ARES INDUSTRIAL REAL ESTATE INCOME TRUST INC. SUPPLEMENT NO. 12 DATED FEBRUARY 14, 2023 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. dated February 11, 2022, as supplemented by Supplement No. 1, dated April 14, 2022, Supplement No. 2, dated May 5, 2022, Supplement No. 3, dated May 13, 2022, Supplement No. 4, dated June 15, 2022, Supplement No. 5, dated July 15, 2022, Supplement No. 6, dated August 15, 2022, Supplement No. 7, dated September 15, 2022, Supplement No. 8, dated October 14, 2022, Supplement No. 9, dated November 15, 2022, Supplement No. 10, dated December 15, 2022, and Supplement No. 11, dated January 13, 2023 (the "Prospectus"). 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:

- the transaction price and offering price for each class of our common stock for subscriptions to be accepted as of March 1, 2023;
- the calculation of our January 31, 2023 net asset value ("NAV") per share, as determined in accordance with our valuation procedures, for each of our share classes;
- the status of this offering;
- updated information regarding distributions;
- an update on our assets and performance;
- an update to directors and executive officers;
- an update to the Combined Industrial Advisors Committee;
- updated share redemption program information; and
- updated experts information.

• MARCH 1, 2023 TRANSACTION PRICE

The transaction price for each share class of our common stock for subscriptions to be accepted as of March 1, 2023 (and distribution reinvestment plan issuances following the close of business on February 28, 2023 and share redemptions as of February 28, 2023) is as follows:

Share Class	Transaction Price (per share)	Offering Price (per share)
Class T	\$ 15.1512	\$ 15.8651
Class D	\$ 15.1512	\$ 15.1512
Class I	\$ 15.1512	\$ 15.1512

The transaction price for each of our share classes is equal to such class's NAV per share as of January 31, 2023. A calculation of the NAV per share is set forth in the section of this Supplement titled "January 31, 2023 NAV Per Share." The offering price of our common stock for each share class equals the transaction price of such class, plus applicable upfront selling commissions and dealer manager fees.

• JANUARY 31, 2023 NAV PER SHARE

Our board of directors, including a majority of our independent directors, has adopted valuation procedures, as amended from time to time, that contain a comprehensive set of methodologies to be used in connection with the calculation of our NAV. Our most recent NAV per share for each share class, which is updated as of the last calendar day of each month, is posted on our website at www.areswmsresources.com/investment-solutions/AIREIT and is also available on our toll-free, automated telephone line at (888) 310-9352. With the approval of our board of directors, including a majority of our independent directors, we have engaged Altus Group U.S. Inc., a third-party valuation firm, to serve as our independent valuation advisor ("Altus Group" or the

"Independent Valuation Advisor") with respect to helping us administer the valuation and review process for the real properties in our portfolio, providing monthly real property appraisals, reviewing annual third-party real property appraisals, providing monthly valuations of our debt-related assets (excluding DST Program Loans), reviewing the internal valuations of DST Program Loans and debt-related liabilities performed by Ares Commercial Real Estate Management LLC (our "Advisor"), providing quarterly valuations of our properties subject to master lease obligations associated with the DST Program, and assisting in the development and review of our valuation procedures.

As used below, "Fund Interests" means our outstanding shares of common stock, along with the partnership units in our operating partnership ("OP Units"), which may be or were held directly or indirectly by the Advisor, our former sponsor, members or affiliates of our former sponsor, and third parties, and "Aggregate Fund NAV" means the NAV of all the Fund Interests.

The following table sets forth the components of Aggregate Fund NAV as of January 31, 2023 and December 31, 2022:

	As of			
(in thousands)		January 31, 2023		December 31, 2022
Investments in industrial properties	\$	8,897,250	\$	8,917,900
Investment in unconsolidated joint venture partnership		23,085		22,815
Investments in real estate-related securities		59,725		60,033
DST Program Loans		149,705		146,728
Cash and cash equivalents		124,740		79,524
Other assets		71,695		72,478
Line of credit, term loans and mortgage notes		(2,984,380)		(2,854,397)
Financing obligations associated with our DST Program		(1,284,860)		(1,269,491)
Other liabilities		(153,875)		(163,320)
Accrued performance participation allocation		_		(140,505)
Accrued fixed component of advisory fee		(6,434)		(6,371)
Aggregate Fund NAV	\$	4,896,651	\$	4,865,394
Total Fund Interests outstanding		323,186		318,741

The following table sets forth the NAV per Fund Interest as of January 31, 2023 and December 31, 2022:

(in thousands, except per Fund Interest data)	Total	Class T Shares	Class D Shares	Class I Shares	OP Units
As of January 31, 2023					
Monthly NAV	\$ 4,896,651	\$ 3,385,902	\$ 314,449	\$ 1,065,423	\$ 130,877
Fund Interests outstanding	323,186	223,474	20,754	70,320	8,638
NAV Per Fund Interest	\$ 15.1512	\$ 15.1512	\$ 15.1512	\$ 15.1512	\$ 15.1512
As of December 31, 2022					
Monthly NAV	\$ 4,865,394	\$ 3,469,072	\$ 314,092	\$ 1,013,040	\$ 69,190
Fund Interests outstanding	318,741	227,265	20,577	66,367	4,532
NAV Per Fund Interest	\$ 15.2644	\$ 15.2644	\$ 15.2644	\$ 15.2644	\$ 15.2644

Under GAAP, we record liabilities for ongoing distribution fees that (i) we currently owe the Dealer Manager under the terms of the dealer manager agreement and (ii) we estimate we may pay to the Dealer Manager in future periods for the Fund Interests. As of January 31, 2023, we estimated approximately \$92.9 million of ongoing distribution fees were potentially payable to the Dealer Manager. We do not deduct the liability for estimated future distribution fees in our calculation of NAV since we intend for our NAV to reflect our estimated value on the date that we determine our NAV. Accordingly, our estimated NAV at any given time does not include consideration of any estimated future distribution fees that may become payable after such date.

We include no discounts to our NAV for the illiquid nature of our shares, including the limitations on our stockholders' ability to redeem shares under our share redemption program and our ability to modify or suspend our share redemption program at any time. Our NAV generally does not reflect the potential impact of exit costs (e.g. selling costs and commissions related to the sale of a property) that would likely be incurred if our assets and liabilities were liquidated or sold today. While we may use market pricing concepts to value individual components of our NAV, our per share NAV is not derived from the market pricing information of open-end real estate funds listed on stock exchanges.

Our NAV is not a representation, warranty or guarantee that: (i) we would fully realize our NAV upon a sale of our assets; (ii) shares of our common stock would trade at our per share NAV on a national securities exchange; and (iii) a stockholder would be able to realize the per share NAV if such stockholder attempted to sell his or her shares to a third party.

The valuations of our real properties as of January 31, 2023, excluding certain newly acquired properties that are currently held at cost which we believe reflects the fair value of such properties, were provided by the Independent Valuation Advisor in accordance with our valuation procedures. Certain key assumptions that were used by the Independent Valuation Advisor in the discounted cash flow analysis are set forth in the following table:

	Weighted- Average Basis
Exit capitalization rate	5.0 %
Discount rate / internal rate of return	6.1 %
Average holding period (years)	10.1

A change in the exit capitalization and discount rates used would impact the calculation of the value of our real property. For example, assuming all other factors remain constant, the changes listed below would result in the following effects on the value of our real properties, excluding certain newly acquired properties that are currently held at cost which we believe reflects the fair value of such properties:

		(Decrease) to
Input	Hypothetical Change	the Fair Value of Real Properties
Exit capitalization rate (weighted-average)	0.25 % decrease	3.7 %
	0.25 % increase	(3.3)%
Discount rate (weighted-average)	0.25 % decrease	2.1 %
	0.25 % increase	(2.0)%

From November 1, 2017 through January 31, 2020, we valued our debt-related investments and real estate-related liabilities generally in accordance with fair value standards under GAAP. Beginning with our valuation for February 29, 2020, our property-level mortgages and corporate-level credit facilities that are intended to be held to maturity (which for fixed rate debt not subject to interest rate hedges may be the date near maturity at which time the debt will be eligible for prepayment at par for purposes herein), including those subject to interest rate hedges, were valued at par (i.e. at their respective outstanding balances). In addition, because we utilize interest rate hedges to stabilize interest payments (i.e. to fix all-in interest rates through interest rate swaps or to limit interest rate exposure through interest rate caps) on individual loans, each loan and associated interest rate hedge is treated as one financial instrument which is valued at par if intended to be held to maturity. This policy of valuing at par applies regardless of whether any given interest rate hedge is considered as an asset or liability for GAAP purposes. Notwithstanding, if we acquire an investment and assume associated in-place debt from the seller that is above or below market, then consistent with how we recognize assumed debt for GAAP purposes when acquiring an asset with pre-existing debt in place, the liabilities used in the determination of our NAV will include the market value of such debt based on market value as of the closing date. The associated premium or discount on such debt as of closing that is reflected in our liabilities will then be amortized through loan maturity. Per our valuation policy, the corresponding investment is valued on an unlevered basis for purposes of determining NAV. Accordingly, all else equal, we would not recognize an immediate gain or loss to our NAV upon acquisition of an investment whereby we assume associated pre-existing debt that is above or below market. As of January 31, 2023, we classified all of our debt as intended to be held to maturity, and our liabilities included mark-to-market adjustments for pre-existing debt that we assumed upon acquisition.

STATUS OF THIS OFFERING

As of February 1, 2023, we had raised gross proceeds of approximately \$1.5 billion from the sale of approximately 110.1 million shares in this offering, including proceeds from our distribution reinvestment plan of approximately \$111.8 million. As of February 1, 2023, approximately \$3.5 billion in shares remained available for sale pursuant to this offering, including approximately \$1.1 billion in shares available for sale through our distribution reinvestment plan. We may reallocate amounts between the primary offering and our distribution reinvestment plan. We previously announced that we fully satisfied all stockholder redemption requests in January in the ordinary course. Additionally, we continued to experience positive net inflows in January from proceeds of our capital raising efforts, including from the DST Program.

• DISTRIBUTIONS

We have declared monthly distributions for each class of our common stock. To date, each class of our common stock has received the same gross distribution per share. Monthly gross distributions were \$0.0454 per share for each share class for the month of January 2023 and were paid to all stockholders of record as of the close of business on January 31, 2023. The net distribution per share is calculated as the gross distribution per share less any distribution fees that are payable monthly with respect to Class T shares and Class D shares. Since distribution fees are not paid with respect to Class I shares, the net distributions payable with respect to Class I shares are equal to the gross distributions payable with respect to Class I shares. The table below details the net distributions for each class of our common stock for the period presented:

Net Distributions per Share							
			Class T		Class D		Class I
Month	Pay Date	Share			Share	Share	
January 2023	2/1/2023	\$	0.035	\$	0.042	\$	0.045

• UPDATE ON OUR ASSETS AND PERFORMANCE

As of January 31, 2023, our leverage ratio was approximately 31.8% (calculated as outstanding principal balance of our borrowings less cash and cash equivalents, divided by the fair value of our real property, our net investment in an unconsolidated joint venture partnership and investments in real estate-related securities, as determined in accordance with our valuation procedures).

As of January 31, 2023, we directly owned and managed a real estate portfolio that included 243 industrial buildings totaling approximately 50.2 million square feet located in 29 markets throughout the U.S., with 421 customers, and was 98.0% occupied (98.9% leased) with a weighted-average remaining lease term (based on square feet) of 4.2 years. The occupied rate reflects the square footage with a paying customer in place. The leased rate includes the occupied square footage and additional square footage with leases in place that have not yet commenced.

The following table sets forth the total shareholder returns for the periods ended January 31, 2023:

	Trailing One-Month (1)	Year-to-Date (1)	One-Year (Trailing 12- Months)(1)	Since NAV Inception Annualized (1)(2)(3)
Class T Share Total Return	_			
(without sales charge) (3)	(0.51)%	(0.51)%	21.46 %	12.75 %
Class T Share Total Return (with				
sales charge) (3)	(4.99)%	(4.99)%	16.00 %	11.76 %
Class D Share Total Return (3)	(0.47)%	(0.47)%	22.15 %	14.53 %
Class I Share Total Return (3)	(0.45)%	(0.45)%	22.45 %	13.79 %

- (1) Performance is measured by total return, which includes income and appreciation (i.e., distributions and changes in NAV) and reinvestment of all distributions ("Total Return") for the respective time period. Past performance is not a guarantee of future results. Performance data quoted above is historical. Current performance may be higher or lower than the performance data quoted. Actual individual stockholder returns will vary. The returns have been prepared using unaudited data and valuations of the underlying investments in our portfolio, which are estimates of fair value and form the basis for our NAV. Valuations based upon unaudited or estimated reports from the underlying investments may be subject to later adjustments or revisions, may not correspond to realized value and may not accurately reflect the price at which assets could be liquidated on any given day.
- (2) The inception date for Class I shares and Class T shares was November 1, 2017, which is when shares of our common stock were first issued to third-party investors in our initial public offering. The inception date for Class D shares (formerly designated as Class W shares) was July 2, 2018, which is when Class D shares of common stock were first issued to third-party investors.
- (3) The Total Returns presented are based on the actual NAVs at which stockholders transacted, calculated pursuant to our valuation procedures. With respect to the "Class T Share Total Return (with sales charge)," the Total Returns are calculated assuming the stockholder also paid the maximum upfront selling commission, dealer manager fee and ongoing distribution fees in effect during the time period indicated. With respect to "Class T Share Total Return (without sales change)," the Total Returns are calculated assuming the stockholder did not pay any upfront selling commission or dealer manager fee, but did pay the maximum ongoing distribution fees in effect during the time period indicated. From NAV inception to January 31, 2020, these NAVs reflected mark-to-market adjustments on our borrowing-related debt instruments and our borrowing-related interest rate hedge positions. See Item 5 in Part II of our Annual Report on Form 10-K for the year ended December 31, 2021 for additional information on the impact of not continuing to mark these instruments to market on the calculation of our Total Returns.

• UPDATES TO DIRECTORS AND EXECUTIVE OFFICERS

The following disclosure updates the disclosure in "Management—Directors and Executive Officers" section of the Prospectus and all other similar disclosure.

Changes to the Board of Directors

On February 10, 2023, Evan Zucker informed Ares and the Company that, having successfully transitioned the Black Creek Group business sold to Ares in 2021, he is leaving to pursue other opportunities. Accordingly, he submitted his resignation as a member of our board of directors.

In order to fill the vacancy created by Mr. Zucker's departure, the board of directors appointed William S. Benjamin as a director effective February 10, 2023. Mr. Benjamin will hold office until his successor is duly elected or appointed and qualifies or until his earlier death, resignation or removal in the manner set forth in the Company's bylaws. In addition, and in connection with Mr. Zucker's departure, the board of directors appointed Mr. Benjamin and Dwight L. Merriman III as Co-Chairs of the board of directors effective February 10, 2023.

Mr. Benjamin, age 59, is a Partner and Head of Ares Real Assets Group and a member of the Executive Management Committee of Ares Management. Additionally, Mr. Benjamin serves on the Ares Real Estate Group Global Investment Committee and Ares Real Estate Debt Investment Committee. Mr. Benjamin is also on the Board of Directors of Ares Commercial Real Estate Corporation, where he has been Chairman of the Board since 2018. In 2013, Mr. Benjamin joined Ares through its acquisition of AREA Property Partners, where he was a Senior Partner from 1995 to 2013. Mr. Benjamin joined the predecessor of AREA Property Partners from Bankers Trust Corp in 1995, where he worked in the Real Estate Finance Group since 1986. Mr. Benjamin graduated from Harvard with a Bachelor of Arts degree and holds a Master of Business Administration degree from University of Pennsylvania, Wharton School.

We believe that Mr. Benjamin's qualifications to serve on our board of directors include his extensive experience in the global commercial real estate markets and as a senior real estate executive. This experience will enable him to provide our board of directors with leadership and financial expertise as well as insight into the current status of the global real estate and financial markets.

Changes to our Executive Officers

Additionally, on February 10, 2023, Mr. Rajat Dhanda informed the Company that although he will continue as a member of the board of directors, he will step down as Partner, Co-President of the Company. In connection with this announcement, on February 10, 2023, the board of directors appointed David M. Fazekas as Partner, Co-President of the Company effective immediately. Jeffrey W. Taylor will continue to serve as Partner, Co-President and principal executive officer of the Company.

Mr. Fazekas, age 49, is a Partner and Chief Investment Officer of Industrial in Ares Real Estate, where he focuses on U.S. industrial real estate equity. During the past five years, Mr. Fazekas has also held similar leadership roles at other companies sponsored by affiliates of Black Creek Group, including Industrial Property Trust Inc., DC Industrial Liquidating Trust and Industrial Income Trust Inc. From 2008 through September 2010, Mr. Fazekas served as the Senior Vice President and Project Principal for Panattoni Development Company Inc., a leading development company that leases and owns industrial, office and retail properties in more than 175 cities throughout the U.S., Canada and Europe. From 2007 to 2008, he was the Director of Acquisitions for ZAIS Group LLC, which during his tenure managed over \$11 billion of assets across a wide spectrum of investment platforms. Prior to ZAIS, Mr. Fazekas spent six years as the Director of Real Estate Acquisitions for RREEF Deutsche Bank, one of the largest real estate investment advisors in the world. Early in his career, he served as the Vice President of Acquisitions for Delma Properties, Inc. Mr. Fazekas holds a B.S. from Rutgers University in Business and Economics and an M.S. from New York University in Real Estate Finance and Investments.

• CHANGES TO THE COMBINED INDUSTRIAL ADVISORS COMMITTEE

The following supersedes and replaces the fifth sentence in the last paragraph beginning on page 137 of the Prospectus in the section titled "Management—Delegation of Authority to Combined Industrial Advisors Committee."

The Combined Industrial Advisors Committee is currently comprised of William S. Benjamin, David M. Fazekas, Andrea L. Karp, Brian R. Lange, Thomas G. McGonagle, Dwight L. Merriman III, Lainie P. Minnick, David A. Roth, Scott A. Seager, Julie Solomon, Jeffrey W. Taylor, Scott W. Recknor, and Joshua J. Widoff. Mr. Merriman is the Chairman of the Combined Industrial Advisors Committee.

• UPDATES TO SHARE REDEMPTION PROGRAM

The following disclosure updates the similar information in the "Description of Capital Stock—Share Redemption Program" section of the Prospectus and all similar information:

In connection with the changes to our officers and directors described above, on February 10, 2023, a majority of the independent directors designated Dwight L. Merriman III, David M. Fazekas, William S. Benjamin, Brian R. Lange and Rajat Dhanda as the "key persons" under our share redemption program.

EXPERTS

The statements included in this Supplement under the section titled "January 31, 2023 NAV Per Share" relating to the role of Altus Group U.S. Inc., have been reviewed by Altus Group U.S. Inc., an independent valuation advisor, and are included in this Supplement given the authority of such advisor as experts in real estate valuations.