

Prospectus Supplement

John Hancock Investment Trust (the Trust)
John Hancock ESG Large Cap Core Fund

Supplement dated June 26, 2025 to the current Summary Prospectus, as may be supplemented (the Summary Prospectus)

At its meeting held on June 24-26, 2025, the Board of Trustees (the Board) of the Trust, of which John Hancock ESG Large Cap Core Fund (ESG Large Cap Core Fund) is a series, voted to recommend that the shareholders of ESG Large Cap Core Fund approve a reorganization, that is expected to be tax-free, of ESG Large Cap Core Fund into John Hancock Fundamental Large Cap Core Fund (Fundamental Large Cap Core Fund, and together with ESG Large Cap Core Fund, the funds), also a series of the Trust, as described below (the Reorganization). Shareholders of record as of September 11, 2025, will be entitled to vote on the Reorganization.

Under the terms of the Reorganization, subject to shareholder approval at a shareholder meeting scheduled to be held on or about December 10, 2025, ESG Large Cap Core Fund would transfer all of its assets to Fundamental Large Cap Core Fund in exchange for corresponding shares of Fundamental Large Cap Core Fund. Fundamental Large Cap Core Fund would assume all liabilities of ESG Large Cap Core Fund. The corresponding shares of Fundamental Large Cap Core Fund would then be distributed to shareholders of ESG Large Cap Core Fund, and ESG Large Cap Core Fund would be terminated. If approved by shareholders of ESG Large Cap Core Fund, the Reorganization is expected to occur as of the close of business on or about January 9, 2026 (the Closing Date). Further information regarding the proposed Reorganization will be contained in a proxy statement and prospectus, which is expected to be available on or about September 18, 2025.

ESG Large Cap Core Fund will remain open to purchases and redemptions from existing shareholders until the Closing Date. ESG Large Cap Core Fund will not accept orders from new investors to purchase shares of ESG Large Cap Core Fund, effective as of the close of business on July 28, 2025. However, discretionary fee-based advisory programs, certain retirement accounts and/or model portfolios that include ESG Large Cap Core Fund as an investment option as of the close of business July 28, 2025, may continue to make ESG Large Cap Core Fund shares available to new and existing accounts.

Prior to the Reorganization, any dividends paid will be paid in accordance with the current dividend option of an account; accounts in which the dividend reinvestment option has been chosen will receive any dividends in the form of additional shares of ESG Large Cap Core Fund.

To satisfy an Internal Revenue Service requirement, ESG Large Cap Core Fund hereby designates the maximum amount of the net long-term gains earned, if any, as a capital gain dividend, with respect to the final taxable year for ESG Large Cap Core Fund. Please refer to Form 1099-DIV for tax reporting purposes.

The foregoing is not an offer to sell, nor a solicitation of an offer to buy, any shares in connection with the Reorganization, nor is it a solicitation of any proxy. For important information regarding ESG Large Cap Core Fund or Fundamental Large Cap Core Fund, or to receive a free copy of the proxy statement/prospectus relating to the proposed merger, once it is available, please call the funds' toll-free telephone number: 800-225-5291 (Class A, Class C, Class I, Class R2, Class R4, Class R5, or Class R6) or 800-344-1029 (Class NAV). The proxy statement/prospectus contains important information about fund objectives, strategies, fees, expenses, risks, and the Board's considerations in approving the Reorganization. The proxy statement/prospectus also will be available for free on the SEC's website (www.sec.gov). Please read the proxy statement/prospectus carefully before making any decision to invest in any shares in connection with the Reorganization or when considering whether to vote for the Reorganization.

You should read this supplement in conjunction with the Summary Prospectus and retain it for your future reference.

Prospectus Supplement

John Hancock Investment Trust

John Hancock ESG Large Cap Core Fund (the fund)

Supplement dated June 6, 2025 to the current Summary Prospectus, as may be supplemented (the Summary Prospectus)

As of December 31, 2026 (the Effective Date), Cheryl I. Smith, Ph.D., CFA, will no longer serve as a portfolio manager of the fund. As of the Effective Date, Kathleen Bochman, CFA, and Mitali Prasad, CFA, will continue to serve as portfolio managers of the fund and will be jointly and primarily responsible for the day-to-day management of the fund's portfolio. Accordingly, as of the Effective Date, all references to Ms. Smith will be removed from the Summary Prospectus.

You should read this supplement in conjunction with the Summary Prospectus and retain it for your future reference.

Summary prospectus

John Hancock ESG Large Cap Core Fund

Before you invest, you may want to review the fund's prospectus, which contains more information about the fund and its risks. You can find the fund's prospectus and other information about the fund, including the Statement of Additional Information and most recent reports, online at www.jhinvestments.com/prospectuses. You can also get this information at no cost by calling 800-225-5291 (Class A and Class C) or 888-972-8696 (Class I and Class R6) or by sending an email request to info@jhinvestments.com. The fund's prospectus and Statement of Additional Information, both dated March 1, 2025, as may be supplemented, and most recent financial highlights information included in the shareholder report, dated October 31, 2024, are incorporated by reference into this summary prospectus.

Tickers

A: JHJAX C: JHJCX I: JHJIX R6: JHJRX

Investment objective

To seek long-term capital appreciation.

Fees and expenses

This table describes the fees and expenses you may pay if you buy, hold, and sell shares of the fund. **You may pay other fees, such as brokerage commissions and other fees to financial intermediaries, which are not reflected in the tables and examples below.** You may qualify for sales charge discounts on Class A shares if you and your family invest, or agree to invest in the future, at least \$50,000 in the John Hancock family of funds. Intermediaries may have different policies and procedures regarding the availability of front-end sales charge waivers or contingent deferred sales charge (CDSC) waivers (See Appendix 1 - Intermediary sales charge waivers, which includes information about specific sales charge waivers applicable to the intermediaries identified therein). More information about these and other discounts is available from your financial professional and beginning on page 18 of the prospectus under "Sales charge reductions and waivers" or page 122 of the fund's Statement of Additional Information under "Sales Charges on Class A and Class C Shares."

Shareholder fees (%) (fees paid directly from your investment)

	A	C	I	R6
Maximum front-end sales charge (load) on purchases, as a % of purchase price	5.00	None	None	None
Maximum deferred sales charge (load) as a % of purchase or sale price, whichever is less	1.00 (on certain purchases, including those of \$1 million or more)	1.00	None	None
Small account fee (for fund account balances under \$1,000) (\$)	20	20	None	None

Annual fund operating expenses (%) (expenses that you pay each year as a percentage of the value of your investment)

	A	C	I	R6
Management fee	0.75	0.75	0.75	0.75
Distribution and service (Rule 12b-1) fees	0.25	1.00	0.00	0.00
Other expenses	0.33	0.33	0.33	0.22
Total annual fund operating expenses	1.33	2.08	1.08	0.97
Contractual expense reimbursement	-0.21 ¹	-0.21 ¹	-0.21 ¹	-0.21 ¹
Total annual fund operating expenses after expense reimbursements	1.12	1.87	0.87	0.76

- The advisor contractually agrees to reduce its management fee or, if necessary, make payment to the fund in an amount equal to the amount by which expenses of the fund exceed 0.75% of average daily net assets of the fund. For purposes of this agreement, "expenses of the fund" means all fund expenses, excluding (a) taxes, (b) brokerage commissions, (c) interest expense, (d) litigation and indemnification expenses and other extraordinary expenses not incurred in the ordinary course of the fund's business, (e) class-specific expenses, (f) borrowing costs, (g) prime brokerage fees, (h) acquired fund fees and expenses paid indirectly, and (i) short dividend expense. This agreement expires on February 28, 2026, unless renewed by mutual agreement of the fund and the advisor based upon a determination that this is appropriate under the circumstances at that time. The advisor also contractually agrees to waive a portion of its management fee and/or reimburse expenses for the fund and certain other John Hancock funds according to an asset level breakpoint schedule that is based on the aggregate net assets of all the funds participating in the waiver or reimbursement, including the fund (the participating portfolios). This waiver equals, on an annualized basis, 0.0100% of that portion of the aggregate net assets of all the participating portfolios that exceeds \$75 billion but is less than or equal to \$125 billion; 0.0125% of that portion of the aggregate net assets of all the participating portfolios that exceeds \$125 billion but is less than or equal to \$150 billion; 0.0150% of that portion of the aggregate net assets of all the participating portfolios that exceeds \$150 billion but is less than or equal to \$175 billion; 0.0175% of that portion of the aggregate net assets of all the participating portfolios that exceeds \$175 billion but is less than or equal to \$200 billion; 0.0200% of that portion of the aggregate net assets of all the participating portfolios that exceeds \$200 billion but is less than or equal to \$225 billion; and 0.0225% of that portion of the aggregate net assets of all the participating portfolios that exceeds \$225 billion. The amount of the reimbursement is calculated daily and allocated among all the participating portfolios in proportion to the daily net assets of each

John Hancock ESG Large Cap Core Fund

participating portfolio. During its most recent fiscal year, the fund's reimbursement amounted to 0.01% of the fund's average daily net assets. This agreement expires on July 31, 2026, unless renewed by mutual agreement of the fund and the advisor based upon a determination that this is appropriate under the circumstances at that time.

Expense example

This example is intended to help you compare the cost of investing in the fund with the cost of investing in other mutual funds. Please see below a hypothetical example showing the expenses of a \$10,000 investment for the time periods indicated and then, except as shown below, assuming you sell all of your shares at the end of those periods. The example assumes a 5% average annual return and that fund expenses will not change over the periods. Although your actual costs may be higher or lower, based on these assumptions, your costs would be:

Expenses (\$)	Shares Sold				Shares Not Sold
	A	C	I	R6	C
1 year	608	290	89	78	190
3 years	881	632	323	288	632
5 years	1,173	1,099	575	516	1,099
10 years	2,004	2,202	1,298	1,171	2,202

Portfolio turnover

The fund pays transaction costs, such as commissions, when it buys and sells securities (or “turns over” its portfolio). A higher portfolio turnover rate may indicate higher transaction costs and may result in higher taxes when fund shares are held in a taxable account. These costs, which are not reflected in annual fund operating expenses or in the example, affect the fund's performance. During its most recent fiscal year, the fund's portfolio turnover rate was 30% of the average value of its portfolio.

Principal investment strategies

Under normal market conditions, the fund invests at least 80% of its net assets (plus any borrowings for investment purposes) in equity securities of large-capitalization companies or sectors that meet the manager's sustainability criteria. The fund considers large-capitalization companies to be those companies in the capitalization range of the S&P 500 Index, which was approximately \$5.77 billion to \$3,785 billion as of December 31, 2024. Equity securities include common and preferred stocks and their equivalents. The manager seeks companies meeting its sustainability criteria with high quality characteristics including strong environmental, social, and governance (ESG) records.

The manager employs a bottom-up financial analysis that includes a review of ESG issues and how they may impact stock valuation or performance. ESG factors reflect a variety of key sustainability issues that can influence company risks and opportunities and span a range of metrics including board diversity, climate change policies, and supply chain and human rights policies. Companies that meet the manager's ESG requirements or sustainability criteria typically have strong sustainability data and policy reporting, for example publishing a comprehensive corporate sustainability report. The fund may also invest up to 20% of its total assets in the equity securities of foreign issuers, including American Depositary Receipts (ADRs) and Global Depositary Receipts (GDRs). The fund may focus its investments in a particular sector or sectors of the economy. The manager may sell stocks for several reasons, including when the stock no longer meets the manager's ESG or sustainability criteria, or when the stock declines in value and no longer reflects the manager's investment thesis. As part of its ESG analysis, the manager currently identifies certain industries and business activities as too environmentally risky or as presenting social outcomes that are too unattractive to warrant investment consideration. The manager employs qualitative and quantitative screens to exclude or restrict these types of investments. The fund does not invest in companies that are primarily engaged in fossil fuel production or fossil fuel-powered generation based on a company's total gross revenue unless the company demonstrates a plan to transition to a low carbon business model that the manager finds credible. At a minimum, to be considered for investment, these companies must derive a material portion of current revenue from renewable energy or enabling technology and have no commitments to invest in new fossil fuel exploration, production, storage, transport (excluding distribution), trading, or refining capacity, new fossil fuel-based power generation without emissions capture, or new nuclear power generation. The fund will not invest in any companies that derive a material proportion of their total gross revenue from business activities related to agricultural biotechnology, coal and certain types of mining, pornography, private prisons, tar sands (e.g., oil sands), arctic drilling, tobacco, casinos and gaming, and weapons/firearms. The fund also will not invest in any companies with major recent or ongoing controversies involving animal welfare, environmental, governance, human rights, product safety, or workplace matters. When assessing a controversy, the manager will consider the potential for a controversy to adversely impact a company's financial performance or cause harm to the company's stakeholders.

The manager employs active shareowner engagement to raise environmental, social, and governance issues with the management of select portfolio companies. Through this effort, the manager seeks to encourage company managements toward greater transparency, accountability, disclosure, and commitment to ESG issues.

Principal risks

An investment in the fund is not a bank deposit and is not insured or guaranteed by the Federal Deposit Insurance Corporation or any other government agency. Many factors affect performance, and fund shares will fluctuate in price, meaning you could lose money. The fund's investment strategy may not produce the intended results.

The fund's main risks are listed below in alphabetical order, not in order of importance. *Before investing, be sure to read the additional descriptions of these risks beginning on page 6 of the prospectus.*

Economic and market events risk. Events in the U.S. and global financial markets, including actions taken by the U.S. Federal Reserve or foreign central banks to stimulate or stabilize economic growth, may at times result in unusually high market volatility, which could negatively impact

performance. Reduced liquidity in credit and fixed-income markets could adversely affect issuers worldwide. Banks and financial services companies could suffer losses if interest rates rise or economic conditions deteriorate.

Equity securities risk. The price of equity securities may decline due to changes in a company's financial condition or overall market conditions.

ESG investing risk. Incorporating ESG criteria and investing primarily in instruments that have certain ESG characteristics, as determined by the manager, carries the risk that the fund may perform differently, including underperforming, funds that do not utilize an ESG investment strategy, or funds that utilize different ESG criteria.

Foreign securities risk. Less information may be publicly available regarding foreign issuers, including foreign government issuers. Foreign securities may be subject to foreign taxes and may be more volatile than U.S. securities. Currency fluctuations and political and economic developments may adversely impact the value of foreign securities. Depositary receipts are subject to most of the risks associated with investing in foreign securities directly because the value of a depositary receipt is dependent upon the market price of the underlying foreign equity security. Depositary receipts are also subject to liquidity risk.

Information technology companies risk. Information technology companies can be significantly affected by rapid obsolescence, short product cycles, competition from new market entrants, and heightened cybersecurity risk, among other factors.

Large company risk. Larger companies may grow more slowly than smaller companies or be slower to respond to business developments. Large-capitalization securities may underperform the market as a whole.

Liquidity risk. The extent (if at all) to which a security may be sold without negatively impacting its market value may be impaired by reduced market activity or participation, legal restrictions, or other economic and market impediments.

Operational and cybersecurity risk. Cybersecurity breaches may allow an unauthorized party to gain access to fund assets, customer data, or proprietary information, or cause a fund or its service providers to suffer data corruption or lose operational functionality. Similar incidents affecting issuers of a fund's securities may negatively impact performance. Operational risk may arise from human error, error by third parties, communication errors, or technology failures, among other causes.

Preferred stock risk. Preferred stock generally ranks senior to common stock with respect to dividends and liquidation but ranks junior to debt securities. Unlike interest payments on debt securities, preferred stock dividends are payable only if declared by the issuer's board of directors. Preferred stock may be subject to optional or mandatory redemption provisions.

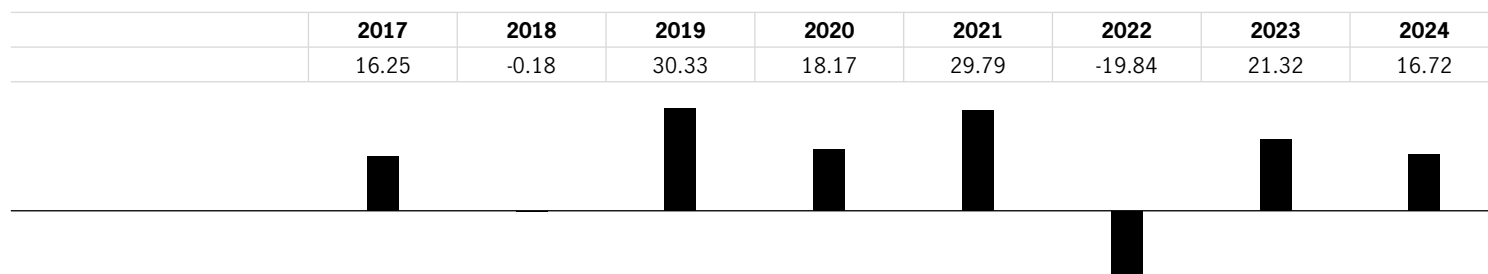
Sector risk. When a fund focuses its investments in certain sectors of the economy, its performance may be driven largely by sector performance and could fluctuate more widely than if the fund were invested more evenly across sectors.

Past performance

The following information illustrates the variability of the fund's returns and provides some indication of the risks of investing in the fund by showing changes in the fund's performance from year to year and by showing how the fund's average annual returns compared with a broad-based securities market index. Past performance (before and after taxes) does not indicate future results. All figures assume dividend reinvestment. Performance information is updated daily, monthly, and quarterly and may be obtained at our website, jhinvestments.com, or by calling 800-225-5291 (Class A and Class C), Monday to Thursday, 8:00 A.M.—7:00 P.M., and Friday, 8:00 A.M.—6:00 P.M., Eastern time, or 888-972-8696 (Class I and Class R6) between 8:30 A.M. and 5:00 P.M., Eastern time, on most business days.

Please note that after-tax returns (shown for Class A shares only) reflect the highest individual federal marginal income-tax rate in effect as of the date provided and do not reflect any state or local taxes. Your actual after-tax returns may be different. After-tax returns are not relevant to shares held in an IRA, 401(k), or other tax-advantaged investment plan. After-tax returns for other share classes would vary.

Calendar year total returns (%)—Class A (sales charges are not reflected in the bar chart and returns would have been lower if they were)



Best quarter:	Q2 2020	22.06%
Worst quarter:	Q1 2020	-20.93%

Average annual total returns (%)—as of 12/31/2024	Since inception		
	1 year	5 year	06/06/2016
Class A (before tax)	10.89	10.59	12.00
after tax on distributions	8.59	9.80	11.38
after tax on distributions, with sale	8.13	8.37	9.82

	Since inception		
Average annual total returns (%)—as of 12/31/2024	1 year	5 year	06/06/2016
Class C	14.85	10.89	11.84
Class I	17.05	12.01	12.96
Class R6	17.15	12.12	13.08
S&P 500 Index (reflects no deduction for fees, expenses, or taxes)	25.02	14.53	14.77

Investment management

Investment advisor John Hancock Investment Management LLC
Subadvisor Trillium Asset Management, LLC

Portfolio management

The following individuals are jointly and primarily responsible for the day-to-day management of the fund’s portfolio.

Kathleen Bochman, CFA
Portfolio Manager
Managed the fund since 2025

Mitali Prasad, CFA
Portfolio Manager
Managed the fund since 2021

Cheryl I. Smith, Ph.D., CFA
Lead Portfolio Manager
Managed the fund since 2016

Purchase and sale of fund shares

The minimum initial investment requirement for Class A and Class C shares is \$1,000 (\$250 for group investments), except that there is no minimum for certain group retirement plans, certain fee-based or wrap accounts, or certain other eligible investment product platforms. The minimum initial investment requirement for Class I shares is \$250,000, except that the fund may waive the minimum for any category of investors at the fund’s sole discretion. The minimum initial investment requirement for Class R6 shares is \$1 million, except that there is no minimum for: qualified and nonqualified plan investors; certain eligible qualifying investment product platforms; Trustees, employees of the advisor or its affiliates, employees of the subadvisor, members of the fund’s portfolio management team and the spouses and children (under age 21) of the aforementioned. There are no subsequent minimum investment requirements.

Class A, Class C, Class I, and Class R6 shares may be redeemed on any business day by mail: John Hancock Signature Services, Inc., P.O. Box 219909, Kansas City, MO 64121-9909; or for most account types through our website: jhinvestments.com; or by telephone: 800-225-5291 (Class A and Class C); 888-972-8696 (Class I and Class R6).

Taxes

The fund’s distributions are taxable, and will be taxed as ordinary income and/or capital gains, unless you are investing through a tax-deferred arrangement, such as a 401(k) plan or individual retirement account. Withdrawals from such tax-deferred arrangements may be subject to tax at a later date.

Payments to broker-dealers and other financial intermediaries

If you purchase the fund through a broker-dealer or other financial intermediary (such as a bank, registered investment advisor, financial planner, or retirement plan administrator), the fund and its related companies may pay the broker-dealer or other intermediary for the sale of fund shares and related services. These payments may create a conflict of interest by influencing the broker-dealer or other intermediary and your salesperson to recommend the fund over another investment. These payments are not applicable to Class R6 shares. Ask your salesperson or visit your financial intermediary’s website for more information.



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SEC file number: 811-00560
4670SP 3/1/25