



ASM Pacific Technology Limited (ASMFV) CEO Robin Gerard Ng on Q4 2021 Results - Earnings Call Transcript – February 22, 2022

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Play Earnings Call

ASM Pacific Technology Limited ([OTCPK:ASMFV](#)) Q4 2021 Earnings Conference Call February 22, 2021 7:30 PM ET

Company Participants

Robin Gerard Ng – Chief Executive Officer

Conference Call Participants

Arthur Lai – Citi

Gokul Hariharan – JPMorgan

Sunny Lin – UBS

Dylan McGuire – Morgan Stanley

Donnie Teng – Nomura

Simon – Bank of America

Operator

Hi, quick sound checks. Shalom and Lennon, can you confirm, is my voice loud and clear? Yes. Thank you. Good morning and good evening, ladies and gentlemen. My name is Romel, and I'm the IR consultant for the Company, and I will be the moderator for today's call. On behalf of the management of ASM Pacific Technology, I would like to welcome all of you to ASM Pacific Technology's Fourth Quarter and Full-Year FY 2021 Investor Conference Call. We would like to thank you all for your interest and continued support in the Company. Before we begin with the presentation, let me highlight some housekeeping rules. To facilitate the identification process, please kindly provide your company's name and your name as your display name if you haven't done so.

All participants will be muted to ensure good sound quality when the management is presenting. [Operator Instructions] When asking questions, please limit to two to three questions at your turn and ask your questions one-by-one for the management to answer properly. You may join the queue again in case you have more questions. We will start the Q&A only after the management has gone through the entire presentation. We endeavor to answer all questions during the Q&A session but due to time constraint, priority will be given to the covering analysts.

In case we are unable to answer your question during the call, we will follow up with you through emails or if you have more questions, then please feel free to email us with your questions and we will attend to those. Please do note that during this conference call, there may be forward-looking statements with respect to ASM Pacific Technologies business and financial conditions. Such forward-looking statements could involve known and unknown uncertainties and risks that could cause actual results, performance, and events to differ materially from those expressed or implied during this conference call. For your reference, the investor relations presentation related to our recent results can be downloaded from our

website, www.asmpacific.com. With us this morning is Mr. Robin Ng, the Group CEO and Mr. Justin Tham from Investor Relations and Economic Research. Robin will begin with a brief discussion. And key highlights about our latest results. Then he will provide some color to the financial performance. This will be followed by an update on the prospects and outlook. And then we will open the floor for Q&A session. Without further ado, let me hand the time over to Robin, please.

Robin Gerard Ng

Thanks, Romel. Good morning, everyone, and thank you for joining us today. Before proceeding with the details of our performance for 2021, let me offer my sincere wishes for your continued safety and health even as we gradually arise from the shadows caused by COVID-19. I'm pleased to say that we have managed to achieve exceptional results in 2021, and to show sustained momentum and progress in deepening our leadership as a leading global supplier of hardware and software solutions for semiconductor and electronics manufacturing. Let me emphasize that these milestones have only been made possible through the continued commitment, focus, and skillful execution of our synergy initiatives and plans.

Here, the leadership team and I continue to remain deeply indebted to obtain more than 11,700 people across the world. Let me now describe some of the highlights that shaped our business in 2021. As you can see here, there are a number of key development sectors characterized our business in 2021. First, some color on our record-breaking financial performance. Please note that the previous in the Group and its semi Segment Financial Review sections have excluded one-off items to provide a more meaningful analysis of the Group's financial performance.

As you can see from digital reviews, we had an exceptional yield. Firstly, I want to highlight the records. The record earnings per share of HKD 7.72 on the right of this slide, the powerful indicator of our profitability and value as industry leader. We also achieved a number of new highs. We record revenue of \$2.82 billion, record bookings of \$3.36 billion and record net profit of HKD 3.24 billion. Our exceptional results will impact enabled by the very strong first full-year performance of our strategy joint venture, Advanced Exempting Materials International Limited or AEMI in 2021.

We achieved an increase of \$7.7 to home for fiscal year 2021. These represents a significant 94.5% growth over fiscal year 2020. And each also record high for the group. Let me provide more color on a group financial results. Our group's record full-year revenue of \$2.2 billion represented year-on-year growth of 49.3%. Our strong revenue performance was driven by a few macro economy growth trends that you can see here. Overall, these have created hunt and demand for silicon content and contributed to the performance for ASMFV 2021.

Let me share that in the face of this positive momentum, we posted executed excellently in the face of a dynamic global supply chain environment that still continues to prevail. We achieved these in several ways. First, capacity allocation. Minimum fixing utilization reached record levels. We were able to achieve a significantly higher proportion of external metrics and capacity to respond dynamically. It is safe to say we would have delivered even high up growth enough for this ongoing industrial-wide supply chain challenges. Second, we shifted to just-in-case inventory management to strengthen our supply chain resilience for some key components.

And finally, we balanced these measures with the strategy adjustment of certain prices where feasible in order to relieve the inevitable cost pressures from some component price increases, not to mention increased logistic cost. In terms of bookings, we experienced a record year of \$3.36 billion, representing year-on-year growth of 65.6%. And here, both our semi and SMT business segments achieved record bookings, with semi comprising the majority. Our gross margin of 40.6% was the 427-bits expansion year-on-year, and our operating margin was 18.9%, representing a very strong year-on-year expansion of 1,007 bits. This strong margin performance was mainly due to both of SEMI and SMT segments, achieving stronger gross margins and higher operating leverage as a result of both record deliveries and margin accretive effects from some of these strategic initiatives that I will share more about later in this presentation.

Let me also emphasize that we achieved the strong margin improvement in the phase of cost impact from component price increase and higher logistic costs. And these trends have not abated. Let's look at the group fourth quarter performance. Our revenue of \$796 million exceeded our guidance of \$722 million, set up \$720 million to \$1.770 billion. This is a strong 43.9% year-on-year increase in revenue. And you could be ending good, consistent, and excellent execution of our business. Q4 bookings of \$674 million was a group record for full quarter as well. Increasing 25% year-on-year, but dipping 8.2% Q-on-Q. However, this dip was largely due to a high base effect from a high Q3 bookings level in general seasonality trends for our fourth quarter.

Please note that this quarter's bookings still remain elevated competitive Q4 levels over prior year's. Group gross margin of 41.3% was a year-on-year improvement of 1-rate 88 and slight QoQ improvement of 76 bids. Operating margin of 20% was a year-on-year improvement of non-risk 76 bids. This year-over-year improvement was largely due to relatively stronger gross margin performance across both our SEMI and SMT segments.

Let me add the Group net profit, which includes the shared of results from AAMI achieved record Q4 levels of HKD 976 million, a year-on-year improvement of 182.5%. Our SEMI segment quarterly performance was good with robust year-on-year revenue growth, encouraging revenue drivers across its business units, strong year-on-year margins improvement, and a quarterly record segment profit. Q4 bookings remained elevated in line with general seasonality trends.

Our SMT segments can flow. 2021 performance was characterized, bookings achieving \$360 million a healthy year-on-year, and Q-on-Q increase. Also demand from the ski, automotive and industrial markets continuing into Q4. Let me mention them point yet that full-year SMT segment profit also achieved a record of \$1.38 billion. This is nearly a 110% year-on-year increase. This slide shows the breadth of the markets in customers, [Indiscernible] Let me now share some positive developments from our progressive or structural shift towards higher growth markets of Advanced Packaging over time.

Our diverse Advanced Packaging or AP portfolio is very broad from wafer-level to die-level high-accuracy placement tools and SiP placement tools, and suspend the wide range of packaging technologies. This visual representation at the bottom of this section gives you a sense of better solutions that we possess in this space. AP solutions revenue for fiscal year 2021 was approximately \$590 million, representing 35% year-on-year growth. Our book-to-bill ratio of 1.15 for AP is higher than for the year 2020. Overall, we're seeing a broadening of our customer base and widening customer adoption of our comprehensive AP solution to expand both semi and SMT segments. Consequently, we added a significant number of AP customers in fiscal year 2021. I would like to highlight the progress with our hybrid funding solutions. We are on track for delivery this year for qualification by leading Tier-1 customers. We expect that our hybrid volume tools will begin delivering meaningful contributions for us from year 2023 onwards, closely aligned with our customers' rate of pay. All sustained investment in hybrid bonding reflect our strong intension to capture the favorable market of this market, a sizable share of this market. Okay. Let me now talk about TCB leadership and momentum. Over the last few years, our [Indiscernible] tools have been a tour record at leading Tier-1 customers. And this book costs TCB tools continued to dominate the share of global installations. Supported by our broadening customer base and greater customer adoption, our TCB platform is bringing some exciting approximately study that will help further cement our dominant market position.

As you can see here, we recently secured a significant order for new-generation Chip-to-Wafer TCB tools. The wind is nearing a \$100 million over the next two years and a significant portion of these will be delivered this year. We still have hope additional [Indiscernible], site, and capacity to deliver these next-generation Chip-to-Wafer TCB tools. Significant wins highlights how are cutting-edge TCB innovations are boosting year-term performance. It's also a strong indication of our technology leadership in the 3D packaging space. Looking ahead, the bullish capital investment tends from dealing semiconductor companies should book therefor continued leadership as a partner of choice for innovative TCB tools of the future, such as the work we have president to enable, finally, this sort of bump pitch below 39 points for thermal compression bonding.

This will help them meet the increasingly demanding requirements from advanced applications, such as high-performance computing. We expect the first of this future generation products to be delivered by the second half of this year. Let me now speak about some exciting growth opportunities for our business. There's no doubt that automotive electrification was intensifying and established itself as a multi-year growth driver. In this night, you can get a sense of a unique and comprehensive automotive solutions expense SEMI and SMT segment. This comprehensive solution range put us in a good position to continue growing and capturing market share. Our automotive end market application contributed approximately \$430 million to Group 2021 revenue. This is more than doubled last year's contribution. We have also added a significant number of new customers in 2021, the headquartered [Indiscernible].

We believe this will help generate significant opportunities for us going forward. Let me now cover some developments in our Advanced Display unit that is part of our optoelectronics business unit within the Semiconductor Solutions segment. With ongoing accelerated global and digital transformation, the industry is an inflection point for advanced display before an imminent technology with business. Us to find Mini LED RGB, and Micro LED applications are progressively emerging to replace conventional displays across both commercial and high-end consumer devices. Mini and Micro LED Wafer demand is expected to expand a five-year CAGR of 55%. We are also poised to benefit from the expanding addressable market with multiple engagement within a top-tier customers' development group mix. We have seen our customer base expanded significantly over the past three years.

Across Mainland China, Europe, Japan, Korea, Taiwan, and the U.S., our customers have been increasing capital spending on mini and micro LED message requirements, deploying our broad suite of advanced integrated solutions. For mini LED, we added 17 customers in 2021, with seven in high-volume message increase. For the more major, micro-LED space. The vast majority of micro LED prototypes is assembled worldwide use a base does 8300 pro tools, which is amounting functional mass transfer commenced bonding tool, enter to a record for major customers in upcoming high-volume production for micro LED applications.

This slide gives you a flavor of how we are deeply entrenched into our customers' development road maps across Mini LED and Micro LED space. We made a strategic breakthrough in this heatable under represented area for SMT, which is a sizable addressable market. These, our assets have been anchored by leading memory market customers who are adopting both our mainstream wire bond and advanced packaging tools for high-volume messaging requirements, in both convention memory and high bandwidth applications. With a 2.2-day address, memory purchasing needs.

Some key developments here in Tier-1 memory player, qualifying our TCB tool to produce HBM3s multi-die stack memory chips. In another development, our Wire Bonder too has been quantified to deliver high volume production of new generation NAND memory chips. These represents important developments in expansion, purposive markets and we are confident about securing a strong position in this space. Our solutions are ubiquitous across many end market application areas and demand continues to grow. This slide shows the approximate revenue contribution to fiscal year 2021 group revenue from each of the key end-market areas to give you a sense of the spread of our solution across these industries.

This slide gives a bit more color to the three end-market application areas that more than doubled year-on-year in terms of revenue namely automotive, consumer, and industrial. We expect the challenging supply chain environment to persist and impact the broader market in 2022. While this dynamic situation remains a concern, we are anchored by a strong order backlog and expect revenue for Q1 2022 to be between \$640 million to \$619 million, a record first quarter at a mid-point of this guidance. Let me now share about our dividend plans to progressively transform and prepare ASMPT to achieve a bright and a sustainable future. How is that helping investing in in general audience understand our business better and to provide some robust key to the ways on how we are supporting and driving ASMPT long-term performance.

Let me now update business conclusion plans and strategic initiatives in a context of how our business is being structured. We have a truly unique, broad-based portfolio in a market. You can describe us as a total interconnect company, as we believe we are the only one in our space able to offer solutions that

clearly link the entire semiconductor packaging ASMVF value chain. Our SEMI segment office solution ranging from deposition interconnect on Weibo and substrate to first never dying interconnect on Weibo and substrate. And enjoy of our SMT segment solutions cater for package Interconnect owned to PCB board.

As you can see from the center of this slide, our portfolios can be roughly divided into 2 broad areas. One mainstream and application tools. 2. Advanced Packaging Tools. First, our Mainstream & Applicative Tools business typically has large install basis, providing skill that gives significant volume leverage and cash generation capabilities to fund innovation, expansion, operations, and more. Second, our Advanced Packaging Tools business, which is a higher-growth and higher-margin segment, are addressing more complex packaging requirements, with each having the potential to grow rapidly, spending this as a growing area of software solutions for smart messaging that we're also investing heavily.

We are developing and supporting increase industry needs for automation, scheduling and predictive monitoring, optimization and analytics. Overtime, this area has a potential to evolve into a key business in its own right. The interplay between these businesses engagement ASMPT enables what we term a virtuous cycle where responses made possible by the volume mainstream business, that enables further development and progress of the High Growth Innovation business. In addition, our unique Broad-based portfolio is in turn being fueled by macroeconomic tailwinds that will provide a sustainable push to our business for years to come, as you can see on the left-hand side of this slide.

This is tailwinds are unique and brought with portfolio will drive our long-term performance sustainably. This consists of two elements. First, reduce the typical revenue and profitability that is typical of semiconductor and electronic messaging space. Second, create the conditions for structural growth, revenue growth, and margin expansion that will form robust and enduring foundations for a bright and sustainable future for ASMPT and all in this quarter. Riding on our strong performance and supported by the positive macroeconomic tailwinds I described earlier, we competently roll out strategic growth, and cost optimization initiatives that will unfold, in this business over the next few years. Let me provide some color to this effort that we have alluded to in the past earning calls. First, let me talk -- let me talk about our growth initiatives. These are structured by the business areas that have been described in the previous slide. So in terms of our Mainstream & Applicative Tools business, our growth focus is on increasing our market share in targeted areas, namely the high-end segment of the Mainstream & Applicative Tools business.

There are two strategy areas of activities here. First, we want to meaningfully expand into targeted adjacent market. The example you can see are shown here. For the memory market, our ship earlier about strategic virtual into these underrepresented yet sizable space. This will benefit our mainstream tools in the near-term, particularly our wire bonders. Next, in the ADAS or Advanced Driver Assistance System market. We aim to capture new opportunities more quickly in the automotive camera assembly and test solutions space. Assisted in all small way by tapping our newly acquired company, Automation Engineering, Inc or AEi which is the market leader. Next, collectively consult [Indiscernible]. Provide good growth opportunities that benefit of Silver Sintering Solutions for durability and reliability. Other areas of proximity for fewer sintering include the energy and power semiconductor space. Finally, we aim to continue opportunities for fuel cell messaging in a green energy space to our SMT segments printing solutions.

Our other focus area for Mainstream & Applicative Tools business involve further strengthening of our strong market position through targeted product enhancement in the various areas that you can CGM. The next growth area concerns our Advanced Packaging Tool business. Here, our growth focus is to widen our technological leadership. This will be achieved primarily -- primarily through intensifying our R&D support and resources into targeted areas. Here, there are two areas of strategic activity. First, we want to grow in the emerging markets, and here are some examples

First, for high bandwidth memory, HBM3 memory is a key growth area with reduced power consumption and a smaller phone factor. Our memory market victory continues to be crucial here. We are entered by a leading memory customer and are confident about capturing emerging high bandwidth memory of

opportunities for TCB pie stacking solution. Two, for mini and micro LED 's. A mass transfer and mass bonding solutions are ready to address customers high-volume message unique for the advanced stage applications. For the system in package our SiP market, increasingly complex and demanding requirements will further drive demand for our SMT SiP placement tools, as well as our multi-chip module, pointing solutions.

And finally, HPC of high-performance computing will drive demand for heavy bonding solution. As i said earlier, we expected to ramp these up for high-volume messaging from 2023. The second strategic focus area under Advanced Packaging tool is to intensify investment in process innovations in order to widen our technological position in key process area that are shown here.

The third area of growth in both actualizing the AIoT enabled smart factory of the future. In this regard, we have good foundation in place. We have been taught a strong group of a range of software solutions, including our MES or Manufacturing Execution Systems Software Suite. Our momentum here has been enabled by industry 4.0 digitalization trends and the increasing automation needs of electronics manufacturers. At the same time, we have developed a unique software-based freedom. We have done AIoT or Artificial Intelligence of Things that basically consist of integrated software solutions that blend connectivity monitoring, and analytics. AI driven less machine Lennon learning capabilities.

We expect our combined efforts across of software business to progressively given delivered significant value to our customers' overtime, positively impacted the other areas of our business and possibly evolve in the key business of its own. So these other growth initiatives, which we take up the majority of this Sachs containing, let me now share briefly over the cost optimization strategic initiatives that will help drive long-term sustainable operation excellence for us. Overall, there 2 areas. One, piece will improve our product and operational cost structure, including procurement and design to cost action.

Second, is to enhance on manufacturing scalability and flexibility in both capacity and supply chain management. Here, we want to focus especially on achieving the optimal mix of internal and external manufacturing capabilities that will help us better navigate the picks and truth of a business cycle in this industry. We are confident that this growth and cost optimization initiatives, which are like cost-related to our unique and broad portfolio will help to drive and sustain ASMPT significant and meaningful long-term performance. Looking at this slide, our own through-cycle revenue growth over the past 11 years has stayed in tandem with the semiconductor device growth in general.

This is a good foundation for ASMPT to possess and we're confident that the efforts we are making to reduce this security even further will face us in good state for the future. As we would discern from our strategy initiatives, sustained R&D investment is a critical part of our ability to deliver the required semiconductor and technology and tools that would take us global opportunities to create value for our customers and stakeholders. On average, our R&D spend was about 10% of equipment revenue. In 2021 alone, we spend \$251 million on R&D and to date, we have generated close to 2,000 patrons and pending presents as well.

Subject to shareholder approval for final dividend per share of \$2.60 Hong Kong per share, 2021 full-year dividend of \$3.90 Hong Kong per share is up 44% increase over 2020. Over the last 11 years, we have rewarded our shareholders with consistent and sustainable payout ratio of about 50%. Over the same period of time, we have payed out more than 80% of our cumulative free cash flow to shareholders. By the time, have taken to share a little bit more about ASMPT development initiative and some key principles underpinning our business, will be able to highlight our compelling value propositions. Basically, we have and continuing to be able to generate strong and sustainable cash flow from our mainstream and advocated tools. A few, fueled by Budish global semiconductor device unit growth prospects. Margin expansion continues as a result of a consistent and significant investment in R&D for both high growth and high margin advanced packaging and automotive markets segment, and this are funded by strong cash flows. Our unique and broad-based portfolio is a strong advantage. It has enabled us to achieve a leadership position in key electronics sectors for the mid-end to the back-end, to SMT. These cushions us from the cyclicity and volatility and helps underpin two cycle revenue and profitability growth. Last, but not least, we have a consistent dividend payout ratio of 50% that provides attractive and sustainable

returns to shareholders. We are pretty confident that we had to write foundations, trends, and people entailed to steer ASMVF into of ranked and sustainable future. Thank you. And we're not really for 20.

Question-and-Answer Session

Operator

Thank you, Robin, for that. For the Q&A session, please either use the raise-hand function and we will allow you to unmute yourself for you to ask your question, or please type your question in the chat to ASMP-T-Q&A and we will read it out on your behalf. When asking questions, please limit to maximum three questions at your turn, and please ask your questions one-by-one for us to answer it properly. You may join the queue again in case you have more questions. For the first round of questions, can I request [Indiscernible] to unmute and ask your questions, please?

Unidentified Analyst 1

Okay. Thank you for taking my question. Congratulate for the good results. The first question is about the first quarter guidance. Can you provide some more color about your guidance between your two segments and between customer type? Are there any -- since you are guiding for sequential decline for the first quarter, are there any business line which were showed some positive growth?

Robin Gerard Ng

Thank you. Let me read the first question again. You were asking more for the Q1 guidance and you would want to know and get more color between the 2 segments. And also on our customer types on the timings. And are there any businesses among our line of businesses which are showing positive growth from the guidance.

Thanks, [Indiscernible]. Well, present me share some color. Yes, indeed we are guiding at a midpoint, \$665 million that is lower than Q4. But this is a non-actually seasonality trend. Q1 tend to be lower than Q4. And looking at Q4, we have a whole lot to say. Actually, we know we had five quarters of consecutive growth since Q4, 2020. So it was a very strong also a performance last year, and also Q4. So we are comparing a diesel, also a very high base. Now, at 665 midpoints as we have guided, nevertheless, it will still be a record on Q1 for the group as we believe it's also for both SEMI as far as SMT, looking at how the billing development has progressed so far. Let me put it this way, it's not because of the supply chain constraints that we're still facing. Our bill -- our Q1 billing have been higher. So we have to think to account these very challenging supply chain environments.

Also, not forgetting the COVID-19 situation is still around and these has disrupted, in our opinions, some readiness of our customers' new plans. That also to a certain extent impacted in our delivery timing for some of these tools. A little bit more color in terms of where we see the end market applications segment would be for -- at least for Q1. We've seen the -- looking at the development so far, we feel that the automotive momentum is expected to continue for both the semi and the SMT segment. I think that's what I can share at this point.

Unidentified Analyst 1

Okay. Thank you, it's very useful. Second question is about the AP business. I think it's the first time I, if I remember correctly described -- disclosed the full -- exact amount of each business and there seems to be a column for 20% of the total revenue. So can share some color. What are the current applications in the markets for these AP products? And what will be the growth momentum for this AP revenue this year as a -- can we assume that this will be higher proportion of the AP this year?

Robin Gerard Ng

Basically what we're looking, I think when you talk about proportion, we have to take into account the overall business of ASMPT. So last year, as you have noted, last year was a high yield for us. Revenue topped \$2.8 billion. So even our AP revenue has grown 35% year-on-year to U.S. roughly around \$590 million, not a small amount, but of course with it into consideration a high base or denominator, it appears to be small. But more importantly, as we had highlighted, our AP revenue has grown 35% year-on-year. Now, in terms of the application, we see -- we continue to see the capitation tools by our next business, continue to be strong. And this is in part because of the high performance computing requirements that require high-end multi-layer [Indiscernible] we call it ABS substrate in order to be able to pack those devices for HPC. Now those nominate substrate multilayered requires our next tools with deposits are there all and also a couple pillars in order to package those picked by application basically. So we see that momentum will continue for time to come. Of course, not forgetting TCB as we had highlighted in our announcement and also in my call just now. We just won a recent order of nearing \$100 million.

This is really a testimony to our leadership position in TCB and mind you this is the new platform. So up to now we have been supplying what we call a chip to substrate TCB tools, which are used to play a bigger [Indiscernible], a bigger tie to more due onto such share. For Chip-to-Wafer, we're talking about placing a more smaller components. Basically, HI into an original integration onto a wafer first. So this tools require higher precision basically. It's a testimony that we won this excitable order from a leading Tier-1 customer for the packaging needs. Besides this two, I must also highlight that our laser dicing and grooving tools have also taken off quite, in a nice manner in 2021. We have gained [Indiscernible], we have gained some market share. Although it still not big business for us, but the progress of this dicing tool is very encouraging. Besides that, of course I also highlighted mini LED tools that we're seeing an inflection point as well. So these compared to high precision mini LED tools or -- mini LE -- for mini RGB, for video wall, for this space, I also see a very encouraging sign.

Unidentified Analyst 1

Thank you very much. Very clear. Thank you.

Operator

Thank you, Leping. Can I next request Arthur from Citi to unmute yourself and ask your questions?

Arthur Lai

Hi. Good morning. Thanks, Robin [Indiscernible] I noticed that you upgrade your presentation this time and a more a. My first question is, on the page 33, for point 2, you mentioned that highlight we'd be continued margin expansion and look at the quarter 4 of last year. Actually the margin already returned to quite high-labeled. So my question is that, the margin is sustainable and or not, and how we achieved that. You also mentioned that there is a cause headwind, so I want to learn more.

Operator

Let me repeat your question. So basically, your question is about our margins, and you did note that Q4 2022 margin was -- 2021 was reasonably higher. So you would want to know from us whether the margins are sustainable and -- or not and how we plan to achieve reasonable or higher margins going forward.

Robin Gerard Ng

Thanks, Romel.

Arthur Lai

Yeah. Thank you.

Robin Gerard Ng

Attap, I think maybe when you -- when we compare 2021 versus 2020, I think that is one area that we have to be cognizant about. In 2021, it was a high year, as I said, our Revenue reached \$2.8 billion. Typically, in high cycle like this, it is the mainstream tools that provide the volume baseline in one of our paces in our business model. We have mainstream applicative tools and we have advanced packaging tools. Now, we are unique in a sense that we are playing with both. High-volume is very niche advanced packaging tools area at the same time. So in a high cycle like 2021, what really provided the volume is really the mainstream tools. Probably you're aware, in mainstream tools, basically comprised tools like the wire bond. Wire bond is really a so-called tool that has been around for decades. Still relevant, of course, still very relevant. You don't expect Wire Bonder margin to be high compared to the other tools. So as a result of this volume effect of wire bonders, so the impact on the margin can be also quite significant by having saved that on the full year. We have improved our margin for both the semi side as well as the SMT side. Now, all these programs that we have put in place necessary to initiative to us, took some pains to share with you guys earlier in my opening remarks. We will continue to up-leave margin over time. It's not going to be an immediate next quarter or 2. Because these growth initiatives will take time to execute. So we're confident that over time, you will continue to see our margin improvement. And also, I must say that the fact that we are focusing on high growth, high margin area that ultimately can advance packaging. This will definitely help us to uplift also our margin overtime.

Arthur Lai

Thank you. If we could follow on this topic. I want to explore the page 23. Also, we love these charts. You show that how your revenue found a key application. And if you look at the margin among those applications, which two -- top two applications will be the higher gross margin?

Robin Gerard Ng

Thank you for your compliment, Arthur. So we have taken all your feedback into consideration, and as much as we can share without losing any competitive positioning, we will try to do that overtime. So this is a -- first, Arthur, I must say that this is really a maximum best estimate as you can imagine. When we ship our tools to our customers, sometimes they will tell us what are tools are being used for, sometimes they will not tell us for competitive reason. So we're just using our best guess looking at a package, looking at the business or the customers. We try to give shareholders and analysts an idea, where our tools are being deployed for ending applications. So for 2021, this is the result to answer your question, I would say among here, I will say, computers, because computers have higher proportion of Advanced Packaging tools in their communication and automotive. Okay. Industrial, not in the order, but I am trying to give you a sense of where our AP tools are being deployed.

Now, AP tools are not ready to talk very much in automotive, because automotive is still a very conservative industry, okay. But however, automotive the segment tends to combine a better margin. So in terms of AP, we'll file a little bit more in computers in combination of industrial and automotive is because traditionally these two are high-end margin segment.

Arthur Lai

Thank you.

Operator

Thank you, Arthur. Can I next request Gokul from JPMorgan to unmute yourself and ask your question.

Gokul Hariharan

Thanks, Good morning and thanks for taking the question. My first question is on more near-term trends. If you look at bookings, bookings have been declining for the last three quarters. If we look at the last couple of cycles, I think the last time it happened was back in 2018, ahead of SEMI down cycle in 2019. Could you talk a little bit about what we are seeing in terms of bookings? Is there anything specific that is happening which is leading to this decline in bookings? Could you also talk a little bit more about wire bonding specifically because some of your key customers have talked about reducing their capital outlay, on wire bonding in 2022 after a very big increase in spend in 2021?

Thank you, [Indiscernible]. Your first question is to know more on booking. You acknowledged that booking has been declining over the past 3 quarters. And what is the reason behind? And can we give more color about this? And also a bit on the outlook? I will let Robin answer the first question and then. I will go on the Wirebond impart.

Robin Gerard Ng

Thanks [Indiscernible] Now, you're right. If you look at 2021 of booking trend, it has come down from Q1 to Q4, but we had to see in these context. Q1 2021 was a very high booking level. We are talking about crossing the \$1 billion mark. Then we came down sequentially into Q4. And even at Q4, I must say that it's -- how much was Q4? Let me see. It was -- the Q4 booking was how much? Anyway, I think Q4 -- yeah, Q4 booking was around \$674 million. So that is not a low number traditionally in the Q4 quarter. So in our equipment business, there is such a booking number that we experienced already in 2021. The customers need time also to digest that equipment. But I can give you a little bit more color what we are seeing so far. Now, before that I also want to point out to the effect that if you look into a longer-term, how some industry experts are projecting now industry and the lights SEMI and they are still pretty bullish for 2022. We to the board and [Indiscernible] they are still guiding or projecting growth here for the SEMI side of between 4% to 14% on the back of a very strong year, very strong double-digit. I think it was more than 60% of something like that. So they're still quite -- this two industry versus how they are still quite bullish about the SEMI industry. So these will probably give us some idea how the independent research that are looking our industry. Next question.

Gokul Hariharan

Our next question is more on wire bonders. You did highlight that you are witnessing some reducing capital outlay expected in 2022 by some key players. So we want to know based on that the wire bonder outlook for us.

Robin Gerard Ng

Yes. No. Yes. The good thing about ASMPT is that we serve a broad range of customers, so we're not heavily dependent on one or two customers. The way we look at it is that, yes, Wire Bonder have a good run in last year. Now, if the industry continued to grow as predicted or forecasted by those independent research houses, from year -- from the base of 2021, it's still going to be a high year according to their prediction. And in such scenario, as I had alluded earlier typically the mainstream tools were continuing to do well. So when we talk about mainstream tools, we're still focusing very much on the likes of wirebonder and die bonder. These are two mainstream tools that typically performed well. The demand continue will be strong in the high cycle year. So, yes, I hope that also answer your question.

Gokul Hariharan

Okay. Thank you very much. Maybe one more question on hybrid bonding. Could you talk a little bit more about this opportunity, like compared to -- what does it do to Advanced Packaging. As that starts to ramp up, I think you talked about potentially customer sampling in 2022 for what are your customers? Can you talk a little bit about are you already to [Indiscernible] for any of the 3D-IC or 3D packaging kind of projects that are out there in the industry or are you still in the qualification phase on hybrid bonding?

Operator

Let me repeat the question. So on the -- I've been wondering, [Indiscernible], you want to know more on the opportunities out there and keeping in mind the AP side and the ramp up. And from your customer side, how's the progress there? Are you involved in the customer's sampling and how is it going to go on the tool of record, our qualification phase? Some more details around that.

Robin Gerard Ng

Thanks Drew. I think when we look at hybrid bonding, we have to bring also TCB into the context. Now, hybrid bonding is a very high precision tool. So in terms of a bumpy, in terms of accuracy, we are talking about bumpy, maybe below 20 micron and accuracy down to 0.2 microns. These are very high precision tools, and because it is so high precision and the cost of using such solution is very high, it is a very expensive tools, no doubt. Now, in our equipment space, I think you must realize that cost is a primary driver for customers to choose which tool they want to use. So for packages that do not require hybrid and bonding, okay. They will still choose the next closest tool will be the TCB. So that far I think when we talk about hybrid bonding, we must put TCB into context. So because the closest in terms of technology to hybrid bonding is really the TCB tools. And there is still a long runway for TCB tools from where we see. Now back to your hybrid bonding We engaging some key Tier-1 customers, both on the logic side, as well as also on the memory side as well. So as I mentioned in the opening call that we are able to deliver a few prototypes for some of these leading Tier-1 customers.

Operator

Thank you, Robin. I request Kana from Credit Suisse to unmute and ask your questions. Thank you.

Kana Higuchi

Thanks for taking my question. I'm glad, I think for us as Chad results and I have a question about the outlook. So we see the period that they guide single-digit growth for 2022 financial year. Is ASM Pacific seeing similar as well this year? And also extending to a more longer-term as you adjust the 30 for at least three years, which in a record lab also according to the IC content or like. The numbers tips. So this level by now it's expand like two years that will sustain into it this year, or we should expect some rationing between their migration on the next level? So this is the first question. The second question is about how materials business, that the segment profit margin declined 4.6 percentage point year-over-year, even by now is under the JV. But could you like give us more color about the business in the material side? Thanks.

Operator

Thanks Kana. Let me repeat your first question. So your first question is more on the outlook because you noted that the -- some peers have guided single-digit growth for 2022, and you want to know whether it's similar for our company. Then you also highlighted that what will it be for the longer-term, noting that, we tried to highlight on a three-year basis, and whether it's going to continue based on the IC content and the number of chips, or what is the indication from Robin side?

Robin Gerard Ng

Okay. Kana on the outlook, as I said earlier in the earlier question. We've take reference also from this industry research houses that we have in SEMI. We are projecting between 4% to 14% growth year-on-year compared to okay high-growth in 2021. Now, it's very challenging supply chain situation. This is really very difficult for us to see beyond a couple of quarters. Very, very challenging. So we shall continue to take reference from there. Now maybe I think a little bit more color what we are seeing right now so far into the first 1 month or so into business. Now look, if I give you some color on different spec. Number 2 -- 1 group booking momentum so far is strong. Our sales It looks like it's shaping up also to be a good

quarter compared to previous Q1 quarters. We always have to compare with previous one. However we don't expect expand this year Q1 bookings to be higher than Q1 last year. Q1 last year was an exceptional high year. We booked more than \$1 billion, so we don't expect to be. But nevertheless, I think so far the Q1 booking momentum has been encouraging. And a little bit more color on that as well. When we look at the SEMI so far in Q1, first one month or so, because of the win that we've had from the TCB it's \$100 million because majority of this order was booked already in Q1, so coupled with the momentum we see empower and automotive applications in these 2 areas, our strong low.

So far, I think this TCB tool booking, how and automotive applications focused SEMI since to be on the right track. We also see definitely talk about next as well. We also see customers continued interest in our next tools for the deposition interconnect for ABS substrates. So that interest continued to be sustained. And after Chinese New Year, when we do our checking with our customers, we also see Chinese customers seems to be picking up the interest in talking about Neil tools. So that's it's quite encouraging. We also trying out with IDNs and VGO 07 where utilization seem to be also staying at the high level, so that's also a very encouraging so far, although it's only about one month or so into Q1.

I must say, however, that the CS business has relatively be remained on the softer side. But there are still some green shoots that we see, in particular demand for AA tools coming from top Tier-1 customers. So although generally the CS businesses is relatively soft compared to the other business unit. But because we have a very entrenched position in terms of our active alignment tools, these are still generating a lot of interest among Tier-1 customers. And we believe they are buying these tools more for capability by at this point in time for new innovation features that will come out of the smartphones in the later part of this year or maybe even 2023. So when that happens, then our CIS business must also start to recover. Now, the other area we see so far is our opto business. We see continued interest in our Mini LED tools as well as our Wirebond for lighting as well. But what's more interesting so far we see is really on the SMT side. The SMT momentum is so fun do know why, is strong, particularly for automotive. I must say that the demand is also very [Indiscernible]. So the way we see the business for ASMVF is now benefiting actually SMT business is not benefiting from the high output of packaged chips and devices coming up of the semiconductor supply chain in the last few quarters, that now this devices, this shoots the volume of devices now needs to be placed onto PCB board using SMT [Indiscernible]. I think there's a ton of [Indiscernible] At least so far we see so far in Q1. But for the full-year of 2022 it's really difficult for us to forecast or to give a forecast because of those challenges that we face in supply chain. So I think this is something for you to pick up takeaway. Yep.

Operator

Thank you. Robin. Kana, your next question is more to provide an update and color on the materials business segment. In particular, highlight on the performance and the margins.

Robin Gerard Ng

Thanks, Ron. Now, we -- our material business JV or AAMI did very well for the first year. And the company completely justify our decision to speed this all JV into a very capable hands of our JV partner. So this is all well, they did meet all the pre -agreed EB target under the agreement. So much to all that, under the accounting rule of standards, we have to book a reevaluation gain of close to HKD 184 million to reflect this good performance of AAMI for 2021 and also into the next couple of years. So with this performance, we're more than likely able to increase our shareholding from 44% to around 49% in about - in 2024, I believe. So because we're on track to meet those targets and under the earn-out agreement, we meet those targets. We were able to increase our share from 44% to 49%. That's the reason under the accounting grew. We had to book those gain in the year 2021. So I hope I answer your question correctly.

Kana Higuchi

Yes. Thanks for the clarifications. Maybe I wanted to say is that because currently the performance that will be -- we understood that you have fiscal in accounting, but just the color you mentioned that already

[Indiscernible] So should we expect this press should be also quite on check in terms of improving of at Baird. In line with that, those sites initiated your adjusting the past. One more follow-up is about the high-performance that [Indiscernible] also mentioned. Because it appears here that you mentioned the hybrid bonder that could come out in 2021, late 2021. And now you adjusted the deliberate in 2022. And what's the changes AEI. This is because off right. Customer schedule or something happen in terms of cooperation with [Indiscernible] group on all things, base.

Robin Gerard Ng

I think for the -- I think first question is the EMN, right, continues.

Operator

Yes.

Robin Gerard Ng

Yeah. So yes, we -- precisely because the forecast is that they will continue to do well. That's why we booked the revaluation gain. Yes, we expect these [Indiscernible] to continue to do well. In fact, I must say that they have increased their capacity by adding additional plan on top of what we have so far. So I think if this plant is fully operational by this year, we can expect the volume also to increase, of course subject to the prevailing industry condition. If the demand for liftings continue to grow, I think we'll distribute and we'll continue to benefit from this. So yes. Something positive in our opinion. Now,

Operator

Let me. Let me repeat the last question. The last question is on hybrid wonders. Canine noted that some of the hybrid wonder, which we're supposed to be out in 2021, move to 2022. So Canine just wants to know more on the reasons why that happen and what sort of change? Is it the customer schedules or are there any other reasons? Robin needs to highlight on that.

Robin Gerard Ng

Thank you. Now, considering partnership we've had, it's continuing very well. But nothing's changed from the expand. However, we must be aware that hybrid bonding is a very new tool. Being an Advanced Packaging tool, there's really no standard way of packaging. So they are a lot of deliberations, engagement with customers exactly what -- how this hybrid bonding tool will be deployed in order to package their devices. So there is a lot of all these engagement going on. So in many case deepening our relationships, in our engagement conditional or these Tier-1 customers. And we should be able to deliver the prototype, within this year. And as we had said earlier for hybrid bonding. Although we may not be the first to deliver this tool that we strongly feel that we're not late because it had been bonding through a really amazing tool in our opinion. And it will take some time for this tool to mature. And based on our channel checking with customers, we still believe that we are on track to deliver in a more meaningful way in line with customer ramp up plan, in 2023. So that's how we see the private bonding situation.

Operator

Thank you Robin. Next, Can I request Sani (ph) from UBS to unmute and ask your questions? Thank you.

Sunny Lin

Hi. Thank you for taking my questions. I'm really glad to see you're providing a lot more details for your business. I believe that will be very helpful for investors to have better visibility on the company. So good

job, well done. My first question is also on your hybrid binders. So I think last week, one of your key competitors was very aggressive about this opportunity announced to expand their capacity for the share. So I understand, you just mentioned that you think you're not too late for the opportunity. But at this point, how would you evaluate your technology gap versus the industry leaders? How is your capacity looking like versus the competitors as well?

Robin Gerard Ng

I think principal moves be when non-core main on competitors positioning. Okay. I think that's when do you know if you're concerned? We will focus on the whole development, now we believe our partnership with EVG is a right one. You'll recall we mentioned EVG is a leader in terms of Weibo to wafer bonding. They have been -- their tools have been used for [Indiscernible] packaging for some years where already. And they provide Weibo to wafer bonding capability as well as di-proposition capability. Because in a hybrid bonding scenario, the time and the substrate has to be very clean. So they have the capability to clean before we do those hybrid bonding activities. So we believe we partner with the right team to push these hybrid bonding into the market. Now, we're developing -- we're proceeding well. As I said, we have been engaging a Tier-1 customer, not just on the logic side, but also on the memory side. And as I mentioned before, this is a very new tool, so the packaging requirements are still evolving. So it's different from customer to customer, and that also explain why it takes some time for us to come out with a tool for the qualification because of all these new innovation features that we have to incorporate into the tool. So I think -- I hope that sort of give us some color where are we in terms of hybrid bonding.

Sunny Lin

Thanks you. That's very helpful. Maybe a very quick follow-up is that we're seeing the logic customers that you are working with. Are they [Indiscernible] foundries and IDMs or are you seeing any momentum from OSAT?

Robin Gerard Ng

Yes. I think -- think that for such tools, typically, we see IDM foundries would take the lead. They would take the lead in this kind of capability before it starts to proliferate down to the OSATs in the future.

Sunny Lin

Got it. My second question is on your lead time. I think back in October, you mentioned that on average, that lead time was above four months to five months, SEMI roughly five months to six months. I wonder how that's looking like at this point.

Robin Gerard Ng

I would say it's not supply chain constraints. It could be better. It could be better. But because of supply chain constraints, even though we are ready in terms of technology, but we simply like the component to putting out tools. And also, that would hamper the lead time. So this is why it's very challenging, I forgot also unserved just now -- one of the factors that we really predict too far away is really the constrained environment in terms of the supply chain. We -- coming back to your question, probably lead time turn-around three to four -- maybe three to four months for SEMI and SMT. But for certain tools -- for certain tools, as usual, those Advanced Packaging tools, the lead time typically will stretch to beyond six months. So we have a mix of tools, so I can't give you an average, but I can give you some color. So mainstream tool probably three to four months. But for certain Advanced Packaging tools more than -- more than six months.

Sunny Lin

Thank you very much.

Operator

Thank you. Next, can I request Dylan from Morgan Stanley to unmute and ask your questions? Dylan, we can't hear you.

Dylan McGuire

Hello. Hello.

Operator

Now we can hear you. Go ahead and ask your questions. Thank you.

Dylan McGuire

Thanks. Yes. Good morning and thanks for taking my question. My first question is on the automotive side. I wonder how the company reconcile the strong auto sales and versus the we carpet production right now? And how do we think about the 2022 growth is going to be along with the car production recovering, especially for our automotive segment?

Robin Gerard Ng

Hi, Dylan. Just automotive, we say we released this is a multiyear driven by automotive electrification EVs, and so forth. And so yes, we also look at a couple of other current to one resist analyst. They are still thinking of expansion in terms of a car go, vehicle cargo, percentage of cargo this year. So that boost, that should bond well for the industry as well. Now, I must also highlight that for automotive industry. We're not, we don't just sell the customers that in high volume. As you can see in one of our slide, we also mentioned that we engaged much more customers compared to last year. And some of these customers are actually doing some prototyping in using our tools for future years' production. So it's important for industry like them to engage customers early because the current statistics of the automotive industry is that, once they qualify the tools, they will use the tool for long time to come because of safety reasons. So it's important that we must continue to expand our customer base so that we serve all customers that on high-volume production now. As well as customers that are doing qualification of tools which will generate significant future opportunity for us. So in this way, we continue -- We feel that the automotive for us, will continue to grow in years to come.

Dylan McGuire

Yeah. I see. Thanks for that, very helpful. But my second question is also about the booking trend. As other analyst has just suggested that the booking trends continue to tone down in the past several quarters. From what we can see right now, when do we expect this kind of decline to end and probably to see some bookings rebound? What would be the driver here?

Robin Gerard Ng

Yeah. I mentioned just above -- I gave some color just now about so far we see in Q1. I know it's still early days. We're talking about perhaps just one month -- certainly one month of data. So it's still early days, but it's pretty encouraging so far, at least for ASMPT. The booking momentum is strong and the various areas that we look at will continue to underpin the booking for us going forward, that for TCB tool. I don't want to mention everything, but I'm sure you heard what I said just now. So TCB, Power, Automotive. So we continue to see those main drivers driving our business so far into Q1. As I said, we can't really see beyond too far. But we have to take guidance from some of these industry experts. They are saying that the -- our industry, the SEMI industry will continue to grow this year from a very high base already. They're still predicting 4% to 14% growth this year. It's not going to be small for industry even for 2022.

Dylan McGuire

Okay. Got it. Maybe a little follow-up here? So in terms of Q1 as far as we know, is the booking momentum major curving by SEMI solutions or SMT segment? Because I noticed that our SEMI solution booking has continued to cut down and I'm not sure if in the first quarter we will see some sort of a rebound for SEMI solutions.

Robin Gerard Ng

As I said earlier for SMT, we we're pretty encouraged by the SMT bookings so far. We attribute this to really the SEMI has been enjoying a boom run last year. As a result, the supply chain has a lot package and example chips that made to be put on the PCB board. So we're benefiting from the way we see it. That's why the SMT booking already in Q4 was high, which is quite unusual for -- also for SMT, typically Q4 booking wasn't -- it's not a high quarter compared to Q3. Before SMT Q4, we seen Q4 bookings increased over Q-on-Q-on-Q. This momentum so far into one month or so seems to be continuing for SMT. I think that's a benefit, I must say for ASMPT, because we are spending across the SEMI and SMT segments and the timing in terms of pick and true are different. That's just advantage of ASMPT from that perspective. We took some pains to explain to analyst Q1 from that perspective. We are unique, we have both semi and SMT. I hope that'll give you a little bit of color on how we see bookings trending so far into Q1, yes.

Operator

Thanks, Robin. Next, can I request, Donnie from Nomura to unmute and ask your questions.

Donnie Teng

Hi, Robin. Can you hear me?

Robin Gerard Ng

Yes, Donnie. Go ahead.

Donnie Teng

Thank you, Robin. Congrats on the good results. And just first question is pretty simple, because you have comment on the bookings, so I'm just wondering if you are seeing the first quarter looking direction-wise would be a little bit improved from the first quarter level. Thank you.

Robin Gerard Ng

Donnie, but this momentum we see just on the first month, possibly the budget is not a guidance. I hope - - don't treat this as the guidance, Donnie. We don't guide you on booking, but we definitely give you some color since you guys have full interested in Q1 bookings so far. I think it's just some color for you guys, just purely on the momentum. It -- possibly it could be a high quarter here.

Donnie Teng

Okay. Great. Thank you. And same question, I'm interested in your comment on Chip-to-Substrate and Chip-to-Wafer TCB older wins in your prepared remarks. So may I ask a couple of short follow-ups on the lead sole first? Where are the older wins from, from same customer or different customers? And what are the regions these customers locate? And then a second quick follow-up is that you are mentioning about that hybrid bonding equipment could be a high-cost solution for your customer. So does not -- does this imply that the Chip-to-Wafer TCB ASP is lower, a little lower than hybrid bonding equipment in your perspective?

Robin Gerard Ng

On a year-on-year right now again, maybe on the TCB, I mentioned something about the TCB being the closest in terms of technology compared to hybrid bonding. And for that reason if hybrid and bonding if hybrid bonding takes some time to mature, TCB will steer its place in Advanced Packaging, reverse, either if you have a high end packaging requirement, at this point in time, it's either you use a TCB or hybrid bonding. First and foremost, I must say that we are capable for both solutions. okay? [Indiscernible] to say we are already a dominant leader in TCB, we are now coming up with the 100 bonding. So whichever takes off in a big way, we were spent -- also stand to benefit, right? So but as far as TCB is concerned, while waiting for hybrid bonding to mature, it will take some time. You look at TCB. We started TCB probably eight years ago. Right? It takes some time for new technology to mature, because at a point when we introduced TCB, it was an expensive solution compared to free-chip at that point in time. Free-chip is the closest to TCB, right? So it takes time for a new technology to mature. Of course, we hope that hybrid bonding can be different. If it's different, it can take off in a big way, in a fast time, we also spend to benefit. Coming back to TCB, now while waiting for hybrid bonding to mature, TCB is the solution. For improving HPC needs. And we, customers and us are pushing -- continuing to push the hitch, the TCB technology and will further and further. Now TCB at this point in time is capable of maybe around 40-micron pitch plus and minus 2-micron accuracy. It's already a very accurate tool. Just imagine a human hair is 100 microns thick. And so we're talking about very fine precision even for TCB tool. Now, we're pushing the envelope together with leading Tier-1 customers to push down the firm peaks of TCB to 13 microns and below. And accuracy down to maybe even below one micron. So while we're pushing these envelope, we're developing hybrid bonding. So the way we see is that TCB has a long runway for advanced packaging application and being a dominant player in TCB, we'll stand to benefit.

Donnie Teng

The first one we will have an answer that where are orders going from. The second one, on quality. Because you commented chip to substrate and Chip-to-Wafer TCB in your prepared remarks. So I'm just curious, these are two separate projects or these are all promising customers. It doesn't typically sound like it's more than \$100 million order. If you -- if they saw two different projects. So wondering if you can have some clarifying there.

Robin Gerard Ng

I think, Donnie, you know, we have been moving very open TCB. We have one very dominant customer, but we can't name them, okay? They've strict NDA. I think this is my response to you.

Donnie Teng

And last one from me is that I think you have seen there are also companies this year shifting more CAPEX to testers and AP, like flip chip. So just curious, are you seeing a like [Indiscernible] or the momentum started pickup or not happening yet due to substrate shortage. So when should we expect the older from AP like type to pick up this year? Thank you.

Robin Gerard Ng

In January, Die Bonder also had done very well if I have not mentioned in my call. Okay? So when we talk about mainstream, we typically focus on two type of tools, Die Bonder and Wire Bonder. Okay? So Die Bonder also did very well last year because in the hind cycle, these are the two mainstream tools. Now in terms of Flip-Chip, we are very dominant in the low pin count Flip-Chip area. So this tool was -- this tool is also very strong -- was very strong rather so -- sorry, was very strong in the year 2021, yes.

Operator

Thanks, Robin. Next, can I request Frank to unmute yourself and your question.

Unidentified Analyst 2

Thank you, guys. I guess the first question was just on an earlier question or discussion was on shortages -- component shortages. Can you guys give us an update in terms of I think you talked about earlier in some of the component shortages, maybe in improving and what the current outlook is like right now and then what's the bottleneck in the past?

Robin Gerard Ng

Hi Frank. It's not improving at this point in time in slightly fast. In fact it's continued to be very challenging. As I mentioned earlier, we could have guided our revenue to be higher, if not because of component shortages. We had to defer some of our shipment to Q2. Because some of the components really did not arrive in time. What we're doing is really -- we're thinking very proactive steps. We engaged not just our immediate supplier, but we -- because most of this -- some of this components are actually our customers. We engage directly from our customers and ask them for help to deliver these components through their supply chain, to ASMPT. So we are proactively managing this, but it's still very challenging. Now, on the longer-term says with discount challenge, you know, we also have -- We also took steps in order to see how we can redesign is redesign our products, our modules, our components and modules using alternative components or materials. So this part of the activity we are currently engaging internally just to make sure that we don't depend on just one or two sources to manufacture our tools. These are actions that we're taking.

Unidentified Analyst 2

Is there any view in terms of when that component situation might start to improve?

Robin Gerard Ng

If you look at the number of new facts, the IDNs of the world. Talking about coming up, I think in time to come it will be, the situation, but unfortunately all this new sets take time to build into really go into production. So, probably a little bit longer before this situation can be somewhat better. Yes.

Unidentified Analyst 2

It's unlikely I guess, to be resolved in the next 1 or 2 quarters.

Robin Gerard Ng

No, Frank, no, definitely not. I think we will continue to face this challenges in the next two quarters.

Unidentified Analyst 2

Okay. My second question is just in terms of your CapEx, I think your CapEx for this 2020 it looks to be about maybe 70% higher than last year. But I guess you guys also talked about the visibility, not being that long and your booking ratio for SEMI has continued come down. I was wondering, can you give us a little bit of guidance in terms of how the CapEx is going to be allocated?

Robin Gerard Ng

Yes. It's a little bit high yield, Frank compared to maybe to 2020 and 2019. But you can imagine during those COVID-19 height, we are also more conservative, more prudent in the way we manage our CapEx. So come to a point we have to renew some of our aging equipment in the plant, so we had to start to do that in 2021. And also, we also alluded the effect that [Indiscernible] continued to increase or intensify in

R&D. So those also need new and more capable equipment in the left in order to perform those activities. So those both are mainly the drivers behind this yield of CapEx.

Unidentified Analyst 2

Okay, great. Thanks.

Operator

Thank you. I think we will take questions from two analysts more who are on the queue, then we will have to end the call. So can I request -- can I request, Laura, to please unmute yourself ask your questions?

Unidentified Analyst 3

Good morning. And can you hear me?

Operator

I can hear you and thanks.

Unidentified Analyst 3

Thank you very much for your detailed presentation. I only have one question on competitive landscape. We understand that China has been the biggest market for ASMPT. But given the rising local competition how good is ASMPT to consent your market share in China. Particularly in maintaining your shares in venturing the wire bonding markets. Also separately for the fast-growing Advanced Packaging and also to low-tier markets. Since you target this kinds might be more for IDNs or Advanced funding makers. How is your position comparing to your international competitor? That's my questions. Thank you.

Operator

Let me to be the first question. You want to know more on the competitive landscape in Chinese market. You noted that the local competition has been rising. So you want to know more color and more detail from Robin side.

Robin Gerard Ng

I think -- the competition is every way. The more lucrative market is the more of competition. We just simply have to up our game in order -- there's no magic formula, honestly. In all the equipment makers, we must continue to innovate, spend resources into R&D which is important and better and push out new products that are faster, more accurate and make more sense in terms of CEO protocols of ownership for customer. These are the 3 metrics that we've continued to monitor. Otherwise, anyone can be our gain in this industry, in the equipment industry. So I repeat, nothing new -- competition is nothing new, whether it's in China or in other places. We have to continue to be faster, more accurate, and improve our TCO for our customers.

Operator

Thanks, Robin. I think, Laura, your second question is more on the AP solutions. And to simply put it, it's - you want to know how do we compare versus the international competitors. Do add more color if you want.

Robin Gerard Ng

Yes. Now, I think for AP tools at this moment mainly the competition are coming from international competitors. Now, I will just speak more on ourselves focusing really more on ASM. If you look at Page 15 of our presentation, what really differentiates us from our competitor is we offer a wide range of Advanced Packaging tools. Just like our business model for mainstream tools, we also offer a wide portfolio. And this has worked well for us over the last 47 years. So we are replicating what we know best, how we do best in the mainstream side to the Advanced Packaging side. So you look at page 15. We have all range of tools and we believe strongly that we have most lower comprehensive suite of solutions to cater to all the adverse packaging needs of the industry. Okay. I hope that also answer your question, Laura.

Unidentified Analyst 3

Thank you. That is really comprehensive. Thank you.

Operator

Thanks, Laura. For the last bunch of questions. Can I request Simon from Bank of America to unmute yourself and ask your questions.

Simon

Okay. Thank you very much. Congrats on the great results. Very quick clarification. So you said, high -- sorry, you don't provide the guidance for the Q1 booking, but we appreciate the shoring the color. But, [Indiscernible] definition of high quarter for Q1 means is quarter-on-quarter improvement in your booking kind of the trend? Thank you.

Robin Gerard Ng

I said earlier Simon. I'm just purely looking at one month now of data. Looking at the momentum is really quite encouraging. Now, if this momentum continue, it can be a good quarter for Q1 booking for ASMPT as a whole. And as I said earlier, maybe worth repeating, we see SMT very strong because of the lagging effect. A lot of chips need to be packaged onto the PCB board. And for IC and Opto, we see certain statement are very strong and also help them part, Simon because we want the order, the 100 million orders because the order significant portion on the order was booked in Q1. So that really help us form a baseline for Q1 bookings.

Simon

Yeah. But it sounds and that much SEMI solution will relate more SMT relate to the debt.

Robin Gerard Ng

Simon, SEMI is equally -- I want to highlight SMT because it's entering a cycle. Because, as I said earlier, we experienced very strong cycle in the SEMI side, now we're seeing SMT experience the cycle.

Simon

Then we very quickly [Indiscernible] 2022 -- Sorry. Yes, it's a great update for the memory market relate to trend. But the hype ended with this memory, even with the TTR5, do you have any meaningful order, acumen order increase for the new more advanced memory for, I mean the HPM3 type? I think it's a very early stage, consider these kind of the new memory demand. But do you see the acumen order can be more meaningful for this area? I mean the HBM3 type technology by just taking area? Thank you.

Robin Gerard Ng

Yeah, Simon. Possibly because if we look at the demand by consumers for more and more data. So all this data has to be kept somewhere. If it became a memory, so many will continue to grow the way this strategic pick truisms, by ASM in this space is kind of timely. We're never been a strong in the memory market. But with this recent big truisms of Wire Bonder for key customers and also for this particular application using our TCB to step this [Indiscernible]. We are seeing some good sign for ASMPT in this memory market.

Simon

And then lastly thank you very much. Wire Bonder -- yeah. Someone has already asked very traditional in the full methodology for the back-end. But the -- again, the presentation material Page 22 a Wire Bonder for the NAND Flash, you think if it will be the continuously the necessary tool, no need of furthermore out-of-band back-end [Indiscernible] for NAND [Indiscernible] sufficient with [Indiscernible] Wire Bonder. Thank you.

Robin Gerard Ng

Now, typically, if you look at the memory space, there are two types. We have the DRAM and NAND, right? So the way we see it is that NAND typically do not require Advanced Packaging Tools, they are more using wire-bond because they don't need high-speed transfer of data, because it's really keeping the memory in just NAND, it's a permanent memory. Whereas DRAM is different. DRAM has to interact with the logic chip constantly, so it has to be faster. And because of that, DRAM typically -- sometimes it would still use wire-bond, but DRAM -- we see more Flip-Chip application for DRAM.

Simon

Yeah. Very clear, sir. Really appreciate. Thank you very much.

Operator

Thank you, Simon. I think with that, we want to officially end this call. We would like to thank all of you for attending today's investor conference call. There was quite a good bunch of questions posted to us. We hope to see you during the next quarter's call. In the meantime, please take care and stay safe.

Robin Gerard Ng

Thank you.

Unidentified Analyst 1

Thank you.

Kana Higuchi

Goodbye.

<https://seekingalpha.com/article/4489305-asm-pacific-technology-limited-asmvf-ceo-robin-gerard-ng-on-q4-2021-results-earnings-call>