Mr. Wennink, can you give us a summary of the fourth-quarter and full-year results in 2021?

Yes, both were very good. To start with Q4, sales about €5 billion. That's in the midpoint of our guidance. Our DUV shipments were a bit light. They were basically the result of the effects of the logistics center and the supply chain issues that we announced in Q3. But that was fully compensated by EUV revenue and by our Installed Base revenue, and specially the productivity upgrades that we were able to ship to our customers. Our customers are in bad need of extra capacity. So there was a big demand and we were able to ship. So that was good.

For the full year, about 35% higher than 2020 ending at €18.6 billion of sales. Which was good. Installed Base Management was very good, like I said earlier, €1.5 billion of sales. Driven by productivity enhancement packages as we call them, Installed Base options to give our customers extra wafer capacity. For the total year, about €5 billion. That's about 27% of our total sales. On the gross margin, because of the productivity enhancement packages, which is all software, very good gross margin. Just over 54% in Q4 and for the total year, a record of 52.7%.

Net income as a result of that: good, €1.8 billion in Q4. €5.9 for the total year. If you look at the year and you want to reflect on the year, I think you also need to look at the order intake. Order intake in Q4 was high, €7.1 billion. You can say only €2.6 billion in EUV, but we've had very strong EUV order intake throughout the year, which includes one High-NA tool. That means that we had €4.6 billion of DUV orders in Q4. Just a reflection of where the market is today. There is a significant demand for our entire product portfolio, both DUV and EUV, mature and advanced. Over €26 billion of order intake throughout 2021, just under half EUV. The other half is DUV. Just a reflection again of this very widespread demand for our products across all technologies, our entire product portfolio. So in summary, both Q4 and 2021, a very good year.

Q1 and Full Year 2022

When we look at the beginning of this year your revenue guidance for Q1 is quite low.

What's the reason for that?

I can understand the question and, as a matter of fact, it's not at all as bad as it appears. It has to do with revenue recognition. Basically, it is driven by the fact that we want to reduce cycle time. The shorter the cycle time is, the more we can ship to our customers. What we used to do is to recognize revenue when we accept our systems, the sign off of the systems in our factory.
That acceptance procedure takes a couple of weeks. Sometimes three to four weeks. We actually skip that, and we ship the system to the customer’s site, and we do the acceptance test there. Which actually means there is only one acceptance test and that is at the customer site. It means you defer, you delay the revenue. If you then look at the planned shipments for this quarter, just the sales value of those shipments is anywhere between €5.3 and €5.5 billion which is a very high number. If you then take into account that we had some ‘fast shipments’ as we call them in Q4 of last year, so we will recognize about €300 million in Q1 of 2022. But we’re also deferring or shifting about €2 billion of revenue into the next quarters of 2022. So we take the combined effect, it’s all about revenue recognition. I would say the booked revenue of those shipments in Q1 is then between €3.3 and €3.5 billion, with about 49% gross margin.

**That explains Q1. What are your expectations for the full year 2022?**

2022 is going to be a good year. We expect about 20% growth as compared to 2021. Which is a good number because you have to take into account that we also plan for fast shipments by the end of this year. So you remember, revenue will shift into 2023. We currently think about six EUV systems will be fast shipped as we call it. And if you take that into account, if you would add those delayed revenues on to the 20%, then the growth of the shipment value will be about 25% and not 20%. But the recorded revenue, as we call it, will be about 20% growth.

**You are operating in a very high-demand environment at the moment. It’s all about supply and maximizing output. What are your expectations with regard to EUV and DUV for this year?**

On EUV we’ve said it before – we still have an expectation to ship about 55 EUV systems. But like I said before, we currently also expect to fast ship about six systems for which the revenue will move into 2023. So we ship 55, about six will be revenue recognized in 2023. The combined effect of that will mean an EUV growth, a revenue growth of about 25%.

On DUV, also when you look at the order intake, DUV is particularly strong. It’s across all industries: Memory, Logic. A very strong DUV demand driven by the chip shortage everybody knows about. We will probably see about a 20% growth of our DUV business in 2022 as compared to 2021.

And Installed Base, despite the fact that we had a very strong year in 2021 with many pull-ins of installed base options to increase more wafer capacity, we still expect 2022 to grow about 10%.

**How does this all translate into your different market segments for this year?**

Both Memory and Logic, given the demand situation which exceeds our capacity, it’s not a surprise that also Logic will be very strong. Driven by the underlying secular trend of the increased demand for more mature products, for advanced products, Logic will grow about 20%.

Also on Memory, DRAM specifically, very high utilization. So there is not much space left in terms of extra wafer capacity because our system utilization is very high. The expectation is that the bit growth in, for instance, DRAM will be high teens. Well, there is only one way to get those extra bits out and that is to
basically ship more systems, so increase wafer capacity. So we expect Memory growth, as compared to 2021, this year to be about 25%.

**Challenges**

It all sounds that also 2022 will be a very good year for ASML. What challenges are you facing at present?

The biggest challenge that we currently see is that the demand significantly exceeds our capacity. I think it’s unprecedented. I have never seen this before. I think it has to do with a couple of things. It’s the secular growth trend. It’s the drive for more semiconductors to support the internet of things. It’s the disturbances as a result of Covid. All the reasons why the demand is so much higher than our capacity. And that means, if you are at maximum capacity, that you have to be very careful and very much monitoring any disturbances. Because, you know, if there is a disturbance you don’t have any buffer left. Because you are at maximum capacity.

So there are three things that we are really looking at. And one is Covid. Covid, we cannot predict it, but it is still there. The infection rates around the globe are shooting up and it will inevitably also lead to some absenteeism that we have. People do not get infected in a cleanroom, but the infections happen at home. Still, it will affect you.

Secondly, it is the supply chain. There are disturbances. You just open the papers, there are shortages and supply-demand imbalances everywhere. We need to manage that very closely. And third, it is the workforce. We are ramping our capacity significantly. Which also means people. We hired close to 6,000 people in 2021. But you know, those people need to be trained, they need to get up the learning curve, and that will take time.

**What are you doing to address these challenges?**

Three things. With our customers, it’s all about getting wafers out there. More wafer output. This is why we’ve turned into fast shipments to basically say, if you can reduce the cycle time by not doing acceptance tests for weeks in our factory, basically emptying the production cabin three or four weeks earlier, you can output more systems. So that’s what we are doing. So together with our customers we’ve taken the decision to do fast shipments. Next to that, it’s Installed Base improvements. Hardware and software options to get more wafers out.

That’s what you do together with your customers. It leads to delay of revenue, but it is not a problem because that will easily be caught up one or two quarters later.

And then with our suppliers. There are supply disturbances – not only in the semiconductor industry, they are everywhere. So what do you do? You stay on top of each other. Basically very closely monitoring
everything that goes on. So any disturbances are recognized soon. Then you take action and corrective measures to do that. So it means a very close collaboration between the supplier base and ASML.

And the last one, Covid. We have all the protective measures in our factories and in the company. But still you know, it is a pandemic and like I said, most infections happen in the private space and will also happen to us. This is something which we have to monitor very closely and see how we can basically support our output with flexible working schedules.

**On top of this, you started the new year with a fire at ASML Berlin. What’s the current status?**

Yes, that wasn’t a good start of the year, clearly. The fire happened in one part of the factory. There are several buildings there. We were able to put the fire out in a couple of hours, but still there was significant damage. Now, I must say kudos to the ASML Berlin people, and the people here in Veldhoven and in Wilton. With a lot creativity, we are where we are today. Which is for DUV, although there were some initial disturbances, we don’t think there is going to be any impact on our output for 2022. Where the fire happened, it was in the area where we make the EUV wafer clamp, which is a very complex but very significant module that goes into our EUV systems. But because of the hard work and the creativity, we currently believe that we can manage the situation and that we will not see a significant impact on our EUV output in the year 2022.

**EUV High-NA**

**Can you give us an update on your EUV High-NA?**

High-NA is the next big promise. Well, it’s moved beyond a promise. We are executing. We are executing the first High-NA tools in our factory. We received the fifth EXE:5000 (High-NA) order for shipment basically up to and including 2024. We now have five in the orderbook. As a matter of fact, in Q1 of this year, so not last year but Q1 2022, we received the first order for the EXE:5200. Which is the next generation high-volume manufacturing tool for EUV which will be launched in 2024. It will have improved lithographic performance and higher productivity. So that’s the promise for the second half of this decade in terms of high-volume manufacturing.

**Capital allocation 2021**

**Let’s have a look at your capital allocation. Your dividend increase is quite large. Can you elaborate?**

Let’s be clear about the capital allocation policy. First, we will use our free cash flow to support the business. We will invest significantly in our capacity, in our capacity in the supply chain. We will invest significantly in R&D, given the high growth profile that we have. But when we’re done, we’ll pay dividend. We’ll pay growing dividend. We will propose to the general meeting of shareholders to increase the dividend to €5.50. That is the total dividend for the year 2021, for which of course we paid an interim dividend in Q4
of 2021. So that’s a significant increase in dividend and next to that we keep doing share buybacks. We basically ended the previous program, by buying back €4 billion which is the last part of the previous program. And then we started a new program which we announced last year. It’s a €9 billion program, of which we already bought back about €4.6 billion.

**Long-term outlook**

To close off, do you expect strong demand to continue beyond 2022?

Absolutely. I said it before, we are looking at the secular growth trend and we talked about this extensively during our Capital Markets day at the end of last year. The growth profile of this industry is impressive. The semiconductor industry is planned to double in size to a trillion dollars by the end of this decade. And of course this will also have an effect on our business. So what do we do? And I have to admit, we as an industry, us and our customers and their customers, we have underestimated the long-term growth profile of the company. So we need to catch up. How do we do that? We build capacity. And that is what we are very much focusing on. Building capacity at ASML, but also in the supply chain. To make sure that we can significantly increase our output both for DUV and for EUV and for our metrology and measurement systems – basically across our entire product line. So, bearing that in mind, I’m even more optimistic about the long-term growth profile of this company.