UNITED STATES DISTRICT COURT
DISTRICT OF MARYLAND

_____
Individually and On Behalf of All Others Similarly Situated,

Plaintiff,

v.

IONQ, INC.,
4505 Campus Drive
College Park, MD 20740
(Prince George's County)

PETER CHAPMAN
c/o IONQ, INC.
4505 Campus Drive
College Park, MD 20740
(Prince George's County) and

THOMAS KRAMER
c/o IONQ, INC.
4505 Campus Drive
College Park, MD 20740
(Prince George's County)

Defendants.

Case No.

CLASS ACTION COMPLAINT FOR VIOLATIONS OF THE FEDERAL SECURITIES LAWS

JURY TRIAL DEMANDED

Plaintiff _____ ("Plaintiff"), individually and on behalf of all others similarly situated, by and through his attorneys, alleges the following upon information and belief, except as to those allegations concerning Plaintiff, which are alleged upon personal knowledge. Plaintiff's information and belief is based upon, among other things, his counsel's investigation, which includes without limitation: (a) review and analysis of regulatory filings made by IonQ, Inc. ("IonQ" or the "Company") with the United States ("U.S.") Securities and Exchange Commission ("SEC"); (b) review and analysis of press releases and media reports issued by and disseminated by IonQ; and (c) review of other publicly available information concerning IonQ.

NATURE OF THE ACTION AND OVERVIEW

1. This is a class action on behalf of persons and entities that purchased or otherwise acquired IonQ securities between March 30, 2021 and May 2, 2022, inclusive (the "Class Period"). Plaintiff pursues claims against the Defendants under the Securities Exchange Act of 1934 (the "Exchange Act").

2. IonQ claims to "develop quantum computers designed to solve the world's most complex problems."

3. On or about September 30, 2021, IonQ became a public entity via business combination with dMY Technology Group, Inc. III ("DTG"), a special purpose acquisition company (the "Business Combination").

4. On May 3, 2022, Scorpion Capital released a research report alleging, among other things, that IonQ is a "scam built on phony statements about nearly all key aspects of the technology and business." It further claimed that the Company' reported "[f]ictitious 'revenue' via sham transactions and related-party round-tripping."

5. On this news, the Company's stock fell $0.71, or 9%, to close at $7.15 per share on May 3, 2022, on unusually heavy trading volume.

6. Throughout the Class Period, Defendants made materially false and/or misleading statements, as well as failed to disclose material adverse facts about the Company's business, operations, and prospects. Specifically, Defendants failed to disclose to investors: (1) that IonQ had not yet developed a 32-qubit quantum computer; (2) that the Company's 11-qubit quantum computer suffered from significant error rates, rendering it useless; (3) that IonQ's quantum computer is not sufficiently reliable, so it is not accessible despite being available through major cloud providers; (4) that a significant portion of IonQ's revenue was derived from improper round-tripping transactions with related parties; and (5) that, as a result of the foregoing, Defendants' positive statements about the Company's business, operations, and prospects were materially misleading and/or lacked a reasonable basis.

7. As a result of Defendants' wrongful acts and omissions, and the precipitous decline in the market value of the Company's securities, Plaintiff and other Class members have suffered significant losses and damages.

JURISDICTION AND VENUE

8. The claims asserted herein arise under Sections 10(b) and 20(a) of the Exchange Act (15 U.S.C. §§ 78j(b) and 78t(a)) and Rule 10b-5 promulgated thereunder by the SEC (17 C.F.R. § 240.10b-5).

9. This Court has jurisdiction over the subject matter of this action pursuant to 28 U.S.C. § 1331 and Section 27 of the Exchange Act (15 U.S.C. § 78aa).

10. Venue is proper in this Judicial District pursuant to 28 U.S.C. § 1391(b) and Section 27 of the Exchange Act (15 U.S.C. § 78aa(c)). Substantial acts in furtherance of the alleged fraud or the effects of the fraud have occurred in this Judicial District. Many of the acts charged herein, including the dissemination of materially false and/or misleading information, occurred in

substantial part in this Judicial District. In addition, the Company's principal executive offices are in this District.

11. In connection with the acts, transactions, and conduct alleged herein, Defendants directly and indirectly used the means and instrumentalities of interstate commerce, including the United States mail, interstate telephone communications, and the facilities of a national securities exchange.

PARTIES

12. Plaintiff _____, as set forth in the accompanying certification, incorporated by reference herein, purchased IonQ securities during the Class Period, and suffered damages as a result of the federal securities law violations and false and/or misleading statements and/or material omissions alleged herein.

13. Defendant IonQ is incorporated under the laws of Delaware with its principal executive offices located in College Park, Maryland. IonQ's common stock trades on the New York Stock Exchange ("NYSE") under the symbol "IONQ."

14. Defendant Peter Chapman ("Chapman") was IonQ's Chief Executive Officer ("CEO") at all relevant times.

15. Defendant Thomas Kramer ("Kramer") was IonQ's Chief Financial Officer ("CFO") at all relevant times.

16. Defendants Chapman and Kramer (collectively the "Individual Defendants"), because of their positions with the Company, possessed the power and authority to control the contents of the Company's reports to the SEC, press releases and presentations to securities analysts, money and portfolio managers and institutional investors, i.e., the market. The Individual Defendants were provided with copies of the Company's reports and press releases alleged herein to be misleading prior to, or shortly after, their issuance and had the ability and opportunity to

prevent their issuance or cause them to be corrected. Because of their positions and access to material non-public information available to them, the Individual Defendants knew that the adverse facts specified herein had not been disclosed to, and were being concealed from, the public, and that the positive representations which were being made were then materially false and/or misleading. The Individual Defendants are liable for the false statements pleaded herein.

SUBSTANTIVE ALLEGATIONS

Background

17. IonQ claims to "develop quantum computers designed to solve the world's most complex problems."

18. On or about September 30, 2021, IonQ became a public entity via business combination with dMY Technology Group, Inc. III ("DTG"), a special purpose acquisition company (the "Business Combination").

Materially False and Misleading Statements Issued During the Class Period

19. The Class Period begins on March 30, 2021. On that day, IonQ and DTG filed a registration statement on Form S-4 in connection with the Registration Statement. Therein, the Company stated, in relevant part:[1]

> ***IonQ has not produced a scalable quantum computer and faces significant barriers in its attempts to produce quantum computers. If IonQ cannot successfully overcome those barriers, its business will be negatively impacted and could fail.***
>
> Producing quantum computers is a difficult undertaking. There are significant engineering challenges that IonQ must overcome to build its quantum computers. IonQ is still in the development stage and faces significant challenges in completing development of its quantum computers and in producing quantum computers in commercial volumes. Some of the development challenges that could prevent the introduction of IonQ's quantum computers include, but are not limited to, failure to find scalable ways to flexibly manipulate qubits, failure to transition quantum

[1] Unless otherwise stated, all emphasis in bold and italics hereinafter is added.

systems to leverage low-cost, commodity optical technology, and failure to realize multicore quantum computer technology.

Additional development challenges IonQ is facing include:

- Gate fidelity, error correction and miniaturization may not commercialize from the lab and scale as hoped or at all;
- It could prove more challenging and take materially longer than expected to operate parallel gates within a single ion trap and maintain gate fidelity;
- The photonic interconnect between ion traps could prove more challenging and take longer to perfect than currently expected. This would limit IonQ's ability to scale beyond a single ion trap of approximately 22 logical qubits;
- It could take longer to tune the qubits in a single ion trap, as well as preserve the stability of the qubits within a trap as IonQ seeks to maximize the total number of qubits within one trap;
- The gate speed in IonQ's technology could prove more difficult to improve than expected; and
- The scaling of fidelity with qubit number could prove poorer than expected, limiting IonQ's ability to achieve larger quantum volume.

* * *

IonQ's 32-qubit system, which is an important milestone for IonQ's technical roadmap and commercialization, is not yet available for customers and may never be available.

IonQ is developing its next-generation 32-qubit quantum computer system, which has not yet been made available to customers. IonQ expects this system to have 22 algorithmic qubits, i.e., qubits that are usable to run quantum algorithms, but the number of algorithmic qubits available in this system has not been finalized and may be fewer than planned. The availability of this generation of quantum computer system for customer use or independent verification by a third party may be materially delayed, or even never occur. Additionally, the future success of IonQ's technical roadmap will depend upon its ability to approximately double the number of qubits in each subsequent generation of its quantum computer. Accordingly, IonQ's technical roadmap may be delayed or may never be achieved, either of which would have a material impact on IonQ's business, financial condition or results of operations.

20. On September 22, 2021, IonQ issued a press release announcing certain business highlights. The Company stated, in relevant part:

Business Highlights

IonQ's previously announced hardware achievements enable the continued scaling of its trapped ion quantum computers, including:

- The industry's first Reconfigurable Multicore Quantum Architecture (RMQA) technology, which allows greatly increased qubit count and power of IonQ's quantum computers.

- Evaporated Glass Traps (EGTs), a new, IonQ-designed chipset that affords greater control of individual qubits in a quantum computer, paving the way for larger quantum computing cores.

- First customers running on IonQ's latest hardware.

- ***IonQ's quantum computers now run thousands of quantum jobs routinely for customers via the cloud each week.***

21. On August 12, 2021, IonQ and DTG filed its proxy statement on Form 424b3 soliciting stockholder approval of the Business Combination and making substantially the same statements as identified in the Registration Statement.

22. On September 9, 2021, IonQ issued a press release entitled "IonQ Triples Expectation for 2021 Contract Bookings," stating in relevant part:

IonQ, the leader in quantum computing, today announced that it is tripling its expectation for 2021 total contract bookings from its previously announced target of $5 million to $15 million.

* * *

IonQ recent operating momentum includes:

- A deal with the University of Maryland to create the National Quantum Lab, the world's first on-campus, commercial-grade quantum user facility, as part of the University's $20 million initiative to invest in quantum computing.

23. On November 15, 2021, IonQ issued a press release announcing its third quarter 2021 financial results, stating in relevant part:

IonQ's bookings results demonstrate the Company's leadership and growing demand for IonQ's industry-leading trapped-ion hardware. ***IonQ is the only maker***

of quantum hardware that is available through every major cloud provider in the United States, which includes Amazon Web Services, Microsoft Azure, and Google Cloud. This gives public and private sectors unprecedented access to the Company's technology. IonQ's next generation system was released to select customers in private beta via IonQ's dedicated cloud.

"We look forward to 2022 with confidence as we continue to build out IonQ's ecosystem, demonstrate our superior scalability and efficiency, and solve useful problems for our worldwide customer base," said Chapman.

Third Quarter Financial Highlights

- Revenue of $223 thousand, for a total of $451 thousand year to date.
- Year-to-date total contract value (TCV) bookings of $15.1 million.
- Cash and cash equivalents of $587 million as of September 30, 2021.
- Net loss of $14.8 million.

24. The same day, the Company filed its quarterly report on Form 10-Q for the period ended September 30, 2021 (the "3Q21 10-Q"), affirming the previously reported financial results. Regarding the concentration of revenue among "significant customers," IonQ stated:

> Significant customers are those which represent more than 10% of the Company's total revenue. The Company's revenue was from 2 significant customers for the three months ended September 30, 2021 and from 3 significant customers for the nine months ended September 30, 2021. The Company did not have any revenue for the three and nine month periods ended September 30, 2020.

25. As to related party transactions, the 3Q21 10-Q stated, in relevant part:

> Transactions with UMD and Duke
>
> As described in Note 5 – *Agreements with UMD and Duke*, the Company entered into a License Agreement and Option Agreement with UMD and Duke whereby the Company, in the normal course of business, has licensed certain intellectual property and, in the case of the Amendments to the Duke and UMD Option Agreements, has purchased research and development services. The Company considers these agreements to be related party transactions because during 2021 and 2020, the Company's Co-Founder and Chief Technology Officer served as a professor at Duke and the Company's Co-Founder and Chief Scientist served as a professor at UMD. During the nine months ended September 30, 2021, the Company's Chief Scientist moved to Duke and each, in their role as professors at

Duke, are leading the research subject to the License Agreement and Option Agreement with Duke as of September 30, 2021.

In addition, the Company entered into an amendment to its operating lease for office space with UMD. The lease was amended with UMD in March 2020 to extend the terms of the agreement for the existing premise and lease additional expansion premise and was amended in December 2020 to provide additional rent adjustments. Refer to Note 12 of the audited financial statements for the year ended December 31, 2020 for additional information regarding the Company's leases.

In September 2021, the Company entered into a multiyear deal with UMD to provide certain quantum computing services and facility access related to the National Quantum Lab at UMD in exchange for payments totaling $14 million.

The Company's results from transactions with UMD and Duke, as reflected in the Condensed Consolidated Statements of Operations and Comprehensive Loss are detailed below (in thousands):

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2021	2020	2021	2020
Revenue	164	—	164	—
Cost of revenue	34	—	34	—
Research and development	313	7	1,649	117
Sales and marketing	8	—	8	—
General and administrative	59	55	189	71

26. On March 28, 2022, IonQ issued a press release announcing its financial results for fourth quarter and full year 2021, stating in relevant part: "In March, Microsoft announced official plans to bring IonQ Aria to the Azure Quantum Cloud, democratizing access to the world's most powerful quantum computer. IonQ became the only company to make its quantum computers available via all three major cloud providers (Google Cloud, Microsoft Azure, AWS) in 2021." It further stated:

2021 Financial Highlights

- After tripling the Company's original 2021 contract bookings forecast in September from $5 million to $15 million, IonQ beat that number again to end up at $16.7 million for the full year.

- IonQ achieved revenue of $2.1 million for the full year, which was 31% above the $1.6 million IonQ forecasted on the Company's Q3 call.

27. The same day, IonQ filed its annual report on Form 10-K for the period ended December 31, 2021 (the "2021 10-K"). Therein, the Company stated, in relevant part:

> ***Our 32-qubit system, which is an important milestone for our technical roadmap and commercialization, is not yet available for customers and may never be available.***
>
> We are developing our next-generation 32-qubit quantum computer system, which has not yet been made available to customers. We expect this system to have 22 algorithmic qubits, i.e., qubits that are usable to run quantum algorithms, but the number of algorithmic qubits available in this system has not been finalized and may be fewer than planned. The availability of this generation of quantum computer system for customer use or independent verification by a third party may be materially delayed, or even never occur. Additionally, the future success of our technical roadmap will depend upon our ability to approximately double the number of qubits in each subsequent generation of our quantum computer. Accordingly, our technical roadmap may be delayed or may never be achieved, either of which would have a material impact on our business, financial condition or results of operations.

28. The 2021 10-K also cited certain risk factors to producing a scalable quantum computer, including:

> ***We have not produced a scalable quantum computer and face significant barriers in our attempts to produce quantum computers. If we cannot successfully overcome those barriers, our business will be negatively impacted and could fail.***
>
> Producing quantum computers is a difficult undertaking. There are significant engineering challenges that we must overcome to build our quantum computers. We are still in the development stage and face significant challenges in completing development of our quantum computers and in producing quantum computers in commercial volumes. Some of the development challenges that could prevent the introduction of our quantum computers include, but are not limited to, failure to find scalable ways to flexibly manipulate qubits, failure to transition quantum systems to leverage low-cost, commodity optical technology, and failure to realize multicore quantum computer technology.
>
> Additional development challenges we face include:

- gate fidelity, error correction and miniaturization may not commercialize from the lab and scale as hoped or at all;

- it could prove more challenging and take materially longer than expected to operate parallel gates within a single ion trap and maintain gate fidelity;

- the photonic interconnect between ion traps could prove more challenging and take longer to perfect than currently expected. This would limit our ability to scale beyond a single ion trap of approximately 22 logical qubits;

- it could take longer to tune the qubits in a single ion trap, as well as preserve the stability of the qubits within a trap as we seek to maximize the total number of qubits within one trap;

- the gate speed in our technology could prove more difficult to improve than expected; and

- the scaling of fidelity with qubit number could prove poorer than expected, limiting our ability to achieve larger quantum volume.

In addition, we will need to develop the manufacturing process necessary to make these quantum computers in high volume. We have not yet validated a manufacturing process or acquired the tools or processes necessary to produce high volumes of our quantum computers that meet all commercial requirements. If we are not able to overcome these manufacturing hurdles in building our quantum computers, our business is likely to fail.

Even if we complete development and achieve volume production of our quantum computers, if the cost, performance characteristics or other specifications of the quantum computer fall short of our projections, our business, financial condition and results of operations would be adversely affected.

29. The 2021 10-K further stated the following as to IonQ's related party transactions:

Transactions with UMD and Duke

As described in Note 7—Agreements with UMD and Duke, the Company entered into a License Agreement and Option Agreement with UMD and Duke whereby the Company, in the normal course of business, has licensed certain intellectual property and, in the case of the Amendment to the Duke and UMD Option Agreement, has purchased research and development services. The Company considers these agreements to be related party transactions because during 2021 and 2020, the Company's Co-founder and Chief Technology Officer served as a professor at Duke and the Company's Co-founder and Chief Scientist served as a professor at the UMD. During 2021, the Company's Chief Scientist moved to Duke and each, in their role as professors at Duke, are leading the research subject to the License Agreement and Option Agreement with Duke as of December 31, 2021.

In addition, the Company entered into an amendment to its operating lease for office space with the UMD. The lease was amended with UMD in March 2020 to extend the terms of the agreement for the existing premise and lease additional expansion premise and was amended in December 2020 to provide additional rent adjustments. Refer to Note 15 – Leases, for additional information regarding the Company's leases.

In September 2021, the Company entered into a multiyear deal with UMD to provide certain quantum computing services and facility access related to the National Quantum Lab at UMD in exchange for payments totaling $14 million over 3 years.

The Company's results from transactions with UMD and Duke, as reflected in the Consolidated Statements of Operations are detailed below (in thousands):

	Year Ended December 31,	
	2021	2020
Revenue	1,179	—
Cost of Revenue	35	—
Research and Development	1,949	247
Sales and Marketing	8	—
General and administrative	218	35

30. The above statements identified in ¶¶ 19-29 were materially false and/or misleading, and failed to disclose material adverse facts about the Company's business, operations, and prospects. Specifically, Defendants failed to disclose to investors: (1) that IonQ had not yet developed a 32-qubit quantum computer; (2) that the Company's 11-qubit quantum computer suffered from significant error rates, rendering it useless; (3) that IonQ's quantum computer is not sufficiently reliable, so it is not accessible despite being available through major cloud providers; (4) that a significant portion of IonQ's revenue was derived from improper round-tripping transactions with related parties; and (5) that, as a result of the foregoing, Defendants' positive statements about the Company's business, operations, and prospects were materially misleading and/or lacked a reasonable basis.

Disclosures at the End of the Class Period

31. On May 3, 2022, Scorpion Capital released a research report alleging, among other things, that IonQ is a "scam built on phony statements about nearly all key aspects of the technology and business." It further claimed that the Company' reported "[f]ictitious 'revenue' via sham transactions and related-party round-tripping."

32. Specifically, the report alleged that IonQ's 32-qubit quantum computer does not exist, citing interviews with former employees and executives:

> 3. Extensive interviews with ex-executives and employees confirm our findings and lead us to conclude that the company's claims of a 32-qubit machine are fraudulent. We received color stating that "it was totally made up"; "doesn't exist"; and that the company is "trying to cover up that it's not there." Our research indicates extreme discomfort among IonQ's staff and an "unprecedented amount of pushback" as its leadership allegedly pushed for a fake product announcement with "outlandish claims" that "are so far removed from reality," with "essentially every scientist" at the company opposed and "flipping out."
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> The ex-executive indicated that it is "totally" well-known inside IonQ that the 32-qubit machine doesn't exist, replying affirmatively when we asked if staff were uncomfortable with the company's conduct – "to me, that's fraudulent." The executive further alleged that IonQ is trying "to cover up that it's not there" – despite featuring it prominently on its homepage – and mentioned conversations with the CEO that suggest his complicity.
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> 4. Ex-employees suggested that photos of IonQ's computer in a sleek, commercially-viable package are staged and misleading. Two even stated that they "never saw" the standalone form factor featured prominently on IonQ's site and promotional materials. Pictures we located indicate the device is actually a primitive skunkworks contraption that one can't take "out of the lab for real use," resembling an explosion of "spaghetti" with electromechanical parts, lasers, cables, HVAC equipment, racks of screwdrivers, and multiple chassis that ex-employees indicated are "garage size" or the size of a "small adult elephant." At best, we suspect IonQ concocted a shell for SPAC photo ops to conceal the device's crudeness, as it suddenly appeared on their site right before the deal was announced in March 2021.

33. The report further alleged that the Company's existing 11-qubit technology suffers from high error rates:

> 8. IonQ's trapped-ion technology is doomed by "pernicious" error rates, a key performance metric and fatal flaw in contrast to misleading benchmarks that portray errors as low. Virtually every ex-employee and expert we interviewed slammed its error rates as a joke, describing a catastrophic "chain process" where errors compound like a game of telephone: "your answer is totally garbled;" "your entire computation breaks down after a few steps"; "your chances of getting the right answer diminish very, very quickly" given the tendency for "very small errors to accumulate." A leading expert and friend of the founders stated that their error rates need to be 100 times lower; alleged that Monroe's error rates have stagnated at the same level "for 10 years, 15 years, 20 years"; and that "I just don't see how it's going to work."
>
> IonQ appears to be well aware that error rates are its Achilles Heel. As a result, its website prominently features performance benchmarks that convey the misleading impression that error rates are low. Error rates are typically expressed as "gate fidelities" that demonstrate the quality of two-qubit gates. Investors looking at the site are led to believe that the gate fidelities are nearly perfect – with average fidelities of >98% and best fidelity of 99.7%, i.e., error rates of <2% and .03%, respectively.
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> Virtually every ex-IonQ employee and expert we interviewed slammed the error rates as a joke. One former employee indicated that a 98% fidelity level renders the computer error prone and useless, adding that a minimum of 99.99% fidelity is required before any useful applications are possible. He emphasized that going from 99% to 99.99% is infinitely more difficult than from 50% to 99%. A second ex-employee stated that a 2% error rate is catastrophic, creating "a chain process" where errors compound like a game of telephone – "even a small toy" computation requires 99.9% fidelity, i.e., a 0.1% error vs. IonQ's 20X higher error of 2%.
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> An ex-IonQ physicist provided a more technical explanation for why the company's 2% error rate is "actually a lot more pernicious" than it appears. He stated that it prevents the computer from running a long program, as each step introduces a 2% error which by the 20th step means that "your answer is totally garbled": "your entire compensation breaks down after a few steps" – "your chances of getting the write answer diminish very, very quickly" given the tendency for "very small errors to accumulate."
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> * * *

> 10. Aside from being plagued by errors and lacking any useful computational ability, IonQ's only system is crippled by reliability and uptime problems, as well as "reproducibility" challenges from one machine to another, which explains why it only appears to have 3 computers "in service." An expert who we asked to test the machine via AWS had to wait for a day it was actually "available," while another described jobs sitting in the queue for 30-60 minutes, and sometimes having to "wait until the next day for the job to come back." An ex-employee pointed us to a recent paper by IonQ staff that quantified the shockingly poor reliability – only 53% uptime. IonQ appears to have buried the paper. Given the lags, we speculate whether manual processing may be occurring in the background by human beings, similar to Theranos allegedly using third-party blood testing machines.

34. Moreover, the report alleged that IonQ's "revenue and bookings are driven by phony related-party deals and round-tripping, creating the illusion of commercial momentum prior to listing via a SPAC." It stated, in relevant part:

> Given the long list of top-tier customers and the availability of IonQ's quantum hardware "through every major US cloud provider" per the CEO's comments on the Q3 call, we were surprised to discover that the company only reported an immaterial $233,000 of revenue in Q3 2021 and $451,000 for the nine months ended Sep 30 2021, and zero revenue for the same periods in 2020. This leads us to conclude that IonQ's total cumulative revenue since inception to 9/30/21 was only $451K. The company's total 2021 revenue of $2.1MM was driven almost entirely by Q4, which comprised ~80% of the total for the year.
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> The Related Party section of the filing then explained why IonQ's revenue is a farce: the two customers that drove 70% of its revenue in Q3 are the University of Maryland (UMD) and Duke – which spun off IonQ. . . .
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> * * *
>
> In other words, IonQ's revenue is not only negligible but whatever little scraps they've scrounged up are related-party round-tripping. Of the whopping $233K of total Q3 2021 revenue, $164K or 70% was from UMD and Duke. The related party disclosure then exposes the circular nature of the flows – in Q3, IonQ expensed $313K of R&D as transactions with UMD and Duke as well as $101K in other items. In other words, IonQ spent $414K with its two largest customers, who then turned around and "purchased" $164K of quantum computing access and services.
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> [image omitted]
>
> The related party games and round-tripping continued in Q4 2021. IonQ's filings disclose its revenue from UMD/Duke for 2021 as well as for the first nine months

> of the year, as well as its R&D transactions with them. This allowed us to calculate the related party contribution for Q4. UMD/Duke accounted for an astounding 62% of IonQ's "revenue" in Q4 and 56% for all of 2021. The data also makes the round-tripping clear: for all of 2021, IonQ expensed $1.9MM of R&D with Duke/UMB, who turned around and drove $1.2MM of sales. Most importantly, the data shows IonQ's suddenly increased dependence on UMD/Duke starting in Q3 and into Q4 vs. Q1/Q2 – just in time for the SPAC. In other words, the only way that IonQ showed "growth" around the time of its listing is by manufacturing it via the related parties that spun it out as a company.
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> * * *
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> The bookings were $5MM until Sep 9, 2021, when IonQ issued a press release announcing that they had tripled to $15MM. We note the fortuitous timing of the 300% release – a mere 3 weeks before the SPAC transaction closed and IonQ began trading. We further note the curious timing of another press release the day before this one, where IonQ announced that the University of Maryland and IonQ agreed to jointly establish the "First-of-its-Kind National Quantum Lab," with a "new $20MM investment from UMD" to provide the "university and its partners with unprecedented access to quantum computing." The purported "Q-Lab," per the release, "will be located . . . next to IonQ's headquarters. . . ."

35. On this news, On this news, the Company's stock fell $0.71, or 9%, to close at $7.15 per share on May 3, 2022, on unusually heavy trading volume.

CLASS ACTION ALLEGATIONS

36. Plaintiff brings this action as a class action pursuant to Federal Rule of Civil Procedure 23(a) and (b)(3) on behalf of a class, consisting of all persons and entities that purchased or otherwise acquired IonQ securities between March 30, 2021 and May 2, 2022, inclusive, and who were damaged thereby (the "Class"). Excluded from the Class are Defendants, the officers and directors of the Company, at all relevant times, members of their immediate families and their legal representatives, heirs, successors, or assigns, and any entity in which Defendants have or had a controlling interest.

37. The members of the Class are so numerous that joinder of all members is impracticable. Throughout the Class Period, IonQ's shares actively traded on the NYSE. While the exact number of Class members is unknown to Plaintiff at this time and can only be ascertained

through appropriate discovery, Plaintiff believes that there are at least hundreds or thousands of members in the proposed Class. Millions of IonQ shares were traded publicly during the Class Period on the NYSE. Record owners and other members of the Class may be identified from records maintained by IonQ or its transfer agent and may be notified of the pendency of this action by mail, using the form of notice similar to that customarily used in securities class actions.

38. Plaintiff's claims are typical of the claims of the members of the Class as all members of the Class are similarly affected by Defendants' wrongful conduct in violation of federal law that is complained of herein.

39. Plaintiff will fairly and adequately protect the interests of the members of the Class and has retained counsel competent and experienced in class and securities litigation.

40. Common questions of law and fact exist as to all members of the Class and predominate over any questions solely affecting individual members of the Class. Among the questions of law and fact common to the Class are:

(a) whether the federal securities laws were violated by Defendants' acts as alleged herein;

(b) whether statements made by Defendants to the investing public during the Class Period omitted and/or misrepresented material facts about the business, operations, and prospects of IonQ; and

(c) to what extent the members of the Class have sustained damages and the proper measure of damages.

41. A class action is superior to all other available methods for the fair and efficient adjudication of this controversy since joinder of all members is impracticable. Furthermore, as the damages suffered by individual Class members may be relatively small, the expense and burden

of individual litigation makes it impossible for members of the Class to individually redress the wrongs done to them. There will be no difficulty in the management of this action as a class action.

UNDISCLOSED ADVERSE FACTS

42. The market for IonQ's securities was open, well-developed and efficient at all relevant times. As a result of these materially false and/or misleading statements, and/or failures to disclose, IonQ's securities traded at artificially inflated prices during the Class Period. Plaintiff and other members of the Class purchased or otherwise acquired IonQ's securities relying upon the integrity of the market price of the Company's securities and market information relating to IonQ, and have been damaged thereby.

43. During the Class Period, Defendants materially misled the investing public, thereby inflating the price of IonQ's securities, by publicly issuing false and/or misleading statements and/or omitting to disclose material facts necessary to make Defendants' statements, as set forth herein, not false and/or misleading. The statements and omissions were materially false and/or misleading because they failed to disclose material adverse information and/or misrepresented the truth about IonQ's business, operations, and prospects as alleged herein.

44. At all relevant times, the material misrepresentations and omissions particularized in this Complaint directly or proximately caused or were a substantial contributing cause of the damages sustained by Plaintiff and other members of the Class. As described herein, during the Class Period, Defendants made or caused to be made a series of materially false and/or misleading statements about IonQ's financial well-being and prospects. These material misstatements and/or omissions had the cause and effect of creating in the market an unrealistically positive assessment of the Company and its financial well-being and prospects, thus causing the Company's securities to be overvalued and artificially inflated at all relevant times. Defendants' materially false and/or misleading statements during the Class Period resulted in Plaintiff and other members of the Class

purchasing the Company's securities at artificially inflated prices, thus causing the damages complained of herein when the truth was revealed.

LOSS CAUSATION

45. Defendants' wrongful conduct, as alleged herein, directly and proximately caused the economic loss suffered by Plaintiff and the Class.

46. During the Class Period, Plaintiff and the Class purchased IonQ's securities at artificially inflated prices and were damaged thereby. The price of the Company's securities significantly declined when the misrepresentations made to the market, and/or the information alleged herein to have been concealed from the market, and/or the effects thereof, were revealed, causing investors' losses.

SCIENTER ALLEGATIONS

47. As alleged herein, Defendants acted with scienter since Defendants knew that the public documents and statements issued or disseminated in the name of the Company were materially false and/or misleading; knew that such statements or documents would be issued or disseminated to the investing public; and knowingly and substantially participated or acquiesced in the issuance or dissemination of such statements or documents as primary violations of the federal securities laws. As set forth elsewhere herein in detail, the Individual Defendants, by virtue of their receipt of information reflecting the true facts regarding IonQ, their control over, and/or receipt and/or modification of IonQ's allegedly materially misleading misstatements and/or their associations with the Company which made them privy to confidential proprietary information concerning IonQ, participated in the fraudulent scheme alleged herein.

APPLICABILITY OF PRESUMPTION OF RELIANCE (FRAUD-ON-THE-MARKET DOCTRINE)

48. The market for IonQ's securities was open, well-developed and efficient at all relevant times. As a result of the materially false and/or misleading statements and/or failures to disclose, IonQ's securities traded at artificially inflated prices during the Class Period. On November 17, 2021, the Company's share price closed at a Class Period high of $31.00 per share. Plaintiff and other members of the Class purchased or otherwise acquired the Company's securities relying upon the integrity of the market price of IonQ's securities and market information relating to IonQ, and have been damaged thereby.

49. During the Class Period, the artificial inflation of IonQ's shares was caused by the material misrepresentations and/or omissions particularized in this Complaint causing the damages sustained by Plaintiff and other members of the Class. As described herein, during the Class Period, Defendants made or caused to be made a series of materially false and/or misleading statements about IonQ's business, prospects, and operations. These material misstatements and/or omissions created an unrealistically positive assessment of IonQ and its business, operations, and prospects, thus causing the price of the Company's securities to be artificially inflated at all relevant times, and when disclosed, negatively affected the value of the Company shares. Defendants' materially false and/or misleading statements during the Class Period resulted in Plaintiff and other members of the Class purchasing the Company's securities at such artificially inflated prices, and each of them has been damaged as a result.

50. At all relevant times, the market for IonQ's securities was an efficient market for the following reasons, among others:

(a) IonQ shares met the requirements for listing, and was listed and actively traded on the NYSE, a highly efficient and automated market;

(b) As a regulated issuer, IonQ filed periodic public reports with the SEC and/or the NYSE;

(c) IonQ regularly communicated with public investors via established market communication mechanisms, including through regular dissemination of press releases on the national circuits of major newswire services and through other wide-ranging public disclosures, such as communications with the financial press and other similar reporting services; and/or

(d) IonQ was followed by securities analysts employed by brokerage firms who wrote reports about the Company, and these reports were distributed to the sales force and certain customers of their respective brokerage firms. Each of these reports was publicly available and entered the public marketplace.

51. As a result of the foregoing, the market for IonQ's securities promptly digested current information regarding IonQ from all publicly available sources and reflected such information in IonQ's share price. Under these circumstances, all purchasers of IonQ's securities during the Class Period suffered similar injury through their purchase of IonQ's securities at artificially inflated prices and a presumption of reliance applies.

52. A Class-wide presumption of reliance is also appropriate in this action under the Supreme Court's holding in *Affiliated Ute Citizens of Utah v. United States*, 406 U.S. 128 (1972), because the Class's claims are, in large part, grounded on Defendants' material misstatements and/or omissions. Because this action involves Defendants' failure to disclose material adverse information regarding the Company's business operations and financial prospects—information that Defendants were obligated to disclose—positive proof of reliance is not a prerequisite to recovery. All that is necessary is that the facts withheld be material in the sense that a reasonable investor might have considered them important in making investment decisions. Given the

importance of the Class Period material misstatements and omissions set forth above, that requirement is satisfied here.

NO SAFE HARBOR

53. The statutory safe harbor provided for forward-looking statements under certain circumstances does not apply to any of the allegedly false statements pleaded in this Complaint. The statements alleged to be false and misleading herein all relate to then-existing facts and conditions. In addition, to the extent certain of the statements alleged to be false may be characterized as forward looking, they were not identified as "forward-looking statements" when made and there were no meaningful cautionary statements identifying important factors that could cause actual results to differ materially from those in the purportedly forward-looking statements. In the alternative, to the extent that the statutory safe harbor is determined to apply to any forward-looking statements pleaded herein, Defendants are liable for those false forward-looking statements because at the time each of those forward-looking statements was made, the speaker had actual knowledge that the forward-looking statement was materially false or misleading, and/or the forward-looking statement was authorized or approved by an executive officer of IonQ who knew that the statement was false when made.

FIRST CLAIM

Violation of Section 10(b) of The Exchange Act and Rule 10b-5 Promulgated Thereunder Against All Defendants

54. Plaintiff repeats and re-alleges each and every allegation contained above as if fully set forth herein.

55. During the Class Period, Defendants carried out a plan, scheme and course of conduct which was intended to and, throughout the Class Period, did: (i) deceive the investing public, including Plaintiff and other Class members, as alleged herein; and (ii) cause Plaintiff and

other members of the Class to purchase IonQ's securities at artificially inflated prices. In furtherance of this unlawful scheme, plan and course of conduct, Defendants, and each defendant, took the actions set forth herein.

56. Defendants (i) employed devices, schemes, and artifices to defraud; (ii) made untrue statements of material fact and/or omitted to state material facts necessary to make the statements not misleading; and (iii) engaged in acts, practices, and a course of business which operated as a fraud and deceit upon the purchasers of the Company's securities in an effort to maintain artificially high market prices for IonQ's securities in violation of Section 10(b) of the Exchange Act and Rule 10b-5. All Defendants are sued either as primary participants in the wrongful and illegal conduct charged herein or as controlling persons as alleged below.

57. Defendants, individually and in concert, directly and indirectly, by the use, means or instrumentalities of interstate commerce and/or of the mails, engaged and participated in a continuous course of conduct to conceal adverse material information about IonQ's financial well-being and prospects, as specified herein.

58. Defendants employed devices, schemes and artifices to defraud, while in possession of material adverse non-public information and engaged in acts, practices, and a course of conduct as alleged herein in an effort to assure investors of IonQ's value and performance and continued substantial growth, which included the making of, or the participation in the making of, untrue statements of material facts and/or omitting to state material facts necessary in order to make the statements made about IonQ and its business operations and future prospects in light of the circumstances under which they were made, not misleading, as set forth more particularly herein, and engaged in transactions, practices and a course of business which operated as a fraud and deceit upon the purchasers of the Company's securities during the Class Period.

59. Each of the Individual Defendants' primary liability and controlling person liability arises from the following facts: (i) the Individual Defendants were high-level executives and/or directors at the Company during the Class Period and members of the Company's management team or had control thereof; (ii) each of these defendants, by virtue of their responsibilities and activities as a senior officer and/or director of the Company, was privy to and participated in the creation, development and reporting of the Company's internal budgets, plans, projections and/or reports; (iii) each of these defendants enjoyed significant personal contact and familiarity with the other defendants and was advised of, and had access to, other members of the Company's management team, internal reports and other data and information about the Company's finances, operations, and sales at all relevant times; and (iv) each of these defendants was aware of the Company's dissemination of information to the investing public which they knew and/or recklessly disregarded was materially false and misleading.

60. Defendants had actual knowledge of the misrepresentations and/or omissions of material facts set forth herein, or acted with reckless disregard for the truth in that they failed to ascertain and to disclose such facts, even though such facts were available to them. Such defendants' material misrepresentations and/or omissions were done knowingly or recklessly and for the purpose and effect of concealing IonQ's financial well-being and prospects from the investing public and supporting the artificially inflated price of its securities. As demonstrated by Defendants' overstatements and/or misstatements of the Company's business, operations, financial well-being, and prospects throughout the Class Period, Defendants, if they did not have actual knowledge of the misrepresentations and/or omissions alleged, were reckless in failing to obtain such knowledge by deliberately refraining from taking those steps necessary to discover whether those statements were false or misleading.

61. As a result of the dissemination of the materially false and/or misleading information and/or failure to disclose material facts, as set forth above, the market price of IonQ's securities was artificially inflated during the Class Period. In ignorance of the fact that market prices of the Company's securities were artificially inflated, and relying directly or indirectly on the false and misleading statements made by Defendants, or upon the integrity of the market in which the securities trades, and/or in the absence of material adverse information that was known to or recklessly disregarded by Defendants, but not disclosed in public statements by Defendants during the Class Period, Plaintiff and the other members of the Class acquired IonQ's securities during the Class Period at artificially high prices and were damaged thereby.

62. At the time of said misrepresentations and/or omissions, Plaintiff and other members of the Class were ignorant of their falsity, and believed them to be true. Had Plaintiff and the other members of the Class and the marketplace known the truth regarding the problems that IonQ was experiencing, which were not disclosed by Defendants, Plaintiff and other members of the Class would not have purchased or otherwise acquired their IonQ securities, or, if they had acquired such securities during the Class Period, they would not have done so at the artificially inflated prices which they paid.

63. By virtue of the foregoing, Defendants violated Section 10(b) of the Exchange Act and Rule 10b-5 promulgated thereunder.

64. As a direct and proximate result of Defendants' wrongful conduct, Plaintiff and the other members of the Class suffered damages in connection with their respective purchases and sales of the Company's securities during the Class Period.

SECOND CLAIM

Violation of Section 20(a) of The Exchange Act
Against the Individual Defendants

65. Plaintiff repeats and re-alleges each and every allegation contained above as if fully set forth herein.

66. Individual Defendants acted as controlling persons of IonQ within the meaning of Section 20(a) of the Exchange Act as alleged herein. By virtue of their high-level positions and their ownership and contractual rights, participation in, and/or awareness of the Company's operations and intimate knowledge of the false financial statements filed by the Company with the SEC and disseminated to the investing public, Individual Defendants had the power to influence and control and did influence and control, directly or indirectly, the decision-making of the Company, including the content and dissemination of the various statements which Plaintiff contends are false and misleading. Individual Defendants were provided with or had unlimited access to copies of the Company's reports, press releases, public filings, and other statements alleged by Plaintiff to be misleading prior to and/or shortly after these statements were issued and had the ability to prevent the issuance of the statements or cause the statements to be corrected.

67. In particular, Individual Defendants had direct and supervisory involvement in the day-to-day operations of the Company and, therefore, had the power to control or influence the particular transactions giving rise to the securities violations as alleged herein, and exercised the same.

68. As set forth above, IonQ and Individual Defendants each violated Section 10(b) and Rule 10b-5 by their acts and omissions as alleged in this Complaint. By virtue of their position as controlling persons, Individual Defendants are liable pursuant to Section 20(a) of the Exchange Act. As a direct and proximate result of Defendants' wrongful conduct, Plaintiff and other

members of the Class suffered damages in connection with their purchases of the Company's securities during the Class Period.

PRAYER FOR RELIEF

WHEREFORE, Plaintiff prays for relief and judgment, as follows:

(a) Determining that this action is a proper class action under Rule 23 of the Federal Rules of Civil Procedure;

(b) Awarding compensatory damages in favor of Plaintiff and the other Class members against all defendants, jointly and severally, for all damages sustained as a result of Defendants' wrongdoing, in an amount to be proven at trial, including interest thereon;

(c) Awarding Plaintiff and the Class their reasonable costs and expenses incurred in this action, including counsel fees and expert fees; and

(d) Such other and further relief as the Court may deem just and proper.

JURY TRIAL DEMANDED

Plaintiff hereby demands a trial by jury.