

ELUTIA INC.

18,577,644 Shares Class A Common Stock Offered by the Selling Securityholders

This prospectus supplement updates and amends the prospectus dated December 4, 2023, which forms a part of our registration statement on Form S-3 (No. 333-275666) filed with the Securities and Exchange Commission on November 20, 2023.

The prospectus and this prospectus supplement relate to the resale of 18,577,644 shares in the aggregate of Class A common stock. We will not receive any proceeds from the sale of our Class A common stock by the selling securityholders.

This prospectus supplement should be read in conjunction with the prospectus, which is to be delivered with this prospectus supplement. This prospectus supplement updates, amends and supplements the information included or incorporated by reference in the prospectus. If there is any inconsistency between the information in the prospectus and this prospectus supplement, you should rely on the information in this prospectus supplement.

INVESTING IN OUR SECURITIES INVOLVES RISKS. SEE THE "RISK FACTORS" ON PAGE 9 OF THE PROSPECTUS AND ANY SIMILAR SECTION CONTAINED IN THE APPLICABLE PROSPECTUS SUPPLEMENT CONCERNING FACTORS YOU SHOULD CONSIDER BEFORE INVESTING IN OUR SECURITIES.

Our Class A common stock is listed on the Nasdaq Capital Market under the symbol "ELUT." On February 13, 2024, the last reported sale price of our Class A common stock on the Nasdaq Capital Market was \$3.89 per share.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or passed upon the adequacy or accuracy of this prospectus. Any representation to the contrary is a criminal offense.

SELLING SECURITYHOLDERS

This prospectus supplement is filed for the purpose of including selling securityholders who have acquired shares of our Class A common stock (the "Shares"), including Shares underlying warrants to acquire such shares ("Common Warrants"), from a previously identified selling securityholder whose Shares were registered for resale in the registration statement, and to update certain information with respect to other previously identified selling securityholders.

According to Amendment #3 to its Schedule 13D filed on January 9, 2024, effective December 28, 2023, Elutia PIPE Investment, LP, a limited partnership affiliated with HighCape, distributed all of its Shares, including 1,436,077 already issued Shares and Common Warrants to acquire 2,154,116 Shares, in a pro rata distribution to its limited partners without payment of consideration by such limited partners (the "Distribution"). The limited partners are now included in the selling securityholder table below.

The numbers of Shares beneficially owned by the selling securityholders and the maximum numbers that be sold in the offering shown in the update table below are less than the original 18,577,644 Shares registered for resale in the registration statement due to resales by the selling securityholders. The information in the following table has been provided to us by or on behalf of the selling securityholders and the selling securityholders may have sold, transferred or otherwise disposed of all or a portion of their securities after the date on which they provided us with information regarding their securities.

The percentage of beneficial ownership after the offered Shares are sold is calculated based on 19,881,212 shares of Class A common stock outstanding as of February 2, 2024. The selling securityholders table included under the section "Selling Securityholders," which begins on page 17 of the prospectus, is revised to amend the information as follows:

Maximum

Selling Securityholder	Class A Common Stock Beneficially Owned Before this Offering		Maximum Number of Shares of Class A Common Stock to be Sold Pursuant to this Prospectus	Class A Common Stock Beneficially Owned Upon Completion of this Offering	
	Number	Percentage	Number	Number	Percentage
Entities affiliated with HighCape(1)	9,191,039	41.81%	3,502,628	5,688,411	25.88%
Entities affiliated with AIGH Capital Management LLC ⁽²⁾	1,886,556	9.43%	4,903,675	_	*
Entities affiliated with Nantahala Capital Management ⁽³⁾	2,023,439	9.99%	4,728,971	_	*
Alyeska Master Fund, L.P. (4)	893,445	4.30%	893,445	_	*
Knollwood Investment Fund LLC(5)	875,657	4.40%	875,657	_	*
Amur Investments Ltd ⁽⁶⁾	350,263	1.74%	350,263	_	*
Sahar Benenson ⁽⁷⁾	350,263	1.74%	350,263	_	*
Elayne Landau ⁽⁸⁾	262,697	1.31%	262,697	_	*
XRiver Corp. (9)	262,697	1.31%	262,697	_	*
Matthew Ferguson (10)	335,247	1.67%	175,133	160,114	*
SWK Funding LLC (11)	187,969	*	187,969	_	*
Antony Loebel ⁽¹²⁾	175,132	*	175,132	_	*
Jay A Brammer Family Partnership Ltd ⁽¹³⁾	175,132	*	175,132	_	*
Jay A. Brammer ⁽¹⁴⁾	175,132	*	175,132	_	*
The Nash Family Trust ⁽¹⁵⁾	175,132	*	175,132	_	*
Wayne Judkins ⁽¹⁶⁾	175,132	*	175,132	_	*
Woodford Farm Trust(17)	175,132	*	175,132		*
Kloof Capital Limited ⁽¹⁸⁾	131,348	*	131,348	_	*
The Baker Family Trust dtd 8/24/2011 ⁽¹⁹⁾	131,348	*	131,348	_	*
Dean Tozer ⁽²⁰⁾	87,565	*	87,565	_	*
LGK Investments LLC(21)	87,565	*	87,565	_	*

- * Less than 1%.
- (1) Includes: (i) 53,818 shares of Class A common stock held of record by HighCape Partners, L.P.; (ii) 4,001,428 shares of Class A common stock held of record by HighCape Partners QP, L.P.; (iii) 499,145 shares of Class A common stock held of record by HighCape Co-Investment Vehicle I, LLC; (iv) 259,282 shares of Class A common stock held of record by HighCape Co-Investment Vehicle II, LLC; (v) 48,931 shares of Class A common stock held of record by HighCape Capital, L.P.; (vi) 43,659 shares of Class A common stock held of record by HighCape Partners II, L.P. (of which 28,636 are part of the maximum number of shares to be sold under this prospectus (the "Offering Maximum"); and (vii) 2,092,392 shares of Class A common stock held of record by HighCape Partners QP II, L.P. (of which 1,372,415 are part of the Offering Maximum). The amount beneficially owned by Kevin Rakin also includes 90,807 shares of Class A common stock held of record by the Kevin L. Rakin Irrevocable Trust. Also includes: (i) 2,058,623 shares of Class A common stock issuable upon the exercise of Common Warrants held of record by HighCape Partners QP II, L.P., and (ii) 42,954 shares of Class A common stock issuable upon the exercise of Common Warrants held of record by HighCape Partners II, L.P., all of which are part of the Offering Maximum. Mr. Rakin and W. Matthew Zuga are the managing members of HighCape Partners GP, LLC, which in turn is the general partner of HighCape Partners GP, L.P., which in turn is the general partner of each of HighCape Partners, L.P. and HighCape Partners QP, L.P. and manages each of HighCape Co-Investment Vehicle I, LLC and HighCape Co-Investment Vehicle II, LLC. Mr. Rakin and Mr. Zuga are the managing members of HighCape Capital, LLC, which in turn is the general partner of HighCape Capital, L.P. Mr. Rakin and Mr. Zuga are the managing members of HighCape Partners GP II, LLC, which is the general partner of HighCape Partners GP II, L.P., which is the general partner of each of HighCape Partners II, L.P. and HighCape Partners QP II, L.P.. Each of Mr. Rakin, Mr. Zuga, HighCape Partners GP, LLC and HighCape Partners GP, L.P. may be deemed to beneficially own the securities held of record by HighCape Partners, L.P., HighCape Partners QP, L.P., HighCape Co-Investment Vehicle I, LLC and HighCape Co-Investment Vehicle II, LLC. Mr. Rakin, Mr. Zuga and HighCape Capital, LLC may be deemed to beneficially own the securities held of record by HighCape Capital, L.P. In addition, each of Mr. Rakin, Mr. Zuga, HighCape Partners GP II, LLC and HighCape Partners GP II, L.P. may be deemed to beneficially own the securities held by HighCape Partners II, L.P., and HighCape Partners QP II, L.P.. Mr. Rakin may be deemed to beneficially own the securities held of record by the Kevin L. Rakin Irrevocable Trust. Each of the Reporting Persons disclaims beneficial ownership of the securities held by the other Reporting Persons. The address for HighCape is 36 Church Lane, Westport, CT
- (2) Based on information provided by the securityholders as updated by Amendment No. 1 to their Schedule 13G filed on February 7, 2024, includes (a) 1,766,556 shares of Class A common stock issued and outstanding, comprised of (i) 1,329,990 shares of Class A common stock held by AIGH Investment Partners, L.P.; (ii) 342,058 shares of Class A common stock held by WVP Emerging Manager Onshore Fund, LLC — AIGH Series; and (iii) 94,508 shares of Class A common stock held by WVP Emerging Manager Onshore Fund, LLC — Optimized Equity Series, and (b) approximately 120,000 shares of Class A common stock issuable in the aggregate by the aforementioned entities upon the exercise of Common Warrants. Excludes approximately 2,822,205 shares of Class A common stock issuable in the aggregate upon the exercise of remaining Common Warrants held in aggregate by AIGH Investment Partners, LP, WVP Emerging Manager Onshore Fund, LLC — AIGH Series, and WVP Emerging Manager Onshore Fund, LLC — Optimized Equity Series (which shares are registered for sale in the registration statement), because such shares may not be acquired by the selling securityholders within 60 days due to the 9.99% Beneficial Ownership Limitation cap described in the prospectus. The actual number of Shares the securityholders may acquire through the exercise of Common Warrants varies from time to time due to changes in Elutia's outstanding Shares, and the amount of Shares the securityholders may currently acquire through the exercise of Common Warrants may consequently be higher than as reported in the securityholders' Schedule 13G amendment due to increases in Elutia's outstanding Shares. Mr. Orin Hirschman is the managing member of AIGH Capital Management, LLC, a Maryland limited liability company ("AIGH CM"), who is an advisor with respect to the securities held by AIGH Investment Partners, L.P. ("AIGH LP"). AIGH CM is also a sub-advisor with respect to the securities held by WVP Emerging Manager Onshore Fund, LLC — AIGH

- Series and a sub-advisor with respect to the securities held by WVP Emerging Manager Onshore Fund, LLC Optimized Equity Series. Mr. Hirschman has voting and investment control over the securities indirectly held by AIGH CM, directly held by AIGH LP and directly held by Mr. Hirschman and his family. The address for AIGH CM, AIGH LP and Mr. Hirschman is 6006 Berkeley Avenue, Baltimore, Maryland 21209.
- (3) Includes (a) 1,650,000 shares of Class A common stock issued and outstanding, comprised of (i) 286,446 shares of Class A common stock held by Nantahala Capital Partners Limited Partnership, (ii) 327,434 shares of Class A common stock held by NCP RFM LP, and (iii) 1,036,120 shares of Class A common stock held by Blackwell Partners LLC — Series A, and (b) approximately 373,439 shares of Class A common stock issuable in the aggregate by the aforementioned entities upon the exercise of either Pre-Funded Warrants or Common Warrants. Excludes approximately 2,705,532 shares of Class A common stock issuable in the aggregate upon the exercise of remaining Pre-Funded Warrants and Common Warrants held in aggregate by Nantahala Capital Partners Limited Partnership, NCP RFM LP and Blackwell Partners LLC — Series A (which shares are registered for sale in this registration statement), because such shares may not be acquired by the selling securityholders within 60 days due to the 9.99% Beneficial Ownership Limitation cap. The actual number of Shares the securityholders may acquire through the exercise of Common Warrants varies from time to time due to changes in Elutia's outstanding Shares. Nantahala Capital Management, LLC ("Nantahala") is a registered investment adviser and has been delegated the legal power to vote and/or direct the disposition of such securities on behalf of the selling securityholders as a General Partner, Investment Manager, or Sub-Advisor and would be considered the beneficial owner of such securities. The above shall not be deemed to be an admission by the record owners or the selling securityholder that they are themselves beneficial owners of these securities for purposes of Section 13(d) of the Securities Exchange Act of 1934, as amended, or any other purpose. Wilmot Harkey and Daniel Mack are managing members of Nantahala Capital Management, LLC and may be deemed to have voting and dispositive power over the shares held by the selling securityholder. The address for Nantahala is 130 Main Street 2nd Floor, New Canaan, CT 06840.
- (4) Includes 893,445 shares of Class A common stock issuable upon the exercise of Common Warrants. Alyeska Investment Group, L.P., the investment manager of Alyeska Master Fund, L.P. (the "Selling Securityholder"), has voting and investment control of the shares held by the Selling Securityholder. The general partner of the Selling Securityholder is Alyeska Fund GP, LLC. Anand Parekh is the Chief Executive Officer of Alyeska Investment Group, L.P. and may be deemed to be the beneficial owner of such shares. Mr. Parekh, however, disclaims any beneficial ownership of the shares held by the Selling Securityholder. The registered address of Alyeska Master Fund, L.P. is at c/o Maples Corporate Services Limited, P.O. Box 309, Ugland House, South Church Street George Town, Grand Cayman, KY1-1104, Cayman Islands. Alyeska Investment Group, L.P. is located at 77 W. Wacker, Suite 700, Chicago IL 60601.
- (5) Includes, pursuant to the Distribution, 875,657 shares of Class A common stock issued and outstanding. Knollwood Investment Advisory, LLC is the Managing Member of Knollwood Investment Fund LLC. Kevin D. Irwin is the President of Knollwood Investment Advisory, LLC and has the power to vote or dispose of the shares held by Knollwood Investment Fund LLC. The address of the selling securityholder is 217 International Cir., Hunt Valley, MD 21030.
- (6) Includes, pursuant to the Distribution, (a) 140,105 shares of Class A common stock issued and outstanding and (b) 210,158 shares of Class A common stock issuable upon the exercise of Common Warrants. The address of the selling securityholder is Earl Fiduciary AG c/o Amur Investments Limited General Wille-Strasse 10, CH-8002 Zurich, Switzerland.
- (7) Includes, pursuant to the Distribution, (a) 140,105 shares of Class A common stock issued and outstanding and (b) 210,158 shares of Class A common stock issuable upon the exercise of Common Warrants. The address of the selling securityholder is 17320 Ponte Chiasso Drive, Boca Raton, Florida 33496.
- (8) Includes, pursuant to the Distribution, (a) 105,079 shares of Class A common stock issued and outstanding and (b) 157,618 shares of Class A common stock issuable upon the exercise of Common Warrants. The address of the selling securityholder is 45 Compo Beach Road, Westport, CT 06880.
- (9) Includes, pursuant to the Distribution, (a) 105,079 shares of Class A common stock issued and

- outstanding and (b) 157,618 shares of Class A common stock issuable upon the exercise of Common Warrants. James A. Coyne, CEO of XRiver Corp., holds voting and investment control over such shares. The address of the selling securityholder is 55 N Water St., Suite 4, Norwalk, CT 06854.
- (10) Includes (a) 120,519 shares of Class A common stock issued and outstanding, (b) 105,080 shares of Class A common stock issuable upon the exercise of Common Warrants, (c) 108,360 shares of Common Stock issuable upon the exercise of certain outstanding options to purchase Class A common stock that are either vested now or vest within the next 60 days and (d) 1,288 restricted stock units vesting and settling within the next 60 days. Mr. Ferguson is Chief Financial Officer of the Company. The address for Mr. Ferguson is 393 La Cuesta Drive, Portola Valley, CA 94028.
- (11) Represents 187,969 shares of Class A common stock issuable upon the exercise of the SWK Common Warrant. SWK Funding LLC is managed by its sole member, SWK Holdings Corporation. Joe D. Staggs, chief executive officer of SWK Holdings Corporation, holds voting and investment control over such shares. The address of the selling securityholder is 5956 Sherry Lane, Suite 650, Dallas, TX 75225.
- (12) Includes, pursuant to the Distribution, (a) 70,053 shares of Class A common stock issued and outstanding and (b) 105,079 shares of Class A common stock issuable upon the exercise of Common Warrants. The address of the selling securityholder is 18 Beach Ave., Larchmont, NY 10538.
- (13) Includes, pursuant to the Distribution, (a) 70,053 shares of Class A common stock issued and outstanding and (b) 105,079 shares of Class A common stock issuable upon the exercise of Common Warrants. Abigail L. Brammer Quicoho, General Partner of Jay A Brammer Family Partnership Ltd., holds voting and investment control over such shares. The address of the selling securityholder is 10585 N. Meridian St. Suite 210, Carmel, IN 46290.
- (14) Includes, pursuant to the Distribution, (a) 70,053 shares of Class A common stock issued and outstanding and (b) 105,079 shares of Class A common stock issuable upon the exercise of Common Warrants. The address of the selling securityholder is 10948 Lake Front Dr., Indianapolis, IN 46236.
- (15) Includes, pursuant to the Distribution, 175,132 shares of Class A common stock issued and outstanding. John Cash and Caroline Nash, Trustees of The Nash Family Trust, hold voting and investment control over such shares. The address of the selling securityholder is The Old Rectory, Ewelme, Wallingford, Oxfordshire, OX106HP.
- (16) Includes, pursuant to the Distribution, (a) 70,053 shares of Class A common stock issued and outstanding and (b) 105,079 shares of Class A common stock issuable upon the exercise of Common Warrants. The address of the selling securityholder is 26511 Presquile Dr. S, Easton, MD 21601.
- (17) Includes, pursuant to the Distribution, (a) 70,053 shares of Class A common stock issued and outstanding and (b) 105,079 shares of Class A common stock issuable upon the exercise of Common Warrants. Joseph W. Alsop, Trustee of the Woodford Farm Trust, holds voting and investment control over such shares. The address of the selling securityholder is 800 South Street, Suite 255, Waltham, MA 02453.
- (18) Includes, pursuant to the Distribution, (a) 52,539 shares of Class A common stock issued and outstanding and (b) 78,809 shares of Class A common stock issuable upon the exercise of Common Warrants. Ritchie Linden is the Chair of Board of Directors of Guardian Trust Company Limited, which in turn is the Trustee of Kloof Family Trust, which in turn is the sole owner of Kloof Capital Limited. The address of the selling securityholder is Geneva Place, 2nd Floor, 333 Waterfront Drive, Road Town, Tortola, BVI.
- (19) Includes, pursuant to the Distribution, (a) 52,539 shares of Class A common stock issued and outstanding and (b) 78,809 shares of Class A common stock issuable upon the exercise of Common Warrants. David Baker, Trustee of The Baker Family Trust dtd 8/24/2011, holds voting and investment control over such shares. The address of the selling securityholder is 174 Hillspoint Road, Westport, CT 06880.
- (20) Includes, pursuant to the Distribution, (a) 35,026 shares of Class A common stock issued and outstanding and (b) 52,539 shares of Class A common stock issuable upon the exercise of Common Warrants. The address of the selling securityholder is 3503 General Bate Dr., Nashville, TN 37204.

(21) Includes, pursuant to the Distribution, (a) 35,026 shares of Class A common stock issued and outstanding and (b) 52,539 shares of Class A common stock issuable upon the exercise of Common Warrants. Peter Rosenberg, Protector of the sole member Trust of LGK Investments LLC, holds voting and investment control over such shares. The address of the selling securityholder is 1700 Market Street, Suite 3010, Philadelphia PA 19103.