Q3 2020 Earnings Call

Company Participants

- Peter Wennink, President and Chief Executive Officer
- Roger Dassen, Executive Vice President and Chief Financial Officer
- Skip Miller, Vice President of Investor Relations

Other Participants

- Adithya Metuku, Analyst
- Aleksander Peterc, Analyst
- Alex Duval, Analyst
- Amit Harchandani, Analyst
- Andrew Gardiner, Analyst
- David Mulholland, Analyst
- Joe Quatrochi., Analyst
- Krish Sankar, Analyst
- Mehdi Hosseini, Analyst
- Sandeep Deshpande, Analyst

Presentation

Operator

Thank you for standing by. Welcome to the ASML 2020 Third Quarter Financial Results Conference Call, on October 14, 2020. Throughout today's introduction all participants will be in a listen-only mode. After ASML's introduction, there will be an opportunity to ask questions.

I would now like to open the question-and-answer queue. (Operator Instructions)

I would now like to hand the call over to Mr. Skip Miller. Please go ahead, sir.

Skip Miller {BIO 20244900 <GO>}

Yes. Thank you, operator. Welcome everyone. This is Skip Miller, Vice President of Investor Relations at ASML. Joining me today on the call is ASML's CEO, Peter Wennink, and our CFO, Roger Dassen. The subject of today's call is ASML's 2020 third quarter results. The length of this call will be 60 minutes and questions will be taken in the order that they are received. This call is also being broadcast live over the Internet at asml.com. The

transcript of management's opening remarks and a replay of the call will be available on our website shortly following the conclusion of this call.

Before we begin, I'd like to caution listeners that comments made by management during this conference call will include forward-looking statements within the meaning of the Federal Securities laws. These forward-looking statements involve material risks and uncertainties. For a discussion of risk factors. I encourage you to review the Safe Harbor statement contained in today's press release and presentation found on our website at asml.com and in ASML's Annual Report on Form 20-F, and other documents, as filed with the Securities and Exchange Commission.

With that, I'd like to turn the call over to Peter Wennink for a brief introduction.

Peter Wennink {BIO 1852674 <GO>}

Thank you. Skip. Welcome everyone and thank you for joining us for our Q3 2020 results conference call. I hope all of you and your families are healthy and safe. Before we begin the Q&A session, Roger, and I would like to provide you with an overview and some commentary on the third quarter, as well as provide our view on the coming quarters, and Roger will start with a review of our Q3 financial performance with added comments on our short-term outlook. I will complete the introduction with some additional comments on the current business environment and our future business outlook. Roger?

Roger Dassen {BIO 15064806 <GO>}

Thank you, Peter. Welcome, everyone. I will first review the third quarter financial results and then, provide guidance on the fourth quarter of 2020. Net sales came in above guidance at EUR4 billion, primarily due to additional EUV system revenue. We shipped 10 EUV systems and recognized revenue from 14 systems this quarter. For four systems that shipped in Q2, but did not receive factory acceptance testing before shipment, we were able to complete customer site acceptance test and recognized revenue this quarter, bringing the total to 14 EUV revenue systems in Q3.

EUV system revenue this quarter was 66% of total system revenue, which is the first time EUV was higher than Deep UV system revenue. This further confirms EUV has entered the realm of high volume manufacturing and is an integral part of our core operational activities. Net system sales of EUR3.1 billion was again more weighted towards Logic at 79%, with the remaining 21% from Memory. The strength in Logic is driven by the high EUV revenue.

Installed Base Management sales for the quarter came in at EUR862 million showing continued strength in our service and field option business from the beginning of the year. Gross margin for the quarter was 47.5%, coming in at the mid-point of our guidance, which is a good outcome considering the significant EUV revenue.

On operating expenses, R&D expenses came in at EUR534 million and SG&A expenses at EUR132 million, which was slightly better than guided. Net income in Q3 was EUR1.061

billion, representing 26.8% of net sales and resulting in an EPS of EUR2.54. Turning to the balance sheet, we ended third quarter with cash, cash equivalents and short-term investments at a level of EUR4.4 billion, which is the same level as last quarter.

Moving to the order book Q3 system bookings came in at EUR2.9 billion, including EUR595 million for EUV systems. We saw some EUV demand reduction due to a delay in customers node timing, resulting in a net booking of four EUV systems. Order intake was largely driven by Logic with 86% of bookings and Memory the remaining 14%.

With that, I would like to turn to our expectations for the fourth quarter of 2020. We expect Q4 total net sales of between EUR3.6 billion and EUR3.8 billion. We expect our Q4 Installed Base Management sales to be around EUR900 million, which is driven by strong demand for field upgrades and growing service revenue, with an increasing contribution from EUV service.

Gross margin for Q4 is expected to be around 50%, which is significantly higher than Q3, driven by higher immersion volume and improved Deep UV product mix. The expected R&D expenses for Q4 are EUR550 million and SG&A is expected to come in at EUR140 million. Our estimated 2020 annualized effective tax rate is still expected to be around 14%.

Finally, I would like to talk about capital allocation and working capital. As mentioned last quarter, we are in a transition period with customer contracts as we work to move towards new contracts with improved payment terms. We do see some of these new contracts starting to materialize and expect to improve our free cash flow generation in the coming quarters.

Interim dividend over 2020 will be EUR1.20 per ordinary share. The ex-dividend date as well as the fixing date for the euro/US dollar conversion will be November 2, 2020, and the record date will be November 3, 2020. The dividend will be made payable on November 13, 2020.

Conditions in the COVID environment have improved around our ability to operate and our assessment of our supply chain. Taking this into account along with our improving free cash flow generation, we will resume executing share buybacks this week in line with the plans that we have communicated earlier this year for a total of EUR6 billion over three years.

With that, I'd like to turn the call back over to Peter.

Peter Wennink {BIO 1852674 <GO>}

Thank you, Roger. As Roger highlighted, we had a very strong quarter with EUR4 billion in revenue and good profitability, driven by strong growth in Logic. We expect Q4 to be a solid finish to the year in both sales and profitability. And in spite of added macro uncertainty in the first half of the year due to COVID-19, our view on growth this year is

largely unchanged from what we believed at the start of the year. This is a clear reflection of our customers' drive to innovate and continue to invest in future technology nodes.

In Logic, customers continue to see strong demand for advanced nodes in support of the build up of the digital infrastructure, which includes secular growth drivers such as 5G, AI and high performance compute. And as we are still in the early stages of this digital transformation, we expect Logic demand to remain healthy and continue to drive demand for our products.

In Memory, customers are continuing to indicate that they are seeing healthy demand in data centers, with improving demand for consumer electronics. With customers' expectations for higher bit growth next year and taking into account the longer lead times and qualification schedules for advanced litho, we are starting to see a recovery in lithography demand for DRAM with strong growth expected in Q4 this year. Based on the confirmation [ph] of this improving end market environment, we expect this Memory recovery to continue into next year.

Sales to China continued to grow and accounted for 21% of our systems revenue this quarter. We expect sales to our domestic Chinese customers to grow to above EUR1 billion this year, which includes sales to both Logic and Memory customers in China, with the mix skewed towards Logic this year, but trending to higher Memory sales next year.

Regarding US export rules to China, we are aware of the requirements set by the US Commerce Department for specific companies in China, and as such, according to the current regulation, ASML can continue to ship Deep UV lithography systems from the Netherlands. ASML requires a US export license for systems or parts that are shipped directly from the US to the customers affected by the rules. While there is not a policy to comment on individual customers, we aim to serve and support all of our customers around the world to the best of our abilities whilst being, of course, compliant with laws and regulations set by the jurisdictions where we operate.

In our Installed Base business, we still expect significant growth this year. Through the first three quarters, we realized revenue of around EUR2.6 billion and as Roger mentioned, we expect another solid quarter in Q4. Service business will continue to scale, as our installed base grows, with increasing contribution from EUV service revenue as these systems run more wafers in volume manufacturing. We expect significant demands for upgrades as customers utilize upgrades to increase capacity and improve imaging and overlay performance required on future nodes.

On EUV, although our customers are still climbing the maturity curve, we continue to see increase in customer confidence in the technology, which is translating into expanding layer counts in Logic, initial deployment of EUV in Memory and an increase in service revenue.

With 10 shipments this quarter, we have shipped 23 EUV systems year-to-date. With completion of customer site acceptance test and revenue recognition of the four systems shipped last quarter, we achieved a remarkable EUR2 billion of EUV system revenue from

14 systems in Q3. We're still planning to manufacture 35 systems this year, but due to the pace of customers' node ramps and their fab readiness, a few systems may end up being shipped early next year. But despite this potential shift of shipments to early next year, we are still targeting EUV revenue to approach EUR4.5 billion this year.

We continue to drive profitability of our EUV systems and service business. We are on track to achieve at least 40% system gross margin and we've started to break even on service business this quarter. We will continue to drive margin improvement in both systems and service cost via cost reductions and delivering more value. And as we before, we expect EUV to reach margins comparable to Deep UV margins over next two to three years.

We are on track with our EUV cycle time reduction plan to get to 20 weeks by the end of the year, enabling a capacity of 45 to 50 systems. With respect to demand for next year, we currently have an EUV systems backlog of EUR6.2 billion exiting Q3, with around 65% of this backlog planned for shipment next year.

While we expect more orders in Q4, we did see some EUV demand reduction for next year due to a delay in customer node timing, which resulted in net bookings of four systems in the quarter. Although there is clear uncertainty due to the current macro environment, as well as exact timing, slope of ramp and ultimate size of the customer nodes, we currently expect EUV system revenue growth of around 20% next year.

In our Deep UV business, we qualified the first NXT:2050i in Q3, which shipped early Q4. This immersion system is based on a new version of the NXT platform, where the reticle stage, the wafer stage, the projection lens and exposure laser all contain performance enhancements. With these innovations, the systems deliver increased customer value via improved performance in overlay and productivity, and are therefore critical in support of their next node introductions.

To summarize 2020, in spite of macroeconomic uncertainty in the first half of the year, we see the year playing out quite similar to what we saw at the start of the year ago. We expect to end another strong year in Logic, Memory growth of over 30% and significant growth of over 20% in our Installed Base business. With this, we expect double-digit growth in both sales and profitability leading to estimated revenue of at least EUR13.3 billion.

As we look to 2021, it's too early to provide any detailed guidance as we are working with customers to determine demand plans going forward. While there are still significant uncertainties, we expect another year of low-double digit growth, largely driven by our current view of expected EUV systems revenue growth of around 20%. There are a number of elements that will determine the degree of growth and the uncertainty of course.

First, it's the macro environment, because nobody can predict the global economic impact of COVID and how this will impact the end markets that we serve. On top of this, there is also the geopolitical environment, predominantly the US/China dynamics that

creates additional uncertainty. In Memory demand will depend on bit growth next year. Customers seem to broadly believe the inventory issues will be normalized by the end of this year and expect stronger bit growth in 2021.

We currently see stronger litho demand for Memory next year, which is consistent with customers' comments. However, the degree of growth will of course depend on continued technology transitions and how much capacity will be added. In DRAM specifically, we see support of this expectation through high utilization of our litho systems in the field at the moment. While we expect to see more EUV systems go to DRAM next year in support of 1 alpha node, Memory is still a key driver for our Deep UV demand. In Logic, we expect demand will remain healthy. However, final demand will depend on timing and the slope of node ramps, driven by the end demand curves.

Customers are continuously recalibrating their roadmaps leading to changes in their shipment requirements, which will likely have an impact on our demand next year. The other aspect of demand timing is around the slope of the node ramps and this will be determined by how many wafers will move into each of the foundry node and as I mentioned before, a function of the health of the end demand next year.

Lastly, on Installed Base business, we expect continued growth, but the degree of growth will be more dependent on upgrade businesses as service business is pretty predictable and grows with installed base.

In summary, there are a lot of dynamics at play, both at the macro level, geopolitical level, as well as market specific circumstances. However, the ongoing transformation of the digital infrastructure along with the secular end market drivers such as 5G, AI and high power compute, will continue to fuel demand for advanced process nodes, both in Logic and Memory, which drives the demand for our products. Therefore, although we are currently going through a period of near-term uncertainty, the long-term demand drivers only increase our confidence in our future growth outlook towards 2025.

With that, we will be happy to take your questions.

Skip Miller {BIO 20244900 <GO>}

Thank you, Roger and Peter. The operator will instruct you momentarily on the protocol for the Q&A session. Beforehand, I would like to ask that you kindly limit yourself to one question with one short follow-up if necessary. This will allow us to get to as many callers as possible.

Now, operator, could you have your final instructions and then the first question please.

Questions And Answers

Operator

Thank you, sir. At this time, we will begin the question-and-answer session. (Operator Instructions) Our first question is from Mr. Krish Sankar. Please state your company name followed by your question.

Q - Krish Sankar {BIO 16151788 <GO>}

Hi. It's Krish from Cowen. Thanks for taking my question. I had two of them. First one, Peter, on the 20% EUV growth for next year in terms of revenue, what does it imply for units, is it around 40? I'm just trying to figure out what the unit number would be for next year for EUV and then I had a follow-up call.

A - Peter Wennink {BIO 1852674 <GO>}

Yeah. Krish, you need to understand, I mean, we always get this question on the unit numbers, but at the same time, we always get the question on why is the ASP in that quarter higher or lower. For instance, last quarter, it was like EUR145 million, which was last quarter the result of the specific configuration sets and the PEP upgrades that were included in the shipments. So there is ASP because what you're asking is, the number of units times the ASP gives you the euro sales number. And this is why we just give you the euro number. Yeah. And it depends on the configuration and the richness, you could say, of the configuration that actually determines ultimately how many of those units we will ship.

So we are not guiding any units. We just give you a euro number that we believe is going to be 20% up from this year, which is around EUR4.5 billion this year. So I think it's going to be at least 20% because I think we've looked at the demand picture. I think we derisked it for some of the recalibrations of the nodes and the nodes timing and we're coming up with that euro number and I think going forward also, we will do that. Just like we do with Deep UV and with the total Company sales, we just don't tell you how many units we sell, we just tell you what we think how much euros we will sell.

Q - Krish Sankar {BIO 16151788 <GO>}

Got it. Peter, that makes sense. Thanks for that. And then as a follow-up on the DRAM side, clearly, you are seeing continuing strength from DRAM for Deep UV. There were some concerns in the marketplace that the DRAM makers might scale back some of their near-term CapEx because of Huawei going away. Have you guys seen any of this nuance, or just because of your long lead times, you're kind of agnostic to such noise?

A - Peter Wennink {BIO 1852674 <GO>}

Yeah. I think, we have this question on the impact of a potential drop off. Huawei is a key customer for our customers. When Huawei doesn't sell those smartphones or the digital infrastructure, somebody else will. So I think that in itself is not going to be a driver. It can only be a short-term disruption in timing. Demand might fall away, it might move to somebody else, but it probably takes some time before it pops up. So I don't think that's a structural issue.

No, I think we just need to look at what the situation is. When we get a push from our DRAM customers, we corroborate that push with what we see in utilization of our tools

and the utilization of our tools is high and has grown, I would say, relatively gradually to this level throughout the year. And I think if you then listen to our customers said, well, we think that the inventory situation will normalize towards the end of the year, with the utilization position that we are currently seeing that is pretty close to what we think is kind of the maximum capacity, then it's not strange to conclude that they need more capacity next year, especially if you look at the demand coming out of the server business. And also, the uptick that we're seeing in consumer electronics. So all in all, that makes us more optimistic, together with our customers on the DRAM business going forward.

Q - Krish Sankar {BIO 16151788 <GO>}

Thank you. That's very informative and helpful. Thank you.

Operator

Our next question is from Mr. Joe Quatrochi. Please state your company name followed by your question.

Q - Joe Quatrochi. {BIO 18961101 <GO>}

Yeah. Thanks you. It's Joe Quatrochi from Wells Fargo. Just back on the 20% EUV growth for next year, can you help us understand, is that assuming that few tools slip from 2020 and are shipped actually in early 2021? And then, secondly, on that, is there a scenario that as we get into January and you get better visibility, there is actually some upside drivers for that 20% growth ex the systems that could potentially fall from 2020 into 2021?

A - Peter Wennink {BIO 1852674 <GO>}

Yeah. That's a good question. Well, as we said, for 2020, we have always said about EUR4.5 billion, which we stick to that. And then so the guidance of 20% up from that EUR4.5 of course includes all shipments that go from 2020 into 2021. You can draw the conclusion from that that our forecasted ASP at the beginning of the year, i.e., the configuration richness, yeah, that's been a bit better than we anticipated. We've seen two upgrades. So yes, that moves into next year and that's why units, I said as an answer to the question of Krish also, units are not that important because really it's the ASP that can really vary because of the configuration. So we guide you euros. But yes, it will move into 2021.

Now, is there upside is your second question? I think what we've clearly said also in our prepared remarks that we have adjusted our demand picture based on the recalibration that has happened within the customer base on the node timing and on the ramp of that node. That of course happens first because we know that, but it's also like you'll have to look at this almost in a way of communicating vessels. What goes down also goes up at the other side. Now in a communicating vessels, all happens at the same time. With us there's a bit of a time lag between when you adjust downwards and when you see that demand later in time coming back up. That is the upside. That is not what we've put into our 20%.

So you could actually say, we've taken all the information of today, taking into account all the uncertainties that we see, taking into account the node calibrations and this is what we actually tell you what we qualitatively see today, that there is upside, is also clear because like I said, if it's a communicating vessel, what comes down, comes up somewhere. But there's going to be a time difference and that's why we are preparing for a potential upside also in 2021. That's why we still talk about a build capacity that is higher, it's 40 to 45 systems, or is there 45 to 50 systems even. Yeah. And that's what we're organizing for in the supply chain. So yes, there could be upside for the reasons that I just mentioned and we are prepared.

Q - Joe Quatrochi. {BIO 18961101 <GO>}

Perfect. That's helpful. And then, just a quick follow-up. On the low double-digit revenue growth for next year, how do we think about OpEx growth?

A - Roger Dassen {BIO 15064806 <GO>}

OpEx growth, I mean, on the SG&A side, I think it will continue to develop as we've seen in the past quarter. So no major uptick there. On the R&D side, we are pushing down the accelerator quite a bit in terms of different programs both on High-NA, also on EUV. I mean, we're also obviously looking at and working on the successor of the D tool, which will have some demonstrable progress and value to our customers, which obviously requires quite some R&D work.

And also, on the Deep UV roadmap, there is still quite something to be done. So there we've talked in the past about adjusting the number that you've seen for this year with the salary increases. In fact, if we look at the magnitude of the program, it's probably going to be a bit higher. We are in the process of finalizing that right now because we're right now in the finalization of the budget. So more precise guidance we will be able to provide you with in three months time, but I think it's fair to assume that the increase in the R&D budget will be a bit higher than just the salary uplift.

Q - Joe Quatrochi. {BIO 18961101 <GO>}

Thank you.

Operator

Our next question is from Mr. Sandeep Deshpande. Please give your company name followed by your question.

Q - Sandeep Deshpande {BIO 3869012 <GO>}

Yeah. Hi. Thanks for letting me on. It's Sandeep from JPMorgan. My question is regarding couple of things. Firstly, you've already indicated that you've seen some push outs and you have reported a net EUV order intake in the recent quarter. I mean there has been a push out from one of your customers, but then that same customer could place order at another customer of yours. And so have you seen any movement on that front, or do you expect to see movement on that front in the next few months? And the question there,

which arises is that, can you satisfy short-term demand because you've talked about in the past that EUV tools are 12-month lead time, so whether that sticks?

And my quick follow-up to that question is on the gross margin, you're indicating this 20% revenue growth number into next year for EUV, which is a good number, but clearly, I mean it implies some amount of unit cut because of this push out from one customer. Does this have any implication on gross margin for ASML next year on EUV from the 40% -- or this progress from the 40% towards a much better EUV gross margin? Thanks.

A - Peter Wennink {BIO 1852674 <GO>}

Okay. So you guys are all squeezing five questions into one, which we had been a little bit prepared for. So Roger is going to answer that one. On your question of the pushes of the net four systems, have we then seen other customers then stepping in, well, it is bit this story of the communicating vessels, this is what you're asking in fact, which by the way, that is not retail. When you cannot get it with retail shop A, you move to retail shop B. It's a bit more difficult. Not so much for us because we could probably do that, but is for the customers. If one customer adjust their node timing, it takes time for us to see what that means and how that needs to be digested. So this is why I said in an earlier answer, yes, I see upside because there is a timing difference if you think about a communicating vessel between things going down and the other part going up again. So I definitely see that.

This is why we are preparing also to be able to ship more because to your point, if you would really already follow the order intake and then add 12 months lead time, it's never going to work. So you have to prepare for more because you would expect that there is a decent chance that you see some upside next year and you want to be ready. So this is where the 12 months' lead time is actually -- actually, that is more than 12 months, it's more like 18 months. But if you then prepare yourself because you do expect this, then you could of course accept POs with a delivery time that's way within that 18 months. So yes, we are preparing for more and time will tell whether the customers need it in that timeframe, 2021. I think they could, but time will tell. There is new opportunity there.

A - Roger Dassen {BIO 15064806 <GO>}

Sandeep, on the gross margin for EUV and then may be a little a little broader than that. So on EUV, you are absolutely right. So the 3600D will see an increase in gross margin. And I think we have said in previous calls that we hope with the 3600D to approach the corporate gross margin. So an improvement over the 40% that we targeted for this year and as we already said, we're probably going to even slightly exceed that target for this year.

So yeah, from that vantage point there will be an improvement in the gross margin for next year. The downside on EUV is that in the gross margin for next year, you will also see that we already have some operating expenses for High-NA. That is a little bit accounting. And with the CEO and the CFO of this Company both holding degrees in accounting, we say with a bit of pride, but the downside is that even though we're not selling High-NA next year, we already have some operating expenses in there which find their way into the cost of sales and therefore, in the gross margin. And that we assume will be about a 1% reduction in comparison to the gross margin that we have this year, just to give you an

order of magnitude. So a clear plus from the increased gross margin on the D. Also, an increase in the gross margin of EUV service margin that we talked about and then a little bit of a negative there.

And then, if you look at everything also into the Deep UV business for instance, that then becomes a little bit of a swing factor for next year, the mix in Deep UV for next year and also the level of the field upgrades. All in all, target that we had for -- or that we have for Q4 and also the target that we have little bit moving forward to 50%, with all the pluses and minuses, we're probably going to be somewhere in that range of the gross margin that we had for this year, for the full year and then the 50% target that we're envisaging. That's where you're going to find yourself in that mix with all the pluses and minuses that I just discussed.

Q - Sandeep Deshpande {BIO 3869012 <GO>}

Thank you, Roger.

Operator

Our next question is from Mr. Andrew Gardiner. Please state your company name followed by your question.

Q - Andrew Gardiner {BIO 7137663 <GO>}

Good afternoon, gentlemen. Thanks for taking the question. It's Andrew Gardiner from Barclays. Just another one on EUV, please. Just in terms of some of the distinction over what you're seeing with customer plans the next year, I think we can all appreciate some of the, as you said, node migration, recalibration, but in terms of the commitment to the technology, particularly by those who are leading the way in deployment, where are we in terms of EUV layer count looking to the next node or in three node relative to earlier expectations?

Peter, you made a comment that customers are more confident in the technology. So even if ultimate capacity maybe taking a little longer to ramp in terms of wafers, are you seeing the layer count continuing to creep higher? And I suppose that's Logic, but also similarly in Memory with DRAM, press were reporting, one of your major customers visited you this week, talking about EUV and commitment there. So similarly around DRAM, where are we in terms of layer count expectations? Thank you.

A - Peter Wennink {BIO 1852674 <GO>}

Yeah. I think on the layer counts, I mean it's clear evidence given to us that the customers have embraced the technology and that the technology gives a lot of advantages in simplification in the lower -- with lower work in process, faster turnaround times in R&D. So that's -- I mean you take it altogether, then I think on N5 in Logic, we are over 10 layers and in N3 we will be over 20. And we actually see that creeping up. And that has just the fact that, it gives so much more advantage to go to single patterning and takeaway these multi-patterning Deep UV strategies which is also true for DRAM. Of course, DRAM is a bit

behind in terms of HVM introduction as compared to Logic, but also there we see the same trend. And it's the process simplification that's actually driving the additional layers.

And in DRAM although we start with one, yeah, clearly, we can see strategies going forward, 1 alpha and beyond that will add up to five, six layers. And that's -- but it's really dependent also on how much productivity can we get out of the tools. You have to realize that customers are currently pushing us extremely hard to get more wafers out. I mean we are introducing EUV tools with more productivity, with more wafers per hour. We have the C Version introduced. We're now looking at the D Version and beyond the D version, there is going to be another version with increased productivity. But today, when we have our customers discussion, it's really a discussion about, could you please speed up the maturity of the tool, get your EUV tools at the same level of productivity and of reliability and up-time as you have for your Deep UV tools. And they know it's going to take time, because we need more EUV wafers. We need more. That is the consistent question that we are getting. And I think it's driven by the fact that they see the big economic and technical benefits of using EUV. And it will drive the layer count up both in Logic and DRAM and like I said, entry of over 20 layers and that's only creeping up.

Q - Andrew Gardiner {BIO 7137663 <GO>}

Thank you, Peter. And just quickly, Roger, if I could just ask a follow-up to the prior question? When you talk about gross margin, I just want to make sure I was clear on what you were saying. You are saying gross margin for next year of somewhere between the 2020 level, which based on the guidance you've given us for 4Q is going to be around 48% and the 50% that you're aiming for in terms of fourth quarter, is that right somewhere sort of in that range?

A - Roger Dassen {BIO 15064806 <GO>}

So that's right. So 48% is -- if you do the math and you take the 50% guidance that we gave for Q4, then you would probably see this year for the full year -- and for the full year, you would see about 48%. What I'm saying is, if you take all the pluses and minuses that we just talked about, you're going to be in that range for the anticipated gross margin for next year. Of course, more guidance on that, where the year is firming up, so more clarity on that in three months time. But directionally, I think that's what you're looking at.

A - Peter Wennink {BIO 1852674 <GO>}

And that's based on the, let's say, low double-digit growth as compared to this year. So any upside on the additional business, of course, will have an impact on the margin profile. And as Roger said, we just have to take care of this accounting issue on High-NA where we don't sell High-NA but we simply cannot --

A - Roger Dassen {BIO 15064806 <GO>}

(Multiple Speakers) gross margins.

A - Peter Wennink {BIO 1852674 <GO>}

We cannot capitalize anything in inventory. We just have to write it off, so this is what is -- which by the way will give us better High-NA margins once we start shipping High NA.

Q - Andrew Gardiner {BIO 7137663 <GO>}

Thank you, guys.

Operator

Our next question is from Mr. David Mulholland. Please state your company name followed by your question.

Q - David Mulholland {BIO 16819172 <GO>}

Hi. I'm Mr. Mulholland from UBS. I just wanted to follow up on the comments you made around China, Peter. Obviously, it's clear you're still able to ship, particularly outside of Netherlands to particular customers. But for those that have been facing sanctions from everything we've read, are you assuming any shipments into those customers for 2021 because whilst you may be able to ship yourself, lot of (inaudible) face some indirect impact if they're unable to buy from some of the other semi-cap equipment space? And then I've got a follow up afterwards.

A - Peter Wennink {BIO 1852674 <GO>}

Yeah. I think it's a good question, David. When we talk to our Chinese customers and you have to understand that when they look at some of the other process tools, there are some alternatives here and there. There are alternatives in Japan when you talk about ALD or you talk about deposition tools. There is an European company, which is in Singapore that can be an alternative. So on metrology, there are alternatives both in the Netherlands and outside the US, in Japan and even increasingly in other parts of the world. So if you are a Chinese company and there's one thing that the alternatives is more difficult on, it's on litho. So you just want to make sure that you get your litho tools. And of course, companies that are on a list where under the current agreements we cannot ship to, we will not ship to.

I mean it wasn't our agreement, that mean our -- we just have to go for -- and have to look at those lists and we follow those lists. But currently the customer that we've been talking about, our Logic customer, one of the major Logic customers in China actually allows -- or the rules allow us to ship litho tools. And it's for those Chinese customers very important to actually get their litho tools and then find a solution for the other process tools, but litho is critical. It's the most critical tool in your fab. So that's why it's not changed -- that's why it's not strange that they still talk to us and said, hey, you know, just make sure that you ship us the tools that we need because it all starts with -- in terms of CapEx, it all starts with the most expensive tool in the fab and that's litho.

Q - David Mulholland {BIO 16819172 <GO>}

That's great. Thanks Peter. And then just a quick follow-up. You've obviously said you're keeping the door open to more shipments potentially for next year if you do see upside elsewhere. How long and how much balance sheet are you willing to keep that door open

for? Obviously, you've got the funding to do it, but are you making customers commit by the end of this year or how long are you leaving that flexibility?

A - Peter Wennink {BIO 1852674 <GO>}

Yeah. I think it's a good question. Of course, we try to push it, but at the other hand -- and I know customers are listening into this call also, so I'm not doing myself a favor. But part of the difference between the bottom up numbers that we currently see -- and it is risky under these circumstances, there are (inaudible) more risk and our build capacity anywhere in between, we're going to make sure that we have some extra leeway, some extra room. So we're not going to go all out and then trying to completely maximize our output, but between what we currently think in terms of units and that maximum number somewhere in between we are going to make sure that we will be able to react. And like I said, I'm not doing myself a favor because customers are listening in. So it will probably take a bit of time before we get the PO, but if they need it, they will come and we will ship.

Q - David Mulholland {BIO 16819172 <GO>}

Perfect. Thanks, Peter.

Operator

Our next question is from Mr. Amit Harchandani. Please state your company name followed by your question.

Q - Amit Harchandani {BIO 16134002 <GO>}

Thank you. Good afternoon and good morning, everyone. Amit Harchandani from Citi. Two questions if I may. My first question relates to the ramp on the Logic side for EUV. Could you give us a sense for where we are in terms of technological readiness, whether that is playing a part in terms of how customers are thinking about ramping, say, beyond the N5 towards the N3? Appreciate the demand dynamics, it's one factor, but if you could help us give us a sense for the overall technological readiness of the ecosystem?

And secondly, if I may, on a separate note, you have given us some perspective on contribution from China. Could you maybe quantify that and give us a sense for how derisked that number is, or what's the puts and takes if there was a potential change in US legislation? Thank you.

A - Peter Wennink {BIO 1852674 <GO>}

Yeah. On that last part, Amit, I'm not speculating on the behavior decisions of governments because that's basically what it is, it is, you cannot derisk. The only thing that you know if you look at the current situation, you have to look at the specific situation that this Company is in, in the geographical area that we operate in, which is Europe, and the ability of us within the rules and the regulations to ship tools. That's what we're planning for. Now, there are a lot of powers at work, which are beyond ASML and it's very difficult. I'm not going to speculate on what that is, what an upside is, what a downside is. I'm trying to just deal with reality as we see it today. And that's what we do, it's how we derisk, or it's just how we look at the Chinese business, which of course is just more than that.

There are several customers there. We have four, five major customers there. So I'm not going to speculate there, because I don't know what governments are going to do.

On the EUV, the technical readiness of EUV, it's technical ready. The ecosystem on N5 and N3 is there, it's going to do it. It has to do with how quickly can we bring for instance the EUV maturity up to the maturity of our Deep UV immersion tools, which is all of our customers are reaching 98% to 99% up-time. Well, we are not at 98%, 99% up-time, and it by the way varies. We have tools that are over 90%. We have tools that are under 90%. So it is the stability which has to do with the majority of the tools. So this is why our customers in the discussions that we're having with them are really saying, okay, first things, focus on the maturity of those tools, which we will do, which is normal. I mean it is a new technology in high volume manufacturing, completely normal. We saw the same thing when we introduced dual stages. We saw the same thing when we introduced immersion. It's very logical, will take some time before we get all the solutions on lifetime of parts, all implemented in the field. That's not an issue, just customers want it faster.

Why do they want it faster? Because their customers are just pushing them on more EUV wafers. That's what we see today. The key discussion that we're having with our customers, give us more EUV wafers and preferably by improving the maturity of the tools faster. And then, on top, in the end the market turns out to be okay, give me more capacity and that's the order. So this is how it actually works. I have no doubts about technological readiness at all. This was a question that we could go into a lot of detail a couple of years ago, but not today.

A - Roger Dassen {BIO 15064806 <GO>}

And I mean if you look at typically the things that are being referred to in terms of readiness for the ecosystem, it's the typical list, right. So you're talking about mask inspection. I think it's pretty clear that the technology is further developing there to cater to that. You're looking at pellicle and actually there, I think, you've also recently seen some good breakthroughs in transmission there, both for ourselves and also for some others. Photoresist, which we all know is only -- is always going to be there, it's just that, the massive development there will happen at a point in time where the whole thing is going into HVM. That's what you see. So on the typical elements there you see that's a -- good progress is being made.

And I think that's also echoed at the EUV conferences by our customers. And they show these slides where they talk about the progress in the ecosystem. And to Peter's point, if you look at that, where they had their assessment two years ago, that was actually quite some amber and read on the slides. And if you look at the slides that they present today about the readiness of ecosystem, the red is gone, and it's all green.

A - Peter Wennink {BIO 1852674 <GO>}

And you have to also -- which is the advantage of being around for a little while. I mean we have seen this also when we did dual stages, when we did immersion. When you have a wavelength change things are very different for our customers in their production process. And that needs to mature also. It's not only our exposure tool, it's everything that goes with it. It's the pellicles where we started with 82% transmission. Now, we have

qualified 88%. And we have -- like we said, there are -- in research institutes, the transmission that is far over 90%. The same is true for, like Roger said, for photoresist. This is very normal. It's very normal. The entire industry, the ecosystem is up, basically climbing a maturity curve and that's going to be there with us for the next one or two years before it really starts hitting home on maturity levels that we saw with Deep UV. It's just going to take a bit of time.

Q - Amit Harchandani {BIO 16134002 <GO>}

Brilliant. Thank you for the confident response, gentlemen.

Operator

Our next question is from Mr. Alexander Duvall. Please state your company name followed by your question.

Q - Alex Duval {BIO 16682293 <GO>}

Yes. Hi everyone. It's Alex from Goldman Sachs. Many thanks for the question. You talked about progression in terms of EUV models and how you continue to invest in that direction. And I wondered if you could talk a bit about the average selling prices, effectively will they go up to on the D and E models and is it fair to assume 50% of the mix into the next year is going to be coming from the D model and when do we see the E model roughly end numbers? Many thanks.

A - Roger Dassen {BIO 15064806 <GO>}

So Alex in terms of the ASP increase for the D, what we've indicated there is, somewhere between 10% and 15% is a good estimate of the increase in ASP. In terms of productivity, you see a 19% increase with the productivity of that tool and also in overlay, you see an improvement of 1.5 to 1.1. So some pretty good value that is being provided to the customer, which justifies the uptick in ASP I just talked about.

On the E, that's quite a while out, so we're not going to give any indications on the ASP development there, but as I said, there are some pretty significant improvements and value enhancements that are being planned on that tool, but more to talk about that when we are approaching the launch dates of that.

On the D model and the composition of next year in terms of units, as we've indicated, we plan on really introducing the D model for HVM at the midpoint of next year. So that kind of gives you a bit of an indication of how the spread is going to be for next year.

Q - Alex Duval {BIO 16682293 <GO>}

That's very clear. Many thanks.

Operator

Our next question is from Mr. Mehdi Hosseini. Please state your company name followed by your question.

Q - Mehdi Hosseini {BIO 4362002 <GO>}

Yes. Mehdi Hosseini, Susquehanna. I have two questions with a few follow-ups. It would be great if you could give us the mix of EUV upgrade that is being embedded in the field option? And also if you could give us an update on the multibeam eBeam? I believe the beta tool was shipped early this year. What's the update and how do you see acceptance into next year? Thank you.

A - Peter Wennink {BIO 1852674 <GO>}

Okay. I don't think we can give you -- at least, I don't have it, the mix between upgrades and the system prices. That's what you're asking. Mehdi?

Q - Mehdi Hosseini {BIO 4362002 <GO>}

Yes. I just want to understand -- (Multiple Speakers).

A - Peter Wennink {BIO 1852674 <GO>}

Yeah. Of our EUV sales, how much is upgrade business and how much is system business, is that what you want?

Q - Mehdi Hosseini {BIO 4362002 <GO>}

Yes. You have a highlighted upgrade opportunities with the all the models and I wanted to see how much of that is driving -- is in the field option?

A - Peter Wennink {BIO 1852674 <GO>}

Okay. Yeah. You have these different types of upgrades. You have an upgrade like -- this is why the ASP in Q3 was a bit higher, upgrades that are already included in the tool that we ship. So that is one. They also have upgrades of tools that are in the field and that depends on what upgrade do you want, do you want upgrade from B to a C, and that is a different upgrade than when you have a 3350 going into a 3400C. I mean, that's almost like a complete refurb in the field. And that's significantly more expensive and customers are looking at all of those. So there also you have the mix of what kind of upgrade do you want. And you have 3400B upgrades, which actually are in the -- from a productivity point of view, that are in the midpoint between the original B and the current C. So this is also what you can you choose. So it's very difficult to give you as a forward-looking outlook on what that is because it very much depends on the customer plans and on their capacity planning in terms of wafers per day.

So we're just going to give you the total number and when that happens. And these upgrade plans also change. I had a very recent discussion with a very large customer, who really wants to look at an upgrade plan where they want different scenarios. Well, depending on how the scenario pans out, the upgrade revenue is going to be different

than in another scenario. So I wouldn't even dare to give you any guidance there because I would be wrong.

Q - Mehdi Hosseini {BIO 4362002 <GO>}

Sure.

A - Peter Wennink {BIO 1852674 <GO>}

So the MBI, the multi-beam tool, yeah, I mean, we're going to ship another two beta tools this year. And like I said, it is really customers are going to use those tools, because it's not just the tool, it's also how do you integrate a multibeam wafer inspection tool into your entire yield management process. And that will happen over the next half year to three quarters of year, and that will determine the uptake of that tool and the POs for that tool. So what we are seeing is that -- at least, that's what we believe and we are now in the first integration phase of the first tool that we shipped last quarter. We just have to see that what we believe the advantages of a tool that is 6 times faster, how much of that can translate into real value for the customer. That's going to be a bit of a wait and see, but we have people there and we are optimistic and ultimately that optimism needs to be confirmed by the customer, that's us putting into POs. So you have to be a bit patient Mehdi on that news. So it's going to be another one or two quarters before we get some clarity on this.

Q - Mehdi Hosseini {BIO 4362002 <GO>}

Got it. Thank you so much.

Operator

Our next question is from Mr. Aleksander Peterc. Please state your company name followed by your question.

Q - Aleksander Peterc

Yes. Good afternoon and thanks for the question. This is Alex Peterc from Societe Generale. Just one on the balance sheet first. Could you now give us an idea where we will land in terms of net cash for the year and what will happen with working capital in the fourth quarter, if you could quantify that for us?

And then just, secondly, coming back to your comments Peter on this communicating vessels in EUV orders. So given the push outs by one customer, is there a realistic scenario whereby we get a big jump then in orders as that node progression starts to materialize and we get then a very strong '22? Is that a realistic scenario or do you see things more smoothed out in the future? Thanks.

A - Roger Dassen {BIO 15064806 <GO>}

Aleksander, on free cash flow, we're not guiding free cash flow. I can't tell you that there will be a very significant free cash flow generation in Q4 for a couple of reasons. One reason is, the free cash flow generation this quarter was rather low. As a matter of fact, it

was slightly negative. And one main reason there is that, many, many tools shipped in the last month of the quarter as a result of which the cash generation of that will fall into Q4. So there will be significant free cash flow generation in Q4. That's also the reason why we communicated that we will resume the share buyback, why we announced the interim dividend. So we're very confident on the free cash flow generation in Q4, but we're not guiding that.

A - Peter Wennink {BIO 1852674 <GO>}

Yeah. And on your communicating vessels question, well it actually was my introduction on the communicating vessel. But the question is, could that then give a big jump in orders because there is a time difference and you rightly asked the question, how big could the time difference be. And like I said, we are preparing for more output in '21 because I think it could happen in '21. But they ask the question about what about '22? Well, that way [ph] you could say, well, we're in 2020, and so what do I know about 2022. But in the context of your question, I do believe that, in any case, 2022, we will see the effects of that communicating vessel movement. I think there's also an opportunity as it can be pulled into 2021. This is why we are preparing for more shipments, let's say, from a manufacturing and supply chain point of view. But more importantly, in 2021, I think we will see then the introduction of the next nodes in Logic and in DRAM. I think 2021 in any case will be, you could say, the recipient of the node transitions. 2021 will be year where you know the node transition happening, which as we talked about, N3 will have over 20 EUV layers. So it's double -- would then be on top of what I would see as a normal progression of the EUV volumes.

Q - Aleksander Peterc

Very clear. Thanks.

A - Skip Miller {BIO 20244900 <GO>}

Okay. We have time for one last question. If you are unable to get through on the call and still have questions, please feel free to contact the ASML Investor Relations department with your question. Now, operator, may we have the last caller, please?

Operator

Yes Sir. The final question is from Mr. Adi Metuku. Please state your company name followed by your question.

Q - Adithya Metuku {BIO 17642884 <GO>}

Yeah. Good afternoon, guys. It's Bank of America. I had two questions. First question just on the assumptions you have embedded into your low-double digit growth guidance for revenue in 2021. Can you talk about what you are assuming in terms of domestic Chinese demand? Secondly, also foundry plus Logic demand and Memory demand and services, just to get a sense for what exactly you're embedding.

And secondly, now there's been a lot of discussion in the market around how the number of customers at leading edge could go down over the next few years. If you could give us

some sense based on your discussions and any order trends, et cetera, that you might be seeing, how likely do you think that is? I think that would be much appreciated. Thank you.

A - Peter Wennink {BIO 1852674 <GO>}

Yeah. So what do you want to know exactly? The number of customers in the leading edge, you mean, are you asking a question on how that is trending?

Q - Adithya Metuku {BIO 17642884 <GO>}

No. If you look out two to three years out, do you think the number of customers producing leading edge devices could go down? How do you think about that? How do you think about that when do your planning, et cetera?

A - Peter Wennink {BIO 1852674 <GO>}

Yeah. I think on the --

A - Roger Dassen {BIO 15064806 <GO>}

On the first question.

A - Peter Wennink {BIO 1852674 <GO>}

I'll take the second one.

A - Roger Dassen {BIO 15064806 <GO>}

On the first question, Adi, I think we've given you the top-line figure, both for the total business and for EUV. As Peter mentioned, of course, there are many -- there are quite some uncertainties that have been factored into that number and there are quite some swing factors going left and right. I think what we should do is, in three months time, when we have a discussion on the full year's results, but also going to have our first real insight into next year, I think that's -- what I suggest is that, at that point in time, we're going to talk about what are the main drivers. So at that stage, I think it would be good to say just as we did at the beginning of this year, if we look at the different segments of the markets, how do we look at those and what growth drivers do we see there. I think that's the way I would suggest we do that and leave it at the top-line indications that we've given for now.

A - Peter Wennink {BIO 1852674 <GO>}

Yeah. And I think I will answer your two questions on domestic China. I think it's almost not relevant. It sounds a bit arrogant, but you have to realize that the Chinese customers in Logic and in Memory, they are in ramp. They have customers. All their wafers are sold. They go to their customers that put them into devices. So if for whatever reason that China business does not exist, those customers still need wafers. And then they will buy those wafers somewhere else. And I think where we just said in Memory, for instance, in DRAM, we see very high utilization towards the max. So where do those waivers come from? They either come from added -- they need to come from added capacity

somewhere. And I think this again is a question of this communicating vessel. When one set of customers might not for whatever reason need those capacity tools, then another needs it. And I think with Deep UV that time period is much shorter than with EUV. Yeah. So I think that is -- it will resolve itself relatively quick.

Now, on the number of customers in the leading edge, as one thing is absolutely certain, things are not getting easier. The next nodes will increase complexity and I think only the very large customers can deal with that. We've seen over the last 20 years a significant reduction in number of leading edge customers and I think it's going to continue with less than a handful. And I'm going to go to speculate who those are going to be because they are all dear to my heart. And I think they'll have to figure it out who has the best designs, the best production technology, who are the most efficient and the lowest cost. But in the end, it doesn't matter because in the end what we always talk about is the number of wafers and device and chips that are needed in the digital transformation that need to be made somewhere on the planet. And that means that I do believe that our large customers are going to be larger and they are going to be dominant in areas of chip production which is only going to grow. That is why I said at the end of my prepared remarks, our confidence in our 2025 outlook has only grown. As all, you could argue also, a bit as a result of what we've seen as a part of the COVID crisis how important this digital infrastructure is. So in that sense, yes, I think there will be fewer and fewer customers, but it will be much bigger than they are today.

Q - Adithya Metuku {BIO 17642884 <GO>}

Understood. Thank you.

A - Skip Miller {BIO 20244900 <GO>}

Before we sign off, I'd like to remind everyone that due to COVID-19, we have moved our Investor Day to June 23, 2021. The event will be held in London and we hope by that time, we can have a face to face meeting. More details will follow in due time. We hope you'll be able to join us.

Now, on behalf of ASML, I'd like to thank you all for joining us today. Operator, if you could formally conclude the call, I'd appreciate it. Thank you.

Operator

Thank you sir. This concludes the ASML 2020 third quarter financial results conference call. Thank you for your participation. You may now disconnect your lines.
