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## CORPORATE PARTICIPANTS

**Francis B. Laurencio** *Atomera Incorporated - Chief Financial & Accounting Officer and Corporate Secretary*

**Scott A. Bibaud** *Atomera Incorporated - President, CEO & Director*

## CONFERENCE CALL PARTICIPANTS

**Richard Cutts Shannon** *Craig-Hallum Capital Group LLC, Research Division - Senior Research Analyst*

**Mike Bishop**

## PRESENTATION

**Mike Bishop**

Hello, everyone, and welcome to Atomera's Second Quarter Fiscal Year 2021 Earnings Call. I'd like to remind everyone that this call and webinar are being recorded, and a replay will be available on Atomera's IR website for 1 year. I'm Mike Bishop with the company's Investor Relations.

We are again using Zoom. (Operator Instructions) We will open with prepared remarks from Scott Bibaud, Atomera's President and CEO; and Frank Laurencio, Atomera's CFO. Then we will open the call to questions. If you are joining by telephone, you may follow a slide presentation to accompany our remarks on the Events & Presentations section of our Investor Relations page on our website.

If you're -- before we begin, I would like to remind everyone that during today's call, we will make forward-looking statements. These forward-looking statements whether in prepared remarks or during the Q&A session are subject to inherent risks and uncertainties. These risks and uncertainties are detailed in the Risk Factors section of our filings with the Securities and Exchange Commission, specifically in the Company's annual report on Form 10-K filed with the SEC on February 19, 2021. Except as otherwise required by Federal Securities Laws, Atomera disclaims any obligation to update or make revisions to such forward-looking statements contained herein or elsewhere to reflect changes in expectations with regards to those events, conditions and circumstances.

Also, please note that during this call we will be discussing non-GAAP financial measures as defined by SEC Regulation G. Reconciliations of these non-GAAP financial measures to the most directly comparable GAAP measures are included in today's press release, which is posted on our website.

And with that, I'd like to turn the call over to our President and CEO, Scott Bibaud. Go ahead, Scott.

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**Scott A. Bibaud** - *Atomera Incorporated - President, CEO & Director*

Thanks, Mike. Good afternoon, and welcome everyone to our Q2 update call. Atomera has had some very strong behind-the-scenes accomplishments this past quarter, which I'd like to share with you, but let's start first by talking about the industry.

The semiconductor space has never been more tumultuous. Not only do we have the pandemic playing out around the world, we have ongoing supply shortages, unprecedented sales and profitability, widespread consolidation or rumored consolidation and giant geopolitical forces at play. I can tell you that Atomera has been witnessing all of these events up close and personal. Customer visits are still out of the question in Asia, but is starting to become more possible in Europe and the Americas. New wafer starts have been somewhat limited, but remarkably the delays we've experienced in ongoing wafer runs have been minor, and we've even been able to get approved for some new starts. Considering the constraints in our industry, I view this as a strong endorsement of our technology's potential. Overall, we are weathering the storm quite well with inbound customer interest and no major disruptions to development projects underway.

In this environment, we're not surprised that the number of customers and engagements in our pipeline has not changed. New customer growth is being held back by COVID travel restrictions and the capacity limitations in customers' factories. Our JDA partner, existing licensees and other Phase 3 customers continue to advance their efforts with us undaunted by the industry's communications and logistics challenges. We are making

headway every day towards the goals our customers established at the beginning of our projects. So although this chart is unchanged from last quarters, there's a lot of good progress hidden within the phases and our JDA is on track.

Here's another positive phenomenon that I'd like to address, and it's related to TCAD. We have had a lot of inbound questions about how our TCAD product is doing and its success with customers. The first cohort of customers who've adopted MSTcad are finding it is assisting them greatly in narrowing down the wafer runs needed before achieving success. I think this is best illustrated with an example.

One of our customers has a wafer run underway with the integration steps that we mutually agreed were the best suited for their devices. About 2 months after the wafer started, MSTcad helped us identify an even better way to integrate our technology that would add to the device's performance. We shared it with the customer who got very excited and contributed some of their own ideas about how it could be improved even further. So we ran TCAD again and sure enough their idea did make it better. Then last week, we found another innovation to optimize the device yet again that was subsequently proven on MSTcad. We are now talking with our customer about starting wafers to demonstrate these latest innovations.

Why is this remarkable? Well, just a few years ago, each of these 3 innovations would have needed silicon runs that typically take 6 to 9 months. We ran these 3 TCAD simulations in just 1.5 months. As a matter of fact, we still haven't even gotten the results from the first wafer run, and we already have a very specific plan for making the next wafer run much more successful. This is the power of MSTcad. In the hands of smart integration engineers, this tool can help us do fewer wafer runs that will be more successful and so therefore, get us to production more quickly.

So how does this relate to the engagement chart? Well, it's -- today it's becoming standard that our Phase 1 customers want to develop a detailed TCAD simulation before finalizing a plan to run MST wafers. So customers are staying in Phase 1 longer than in the past, but we believe this will lead to customers going through Phase 2 and Phase 3 faster than ever before. This should also make engagement contracts easier since both sides will be able to exactly define what success looks like. It may appear that additional work in the planning phase will add time, but a more focused set of targets established upfront will lead to faster progress through Phase 3 and to production. And that's great news for our customers, for Atomera, and for our investors.

Since we're talking about customers, I'd like to clarify our JDAs in general and our current engagement in particular. By now, you're all familiar with our standard customer flow. Usually this involves one process node where we work with customers to achieve a targeted performance spec by integrating MST in Phase 3 leading to a decision to go to production. MST is then installed in their fab, which is Phase 4 and then we go through process qualification in Phase 5 before production begins. I'd like to emphasize that this phased approach is a model, and many customers do not follow one through steps -- the one through 6 steps in order, but they do have to perform all of the functions shown here before they can go to production.

JDAs are done differently. So I've removed the phase numbering to avoid some confusion. Generally speaking we believe most JDAs will involve integration beginning and continuing, while MST is installed at a customer fab. By combining installation and integration at the same location, development efforts will be expedited since the logistics of MST wafer handling are much more efficient. Also, because we believe the customer will understand MST better and have more buy-in and urgency on the program it's our belief that MST JDA engagements, like the one shown here, are more likely to get to production quickly.

That being said, the JDA we're working on today is somewhat unique. One central engineering group is pre-qualifying MST so they can confirm it meets the company specifications, and will subsequently make it available to their various business units for adoption. At that point, a business unit will integrate MST into their products and then complete process qualification on that product line when they're ready to go to production. Because the technology is already installed, they will be able to move directly from integration to qualification.

As in the prior JDA example, the integration work should definitely be much quicker than a typical engagement, and MST will be offered to multiple different product lines simultaneously creating a much bigger revenue opportunity than a single process node engagement. We would love to replicate this type of unique JDA with large customers throughout the semiconductor industry. Today, Atomera is in discussions with multiple customers about both types of JDAs.

Our development organization has accomplished a lot during the last quarter, especially in our MST technology focus areas. Having demonstrated industry-leading performance in several critical specifications for power analog devices using MST SP, our attention shifted to optimizing for device reliability and manufacturability. In the last few months we've completed that task making it easier for designers to adopt these technologies and bring them to production. This is a very large opportunity because the initial focus for MST SP is in power management, which is the largest market segment of general purpose analog ICs. We can now start the process of rolling this technology out to a wider set of users, not just foundries and IDMs but also to the many fabless semiconductor companies in this space.

This quarter we have also demonstrated significantly higher performance using MST on RF-SOI wafers, which will enable more advanced and efficient implementations of the next-generation of 5G cellular RF chips. But our technology clearly applies to areas beyond the more market segments. This quarter, we put the industry on notice that our capabilities span to the bleeding edge with our Whitepaper on MST for advanced nodes. I recommend looking over the whitepaper. Although it covers some sophisticated transistor concepts, it's not a difficult read and gives some good insights into the type of discussions we have with customers of the advanced nodes.

The executive summary is this. As the industry goes to smaller and smaller process geometries like 2 or 3-nanometers or below, the need to control dopant diffusion becomes even more critical. The industry has tried to use carbon but our whitepaper makes the case that MST is a significantly more effective method of controlling diffusion across a number of different interfaces even for very thin MST film implementations. And although the paper is targeted at manufacturers of 3D transistors like nanosheets and gate-all-around structures, the benefits we described also apply to work going on in memories, CMOS image sensors and in other advanced products.

Development in the most advanced nodes require operation in an ultra clean environment to deliver 300-millimeter wafers to customers at very high levels of purity, which requires sophisticated cleaning and inspection equipment along with the state-of-the-art epi tool. Although we have been depositing MST using the epi tool for months, the facility has struggled to meet their contamination specifications. Now new support equipment is being added that will finally resolve this issue. Within this quarter, we expect to reach formal acceptance and start paying for the lease on our new epi tool facility. This tool and the advances we've demonstrated in the last quarter will allow us to promote MST to a wider market, and we're working to do so much more aggressively. Therefore, I'm pleased to welcome Jeff Lewis, who has taken the reins of our business development and marketing efforts. Jeff is a long-time semiconductor veteran and brings strong expertise in transistors, memory and EDA. He already is implementing strategies, which will increase Atomera's visibility and drive faster conversion from integration to revenue.

As you can see, Atomera has accomplished a lot during the last 3 months and I believe we are positioned for continued strong execution over the second half of the year. As COVID restrictions lift around the world, we will be getting on the road and strengthening our personal contact with customers to make sure we're at the forefront of every company's mind. Since industry profitability is at an all-time high, customers are looking to spend that money, building up a competitive advantage, and Atomera is offering very compelling solutions to do that using MST. So the potential for some very big wins is excellent.

Now Frank will review our financials.

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**Francis B. Laurencio** - *Atomera Incorporated - Chief Financial & Accounting Officer and Corporate Secretary*

Thanks, Scott. At the close of the market today we issued a press release announcing our second quarter 2021 results. This slide shows our summary financials, which I'll discuss now in more detail.

Our GAAP net loss for the 3 months ended June 30, 2021 was $3.7 million, which is $0.17 per share. In the second quarter of 2020, GAAP net loss was $3.8 million or $0.21 per share. Each of the components of our OpEx were basically unchanged from the same period in 2020 with total GAAP operating expenses declining by $69,000. We did not recognize revenue in either of those periods.

Weighted average shares outstanding were 22.5 million in Q2 2021 compared to 17.8 million in the prior year period. Sequentially, our GAAP net loss in Q2 increased to $3.7 million from $3.6 million in Q1 due to revenue declining by $400,000, which more than offset a $296,000 quarter-on-quarter decline in GAAP operating expenses. Lower expenses resulted from the timing of changes in our executive team. Net loss per share increased to $0.17 per share in Q2 compared to $0.16 in Q1. Weighted average shares outstanding of 22.5 million in Q2 compares to 22.1 million in Q1.

The press release and this slide contain a reconciliation between GAAP and non-GAAP results. Non-GAAP adjusted EBITDA was a loss of 2.9 and $0.13 per share in both Q2 and Q1 of this year reflecting non-GAAP operating expense of $2.8 million in Q2 and $3.3 million in Q1 for a total of $6.1 million of non-GAAP operating expenses in the first half of 2021. In Q2 of 2020, non-GAAP adjusted EBITDA as well as non-GAAP OpEx were $3.0 million.

Our cash balance at June 30 this year was $34.3 million compared to $36.7 million at March 31. The $2.4 million decline reflects $2.7 million of cash used in operating activities offset by cash inflow of $354,000 from financing activities. During the first half of this year, our cash used in our operating activities was $6.6 million, and total cash balance declined by $3.6 million as operating cash used was partly offset by $3.1 million of cash from financing activities. As of June 30, 2021, we had 23.1 million shares outstanding.

As Scott mentioned in his remarks work with our JDA customer remains on track, and we hope to successfully complete the milestones remaining in that contract in the next few quarters. However, we don't have enough visibility to forecast the timing of achieving those milestones or the timing of closing on other customer agreements that we're negotiating. So our guidance is for 0 revenue in Q3. And consistent with past practice, we're not providing revenue guidance beyond this current quarter.

Our $6.1 million of non-GAAP operating expenses in the first half of this year indicate a run rate below the plan on which I based my earlier annual expense guidance. The lower run rate is primarily due to the delay in commencing payments on the new epi tool. However, we do expect to begin making those payments this quarter, and we have not changed our plans to add engineering headcount this year. We also expect that sales and marketing expenses will increase going forward as we roll out our offerings to a broader set of customers.

I had previously guided that non-GAAP operating expenses would be in the range of $14 million to $14.5 million for the full year, which would imply about $8 million in the second half of this year. We don't expect to reach that level, so we're reducing the range of our full year non-GAAP operating expense to a range of $13.25 million to $13.75 million.

With that, I'll turn the call back over to Scott for a few summary remarks before we open the call up to questions. Scott?

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**Scott A. Bibaud** - *Atomera Incorporated - President, CEO & Director*

Thanks, Frank. As I shared earlier, we have a very -- we've had a very strong quarter of execution. We're making great progress on our key focus technologies with assistance from our increasingly sophisticated MSTcad. Customers continue to show strong interest and start wafer runs with us even in the face of severe capacity restrictions in their fabs.

Our new whitepaper on dopant blocking for advanced 3D applications is gaining interest in the industry, and we are bringing those ideas to customers working in other advanced areas. Inside Atomera, our engineers are energized since every day they realize the huge benefits MST can bring the industry. The enthusiasm and fresh ideas from our new executives are sure to help us gain even more traction in upcoming quarters leading to more commercialization opportunities around the industry.

Mike, we can now take questions.

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## QUESTIONS AND ANSWERS

**Mike Bishop**

Thanks, Scott. So we will now open the call to the Q&A session. (Operator Instructions) All right. So why don't we go to questions and it's Richard Shannon from Craig-Hallum. Did you have a question? Go ahead.

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**Richard Cutts Shannon** - *Craig-Hallum Capital Group LLC, Research Division - Senior Research Analyst*

Yes, I did Mike. Probably 2 questions here. First one -- and Scott, I jumped on the call just as it was starting so I may have missed your specific language here, but it sounds like one of the issues here in the industry about getting access to R&D wafers, it sounds like you've seen a little bit of loosening there. Can you expand on that and is there any consistent theme around those customers where you're seeing these restrictions loosening a bit by node, by customer type, by phase of customer, et cetera. Can you just give us some more flavor there, please?

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**Scott A. Bibaud** - *Atomera Incorporated - President, CEO & Director*

Yes. I think for all of our customers, it's in -- we're talking about customers in integration phase. As we mentioned, it -- the interesting thing is that for projects that are ongoing, the fabs, they're seeing benefits, they're seeing really good potential and so they're more willing to start new wafers and definitely to continue wafers that have been running in the fab. But starting up new programs has been much harder. So it's not so much related to the process node or the wafer size or anything, it's more related to when we have programs that have been underway, and they're starting to see the good results of that -- of those, they get excited, they want to keep them moving even if they have to fight for the wafers to get them in the factory. So that's kind of what we're seeing out there.

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**Richard Cutts Shannon** - *Craig-Hallum Capital Group LLC, Research Division - Senior Research Analyst*

Okay. Fair enough. Another question for me on JDAs. I think last call you said that you weren't in any -- what -- I think the specific language you used was late-stage discussions with any new JDAs out there. I didn't hear you say anything regarding that this -- in these prepared remarks. Can you kind of -- is there any way -- any statements you can make regarding progression with any customers who you've been in discussions with some of the JDAs?

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**Scott A. Bibaud** - *Atomera Incorporated - President, CEO & Director*

Yes. I think it's always challenging for us to talk about timing. I think long-time investors lived through the very difficult negotiations that we had before we finalized this last JDA. And so I don't really want to make any predictions but I will say, we do have discussions ongoing with a number of companies, I think some pretty interesting projects with some large companies that we really hope that will convert. We're not predicting timing but they could happen anytime.

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**Richard Cutts Shannon** - *Craig-Hallum Capital Group LLC, Research Division - Senior Research Analyst*

Okay. Fair enough. One more question and I'll jump out of line here. And before I ask that, I'll say your comments on the TCAD were very interesting. I'll probably follow up with you offline on that one. The one I did want to ask about is related to the bleeding edge work that you've been doing here, your blog post and paper were interesting, the extent to which I can actually understand it as not being a device engineer, but it kind of begs the question of how long have you been in work on this node? And is there any thought process investors should have that it's going to come to fruition faster than what we've seen with other product areas, nodes, et cetera, that you've been working on?

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**Scott A. Bibaud** - *Atomera Incorporated - President, CEO & Director*

Right. Yes. I mean that's a good question because -- so when we talk about our focused technologies, and we're not only working in focus areas, but in the focus areas that's where we've specifically taken a product or a process and tried to do something especially innovative there and bring that as more of a full solution to the customers as opposed to just using MST to improve a process that a customer has.

So on our focus areas, we're working with customers at all different stages. And it will really -- their -- the timing for them going to production will depend on really when they want to take that thing to production because they've -- in the legacy nodes, they're it's kind of -- they take them on a schedule that's different with every customer.

On the more advanced nodes, you know that everyone -- there's -- today there's only 3 leading foundries that are -- semiconductor companies that are developing in those advanced nodes. And they have a lot of incentives to get them to market as fast as humanly possible. That being said, when they start working with a new material, they typically will -- they'll put it in a node that they're working on at the time and that might be out a generation or it might be out 2 generations. So I can't really give much insight into where potential customers are looking at this technology.

But I would say the thing we've always been excited about getting integrated into the bleeding edge is that it tends to be something that's adopted by all the companies in the industry, and then you become a part of the standard semiconductor road map that every company implements in the future. That's what happened with high-k/metal gate back in around 2010 or 2011, and that's what happened with strained-silicon back in 2000 or 2001. And today, all companies run those technologies in all of the different process nodes.

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**Mike Bishop**

And there are some questions coming in on the Q&A chat here, and they're a little bit of an echo talking about the JDA partner and how long the phases are going to take. So I'll just go ahead and ask some of the questions is that, is -- how long will Phase 4 take and it's once it's up and running, how long do you anticipate each run of wafers to take in the customer's fab? In the past, we've said that each run would be about 6 to 9 months, so once it's installed in the customer's fab, how long do you anticipate that taking?

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**Scott A. Bibaud** - *Atomera Incorporated - President, CEO & Director*

Yes. And actually, it's a good insightful question because -- so logistically, when someone would run wafers with us 6 to 9 months, so let's talk about -- I think the fastest run we ever had anyone would do was 6 months from when they started the wafers until we actually got the test data. And in the middle of that process, they had to take the wafers out of their factory, package them up, send them to us. We had to especially clean and prepare our tools to be able to deposit under those wafers, package them up and send them back on their side. They had to go through a lot of procedures to make sure there's no contaminants on those wafers and then get them in line. And that probably took 1.5 months of that 6 month period to happen.

Now if our JDA partner has this installed in their tool, so literally that whole 1.5 months they would just take the wafer, put it in the tool, it takes 20 minutes or so to do the MST deposition maybe half an hour, and then they have them back out running in the line. So at a minimum, you're talking about 1.5 months of improvement in the time to flow through the fab. So that's really attractive.

But I would think that because they can schedule the wafers much more reliably, right, they know -- they'll know exactly when the wafers are coming into line to go in the next step, that they'll be able to schedule to get it down to maybe 4 months or so. So talking about a 30% improvement in throughput to be able to get those wafers out before they'd have silicon results. For the JDA -- in particular for the JDA we have right now, they're going to -- the first part of the JDA is about characterizing MST to meet kind of company goals and company goals will help them to figure out the best way of integrating MST inside their particular fab.

It will also help them -- really their engineers to understand how to run it better and faster for that particular situation. And so I believe there'll be even more advantages that they get than the 4 months that I talked about before. So once they are ready to start integrating it into the products that would go into production, I think that process will happen much faster than we normally would expect. Maybe it will be 1 year or -- I still think about a year to 1.5 years for that last part of integration and process qualification to be completed.

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**Mike Bishop**

And then we're getting some questions about how long Phase 4 is going to take and when into -- when do you anticipate going into Phase 5, and I know we addressed that in the prepared comments but maybe expand on what -- how you see that transition rolling forward for the JDA partner?

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**Scott A. Bibaud** - *Atomera Incorporated - President, CEO & Director*

Yes. Phase 4, I'm very constrained about what I can talk about the timing on that, that would fall underneath the customer's confidential information. They're very sensitive and understandably so that they don't want their plans shared with the industry. I would say that, as I mentioned, the JDA is on track and we're hopeful that the Phase 4 will be completed in a very reasonable time frame but I can't really give a lot more insight into what that would look like.

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**Mike Bishop**

Okay. Well, it appears at this time we don't have anybody to ask any further questions. And if you want to go ahead and make the closing comments, Scott. Thanks so much.

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**Scott A. Bibaud** - *Atomera Incorporated - President, CEO & Director*

Well, thank you, Mike. Well, let me just say, I want to thank everybody for attending today's presentation. We're pleased to be able to share with you the results of the last 3 months and to get a feel for some of the excitement we're feeling here inside Atomera. Please continue to look for our news, articles, blogs and things on our website to keep you up-to-date on our progress. You can sign up for them along with investor alerts on our website atomera.com. And should you have any additional questions, please feel free to follow up with Mike Bishop who will be happy to help you. So thanks again for your support, and we look forward to speaking with you again on our next update call.

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