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ATOM - Q2 2018 Atomera Inc Earnings Call

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**Francis Laurencio** *Atomera Incorporated - CAO & CFO*

**Mike Bishop**

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

## CONFERENCE CALL PARTICIPANTS

**Cody Grant Acree** *Loop Capital Markets LLC, Research Division - MD*

## PRESENTATION

### Operator

Good afternoon and welcome to the Atomera Second Quarter 2018 Earnings Call. (Operator Instructions) This event is being recorded and will be available for replay for approximately 1 week.

I would now like to turn the conference over to Mike Bishop. Please go ahead, sir.

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### Mike Bishop

Thank you Sandra and good afternoon. I'm Mike Bishop with the company's Investor Relations and joining me on today's call is Scott Bibaud, Atomera's President and CEO, and Frank Laurencio, Atomera's CFO.

In addition to today's prepared comments, we have posted a slide deck to accompany our remarks on the Investor Relations portion of our Website at atomera.com and we invite you to follow along with it as we go through our remarks. After prepared comments by Scott and Frank, we will open the call up for your questions.

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 our Annual Report on Form 10-K for the year ended December 31, 2017, filed with the SEC on March 6, 2018.

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 also posted to our Website.

Now, I would like to turn the call over to our President and CEO, Scott Bibaud. Please turn to Slide 3. Go ahead, Scott.

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

Thank you, Mike, and welcome to Atomera's 2018 Second Quarter Business Update Call. Today I will start with a summary of our accomplishments since our last update in May. At that point, I'll turn the call over to Frank to review our financial results. Then I'll make some additional remarks and we'll open up to your questions. Atomera is a materials and intellectual property licensing company with a proprietary transistor enhancement film called Mears Silicon Technologies or MST.

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We are focused on solving one of the biggest problems facing the \$400 billion semiconductor industry today, the slowdown in Moore's Law. Using Atomera's technology, a manufacturer can make meaningful power, performance and cost improvements to their chips. They can use these improvements to avoid the capital investments necessary to build a multibillion-dollar next-generation fab to extend the life of an existing manufacturing facility or to make new fab investments even more attractive.

In many cases, customers who have exhausted all other opportunities for significant product enhancement look to MST as the only cost-effective solution for getting to the next level. If a customer decides to work with Atomera, we will execute a license agreement which grants them the right to manufacture with our technology in exchange for a license fee and royalty payments on shipments of their products.

As you know, Atomera illustrates progress with customers through the phases of engagement shown here on Slide 4. Phase 1 includes only customers who are actively planning an evaluation of our technology. In Phase 2, we deposit our MST film on customers' wafers for the first time and conduct physical characterization to ensure there's a match between their process steps and our technology. Phase 3 is where customers incorporate MST during the production of their wafers and use the test results to justify licensing our technology. It is generally in Phase 3 that we are most likely to execute license agreements with customers. These phases are meant to show a typical customer interaction but it is not unusual for us to work with them in a totally different progression than what is shown here.

Slide 5. Our last 3 months have been extremely productive. As of this update, we are working with 14 different customers on 18 different engagements. Since our last call, we have added one new engagement to Phase 2 and one has moved on from Phase 2 into Phase 3. Today we have 11 engagements with 9 different customers in that critical third integration phase with Atomera. As discussed in our last update call, several of our customers are now working with us on multiple different nodes or technologies simultaneously.

Of our 14 active customers, 4 of them are working with us on multiple projects. Of course, each customer's business includes a wide variety of process nodes and special technology variations. Each of which represents a licensing opportunity; expansion of engagements within a single customer is a natural and efficient way to grow our available market. Each customer has shared resources like EPI deposition, process development and TCAD engineering so to the extent we can educate those teams on MST, they've become our advocates within the customer and will help us uncover new opportunities within that account.

Another advantage is that we can initiate new projects much more quickly by adding another process node or technology to an already established customer as we did with an engagement in the last 3 months that went from Phase 0 all the way to Phase 2. With 14 potential customers in our pipeline, our focus has shifted from new customer acquisition to advancing and existing customers forward to the point where they're ready to sign a license and go into production. We continue to believe that the cycle time on customer test vehicles is slower than normal due to the very high capacity utilization of industry factories.

Even in this environment, customers continue to improve the allocation of precious fab resources to additional wafer starts on Atomera technology. In the last few months, we have gotten a lot of data and results from customer wafer runs. Some of those have been very promising and some have indicated a need for more integration work.

One of our customers has installed MST in their factory and is now working on their first integration lots using EPI wafers deposited in-house. In every case, we are very closely involved with customers in the planning and execution of next steps to optimize their results.

We believe these intimate and cooperative efforts drive us closer to a licensing deal with our customers and we are more confident than ever in our belief that outcome will be a reality.

Slide 6. One of our primary areas of focus has always been accelerating our customers progress through the critical third or integration phase. It's here that customers are dealing with the complexity of integrating MST into their highly optimized manufacturing process. Each customer uses a different method to fabricate their wafers including many cycles of material depositions, doping implants, heat treatments, chemical cleans and other processes on the base wafer. Our film, made of carefully controlled layers of oxygen and silicon is obviously affected by all of the other process steps put down before and after it.



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Through simulation, we attempt to approximate how the composition of our film will change during the fabrication process with a goal that we reach an ideal atomic composition at the end of the production line. One of the most critical parameters monitored to maximize MST performance is to reach the end of wafer processing with a certain targeted level of oxygen remaining in the film.

The graph on Slide 7 gives a good illustration of the situation. When oxygen levels are at 100% of our targeted goal, performance is maximized. If retention varies from 100%, either on the high or low side, our customers may not be getting the highest performance gain that is possible with MST. One of the main reasons why our customers conduct multiple integration runs is to maximize this potential performance gain in their unique wafer fabrication process.

Up till now, our 2 primary methods of helping customers get the best performance while minimizing integration runs has been through better integration engineering based on our extensive know-how and on more accurate TCAD simulation. Our efforts in cooperation with synopsis to better predict end of line oxygen dose have continued. However, we have also been working on new methods of manufacturing our film that could help as well. I'm very pleased to tell you that during the last quarter, Atomera has started testing an optimized version of our film that shows remarkable potential by attacking the problem in a new way. Our approach has been to find a new material construction method that's better at oxygen retention so is able to withstand a wider spectrum of processes surrounding MST.

Early testing indicates that our new manufacturing technique shifts the performance curve to one that looks more like the blue line on Slide 8. As you can imagine, this should make it easier for customers to see better results earlier in their integration process and gain higher confidence in MST's ability to withstand manufacturing variances during mass production which is a critical factor in their decision of whether to adopt our technology.

We have started to share information on this new variant of our film with customers just recently. So it is still early days but the reaction has been extremely positive so far. We expect to start customer integration using this film within the next month.

Slide 9; Atomera has a number of strong R&D relationships with universities specializing in semiconductor process technology. For the past few years, we have been funding research with Professor Suman Datta's group at the University of Notre Dame. Professor Datta was instrumental in the development of several technologies when he was at Intel including High-k Metal Gate and FinFET transistors. Several years ago as transistors started to reach 45 nanometers and below, process engineers were struggling to find a solution to some of the problems presented by this very small [line width]. High-k Metal Gate was a very innovative new gate dielectric material introduced by the semiconductor industry to solve the problem of increased levels of gate leakage and to enable further transistor scaling. Today it is the gate technology of choice for the newest technology nodes; both in production and under development like FinFET's, nanowires and nanosheets. For that reason, it is important that Atomera prove that MST works well with High-k Metal Gate. Although simulation results indicated that MST would provide a valuable addition to High-k transistors, it was very difficult to back that up with measured experimental data. That is why a paper presented at the 2018 device research conference in late June showing the first experimental results for MST with High-k Metal Gate was very significant. The paper by the University of Notre Dame showed a mobility enhancement of 23% and a reduction in inverse gate leakage by a factor of 2.7 times. As our work expands in the market for [plain] or extension and advanced 3D process nodes, this empirical result from an independent third-party certainly helps to build credibility with customers working in the newest semiconductor process developments.

This last quarter has been a very prolific one for Atomera. We have made good progress growing our customer engagements and moving them through the pipeline. More and more, customers are trusting us to enter integration with more than one technology node at a time. As the result from these integration -- as these integration runs come in, we are in a better position than ever to enter license discussions. Our internal R&D efforts are also innovating to shorten the time it takes for customers to reach a licensed decision. And finally, the work in High-k Metal Gate is helping to open new markets and technologies to Atomera expanding our opportunity to work with an even bigger slice of the semiconductor industry.

Atomera is doing a lot of things right and it is being recognized by an expanding set of engagements that we believe will ultimately lead to license agreements across the rapidly growing semiconductor industry. Let me now turn the call over to Frank for comments on our financial results. Frank?



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**Francis Laurencio** - Atomera Incorporated - CAO & CFO

Thank you, Scott. At the close of the market today we issued a press release announcing our operating and financial results for the second quarter of 2018. Please turn to Slide 10. Our GAAP net loss in the second quarter of 2018 was \$3.2 million or \$0.26 per share compared to a net loss of \$3.6 million or \$0.31 per share in the second quarter of 2017.

The lower net loss was due to an \$808,000 decrease in stock-based compensation expense as awards triggered by the closing of our IPO became fully vested in August of 2017. The decrease in stock compensation charges was offset in part by higher payroll expenses from increased headcount, higher expenses related to outsourced fabrication and testing and increased technical consulting expenses.

GAAP net loss on a per share basis declined in Q2 of 2018 from Q2 2017 due to the lower net loss as well as an increase in weighted average shares outstanding. Non-GAAP adjusted EBITDA in the second quarter of 2018 was a loss of \$2.6 million compared to a loss of \$2.2 million in Q2 of 2017. The higher net loss is due to our increased spending at outsourced fabrication and testing as well as higher payroll and consulting expenses.

Our press release in Slide 10 contain a reconciliation between our GAAP and non-GAAP results. As you can see, the major difference between our GAAP and non-GAAP results is stock compensation expense which is a non-cash item. Looking at our results now on a sequential quarterly basis, second quarter 2018 GAAP net loss was \$3.2 million compared to a GAAP net loss of \$3.1 million in the first quarter of this year. Non-GAAP adjusted EBITDA loss in Q2 of 2018 was \$2.6 million. The same amount as in Q1 of this year. As our operating expenses were essentially flat quarter-over-quarter, with increases in outsourced fabrication and testing expenses in R&D, offset by lower payroll and related expenses.

Turning to the balance sheet, our cash at June 30, 2018, was \$12.3 million, a decrease of \$2.3 million from \$14.5 million at March 31, 2018. This compares to cash consumption of \$2.8 million in Q1 of 2018 and \$2.1 million in Q2 of 2017. As I explained in our last quarterly update call, cash usage in the first quarter of each year is typically higher than in other quarters due to the timing of annual payments.

We continue to expect that our cash consumption for the full year in 2018 will be approximately \$10 million, consistent with the guidance we've been providing. We recognized \$96,000 of engineering services revenue in Q2 of 2018 consistent with last quarters guidance. As we discussed in our last 2 update calls, we earned our first revenue in Q4 of 2017 for engineering services. While we were having increased success in negotiating with customers to pass engineering services fees for delivering wafers with our MST technology, we've only had a small number of transactions so you should expect that our margins on engineering services will continue to be fairly lumpy. Our outstanding share count as of June 30, 2018, was approximately \$12.4 million shares.

If you can please turn to Slide 11, Scott will give a few summary remarks before we open up the call to questions. Scott?

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

Thanks, Frank. Once again, we've had a very productive quarter working with 14 different customers on 18 different engagements. As our engagement count grows, so does our probability of executing licenses. We will continue to push for commercial agreements to happen earlier in our engagements with customers. So a compelling result can more quickly turn into a transaction. In the meantime, our engineers have been busy. They're collaborating deeply with customers both in integration and TCAD engineering to maximize results of customer lots. They've also developed a new MST film recipe that should make the road to licensing faster and mass production earlier and recent results on High-k Metal Gate will help to expand our market in some of the highest volume nodes in production today. Recent articles and several publications have highlighted how critical it is for the industry to solve problems related to the end of Moore's Law. Atomera is delivering compelling solutions to those problems and the technology is available today.

We look forward to sharing more of our successes with you as we continue to build Atomera into an important and successful technology provider to the semiconductor industry. Operator, we will now take questions.



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## QUESTIONS AND ANSWERS

### Operator

(Operator Instructions) And our first question comes from the line of Cody Acree with Loop Capital.

**Cody Grant Acree** - *Loop Capital Markets LLC, Research Division - MD*

Scott, in your sort of summary remarks you talked about the first wafer run for the installed EPI tool. Can you just talk about what that entails, the size, I guess what those kind of timing and then what's the process from there to run either future runs or you're looking at future processes?

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

Yes, as we mentioned in -- at the end of -- well, I think in the first quarter we had one of our customers install an EPI tool in their factory. We worked with them over the next several months to get that tool fully up and running using our technology and then they ran a number of wafers to calibrate and make sure that the process was all working properly and so now they can duplicate kind of the physical characterization of the tool that we have on our internal tools at Atomera here. Now, we're in the process of working with them on defining next integration runs that they will use instead of sending the wafers to us they'll be processing those wafers in their own factory. So the good news there is we believe it will take a significant amount of time, maybe a month or even more in some cases of time out of the cycle time to process one set of integration lots and they also, you know, obviously when a customer is working with us and they have to send us wafers for processing, it -- you know, they may be more limited in the amount of wafers that they want to run because first of all because of the cost burden it places on us and also the cost burden it places on them but when it's running internal in the factory they can do larger lot sizes without really having to kind of, to a certain extent, ask our permission. They can do whatever they want.

So we expect to see larger lots done more quickly and more frequently and possibly even on different technologies.

**Cody Grant Acree** - *Loop Capital Markets LLC, Research Division - MD*

And just Scott, I guess have you had subsequent discussions with other engagements, other customers toward the installation of their own tools?

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

Yes, it is something that we've been talking to customers about. We don't have any announced customers that have made the decision to move forward on that yet but there's a number of advantages to someone installing earlier in their facility. I mean it is a bigger cost for them, they need to dedicate a tool. One of these tools costs several million dollars and if they dedicate that to us then obviously they're taking it out of capacity for something else. But, there are advantages. So a number of them are considering it.

**Cody Grant Acree** - *Loop Capital Markets LLC, Research Division - MD*

And Scott, the new manufacturing method for the film, can you just talk about that? What does this do for you or just an efficiency standpoint or performance benefit, can you quantify how much this may have an impact and it's -- I think you said that customers were starting to use the new film next month. Is this starting some of the testing over or I guess how does that just feather in with what work they're already doing?

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

Yes, so our film is essentially the construction of it is essentially layers of silicon impregnated with oxygen and then more layers so it makes kind of a sandwich but the specs of how that sandwich is made do vary depending on what we're trying to accomplish with the customer. So we might

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make one with more layers or less layers, the layers might be thicker or thinner, they might have higher levels of oxygen doped into those layers and a number of other factors and it all depends on what we're trying to accomplish with the customer and their -- and to fit in with their process nodes.

So typically for example, we might go -- I mean, just to use the kind of percentages that I used in the presentation, we might dope the silicon with a total doping of 150% of what our targeted amount will be so that once it runs through the whole process it will end up -- we're trying to make it end up at 100% so it maximizes the curve as I showed on I think Slide 6.

Now, if you -- Slide 7 sorry. If you look at that slide, you can see that if for whatever reason the oxygen doesn't come at a, in at about 100%, and it varies by say 30% or 40%, it can drop down that curve pretty steeply and that will cause the customer not to get as good a performance as they're hoping for and they'll want to try to do another run to fix it. So, the blue curve that we showed which is much wider and flatter, says that they have much more flexibility to either have too much oxygen or too little oxygen and still get really high levels of performance.

So as a result, we think this will require fewer integration runs before they start to hit the target levels of performance they're looking for and also when they get into volume production if there's the typical swings that you see on the equipment in the line where you get variations in the amount of oxygen that gets doped, they'll still get the same performance results at the end of the line and both of those things, we think, will help us to get the licenses that go to volume production.

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**Cody Grant Acree** - Loop Capital Markets LLC, Research Division - MD

And then lastly for you and one quick one for Frank. Just as you get that first customer to sign the licensing engagement or licensing agreement, is there a reason to think that that becomes a tipping point for your other 13 customers that you're dealing with?

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**Francis Laurencio** - Atomera Incorporated - CAO & CFO

Yes, I mean I think that's as much a question for Scott or me because the industry dynamics in the semiconductor world tend to be very much of an arms race to keep pace with other innovations that are out there and so we definitely believe that past kind of patterns in the adopting new materials in the semiconductor industry would indicate that it should be a tipping point. We've often looked at the kind of adoption curves for things like High-k Metal Gate and [strange] silicon and -- which are other kind of material enhancements and they had similarly kind of long gestation periods from the concept through the commercialization but what also happened in those was very much a hockey stick adoption after they were commercialized by the first manufacturer to spread to others. So we obviously won't know until we see that but our hope is that there is a (inaudible) effect.

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**Cody Grant Acree** - Loop Capital Markets LLC, Research Division - MD

And then Frank, just lastly from a liquidity standpoint, given that your burn is just a bit over \$2 million, what are your thoughts for the burn in the second half? I know you're keeping with your \$10 million but if you had a bigger balance sheet, I guess, what opportunities might that open for you and when would you expect to need to add to that liquidity position?

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**Francis Laurencio** - Atomera Incorporated - CAO & CFO

So we have no plans to add right now. The question on -- and yes we stand by sort of our guidance that for the full year about \$10 million of cash consumption is where we'll end up as I've said and repeated today, you know, Q1 tends to be a little bit higher but it will work out to about \$10 million for the year. The other question though is you know, hypothetically if we had -- and chose to spend a lot more money where would that go? You know, I think the -- we've talked about this on previous calls. We think the one area that's a very large portion of our operating expense, and it has been consistently, is spending on the testing of doing deposition on wafers and running all of the metrology tests on those wafers for the work that we're doing with customers that are evaluating. We've secured long-term access to those tools but it's a pretty high cost every month

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and we've found that although at times there's a little bit of resource contention to serve all of our customers, we've been able to manage that really well. But if we saw that we were being limited in being responsive to customers or exploiting those opportunities, we might benefit by having access to additional tools. So, I think, you know, an area where I could see that, we -- and that we constantly consider as a management team should we be spending or changing our spending, it would really be in that area of running more tests simultaneously for customers.

**Operator**

(Operator Instructions) One moment. And thank you, the conference has now concluded. I will now turn the call over to Mr. Bibaud for closing remarks.

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

Thank you for attending today's presentation. The second quarter has once again been a very productive one for Atomera both on the R&D and commercial fronts. Please continue to look for our news, articles and blog posts to keep you up-to-date on our progress. You can sign up for them along with investor alerts on our Website, Atomera.com. Should you have additional questions, please call Mike Bishop and we'll be happy to follow-up. We look forward to seeing some of you during our scheduled marketing activities including the upcoming Loop Capital Bus Tour. We thank you for your support and look forward to our next update call in November. Thank you.

**Operator**

Ladies and gentlemen, thank you for participating in today's conference. This does conclude the program and you may all disconnect. Everyone, have a great day.

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