarter. We'll see a growth, as Lora has already guided, at the midpoint of our guidance. We will see a growth of about 7% in revenue in the third quarter, sequential quarter-to-quarter revenue growth of about 7%. And since we will not be -- we will not have the impairment charge in the third quarter, our EPS growth between second and third will actually be stronger than 7%.

Now -- so it looks okay. Now, as we look into -- as we look further into the future, fourth quarter and the first quarter next year we do have some worrisome signs. World economy as you know and I will not dwell on it, the outlook -- I'm actually talking about the outlook, the future outlook of the world economy and I'm comparing it now with the outlook as most people saw it four months ago, three months ago or six months ago. The outlook now certainly has deteriorated in the last three to six months.

The US which matters the most to us because our market is still very much, is majorly in the US, so the US economy matters to us the most. It is -- it has gone into a less optimistic situation than we saw at even three months ago. The very good job creations record early in the year has now disappeared. There does not seem to be any political solution in sight for the forthcoming financial cliff at the end of the year and retail sales, recent data are not good. And so the US -- outlook for the US economy has deteriorated in the last few months.

And then next to importance to us after the US economy, you have Europe, Japan, Mainland China and Taiwan. And I would say that the outlook for any of those economies has not improved in the last three months.

Now we of course have -- do pretty thorough, pretty extensive market research on our business. And one key factor -- besides the world economy, one key factor of course is the supply chain inventory of our products. And that is not good. And I will give you some numbers.

At the end of the first quarter, the overall supply chain inventory, in days of inventory at the end of the first quarter was 6 days below seasonal. At the end of second quarter it was 3 days above seasonal. And we are forecasting that at the end of the third quarter it will be 12 days above seasonal.

And this of course indicates that there will be a correction in the fourth quarter. And we indeed are forecasting that there will be an inventory correction in the fourth quarter to about -- at the end of fourth quarter, we forecast that the inventory will be only 8 days above seasonal. So 12 days at the end of the third quarter, 12 days above at the end of the third quarter and 8 days above at the end of fourth quarter.

And we also look at our customers' days of inventory. The fabless customers at the end of first quarter was 2 days below and at the end of the second quarter, it was 4 days above. And we are forecasting that at the end of the third quarter, customers' DOI will be 10 days above. And there will be a correction but at the end of the fourth quarter it will still be 6 days above. Now those numbers are for the fabless customers.

For IDM customers the pattern is similar. The numbers are different but the pattern is similar so I'm not going to talk about them. Fabless customers account for a very large, the dominant majority of our sales anyway.

We are now seeing a dip in our revenue in the fourth quarter, a dip from the third quarter level. I think it will be a dip. Our forecast -- not just I think, our forecast -- is that the dip will not be nearly as serious as the dip we experienced in the fourth quarter of 2008. That I wouldn't even call that a dip; I would call it a plunge. But this one I think is a dip of certainly far more modest magnitude than that one.

Now as to exactly how much it will be I think it's too early to say, but we can see that there will be a dip. And we have of course accordingly made preparations. We have seen it coming for at least a month, maybe two months now. We saw early signs of it actually three months ago, but that was -- those were very, very early signs. But two months ago we became surer and one month we became pretty sure that there would be a dip in the fourth quarter.

Now further, we also think that the dip will continue into the first quarter. And then still further, we see a pretty healthy recovery in the second quarter.

So in summary, I'm saying that we will have a dip, a dip that will last two quarters, fourth quarter and first quarter next year. And by the second quarter, it will have rebounded pretty strongly. Those are the indications that we have now.

Now I'd like to say a few words about our technology progress. 28-nanometer is progressing very well. Our output and our yields are both above the plans that we set for ourselves and the plans that we communicated to our customers early in the year. Early in the year means March. I'm sorry, January, February of the year we set our plans in output and in yields. And we of course tried -- ever since then, we tried to exceed the plan and we have also communicated the plan to our customers at that time. And we have indeed exceeded the plan in both output and yields.

We expect to ramp up to about 68,000 wafers per month by the end of the year, 28-nanometer -- 68,000 12-inch wafers per month by the end of the year. And by fourth quarter we will be nearly caught up with the demand now and we expect to fully meet the demand from the first quarter on. First quarter of 2013 on, we will fully meet the 28-nanometer demand. It is also then that we expect that the 28-nanometer gross margin will catch up with the corporate average.

As I said today, both the defect density [and use] are better than 40-nanometer at the same stage of the volume ramp. And they are also better than what we have -- what we planned early in the year and what we communicated to our customers at that time.

Now next, a few words on 20-nanometer, 20 SoC. We have made very good progress on the 112 megabyte SRAM yield. Now there are still challenges to overcome in reducing the -- I'm sorry I take it back. There are still challenges to overcome in meeting our yield plan of the entire chip. We have made very good progress on 112 megabyte SRAM but there are still challenges to overcome in meeting our yield plan of the entire chip which has both the logic and the SRAM on it of course.

Our 20-nanometer SoC we believe is fully competitive with industry leaders, other companies' 22-nanometer for the served available markets that we serve. For our markets we believe our 20 SoC is fully competitive with anyone's 20 or 22-nanometer offering.

And one important point to make is that our 20-nanometer has the industry's leading metal pitch of 64-nanometers. Our leading competitors have 80-nanometer metal pitch. That allows an advantage in the devices' density and dye size.

Now as for the timing we expect our 20-nanometer technology to be qualified by the end of this year and we'll be ready to support customers' tape-outs in Q1 of 2013.

Now today, last time I mentioned that we would have a FinFET product after 20 SoC. And today I'm glad to say that we have been planning the 16-nanometer FinFET. Right after our 20-nanometer [plane], which is the 20 SoC, we will offer FinFET at 16-nanometer for significant active power reduction. We expect to achieve speed and density, speed and logic density levels comparable to industry's leading players 14-nanometer FinFET. So we expect our 20 SoC to be competitive with competitors' 22 or 20 products and we expect our 16 FinFET to be competitive with our competitors' 14-nanometer FinFET products.

You might ask why are we calling it 16. The only reason in fact until two days ago we were undecided on whether to call it 14 or 16 FinFET. Now the only reason we decided to call it 16 FinFET is first we want to be somewhat modest. Second, we had told quite a few major customers of ours, the 16 FinFET, that designation and we didn't want to confuse our customers by now switching to 14. But we expect it to be competitive with other people's 14 offerings.

Now the 16-nanometer FinFET, our 16-nanometer FinFET is expected to deliver about 25% speed gain given the same standby power over the 20-nanometer SoC. It's expected to give 25% to 30% power reduction at the same speed and the same standby power. And for mobile products it's expected to give 15% to 20% speed gain at the same total power.

As for timing we expect it to be about one year after 20 SoC. Namely it should be ready for risk production at the end of 2013 or early 2014, about one year later than the 20 SoC.

Now I want to make some comments about CapEx, capital intensity and growth. I know that several analysts have written about foundry industry's capital intensity and our TSMC's capital intensity and so on and so on. I'm addressing the subject today because I have seen all these reports. I have seen them without agreeing with them, you see -- without agreeing with some of them. Anyway there are some that I do agree with.

Now why are we having such high capital intensity now? Well, I think this is actually a focus point of our internal discussions among our top level managers for the last two years now. And basically we invest in capacity to get future growth. So you look back at history. If you look at the -- our TSMC history, during '97 and '02, between 1997 and 2002, during that six year period, TSMC's capital intensity ratio stayed mostly above 60%, 60% during that six year period.

And there was, as you recall, there was a high tech bubble bursting in late 2000 and early 2001. But in spite of that, our revenue CAGR between '97 and '07, after having spent a lot of capital, having sustained high capital intensity for six years, '97 to '02, our revenue CAGR between '97 and '07 -- that's a ten year period -- was 20%. Compounded annual growth rate of 20% in revenue during the ten-year period, the first six of which was marked by high capital intensity.

During that '97 to 2007 period, foundry industry growth was 16% in the same period and ours was 20%. As a result our market share rose from -- foundry market share rose from 31% in '97 to 43% in '97 -- in '07. 31% in '97 to 43% in '07.

So when we had those internal discussions about capital and that's really a major focus of our internal discussions, top level managers I mean, we look at four things.

First, are we going to be the technology leader in the capacities that we are investing in? So the first question is are we going to be the technology leader.

The second question we ask ourselves is are we going to be able to retain our leadership in flexible and responsive manufacturing. So we ask ourselves the question, technology are we going to be the leader; manufacturing are we going to be the leader.

The third question that we ask ourselves, are we going to retain the customers' trust, major, major customers' trust or perhaps are we even going to add customers.

And then the fourth question we ask ourselves is at the price and cost we expect on the new technologies, the capacities of which we are investing in, at the expected cost and price are we going to be profitable, are we going to be able to make the same kind of money that we have gotten accustomed to.

Only if the answers to all four questions is yes, only if we are confident in those four issues, four points, do we start to spend the capital money.

Now, all right -- I actually have not made a secret of that -- in 2010, I believe late 2010, I told you that 2010 was the first year we started to spend a lot of capital. In late 2010 I told you that our goal was to achieve -- in the following five years, achieve a growth of an EPS -- I'm sorry, a pre-tax

income, a pre-tax profit growth of 10% CAGR in the 2010 to 2015 period. At that time which was late 2010, I said that our goal, financial goal was to achieve a 10% pre-tax income growth, CAGR and retain or exceed our yield of 20%. 10% pre-tax income growth, 20% ROE.

Well, that was two years ago in 2010. And we have now raised our goals. It is not 10% any more although the ROE we still keep it at equal or greater than 20% ROE. But the growth, the pre-tax income growth goal is more than 10% now. I am not prepared to answer you yet what it is. But let me assure you that when I say it's more than 10%, I don't mean that it's 10.1%, okay. It's significantly above 10%.

And so -- and we believe that this is not only the right strategy, it is the only strategy, if you want to do well by your shareholders. We believe it's the only strategy.

And as far as this year's CapEx is concerned at this point we are still following the guidance that we gave you last time I believe, $8b to $8.5b at this point (inaudible). Next year we are not going to forecast until early next year. But I think I have already given you a view of our reasoning and our strategy and our objectives. But as to the exact number I will not give you until early next year.

All right, I believe those -- I have finished my prepared comments. I believe we are open for questions now, are we not?

QUESTIONS AND ANSWERS

Elizabeth Sun - *TSMC - Director, Corporate Communication*

Yes. This concludes our prepared statements. Before we begin the Q&A session I want to remind everybody to please limit your questions to two, no more than two at a time to allow all participants an opportunity to ask questions to the management. Questions will be taken from the floor as well as from the call. Should you wish to raise your question in Chinese, I will translate it to English before our CEO or CFO answer your question. (Operator Instructions).

Now let's begin the Q&A session. Our first question comes from the floor and that goes to Bank of America-Merrill Lynch, Dan Heyler.

Dan Heyler - *Bank of America-Merrill Lynch - Analyst*

Thank you very much, Elizabeth, and thanks for the new format. Hopefully we'll all get a little more sleep and I hope you're feeling better. It sounds like you have the same cold that I have, Dr. Chang.

A quick question. On the IDM models here we've seen this -- the IDM model work for high-volume businesses such as the CPU business and the memory business. Given the huge amount of demand and growth in the application processor market that we're seeing proliferate in the mobile area, and with competitors scaling up their manufacturing facilities, I'm wondering if it would help TSMC's efficiencies to start to dedicate some lines or specific fabs to be more product focused as you go forward in these very high-volume businesses? Or will you keep your very large, broad-based fabs?

Morris Chang - *TSMC - Chairman & CEO*

So the question is, are we going to dedicate more lines to products, specific products, is that right?

Dan Heyler - *Bank of America-Merrill Lynch - Analyst*

Will your manufacturing strategy change, yes.

Morris Chang - *TSMC - Chairman & CEO*

No. Well, you first started to talk about IDM and were you asking me about the future of the foundry fabless model? You're wrote about that, yes.

Dan Heyler - *Bank of America-Merrill Lynch - Analyst*

Do you think you need you need to dedicate some fabs to product-specific areas that are very high volume?

Morris Chang - *TSMC - Chairman & CEO*

Actually yes. I think that's almost a natural outcome, the way the market is trending. I think that there are going to be larger customers. And now it makes complete sense to dedicate a whole fab to just one customer, a whole fab, or two whole fabs in fact to just one customer.

Now remember we made our mark in serving many customers. In fact that's a -- really part of our secret [source] of success, the ability to serve many customers to their satisfaction. And we still will retain that capability. But there are customers that are getting bigger and bigger, so it makes sense that we dedicate a whole fab, or even more than a whole fab to just one customer.

As far as specific products are concerned, well, right now we are already concentrating, for instance Taichung will have the vast majority of 28 nanometer whereas Tainan will have the vast majority of 20 SoC and 16 FinFET. And both of those manufacturing centers are under one manager. Taichung is under one manager, Tainan is under one manager. I don't know whether I've answered your question.

Dan Heyler - *Bank of America-Merrill Lynch - Analyst*

Yes you did, thank you very much. Second question and then I'll get back in the queue. We heard you today, as well as ASML, talk about 20 nanometer ramp towards I think tapeouts, I think, in next year, in 2013. And we're seeing obviously some significant challenges currently, as you highlighted, in 28 nanometer with high-k metal gate. Given that you've got high-k metal gate challenges, double patterning on 28, two big changes, what's the visibility, in your sense, in really being able to execute 20 nanometer beyond the second half of next year? Would we be able to see volume there and what gives you the level of confidence?

Morris Chang - *TSMC - Chairman & CEO*

I think that we'll start some production of 20 nanometer next year, but small scale, very, very low, what we would call risk type of production. But 2014 will be a ramp year for 20 SoC.

Dan Heyler - *Bank of America-Merrill Lynch - Analyst*

Okay.

Morris Chang - *TSMC - Chairman & CEO*

We are pretty sure of that.

Dan Heyler - *Bank of America-Merrill Lynch - Analyst*

Just a quick clarification. In your earlier comment you talked about FinFET, that you would be competitive with 20 nanometer with your --

Morris Chang - *TSMC - Chairman & CEO*

Yes, yes. In answering you I haven't --

Dan Heyler - *Bank of America-Merrill Lynch - Analyst*

Good.

Morris Chang - *TSMC - Chairman & CEO*

Included it. 20 SoC, which is [cleaner] it will ramp in 2014. And we believe that 16 FinFET will ramp in perhaps the second half of 2015.

Dan Heyler - *Bank of America-Merrill Lynch - Analyst*

Okay, great. And just one clarification on something you said, if I may. You talked about TSMC being competitive at 20 nanometer relative to the industry leader who's at 22.

Morris Chang - *TSMC - Chairman & CEO*

Competitive?

Dan Heyler - *Bank of America-Merrill Lynch - Analyst*

Competitive, right. That competitor, I believe, is doing FinFET at 22. So are you including that in your statement? Okay. Thank you.

Morris Chang - *TSMC - Chairman & CEO*

But I also said in our served markets, yes.

Dan Heyler - *Bank of America-Merrill Lynch - Analyst*

True.

Morris Chang - *TSMC - Chairman & CEO*

Which would not include high-performance CPUs.

Dan Heyler - *Bank of America-Merrill Lynch - Analyst*

Sure. Mobile? Thank you.

Elizabeth Sun - *TSMC - Director, Corporate Communication*

Alright. It seems we have people on the conference call. So I'm just going to open the line to the call first. We'll take our next question from the call. Operator, please proceed with the first caller.

Operator

The first question today comes from the line of Mehdi Hosseini from Susquehanna. Mehdi, your line is now open.

Mehdi Hosseini - *Susquehanna - Analyst*

Yes, thank you for taking my question and thanks for the new format. I have two questions. Dr. Chang, you talked about the Q4, Q1 trend, at the same time the 28 nanometer gross margin should reach the corporate average. So how should we reconcile lower shipment as a result of customers reducing inventory with a better margin profile for 28 nanometer?

And I have a follow up.

Morris Chang - *TSMC - Chairman & CEO*

The question is why couldn't we delay shipments until the margin becomes better? No?

Elizabeth Sun - *TSMC - Director, Corporate Communication*

I think the --

Mehdi Hosseini - *Susquehanna - Analyst*

No, no. As you mentioned a dip in Q4, Q1 timeframe, and that obviously will have an impact on utilization rate and margin, how should I reconcile that with 28 nanometer margin profile that is actually improving and reaching the corporate average?

Elizabeth Sun - *TSMC - Director, Corporate Communication*

Mehdi, your question is Q4 and Q1 will appear to be a down quarter where we will have some margin pressure. At the same time, our 28 nanometer margin will go to the corporate level by the first quarter. And so how do we reconcile these two?

Mehdi Hosseini - *Susquehanna - Analyst*

Yes.

Morris Chang - *TSMC - Chairman & CEO*

Well, the way to reconcile those two is 28 nanometer will only account for about 20% of our revenue in the fourth quarter this year. And it will account for a little more than 20% of our revenue in the first quarter of next year. While the 28 nanometer gross margin is climbing and will be climbing, the rest of the products' margin will drop because of lower utilization.

Mehdi Hosseini - *Susquehanna - Analyst*

Got it. And then my follow-up has to do with the 28 nanometer and 20 nanometer capacity for next year. How should we think about the additional 28 nanometer capacity as compared to the 20 nanometer pilot line? Do you have any thoughts on how aggressive you want to be, at the same time you want your customers to try out the 20 nanometer? And I'm just confused how those two -- how the product portfolio for those two nodes are going to converge.

Elizabeth Sun - *TSMC - Director, Corporate Communication*

So you are asking us about the capacity plan next year for 28 nanometer as well as for 20 nanometer. That's right?

Mehdi Hosseini - *Susquehanna - Analyst*

Yes.

Morris Chang - *TSMC - Chairman & CEO*

I will just --

Mehdi Hosseini - *Susquehanna - Analyst*

Especially as some of the 28 nanometer may move to 20 nanometer.

Morris Chang - *TSMC - Chairman & CEO*

Let me just describe our capacity plan in the following way. This year we will be spending between $8b and $8.5b in capital -- CapEx. About $1b to $1.5b will be spent on 20 SoC, 20 nanometer. I think around $6b will be spent on 28 nanometers and the rest just odds and ends, including R&D. So this year the vast majority of the capital spending is still on 28. But 20 nanometer has already made a significant appearance in CapEx.

Next year there will still be some capital spending on 28 nanometer, but relatively small. And the vast majority will be on 20 nanometer. And that spending, that kind of spending, the pace of spending on 20 nanometer will continue into 2015. And then, of course, in 2015 the 16 nanometer FinFET will also be making a appearance. And, fortunately, the conversion from 20 SoC to 16 FinFET is quite good. In other words, we don't expect any significant loss in the conversion from 20 nanometer capacity to 16 nanometer capacity.

Mehdi Hosseini - *Susquehanna - Analyst*

Got it, thank you.

Elizabeth Sun - *TSMC - Director, Corporate Communication*

All right. So now we will switch back to the floor. The first question goes to Deutsche Bank's Michael Chou.

Michael Chou - *Deutsche Bank - Analyst*

Hi Chairman. One question is would you invest in ASML EUV given that the industrial leader is going to invest in EUV and what is your view?

Morris Chang - *TSMC - Chairman & CEO*

Which industry leader?

Michael Chou - *Deutsche Bank - Analyst*

You know, as you mentioned before. And what's your view for the competition between ASML EUV and Nikon's multiple E-beam? Which one will become --

Morris Chang - *TSMC - Chairman & CEO*

I'm sorry I didn't get that. You were asking about ASML?

Michael Chou - *Deutsche Bank - Analyst*

ASML.

Morris Chang - *TSMC - Chairman & CEO*

What -- you said competition --

Michael Chou - *Deutsche Bank - Analyst*

The competition between ASML's EUV and Nikon's multiple E-beam methodology. So which one will become the industry standard going forward?

Morris Chang - *TSMC - Chairman & CEO*

Well, which one will become -- well, I think that the -- it appears that the EUV -- let me put it another way. It appears that the E-beam, multiple E-beam is behind EUV. But EUV progress has not been very good either. Now -- but we still -- we are still going to need EUV even though the progress to date has not been very satisfying. But if you compare with the E-beam, I would say E-beam is certainly behind EUV.

Michael Chou - *Deutsche Bank - Analyst*

There's something, are you going to invest in ASML's EUV going forward, given that your competitors have moved?

Morris Chang - *TSMC - Chairman & CEO*

We are actively negotiating with ASML. And actually ASML brought up this investment R&D deal to three companies together, three industrial leaders together. And now, of course, one of them decided to do it first. That's okay. So and we are -- we have been for more than half a year now, and recently, of course, since one of our colleagues has already signed, so, of course, that got our attention again. So our discussions with ASML have become even more active recently. But we are still in active negotiations with ASML.

Michael Chou - *Deutsche Bank - Analyst*

Thank you.

Elizabeth Sun - *TSMC - Director, Corporate Communication*

Our next question goes to Morgan Stanley's Bill Lu.

Bill Lu - *Morgan Stanley - Analyst*

Hi, Dr. Chang. You just raised your pre-tax income CAGR from 10% to something more than 10%. Can you talk about what is behind that, because -- is it higher expectations now for market share? Is it the whole industry that you think is going to grow faster? Is it profitability? What exactly is behind that more bullish outlook? Thank you.

Morris Chang - *TSMC - Chairman & CEO*

Well, there are two main things behind that. One is that our lead in both technology and manufacturing, I believe, is strengthening, has strengthened. Remember, starting in 2010, we didn't just increase CapEx, we also increased R&D. Right now our R&D is double, double what it was in 2009. So it was a two-pronged thrust. Back in 2009 and 2010 the two pronged thrust was to increase both R&D and capital significantly. And R&D is now double what it was in 2009.

At any rate I believe that the reason -- two things behind why we raised our pre-tax income growth goal. One is that we believe that our technology lead has strengthened. And we have maintained our manufacturing lead which we have had all along and our customer trust lead which we have had all along. And the other reason, of course, is that the handheld products, the mobile products, the smartphone and the tablets, that was something that we did not completely foresee in 2010. And in 2010 we did not foresee this mobile products market, not as clearly as we do now anyway. And so those are the two reasons why we raised our goal, yes.

Bill Lu - *Morgan Stanley - Analyst*

Great, thank you. My second question is more short term. You talked about this dip or inventory correction in 4Q and 1Q of next year because of the macro factors and such. That, to me, feels like last year, when the macro got a little bit worse, you saw a little bit of a -- maybe a two-quarter period where you were growing below seasonal patterns. If you look at this year versus last year are they similar, or worse or better?

Morris Chang - *TSMC - Chairman & CEO*

You're right. I'd say it's very similar. I think it's a very similar situation, well, with some difference. I think the European situation was -- certainly I think this year we are worse than last year. And Mainland China I think last year were talking about a slowdown from 10% to 9%. Now this year we're talking about a slowdown from 9% to maybe 7.5%. So -- but basically it [appears] the high hopes early in the year and mainly those high hopes are based on general economic progress. Early last year there was high hopes about world economy also and then the hope was dashed later on in the year. And now this year, early this year there was high hope again, has been dashed now. Yes.

And the inventories I think were working -- were based on that also. The high hopes gave rise to the high inventories in the supply chain. Everybody was -- everybody hoped -- everybody had high hopes and -- yes.

Elizabeth Sun - *TSMC - Director, Corporate Communication*

Okay. Next question is Barclay's Andrew Lu.

Andrew Lu - *Barclays Capital - Analyst*

Hello?

Morris Chang - *TSMC - Chairman & CEO*

Yes, okay, Andrew. Can't you make his microphone louder?

Andrew Lu - *Barclays Capital - Analyst*

Hello?

Elizabeth Sun - *TSMC - Director, Corporate Communication*

It's working.

Morris Chang - *TSMC - Chairman & CEO*

Yes, okay. Yes.

Andrew Lu - *Barclays Capital - Analyst*

Dr. Chang, (technical difficulty). The first one is are we going to see a double-digit decline in any of these Q4 or Q1?

Morris Chang - *TSMC - Chairman & CEO*

Double-digit decline in what?

Andrew Lu - *Barclays Capital - Analyst*

Revenue.

Morris Chang - *TSMC - Chairman & CEO*

You mean -- what time period are you talking about?

Andrew Lu - *Barclays Capital - Analyst*

Q4 or either Q1.

Morris Chang - *TSMC - Chairman & CEO*

A sequential double-digit decline?

Andrew Lu - *Barclays Capital - Analyst*

Yes.

Morris Chang - *TSMC - Chairman & CEO*

As I said earlier, I don't really want to predict so early. But right now, we are looking at something that's in the grey zone between single-digit and double-digit, okay?

Andrew Lu - *Barclays Capital - Analyst*

Thank you very much.

Morris Chang - *TSMC - Chairman & CEO*

But, my goodness, you forced me to give you an answer. And don't blame me if it turns out to be much better than that.

Andrew Lu - *Barclays Capital - Analyst*

Always possible. Second question I have, actually I did some calculation. Assuming, due to all these 28, 20, 16 FinFET investment continue, we might remain to see the CapEx to sales ratio remain at 50%. And, plus, I actually calculated the cash dividend, if we stick at $3 per share and that will take out about 15% to 16% revenue as well. So total combined is about 65% revenue as a regular basis cash outflow. And in our EBITDA margin, EBITDA divided by revenue is about 60%. So each year we are going to have a 5% short on revenue as cash and this doesn't include that potentially we might invest ASML. So what's our financing plan, through the equity and debt for the next five years based on these changes? Thank you.

Morris Chang - *TSMC - Chairman & CEO*

Lora, will you relieve his concern?

Lora Ho - *TSMC - SVP & CFO*

Andrew, there will be a few years that our free cash flow may not be good or may not be sufficient to pay the $3 dividend. But since we --

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Morris Chang - *TSMC - Chairman & CEO*

You don't mean that. Why don't we keep the $3 dividend?

Lora Ho - *TSMC - SVP & CFO*

Okay. Since we have quite strong balance sheet and we have started to borrow by issuing some corporate bond starting from last year, this time [we find] interest rateis very low. So we were able to get 1.3%, 1.4% type of interest rate for five year or seven year. So we will leverage that for the period that we will have a very high capital intensity. And we believe, when the revenue catch up and profitability, cash flow catch up all later and we'll be in good shape. So we're not too worried about that.

Andrew Lu - *Barclays Capital - Analyst*

So mainly out of the (multiple speakers).

Lora Ho - *TSMC - SVP & CFO*

Yes.

Andrew Lu - *Barclays Capital - Analyst*

No equity raise?

Lora Ho - *TSMC - SVP & CFO*

No. No plan for equity.

Andrew Lu - *Barclays Capital - Analyst*

Thank you.

Morris Chang - *TSMC - Chairman & CEO*

Debt financing and actually the latest ASML deal gave me a -- made me think also. There are other novel ways, innovative ways and so on. I'm not saying that we'll do it, but the answer to your question is debt financing, low equity, maintenance of at least $3 cash dividend and now, in addition to those definite answers, maybe there are innovations which we haven't decided on yet.

Elizabeth Sun - *TSMC - Director, Corporate Communication*

Next question goes to Citigroup's Roland Shu.

Roland Shu - *Citigroup - Analyst*

Good afternoon Dr. Chang. Two questions from me. First since now we are talking about the 16 nanometer FinFET, so my question is (inaudible) [15], so is 14 nanometer still on your (inaudible) road map, or after 16 maybe we will move to maybe 11 or 10?

Morris Chang - *TSMC - Chairman & CEO*

10 maybe, yes.

Roland Shu - *Citigroup - Analyst*

Is 14 still in your road map?

Morris Chang - *TSMC - Chairman & CEO*

Pardon me?

Roland Shu - *Citigroup - Analyst*

Is 14 nanometer still on your roadmap?

Morris Chang - *TSMC - Chairman & CEO*

14?

Roland Shu - *Citigroup - Analyst*

Yes.

Morris Chang - *TSMC - Chairman & CEO*

I don't think so, I don't think so.

Roland Shu - *Citigroup - Analyst*

Okay. So that means that for TSMC --

Morris Chang - *TSMC - Chairman & CEO*

16, our 16 we believe will be competitive with other people's 14.

Roland Shu - *Citigroup - Analyst*

Understood. So (technical difficulty) won't have the 14. So how about your EUV, (technical difficulty).

Morris Chang - *TSMC - Chairman & CEO*

What is our --

Roland Shu - *Citigroup - Analyst*

EUV, yes, I think that will be introduced at what kind of (technical difficulty)?

Morris Chang - *TSMC - Chairman & CEO*

I think it will be coming at 10. That's our 10.

Roland Shu - *Citigroup - Analyst*

And my second question actually is similar to Andrew's question. I think that since given TSMC now we have heavy invest on the 28 nanometer next year 20 and going forward 16 and also we have EUV on 10. So my question is are TSMC considering to invite your key customers to invest in TSMC, like what ASML is doing now, invest technology leader to -- invite technology leader to invest ASML?

Morris Chang - *TSMC - Chairman & CEO*

I must clarify the careless comment I made earlier when I talked about innovative things such as -- we are not considering -- actually we've made a definite answer to Andrew's question. We are not considering any equity offering at all.

Roland Shu - *Citigroup - Analyst*

Okay.

Morris Chang - *TSMC - Chairman & CEO*

Not even -- we're not considering equity offering, not to a customer, not to investors, no.

Roland Shu - *Citigroup - Analyst*

Thank you.

Morris Chang - *TSMC - Chairman & CEO*

Yes.

Elizabeth Sun - *TSMC - Director, Corporate Communication*

We will now take our next question from the call. Operator, please proceed with the next caller on the line.

Operator

The next question on the line today comes from Brett from Arete. Brett, please go ahead.

Brett Simpson - *Arete Research - Analyst*

Yes, thanks very much. I have a question for Dr. Chang around 20 nanometer. We've seen Intel recently and several of your customers talk about concerns over the transistor cost at 20 nanometer. It's not falling like it has in previous nodes, at least that's their perspective, because of the number of process steps that are increasing at 20 nanometer. I wanted to get your perspective on this and what do you think this means for the economics of the fabless business model? To what extent, if the costs are going to be rising at 20 nanometer, can these costs be passed on up the supply chain? Thank you.

Morris Chang - *TSMC - Chairman & CEO*

20 nanometer transistor cost, basically the capital intensity has also introduced a pretty high component of depreciation cost. It has raised the component depreciation cost in the advanced technologies. And, now, the way we are making it up is by our -- here, of course, the FinFET does have an advantage, at least ultimately. And we are going to the FinFET in 16. But for 20 SoC we do have the advantage of our denser metal pitch that I talked about earlier. The denser metal edge resulted in smaller die. So even though the transistor cost might be higher, but with a smaller die, smaller chip, the economics works out very competitively. That's -- it's actually a pretty involved technical calculation, but that's the conclusion. The higher transistor cost, which is mainly because of the higher capital intensity, is compensated by the higher density. And that's basically the answer.

Brett Simpson - *Arete Research - Analyst*

Got it, thanks. Thanks very much. And just a follow up for Lora. Lora, can you perhaps talk about the relationship between depreciation and CapEx as we go to this higher level of capital intensity, because today there seems to be a big gap between depreciation (inaudible) and CapEx versus history. So how do we -- how does this really trend over the next couple of years? If you can maybe just give us some help, that would be great.

Elizabeth Sun - *TSMC - Director, Corporate Communication*

The question is how would the trend be given the high capital cost what's going to be the ratio between depreciation and CapEx for the next few years. Right?

Brett Simpson - *Arete Research - Analyst*

Yes, yes.

Lora Ho - *TSMC - SVP & CFO*

The ratio --

Morris Chang - *TSMC - Chairman & CEO*

The ratio between what? The ratio between depreciation and CapEx. Well, actually every dollar of CapEx equipment, every dollar spent on equipment is depreciated over five years. And every dollar spent on facilities is depreciated either over 10 years --

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Lora Ho - *TSMC - SVP & CFO*

10 years.

Morris Chang - *TSMC - Chairman & CEO*

Yes, and there are some that --

Lora Ho - *TSMC - SVP & CFO*

And for the building it's depreciated over 20 years. So you have 20 year for the building, 10 year for facility, and five year for equipments.

Morris Chang - *TSMC - Chairman & CEO*

Well, of course, about 80% of our CapEx is on equipment I think.

Lora Ho - *TSMC - SVP & CFO*

Exactly.

Morris Chang - *TSMC - Chairman & CEO*

So you asked about the ratio between CapEx and depreciation. Take 80% of the CapEx, depending on what time, what point in time in the year it's spent, and then you spread it over five years. That's 80% of the CapEx. And I think, roughly, 20-year depreciation stuff is --

Lora Ho - *TSMC - SVP & CFO*

Building.

Morris Chang - *TSMC - Chairman & CEO*

Yes, I know. But it's like -- it varies from year to year. This year and next year we're actually building quite a few buildings. So there is a greater component in our CapEx that's going to be depreciated over 20 years.

Lora Ho - *TSMC - SVP & CFO*

I think your question is more to that. I can give you one example for this year. You're asking the relationship between depreciation and CapEx, for example this year we were planning to spend $8b to $8.5b and with the depreciation about a little bit more than $4b. So there's some relationship between the two. But going forward actually it will depend on when you spend the depreciation, when you spend the money, which quarter, on what technology. And we also have some (inaudible) coming down from depreciation. So every year the number's different. So it's very difficult to answer, to give a very simple answer for your question,

Brett Simpson - *Arete Research - Analyst*

Okay, thanks very much.

Elizabeth Sun - *TSMC - Director, Corporate Communication*

So we will continue to take our next question from the call. Operator, please proceed with the next caller.

Operator

The next question comes from Mahesh Sanganeria from RBC Capital Markets. Mahesh, please go ahead.

Mahesh Sanganeria - *RBC Capital Markets - Analyst*

Thank you very much. Dr. Chang, I have a question on the 15 nanometer. What is your confidence that you can accomplish that without EUV? And also, related to that, if ASML supplies a [stable] machine, how long will it take for you to put it in production? I'm pretty sure you have plenty of your problems to solve like with the radical and [the zest] and the [lineage] (inaudible), so how long will it take to solve those problems, to put it in production.

Morris Chang - *TSMC - Chairman & CEO*

Will you repeat the question?

Lora Ho - *TSMC - SVP & CFO*

Mahesh?

Elizabeth Sun - *TSMC - Director, Corporate Communication*

Your question is if we start with -- you said 15 nanometer but I suppose you are referring to 10 nanometer because that's when we will start using the EUV. So --

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Morris Chang - *TSMC - Chairman & CEO*

No. I think his question was how confident are we that we can accomplish the 16 nanometer without EUV.

Elizabeth Sun - *TSMC - Director, Corporate Communication*

Okay.

Morris Chang - *TSMC - Chairman & CEO*

Isn't that right?

Mahesh Sanganeria - *RBC Capital Markets - Analyst*

Yes.

Elizabeth Sun - *TSMC - Director, Corporate Communication*

Without --

Mahesh Sanganeria - *RBC Capital Markets - Analyst*

Yes.

Morris Chang - *TSMC - Chairman & CEO*

Well, the answer is yes. We are quite confident, we are very confident we can accomplish the 16 FinFET without EUV.

Now it's the second question that I didn't completely get. He talked about the radicals and all that.

Elizabeth Sun - *TSMC - Director, Corporate Communication*

So you said that if we get a machine from ASML on the EUV, how soon will we begin the production? How soon will we be able to put the machine into production? Is that your question?

Mahesh Sanganeria - *RBC Capital Markets - Analyst*

That is correct because I assume that there are multiple problems to solve, once the machine is there also in the fab. So how many years it will take to put it in production.

Morris Chang - *TSMC - Chairman & CEO*

How -- after we get a machine, a EUV machine, how soon -- how long will it take to get it to production, is that the question?

Mahesh Sanganeria - *RBC Capital Markets - Analyst*

Yes.

Morris Chang - *TSMC - Chairman & CEO*

Well, we have had one machine for a year already. And I don't -- I can't tell when we will be using it in production yet. I think that -- actually the fact of the matter is that by the time we use an EUV machine, which I think is in our 10 nanometer generation, I think by that time this machine that we have had for a year will be obsolete and we'll be getting new machines. And as to how long it will take to get a new machine, well I -- that is a -- you can't tell that. I will tell you about the immersion machines which -- we've been using immersion machines for years. And sometimes it doesn't take very long, sometimes it takes several months or half a year.

Mahesh Sanganeria - *RBC Capital Markets - Analyst*

Okay, that's very helpful. And just one more follow up on. Can you give us an -- your estimate of where your competitors are on 28 nanometer production?

Morris Chang - *TSMC - Chairman & CEO*

There's a lot of rumors about, but I do not believe most of those rumors. I really haven't seen anything real yet. Well, I've seen very, very little real yet.

Mahesh Sanganeria - *RBC Capital Markets - Analyst*

Okay, thank you very much.

Elizabeth Sun - *TSMC - Director, Corporate Communication*

All right. Now we will switch back to the floor. The next question goes to HSBC Steven Pelayo.

Steven Pelayo - *HSBC - Analyst*

Thank you. Very impressive performance on your industrial business, up nearly 40% quarter on quarter, 22% of revenues. That's now bigger than your computing segment. That growth rate is actually bigger than your 40 nanometer and below. So I want to understand the outlook for this business. Is this sustainable? Is this a step function higher and now sustainable? What are you thinking of for that industrial line?

Morris Chang - *TSMC - Chairman & CEO*

A pretty large part of it goes into smartphones and tablets. And so we believe in the growth of those. Lora, you mentioned already -- you told everybody touch control and all that stuff. And --

Lora Ho - *TSMC - SVP & CFO*

Those MCU, data converter, flash controller, touch controller, those type of things.

Morris Chang - *TSMC - Chairman & CEO*

Voltage, yes. Power. Power, yes.

Lora Ho - *TSMC - SVP & CFO*

And power.

Steven Pelayo - *HSBC - Analyst*

But I guess the question is these are new businesses for you, so there should be a level of sustainability to them. Or is this still a cyclical thing and they're going to fall off as well?

Morris Chang - *TSMC - Chairman & CEO*

Well, but I thought I was answering that question. Mobile products are sustainable aren't they? Yes.

Steven Pelayo - *HSBC - Analyst*

All right. And then just maybe one more follow up on the competitive landscape --

Morris Chang - *TSMC - Chairman & CEO*

Is it cyclical. I think everything is cyclical.

Steven Pelayo - *HSBC - Analyst*

Sure.

Morris Chang - *TSMC - Chairman & CEO*

Except maybe bread and rice.

Steven Pelayo - *HSBC - Analyst*

And if I could just follow up on the competitive landscape. We heard just this morning from Qualcomm that they're going to qualify more competitors. You talked about how you've raised your guidance for pre-tax profit. You were surprised at the strength of smartphones and tablets. And so those customers are also looking for alternatives as well. The last question was really just specific to 28 nanometer, but I want to ask you, in general, the competitive landscape, do you feel that it is becoming more intense and now you need to be much more aggressive in pushing 20 and 16 nanometer? Or do you think the competitive landscape is more of the same?

Morris Chang - *TSMC - Chairman & CEO*

Well, competitive landscape has changed because competitors have changed. Three years ago, two years ago -- well, three years ago, anyway when you talk about competitive landscape you and I will both think of UMC etc with, at that time, Global Foundry emerging. And now you ask me what the competitive landscape is. Competitive landscape is Intel, Samsung, Global Foundry, UMC. And now -- two or three years ago Global foundry and UMC were almost the two only ones. And now they are the two less important ones.

So, all right, you asked me what the competitive landscape is. I really think that you know the answer. I actually read the same thing that you do. Maybe you read even more than I do. The last thing I was reading was -- I haven't finished reading it yet -- was Intel's call, the transcript. I read all those transcripts. I'm sorry. So I think it's very, very -- it's a very competitive environment. Very, very competitive. So it's our competitors have changed and they are even more powerful and more intimidating than our old competitors. Not that we are intimidated, okay?

Elizabeth Sun - *TSMC - Director, Corporate Communication*

All right. So for the interest of time I'm just going to allow one last questions from the floor and that's Credit Suisse, Randy Abrams.

Randy Abrams - *Credit Suisse - Analyst*

Okay, thank you. In the prepared remarks you mentioned you're taking preparations for the dip. Could you talk about some of those preparations, if it's any change in spending or plans?

Morris Chang - *TSMC - Chairman & CEO*

Preparations for the debt?

Lora Ho - *TSMC - SVP & CFO*

Dip.

Steven Pelayo - *HSBC - Analyst*

For the dip, the fourth quarter dip you said you're taking some preparations.

Morris Chang - *TSMC - Chairman & CEO*

Good. For the dip? Preparations, well, we have already had two rounds of cost reduction in the last two months. The first round was I initiated a -- and I made it the responsibility of every fab manager and every functional manager of the Company. And that again was, I guess, about 30 or 40 of them and each of them had a unit as for cost reduction. And the results were compiled and it was a pretty significant round. But just two weeks ago I called for another round of cost reduction. Clearly our objective is to keep the gross margin and operating profit margin up as high as possible. So yes, so preparations meant rounds of cost reduction, cost and expense reduction, COGS and operating expenses reduction, yes.

Randy Abrams - *Credit Suisse - Analyst*

A follow-up question on the gross margin guidance. You guided for a small decline in third quarter on rising sales. If you could maybe talk about the factors in the margin decline. And maybe from these cost reductions what the -- how we should think about OpEx growth in the next few quarters.

Morris Chang - *TSMC - Chairman & CEO*

Lora, would you? Yes.

Lora Ho - *TSMC - SVP & CFO*

Randy, if you look at our capacity by quarters, actually third quarter our capacity will go up by about 5%. So that's mainly the -- for 28 nanometer of course. So that's the main reason for this 7% growing revenue, but not as high as the bottom-line gross margin. But I believe that's temporary. When we ramp the 28 to a bigger scale, and with the improvement of profitability, I think this issue can be resolved.

Elizabeth Sun - *TSMC - Director, Corporate Communication*

Okay. I think we are about to wrap up for today's conference and conference call. And, before we conclude, please be advised that the replay of the conference will be accessible three hours from now. Transcript will be available within 24 hours from now, both of which will be available through our website at www.tsmc.com.

Thank you for joining us today. We hope you will join us again next quarter. Goodbye and have a good day

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