

Prospectus Supplement No. 1 dated October 7, 2025
(to Prospectus dated September 23, 2025)

Filed Pursuant to Rule 424(b)(3)
Registration No. 333-282855



flyExclusive, Inc.

5,102,000 SHARES OF CLASS A COMMON STOCK

UNDERLYING OUR SERIES B CONVERTIBLE PREFERRED STOCK

5,000,000 SHARES OF CLASS A COMMON STOCK UNDERLYING WARRANTS

This prospectus supplement updates, amends and supplements the prospectus dated September 23, 2025 (as supplemented or amended from time to time, the “Prospectus”), which forms a part of our Registration Statement on Form S-3 (Registration No. 333-282855). Capitalized terms used in this prospectus supplement and not otherwise defined herein have the meanings specified in the Prospectus.

This prospectus supplement is being filed to replace the section of the Prospectus titled “ABOUT THIS PROSPECTUS” in its entirety as set forth below:

ABOUT THIS PROSPECTUS

This prospectus contains summaries of certain provisions contained in some of the documents described herein, but reference is made to the actual documents for complete information. Copies of some of the documents referred to herein have been filed or are incorporated by reference as exhibits to the registration statement of which this prospectus is a part, and you may obtain copies of those documents as described below under the heading “*Where You Can Find Additional Information.*”

You should carefully read this prospectus, any applicable prospectus supplement, the information and documents incorporated herein and therein by reference and the additional information under the heading “*Where You Can Find Additional Information*” and “*Incorporation of Documents by Reference*” before making an investment decision.

You should rely only on the information we have provided or incorporated by reference in this prospectus or any prospectus supplement. We have not authorized anyone to provide you with information different from that contained or incorporated by reference in this prospectus or any prospectus supplement. No dealer, salesperson or other person is authorized to give any information or to represent anything not contained or incorporated by reference in this prospectus or any prospectus supplement. You must not rely on any unauthorized information or representation. This prospectus is an offer to sell only the securities offered hereby, but only under circumstances and in jurisdictions where it is lawful to do so. You should assume that the information in this prospectus or any prospectus supplement is accurate only as of the date on the front of the document and that any information we have incorporated herein or therein by reference is accurate only as of the date of the document incorporated by reference, regardless of the time of delivery of this prospectus and any prospectus supplement or any sale of a security.

To the extent there are inconsistencies between this prospectus, any prospectus supplement and any documents incorporated by reference, the document with the most recent date will control.

Unless the context indicates otherwise, references in this prospectus to “flyExclusive”, “Company”, “we”, “us” and “our” refer to flyExclusive, Inc. and its direct and indirect subsidiaries.

This document contains references to trademarks and service marks belonging to other entities. Solely for convenience, trademarks and trade names referred to in this prospectus or any prospectus supplement may appear without the ® or ™ symbols, but such references are not intended to indicate, in any way, that the applicable licensor will not assert, to the fullest extent under applicable law, its rights to these trademarks and trade names. We do not intend our use or display of other companies' trade names, trademarks or service marks to imply a relationship with, or endorsement or sponsorship of us by, any other companies.

This prospectus supplement is not complete without the Prospectus and is not complete without, and may not be delivered or utilized except in combination with, the Prospectus, including any amendments or supplements thereto. This prospectus supplement should be read in conjunction with the Prospectus and 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.

Our Class A Common Stock is listed on The NYSE American LLC ("NYSE American") under the symbol "FLYX." The last reported closing price for our Class A Common Stock on NYSE American on October 6, 2025 was \$4.35 per share.

Investing in our securities involves a high degree of risk. See "Risk Factors" beginning on page 5 of the Prospectus for a discussion of information that should be considered in connection with an investment in our securities.

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

The date of this prospectus supplement is October 7, 2025
