

Artificial intelligence:

Sizing and seizing the investment opportunity

Artificial intelligence (AI) may become one of the most profound innovations and largest investment opportunities in human history.

In our new report, "Artificial intelligence: Sizing and seizing the investment opportunity," we segment the investable AI universe into a value chain, providing investors with a framework to help them successfully put money to work in the sector.

We believe that thinking in terms of a value chain is crucial. Even in a fast-growing industry, rapid innovation, evolving competitive dynamics, and shifts in investor sentiment will mean that the fortunes of different parts of the value chain are likely to vary.

We identify three layers in the AI value chain:

- The enabling layer the companies that provide the backbone for AI development, ranging from semiconductor production to chip design, cloud and data centers, and companies involved in power supply.
- The *intelligence layer* the companies turning the computing and energy resources from the enabling layer into intelligence. This includes those developing large language models, as well as companies that own data assets that can be turned into intelligence.
- The application layer those companies which embed the tools from the intelligence layer into specific use cases. For now, we believe the most promising applications include copilots, coding assistants, digital advertising, call centers, healthcare R&D, cybersecurity, and fintech.

Value chain thinking can also help us identify potential opportunities and threats to the success of the overall industry. For example, eventually, the application layer must generate enough revenues to "pay for" the intelligence and enabling layers. The ratio of monetization potential of the



This picture has been generated with the help of Dall-e Source: Dall-e, UBS as of June 2024

application layer to the cost of the enabling and intelligence layer is therefore a key metric for future investment returns, in our view.

What are our expectations and how to invest today?

First, investors should make sure they're sufficiently invested. Many investors have built at least some exposure to AI over recent months. Yet the sheer pace of growth in the industry means that many investors remain under-allocated overall. Given the size of some of the largest AI companies, investors may consider weightings more akin to those of certain country equity markets than to those of other companies.

Second, tilt toward the enabling layer. While there is a risk that fears about overcapacity in the enabling layer could trigger volatility, we think the segment currently offers the best mix of attractive and visible earnings growth profiles, strong competitive positioning, reinvestment runway, and reasonable valuations. We favor the semiconductor companies that are driving the investment in Al infrastructure at the data center and at the edge.

Authors: Ulrike Hoffmann-Burchardi, Head CIO Global Equities; Kevin Dennean, CFA, CIO Equity Strategist, US Technology & Telecom, UBS Financial Services Inc. (UBS FS); Achille Monnet, CFA, CIO Equity Sector Strategist; Alexander Stiehler, CFA, CIO Head of Longer Term Investment Themes; Linda Mazziotta, CFA, Strategist; Nikolaos Fostieris, Strategist; Antonia Sariyska, CIO Sustainable and Impact Investing Strategist, UBS Switzerland AG; Sundeep Gantori, CFA, CAIA, Equity Strategist; Delwin Kurnia Limas, CFA, Equity Strategist; Bennett Chu, CAIA, Equity Strategist, UBS AG Singapore Branch

This report has been prepared by UBS Financial Services Inc. (UBS FS), UBS Switzerland AG, and UBS AG Singapore Branch. Please see important disclaimers and disclosures at the end of the document.

Third, megacaps are core to the AI story. The AI rush so far has been highly beneficial for the largest tech firms. But we believe that's a feature of the new AI investment landscape, and not a bug. We expect the AI market to be dominated by an oligopoly of vertically integrated "foundries" and monolithic players along the value chain. So, alongside semiconductors, we also like the oligopolies that are positioned across the tech stack covering chips, cloud computing, and generative AI models and applications.

Finally, remember it's not only about the US. China's tech monoliths are still trading at similar valuations as they were prior to the launch of ChatGPT. Yet they are also investing heavily in artificial intelligence, and ultimately, we expect China to develop an AI ecosystem that is distinct from much of the rest of the world. This should lead to significant monetization potential.

The artificial intelligence market potential is vast—we estimate that AI value creation could amount to USD 1.16 trillion by 2027. We believe now is the time for investors to size, and seize, the investment opportunity.

UBS Chief Investment Office's ("CIO") investment views are prepared and published by the Global Wealth Management business of UBS Switzerland AG (regulated by FINMA in Switzerland) or its affiliates ("UBS"), part of UBS Group AG ("UBS Group"). UBS Group includes former Credit Suisse AG, its subsidiaries, branches and affiliates. Additional disclaimer relevant to Credit Suisse Wealth Management follows at the end of this section.

The investment views have been prepared in accordance with legal requirements designed to promote the **independence of investment research**.

Generic investment research – Risk information:

This publication is **for your information only** and is not intended as an offer, or a solicitation of an offer, to buy or sell any investment or other specific product. The analysis contained herein does not constitute a personal recommendation or take into account the particular investment objectives, investment strategies, financial situation and needs of any specific recipient. It is based on numerous assumptions. Different assumptions could result in materially different results. Certain services and products are subject to legal restrictions and cannot be offered worldwide on an unrestricted basis and/or may not be eligible for sale to all investors. All information and opinions expressed in this document were obtained from sources believed to be reliable and in good faith, but no representation or warranty, express or implied, is made as to its accuracy or completeness (other than disclosures relating to UBS). All information and opinions as well as any forecasts, estimates and market prices indicated are current as of the date of this report, and are subject to change without notice. Opinions expressed herein may differ or be contrary to those expressed by other business areas or divisions of UBS as a result of using different assumptions and/or criteria.

In no circumstances may this document or any of the information (including any forecast, value, index or other calculated amount ("Values")) be used for any of the following purposes (i) valuation or accounting purposes; (ii) to determine the amounts due or payable, the price or the value of any financial instrument or financial contract; or (iii) to measure the performance of any financial instrument including, without limitation, for the purpose of tracking the return or performance of any Value or of defining the asset allocation of portfolio or of computing performance fees. By receiving this document and the information you will be deemed to represent and warrant to UBS that you will not use this document or otherwise rely on any of the information for any of the above purposes. UBS and any of its directors or employees may be entitled at any time to hold long or short positions in investment instruments referred to herein, carry out transactions involving relevant investment instruments in the capacity of principal or agent, or provide any other services or have officers, who serve as directors, either to/for the issuer, the investment instrument itself or to/for any company commercially or financially affiliated to such issuers. At any time, investment decisions (including whether to buy, sell or hold securities) made by UBS and its employees may differ from or be contrary to the opinions expressed in UBS research publications. Some investments may not be readily realizable since the market in the securities is illiquid and therefore valuing the investment and identifying the risk to which you are exposed may be difficult to quantify. UBS relies on information barriers to control the flow of information contained in one or more areas within UBS, into other areas, units, divisions or affiliates of UBS. Futures and options trading is not suitable for every investor as there is a substantial risk of loss, and losses in excess of an initial investment may occur. Past performance of an investment is no guarantee for its future performance. Additional information will be made available upon request. Some investments may be subject to sudden and large falls in value and on realization you may receive back less than you invested or may be required to pay more. Changes in foreign exchange rates may have an adverse effect on the price, value or income of an investment. The analyst(s) responsible for the preparation of this report may interact with trading desk personnel, sales personnel and other constituencies for the purpose of gathering, synthesizing and interpreting market information.

Different areas, groups, and personnel within UBS Group may produce and distribute separate research products **independently of each other**. For example, research publications from **CIO** are produced by UBS Global Wealth Management. **UBS Global Research** is produced by UBS Investment Bank. **Research methodologies and rating systems of each separate research organization may differ**, for example, in terms of investment recommendations, investment horizon, model assumptions, and valuation methods. As a consequence, except for certain economic forecasts (for which UBS CIO and UBS Global Research may collaborate), investment recommendations, ratings, price targets, and valuations provided by each of the separate research organizations may be different, or inconsistent. You should refer to each relevant research product for the details as to their methodologies and rating system. Not all clients may have access to all products from every organization. Each research product is subject to the policies and procedures of the organization that produces it.

The compensation of the analyst(s) who prepared this report is determined exclusively by research management and senior management (not including investment banking). Analyst compensation is not based on investment banking, sales and trading or principal trading revenues, however, compensation may relate to the revenues of UBS Group as a whole, of which investment banking, sales and trading and principal trading are a part.

Tax treatment depends on the individual circumstances and may be subject to change in the future. UBS does not provide legal or tax advice and makes no representations as to the tax treatment of assets or the investment returns thereon both in general or with reference to specific client's circumstances and needs. We are of necessity unable to take into account the particular investment objectives, financial situation and needs of our individual clients and we would recommend that you take financial and/or tax advice as to the implications (including tax) of investing in any of the products mentioned herein.

This material may not be reproduced or copies circulated without prior authority of UBS. Unless otherwise agreed in writing UBS expressly prohibits the distribution and transfer of this material to third parties for any reason. UBS accepts no liability whatsoever for any claims or lawsuits from any third parties arising from the use or distribution of this material. This report is for distribution only under such circumstances as may be permitted by applicable law. For information on the ways in which CIO manages conflicts and maintains independence of its investment views and publication offering, and research and rating methodologies, please visit www. ubs.com/research-methodology. Additional information on the relevant authors of this publication and other CIO publication(s) referenced in this report; and copies of any past reports on this topic; are available upon request from your client advisor.

Important Information About Sustainable Investing Strategies: Sustainable investing strategies aim to consider and incorporate environmental, social and governance (ESG) factors into investment process and portfolio construction. Strategies across geographies approach ESG analysis and incorporate the findings in a variety of ways. Incorporating ESG factors or Sustainable Investing considerations may inhibit UBS's ability to participate in or to advise on certain investment opportunities that otherwise would be consistent with the Client's investment objectives. The returns on a portfolio incorporating ESG factors or Sustainable Investing considerations may be lower or higher than portfolios where ESG factors, exclusions, or other sustainability issues are not considered by UBS, and the investment opportunities available to such portfolios may differ.

External Asset Managers / External Financial Consultants: In case this research or publication is provided to an External Asset Manager or an External Financial Consultant, UBS expressly prohibits that it is redistributed by the External Asset Manager or the External Financial Consultant and is made available to their clients and/or third parties.

USA: Distributed to US persons only by UBS Financial Services Inc. or UBS Securities LLC, subsidiaries of UBS AG. UBS Switzerland AG, UBS Europe SE, UBS Bank, S.A., UBS Brasil Administradora de Valores Mobiliarios Ltda, UBS Asesores Mexico, S.A. de C.V., UBS SuMi TRUST Wealth Management Co., Ltd., UBS Wealth Management Israel Ltd and UBS Menkul Degerler AS are affiliates of UBS AG. **UBS** Financial Services Inc. accepts responsibility for the content of a report prepared by a non-US affiliate when it distributes reports to US persons. All transactions by a US person in the securities mentioned in this report should be effected through a US-registered broker dealer affiliated with UBS, and not through a non-US affiliate. The contents of this report have not been and will not be approved by any securities or investment authority in the United States or elsewhere. UBS Financial Services Inc. is not acting as a municipal advisor to any municipal entity or obligated person within the meaning of Section 15B of the Securities Exchange Act (the "Municipal Advisor Rule") and the opinions or views contained herein are not intended to be, and do not constitute, advice within the meaning of the Municipal Advisor Rule.

For country information, please visit ubs.com/cio-country-disclaimer-gr or ask your client advisor for the full disclaimer.

Additional Disclaimer relevant to Credit Suisse Wealth Management

You receive this document in your capacity as a client of Credit Suisse Wealth Management. Your personal data will be processed in accordance with the Credit Suisse privacy statement accessible at your domicile through the official Credit Suisse website <u>https://www.credit-suisse.com</u>. In order to provide you with marketing materials concerning our products and services, UBS Group AG and its subsidiaries may process your basic personal data (i.e. contact details such as name, e-mail address) until you notify us that you no longer wish to receive them. You can optout from receiving these materials at any time by informing your Relationship Manager.

Except as otherwise specified herein and/or depending on the local Credit Suisse entity from which you are receiving this report, this report is distributed by UBS Switzerland AG, authorised and regulated by the Swiss Financial Market Supervisory Authority (FINMA).

Version B/2024. CIO82652744

© UBS 2024. The key symbol and UBS are among the registered and unregistered trademarks of UBS. All rights reserved.

