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IonQ, Inc. (IONQ)

Q2 2024 Earnings Call

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MANAGEMENT DISCUSSION SECTION

Operator: Greetings and welcome to IonQ Second Quarter 2024 Earnings Call. At this time, all participants are in listen only mode. A question-and-answer session will follow the formal presentation. [Operator Instructions] As a reminder, this conference is being recorded.

I would now like to turn the conference over to your host, Jordan Shapiro. Please go ahead, sir.

Jordan Shapiro

Vice President-Financial Planning and Analysis & Head-Investor Relations and Corporate Development, IonQ, Inc.

Good afternoon everyone and welcome to IonQ's second quarter 2024 earnings call. My name is Jordan Shapiro and I'm the Vice President of Financial Planning and Analysis and Head of Investor Relations here at IonQ. I'm pleased to be joined on today's call by Peter Chapman, IonQ's President and Chief Executive Officer; Thomas Kramer, our Chief Financial Officer; and Dr. Dean Kassmann, our Senior Vice President of Engineering and Technology.

By now, everyone should have access to the company's second quarter 2024 earnings press release issued this afternoon, which is available on the Investor Relations section of our website at investors.ionq.com. Please note that on today's call, management will refer to adjusted EBITDA, which is a non-GAAP financial measure. While the company believes this non-GAAP financial measure provides useful information for investors, the presentation of this information is not intended to be considered in isolation or as a substitute for the financial information presented in accordance with GAAP. You are directed to our press release for a reconciliation of adjusted EBITDA to its closest comparable GAAP measure.

During the call, we will discuss our business outlook and make forward looking statements. These comments are based on our beliefs as of today. Actual events or results could differ materially from the outlook and other forward looking statements due to a number of risks and uncertainties, including those mentioned in our Form 10-

Q filing with the SEC this week. We undertake no obligation to revise any statements to reflect changes that occur after this call except as required by law.

Now, I will turn it over to Peter Chapman, President and CEO of IonQ. Peter?

Peter Chapman

Chief Executive Officer, President & Chairman, IonQ, Inc.

Thanks, Jordan, and thank you to everyone joining today's call. There are a lot of exciting announcements to share today. We will discuss our recent technical breakthroughs that we believe bring the quantum era closer than it has ever been and our compelling commercial momentum that demonstrates how we're working with customers. Let's dive straight in. First, I am excited to say that we have once again exceeded the high end of our revenue range for the quarter, delivering $11.4 million in recognized revenue, which was well above the range of $7.6 million to $9.2 million for the quarter.

We also booked $9 million this quarter and are very confident about meeting our bookings goal for the year. Thomas will discuss our financials in more depth. You have likely heard there is a space race in quantum computing, but what does that really mean? It's a race between different companies, qubit modalities and countries to produce a quantum computer that can outperform classical computing. The technical problem that bedevils the industry is noise or fidelity in its qubits. This noise can come from the qubits themselves, the environment, or any hardware like the control electronics that interact with the qubits.

Key to the accuracy of a quantum computer is to increase the fidelity of its qubits and their ability to run more computational gates and larger applications. When any company can achieve enough fidelity and run applications in a production environment, significant application revenue can start. With this context, I'm excited to announce that IonQ has achieved a two-qubit native gate fidelity of 99.9% or three nines in barium.

We chose to move to barium because science suggests it enables higher fidelities than ytterbium. And the better the native gate fidelity, the less error correction in all forms is required. So today's announcement is an important milestone towards even better gate fidelities ahead. To get to better gate fidelity beyond native gate fidelity, other techniques are required. In the past, you've heard us describe quantum error correction, the technique of using additional qubits grouped together to correct each other and produce more reliable results.

Error correction is promising, but particularly on non-trapped ion platforms requires a large volume of qubits. Think tens, hundreds or even thousands of physical qubits per error corrected qubit. It also requires many extra gates as overhead, the ratio of which is correlated with the native fidelity of the cubits. So error correction is out of reach for meaningful use in the quantum industry today.

Another technique you've heard about from us is error mitigation, which uses software techniques to improve results without generally requiring additional qubits. Error mitigation is commonly used by the quantum computing companies, but poses difficulties for scaling, given that it often incurs ever increasing sampling costs that can lengthen the time to solution.

Today, I am thrilled to announce IonQ has invented a new industry first partial error correction technique for an important class of quantum gates used with many different applications. The technique, which reduces the errors for Clifford gates within circuits, offers the potential to supercharge the accuracy of near-term quantum computers, bringing us much closer to commercial advantage. This Clifford error reduction technique allows for more accurate quantum algorithms, but requires a ratio of only about three physical qubits per one error reduced qubit and a modest doubling of gates in the algorithms used.

We plan to offer this feature in our IonQ Tempo systems. With a combination of hardware and software improvements, we believe that we can extend our achievement of three nines to production systems in 2025 and bring that to five nines in 2025 and six nines in 2026 using error correction. This along with the combination of much larger numbers of physical qubits and improved gate speeds, gives us more confidence about near term quantum applications and application revenue for IonQ.

For some time now, we have been investigating applications where we can deliver significant value and generate significant revenue. At our next earnings call, we will discuss the first of these application areas. While this has been a tremendous quarter for IonQ's technical development, it has been equally exciting on the commercial side of the business.

First, I am delighted to announce that ARLIS, the Applied Research Laboratory for Intelligence and Security, selected IonQ to a competitive bidding process to design two quantum networking node systems for blind quantum computing. Blind quantum computing is a process where quantum computers remain blind to what information is being processed through them and is a key achievement target for the US National Security apparatus.

In fiscal 2023 and 2024, Congress funded this research for a total of $40 million. The initial phase of the contract is a $5.7 million award for the design of the quantum computers based on IonQ trapped ion processors. We expect to complete this work by the end of this year. In the next phase of the project, ARLIS plans to have two systems built based on the initial IonQ design.

We feel confident on our bookings guidance for the year and we're working on several large additional sales for hardware and otherwise in addition to the ARLIS agreement. What makes us confident is the strength of our repeat customers and our sales team's focus in closing large multi-year deals.

Next, we have started final assembly of our first Forte Enterprise system at QuantumBasel and we now have officially begun construction of two more Forte Enterprise systems in our Seattle, Washington manufacturing facility. Our investment in our manufacturing is already paying off, now enabling us to build multiple production systems at a time, while not tying up significant engineering resources.

I'm also pleased to announce that we've extended our contract with AWS to continue to offer our world class quantum computers via Amazon bracket, the quantum computing service of AWS to developers everywhere who want to leverage the power of quantum computing. Alongside the AWS contract extension, we have launched an exciting new cloud feature set that includes 24/7 global operations, a new and improved queuing engine, and exclusive reservation windows. These features make it easier than ever for our customers to benefit from IonQ's cutting edge quantum computers.

In summary, this quarter has been another strong success for IonQ. We have proven that our barium qubit technology can achieve three nines of fidelity. We have developed an industry changing partial error correction technique for error reduction that could bring production applications for quantum even sooner. We have factored those advancements into an aggressive new roadmap for our continued leadership in the industry. And we are working with customers like ARLIS and AWS to build the next generation of quantum networking and quantum computing applications.

And with that, I'd like to pass the call over to Thomas.

Thomas G. Kramer

Chief Financial Officer, IonQ, Inc.

Thank you, Peter. It has truly been an exciting quarter on the technical and commercial front, and our financials are no exception. Let's walk through this quarter financial results in more detail. As Peter mentioned, we had a strong revenue quarter recognizing $11.4 million, which is above the high end of the range we previously provided. This overperformance was primarily due to our ability to make more progress than previously anticipated on some of our contracts that use percentage of completion revenue recognition.

We also booked $9 million of sales contracts in the second quarter. As we have mentioned in prior earnings calls, we anticipate lumpiness in our bookings since it is difficult to predict quarter to quarter or even in some cases year to year exactly when a particular sale will materialize. We remain confident in our bookings target for the year.

Moving down the income statement. For Q2 2024, our total operating costs and expenses for the second quarter were $60.3 million, up 56% from $38.6 million in the prior year period, but within our plan for the year. To break this down further, our research and development costs for the second quarter were $31.2 million, up 57% from $19.9 million in the prior year period. Recall that we are investing heavily in R&D and given anticipated demand of building more systems than previously projected this year.

Our sales and marketing costs in the second quarter were $6.1 million, up 72% from $3.6 million in the prior year period. This increase was due to us growing both the marketing and our sales teams as we continue investing into our commercial efforts. Our general and administrative costs in the second quarter were $13.1 million, up 19% from $10.9 million in the prior year period. These increases were primarily driven by an increase of $1.9 million in payroll related expenses.

All of this resulted in a net loss of $37.6 million in the second quarter, compared to $43.7 million in the prior year period. Accounting for warrants is confusing to many. This is why we have always pointed out the impact to have on our results. These current 2024 Q2 results include a non-cash gain of $6.6 million for the second quarter related to the fair value of our warrant liabilities. These results also include growth in stock based compensation expense related to our head count growth, which was $21 million for the second quarter compared to $11.3 million in the prior year period. We saw an adjusted EBITDA loss for the second quarter of $23.7 million compared to a $19.4 million loss in the prior year period. We continue to project an adjusted EBITDA loss for the year of $110.5 million.

Turning now to our balance sheet. Cash, cash equivalents and investments as of June 30, 2024 of $402 million. We continue to believe this cash position is the strongest of any publicly traded company focused exclusively on full stack quantum computing. Importantly, while we have increased IonQ's run rate in recent years, we are offsetting this by beginning to collect on large payments from IonQ's customers, including those who have purchased full systems.

Our run rate increases are largely related to employee costs, as we have worked rapidly to bring the best quantum talent in the world to IonQ. It is also worth mentioning that a significant portion of our investment in setting up manufacturing is now behind us. We increasingly look to focus on conservative spending and ramping up sales of large deals.

Now, turning to our financial outlook. We are pleased to announce that we will be raising our revenue guidance for the full year 2024 to a range of $38 million and $42 million, reflecting increased confidence in our progress on our percentage of [ph] completion (00:15:13) contracts. We currently expect revenue for the third quarter of

between $9 million and $12 million. We remain confident in our 2024 bookings guidance of between $75 million and $95 million.

Back to you, Peter.

Peter Chapman

Chief Executive Officer, President & Chairman, IonQ, Inc.

Thank you, Thomas. In closing, IonQ has yet again pushed the boundaries of the quantum computing industry this quarter, bringing us even closer to the quantum era. Our technical team demonstrated our highest qubit fidelities yet, introduced a paradigm shifting technique for error reduction and unveiled an aggressive new roadmap to continue our technical leadership. Commercially, our exciting new work with customers like ARLIS and AWS gives us increased confidence not just in meeting our bookings targets for the year, but also in the long term potential of our quantum computing and quantum networking products.

Financially, we greatly exceeded the high end of our revenue range for the quarter and posted a solid $9 million in bookings that we believe will propel us towards our goals for the year. To build on our strong position in the quantum market, we will pursue strategic partnerships and other opportunities, strengthening our ecosystem and benefiting our customers, shareholders and other stakeholders. We look forward to a great Q3 and the rest of the year ahead with our team, our customers, our partners and our investors.

With that, I would like to turn it over to the operator for our question and answer session.

QUESTION AND ANSWER SECTION

Operator: Thank you, sir. At this time, we will be conducting a question and answer session. [Operator Instructions] The first question we have comes from David Williams of The Benchmark Company. Please go ahead.

David Williams

Analyst, The Benchmark Co. LLC

Q

Hey, good afternoon. Thanks for letting me ask question and congrats on the really strong progress here. Maybe first, can you give maybe just a little more color on the partial error mitigation scheme that you had mentioned earlier? How does that maybe change your roadmap? And is this an innovation that you had seen and had been working towards? Or is this something that maybe has developed as you've worked towards other error mitigation, just trying to understand the innovation here and how we should think about this type of development going forward?

Peter Chapman

Chief Executive Officer, President & Chairman, IonQ, Inc.

A

I'll tell you what, we'll tag team this one. I have Dean here with me as well. So Dean, I'll let you talk about the technology and maybe I'll take the business.

Dean Kassmann

Senior Vice President-Engineering & Technology, IonQ, Inc.

A

Yeah. So right now, this is something that we've been working on for a while, right? We've been building up our error correction team and the experts that we have. They're kind of just continued hiring and trying to build out that part of our research and kind of development team. From a technical perspective, this is a technique that has been talked about before in terms of high level approaches where you're not trying to achieve for full fault tolerance, but instead, you're trying to target those parts of the system and those gates that are causing the most problems.

This technique targets what are called Clifford gates, which are comprised of many different applications that make up many different circuits that are used to solve different applications. And so, the Clifford gates are one of the noisiest gates in many quantum computers, and so this technique allows us to reduce the most noisy part of those circuits so that you can end up with basically better results at the end of the day. And so, it's going to factor into the way we think about approaching applications, the kind of applications that are accessible. So what this at the end of the day does is make a larger set of applications reachable earlier than we would have earlier thought.

Peter Chapman
Chief Executive Officer, President & Chairman, IonQ, Inc.
A

And I'll just have to add a little bit to it, which is this plus many of the other things that we have going really starting to give us confidence in kind of the timeframe for meaningful applications and actual revenue – significant revenue generation. Frankly speaking, I think up to this point, [ph] it's been (00:20:17) early for significant investments in applications.

Some companies started application development 10 years ago even though there wasn't quantum computers yet. So this is kind of, I think, a significant milestone for us in terms of getting the confidence that now is the time for application development and we'll talk about the first kind of large application at the next earnings call.

David Williams
Analyst, The Benchmark Co. LLC
Q

Great. Thanks so much for the good color there. And I guess maybe secondly, on that ARLIS contract, I noticed in the press release, it seemed like there were a few different figures there. And just hoping if you could help me understand exactly what those meant. I saw [ph] 5.7 and then 12 and even a 40 (00:21:04). So just help me understand what each one of those figures represent, please.

Peter Chapman
Chief Executive Officer, President & Chairman, IonQ, Inc.
A

Yes. No. I'm happy to give you the color on that. First, even before diving into this, I think the – one of the most important things is we've opened up another branch of the government to be an IonQ customer. And we, like our existing customers, we hope that this is not a one and done, but a multi-year relationship that continues into the future. So, we're excited to have ARLIS and the intelligence community as a customer and we look forward to many years working with them.

As to this particular contract in fiscal 2023 and 2024, Congress so far has funded this project for $40 million, and so we have won the first phase of the contract. It's a multiphase contract for $5.7 million. The remaining $40 million is expected to largely go to the construction of the hardware. And we expect by the end of this year to win the next phase of this of an additional $12 million. So in fiscal 2024, we expect the ARLIS contract to contribute roughly $17.5 million towards our bookings goal for the year. And the rest – the remaining of it will show up in 2025.

David Williams
Analyst, The Benchmark Co. LLC

Q

Okay, perfect. Great. Thanks for the help there. And then maybe just lastly, you've made some really tremendous progress here over the last several quarters and lots of moving pieces here. But I guess if you were going to kind of boil down your progress and where you are today relative to where you were maybe 12 months ago, how do you think about that progress and where are we on the pathway to real quantum from where you sit today, maybe not just for IonQ, but just broadly, how do you think about it? Thank you.

Peter Chapman
Chief Executive Officer, President & Chairman, IonQ, Inc.

A

Well, I think in lots of companies, not just IonQ, there's been lots of interesting progress across lots of different modalities. We do continue to believe we look at many of the other companies and the modalities and technologies. We think that many of them still have a number of kind of technical things to overcome before kind of getting to a place of great success. We do think as we always look, that we think that IonQ is in good position for that and we're going to be getting to a new phase of the business which is generating revenue from applications, rather than generating hardware sales. And that's kind of the next exciting phase that we're about to start to invest in and hopefully see a return on. So, it's just a – I think it's that part where everyone's been waiting, to be honest, which is when do we start to transition from kind of these early sales to something which is much more significant.

And I think on the other side, too, if you look at our what we said we were going to do in terms of both technical and financial from the IPO, we're hitting out of the park once again. We continue to beat even our original estimates. So, we're starting to build quite a significant track record. We're on our ways to breaking through, I think, a mental barrier, which would be the $100 million mark in sales. Had we not gone public [ph] few years back (00:25:00), we would be thinking about going public with those kinds of sales, just as – to a more normal IPO process. So, I think that's a significant milestone for the company as well.

David Williams
Analyst, The Benchmark Co. LLC

Q

Thanks very much for the insights. I really appreciate it.

Peter Chapman
Chief Executive Officer, President & Chairman, IonQ, Inc.

A

Always a pleasure.

Operator: Thank you. The next question we have comes from Quinn Bolton of Needham & Co. Please go ahead.

Quinn Bolton
Analyst, Needham & Co. LLC

Q

Yes, let me add my congratulations on the financial and technical milestones, especially hitting that 99.9% to qubit gate fidelity. I wanted to start just maybe, you talked about the updated roadmap. I think you've published that back in late June. Kind of, what are the key milestones now on the updated technology roadmap? Are you still targeting Tempo for delivery in 2025? Is that still expected to be based on barium qubits? Just wondering what are the highlights of the updated technical roadmap?

Peter Chapman
Chief Executive Officer, President & Chairman, IonQ, Inc.

A

Yeah. Dean, do you want to take [ph] that one (00:26:04)?

Dean Kassmann
Senior Vice President-Engineering & Technology, IonQ, Inc.

A

So right now, our technical roadmap remains the same. We're still targeting #AQ 64 and Tempo. It's still planning. We're looking at barium as the qubit species. So all of those pieces are there, right? So what we're starting to unveil is a little bit more detail about some of the component benchmarks and other things that are going to kind of enable those AQ benchmarks and numbers that we've talked about in terms of our native two qubit gate fidelities, our qubit counts, et cetera. But right now, our roadmap remains strong and our progress remains strong.

Peter Chapman
Chief Executive Officer, President & Chairman, IonQ, Inc.

A

And you've seen not only in this particular announcement today, we have gotten to 99.9% in barium, right. So that's significant. The other thing is you've seen, I believe, some images, 64 ions loaded in a system as well. So, these are all small milestones or along the way to getting to Tempo. And so, we're just kind of showing the progress along the way. Yeah, but the answer is yes. We're on track for delivering in 2025, the first manufactured systems for Tempo.

Quinn Bolton
Analyst, Needham & Co. LLC

Q

Perfect. And then on the error correction announcement from this week, I guess, can you give us some sense what percent of gates in a typical circuit and there's probably no typical circuit, but how frequently used [ph] your (00:27:39) Clifford gates, are those 10% of the gates, 50% of the gates? And can you take the techniques to improve the – or to perform error correction on Clifford gates? Can you use similar techniques on other commonly used gates in quantum circuits?

Dean Kassmann
Senior Vice President-Engineering & Technology, IonQ, Inc.

A

Great question. And so the Clifford gates are classes – a class of gates that we use here, a lot of other companies use it as well. And so, they're highly applicable to many different applications. It's a lot of variational circuits, chemistry circuits are comprised of large sub blocks of Clifford gates. And so, these kind of noise reduction techniques allow us to be able to target really the key pieces of those circuits, to be able to reduce the overall noise and improve the overall results. And so, the beauty of this as a stepping stone, there's another class of gates that we will have to address noise on. And those are called T gates. But our overall philosophy is that any noise reduction helps before the industry reaches full fault tolerance, which is still, we believe, years away, right. There's a lot of other building blocks besides just the error correcting code required for full fault tolerance. And so, as we move forward, these are the kind of innovations that accelerate both in hardware and software, the capabilities to be able to kind of, as Peter said, supercharge the systems to be able to deliver value sooner.

Quinn Bolton
Analyst, Needham & Co. LLC

Q

Perfect. Thank you.

Operator: Thank you. The next question we have comes from Kevin Garrigan of WestPark Capital. Please go ahead.

Kevin Garrigan
Analyst, WestPark Capital, Inc. (Securities)

Q

Yeah, hi, all. Let me echo my congrats on all the progress and congrats on the results. To start, I'm just kind of wondering if you can give a little more color on the ARLIS contract, how many were in the bidding process, were they all different quantum computing architectures, anything else you can kind of provide there?

Peter Chapman
Chief Executive Officer, President & Chairman, IonQ, Inc.

A

I'm not sure we know exactly. I mean, strangely, they didn't send us the responses to the RFP. But it is my belief system that there was a number of other companies in different modalities that competed for it. So, but I don't – to be honest, I don't know what the companies exactly were. And obviously know nothing about their – of what it is they proposed. But it was an open bid and we won against everyone else.

Kevin Garrigan
Analyst, WestPark Capital, Inc. (Securities)

Q

Okay. Got it. Got it. And then, Peter, you had mentioned ARLIS opened up another government avenue. I'm just kind of wondering if you can give us some color on the commercial and enterprise side of things. Have you started to see an increase in commercial and enterprise customers looking to adopt quantum computing?

Peter Chapman
Chief Executive Officer, President & Chairman, IonQ, Inc.

A

Yeah, very, very much so. This is – I guess there's a couple of different things. We see two different kind of things customers are interested in. One is quantum networking and one is quantum computing or application development. It's a little confusing because both of them require quantum computers. One is with the purpose of doing networking and communication and the other one is doing – has an interest in applications, but both require [indiscernible] (00:31:26) systems.

So that part of it can be confusing when, for instance, we were talking about Forte Enterprise sales, those are largely customers interested in compute, not networking. So the ARLIS is a case where we're building systems but now for their primary interest is networking. And so, we also see increased interest in the applications and the compute space as well. And as I mentioned, we'll talk about the first of those coming up in the next earnings call.

Kevin Garrigan
Analyst, WestPark Capital, Inc. (Securities)

Q

Okay, perfect. I appreciate the color. Thank you.

Operator: Thank you, sir. The next question we have comes from Joe Moore of Morgan Stanley. Please go ahead.

Joseph Moore
Analyst, Morgan Stanley & Co. LLC

Q

Great. Thank you. Yeah. Along the same lines, I mean, you've gotten so many federal opportunities between the Air Force, the Navy, and now ARLIS. Can you kind of talk about if there's a common thread, why you keep

winning those opportunities? And, you said it's a competitive bidding process. What are the criteria you think that's getting you selected ahead of other quantum opportunities?

Peter Chapman
Chief Executive Officer, President & Chairman, IonQ, Inc.

A

Oh, boy, that's a complex question. I do think that there's a number of things. We have, I think, a good product. And the fact that the error rates are the best in the industry kind of in general, ion trapping is the early winner here. So that certainly helps compared to some of the other modalities out there. But then even within the ion traps, I think we're winning largely because we've got a good sales force and a good sales plan. And so, we're – from what I can see from all the published data is that I can see IonQ is winning on the sales front.

And so, that's – it's got to be a mixture of [ph] Reema (00:33:37) and her sales team, and the products that we have. So, I think customers in the know are liking what we're doing.

Dean Kassmann
Senior Vice President-Engineering & Technology, IonQ, Inc.

A

I can speak a little bit, the success criteria that the ARLIS customer was looking for in the competitive process involve technical capability in terms of the system that included the ability to optically connect systems across the distance. Our investment in our photonic networking and capabilities and the experimental results and things that we've achieved to date were a feather in our cap. They are also looking for a proven track record in delivering and providing systems to customers. We have that track record.

So, when we were scored at the end of the day, the customer basically scored us high in many of the technical and kind of programmatic requirements that they were looking for in terms of what they were shooting for. And so, it goes to speak to the track record that we've been building and investing in, both on the technology side as well as on the company side.

Joseph Moore
Analyst, Morgan Stanley & Co. LLC

Q

Great. Thank you very much.

Operator: Thank you, sir. [Operator Instructions] At this stage, there seems to be no further questions. I will now turn the conference call back to Peter Chapman for closing remarks. Please go ahead.

Peter Chapman
Chief Executive Officer, President & Chairman, IonQ, Inc.

I want to thank everyone for joining us today and for your support and for all the great questions. Finally, I want to thank the entire IonQ team for their continued, diligent work that contributed to such a meaningful quarter for us, both technically and commercially, and that continues to fuel everything that we look forward to in the future. So thanks again, everyone, for joining and we look forward to talking to you at the next earnings call.

Operator: Thank you, sir. Ladies and gentlemen, that then concludes today's conference. Thank you for joining us. You may now disconnect your lines.