ARES INDUSTRIAL REAL ESTATE INCOME TRUST INC. SUPPLEMENT NO. 2 DATED MAY 5, 2022 TO THE PROSPECTUS DATED FEBRUARY 11, 2022

This prospectus supplement ("Supplement") is part of and should be read in conjunction with the prospectus of Ares Industrial Real Estate Income Trust Inc. (the "Company"), dated February 11, 2022 (the "Prospectus"), as supplemented by Supplement No. 1, dated April 14, 2022. Unless otherwise defined herein, capitalized terms used in this Supplement shall have the same meanings as in the Prospectus.

The purpose of this Supplement is to disclose:

• updated information regarding the Advisory Agreement.

• ADVISORY AGREEMENT

Effective as of May 1, 2022, we, the Operating Partnership and the Advisor renewed the Advisory Agreement (2022), dated as of February 11, 2022, for an additional one-year term by entering into the Amended and Restated Advisory Agreement (2022) (the "Amended and Restated Advisory Agreement"). The Advisory Agreement (2022) was amended and restated in order to clarify that the Advisor may engage third parties to perform the property accounting services described on page 159 of the Prospectus and may also perform property accounting services in situations where we may not wholly-own a property, such as when we own a property through a joint venture. In addition, the Amended and Restated Advisory Agreement clarifies certain types of expenses that may be reimbursed to the Advisor in connection with the services provided by the Advisor pursuant to the agreement. Further, the Amended and Restated Advisory Agreement makes clear that our indemnification obligations to the Advisor extend to any liabilities, claims, damages or losses arising under any agreements related to an offering. The terms of the Amended and Restated Advisory Agreement are otherwise substantially the same as the terms of the prior version of the agreement.

Accordingly, all references in the Prospectus to the Advisory Agreement for periods on and after May 1, 2022 pertain to the Amended and Restated Advisory Agreement.