

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

Amendment No. 2
To

FORM S-1
REGISTRATION STATEMENT
UNDER THE SECURITIES ACT OF 1933

ATOMERA INCORPORATED

(Exact name of registrant as specified in its charter)

Delaware

(State or other jurisdiction of
incorporation or organization)

3674

(Primary Standard Industrial
Classification Code Number)

30-0509586

(I.R.S. Employer
Identification No.)

**750 University Avenue, Suite 280
Los Gatos, California 95032
(408) 442-5248**

(Address, including zip code, and telephone number,
including area code, of registrant's principal executive offices)

**Scott A. Bibaud
Chief Executive Officer
Atomera Incorporated
750 University Avenue, Suite 280
Los Gatos, California 95032
(408) 442-5248**

(Name, address, including zip code, and telephone number,
including area code, of agent for service)

Copies to:

**Daniel K. Donahue
Greenberg Traurig, LLP
3161 Michelson Drive, Suite 1000
Irvine, California 92612
Telephone: (949) 732-6557**

**Andrew Hudders
Golenbock Eiseman Assor Bell & Peskoe LLP
437 Madison Avenue - 40th Floor
New York, New York 10022
Telephone: (212) 907-7349**

Approximate date of commencement of proposed sale to the public: As soon as practicable after this registration statement becomes effective.

If any of the securities being registered on this Form are to be offered on a delayed or continuous basis pursuant to Rule 415 under the Securities Act of 1933 check the following box.

If this Form is filed to register additional securities for an offering pursuant to Rule 462(b) under the Securities Act, please check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering.

If this Form is a post-effective amendment filed pursuant to Rule 462(c) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering.

If this Form is a post-effective amendment filed pursuant to Rule 462(d) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering.

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or a smaller reporting company. See the definitions of "large accelerated filer," "accelerated filer" and "smaller reporting company" in Rule 12b-2 of the Exchange Act (check one):

Large accelerated filer

Non-accelerated filer

Accelerated filer

Smaller reporting company

(Do not check if a smaller
reporting company)

CALCULATION OF REGISTRATION FEE

Title of Each Class of Securities to be Registered	Proposed Maximum Aggregate Offering Price (1)(2)	Amount of Registration Fee ⁽⁶⁾
Common Stock, \$0.001 par value per share	\$ 27,600,000	\$ 2,779.32
Underwriter Warrant ⁽³⁾⁽⁴⁾⁽⁵⁾	\$ 100	—
Shares of Common Stock underlying Underwriter Warrant	\$ 3,450,000	\$ 347.42

- (1) Estimated solely for the purpose of computing the amount of the registration fee pursuant to Rule 457(o) under the Securities Act of 1933, as amended.
- (2) Includes the aggregate offering price of additional shares that the underwriter has the option to purchase to cover over-allotments, if any.
- (3) No registration fee required pursuant to Rule 457(g) under the Securities Act of 1933.
- (4) Registers a warrant to be granted to the underwriter for an amount equal to 10% of the number of the shares sold to the public. See “Underwriting” on page 40 of the prospectus contained within this registration statement for information on underwriting arrangements relating to this offering.
- (5) Pursuant to Rule 416 under the Securities Act of 1933, this registration statement shall be deemed to cover the additional securities (i) to be offered or issued in connection with any provision of any securities purported to be registered hereby to be offered pursuant to terms which provide for a change in the amount of securities being offered or issued to prevent dilution resulting from stock splits, stock dividends, or similar transactions and (ii) of the same class as the securities covered by this registration statement issued or issuable prior to completion of the distribution of the securities covered by this registration statement as a result of a split of, or a stock dividend on, the registered securities.
- (6) Previously paid.

The Registrant hereby amends this Registration Statement on such date or dates as may be necessary to delay its effective date until the Registrant shall file a further amendment, which specifically states that this Registration Statement shall thereafter become effective in accordance with Section 8(a) of the Securities Act of 1933 or until the Registration Statement shall become effective on such date as the Securities and Exchange Commission, acting pursuant to said Section 8(a), may determine.

EXPLANATORY NOTE

This Amendment No. 2 (Amendment No. 2) to the Registration Statement on Form S-1 (File No. 333-212353) of Atomera Incorporated (Registration Statement) is being filed solely for the purpose of filing an exhibit as indicated in Part II of this Amendment No. 2. This Amendment No. 2 does not modify any provision of the prospectus that forms a part of the Registration Statement. Accordingly, a preliminary prospectus has been omitted.

PART II

INFORMATION NOT REQUIRED IN PROSPECTUS

ITEM 13. OTHER EXPENSES OF ISSUANCE AND DISTRIBUTION

The following table sets forth the various expenses to be incurred in connection with the sale and distribution of our common stock being registered hereby, all of which will be borne by us (except any underwriting discounts and commissions and expenses incurred for brokerage, accounting, tax or legal services or any other expenses incurred in disposing of the shares). All amounts shown are estimates except the SEC registration fee.

SEC Filing Fee	\$	3,126.74
FINRA Fee	\$	4,640.00
Underwriter's Legal Fees and Expenses.	\$	185,000.00
Nasdaq Fee	\$	50,000.00
Printing Expenses	\$	15,000.00
Accounting Fees and Expenses	\$	175,000.00
Legal Fees and Expenses	\$	225,000.00
Transfer Agent and Registrar Expenses	\$	15,000.00
Miscellaneous	\$	<u>27,233.26</u>
Total	\$	<u>700,000.00</u>

ITEM 14. INDEMNIFICATION OF DIRECTORS AND OFFICERS

The following summary is qualified in its entirety by reference to the complete text of any statutes referred to below and the certificate of incorporation of Atomera Incorporated, a Delaware corporation.

Section 145 of the General Corporation Law of the State of Delaware (the "DGCL") permits a Delaware corporation to indemnify any person who was or is a party or is threatened to be made a party to any threatened, pending or completed action, suit or proceeding, whether civil, criminal, administrative or investigative (other than an action by or in the right of the corporation) by reason of the fact that the person is or was a director, officer, employee or agent of the corporation, or is or was serving at the request of the corporation as a director, officer, employee or agent of another corporation, partnership, joint venture, trust or other enterprise, against expenses (including attorneys' fees), judgments, fines and amounts paid in settlement actually and reasonably incurred by the person in connection with such action, suit or proceeding if the person acted in good faith and in a manner the person reasonably believed to be in or not opposed to the best interests of the corporation, and, with respect to any criminal action or proceeding, had no reasonable cause to believe the person's conduct was unlawful.

In the case of an action by or in the right of the corporation, Section 145 of the DGCL permits a Delaware corporation to indemnify any person who was or is a party or is threatened to be made a party to any threatened, pending or completed action or suit by reason of the fact that the person is or was a director, officer, employee or agent of the corporation, or is or was serving at the request of the corporation as a director, officer, employee or agent of another corporation, partnership, joint venture, trust or other enterprise, against expenses (including attorneys' fees) actually and reasonably incurred by the person in connection with such action, suit or proceeding if the person acted in good faith and in a manner the person reasonably believed to be in or not opposed to the best interests of the corporation and except that no indemnification shall be made in respect of any claim, issue or matter as to which such person shall have been adjudged to be liable to the corporation unless and only to the extent that the Court of Chancery or the court in which such action or suit was brought shall determine upon application that, despite the adjudication of liability but in view of all the circumstances of the case, such person is fairly and reasonably entitled to indemnity for such expenses that the Court of Chancery or such other court shall deem proper.

Section 145 of the DGCL also permits a Delaware corporation to purchase and maintain insurance on behalf of any person who is or was a director, officer, employee or agent of the corporation, or is or was serving at the request of the corporation as a director, officer, employee or agent of another corporation, partnership, joint venture, trust or other enterprise against any liability asserted against such person and incurred by such person in any such capacity, or arising out of such person's status as such, whether or not the corporation would have the power to indemnify such person against such liability under Section 145 of the DGCL.

Article Sixth of our Amended and Restated Certificate of Incorporation states that to the fullest extent permitted by the DGCL our directors shall not be personally liable to us or to our stockholders for monetary damages for breach of fiduciary duty as a director. If the DGCL is amended after the date hereof to authorize corporate action further eliminating or limiting the personal liability of directors, then the liability of our directors shall be eliminated or limited to the fullest extent permitted by the DGCL, as so amended.

Article Seventh of our Amended and Restated Certificate of Incorporation requires us, to the fullest extent permitted by applicable law, to provide indemnification of (and advancement of expenses to) our directors and officers, and authorizes us, to the fullest extent permitted by applicable law, to provide indemnification of (and advancement of expenses to) to other employees and agents (and any other persons to which the DGCL permits us to provide indemnification) through bylaw provisions, agreements with such directors, officers, employees, agents or other persons, vote of stockholders or disinterested directors or otherwise, subject only to limits created by the DGCL with respect to actions for breach of duty to our corporation, our stockholders and others.

Article Seventh of our Amended and Restated Certificate of Incorporation provides that we shall, to the maximum extent and in the manner permitted by the DGCL, indemnify each of our directors and officers against expenses (including attorneys' fees), judgments, fines, settlements and other amounts actually and reasonably incurred in connection with any proceeding, arising by reason of the fact that such person is or was a director of the Company. Article Seventh of our Amended and Restated Certificate of Incorporation also provides that we may, to the maximum extent and in the manner permitted by the DGCL, indemnify each of our employees, officers and agents against expenses (including attorneys' fees), judgments, fines, settlements and other amounts actually and reasonably incurred in connection with any proceeding, arising by reason of the fact that such person is or was an employee, officer or agent of the Company. The right to indemnification conferred by Article Seventh includes the right to be paid by us the expenses incurred in defending any action or proceeding for which indemnification is required or permitted following authorization thereof by the board of directors shall be paid in advance of the final disposition of such action or proceeding upon receipt of an undertaking by or on behalf of the indemnified party to repay such amount if it shall ultimately be determined by final judicial decision from which there is no further right to appeal that the indemnified party is not entitled to be indemnified as authorized in Article Seventh of our Amended and Restated Certificate of Incorporation. We may maintain insurance, at our expense, to protect the Company and any of our directors, officers, employees or agents against any such expense, liability or loss, whether or not we have the power to indemnify such person.

Prior to the closing of this offering we plan to enter into an underwriting agreement, which will provide that the underwriters are obligated, under some circumstances, to indemnify our directors, officers and controlling persons against specified liabilities.

ITEM 15. RECENT SALES OF UNREGISTERED SECURITIES

Since November 1, 2012, we issued the following securities without registration under the Securities Act of 1933, as amended.

In December 2012 through February 2013, we sold 411,090 shares of our common stock to 53 accredited investors at a price of \$3.75 per share. The issuances were exempt pursuant to Section 4(a)(2) of the Securities Act and Rule 506 thereunder.

On February 9, 2015, we issued to Liquid Patent Consulting, LLC warrants to purchase 198,767 shares of our common stock at an exercise price of \$0.15 per share over a five-year term. The issuance was exempt pursuant to Section 4(a)(2) of the Securities Act.

From 2012 through 2014, we conducted an offering of convertible promissory notes, which we refer to as our previously issued promissory notes, to 59 accredited investors for cash consideration of \$6,666,828. On March 17, 2015, we consummated an offering of \$14.75 million in principal amount of our senior secured convertible promissory notes for cash consideration of \$7.4 million and an exchange of the previously issued promissory notes, which at the time of exchange represented of \$7.35 million of indebtedness, including \$689,381 of accrued interest. On April 1, 2016, we completed the private placement of an additional \$5.96 million in senior secured convertible notes on the same terms as the promissory notes placed in March 2015. We refer to these promissory notes as the "convertible notes." Interest accrues on the unpaid principal amount under the convertible notes at the rate of ten percent (10%) per year, except during any event of default under the convertible notes in which case the interest rate shall be twelve percent (12%) per year. All principal and interest under the convertible notes are due and payable on May 31, 2017. All principal and interest under the convertible notes are convertible into shares of our common stock upon the close of the offering to which this registration statement relates at a conversion price equal to 50% of the public offering price. The notes were issued pursuant to Section 4(a)(2) of the Securities Act and Rule 506 thereunder. All of the investors were accredited investors as such term is defined in Rule 501 under the Securities Act.

National Securities Corporation acted as placement agent in connection with the March 2015 and April 2016 placements of convertible notes. We paid National Securities Corporation a 10% selling commission on all convertible notes sold by National Securities. We also issued to National Securities warrants to purchase shares of our common stock equal to 10% of our common stock issuable upon conversion of the convertible notes in the original principal amount of \$11,750,338, our representing the notes sold by National Securities in the March 2015 and April 2016 placements at an exercise price equal to the note conversion price of \$3.75 per share. The warrant issuances were exempt pursuant to Section 4(a)(2) of the Securities Act. In June 2016, and prior to any exercise of the warrants, National Securities elected to cancel the warrant to purchase 116,741 shares of common stock, in full and for no consideration, issued to National Securities in connection with the April 2016 placement.

We believe the offers, sales and issuances of the above securities by us were exempt from registration under the Securities Act by virtue of Section 4(a)(2) of the Securities Act as transactions not involving a public offering. The recipients of the securities in each of these transactions represented their intentions to acquire the securities for investment only and not with a view to or for sale in connection with any distribution thereof, and appropriate legends were placed upon the stock certificates, notes and warrants issued in these transactions. All recipients had adequate access, through their relationships with us, to information about our Company. The sales of these securities were made without any general solicitation or advertising.

Between October 28, 2015 and December 7, 2015, we conducted an offer to exchange with the holders of our outstanding options and warrants pursuant to which we offered to issue to such holders one share of our common stock for every option or warrant to purchase two shares of our common stock. In the exchange, the holders of options representing the right to purchase 166,231 shares of our common stock exchanged those options for 83,115 shares of our common stock (after adjustments for fractional shares) and the holders of warrants to purchase 602,103 shares of our common stock exchanged those warrants for 301,052 shares of our common stock (after adjustments for fractional shares). The offer to exchange was conducted by our management and no commissions or other remuneration was paid to our management or anyone else in the offer to exchange. The holders of options and warrants were not required to provide any consideration other than the options or warrants delivered in the exchange. The offer to exchange and the issuance of shares of common stock in the exchange were exempt pursuant to Section 3(a)(9) of the Securities Act.

ITEM 16. EXHIBITS

Exhibit No.	Description of Document
1.1*	Form of Underwriting Agreement
3.1*	Amended and Restated Certificate of Incorporation of the Registrant
3.2*	Amended and Restated Bylaws of the Registrant
3.3*	Certificate of Amendment to Certificate of Incorporation of the Registrant
3.4*	Certificate of Amendment to Certificate of Incorporation of the Registrant
4.1*	Specimen Certificate representing shares of common stock of Registrant
4.2*	Warrant dated February 9, 2015 issued to Liquid Patent Advisors, LLC
4.3*	Form of Senior Secured Convertible Promissory Note issued by the Registrant to investors in the offering completed on March 17, 2015
4.4*	Warrant dated March 17, 2015 issued to National Securities Corporation
4.5*	Form of Senior Secured Convertible Promissory Note issued by the Registrant to investors in the offering completed on April 1, 2016
4.6*	Form of Underwriter's Warrant
5.1	Opinion of Greenberg Traurig, LLP regarding the validity of the common stock being registered
10.1*	Secured Promissory Note dated January 14, 2005 made by Dr. Robert Mears
10.2*	Pledge and Security Agreement dated January 14, 2005 between Dr. Robert Mears and the Registrant
10.3*	Assignment of Patent Rights dated April 3, 2009 between Dr. Robert Mears and the Registrant
10.4*	License Agreement dated December 22, 2006 between ASM International, NV and the Registrant
10.5+*	2007 Stock Incentive Plan
10.6*	Exclusive License and Collaboration Agreement dated March 3, 2010 between K2 Energy Limited and the Registrant
10.7*	Letter Agreement dated June 6, 2014 between K2 Energy Limited and the Registrant
10.8*	Amendment No. 1 dated March 11, 2015 to Third Amended and Restated Investor Rights Agreement dated November 11, 2011
10.9*	Engagement Agreement dated October 10, 2014 between Liquid Venture Partners, LLC and the Registrant
10.10*	Engagement Agreement dated February 9, 2015 between Liquid Patent Advisors, LLC and the Registrant
10.11*	Securities Purchase Agreement dated March 17, 2015 between the Purchasers of Senior Secured Convertible Promissory Notes and the Registrant

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Exhibit No.	Description of Document
10.12*	Registration Rights Agreement dated March 17, 2015 between the Purchasers of Senior Secured Convertible Promissory Notes and the Registrant
10.13*	Security Agreement dated March 17, 2015 between the Purchasers of Senior Secured Convertible Promissory Notes and the Registrant
10.14+*	Executive Employment Agreement dated October 16, 2015 between Scott Bibaud and the Registrant
10.15*	Allonge to Secured Promissory Note dated December 4, 2015 between Dr. Robert Mears and the Registrant
10.16+*	Employment Agreement dated January 1, 2016 between Erwin Trautmann and the Registrant
10.17+*	Employment Agreement dated January 1, 2016 between Ron Cope and the Registrant
10.18+*	Employment Agreement dated January 13, 2016 between Dr. Robert Mears and the Registrant
10.19+*	Letter Agreement regarding loan forgiveness dated January 13, 2016 between Dr. Robert Mears and the Registrant
10.20*	Lease Agreement dated January 19, 2016 between 750 University, LLC and the Registrant
10.21+*	Employment Agreement dated February 23, 2016 between Francis Laurencio and the Registrant
10.22+*	Amendment No. 1 dated February 26, 2016 to Employment Agreement dated October 12, 2015 between Scott Bibaud and the Registrant
10.23*	Consent and Amendment Agreement dated April 1, 2016 between the Purchasers of the March 2015 Senior Secured Convertible Promissory Notes and the Registrant
10.24*	Securities Purchase Agreement dated April 1, 2016 between the Purchasers of Senior Secured Convertible Promissory Notes and the Registrant
10.25*	Amended and Restated Registration Rights Agreement dated April 1, 2016 between the Purchasers of Senior Secured Convertible Promissory Notes and the Registrant
10.26*	Amended and Restated Security Agreement dated April 1, 2016 between the Purchasers of Senior Secured Convertible Promissory Notes and the Registrant
10.27+*	Form of Restricted Stock Agreement
21.1*	List of Subsidiaries
23.1*	Consent of Marcum LLP, Independent Registered Public Accounting Firm

23.2	Consent of Greenberg Traurig, LLP (included in Exhibit 5.1)
24.1*	Power of Attorney (included on page II-5)

* Previously filed

+ Indicates management compensatory plan, contract or arrangement

ITEM 17. UNDERTAKINGS

The undersigned registrant hereby undertake to provide to the underwriter at the closing specified in the underwriting agreements, certificates in such denominations and registered in such names as required by the underwriters to permit prompt delivery to each purchaser.

Insofar as indemnification for liabilities arising under the Securities Act of 1933 may be permitted to directors, officers and controlling persons of the registrant pursuant to the foregoing provisions, or otherwise, the registrant has been advised that in the opinion of the Securities and Exchange Commission such indemnification is against public policy as expressed in the Securities Act and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the registrant of expenses incurred or paid by a director, officer or controlling person of the registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, the registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Securities Act and will be governed by the final adjudication of such issue.

The undersigned registrant undertakes that:

- (1) For purposes of determining any liability under the Securities Act, the information omitted from the form of prospectus as filed as part of this registration statement in reliance upon Rule 430A and contained in a form of prospectus filed by the registrant pursuant to Rule 424(b)(1) or (4) or 497(h) under the Securities Act shall be deemed to be part of this registration statement as of the time it was declared effective.
- (2) For the purpose of determining any liability under the Securities Act, each post-effective amendment that contains a form of prospectus shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, the registrant has duly caused this Amendment No. 2 to Registration Statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Los Gatos, California, on this 3rd day of August 2016.

ATOMERA INCORPORATED

/s/ Scott A. Bibaud
Scott A. Bibaud
Chief Executive Officer and Director
(Principal Executive Officer)

Pursuant to the requirements of the Securities Act of 1933, this Amendment No. 2 to Registration Statement on Form S-1 has been signed by the following persons in the capacities and on the dates indicated.

<u>Signature</u>	<u>Title</u>	<u>Date</u>
<u>/s/ *</u> John Gerber	Chairman of the Board of Directors	August 3, 2016
<u>/s/ Scott A. Bibaud</u> Scott A. Bibaud	Chief Executive Officer and Director (Principal Executive Officer)	August 3, 2016
<u>/s/ Francis Laurencio</u> Francis Laurencio	Chief Financial Officer (Principal Financial and Accounting Officer)	August 3, 2016
<u>/s/ *</u> Erwin Trautmann	Director	August 3, 2016
<u>/s/ *</u> C. Rinn Cleavelin, Ph.D.	Director	August 3, 2016
<u>/s/ *</u> Rolf Stadheim	Director	August 3, 2016

*By: /s/ Scott A. Bibaud
Scott A. Bibaud
Attorney-in-fact

GREENBERG TRAURIG, LLP
3161 Michelson Drive, Suite 1000
Irvine, California 92612

August 3, 2016

Atomera Incorporated
750 University Avenue, Suite 280
Los Gatos, California 95032

Re: Registration Statement on Form S-1

Ladies and Gentlemen:

We have acted as counsel to Atomera Incorporated, a Delaware corporation (the “**Company**”), in connection with the Registration Statement on Form S-1 (File No. 333-212353) (the “**Registration Statement**”) filed with the Securities and Exchange Commission under the Securities Act of 1933, as amended, for the registration of (i) up to 3,680,000 shares (the “**Common Shares**”) of the Company’s \$0.001 par value common stock (“**Common Stock**”); (ii) a warrant to purchase up to 368,000 shares of Common Stock to be issued to the underwriter (the “**Underwriter’s Warrant**”); and (iii) up to 368,000 shares of Common Stock underlying the Underwriter’s Warrant (the “**Underlying Shares**”).

You have requested our opinion as to the matters set forth below in connection with the Registration Statement. For purposes of rendering this opinion, we have examined the Registration Statement, forms of the Amended and Restated Certificate of Incorporation and Amended and Restated By-laws of the Company currently in effect, the Underwriter’s Warrant, and the corporate action of the Company that provides for the issuance of the Common Shares and execution of the Underwriter’s Warrant, and we have made such other investigation as we have deemed appropriate. We have examined and relied upon certificates of public officials and, as to certain matters of fact that are material to our opinion, we have also relied on a certificate of an officer of the Company. We have not independently verified the matters set forth in such certificates.

We express no opinion herein as to the laws of any state or jurisdiction other than the General Corporation Law of the State of Delaware, the laws of the State of New York and the federal laws of the United States of America.

Based upon and subject to the foregoing, it is our opinion that the Common Shares are duly authorized for issuance by the Company and, when issued and paid for as described in the Registration Statement, will be validly issued, fully paid and non-assessable.

Based upon and subject to the foregoing, it is our opinion that the Underwriter’s Warrant has been duly authorized for issuance by the Company and, when issued in conformity with and pursuant to the Registration Statement, will be validly issued, fully paid and non-assessable.

Based upon and subject to the foregoing, it is our opinion that the Underlying Shares have been duly authorized for issuance by the Company and, upon exercise and payment of the exercise price therefor in accordance with the terms of the Underwriter’s Warrant, will be validly issued, fully paid and non-assessable.

Based upon and subject to the foregoing, it is our opinion that the Underwriter’s Warrant is a binding obligation of the Company under the laws of the jurisdiction governing the Underwriter’s Warrant.

We hereby consent to the filing of this opinion as an exhibit to the Registration Statement and to the reference to our name under the caption “Legal Matters” in the prospectus made part of the Registration Statement.

Very truly yours,

/s/ GREENBERG TRAURIG, LLP
