

A.I. is growing quickly and is very hungry: S&P firms provide the essentials



David Bianco
Americas Chief
Investment Officer

IN A NUTSHELL

- Happy Birthday Chat GPT! At just 3yrs old, this big boy is outgrowing the house
- U.S. AI datacenter capex: \$200b 2024, \$350b 2025, \$450b 2026...\$750b 2030
- The S&P 500 appears increasingly a digital business & very AI capex sensitive
- A.I.'s Tech titan parents are asking extended family and friends to help pay bills
- 2026 yearend S&P 500 target: 7500 = 22x forward EPS of \$340

Happy Birthday Chat GPT! At just 3 years old, this big boy is outgrowing the house

On November 30th, 2022, Open AI (Artificial intelligence) introduced Chat GPT to the world. This marked the birth of AI capabilities available and intended for the mass market. Ever since Chat's acclaimed birth, the Tech titans raced to become proud new parents of their own AI bots. These children are growing rapidly and consuming resources that even their super affluent parents might struggle to afford.

At this year's Thanksgiving, AI children will be out of the cradle and sitting at the table, talking and eating. Best to cook an extra turkey and cake for each of these very hungry and precocious children to avoid drama. And surrender charge of the music and TV. Next year, the feast likely requires a much larger house and the costs of food and festivities will require that guests chip in.

U.S. AI datacenter capex: \$200b 2024, \$350b 2025, \$450b 2026...\$750b 2030

We estimate that US investment spending on new AI data center construction, including all internal and onsite equipment could be roughly \$350 billion in 2025 or up ~75%. This includes all computer servers, all chips, routers, wiring, computing control systems/software, cooling, electrical and on-site power equipment. We estimate chips are near 60% of overall 2025 costs.

In 2025, this investment spending arguably contributed roughly 0.5% to US gross domestic product (GDP) growth. While most of the chips were imported, most of this spend was captured in US chip designer profit margins. Furthermore, the extended effects of this capital expenditure (Capex) to production activity at certain manufacturers and electric utilities already at high capacity utilization may suggest additive capex. Additionally, the wealth effect from the stock market's enthusiastic view on this investment spending and potential future profits boosted household consumption spending power. US GDP is now AI sensitive.

The S&P 500 appears increasingly a digital business & very AI capex sensitive

After terrific 3Q earnings results from Tech companies and reviewing their more aggressive plans for multiple years of robust capex growth on AI related infrastructure, we raise our 2025, 2026, 2027 S&P earnings per share (EPS) estimates by about 3% and introduce estimates through 2030. We expect an EPS compound Annual Growth Rate (CAGR) of 10% for the S&P 500 through 2030, fueled by an 18% CAGR at 10 Magnificent firms involved in digital businesses, AI services and advanced tech equipment and microchips. Excluding these Magnificent 10, we expect an EPS CAGR of 6-7% for the rest of S&P to 2030.

This information is subject to change at any time, based upon economic, market and other considerations and should not be construed as a recommendation. Past performance is not indicative of future returns. Forecasts are not a reliable indicator of future performance. Forecasts are based on assumptions, estimates, opinions and hypothetical models that may prove to be incorrect. Source: DWS Investment GmbH.

Our 2026 S&P EPS estimate of \$307, factors in DWS economist forecasts for 2.1% US GDP growth (1.3% prior), yet unemployment climbing to 4.6% with inflation averaging 2.9%. We also factor in DWS forecasts for three U.S. Federal Reserve (Fed) cuts to 3.0-3.25%, EUR/USD foreign exchange (FX) rate at 1.15 and \$57/bbl West Texas Intermediate (WTI) oil. While these macro inputs remain important, because S&P EPS has become highly sensitive to data center capex, we introduce a rough model of our capex expectations through 2030. This capex outlook is very uncertain and especially its future Return on Invested Capital (ROIC). Current S&P firms are highly exposed to this capex as revenue sources and we believe that both S&P 500 firms and others will be exposed to the ROIC. Our S&P EPS forecasts are for current constituents.

A.I.'s Tech titan parents are asking extended family and friends to help pay bills

The magnitude of capital expenditures planned through 2030 is so large that it may require more than cash flow and moderate debt capacity use from Tech titans to comfortably fund. Five Tech data center hyper-scalers issued \$121 billion of debt in 2025 and are establishing long-term leases with data center landlords who are themselves forming joint ventures to tap into other sources of debt like capital. These funding developments may suggest that the hurdle rate for a sufficient return on these data centers is moving from a cost of equity to more of a cost of debt. There also may be tax efficiencies to moving these assets to Real Estate Investment Trust (REIT) and private real estate structures. For Tech titans, we think spreading risks and drawing upon third party capital may be wise. We also think this may create an opportunity for investors to earn potentially attractive creditor like risk returns if structured well.

We think the business of data centers (perhaps also AI chips ownership) might become more distinct from AI services over time. Some companies likely choose to be more of one than the other and leases might help separate the economics. Yet, we think that certain Tech titans will choose to stay integrated and have special expertise in both business types. Ultimately, the health of the data center business likely will be closely linked to the size and success of AI services. We believe that the current cost of chips is a challenge to achieving strong ROIC on AI services (at least in the early years), or for whoever owns the chips, which could also pressure data center pricing if the build out is faster than profitable AI services emerge. We think greater compute and energy efficiency in chips is important toward attractive economics of data center/AI service business models and/or more competitive chip pricing over time. The prices and useful life of the chips and their power consumption are important variables as well as the size of AI revenue. There is upside and downside on our S&P EPS outlook through 2030, but our forecasts are more dependent on the capex than the return on capex, especially for the next couple of years.

2026 yearend S&P 500 target: 7500 = 22x forward EPS of \$340

We think S&P sustains a 10%+ premium to a steady-state forward price-to-earnings (P/E) ratio compares a company's current share price to its earnings per share. with 10% EPS growth to 2030.

Glossary

ROIC, or **Return on Invested Capital**, is a financial metric that measures how efficiently a company uses its capital to generate profits. It shows the percentage of profit a company earns from all the capital invested in its operations, both debt and equity. A higher ROIC indicates greater efficiency and profitability.

The **cost of debt** is the effective interest rate a company pays on its borrowed funds, such as loans or bonds. It represents the financial cost of using debt for operations or expansion and is a critical part of a company's capital structure.

Artificial intelligence is the theory and development of computer systems able to perform tasks normally requiring human intelligence

Capacity utilization refers to the share of an economy's productive capacity that is in use.

Capital expenditure (Capex) are funds used by a company to acquire or upgrade physical assets such as property, industrial buildings or equipment.

Cost of equity (CoE) is the return (often expressed as a rate of return) a firm theoretically pays to its equity investors, to compensate for the risk they undertake by investing their capital.

Earnings per share (EPS) is calculated as a company's net income minus dividends of preferred stock, all divided by the total number of shares outstanding.

FX is the abbreviation for foreign exchange, i.e. currencies.

The **gross domestic product (GDP)** is the monetary value of all the finished goods and services produced within a country's borders in a specific time period.

Inflation is the rate at which the general level of prices for goods and services is rising and, subsequently, purchasing power is falling.

The **price-to-earnings (P/E)** ratio compares a company's current share price to its earnings per share.

A **Real Estate Investment Trust (REIT)** is a company that owns and, in most cases, operates income-producing real estate. REITs sell like a stock on the major exchanges and invest in real estate directly, either through properties or mortgages.

The **S&P 500** is an index that includes 500 leading U.S. companies capturing approximately 80% coverage of available U.S. market capitalization.

The **U.S. Federal Reserve**, often referred to as "the **Fed**," is the central bank of the United States.

West Texas Intermediate (WTI) is a grade of crude oil used as a benchmark in oil pricing.

Important information – EMEA, APAC & LATAM

DWS is the brand name of DWS Group GmbH & Co. KGaA and its subsidiaries under which they do business. The DWS legal entities offering products or services are specified in the relevant documentation. DWS, through DWS Group GmbH & Co. KGaA, its affiliated companies and its officers and employees (collectively “DWS”) are communicating this document in good faith and on the following basis.

This document is for information/discussion purposes only and does not constitute an offer, recommendation or solicitation to conclude a transaction and should not be treated as investment advice.

This document is intended to be a marketing communication, not a financial analysis. Accordingly, it may not comply with legal obligations requiring the impartiality of financial analysis or prohibiting trading prior to the publication of a financial analysis.

This document contains forward looking statements. Forward looking statements include, but are not limited to assumptions, estimates, projections, opinions, models and hypothetical performance analysis. No representation or warranty is made by DWS as to the reasonableness or completeness of such forward looking statements. Past performance is no guarantee of future results.

The information contained in this document is obtained from sources believed to be reliable. DWS does not guarantee the accuracy, completeness or fairness of such information. All third party data is copyrighted by and proprietary to the provider. DWS has no obligation to update, modify or amend this document or to otherwise notify the recipient in the event that any matter stated herein, or any opinion, projection, forecast or estimate set forth herein, changes or subsequently becomes inaccurate.

Investments are subject to various risks. Detailed information on risks is contained in the relevant offering documents.

No liability for any error or omission is accepted by DWS. Opinions and estimates may be changed without notice and involve a number of assumptions which may not prove valid. DWS does not give taxation or legal advice.

This document may not be reproduced or circulated without DWS’s written authority.

This document is not directed to, or intended for distribution to or use by, any person or entity who is a citizen or resident of or located in any locality, state, country or other jurisdiction, including the United States, where such distribution, publication, availability or use would be contrary to law or regulation or which would subject DWS to any registration or licensing requirement within such jurisdiction not currently met within such jurisdiction. Persons into whose possession this document may come are required to inform themselves of, and to observe, such restrictions.

© 2025 DWS Investment GmbH

Issued in the UK by DWS Investments UK Limited which is authorised and regulated in the UK by the Financial Conduct Authority.

© 2025 DWS Investments UK Limited

In Hong Kong, this document is issued by DWS Investments Hong Kong Limited. The content of this document has not been reviewed by the Securities and Futures Commission.

© 2025 DWS Investments Hong Kong Limited

In Singapore, this document is issued by DWS Investments Singapore Limited. The content of this document has not been reviewed by the Monetary Authority of Singapore.

© 2025 DWS Investments Singapore Limited

In Australia, this document is issued by DWS Investments Australia Limited (ABN: 52 074 599 401) (AFSL 499640). The content of this document has not been reviewed by the Australian Securities and Investments Commission.

© 2025 DWS Investments Australia Limited

For institutional / professional investors in Taiwan:

This document is distributed to professional investors only and not others. Investing involves risk. The value of an investment and the income from it will fluctuate and investors may not get back the principal invested. Past performance is not indicative of future performance. This is a marketing communication. It is for informational purposes only. This document does not constitute investment advice or a recommendation to buy, sell or hold any security and shall not be deemed an offer to sell or a solicitation of an offer to buy any security. The views and opinions expressed herein, which are subject to change without notice, are those of the issuer or its affiliated companies at the time of publication. Certain data used are derived from various sources believed to be reliable, but the accuracy or completeness of the data is not guaranteed and no liability is assumed for any direct or consequential losses arising from their use. The duplication, publication, extraction or transmission of the contents, irrespective of the form, is not permitted.

as of 11/25/25; 096935_28 (11/2025)

Important information – North America

The brand DWS represents DWS Group GmbH & Co. KGaA and any of its subsidiaries, such as DWS Distributors, Inc., which offers investment products, or DWS Investment Management Americas Inc. and RREEF America L.L.C., which offer advisory services.

Diversification neither assures a profit nor guarantees against loss. Index returns do not reflect fees or expenses, and it is not possible to invest directly in an index.

Any mentions of specific securities are for illustrative purposes only and should not be considered a recommendation.

This document has been prepared without consideration of the investment needs, objectives or financial circumstances of any investor. Before making an investment decision, investors need to consider, with or without the assistance of an investment adviser, whether the investments and strategies described or provided by DWS, are appropriate, in light of their particular investment needs, objectives and financial circumstances. Furthermore, this document is for information/discussion purposes only and does not and is not intended to constitute an offer, recommendation or solicitation to conclude a transaction or the basis for any contract to purchase or sell any security, or other instrument, or for DWS to enter into or arrange any type of transaction as a consequence of any information contained herein and should not be treated as giving investment advice. DWS, including its subsidiaries and affiliates, does not provide legal, tax or accounting advice. This communication was prepared solely in connection with the promotion or marketing, to the extent permitted by applicable law, of the transaction or matter addressed herein, and was not intended or written to be used, and cannot be relied upon, by any taxpayer for the purposes of avoiding any U.S. federal tax penalties. The recipient of this communication should seek advice from an independent tax advisor regarding any tax matters addressed herein based on its particular circumstances. Investments with DWS are not guaranteed, unless specified. Although information in this document has been obtained from sources believed to be reliable, we do not guarantee its accuracy, completeness or fairness, and it should not be relied upon as such. All opinions and estimates herein, including forecast returns, reflect our judgment on the date of this report, are subject to change without notice and involve a number of assumptions which may not prove valid.

Investments are subject to various risks, including market fluctuations, regulatory change, counterparty risk, possible delays in repayment and loss of income and principal invested. The value of investments can fall as well as rise and you may not recover the amount originally invested at any point in time. Furthermore, substantial fluctuations of the value of the investment are possible even over short periods of time. Further, investment in international markets can be affected by a host of factors, including political or social conditions, diplomatic relations, limitations or removal of funds or assets or imposition of (or change in) exchange control or tax regulations in such markets. Additionally, investments denominated in an alternative currency will be subject to currency risk, changes in exchange rates which may have an adverse effect on the value, price or income of the investment. This document does not identify all the risks (direct and indirect) or other considerations which might be material to you when entering into a transaction. The terms of an investment may be exclusively subject to the detailed provisions, including risk considerations, contained in the Offering Documents. When making an investment decision, you should rely on the final documentation relating to the investment and not the summary contained in this document.

Companies involved in artificial intelligence and big data face intense competition, may have limited product lines, markets, financial resources and personnel. Artificial intelligence and big data companies are also subject to risks of new technologies and are heavily dependent on patents and intellectual property rights and the products of these companies may face obsolescence due to rapid technological developments.

This publication contains forward looking statements. Forward looking statements include, but are not limited to assumptions, estimates, projections, opinions, models and hypothetical performance analysis. The forward looking statements expressed constitute the author's judgment as of the date of this material. Forward looking statements involve significant elements of subjective judgments and analyses and changes thereto and/or consideration of different or additional factors could have a material impact on the results indicated. Therefore, actual results may vary, perhaps materially, from the results contained herein. No representation or warranty is made by DWS as to the reasonableness or completeness of such forward looking statements or to any other financial information contained herein. We assume no responsibility to advise the recipients of this document with regard to changes in our views.

No assurance can be given that any investment described herein would yield favorable investment results or that the investment objectives will be achieved. Opinions expressed herein may differ from the opinions expressed by departments or other divisions or affiliates of DWS. This document may not be reproduced or circulated without our written authority. The manner of circulation and distribution of this document may be restricted by law or regulation in certain countries. This document is not directed to, or intended for distribution to or use by, any person or entity who is a citizen or resident of or located in any locality, state, country or other jurisdiction, including the United States, where such distribution, publication, availability or use would be contrary to law or regulation or which would subject DWS to any registration or licensing requirement within such jurisdiction not currently met within such jurisdiction. Persons into whose possession this document may come are required to inform themselves of, and to observe, such restrictions.

Past performance is no guarantee of future results; nothing contained herein shall constitute any representation or warranty as to future performance. Further information is available upon investor's request. All third party data (such as MSCI, S&P & Bloomberg) are copyrighted by and proprietary to the provider.

For Investors in Canada: No securities commission or similar authority in Canada has reviewed or in any way passed upon this document or the merits of the securities described herein and any representation to the contrary is an offence. This document is intended for discussion purposes only and does not create any legally binding obligations on the part of DWS Group. Without limitation, this document does not constitute an offer, an invitation to offer or a recommendation to enter into any transaction. When making an investment decision, you should rely solely on the final documentation relating to the transaction you are considering, and not the information contained herein. DWS Group is not acting as your financial adviser or in any other fiduciary capacity with respect to any transaction presented to you. Any transaction(s) or product(s) mentioned herein may not be appropriate for all investors and before entering into any transaction you should take steps to ensure that you fully understand such transaction(s) and have made an independent assessment of the appropriateness of the transaction(s) in the light of your own objectives and circumstances, including the possible risks and benefits of entering into such transaction. You should also consider seeking advice from your own advisers in making this assessment. If you decide to enter into a transaction with DWS Group you do so in reliance on your own judgment. The information contained in this document is based on material we believe to be reliable; however, we do not represent that it is accurate, current, complete, or error free. Assumptions, estimates and opinions contained in this document constitute our judgment as of the date of the document and are subject to change without notice. Any projections are based on a number of assumptions as to market conditions and there can be no guarantee that any projected results will be achieved. Past performance is not a guarantee of future results. The distribution of this document and availability of these products and services in certain jurisdictions may be restricted by law. You may not distribute this document, in whole or in part, without our express written permission.

For investors in Bermuda: This is not an offering of securities or interests in any product. Such securities may be offered or sold in Bermuda only in compliance with the provisions of the Investment Business Act of 2003 of Bermuda which regulates the sale of securities in Bermuda. Additionally, non-Bermudian persons (including companies) may not carry on or engage in any trade or business in Bermuda unless such persons are permitted to do so under applicable Bermuda legislation.