GSI Technology, Inc.

Second Quarter Fiscal Year 2022 Results Conference Call

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CORPORATE PARTICIPANTS

Lee-Lean Shu, *Chairman, President, and Chief Executive Officer*

Didier Lasserre, *Vice President of Sales*

Douglas Schirle, *Chief Financial Officer*

CONFERENCE CALL PARTICIPANTS

Rajvindra Gill, *Needham & Company*

Jeff Bernstein, *Cowen, Inc.*

Brett Reiss, *Janney Montgomery Scott LLC*

George Gaspar, *Private Investor*

John Fichthorn, *Dialectic Capital Management LP*

PRESENTATION

Operator

Welcome to GSI Technology's Second Quarter Fiscal 2022 Results Conference Call.

At this time, all participants are in a listen-only mode.

Before we begin today's call, the Company has requested that I read the following Safe Harbor Statement. The matters discussed in this conference call may include forward-looking statements regarding future events and the future performance of GSI Technology that involve risks and uncertainties that could cause actual results to differ materially from those anticipated. These risks and uncertainties are described in the Company's Form 10-K filed with the Securities & Exchange Commission.

Additionally, I have also been asked to advise you that this conference call is being recorded today, October 28, 2021, at the request of GSI Technology.

Hosting the call today is Lee-Lean Shu, the Company's Chairman, President, and Chief Executive Officer. With him are Douglas Schirle, Chief Financial Officer, and Didier Lasserre, Vice President of Sales. I would now like to turn the conference over to Mr. Shu. Please go ahead, sir.

Lee-Lean Shu

Good afternoon and thank you for joining us to review our fiscal second quarter 2022 financial results.

Our revenue increased by 17% year-over-year for the second quarter of fiscal 2022 to $7.8 million compared to $6.7 million in the second quarter of fiscal 2021, at the high end of the guidance provided earlier in the second quarter. Through the first half of fiscal 2022, revenue is up 25% compared to fiscal 2021, and sales to Nokia, our largest SRAM customer, have stabilized despite ongoing supply chain challenges that are troubling our industry.

We reduced our net loss by 22% year-over-year as a result of higher revenue and gross profit and only a modest increase in operating expenses on a year-to-date basis. At quarter-end, we had nearly $51 million in cash, cash equivalents and short term investments to support the launch of new products and sales and marketing efforts to build a pipeline of opportunities. Our legacy SRAM business is profitable and generates cash flow to support the development and pending launch of our radiation tolerant devices and the Gemini APU solutions. We continue to advance our key initiatives with ongoing APU and radiation tolerant opportunities. We are progressing in the current customer engagements for both categories and have added a few new beta customer engagements for the APU.

We continue to prioritize the allocation of our capital towards the APU, which we believe is central to the long-term value of the company given the unique opportunity for our novel technology. We are committed to our strategic investment in APU. Through our own detailed analysis of market data, we estimate that the global TAM for APU search applications is approximately $137 billion. Later in the call, Didier will discuss our assumptions and the markets represented to illustrate in more detail our convictions regarding this strategic investment.

We were recently selected to be an organizer and judge for The Billion-Scale Approximate Nearest Neighbor Search Challenge, a first-of-its-kind competition in large-scale Approximate Nearest Neighbor Search, or ANNS. The event is being hosted by NeurIPS as part of its annual conference on neural information processing systems. GSI is one of the members of a panel led by Microsoft that includes AI thought-leaders from industry and academia. Participating teams' submissions will be evaluated against challenging datasets containing at least 1 billion vector records. The winning teams will be announced at the NeurIPS 2021 Conference in December.

Recent advances in ANNS techniques for search, recommendation, and ranking require supporting a billion, trillion, or larger datasets. This competition is to help establish a consensus on which algorithms are effective at this scale.

ANNS is important to search, retrieval, and recommendation. The challenge for ANNS algorithm designers is to create a data structure that enables fast retrieval of the k nearest neighbors even as the database size grows. The tradeoff between accuracy, measured typically as recall, and search latency, measured typically as query throughput, is important in evaluating ANNS performance. Several implementations of large-scale ANNS are now powering enterprise-grade, mission-critical, and web-scale search applications. In these scenarios, benchmarks such as cost, preprocessing time and power consumption become just as important as the recall-vs-latency tradeoff.

I have discussed on past calls the APU's advantages in power consumption. From our relationship with our laptops, to Crypto miners who run their own on-prem hardware, we all know the importance of acquiring power-efficient hardware to lower the power bill. Power is a big problem today, from how much we consume to generating the power for our machines.

Here are a couple of eye-opening statics:

- Global data centers consumed an estimated 205 terawatt-hours in 2018, or 1 percent of global electricity use.

- The amount of energy used by data centers doubles approximately every four years, meaning that data centers have the fastest-growing carbon footprint of any area within the IT sector.

This problem will likely increase as workloads become more data-intensive and AI-centric. New hardware and chipsets specifically designed for power efficiency will continue to be a major component of the design of future data centers. Solving this problem is one of the strategic opportunities for our technology. GSI can document in numerous applications that our technology brings enormous power saving because our typical system requires a much smaller footprint, we lower the overall total cost of ownership. Two of the leaderboards in the The Billion-Scale Approximate Nearest Neighbor Search Challenge competition will rank participants relative to power usage and hardware cost.
Like the other organizers and panelists, GSI will have a submission to the competition. Of course, we hope to attain a leadership outcome for our submission and garner increased visibility with other competitors, including NVIDIA, Microsoft, Intel, and other leading AI hardware vendors.

We mentioned on our last call that we are a partner in OpenSearch 1.0 launched by AWS with our Elasticsearch k-NN plugin. We are still in the early stages of developing this opportunity. We have a functioning server in our Silicon Valley data center where we have had an initial customer demo. At this time, the release of the new Open Search 2.0 protocol has been delayed, pushing out the timing of our roll-out. We expect our next round of demos will happen once the next version of OpenSearch is released. It is our goal to open up our facility to beta customers in calendar 2022.

This quarter we successfully raised the profile of GSI in the industry with our participation in the ANNS competition. We are moving forward with opportunities that have followed our recent successes in prior competitions with the APU and the announcements of the radiation-tolerant NASA award. The GSI team has been working tirelessly to raise our profile with the goal of landing beta customers and building a pipeline of business. I sincerely thank you for your support as a fellow GSI shareholder.

Now I'll hand the call over to Didier, who will discuss our business performance further.

Please go ahead, Didier.

Didier Lasserre

Thank you, Lee-Lean.

As Lee-Lean stated, we have identified the market segments we believe are most relevant to the APU and defined our TAM, and our Serviceable Available Market, or SAM.

Starting with the total market opportunity for APU search applications, based on the available data, we estimate the global TAM is $137 billion in 2021 and will grow at a CAGR of approximately 20% to $287 billion by 2025, and that our SAM is $4.5 billion in 2021, growing to $10 billion by 2025.

The multiple search market segments we included in our analysis include computer vision, synthetic aperture radar, drug discovery, cybersecurity, and service markets such as NoSQL, Elasticsearch, and OpenSearch, which we plan to support with a SaaS solution. These are market segments where we currently have ongoing customer engagements.

Computer vision, is a broad term that includes image and object recognition, facial and body recognition, re-registration – aligning a photo image with a previous one - beneficial for mapping, warehouse robotics, and auto-target recognition. These are all markets where our chip is highly relevant. Near term, we are engaged with opportunities in facial recognition, object identification, and re-identification. Re-identification is the storing of faces or objects not in the database that allows this unknown object to be recognized and note any patterns related to when and where their image is captured.

With regards to the supply chain constraints facing our industry, like many semiconductor companies, we face a one-year lead time on substrates used in our chip assembly, and supply remains tight. There was a fire at one of our substrate suppliers, and they are now back to 70% capacity, which is helping. In Taiwan, we had a subcontractor that shut down in June for 4 weeks due to a Covid outbreak which is now 100% back in place. Regarding the recently announced TSMC wafer price increases, we are looking at a 20% increase in wafers cost, with the new prices becoming effective for all new orders. Overall, the impact of increased assembly labor costs, rising substrate prices, increasing wafer costs, and expediting charges means that we will be increasing our prices to all our customers.

Moving to the sales breakdown for the second quarter of fiscal 2022, sales to Nokia were $1.9 million, or 23.8% of net revenues compared to $3.4 million, or 51.7% of net revenues, in the same period a year ago and $3.8 million, or 42.7% of net revenues in the prior quarter. Military/defense sales were 27.4% of second quarter shipments compared to 26.9% of shipments in the comparable period a year ago and 20.0% of shipments in the prior quarter.

SigmaQuad sales were 52.4% of second quarter shipments compared to 65.4% in the second quarter of fiscal 2021 and 63.6% in the prior quarter.

I'd now like to hand the call over to Doug…please go-ahead Doug.

Douglas Schirle

Thank you, Didier. We reported net loss of $4.6 million, or $0.19 per diluted share on net revenues of $7.8 million in the second quarter of Fiscal 2022, compared to net loss of $5.2 million, or $0.22 per diluted share on net revenues of $6.7 million for the second quarter of Fiscal 2021, and a net loss of $4.2 million, or $0.17 per diluted share on net revenues of $8.8 million for the first quarter of Fiscal ’22.

Gross margin was 53.6% compared to 46.7% in the prior year period, and 54.4% in the preceding first quarter. The changes in gross margin were primarily due to changes in product mix sold in the three periods.

Total operating expenses in the second quarter of Fiscal 2022 were $8.7 million, compared to $8.3 million in the second quarter of Fiscal 2021, and $9.1 million in the prior quarter.

Research and development expenses were $5.9 million compared to $5.7 million in the prior year period, and $6.1 million in the prior quarter.

Selling, general and administrative expenses were $2.8 million in the quarter ended September 30, 2021, compared to $2.6 million in the prior year quarter, and $3 million in the previous quarter.

Second quarter Fiscal 2022 operating loss was $4.5 million, compared to $5.2 million in the prior year period and $4.4 million in the prior quarter.

Second quarter Fiscal 2022 net loss included interest, income, and other expense net of $8,000 and a tax provision of $42,000 compared to interest, income, and other expense net of $16,000 and a tax provision of $62,000 for the same period a year ago. In the preceding first quarter, net loss included interest and other expense of $20,000 and a tax benefit of $172,000.

Total second quarter pre-tax stock-based compensation expense was $716,000, compared to $653,000 in the comparable period a year ago, and $823,000 in the prior quarter.

At September 30, 2021, the Company had $50.7 million in cash, cash equivalents, and short-term investments and $2.8 million in long term investments, compared to $54 million in cash, cash equivalents, and short-term investments and $5.8 million in long term investments at March 31, 2021.

Working capital is $53.6 million as of September 30, 2021, versus $56 million at March 31, 2021, with no debt.

Stockholders' equity as of September 30, 2021, was $69.9 million compared to $75.6 million as of the fiscal year ended March 31, 2021.

We still see the supply chain constraints having a modest impact on our ability to fill all of our orders. Where there has been some improvement, the supply chain situation remains fluid and we do not expect significant relief from these constraints before next year. Given these variables, current expectations for the upcoming third quarter are net revenues in the range of $7.2 million to $8.2 million with gross margin of approximately 52% to 54%.

Operator, at this point, we'll open the call to Q&A.

Operator

Our first question comes from the line of Rajvindra Gill with Needham and Company. You may proceed with your question.

Dennis

Good afternoon, everybody. This is actually Dennis (phon), asking a few questions for Raji. I'd like to start off with a question about the price increases. When do you expect that the price increases that you're passing on to your customers will start to show up on the top line?

Didier Lasserre

We are changing backlog and all new orders as of December 1.

Dennis

All new orders. Got it. Wonderful. Then the other question that I had was relating to the Gemini-1 APU. I think on the—a few calls ago you mentioned that the Gemini-1 APU should be seeing some volume production in this current quarter. How is that milestone being met? Are you beginning production or are the supply chain constraints limiting that? Can you give us an update on the Gemini-1 volumes?

Lee-Lean Shu

Yes, on the component level, I think we are in the pre-production mode which will mean we are still doing the qualifications. But this is ready if we see the demand for it. I think one of the major challenges still on the software, we have to make a lot of software API ready for the customer. The software will be a major barrier for the hardware availability.

Dennis

You're saying once the software is ready that will get you one step closer to the actual production of the Gemini-1?

Lee-Lean Shu

Yes, from the hardware point of view. Yes, we are ready. We just need to win the application with software.

Dennis

Got it. All right, well, that's all that I had. Thank you.

Lee-Lean Shu

Thank you.

Operator

Our next question comes from the line of Jeff Bernstein with Cowen. You may proceed with your question.

Jeff Bernstein

Yes, hi guys. Congratulations on the new patent you guys were just issued on the SRAM structure, optimized for in-memory computing. From that patent, you can see there's not a large instruction set here and it's going to be important for you guys to provide a compiler and software libraries that make the chip easier for people to use. Can you just give us some detail on what the deliverables are there and the timing for those?

Lee-Lean Shu

I think right now a lot of the things we are doing is really for the brand awareness. I think we do demonstrate, or we have a good performance and compared to other solution already in the industry. But I think we still need a lot of work to develop the market and to win the confidence of the customers. As we have described it before, we have lots of—we are participating the competition, so winning the award. All this is for the brand awareness and hopefully we can demonstrate our capability among our peers and also among the customers. That's our major focus right now.

Didier Lasserre

Jeff, just to add to that for the deliverables, obviously the compiler stack is critical to that because as Lee-Lean mentioned, we're writing a lot of the APIs and the algorithms today, but a lot of folks want to write their own or there is just, we can't keep up with all the different applications, so the compiler stack is critical.

Jeff Bernstein

Yes.

Didier Lasserre

We're going to have that released to our beta guys. We already have the beta guys identified and that will be—we were hoping to do it by the end of the year. It looks like it might be falling into early next year for the beta guys. They'll go through and they'll play with it, and they'll try to break it and everything else.

Then we'll release it to the general public some time in 2022. I'm hoping it will be sometime first half of 2022 where it will be available for everyone.

Jeff Bernstein

Got you and then so then I'm assuming that for certain vertical kinds of applications that are somewhat generalizable, that multiple customers might want like the synthetic aperture radar analysis or object recognition, etc. that you guys are doing libraries to make that even easier for people. Is that correct and can you just, of those vertical markets you touched on earlier, can you just talk about when each of those is going to be delivered?

Didier Lasserre

Correct, so you have both libraries and you also have, further up the stack, the actual APIs or the algorithms. As you mentioned, that has either been done or is being done for things like the SAR, the synthetic aperture radar. You know that we've written it also for the BIOVIA Pipeline Pilot platform. It's already been done. We've done it for facial recognition and object detection. We are in the process of doing it for the dense registration and we've done some work on reidentification as well. There has been a lot of work that's been done already.

Jeff Bernstein

Got you. Is it fair to say that by the middle of next year some of these key verticals will basically be covered and very accessible to customers who will want to start using them?

Didier Lasserre

If they want to use our algorithms, correct. Yes, and like I said, some of the entities we deal with, getting external software is a problem and so the answer is for folks where it's not a problem, those should be available. For folks that want to write their own, that's where we're relying on the compiler stack being available.

Jeff Bernstein

Yes, okay. Got you, okay. Then just, I want to understand a little bit more about the environment that you're facing out there in terms of sales. Understand that you guys are in the model execution, not training part of the market. But what we see in the training market, AWS just did an elasticsearch instance based on the Intel Habana chips. They're open to outsiders. They have their own Trainium custom chips. It looks like Microsoft has got Grasscor (phon), GROC (phon), and Nimbix as training chip partners that they're working with. Whereas some of the others like Baidu, Alibaba, and Google are only doing their own. Talk about the not invented here or who is open to look at outside chips among those big players out there that could be important partners.

Didier Lasserre

Sure, so you bring up a good point. Almost all of the large, big data guys have internal chip development happening and they've always had that. But with that said, certainly if you bring a solution that's going to accelerate a search or it's going to lower the power, or it's going to do something that's important to them, they're open to it. We haven't seen anybody that basically said no, we're designing our own. As you said, a lot of the chips these guys are doing are for very specific functions that are important to them. A lot of it is centered around the training, as you mentioned. We haven't seen that level of activity for specific search, which is what we're focused on.

Jeff Bernstein

Got you, but you're feeling is that delivering these kinds of capabilities to some of these large players, they will be open to looking at these and possibly offering instances on their networks?

Didier Lasserre

Correct. We've seen that already play out with the OpenSearch. Again, we've demoed on 1.0 and we're waiting for 2.0 but they've already announced us as a partner on that. Yes, they're open.

Jeff Bernstein

Got you, okay. Then I just wanted to ask, on the non-Nokia customers, 48% of revenue. That's the highest since before the pandemic. Any particular customers that are growing, outside of military? Or what's the status of non-Nokia customers?

Didier Lasserre

Yes, so we were, as you look at the numbers, Nokia was down more quarter-over-quarter than our overall revenue was. Obviously, the rest of our revenue grew outside of that. We saw strength in some areas that—it wasn't one particular area. There was certainly some strength in the military sector. We also had shipped the end of that last order for the rad tolerant that we had mentioned. We shipped half of it in the June quarter and half of it in this past September quarter. Then we also saw a little bit of rebounding in some of our customers that do automotive equipment, test equipment, things like that. Obviously, the automotive sector had been hit by the availability of chips earlier this year and so they were a little bit quiet the first half and now that seems to have loosened up. Some of the equipment guys have come back to us this past quarter as well.

Jeff Bernstein

Got you. That's great. Then just a request, Jim Roumell, the largest shareholder has asked you guys to get an IP valuation, which makes sense to me. I think we're now your second biggest non-index holder. Just, of back of the envelope, it looks your building that you own at Elko Drive is worth over $10 million potentially. I think it would be worthwhile to have that appraised and have shareholders understand it that there is some additional asset here that's significant beyond the cash that you guys have.

Douglas Schirle

That's true. We believe that the building is obviously worth a lot more than what's on the books. We've been in it for over 10 years now, of course.

Jeff Bernstein

Great. Well, it would be great to have an appraisal of that.

Operator

Okay, our next question comes from the line of Brett Reiss with Janney Montgomery Scott. You may proceed with your question.

Brett Reiss

Hi. Thanks for the opportunity. Have any crypto miners, in fact, approached you in possibly using the Gemini system?

Lee-Lean Shu

We have looked at the crypto mining. I think right now in the market, there are dedicated chip developers for them, so it's. APU is not designed specific for that, so we are—so even though we look at that, we don't believe we are suitable, okay. But from the general purpose, if somebody want a general purpose (inaudible) probably usable but not in the form of doing the crypto mining as a revenue and all that.

Brett Reiss

Right. Right. Now, for the ongoing customer engagement to invest into material revenues for the Company, is the additional engineering that must be done in the control of our Company, or is it additional engineering that must be done by the potential customers' engineering teams to make the Gemini system a commercially viable product for us?

Didier Lasserre

It depends, right. The answer is yes, to both, right. We certainly need to continue to develop more algorithms, more libraries, more APIs. But then we also need to make that compiler stack available so that they can do it themselves. Because again, there are way too many potential applications going forward for us to keep up and there are some people who just don't want to outsource that, so they'll do it themselves. Supplying them that compiler stack will allow them to not have to basically program at the register level. I mean, they'll be able to do it at a much higher language. The answer is, yes, we will need to do some of it and that will be done internally. Then we need to enable our customers to do their own as well.

Brett Reiss

Great. Thank you for taking my questions.

Didier Lasserre

Thanks Brett.

Operator

Our next question comes from the line of George Gaspar, a private investor. You may proceed with your question.

George Gaspar

Thank you. Good afternoon. Just ongoing with the last question, can you give us a very specific example of the testing on a specific entry into the market that you are running against competition? Can you give us something that would identify with your capacity being much superior to the others out there?

Didier Lasserre

Sure, so I can give you one right off the top (inaudible). Sorry, dropped my glasses. We are engaged with the customer now. We are about ready to do a POC, I'm sorry, proof of concept, specifically for the SAR,

which is the synthetic aperture radar. How we got to where we are today with them is we did benchmarking for them and it was the benchmark that was based off a 5-kilometer by 5-kilometer image and they needed resolution down to 0.5-meter in one second, one millisecond, sorry. We did the benchmarking on CPUs. We did them on GPUs and we did them on our APU, the Gemini. We showed them all the test data and the benchmarking, and we ended up being chosen. We're going through the process now of doing the POC definition with them. That application is a perfect example of they actually look at the data from the three possible chip technologies and chose GSI.

George Gaspar

Okay, interesting. Just ongoing on that, getting back over on the defense, the military side. There seems to be a continuing requirement for space work that to identify and interpret higher, faster speeds. Is there any possibility of you expanding your activity on the defense military side because of the speed that your—the capacity that you have relative to others?

Didier Lasserre

Yes, absolutely. Several of these applications we've talked about. SAR, object detection, ATR, which is the automatic target recognition, all those are kind of a military application and there are certainly other ones we've worked on, signal classification, and such. There are certainly several sectors and applications we've worked on for that market. As you know, we were one of the—we partnered with Space Micro and won a NASA SBIR and that SBIR was around what NASA calls an IPU, which is inference processing unit. But it's essentially a ruggedized board using our solution that can be used in space.

As we discussed, it was some time ago. It was almost coming up on two years ago. We did some initial SEL testing on the APU, and it came back very, very good. We are going to sometime in hopefully the first half of 2022 follow on that testing and do SEU and SEFI testing to round out everything that's required to be able to put the Gemini into space. Yes, we're certainly going to continue to pursue that avenue as well.

George Gaspar

That's very interesting. Thank you for that. I've got one question on the issuance of stock in the last quarter. How many shares have been issued and was that for issuance to employees, basically for the increase in shares? Can you elaborate on this aspect?

Douglas Schirle

I don't have the actual number here in front of me, George, but somewhere between 100,000 and 200,000 shares.

George Gaspar

Between 100,000 to 200,000 shares.

Douglas Schirle

Roughly somewhere about 100,000 to 200,000 shares.

George Gaspar

I see, so those.

Douglas Schirle

That includes since the beginning of the year, fiscal year. There's some ESPP purchases and option exercises. In fact, just this past week or so we had two directors exercise some options and I believe there are Form 4s out there for each of those.

George Gaspar

Okay. All right, and at this point, being that the stock has been lower for some time here, has there been any purchasing of—in the marketplace to recover shares that are outstanding?

Douglas Schirle

We haven't done any repurchases for over a year now, if that's what you're asking.

George Gaspar

Okay. Yes, right. Okay, all right. Thank you kindly.

Didier Lasserre

Thanks, George.

Douglas Schirle

Thank you, George.

Operator

Our next question comes from the line of John Fichthorn with Dialectic Capital. You may proceed with your question.

John Fichthorn

Yes, hi guys. Thanks for taking my question.

As a quick follow up to the last question, I've got to ask, with $50 million in cash and a $10 million building and a bright outlook, maybe why you wouldn't be doing share buybacks right now, since it was asked?

Douglas Schirle

Well, we have had a long history of buying back shares. We went public in March of 2007 and netted $30 million in the offering, and we've already repurchased over $61 million worth of our stock. We've already taken, in terms of dollars, 2x off the market based on what the IPO was. We have cash in the bank, but we understand that APU is a very exciting product. There is a very large market that we're addressing with that but there's still work to do. We just feel that we want to make sure that we're going to be successful and yes, the stock is cheap. We all believe that. But we think that, at this point, given we've already done in terms of stock repurchases, it makes sense to keep the cash at this point and make sure that we're successful with our development efforts.

John Fichthorn

Well, that makes sense, and it leads to my second question, which is really about your go to market. You've talked about a proof of concept you're going in. You've talked about competitions that you're entering in. You've talked about a number of your potential customers or maybe even acquirers, who knows, that are also in-house competitors. I guess I don't fully understand, although it now sounds like it's pushed off until Q1, Q2 of next year, what the go to market strategy is at this point. Maybe you don't know either but to the extent that maybe I just missed it, I'd love you to give me as much granularity as you're willing to on that.

Didier Lasserre

Yes, so certainly, obviously we have several possible applications. The overall umbrella is search. That's just a generic term, right but under the search falls all these different applications. Obviously, the go to market is where can we show benefit in these markets, right. Who sees the most value in our solutions? That's where we've been focusing, and also where is the TAMs as well? That's why we've gone through this TAM analysis, which we've discussed. We've broken it up by segments.

Right now, it's going through that process of showing the customers in these segments what our value is. In some cases, it's lower power. In some cases, it's faster—more queries or faster response times, more accurate responses. Sometimes it's lower cost.

One of the other benefits that we're able to show customers and this one is really at the beginning stage and it's taking some conversations to open up their eyes, but we can also offer, in a lot of cases, a mobility aspect to their solution. Where in the past, for them to do a certain function would require cabinets of CPU-based servers or cabinets of GPU, while with our solution it could be a couple racks, which can now be put in a plane, in a van, in a submarine or what have you. That's one of the things for them to be able to understand, that possibility that all of a sudden they can have the solution be mobile as well.

John Fichthorn

Maybe I should drill down a little bit though. I get it. You've got a lot of exciting applications. There's a big TAM. But either when or in what application do you think you're furthest along and might get the first signs of revenue? When should we think there's going to be somebody who signs a piece of paper that says I want to pay you for this and in what application do you think that might be, or what couple of applications are you furthest down this chain? Not just in a proof of concept. Maybe proof of concept is the furthest but where are you the furthest today?

Didier Lasserre

I would say in the (inaudible) and military sectors. Areas like the SAR application, some of the object detections. That would probably be where we're furthest down the line. Obviously you know that we're going to be working this OpenSearch 2.0 and that's going to kick in some time in 2022 but it will be instances, so it will take a little longer for that revenue. It's a service. It's a SaaS model, so that will take a little longer to kick in. Some of it will kick in in 2022. The question is, how much? We don't know yet, obviously.

John Fichthorn

But before the OpenSearch 2.0, will you have revenue from one of these defense type customers this year, even if it's just NRE?

Didier Lasserre

Possibly. The timing is hard to predict with the military guys. The answer is we should have gotten a board or two purchased about now and it may happen by the end of the year, and it may fall into early next year. The timing is not always easy to predict with these folks, but we're imminent on at least a couple boards. But again, let's be clear. We're not talking volume here. This is still under the POC where they'll buy a board. They'll test it out. Prove to themselves that this is really what it is, what they want, and gives them the results that they want and need. Then we'll go from there. It will be onesy, twosy kind of things.

John Fichthorn

In terms of being like production revenue, real recurring, either SaaS revenue or something else. Is that really 2023?

Didier Lasserre

Certainly not earlier than second half of next year. Yes, I don't see any way; second half of next year would be the earliest. But yes, it could fall into 2023. Again, hard to really predict exactly when that's going to happen.

John Fichthorn

I totally understand but you know when the soonest it could be, right, if everything goes well. Fine, second half of next year. The last time, I'll just try and once again specify, in the Defense Department business, I get it because you're not competing against guys inside the Defense Department making the same product. But in a lot of these other instances, in the commercial market, you are. Just give me a quick—is it just to win competitions and hope people recognize you? Because you're still going to have guys inside of Google and Microsoft and Baidu and everywhere else going, "No, use ours. You pay us anyway. We've designed it for our own chip." Or is there like, you guys have feet on the street, knocking on doors? Just help me understand what the commercial go to market strategy is, specifically.

Didier Lasserre

We're of course talking to these folks and again, as I mentioned earlier, they're all doing chip designs, like you said. I can't remember if it was Jeff who had mentioned that, but we haven't seen where it's really specific on the search, per se. It's generally some kind of function. But the guys we're talking to, again, the OpenSearch is part of AWS and as you say, AWS is doing—or Amazon is doing their own chips. Why is it they've already chosen us as a partner? Because obviously they're not doing anything internal that matches what we're doing. We will always be competing against some internal design but—and when I say we, chip manufacturers. But we haven't seen what we're offering, our kind of value, we haven't seen that effort within these companies in the search area.

Lee-Lean Shu

The large-scale database search is still a very new market. AWS opens, they just started just a couple months ago. We have this competition, billion-scale ANN search. That's of course (inaudible). The industry, they don't have this kind of competition before. It's just getting started and Gemini APU is by far, we have seen this as the best hardware out there that do this kind of job. We hope we can perform well in the competition, so that will demonstrate our valuation in this area.

John Fichthorn

My concern is that your point exactly, that this is very new, very new, right. You're about to get to 2.0 and we're talking about revenue that might start to ramp in late '23 and so I just—I don't know what's your backup plan if we're sitting here having this call at the end of '23 and you're like, well, it should be in second half '24. It's very new, right. People are still doing evaluations. We're at the end of '24 and it's '25. At what point do you have another path or is there no path? This is the one path and we're all in.

Lee-Lean Shu

No. No, we are more than that. Well, the search is one area we are looking at, right. The other thing we talk about is defense and the government project. The last (inaudible) that is to develop the device which can go into the space. We think this development, the (inaudible) sector can pick up this device and then put into a satellite and it can apply to many, many companies and maybe many applications. It's more than the search. We talk about we have object identification. We can do SAR. We can do density registration. Many computer vision type applications. We are hopeful and right now one thing is we are not certain is when the production revenue will come in, but we hope it is coming soon and we believe so.

John Fichthorn

Great, thanks a lot, guys.

Operator

At this time, we have reached the end of the question-and-answer session.

Lee-Lean Shu

Thank you, all, for joining us. We look forward to speaking with you again when we report our third quarter Fiscal 2022 results. Thank you.

Operator

This concludes today's conference. You may disconnect your lines at this time. Thank you and have a great day.