

**PROSPECTUS SUPPLEMENT NO. 2
TO THE BASE PROSPECTUS DATED 21 FEBRUARY 2023**



GOLDMAN, SACHS & CO. WERTPAPIER GMBH
(Incorporated with limited liability in Germany)

as Issuer

GOLDMAN SACHS INTERNATIONAL
(Incorporated with unlimited liability in England)

in respect of certain Securities issued by Goldman, Sachs & Co. Wertpapier GmbH only, as Guarantor

GOLDMAN SACHS FINANCE CORP INTERNATIONAL LTD
(Incorporated with limited liability in Jersey)

as Issuer

THE GOLDMAN SACHS GROUP, INC.
(A corporation organised under the laws of the State of Delaware)

in respect of Securities issued by Goldman Sachs Finance Corp International Ltd and certain Securities issued by Goldman, Sachs & Co. Wertpapier GmbH, as Guarantor

**SERIES P PROGRAMME FOR THE ISSUANCE OF
WARRANTS, NOTES AND CERTIFICATES**

This Prospectus Supplement

This prospectus supplement (the "**Prospectus Supplement**") to the base prospectus dated 21 February 2023 prepared by Goldman, Sachs & Co. Wertpapier GmbH ("**GSW**") as issuer, Goldman Sachs Finance Corp International Ltd ("**GSFCI**") as issuer, Goldman Sachs International ("**GSI**") as guarantor in respect of certain Securities only and The Goldman Sachs Group, Inc. ("**GSG**") as guarantor in respect of certain Securities only (the "**Original Base Prospectus**") under their Series P programme for the issuance of warrants, notes and certificates with respect to the Securities (the "**Programme**"), constitutes a supplement to the Base Prospectus for the purposes of Article 23(1) of Regulation (EU) 2017/1129 as it forms part of UK domestic law by virtue of the European Union (Withdrawal) Act 2018 (as amended, the "**EUWA**") and regulations made thereunder (as amended, the "**UK Prospectus Regulation**") and should be read in conjunction with Prospectus Supplement No. 1 to the Original Base Prospectus dated 15 March 2023 (the Original Base Prospectus as so supplemented, the "**Base Prospectus**"). The Original Base Prospectus was approved on 21 February 2023 by the United Kingdom Financial Conduct Authority (the "**FCA**") as competent authority under the UK Prospectus Regulation and by the Luxembourg Stock Exchange pursuant to the rules and regulations of the Luxembourg Stock Exchange for the Luxembourg Stock Exchange's Euro MTF market.

Terms defined in the Base Prospectus have the same meaning when used in this Prospectus Supplement unless otherwise defined herein. This Prospectus Supplement shall form part of and be read in conjunction with the Base Prospectus. The FCA only approves this Prospectus Supplement as meeting the standard of completeness, comprehensibility and consistency imposed by the UK Prospectus Regulation. Such approval by the FCA should not be considered as an endorsement of the Issuers or the quality of the Securities that are the subject of the Base Prospectus and this Prospectus Supplement. Investors should make their own assessment as to the suitability of investing in the Securities.

Right of withdrawal

In accordance with Article 23(2) of the UK Prospectus Regulation and PRR 3.4.1 of the FCA's Prospectus Regulation Rules sourcebook, investors in the United Kingdom who have already agreed to purchase or subscribe for Securities issued under the Base Prospectus before this Prospectus Supplement is published, and for whom any of the information in this Prospectus Supplement relates to the issue of the relevant Securities

(within the meaning of Article 23(4) of the UK Prospectus Regulation), have the right, exercisable until 10 May 2023, which is two working days after the publication of this Prospectus Supplement, to withdraw their acceptances, provided that the significant new factor, material mistake or material inaccuracy to which this Prospectus Supplement relates arose or was noted before the closing of the offer period or the delivery of the securities, whichever occurs first. Investors may contact the relevant Authorised Offeror(s) (as set out in the Final Terms of the relevant Securities) should they wish to exercise such right of withdrawal.

Responsibility

Each of GSI, GSW, GSFCI and GSG accepts responsibility for the information given in this Prospectus Supplement and confirms that the information contained in this Prospectus Supplement is, to the best of their knowledge, in accordance with the facts and does not omit anything likely to affect its import.

Purpose of this Prospectus Supplement

The purpose of this Prospectus Supplement is to (a) incorporate by reference GSG's 18 April 2023 Form 8-K (as defined below), GSG's 2023 Proxy Statement (as defined below) and GSI's 2022 Annual Report (as defined below), and (b) make certain changes to the information in the "Risk Factors", "Documents Incorporated by Reference", "Goldman Sachs International" and "General Information" sections of the Base Prospectus.

This Prospectus Supplement and the document(s) incorporated by reference into this Prospectus Supplement will be available on the website of the Financial Conduct Authority at <https://marketsecurities.fca.org.uk/> and the Luxembourg Stock Exchange at www.luxse.com.

Information being supplemented

Incorporation by reference

This Prospectus Supplement supplements the Base Prospectus by incorporating by reference:

- (a) the Current Report on Form 8-K dated 18 April 2023 of The Goldman Sachs Group, Inc. ("**GSG's 18 April 2023 Form 8-K**"), as filed with the SEC on 18 April 2023;
- (b) the Proxy Statement relating to GSG's 2023 Annual Meeting of Shareholders on 26 April 2023 ("**GSG's 2023 Proxy Statement**"), as filed with the U.S. Securities and Exchange Commission ("**SEC**") on 17 March 2023; and
- (c) the Annual Report for the twelve months ended 31 December 2022 of Goldman Sachs International ("**GSI's 2022 Annual Report**") containing, in Part II the Directors' Report and Audited Financial Statements of GSI for the period ended 31 December 2022.

GSG's 18 April 2023 Form 8-K, GSG's 2023 Proxy Statement and GSI's 2022 Annual Report are incorporated by reference into, and form part of, this Prospectus Supplement, and the information contained in this Prospectus Supplement and GSG's 18 April 2023 Form 8-K, GSG's 2023 Proxy Statement and GSI's 2022 Annual Report shall be deemed to update and, where applicable, supersede any information contained in the Base Prospectus, or any documents incorporated by reference therein.

Amendments and updates to certain information in the Base Prospectus

The Base Prospectus is amended and supplemented as follows:

1. Amendments to the section entitled "Risk Factors"

The information in the section entitled "Risk Factors" is amended and supplemented by deleting sub-section 2 entitled "Risks relating to GSI" on pages 19 to 38 of the Base Prospectus in its entirety and replacing it with the following:

"2. Risks relating to GSI

GSI faces a variety of risks that are substantial and inherent in its businesses. The principal risks and uncertainties that GSI faces are: market risk, liquidity risk, credit risk, operational risk, legal and regulatory risk, competition risk, and market developments and general business environment risk.

2.1 Liquidity Risks

- (a) ***GSI's liquidity, profitability and businesses may be adversely affected by an inability to access the debt capital markets or to sell assets***

Liquidity is essential to GSI's businesses. It is of critical importance to GSI, as most of the failures of financial institutions have occurred in large part due to insufficient liquidity. GSI's liquidity may be impaired by an inability to access secured and/or unsecured debt markets, an inability to access funds from GSG or other GS Group affiliates, an inability to sell assets or redeem investments, lack of timely settlement of transactions, or other unforeseen outflows of cash or collateral. This situation may arise due to circumstances that GSI may be unable to control, such as a general market or economic disruption or an operational problem that affects third parties or GSI or its affiliates or even by the perception among market participants that GSI, or other market participants, are experiencing greater liquidity risk.

GSI employs structured products to benefit its clients and hedge its own risks. The financial instruments that GSI holds and the contracts to which it is a party are often complex, and these complex structured products often do not have readily available markets to access in times of liquidity stress. GSI's investing and financing activities may lead to situations where the holdings from these activities represent a significant portion of specific markets, which could restrict liquidity for GSI's positions.

Further, GSI's ability to sell assets may be impaired if there is not generally a liquid market for such assets, as well as in circumstances where other market participants are seeking to sell similar otherwise generally liquid assets at the same time, as is likely to occur in a liquidity or other market crisis or in response to changes to rules or regulations. For example, in 2021, an investment management firm with large positions with several financial institutions defaulted, resulting in rapidly declining prices in the securities underlying those positions. In addition, clearing houses, exchanges and other financial institutions with which GSI interacts may exercise set-off rights or the right to require additional collateral, including in difficult market conditions, which could further impair GSI's liquidity.

Numerous regulations have been adopted that impose more stringent liquidity requirements on large financial institutions, including us. These regulations require GSI to hold large amounts of highly liquid assets and reduce GSI's flexibility to source and deploy funding.

- (b) ***GSI's businesses have been and may in the future be adversely affected by disruptions or lack of liquidity in the credit markets, including reduced access to credit and higher costs of obtaining credit***

Widening credit spreads for GSI or GSG, as well as significant declines in the availability of credit, have in the past adversely affected GSI's ability to borrow on a secured and unsecured basis and may do so in the future. GSI obtains the majority of its unsecured funding indirectly from GSG, which funds itself on an unsecured basis by issuing long-term debt, by raising deposits at its bank subsidiaries, by issuing hybrid financial instruments and by obtaining bank loans or lines of credit. GSI seeks to finance many of its assets on a secured basis. Any disruptions in the credit markets may make it harder and more expensive to obtain funding for businesses. If GSI's available

funding is limited or GSI is forced to fund operations at a higher cost, these conditions may require curtailment of business activities and increase the cost of funding, both of which could reduce profitability, particularly in businesses that involve investing and market making.

Clients engaging in mergers, acquisitions and other types of strategic transactions often rely on access to the secured and unsecured credit markets to finance their transactions. A lack of available credit or an increased cost of credit can adversely affect the size, volume and timing of clients' merger and acquisition transactions, particularly large transactions, and adversely affect GSI's advisory and underwriting businesses.

GSI's credit businesses have been and may in the future be negatively affected by a lack of liquidity in credit markets. A lack of liquidity reduces price transparency, increases price volatility and decreases transaction volumes and size, all of which can increase transaction risk or decrease the profitability of these businesses.

(c) ***Reductions in GSI's credit ratings or an increase in its credit spreads may adversely affect its liquidity and cost of funding***

GSI is an indirect, wholly-owned operating subsidiary of GSG and depends on GSG for capital and funding. The credit ratings of GSI and those of GSG are important to GSI's liquidity. A reduction in GSI's and/or GSG's credit ratings could adversely affect GSI's liquidity and competitive position, increase borrowing costs, limit access to the capital markets or funding from GSG or trigger obligations under certain provisions in some trading and collateralised financing contracts. Under these provisions, counterparties could be permitted to terminate contracts with GSI or GSG or require additional collateral. Termination of trading and collateralised financing contracts could cause losses and impair liquidity by requiring GSG or GSI to find other sources of financing or to make significant cash payments or securities movements.

GSI's cost of obtaining long-term unsecured funding is directly related to both the credit spreads of GSI and GSG increases in the credit spreads of GSI and/or GSG can significantly increase the cost of this funding. Changes in credit spreads are continuous, market-driven, and subject at times to unpredictable and highly volatile movements. The credit spreads of GSI and/or GSG are also influenced by market perceptions of GSI's and/or GSG's creditworthiness and movements in the costs to purchasers of credit default swaps referenced to GSG's long-term debt. The market for credit default swaps has proven to be extremely volatile and at times has lacked a high degree of transparency or liquidity.

2.2 Market Risks

(a) ***GSI's businesses have been and may in the future be adversely affected by conditions in the global financial markets and broader economic conditions***

GSI's businesses, by their nature, do not produce predictable earnings and are materially affected by conditions in the global financial markets and economic conditions generally, both directly and through their impact on client activity levels and creditworthiness. These conditions can change suddenly and negatively.

GSI's financial performance is highly dependent on the environment in which its businesses operate. A favourable business environment is generally characterised by, among other factors, high global gross domestic product growth, regulatory and market conditions that result in transparent, liquid and efficient capital markets, low inflation, business, consumer and investor confidence, stable geopolitical conditions and strong business earnings.

Unfavourable or uncertain economic and market conditions can be caused by: low levels of or declines in economic growth, business activity or investor, business or consumer confidence; concerns over a potential recession; changes in consumer spending or borrowing patterns; pandemics; limitations on the availability or increases in the cost of credit and capital; illiquid markets; increases in inflation, interest rates, exchange rate or basic commodity price volatility or default rates; high levels of inflation or stagflation; concerns about sovereign defaults; uncertainty concerning fiscal or monetary policy; the extent of and uncertainty about potential increases in tax rates and other regulatory changes; limitations on international trade and travel; laws and regulations that limit trading in, or the issuance of, securities of issuers outside their domestic markets; outbreaks of domestic or international tensions or hostilities, terrorism, nuclear proliferation, cybersecurity threats or attacks and other forms of disruption to or curtailment of global communication, energy transmission or transportation networks or other geopolitical instability or uncertainty; corporate, political or other scandals that reduce investor confidence in capital markets; extreme weather events or other natural disasters; or a combination of these or other factors.

The financial services industry and the securities and other financial markets have been materially and adversely affected in the past by significant declines in the values of nearly all asset classes, by a serious lack of liquidity and by high levels of borrower defaults. In addition, concerns about actual or potential increases in interest rates, inflation and other borrowing costs, a resurgence of COVID-19 cases, European sovereign debt risk and its impact on the European banking system, and limitations on international trade, have, at times, negatively impacted the levels of client activity.

General uncertainty about economic, political and market activities, and the scope, timing and impact of regulatory reform, as well as weak consumer, investor and chief executive officer confidence resulting in large part from such uncertainty, has in the past negatively impacted client activity, which can adversely affect many of GSI's businesses. Periods of low volatility and periods of high volatility combined with a lack of liquidity, have at times had an unfavourable impact on GSI's market-making businesses.

Changes, or proposed changes, to U.S. international trade and investment policies, particularly with important trading partners, have in recent years negatively impacted financial markets. Continued or escalating tensions may result in further actions taken by the U.S. or other countries that could disrupt international trade and investment and adversely affect financial markets. Those actions could include, among others, the implementation of sanctions, tariffs or foreign exchange measures, the large-scale sale of U.S. Treasury securities or other restrictions on cross-border trade, investment, or transfer of information or technology. Any such developments could adversely affect GSI or GSI's clients' businesses.

Financial institution returns may be negatively impacted by increased funding costs due in part to the lack of perceived government support of such institutions in the event of future financial crises relative to financial institutions in countries in which governmental support is maintained. In addition, liquidity in the financial markets has in the past been, and could in the future be negatively impacted as market participants and market practices and structures adjust to evolving regulatory frameworks.

In January 2023, the outstanding debt of the U.S. reached its statutory limit and the U.S. Treasury Department commenced taking extraordinary measures to prevent the U.S. from defaulting on its obligations. If Congress does not raise the debt ceiling, the U.S. could default on its obligations, including Treasury securities that play an integral role in financial markets. A default by the U.S. could result in unprecedented market volatility and illiquidity, heightened operational risks relating to the clearance and settlement of transactions, margin and other disputes with clients and counterparties,

an adverse impact to investors including money market funds that invest in U.S. Treasuries, downgrades in the U.S. credit rating, further increases in interest rates and borrowing costs and a recession in the U.S. or other economies. Even if the U.S. does not default, continued uncertainty relating to the debt ceiling could result in downgrades of the U.S. credit rating, which could adversely affect market conditions, lead to margin disputes, further increases in interest rates and borrowing costs and necessitate significant operational changes among market participants, including us. A downgrade of the federal government's credit rating could also materially and adversely affect the market for repurchase agreements, securities borrowing and lending, and other financings typically collateralised by U.S. Treasury or agency obligations. Further, the fair value, liquidity and credit ratings of securities issued by, or other obligations of, agencies of the U.S. government or related to the U.S. government or its agencies, as well as municipal bonds could be similarly adversely affected.

(b) GSI's businesses have been and may in the future be adversely affected by declining asset values, particularly where GSI has net "long" positions, receives fees based on the value of assets managed, or receives or posts collateral

Many of GSI's businesses have net "long" positions in debt securities, loans, derivatives, mortgages, equities (including private equity) and most other asset classes. These include positions taken when GSI acts as a principal to facilitate clients' activities, including exchange-based market-making activities, or commits large amounts of capital to maintain positions in interest rate and credit products, as well as through currencies, commodities, equities and mortgage-related activities. In addition, GSI invests in similar asset classes. Substantially all of GSI's investing and market-making positions are marked-to-market on a daily basis and declines in asset values directly and immediately impact earnings, unless GSI has effectively "hedged" its exposures to those declines.

In certain circumstances (particularly in the case of credit products and private equities or other securities that are not freely tradable or lack established and liquid trading markets), it may not be possible or economic to hedge its exposures and to the extent that this is done the hedge may be ineffective or may greatly reduce GSI's ability to profit from increases in the values of the assets. Sudden declines and significant volatility in the prices of assets have in the past substantially curtailed or eliminated, and may in the future substantially curtail or eliminate, the trading markets for certain assets, which may make it difficult to sell, hedge or value such assets. GSI may incur losses from time to time as trading markets deteriorate or cease to function, including with respect to securities offerings GSI has underwritten. The inability to sell or effectively hedge assets reduces GSI's ability to limit losses in such positions and the difficulty in valuing assets has in the past negatively affected, and may in the future negatively affect, GSI's capital, liquidity or leverage ratios, its funding costs and its ability to deploy capital.

In GSI's exchange-based market-making activities, GSI is obligated by stock exchange rules to maintain an orderly market, including by purchasing securities in a declining market. In markets where asset values are declining and in volatile markets, this results in losses and an increased need for liquidity.

Collateral is posted to support obligations of GSI and received that supports the obligations of clients and counterparties. When the value of the assets posted as collateral or the credit ratings of the party posting collateral decline, the party posting the collateral may need to provide additional collateral or, if possible, reduce its trading position. An example of such a situation is a "margin call" in connection with a brokerage account. Therefore, declines in the value of asset classes used as collateral mean that either the cost of funding positions is increased or the size of positions is decreased. If GSI is the party providing collateral, this can increase costs and reduce

profitability and if GSI is the party receiving collateral, this can also reduce profitability by reducing the level of business done with clients and counterparties.

In addition, volatile or less liquid markets increase the difficulty of valuing assets which can lead to costly and time-consuming disputes over asset values and the level of required collateral, as well as increased credit risk to the recipient of the collateral due to delays in receiving adequate collateral. In cases where GSI forecloses on collateral, sudden declines in the value or liquidity of the collateral have in the past resulted in and may in the future, despite credit monitoring, over-collateralisation, the ability to call for additional collateral or the ability to force repayment of the underlying obligation, result in significant losses to GSI, especially where there is a single type of collateral supporting the obligation. In addition, GSI may be subject to claims that the foreclosure was not permitted under the legal documents, was conducted in an improper manner, including in violation of law, or caused a client or counterparty to go out of business.

(c) ***Inflation has had, and could continue to have, a negative effect on GSI's business, results of operations and financial condition***

Inflationary pressures have affected economies, financial markets and market participants worldwide. Inflationary pressures have increased certain of GSI's operating expenses, and have adversely affected consumer sentiment and CEO confidence. Central bank responses to inflationary pressures have also resulted in higher market interest rates, which, in turn, have contributed to lower activity levels across financial markets, in particular for debt underwriting transactions and mortgage originations, and resulted in lower values for certain financial assets which have adversely affected GSI's equity and debt investments. Higher interest rates increase GSI's borrowing costs. If inflationary pressures persist, GSI's expenses may increase further; activity levels for certain of GSI's businesses, in particular debt underwriting, may remain at low levels or decline further; GSI's interest expense could increase faster than GSI's interest income, reducing GSI's net interest income and net interest margin; certain of GSI's investments could continue to incur losses or generally low levels of returns; assets under supervision could decline, reducing management and other fees; economies worldwide could experience recessions; and GSI could continue to operate in a generally unfavourable economic and market environment.

2.3 Credit Risks

(a) ***GSI's businesses, profitability and liquidity may be adversely affected by deterioration in the credit quality of or defaults by third parties***

GSI is exposed to the risk that third parties who owe money, securities or other assets will not perform their obligations. These parties may default on their obligations to GSI due to bankruptcy, lack of liquidity, operational failure or other reasons. A failure of a significant market participant, or even concerns about a default by such an institution, could lead to significant liquidity problems, losses or defaults by other institutions, which in turn could adversely affect GSI.

GSI is also subject to the risk that its rights against third parties may not be enforceable in all circumstances. In addition, deterioration in the credit quality of third parties whose securities or obligations are held by GSI, including a deterioration in the value of collateral posted by third parties to secure their obligations to GSI under derivatives contracts and loan agreements, could result in losses and/or adversely affect GSI's ability to rehypothecate or otherwise use those securities or obligations for liquidity purposes.

A significant downgrade in the credit ratings of GSI's counterparties could also have a negative impact on GSI's results. While in many cases GSI is permitted to require additional collateral from counterparties that experience financial difficulty, disputes may arise as to the amount of collateral GSI is entitled to receive and the value of pledged assets. The termination of contracts and the foreclosure on collateral may subject GSI to claims for the improper exercise of its rights. Default rates, downgrades and disputes with counterparties as to the valuation of collateral typically increase significantly in times of market stress, increased volatility and illiquidity.

(b) ***Concentration of risk increases the potential for significant losses in GSI's market-making, underwriting, investing and financing activities***

Concentration of risk increases the potential for significant losses in market-making, underwriting, investing and financing activities. The number and size of these transactions has affected and may in the future affect GSI's results of operations in a given period. Moreover, because of concentrated risk, GSI may suffer losses even when economic and market conditions are generally favourable for competitors. Disruptions in the credit markets can make it difficult to hedge these credit exposures effectively or economically.

In the ordinary course of business, GSI may be subject to a concentration of credit risk to a particular counterparty, borrower, issuer (including sovereign issuers), or geographic area or group of related countries, such as the E.U., and a failure or downgrade of, or default by, such entities could negatively impact GSI's businesses, perhaps materially, and the systems by which GSI sets limits and monitors the level of its credit exposure to individual entities, industries, countries and regions may not function as anticipated. Regulatory reforms, including the European Market Infrastructure Regulation and the Dodd-Frank Wall Street Reform and Consumer Protection Act have led to increased centralisation of trading activity through particular clearing houses, central agents or exchanges, which has significantly increased GSI's concentration of risk with respect to these entities. While GSI's activities expose it to many different industries, counterparties and countries, GSI routinely executes a high volume of transactions with counterparties engaged in financial services activities, including brokers and dealers, commercial banks, clearing houses and exchanges. This has resulted in significant credit concentration with respect to these counterparties.

(c) ***Derivative transactions and delayed documentation or settlements may expose GSI to credit risk, unexpected risks and potential losses***

GSI is party to a large number of derivative transactions, including credit derivatives. Many of these derivative instruments are individually negotiated and non-standardised, which can make exiting, transferring or settling positions difficult. Many credit derivatives require that GSI deliver to the counterparty the underlying security, loan or other obligation in order to receive payment. In a number of cases, GSI does not hold the underlying security, loan or other obligation and may not be able to obtain the underlying security, loan or other obligation. This could cause GSI to forfeit the payments due under these contracts or result in settlement delays with the attendant credit and operational risk as well as increased costs to GSI.

As a signatory to the International Swaps and Derivatives Association Universal Resolution Stay Protocol ("**ISDA Universal Protocol**") and the International Swaps and Derivatives Association 2018 U.S. Resolution Stay Protocol (collectively, "**ISDA Protocols**"), GSI may not be able to exercise termination rights and other remedies against counterparties and, as this regime has not yet been tested, GSI may suffer risks or losses that it would not have expected to suffer if it could immediately close out transactions upon a termination event. The ISDA Protocols and these rules and

regulations extend to repurchase agreements and other instruments that are not derivative contracts.

Derivative contracts and other transactions entered into with third parties are not always confirmed by the counterparties or settled on a timely basis. While the transaction remains unconfirmed or during any delay in settlement, GSI is subject to heightened credit and operational risk and in the event of a default may find it more difficult to enforce its rights.

In addition, as new complex derivative products are created, covering a wider array of underlying credit and other instruments, disputes about the terms of the underlying contracts could arise, which could impair GSI's ability to effectively manage its risk exposures from these products and subject it to increased costs. The provisions of legislation requiring central clearing of credit derivatives and other over-the-counter derivatives, or a market shift toward standardised derivatives, could reduce the risk associated with these transactions, but under certain circumstances could also limit GSI's ability to develop derivatives that best suit the needs of clients and to hedge its own risks, and could adversely affect GSI's profitability. In addition, these provisions have increased credit exposure to central clearing platforms.

2.4 Operational Risks

- (a) *A failure in GSI's operational systems human error, malfeasance or other misconduct, could impair its liquidity, disrupt its businesses, result in the disclosure of confidential information, damage its reputation and cause losses*

GSI's businesses are highly dependent on its ability to process and monitor, on a daily basis, a very large number of transactions, many of which are highly complex, and occur at high volumes and frequencies, across numerous and diverse markets in many currencies. These transactions, as well as the information technology services provided to clients, often must adhere to client-specific guidelines, as well as legal and regulatory standards.

Many rules and regulations worldwide govern GSI's obligations to execute transactions and report such transactions and other information to regulators, exchanges and investors. Compliance with these legal and reporting requirements can be challenging, and GSI has been, and may in the future be, subject to regulatory fines and penalties for failing to follow these rules or to report timely, accurate and complete information in accordance with these rules. As reporting requirements expand, compliance with these rules and regulations has become more challenging.

The use of computing devices and phones is critical to the work done by GSI's employees and the operation of GSI's systems and businesses and those of its clients and third-party service providers and vendors. Their importance has continued to increase, in particular in light of work-from-home arrangements. Computers and computer networks are subject to various risks, including, among others, cyber attacks, inherent technological defects, system failures and human error. For example, fundamental security flaws in computer chips found in many types of these computing devices and phones have been reported in the past and may occur in the future. The use of personal devices by GSI's employees or by GSI's vendors for work-related activities also presents risks related to potential violations of record retention and other requirements. Cloud technologies are also critical to the operation of GSI's systems and platforms and GSI's reliance on cloud technologies is growing. Service disruptions have resulted, and may result in the future, in delays in accessing, or the loss of, data that is important to GSI's businesses and may hinder GSI's clients' access to GSI's platforms. There have been a number of widely publicised cases of outages in connection with access to cloud computing providers. Addressing these and similar

issues could be costly and affect the performance of these businesses and systems. Operational risks may be incurred in applying fixes and there may still be residual security risks.

The majority of GSI's employees are based in London and work in close proximity to one another. They are subject to potential catastrophic events, including, but not limited to, terrorist attacks, extreme weather, or other hostile events that could negatively affect GSI's business. Notwithstanding GSI's efforts to maintain business continuity, business disruptions impacting GSI's offices and employees could lead to GSI's employees' inability to occupy the offices, communicate with or travel to other office locations or work remotely. As a result, GSI's ability to service and interact with clients may be adversely impacted, due to GSI's failure or inability to successfully implement business contingency plans.

- (b) ***A failure or disruption in GSI's infrastructure, or in the operational systems or infrastructure of third parties, could impair GSI's liquidity, disrupt GSI's businesses, damage GSI's reputation and cause losses***

GSI faces the risk of operational failure or significant operational delay, termination or capacity constraints of any of the clearing agents, exchanges, clearing houses or other financial intermediaries that it uses to facilitate securities and derivatives transactions, and as interconnectivity with clients grows, GSI will increasingly face the risk of operational failure or significant operational delay with respect to clients' systems.

There has been significant consolidation among clearing agents, exchanges and clearing houses and an increasing number of derivative transactions are cleared on exchanges, which has increased GSI's exposure to operational failure or significant operational delay, termination or capacity constraints of the particular financial intermediaries that GSI uses and could affect GSI's ability to find adequate and cost-effective alternatives in the event of any such failure, delay, termination or constraint. Industry consolidation, whether among market participants or financial intermediaries, increases the risk of operational failure or significant operational delay as disparate complex systems need to be integrated, often on an accelerated basis.

The interconnectivity of multiple financial institutions with central agents, exchanges and clearing houses, and the increased centrality of these entities, increases the risk that an operational failure at one institution or entity may cause an industry-wide operational failure that could materially impact GSI's ability to conduct business. Interconnectivity of financial institutions with other companies through, among other things, application programming interfaces or APIs presents similar risks. Any such failure, termination or constraint could adversely affect GSI's ability to effect transactions, service GSI's clients, manage GSI's exposure to risk or expand GSI's businesses or result in financial loss or liability to GSI's clients, impairment of GSI's liquidity, disruption of GSI's businesses, regulatory intervention or reputational damage.

Despite GSI's resiliency plans and facilities, its ability to conduct business may be adversely impacted by a disruption in the infrastructure that supports its businesses and the communities where GSI is located. This may include a disruption involving electrical, satellite, undersea cable or other communications, internet, transportation or other facilities used by GSI, its employees or third parties with which GSI conducts business, including cloud service providers. These disruptions may occur as a result of events that affect only GSI's buildings or systems or those of such third parties, or as a result of events with a broader impact globally, regionally or in the cities where those buildings or systems are located, including, but not limited to, natural disasters, war, civil unrest, terrorism, economic or political developments, pandemics and weather events.

In addition, although GSI seeks to diversify its third-party vendors to increase its resiliency, GSI is also exposed to the risk that a disruption or other information technology event at a common service provider to GSI's vendors could impede their ability to provide products or services to GSI, including in connection with GSI's new business initiatives. GSI may not be able to effectively monitor or mitigate operational risks relating to its vendors' use of common service providers.

Additionally, although the prevalence and scope of applications of distributed ledger technology, cryptocurrency and similar technologies is growing, the technology is nascent and may be vulnerable to cyber attacks or have other inherent weaknesses. GSI is exposed to risks, and may become exposed to additional risks, related to distributed ledger technology, including through GSI's facilitation of clients' activities involving financial products that use distributed ledger technology, such as blockchain, or other digital assets, GSI's investments in companies that seek to develop platforms based on distributed ledger technology, the use of distributed ledger technology by third-party vendors, clients, counterparties, clearing houses and other financial intermediaries, and the receipt of digital assets as collateral. The market volatility that financial products using distributed ledger technology have recently experienced may increase these risks.

- (c) ***A failure to protect GSI's computer systems, networks and information, and its clients' information, against cyber attacks and similar threats could impair its ability to conduct its businesses, result in the disclosure, theft or destruction of confidential information, damage its reputation and cause losses***

GSI's operations rely on the secure processing, storage and transmission of confidential and other information in GSI's computer systems and networks and those of GSI's vendors. There have been a number of highly publicised cases involving financial services companies, consumer-based companies, software and information technology service providers, governmental agencies and other organisations reporting the unauthorized access or disclosure of client, customer or other confidential information in recent years, as well as cyber attacks involving the dissemination, theft and destruction of corporate information or other assets, as a result of inadequate procedures or the failure to follow procedures by employees or contractors or as a result of actions by third parties, including actions by foreign governments. There have also been several highly publicised cases where hackers have requested "ransom" payments in exchange for not disclosing customer information or for restoring access to information or systems.

GSI is regularly the target of attempted cyber attacks, including denial-of-service attacks, and must continuously monitor and develop its systems to protect the integrity and functionality of its technology infrastructure and access to and the security of its data. The migration of GSI's communication from devices GSI provides to employee-owned devices presents additional risks of cyber attacks, as do work-from-home arrangements. In addition, due to the interconnectivity with third-party vendors (and their respective service providers), central agents, exchanges, clearing houses and other financial institutions, GSI could be adversely impacted if any of them is subject to a successful cyber attack or other information security event. These impacts could include the loss of access to information or services from the third party subject to the cyber attack or other information security event or could result in unauthorised access to or disclosure of client, customer or other confidential information, which could, in turn, interrupt certain of GSI's businesses.

Despite GSI's efforts to ensure the integrity of its systems and information, it may not be able to anticipate, detect or implement effective preventive measures against all cyber threats, including because the techniques used are increasingly sophisticated, change frequently and are often not recognised until launched. Cyber attacks can originate from a variety of sources, including third parties who are affiliated with or

sponsored by foreign governments or are involved with organised crime or terrorist organisations. Third parties may also attempt to place individuals in GSI's office or induce employees, clients or other users of GSI's systems to disclose sensitive information or provide access to GSI's data or that of its clients, and these types of risks may be difficult to detect or prevent.

Although GSI takes protective measures proactively and endeavours to modify them as circumstances warrant, its computer systems, software and networks may be vulnerable to unauthorised access, misuse, computer viruses or other malicious code, cyber attacks on GSI's vendors and other events that could have a security impact. Risks relating to cyber attacks on GSI's vendors have been increasing given the greater frequency and severity in recent years of supply chain attacks affecting software and information technology service providers. Due to the complexity and interconnectedness of GSI's systems, the process of enhancing protective measures can itself create a risk of systems disruptions and security issues. In addition, protective measures that GSI employs to compartmentalise its data may reduce its visibility into, and adversely affect its ability to respond to, cyber threats and issues within its systems.

If one or more of these types of events occur, it potentially could jeopardise GSI or its clients' or counterparties' or third parties' confidential and other information processed, stored in or transmitted through GSI's computer systems and networks, or otherwise cause interruptions or malfunctions in GSI's operations or those of its clients, its counterparties or third parties, which could impact their ability to transact with GSI or otherwise result in legal or regulatory action, significant losses or reputational damage. In addition, such an event could persist for an extended period of time before being properly detected or escalated, and, following detection or escalation, it could take considerable time for GSI to obtain full and reliable information about the extent, amount and type of information compromised. During the course of an investigation, GSI may not know the full impact of the event and how to remediate it, and actions, decisions and mistakes that are taken or made may further increase the negative effects of the event on GSI's business, results of operations and reputation. Moreover, potential new regulations may require GSI to disclose information about a material cybersecurity incident before it has been resolved or fully investigated.

GSI has expended, and expects to continue to expend, significant resources on an ongoing basis to modify its protective measures and to investigate and remediate vulnerabilities or other exposures, but these measures may be ineffective and GSI may be subject to legal or regulatory action, as well as financial losses that are either not insured against or not fully covered through any insurance it maintains.

GSI's confidential information may also be at risk from the compromise of clients' personal electronic devices or as a result of a data security breach at an unrelated company. Losses due to unauthorised account activity could harm GSI's reputation and may have adverse effects on its business, financial condition and results of operations.

The increased use of mobile and cloud technologies can heighten these and other operational risks, as can work-from-home arrangements. Certain aspects of the security of such technologies are unpredictable or beyond GSI's control, and the failure by mobile technology and cloud service providers to adequately safeguard their systems and prevent cyber attacks could disrupt GSI's operations and result in misappropriation, corruption or loss of confidential and other information. In addition, there is a risk that encryption and other protective measures, despite their sophistication, may be defeated, particularly to the extent that new computing technologies vastly increase the speed and computing power available.

GSI routinely transmits and receives personal, confidential and proprietary information by email and other electronic means. GSI has discussed and worked with clients,

vendors, service providers, counterparties and other third parties to develop secure transmission capabilities and protect against cyber attacks, but does not have, and may be unable to put in place, secure capabilities with all of its clients, vendors, service providers, counterparties and other third parties and it may not be able to ensure that these third parties have appropriate controls in place to protect the confidentiality of the information. An interception, misuse or mishandling of personal, confidential or proprietary information being sent to or received from a client, vendor, service provider, counterparty or other third party could result in legal liability, regulatory action and reputational harm.

(d) ***GSI may incur losses as a result of ineffective risk management processes and strategies***

GSI seeks to monitor and control its risk exposure through a risk and control framework encompassing a variety of separate, but complementary financial, credit, operational, compliance and legal reporting systems, internal controls, management review processes and other mechanisms. GSI's risk management process seeks to balance its ability to profit from market-making positions and underwriting activities with its exposure to potential losses. Whilst GSI employs a broad and diversified set of risk monitoring and risk mitigation techniques, those techniques and the judgements that accompany their application cannot anticipate every economic and financial outcome or the specifics and timing of such outcomes. Thus, in the course of its activities, GSI has incurred and may in the future incur losses. Market conditions in recent years have involved unprecedented dislocations and highlight the limitations inherent in using historical data to manage risk.

The models that GSI uses to assess and control its risk exposures reflect assumptions about the degrees of correlation or lack thereof among prices of various asset classes or other market indicators. In times of market stress or other unforeseen circumstances, previously uncorrelated indicators may become correlated, or conversely previously correlated indicators may move in different directions. These types of market movements have at times limited the effectiveness of GSI's hedging strategies and have caused it to incur significant losses, and they may do so in the future. These changes in correlation have been and may in the future be exacerbated where other market participants are using risk or trading models with assumptions or algorithms that are similar to GSI's. In these and other cases, it may be difficult to reduce GSI's risk positions due to the activity of other market participants or widespread market dislocations, including circumstances where asset values are declining significantly or no market exists for certain assets.

In addition, the use of models in connection with risk management and numerous other critical activities presents risks that the models may be ineffective, either because of poor design, ineffective testing or improper or flawed inputs, as well as unpermitted access to the models resulting in unapproved or malicious changes to the model or its inputs.

To the extent that GSI has positions through its market-making or origination activities or it makes investments directly through its investing activities, including private equity, that do not have an established liquid trading market or are otherwise subject to restrictions on sale or hedging, GSI may not be able to reduce its positions and therefore reduce its risk associated with those positions. In addition, to the extent permitted by applicable law and regulation, GSI invests its own capital in private equity, credit, real estate and hedge funds that it manages and limitations on its ability to withdraw some or all of its investments in these funds, whether for legal, reputational or other reasons, may make it more difficult for GSI to control the risk exposures relating to these investments.

Prudent risk management, as well as regulatory restrictions, may cause GSI to limit its exposure to counterparties, geographic areas or markets, which may limit its business opportunities and increase the cost of funding or hedging activities.

(e) ***GSI is reliant on GSG and other GS Group affiliates for client business, various services and capital***

GSI is a wholly-owned subsidiary of GSG. As a wholly-owned subsidiary, GSI relies on various business relationships of GSG and other GS Group affiliates generally, including the ability to receive various services, as well as, in part, the capital and liquidity of GSI's ultimate parent, GSG, as well as the liquidity of Goldman Sachs Funding LLC ("**Funding IHC**"), a wholly-owned, direct subsidiary of GSG that facilitates the execution of GS Group's preferred resolution strategy. Although GSI has taken steps to reduce its reliance on other GS Group affiliates, it remains an operating subsidiary of a larger organisation and therefore its interconnectedness within the organisation will continue. Because GSI's business relies upon GSG and other GS Group affiliates to a significant extent, risks that could affect these entities could also have a significant impact on GSI.

Furthermore, GSI relies upon certain GS Group affiliates for various support services, including, but not limited to, trade execution, relationship management, settlement and clearing, risk management and other technical, operational and administrative services. Such services are provided to GSI pursuant to the intercompany services agreement, which is generally terminable upon mutual agreement of GSG and its subsidiaries, subject to certain exceptions, including material breach of the agreement.

As a consequence of the foregoing, in the event GSI's relationships with other GS Group affiliates are not maintained, for any reason, including as a result of possible strategic decisions that GSG may make from time-to-time or as a result of material adverse changes in GSG's performance, GSI's net revenues may decline, the cost of operating and funding its business may increase and GSI's business, financial condition and profitability may be materially and adversely affected.

Furthermore, GSI receives a portion of its funding in the form of unsecured funding indirectly from GSG and from Funding IHC, and collateralised financings from other GS Group affiliates. To the extent such funding is not available to GSI, its growth could be constrained and/or its cost of funding could increase.

2.5 **Legal and Regulatory Risks**

(a) ***GSI's businesses and those of its clients are subject to extensive and pervasive regulation around the world***

As a participant in the financial services industry and a subsidiary of a systemically important financial institution, GSI is subject to extensive regulation, principally in the U.K., and the E.U. more generally, but also in the U.S. as a subsidiary of GSG and in certain other jurisdictions. GSI faces the risk of significant intervention by law enforcement, regulatory and tax authorities, as well as private litigation, in all jurisdictions in which it conducts its businesses. In many cases, GSI's activities have been and may continue to be subject to overlapping and divergent regulation in different jurisdictions. Among other things, as a result of law enforcement authorities, regulators or private parties challenging GSI's compliance with laws and regulations, GSI or its employees have been and could be fined, criminally charged or sanctioned, prohibited from engaging in certain business activities, subjected to limitations or conditions on its business activities including higher capital requirements, or subjected to new or substantially higher taxes or other governmental charges in connection with

the conduct of its businesses or with respect to its employees. These limitations or conditions may limit business activities and negatively impact GSI's profitability.

In addition to the impact on the scope and profitability of GSI's business activities, day-to-day compliance with laws and regulations has involved and will continue to involve significant amounts of time, including that of GSI's senior leaders and that of a large number of dedicated compliance and other reporting and operational personnel, all of which may negatively impact GSI's profitability.

GSI's revenues and profitability and those of its competitors have been and will continue to be impacted by requirements relating to capital, leverage, minimum liquidity and long-term funding levels, requirements related to resolution and recovery planning, derivatives clearing and margin rules and levels of regulatory oversight, as well as limitations on which and, if permitted, how certain business activities may be carried out by financial institutions. The laws and regulations that apply to GSI's businesses are often complex and, in many cases, GSI must make interpretive decisions regarding the application of those laws and regulations to its business activities. Changes in interpretations, whether in response to regulatory guidance, industry conventions, GSI's own reassessments or otherwise, could adversely affect its businesses, results of operations or ability to satisfy applicable regulatory requirements, such as capital or liquidity requirements.

If there are new laws or regulations or changes in the interpretation or enforcement of existing laws or regulations applicable to GSI's businesses or those of GSI's clients, including capital, liquidity, leverage, long-term debt, TLAC and margin requirements, restrictions on other business practices, reporting requirements, requirements relating to the implementation of the E.U. Bank Recovery and Resolution Directive, tax burdens and compensation restrictions, that are imposed on a limited subset of financial institutions (whether based on size, method of funding, activities, geography or other criteria) which may include GSI or GS Group, compliance with these new laws and regulations, or changes in the enforcement of existing laws or regulations, could adversely affect GSI's ability to compete effectively with other institutions that are not affected in the same way. In addition, regulation imposed on financial institutions or market participants generally, such as taxes on stock transfers, share repurchases and other financial transactions, could adversely impact levels of market activity more broadly, and thus impact GSI's businesses. Changes to laws and regulations, such as tax laws, could also have a disproportionate impact on GSI, based on the way those laws or regulations are applied to financial services and financial firms or due to its corporate structure or where these services are provided.

These developments could impact GSI's profitability in the affected jurisdictions, or even make it uneconomic to continue to conduct all or certain businesses in those jurisdictions, or could result in GSI incurring significant costs associated with changing business practices, restructuring businesses, moving all or certain businesses and employees to other locations or complying with applicable capital requirements, including liquidating assets or raising capital in a manner that adversely increases GSI's funding costs or otherwise adversely affects its shareholder and creditors.

The implementation of higher capital requirements, the liquidity coverage ratio, the net stable funding ratio, requirements relating to long-term debt and TLAC and the prohibition on proprietary trading and the sponsorship of, or investment in, covered funds by the Volcker Rule may continue to adversely affect GSI's profitability and competitive position, particularly if these requirements do not apply, or do not apply equally, to GSI's competitors or are not implemented uniformly across jurisdictions. GSI may also become subject to higher and more stringent capital and other regulatory requirements as a result of the implementation of Basel Committee on Banking Supervision's standards, including the credit and operational risk capital standards

published in December 2017 and the market risk capital standard published in January 2019.

GSI is also subject to laws and regulations, such as the General Data Protection Regulation ("**GDPR**"), relating to the privacy of the information of clients, employees or others, and any failure to comply with these laws and regulations could expose GSI to liability and/or reputational damage. As new privacy-related laws and regulations are implemented, the time and resources needed for GSI to comply with such laws and regulations, as well as GSI's potential liability for non-compliance and reporting obligations in the case of data breaches, may significantly increase.

In addition, GSI's businesses are increasingly subject to laws and regulations relating to surveillance, encryption and data on-shoring in the jurisdictions in which GSI operates. Compliance with these laws and regulations may require GSI to change its policies, procedures and technology for information security, which could, among other things, make GSI more vulnerable to cyber attacks and misappropriation, corruption or loss of information or technology.

Increasingly, regulators and courts have sought to hold financial institutions liable for the misconduct of their clients where they have determined that the financial institution should have detected that the client was engaged in wrongdoing, even though the financial institution had no direct knowledge of the activities engaged in by its client. Regulators and courts have also increasingly found liability as a "control person" for activities of entities in which financial institutions or funds controlled by financial institutions have an investment, but which they do not actively manage. In addition, regulators and courts continue to seek to establish "fiduciary" obligations to counterparties to which no such duty had been assumed to exist. To the extent that such efforts are successful, the cost of, and liabilities associated with, engaging in brokerage, clearing, market-making, prime brokerage, investing and other similar activities could increase significantly. To the extent that GSI has fiduciary obligations in connection with acting as a financial advisor or investment advisor or in other roles for individual, institutional, sovereign or investment fund clients, any breach, or even an alleged breach, of such obligations could have materially negative legal, regulatory and reputational consequences.

Further, we are subject to regulatory settlements, orders and feedback that require significant remediation activities, which require us to commit significant resources, including hiring, as well as testing the operation and effectiveness of new controls, policies and procedures.

(b) ***A failure to appropriately identify and address potential conflicts of interest could adversely affect GSI's businesses***

Due to the broad scope of GS Group's businesses and client base, GSI regularly addresses potential conflicts of interest, including situations where services to a particular client or GS Group's own investments or other interests conflict, or are perceived to conflict, with the interests of that client or another client, as well as situations where one or more of its businesses have access to material non-public information that may not be shared with other businesses within GS Group and situations where it may be a creditor of an entity with which GS Group also has an advisory or other relationship.

Extensive procedures and controls are in place that are designed to identify and address conflicts of interest, including those designed to prevent the improper sharing of information among businesses. However, appropriately identifying and dealing with conflicts of interest is complex and difficult, and GSI's reputation, which is one of its most important assets, could be damaged and the willingness of clients to enter into

transactions with GSI may be adversely affected if it fails, or appears to fail, to identify, disclose and deal appropriately with conflicts of interest. In addition, potential or perceived conflicts could give rise to litigation or regulatory enforcement actions. Additionally, GS Group's One Goldman Sachs initiative aims to increase collaboration amongst its businesses, which may increase the potential for actual or perceived conflicts of interest and improper information sharing. The realignment of GS Group's businesses, reflected in GS Group's new segments beginning with the fourth quarter of 2022, presents similar risks.

- (c) ***Substantial civil or criminal liability or significant regulatory action against GSI could have material adverse financial effects or cause significant reputational harm, which in turn could seriously harm business prospects***

GSI faces significant legal risks in its businesses, and the volume of claims and amount of damages and penalties claimed in litigation and regulatory proceedings against financial institutions remain high. GSI is, from time to time, subject to a number of other investigations and reviews by, and in some cases has received requests for documents and information from, various governmental and regulatory bodies and self-regulatory organisations relating to various aspects of GSI's businesses and operations. GSI has seen legal claims by clients increase in a market downturn and employment-related claims increase following periods of headcount reduction. Additionally, governmental entities have been plaintiffs and are parties in certain of GSI's legal proceedings, and it may face future civil or criminal actions or claims by the same or other governmental entities, as well as follow-on civil litigation that is often commenced after regulatory settlements.

Significant settlements by several large financial institutions with governmental entities have been publicly announced. The trend of large settlements with governmental entities may adversely affect the outcomes for other financial institutions, including, in some cases, GSI, or GS Group, in similar actions, especially where governmental officials have announced that the large settlements will be used as the basis or a template for other settlements. The uncertain regulatory enforcement environment makes it difficult to estimate probable losses, which can lead to substantial disparities between legal reserves and subsequent actual settlements or penalties.

GSI is subject to laws and regulations worldwide, including the U.S. Foreign Corrupt Practices Act and the U.K. Bribery Act, relating to corrupt and illegal payments to, and hiring practices with regard to, government officials and others. Violation of these or similar laws and regulations have in the past resulted in and could in the future result in significant monetary penalties. Such violations could also result in severe restrictions on GSI's activities and damage to its reputation.

Resolution of a criminal matter involving GSI or its employees could lead to increased exposure to civil litigation, could adversely affect GSI's reputation, could result in penalties or limitations on GSI's ability to conduct its activities generally or in certain circumstances and could have other negative effects.

- (d) ***In conducting its business around the world, GSI is subject to political, legal, regulatory and other risks that are inherent in operating in many countries***

In conducting GSI's businesses and supporting its global operations, GSI is subject to risks of possible nationalisation, expropriation, price controls, capital controls, exchange controls, communications and other content restrictions and other restrictive governmental actions, as well as the outbreak of hostilities or acts of terrorism. For example, sanctions have been imposed by the U.S. and the E.U. on certain individuals and companies in Russia and Venezuela. In many countries, the laws and regulations applicable to the securities and financial services industries and many of the

transactions in which GSI is involved are uncertain and evolving, and it may be difficult to determine the exact requirements of local laws in every market. GSI has been in some cases subject to divergent and conflicting laws and regulations across markets, and is increasingly subject to the risk that the jurisdictions in which it operates have implemented or may implement laws and regulations that directly conflict with those of another jurisdiction. Any determination by local regulators that GSI has not acted in compliance with the application of local laws in a particular market or a failure to develop effective working relationships with local regulators could have a significant and negative effect not only on GSI's businesses in that market, but also on its reputation generally. Further, in some jurisdictions a failure, or alleged failure, to comply with laws and regulations have subjected and may in the future subject GSI and its personnel not only to civil actions but also criminal actions and other sanctions. GSI is also subject to the enhanced risk that transactions it structures might not be legally enforceable in all cases.

While business and other practices throughout the world differ, GSI is subject in its operations worldwide to rules and regulations relating to corrupt and illegal payments, hiring practices and money laundering, as well as laws relating to doing business with certain individuals, groups and countries, such as the U.S. Foreign Corrupt Practices Act, the U.S. Bank Secrecy Act, as amended, and the U.K. Bribery Act. While GSI has invested and continues to invest significant resources in training and in compliance monitoring, the geographical diversity of its operations, employees, and clients, as well as the vendors and other third parties that GSI deals with, greatly increases the risk that GSI may be found in violation of such rules or regulations and any such violation could subject it to significant penalties or adversely affect its reputation.

In addition, there have been a number of highly publicised cases around the world, involving actual or alleged fraud or other misconduct by employees in the financial services industry in recent years, and GSI has had, and may in the future have, employee misconduct. This misconduct has included and may also in the future include intentional efforts to ignore or circumvent applicable policies, rules or procedures or misappropriation of funds and the theft of proprietary information, including proprietary software. It is not always possible to deter or prevent employee misconduct and the precautions taken to prevent and detect this activity have not been and may not be effective in all cases, as reflected by the settlements relating to 1Malaysia Development Berhad ("**1MDB**").

- (e) ***The application of regulatory strategies and requirements to facilitate the orderly resolution of large financial institutions could create greater risk of loss for GSI's security holders***

The circumstances in which a resolution authority would exercise its "bail-in" powers to recapitalise a failing entity by writing down its unsecured debt or converting it into equity are uncertain. If these powers were to be exercised (or if there was a suggestion that they could be exercised) in respect of GSI, such exercise would likely have a material adverse effect on the value of debt investments in GSI, including a potential loss of some or all of such investments.

The EU Bank Recovery and Resolution Directive ("**BRRD**") entered into force on 2 July 2014. EU member states were required to adopt and publish the laws, regulations and administrative provisions necessary to comply with the BRRD. Its stated aim is to provide national "resolution authorities" with powers and tools to address banking crises pre-emptively in order to safeguard financial stability and minimise taxpayers' exposure to losses.

The majority of the requirements of the BRRD have been implemented in the UK through the UK Banking Act 2009, as amended and related statutory instruments (together, the "**UK Banking Act**"). The UK Banking Act provides for a "resolution

regime" granting substantial powers to the Bank of England (or, in certain circumstances, HM Treasury), to implement resolution measures (in consultation with other UK authorities) with respect to a UK financial institution (such as GSI) where the resolution authority considers that the relevant institution is failing or is likely to fail, there is no reasonable prospect of other measures preventing the failure of the institution and resolution action is necessary in the public interest.

The resolution powers available to the resolution authority include powers to:

- write down the amount owing, including to zero, or convert the relevant securities into other securities, including ordinary shares of the relevant institution (or a subsidiary) – the so-called "bail-in" tool;
- transfer all or part of the business of the relevant institution to a "bridge bank";
- transfer impaired or problem assets to an asset management vehicle; and
- sell the relevant institution to a commercial purchaser.

In addition, the resolution authority is empowered to modify contractual arrangements, suspend enforcement or termination rights that might otherwise be triggered and disapply or modify laws in the UK (with possible retrospective effect) to enable the recovery and resolution powers under the UK Banking Act to be used effectively.

You should assume that, in a resolution situation, financial public support will only be available to GSI (or any member of Goldman Sachs) as a last resort after the relevant resolution authorities have assessed and used, to the maximum extent practicable, the resolution tools, including the bail-in tool.

In the event that GSI, or any of its affiliates, becomes subject to a proceeding under the Federal Deposit Insurance Act or Title II of the Dodd-Frank Wall Street Reform and Consumer Protection Act (together, the "**U.S. Special Resolution Regimes**"), default rights against GSI in relation to the Securities or (if applicable) to the relevant Guarantee given by GSI (as Guarantor) in relation to any Securities issued by GSW, are permitted to be exercised to no greater extent than such default rights could be exercised under such U.S. Special Resolution Regime if the Securities were governed by the laws of the United States or a state of the United States.

You should be aware that the exercise of any such resolution power or even the suggestion of any such potential exercise in respect of GSI (or any member of Goldman Sachs) could have a material adverse effect on the rights of holders of Securities and (if applicable) the relevant Guarantee given by GSI (as Guarantor), and could lead to a loss of some or all of the investment. The resolution regime is designed to be triggered prior to insolvency of the relevant institution, and holders of securities issued by such institution may not be able to anticipate the exercise of any resolution power (including exercise of the "bail-in" tool) by the resolution authority. Further, holders of securities issued by an institution which has been taken into a resolution regime will have very limited rights to challenge the exercise of powers by the resolution authority, even where such powers have resulted in the write down of the securities or conversion of the securities to equity.

2.6 **Competition Risks**

- (a) ***GSI's results have been and may in the future be adversely affected by the composition of its client base***

GSI's client base is not the same as that of its major competitors. GSI's businesses may have a higher or lower percentage of clients in certain industries or markets than some or all of its competitors. Therefore, unfavourable industry developments or market conditions affecting certain industries or markets have resulted in the past and may result in the future in GSI's businesses underperforming relative to similar businesses

of a competitor if its businesses have a higher concentration of clients in such industries or markets.

Correspondingly, favourable or simply less adverse developments or market conditions involving industries or markets in a business where GSI has a lower concentration of clients in such industry or market have also resulted in the past and may result in the future in GSI underperforming relative to a similar business of a competitor that has a higher concentration of clients in such industry or market. For example, GSI has a smaller corporate client base in its market-making businesses than some of its peers and therefore GSI's competitors may benefit more from increased activity by corporate clients. Similarly, GSI has not historically engaged in retail equities intermediation to the same extent as other financial institutions, which has in the past affected and could in the future adversely affect its market share in equities execution.

(b) ***The financial services industry is highly competitive***

To the extent GSI expands into new business areas and new geographic regions, it will face competitors with more experience and more established relationships with clients, regulators and industry participants in the relevant market, which could adversely affect its ability to expand.

Governments and regulators have adopted regulations, imposed taxes, adopted compensation restrictions or otherwise put forward various proposals that have impacted or may impact GSI's ability to conduct certain of its businesses in a cost-effective manner or at all in certain or all jurisdictions, including proposals relating to restrictions on the type of activities in which financial institutions are permitted to engage. These or other similar rules, many of which do not apply to all GSI's competitors, could impact its ability to compete effectively.

Pricing and other competitive pressures in GSI's businesses have continued to increase, particularly in situations where some competitors may seek to increase market share by reducing prices. For example, in connection with investment banking and other engagements, in response to competitive pressure GSI has experienced, GSI has extended and priced credit at levels that in some cases have not fully compensated it for the risks it has undertaken.

The financial services industry is highly interrelated in that a significant volume of transactions occur among a limited number of members of that industry. Many transactions are syndicated to other financial institutions and financial institutions are often counterparties in transactions. This has led to claims by other market participants and regulators that such institutions have colluded in order to manipulate markets or market prices, including allegations that antitrust laws have been violated. While GSI has extensive procedures and controls that are designed to identify and prevent such activities, they may not be effective. Allegations of such activities, particularly by regulators, can have a negative reputational impact and can subject GSI to large fines and settlements, and potentially significant penalties, including treble damages.

(c) ***GSI's businesses would be adversely affected if it is unable to hire and retain qualified employees***

GSI's performance is largely dependent on the talents and efforts of highly skilled people; therefore, GSI's continued ability to compete effectively in its businesses, to manage its businesses effectively and to expand into new businesses and geographic areas depends on its ability to attract new talented and diverse employees and to retain and motivate existing employees. Factors that affect GSI's ability to attract and retain such employees include the level and composition of compensation and benefits, and a reputation as a successful business with a culture of fairly hiring, training and

promoting qualified employees. As a significant portion of the compensation that GSI pays to its employees is paid in the form of year-end discretionary compensation, a significant portion of which is in the form of deferred equity-related awards, declines in the GS Group's profitability, or in the outlook for its future profitability, as well as regulatory limitations on compensation levels and terms, can negatively impact GSI's ability to hire and retain highly qualified employees.

Competition from within the financial services industry and from businesses outside the financial services industry, including the technology industry, for qualified employees has often been intense. GSI has experienced increased competition in hiring and retaining employees to address the demands of new regulatory requirements and GSI's technology initiatives. This is also the case in emerging and growth markets, where GSI is often competing for qualified employees with entities that have a significantly greater presence or more extensive experience in the region.

Laws or regulations in jurisdictions in which GSI's operations are located that affect taxes on GSI's employees' income or the amount or composition of compensation, or that require GSI to disclose its competitors' compensation practices may also adversely affect GSI's ability to hire and retain qualified employees in those jurisdictions.

GSI's compensation practices are subject to review by, and the standards of, the Prudential Regulation Authority ("PRA") and the Financial Conduct Authority ("FCA"). As a large financial institution, GSI is subject to limitations on compensation practices (which may or may not affect the companies with which GSI competes for talent) by the PRA and the FCA and other regulators worldwide. These limitations have shaped GSI's compensation practices, which has in some cases adversely affected GSI's ability to attract and retain talented employees, in particular in relation to companies not subject to these limitations, and future legislation or regulation may have similar adverse effects.

2.7 **Market Developments and General Business Environment Risks**

- (a) ***GSI's businesses, financial condition, liquidity and results of operations have been and may in the future be adversely affected by unforeseen or catastrophic events, including pandemics, terrorist attacks, extreme weather events or other natural disasters***

The occurrence of unforeseen or catastrophic events, including pandemics, such as COVID-19, or other widespread health emergencies (or concerns over the possibility of such an emergency), terrorist attacks, extreme weather events, solar events or other natural disasters, could adversely affect GSI's business, financial condition, liquidity and results of operations. These events could have such effects through economic or financial market disruptions or challenging economic or market conditions more generally, the deterioration of GSI's creditworthiness or that of GSI's counterparties, changes in consumer sentiment and consumer borrowing, spending and savings patterns, liquidity stress, or operational difficulties (such as travel limitations and limitations on occupancy in GSI's offices) that impair GSI's ability to manage GSI's businesses.

The COVID-19 pandemic created economic and financial disruptions that have in the past adversely affected, and may in the future adversely affect GSI's business, financial condition, liquidity and results of operations. The extent to which the COVID-19 pandemic will negatively affect GSI's businesses, financial condition, liquidity and results of operations will depend on, among other things, future developments, including any resurgence of COVID-19 cases, the emergence of new variants of COVID-19 and the effectiveness of vaccines and treatments over the long term and against new variants, which are highly uncertain and cannot be predicted.

- (b) ***Climate change could disrupt GS Group's businesses and adversely affect client activity levels and the creditworthiness of GSI's clients and counterparties, and GSI's efforts to address concerns relating to climate change could result in damage to GSI's reputation***

Climate change may cause extreme weather events that disrupt operations one or more of our or GS Group's primary locations, which may negatively affect GSI's ability to service and interact with GSI's clients, adversely affect the value of GSI's investments, and reduce the availability or increase the cost of insurance. Climate change and the transition to a less carbon-dependent economy may also have a negative impact on the operations or financial condition of GSI's clients and counterparties, which may decrease revenues from those clients and counterparties and increase the risk and other exposures to those clients and counterparties. In addition, climate change may impact the broader economy.

GSI is also exposed to risks resulting from changes in public policy, laws and regulations, or market and public perceptions and preferences in connection with the transition to a less carbon-dependent economy. These changes could adversely affect GSI's business, results of operations and reputation. For example, GSI's reputation and client relationships may be damaged as a result of GSI's or GSI's clients' involvement in, or decision not to participate in, certain industries or projects associated with causing or exacerbating climate change, as well as any decisions we make to continue to conduct or change GSI's activities in response to considerations relating to climate change. If GS Group is unable to achieve its objectives relating to climate change or GS Group's response to climate change is perceived to be ineffective, insufficient or otherwise inappropriate, GSI's business, reputation and efforts to recruit and retain employees may suffer.

New regulations or guidance relating to climate change, as well as the perspectives of government officials, regulators, , employees and other stakeholders regarding climate change, may affect whether and on what terms and conditions GSI engages in certain activities or offer certain products. Banking regulators and supervisory authorities, shareholders and other stakeholders have increasingly viewed financial institutions as playing an important role in helping to address risks related to climate change, both directly and with respect to their clients, which may result in financial institutions coming under increased requirements and expectations regarding the disclosure and management of their climate risks and related lending, investment and advisory activities. Any such new or heightened requirements could result in increased regulatory, compliance or other costs or higher capital requirements. The risks associated with, and the perspective of regulators, , employees and other stakeholders regarding, climate change are continuing to evolve rapidly, which can make it difficult to assess the ultimate impact on GSI of climate change-related risks and uncertainties, and GSI expect that climate change-related risks will increase over time.

- (c) ***GSI's business, financial condition, liquidity and results of operations may be adversely affected by disruptions in the global economy caused by Russia's invasion of Ukraine and related sanctions and other developments***

The war between Russia and Ukraine has negatively affected the global economy. Governments around the world have responded to Russia's invasion by imposing economic sanctions and export controls on certain industry sectors, including price caps on Russian oil, and parties in Russia. Compliance with economic sanctions and restrictions imposed by governments has increased GSI's costs and otherwise adversely affected GSI's business and may continue to do so. Russia has responded with its own restrictions against investors and countries outside Russia and has proposed additional measures aimed at non-Russia owned businesses. Businesses globally have experienced shortages in materials and increased costs for transportation, energy, and

raw materials due in part to the negative effects of the war on the global economy. The escalation or continuation of the war between Russia and Ukraine or other hostilities could result in, among other things, further increased risk of cyber attacks, an increased frequency and volume of failures to settle securities transactions, supply chain disruptions, higher inflation, lower consumer demand and increased volatility in commodity, currency and other financial markets.

The extent and duration of the war, sanctions and resulting market disruptions are impossible to predict, and the consequences for GSI's business could be significant.

(d) ***GSI may be adversely affected by negative publicity***

The financial services industry generally and GSI's businesses in particular have been subject to negative publicity. GSI's reputation and businesses may be adversely affected by negative publicity or information regarding its business and personnel, whether or not accurate or true, that may be posted on social media or other internet forums or published by news organisations. Postings on these types of forums may also adversely impact risk positions of GSI's clients and other parties that owe it money, securities or other assets and increase the chance that they will not perform their obligation to the firm or reduce the revenues received from their use of GSI's services. The speed and pervasiveness with which information can be disseminated through these channels, in particular social media, may magnify risks relating to negative publicity.

(e) ***Certain of GSI's businesses, its funding instruments and financial products may be adversely affected by changes in or the discontinuance of IBORs, in particular USD LIBOR***

On January 1, 2022, the publication of all EUR, CHF, JPY and GBP LIBOR ("**non-USD LIBOR**") settings along with certain USD LIBOR settings ceased. The publication of the most commonly used USD LIBOR settings as representative rates will cease after June 2023. The FCA proposed that certain of those USD LIBOR settings continue to be published on a synthetic basis through September 2024. The FCA has allowed the publication and use of synthetic rates for certain GBP LIBOR settings in legacy GBP LIBOR-based derivative contracts through March 2024.

The International Swaps and Derivatives Association ("**ISDA**") 2020 IBOR Fallbacks Protocol ("**IBOR Protocol**") has provided derivatives market participants with amended fallbacks for legacy and new derivative contracts to mitigate legal or economic uncertainty. Both counterparties have to adhere to the IBOR Protocol or engage in bilateral amendments for the terms to be effective for derivative contracts. ISDA has confirmed that the FCA's formal announcement to cease both non-USD and USD LIBOR settings fixed the spread adjustment for all LIBOR rates and as a result fallbacks applied automatically for non-USD LIBOR settings following December 31, 2021 and will apply automatically for USD LIBOR settings following June 30, 2023. The Adjustable Interest Rate (LIBOR) Act ("**LIBOR Act**"), that was enacted in March 2022, provides a statutory framework to replace USD LIBOR with a benchmark rate based on the Secured Overnight Financing Rate ("**SOFR**") for contracts governed by U.S. law that have no fallbacks or fallbacks that would require the use of a poll or LIBOR-based rate. In December 2022, the Federal Reserve Board ("**FRB**") adopted a final rule that implemented the LIBOR Act, which became effective on February 27, 2023. The final rule identifies different SOFR-based replacement rates for derivative contracts, for cash instruments such as floating-rate notes and preferred stock, for consumer contracts, for certain government-sponsored enterprise contracts and for certain student loan securitisations that lack a fallback to an alternative rate when USD LIBOR ceases to be published on June 30, 2023.

As the transition from LIBOR is ongoing, there continues to be uncertainty as to the ultimate effect of the transition on the financial markets for LIBOR-linked financial instruments. Similar developments have occurred with respect to other IBORs.

The language in GSI's contracts and financial instruments that define IBORs, in particular LIBOR, have developed over time and have various events that trigger when a successor rate to the designated rate would be selected. Once a trigger is satisfied, contracts and financial instruments often give the calculation agent (which may be GSI) discretion over the successor rate or benchmark to be selected. Although the LIBOR Act includes safe harbours if the FRB-identified SOFR based replacement rate is selected, these safe harbours are untested. As a result, and despite the enactment of the LIBOR Act, for the most commonly used USD LIBOR settings, the selection of a successor rate could result in client disputes and litigation surrounding the proper interpretation of GSI's IBOR based contracts and financial instruments. Discretionary actions taken in connection with the implementation of fallback provisions could also result in client disputes and litigation particularly for derivatives and other synthetic instruments.

Changes in, the discontinuation of, or changes in market acceptance of any IBOR, particularly USD LIBOR, as a reference rate may adversely affect certain of GSI's businesses, GSI's funding instruments and financial products.

- (f) ***Certain of GSI's businesses and its funding instruments may be adversely affected by changes in other reference rates, currencies, indices, baskets or exchange-traded funds ("ETFs") to which products GSI offers or funding that GSI raises are linked***

Many of the products that GSI owns or that it offers, such as structured notes, warrants, swaps or security-based swaps, pay interest or determine the principal amount to be paid at maturity or in the event of default by reference to rates or by reference to an index, currency, basket, ETF or other financial metric (the underlier). In the event that the composition of the underlier is significantly changed, by reference to rules governing such underlier or otherwise, the underlier ceases to exist (for example, in the event that a country withdraws from the Euro or links its currency to or delinks its currency from another currency or benchmark, an index or ETF sponsor materially alters the composition of an index or ETF, or stocks in a basket are delisted or become impermissible to be included in the index or ETF), the underlier ceases to be recognised as an acceptable market benchmark or there are legal or regulatory constraints on linking a financial instrument to the underlier, GSI may experience adverse effects.

- (g) ***GSI's business, financial condition, liquidity and results of operations may be adversely affected by disruptions in the global economy caused by escalating tensions between the U.S. and China***

Continued or escalating tensions between the U.S. and China have resulted in and may result in additional changes to U.S. international trade and investment policies, which could disrupt international trade and investment, adversely affect financial markets, including market activity levels, and adversely impact GSI's revenues. Continued or escalating tensions may also lead to the U.S., China or other countries taking other actions, which could include the implementation of sanctions, tariffs or foreign exchange measures, the largescale sale of U.S. Treasury securities or restrictions on cross border trade, investment or transfer of information or technology. Any such developments could adversely affect GSI's or GSI's clients' businesses, as well as GSI's financial condition, liquidity and results of operations, possibly materially.

A conflict, or concerns about a potential conflict, involving China and Taiwan, the U.S. or other countries could negatively impact financial markets and GSI's or GSI's clients' businesses. Trade restrictions by the U.S. or other countries in response to a conflict or

potential conflict involving China, including financial and economic sanctions and export controls against certain organisations or individuals, or actions taken by China in response to trade restrictions, could negatively impact GSI's or GSI's clients' ability to conduct business in certain countries or with certain counterparties and could negatively impact regional and global financial markets and economic conditions. Any of the foregoing could adversely affect GSI's business, financial condition, liquidity and results of operations, possibly materially."

2. Amendments to the section entitled "Documents Incorporated by Reference"

The information in the section entitled "*Documents Incorporated by Reference*" is amended and supplemented by:

- (a) deleting sub-section 1 entitled "*Goldman Sachs International*" on pages 64 to 65 of the Base Prospectus in its entirety and replacing it with the following:

"1. **Goldman Sachs International**

GSI files documents and information with the Financial Conduct Authority (the "FCA"). The following documents, which GSI has filed with the FCA, are hereby incorporated by reference into this Base Prospectus:

- (a) The Annual Report for the period ended 31 December 2022 of GSI ("**GSI's 2022 Annual Report**"), containing, in Part II, the Directors' Report and Audited Financial Statements of GSI for the period ended 31 December 2022 ("**GSI's 2022 Financial Statements**") (accessible on <https://www.goldmansachs.com/investor-relations/financials/subsidiary-financial-info/gsi/2022/12-31-22-financial-statements.pdf>);
- (b) The Unaudited Quarterly Financial Report of GSI for the period ended 30 September 2022 ("**GSI's 2022 Third Quarter Financial Report**"), containing, in Part II, the Unaudited Financial Statements of GSI for the period ended 30 September 2022 ("**GSI's 2022 Third Quarter Financial Statements**") (accessible on <https://www.goldmansachs.com/investor-relations/financials/subsidiary-financial-info/gsi/2022/09-30-2022-financial-information.pdf>);
- (c) The Unaudited Quarterly Financial Report of GSI for the period ended 30 June 2022 ("**GSI's 2022 Second Quarter Financial Report**"), containing, in Part II, the Unaudited Financial Statements of GSI for the period ended 30 June 2022 ("**GSI's 2022 Second Quarter Financial Statements**") (accessible on <https://www.goldmansachs.com/investor-relations/financials/subsidiary-financial-info/gsi/2022/06-30-22-financial-statements.pdf>);
- (d) The Unaudited Quarterly Financial Report of GSI for the period ended 31 March 2022 ("**GSI's 2022 First Quarter Financial Report**"), containing, in Part II, the Unaudited Financial Statements of GSI for the period ended 31 March 2022 ("**GSI's 2022 First Quarter Financial Statements**") (accessible on <https://www.goldmansachs.com/investor-relations/financials/subsidiary-financial-info/gsi/2022/03-31-22-financial-information.pdf>);
- (e) The Annual Report for the period ended 31 December 2021 of GSI ("**GSI's 2021 Annual Report**"), containing, in Part II, the Directors' Report and Audited Financial Statements of GSI for the period ended 31 December 2021 ("**GSI's 2021 Financial Statements**") (accessible on <https://www.goldmansachs.com/investor-relations/financials/subsidiary-financial-info/gsi/2021/12-31-21-financial->

[statements.pdf](#)); and

- (f) The Annual Report for the period ended 31 December 2020 of GSI ("**GSI's 2020 Annual Report**"), containing, in Part II, the Directors' Report and Audited Financial Statements of GSI for the period ended 31 December 2020 ("**GSI's 2020 Financial Statements**") (accessible on <https://www.goldmansachs.com/investor-relations/financials/current/subsidiary-financial-info/gsi/12-31-20-financial-statements.pdf>).

Cross-Reference List

GSI Information in the Fiscal Statement	GSI's 2022 Annual Report	GSI's 2022 Third Quarter Financial Report	GSI's 2022 Second Quarter Financial Report	GSI's 2022 First Quarter Financial Report	GSI's 2021 Annual Report	GSI's 2020 Annual Report
Management Report/ Strategic Report	pp. 2-30	pp. 1-5	pp. 1-15	pp. 1-3	pp. 2-30	pp. 2-47
Report of the Directors	pp. 31-49	N/A	N/A	N/A	pp. 31-49	pp. 48-54
Balance Sheet	p. 47	p. 7	p. 17	p. 5	p. 47	p. 63
Profit and Loss Account / Income Statement	p. 46	p. 6	p. 16	p. 4	p. 46	p. 62
Statement of Cash Flows	p. 49	N/A	p. 19	N/A	p. 49	p. 65
Notes to the Financial Statements	pp. 50-90	pp. 8-12	pp. 20-34	pp. 6-11	pp. 50-90	pp. 66-113
Independent Auditors' Report	pp. 38-45	N/A	N/A	N/A	pp. 38-45	p. 55

Any information included in the documents incorporated by reference that is not included in the cross reference list is not incorporated by reference and is therefore not relevant to an investor (meaning that it is not necessary information to be included in this Base Prospectus pursuant to Article 6(1) of the UK Prospectus Regulation and is not otherwise required to be included under the relevant schedules of the UK Prospectus Regulation)."; and

- (b) deleting sub-section 3 entitled "*The Goldman Sachs Group, Inc.*" on pages 66 to 68 of the Base Prospectus in its entirety and replacing it with the following:

"3. The Goldman Sachs Group, Inc.

GSG files documents and information with the SEC. The following documents, which have previously been published and filed with the SEC, shall be deemed to be incorporated by reference in, and to form part of, this Base Prospectus:

- (a) The Current Report on GSG's 18 April 2023 Form 8-K of The Goldman Sachs Group, Inc. ("**GSG's 18 April 2023 Form 8-K**"), including Exhibit 99.1 ("**Exhibit 99.1 to GSG's 18 April 2023 Form 8-K**") as filed with the SEC on 18 April 2023 (accessible on <https://www.goldmansachs.com/investor-relations/financials/8k/2023/8k-04-18-23.pdf>);
- (b) the Proxy Statement relating to GSG's 2023 Annual Meeting of Shareholders on 26 April 2023 ("**GSG's 2023 Proxy Statement**"), as filed with the SEC on 17 March 2023 (accessible on <https://www.goldmansachs.com/investor-relations/financials/proxy-statements/2023/2023-proxy-statement-pdf.pdf>);
- (c) The Annual Report on Form 10-K for the fiscal year ended 31 December 2022 of The Goldman Sachs Group, Inc. ("**GSG's 2022 Form 10-K**"), containing financial statements relating to the fiscal years ended 31 December 2022, 31 December 2021 and 31 December 2020, including Exhibit 21.1, as filed with the U.S. Securities and Exchange Commission on 24 February 2023 (accessible on <https://www.goldmansachs.com/investor-relations/financials/10k/2022/2022-10-k.pdf>);
- (d) The Current Report on GSG's 17 January 2023 Form 8-K of The Goldman Sachs Group, Inc. ("**GSG's 17 January 2023 Form 8-K**"), including Exhibit 99.1 ("**Exhibit 99.1 to GSG's 17 January 2023 Form 8-K**") as filed with the SEC on 17 January 2023 (accessible on <https://www.goldmansachs.com/investor-relations/financials/8k/2023/8k-01-17-23.pdf>);
- (e) The Quarterly Report on Form 10-Q for the third fiscal quarter ended 30 September 2022 of the Goldman Sachs Group, Inc. ("**GSG's 2022 Third Quarter Form 10-Q**"), as filed with the SEC on 3 November 2022 (accessible on <https://www.goldmansachs.com/investor-relations/financials/10q/2022/third-quarter-2022-10-q.pdf>);
- (f) The Current Report on Form 8-K dated 18 October 2022 of The Goldman Sachs Group Inc. ("**GSG's 18 October 2022 Form 8-K**") including Exhibit 99.1 ("**Exhibit 99.1 to GSG's 18 October 2022 Form 8-K**") as filed with the SEC on 18 October 2022 (accessible on <https://www.goldmansachs.com/investor-relations/financials/8k/2022/8k-10-18-22.pdf>);
- (g) The Quarterly Report on Form 10-Q for the second fiscal quarter ended 30 June 2022 of the Goldman Sachs Group, Inc. ("**GSG's 2022 Second Quarter Form 10-Q**"), as filed with the SEC on 3 August 2022 (accessible on <https://www.goldmansachs.com/investor-relations/financials/10q/2022/second-quarter-2022-10-q.pdf>);
- (h) The Current Report on Form 8-K dated 18 July 2022 of The Goldman Sachs Group Inc. ("**GSG's 18 July 2022 Form 8-K**") including Exhibit 99.1 ("**Exhibit 99.1 to GSG's 18 July 2022 Form 8-K**") as filed with the SEC on 18 July 2022 (accessible on <https://www.goldmansachs.com/investor-relations/financials/8k/2022/8k-07-18-22.pdf>);
- (i) The Quarterly Report on Form 10-Q for the first fiscal quarter ended 31 March 2022 of the Goldman Sachs Group, Inc. ("**GSG's 2022 First Quarter Form 10-Q**"), as filed with the SEC on 29 April 2022 (accessible on <https://www.goldmansachs.com/investor-relations/financials/10q/2022/first-quarter-2022-10-q.pdf>);
- (j) The Current Report on Form 8-K dated 14 April 2022 of The Goldman Sachs Group Inc. ("**GSG's 14 April 2022 Form 8-K**") including Exhibit 99.1 ("**Exhibit 99.1 to GSG's 14 April 2022 Form 8-K**") as filed with the SEC on 14 April 2022 (accessible on <https://www.goldmansachs.com/investor-relations/financials/8k/2022/8k-04-14-22.pdf>);
- (k) The Proxy Statement relating to GSG's 2022 Annual Meeting of Shareholders on 28 April 2022 ("**GSG's 2022 Proxy Statement**"), as filed with the SEC on 18 March 2022 (accessible on <https://www.goldmansachs.com/investor-relations/financials/proxy-statements/2022/2022-proxy-statement-pdf.pdf>); and

- (1) The Annual Report on Form 10-K for the fiscal year ended 31 December 2021 of The Goldman Sachs Group, Inc. ("**GSG's 2021 Form 10-K**"), containing financial statements relating to the fiscal years ended 31 December 2021, 31 December 2020 and 31 December 2019, including Exhibit 21.1, as filed with the U.S. Securities and Exchange Commission on 24 February 2022 (accessible on <https://www.goldmansachs.com/investor-relations/financials/10k/2021/2021-10-k.pdf>).

The following table indicates where information required by the UK Prospectus Regulation ("**UK PR**") is to be disclosed in, and incorporated by reference into, this Base Prospectus can be found in the documents referred to above:

Information required by the UK PR	Document/Location
Risk factors relating to GSG (<i>Annex 6, Section 3, Item 3.1 of the UK PR</i>)	GSG's 2022 Form 10-K (Market risks (pp. 29-32), Liquidity risks (pp. 32-34), Credit risks (pp. 35-36), Operational risks (pp. 36-40), Legal and Regulatory risks (pp. 41-48), Competition risks (pp. 48-50) and Market Developments and General Business Environment risks (pp. 50-54))
Information about GSG	
History and development of the company (<i>Annex 6, Section 4, Item 4.1 of the UK PR</i>)	GSG's 2022 Form 10-K (p. 1)
Details of any recent events particular to GSG and which are to a material extent relevant to an evaluation of GSG's solvency (<i>Annex 6, Section 4, Item 4.1.5 of the UK PR</i>)	GSG's 2022 Form 10-K (pp. 57-118)
Information on the material changes in GSG's borrowing or funding structure since the last financial year (<i>Annex 6, Section 4, Item 4.1.7 of the UK PR</i>)	GSG's 2022 Form 10-K (pp. 80-83, 123-126, 180-182)
Description of the expected financing of GSG's activities (<i>Annex 6, Item 4, Item 4.1.8 of the UK PR</i>)	GSG's 2022 Form 10-K (pp. 80-83)
Business overview	
GSG's principal activities (<i>Annex 6, Section 5, Item 5.1 of the UK PR</i>)	GSG's 2022 Form 10-K (pp. 1-5, 127)
GSG's principal markets (<i>Annex 6, Section 5, Item 5.1.1 (c) of the UK PR</i>)	GSG's 2022 Form 10-K (pp. 9-10, 56, 209)
Organisational Structure (<i>Annex 6, Section 6, Items 6.1 and 6.2 of the UK PR</i>)	GSG's 2022 Form 10-K (p. 34, Exhibit 21.1)
Trend information (<i>Annex 6, Section 7, Items 7.1 and 7.2 of the UK PR</i>)	Exhibit 99.1 to GSG's 18 April 2023 Form 8-K (pp. 1-11) GSG's 2022 Form 10-K (pp. 57-118)
Administrative, management and supervisory bodies, including conflicts of interest (<i>Annex 6, Section 9, Items 9.1 and 9.2 of the UK PR</i>)	GSG's 2023 Proxy Statement (pp. 6-30, 97-99) GSG's 2022 Form 10-K (pp. 24-25)
Beneficial owners of more than five per cent. (<i>Annex 6, Section 10, Item 10.1 of the UK PR</i>)	GSG's 2023 Proxy Statement (p. 102)

Information required by the UK PR	Document/Location
Financial information	
Audited historical financial information for the fiscal years ended 31 December 2022, 31 December 2021 and 31 December 2020 (<i>Annex 6, Section 11, Items 11.1.1 and 11.1.5 of the UK PR</i>)	GSG's 2022 Form 10-K (pp. 123-231)
Audit report (<i>Annex 6, Section 11, Item 11.1.1 of the UK PR</i>)	GSG's 2022 Form 10-K (pp. 120-122)
Balance sheet (<i>Annex 6, Section 11, Item 11.1.5 of the UK PR</i>)	GSG's 2022 Form 10-K (p. 124)
Income statement (<i>Annex 6, Section 11, Item 11.1.5 of the UK PR</i>)	GSG's 2022 Form 10-K (p. 123)
Cash flow statement (<i>Annex 6, Section 11, Item 11.1.5 of the UK PR</i>)	GSG's 2022 Form 10-K (p. 126)
Accounting policies and explanatory notes (<i>Annex 6, Section 11, Item 11.1.5 of the UK PR</i>)	GSG's 2022 Form 10-K (pp. 59-62, 127-231)
Legal and arbitration proceedings (<i>Annex 6, Section 11, Item 11.4.1 of the UK PR</i>)	GSG's 2022 Form 10-K (pp. 55, 210-223)
Additional information	
Share capital (<i>Annex 6, Section 12, Item 12.1 of the UK PR</i>)	GSG's 2022 Form 10-K (pp. 125, 192-194)
Material contracts	
Material contracts (<i>Annex 6, Section 13, Item 13.1 of the UK PR</i>)	GSG's 2022 Form 10-K (pp. 180-183)

Certain material risks that are specific to the Issuer and/or Guarantor and that may affect the Issuer's and/or Guarantor's ability to fulfil its obligations under the Securities may be described by referring to the relevant sections therein of the above documents incorporated by reference (as applicable). See "*Risks relating to GSG*" under the section of this Base Prospectus entitled "*Risk Factors*".

Any information included in the documents incorporated by reference that is not included in the cross reference list is not incorporated by reference and is therefore not relevant to an investor (meaning that it is not necessary information to be included in this Base Prospectus pursuant to Article 6(1) of the UK Prospectus Regulation and is not otherwise required to be included under the relevant schedules of the UK Prospectus Regulation).

Investors who have not previously reviewed the information contained in the above documents should do so in connection with their evaluation of any Securities. Any statement contained in a document or the relevant portion of which is incorporated by reference into this Base Prospectus, shall be deemed to be modified or superseded for the purpose of this Base Prospectus to the extent that a statement contained in this Base Prospectus or in any supplement to this Base Prospectus, including any documents incorporated therein by reference, modifies or supersedes such earlier statement (whether expressly, by implication or otherwise).

The documents incorporated by reference into this Base Prospectus are available to investors by request from Investor Relations, 200 West Street, New York, New York 10282, USA, telephone +1

(212) 902-0300 and from the Luxembourg Paying Agent, Banque Internationale à Luxembourg at its office at 69 route d'Esch, L-2953 Luxembourg, Grand Duchy of Luxembourg. The documents incorporated by reference are also available on the Luxembourg Stock Exchange's website (www.luxse.com).".

3. Amendments to the section entitled "Goldman Sachs International"

The information in the section entitled "Goldman Sachs International" is amended and supplemented by:

- (a) deleting the fourth paragraph under the sub-section entitled "*General Information on Goldman Sachs International*" on page 290 of the Base Prospectus in its entirety and replacing it with the following:

"A description of GSI's principal future investments on which its management body has already made firm commitments may be found in Note 25 of the "Notes to the Financial Statements" at page 69 of GSI's 2022 Annual Report, which has been incorporated by reference into this Base Prospectus as set out above.";

- (b) deleting the first paragraph under the sub-section entitled "*Capitalisation*" on page 290 of the Base Prospectus in its entirety and replacing it with the following:

"As at 31 December 2022, GSI had 598,182,053 issued ordinary shares of U.S.\$ 1.00 each. The issue of additional shares by GSI shall be at the discretion of the Directors of GSI in accordance with Article 1.6 of the Articles of Association of GSI. All of the issued shares are fully paid and are owned by Goldman Sachs Group UK Limited."; and

- (c) deleting the sub-section entitled "*Management of GSI*" on pages 291 to 293 of the Base Prospectus in its entirety and replacing it with the following:

"Management of GSI"

The directors of GSI, their positions within GSI and business addresses are as follows:

<u>Name</u>	<u>Position</u>	<u>Business Address</u>	<u>Significant Outside Activities</u>
M. Michele Burns	Non-Executive Director	Plumtree Court 25 Shoe Lane London EC4A 4AU	<ul style="list-style-type: none"> • Director of The Goldman Sachs Group, Inc. • Director of Anheuser-Busch InBev • Director of Cisco Systems, Inc. • Director of Etsy, Inc • Director of Circle Internet Financial, LLC
Lisa A. Donnelly	Executive Director	Plumtree Court 25 Shoe Lane London EC4A 4AU	<ul style="list-style-type: none"> • Executive Director of Goldman Sachs International Bank

Name	Position	Business Address	Significant Outside Activities
			Independent Supervisory Director of Goldman Sachs Bank Europe SE
Sir Bradley Fried	Non-Executive Director	Plumtree Court 25 Shoe Lane London EC4A 4AU	<ul style="list-style-type: none"> • Director of Goldman Sachs International Bank • Director of Grovepoint Limited • Director of Grovepoint Finance Limited • Director of PZ Holdings Limited • Director of Preqin Holdings Limited • Director of Fried Associates Limited • Director of Rothschild Foundation (Hanadiv) Europe • Member of NR2 Ventures LLP • Designated Member of Pavilion Capital Partners LLP • Protector of Eurona II Foundation
Catherine G. Cripps	Non-Executive Director	Plumtree Court 25 Shoe Lane London EC4A 4AU	<ul style="list-style-type: none"> • Director of Goldman Sachs International Bank • Director of Maniyar Capital Advisors UK Limited • Director of Polar Capital Technology Trust plc <p>Director of Pool Reinsurance Company Limited</p>

Name	Position	Business Address	Significant Outside Activities
Richard J. Gnodde	CEO & Executive Director	Plumtree Court 25 Shoe Lane London EC4A 4AU	<ul style="list-style-type: none"> • Executive Director of Goldman Sachs International Bank • Vice Chairman of the Goldman Sachs Group, Inc. (not a Board position) • LLP Member of Morse Partnership LLP • Advisory Board Member on the Campaign Board of Cambridge University • Advisory Board Member on The Sutton Trust • Trustee University of Cape Town Trust
Sam P. Gyimah	Non-Executive Director	Plumtree Court 25 Shoe Lane London EC4A 4AU	<ul style="list-style-type: none"> • Director of Goldman Sachs International Bank • Director of Oxford University Innovation Limited • Advisory Board Member of Blume Equity LLP • Venture Partner of Lakestar • Director of Renaissance Learning • Member of Development Board of The British Academy
Nigel Harman	Non-Executive Director	Plumtree Court 25 Shoe Lane London EC4A 4AU	<ul style="list-style-type: none"> • Director of Goldman Sachs International Bank

Name	Position	Business Address	Significant Outside Activities
Therese L. Miller	Non-Executive Director	Plumtree Court 25 Shoe Lane London EC4A 4AU	<ul style="list-style-type: none"> • Director of Goldman Sachs International Bank • Director of EventingLive Limited • Director of British Equestrian Federation • Director of Galliford Try Holdings PLC • Director of Rothesay Limited • Director of Rothesay Life PLC • Director of Stelrad PLC
Nirubhan Pathmanabhan	Executive Director	Plumtree Court 25 Shoe Lane London EC4A 4AU	<ul style="list-style-type: none"> • Executive Director of Goldman Sachs International Bank

The Directors of GSI do not hold any direct, indirect, beneficial or economic interest in any of the shares of GSI.

The Board of Directors has authorised individual Managing Directors of GSI to approve any and all documents on its behalf.

There are no potential conflicts of interest between any duties owed by the Board of Directors to GSI and their private interests and/or other duties."

4. Amendments to the section entitled "General Information"

The information in the section entitled "*General Information*" is amended and supplemented by:

- (a) deleting the paragraph (a) relating to GSI in sub-section 2 entitled "*Financial Statements*" on page 329 of the Base Prospectus in its entirety and replacing it with the following:

"(a) **Goldman Sachs International**

The statutory financial statements of GSI for the periods ended 31 December 2022 and 31 December 2021 have been audited without qualification by PricewaterhouseCoopers LLP, Chartered Accountants and Statutory Auditors, of 7 More London Riverside, London, SE1 2RT in accordance with the laws of England. PricewaterhouseCoopers LLP is a registered member of the Institute of Chartered Accountants in England and Wales.";

- (b) deleting the statement relating to GSI in sub-section 3 entitled "*No significant change and no material adverse change*" on page 329 of the Base Prospectus in its entirety and replacing it with the following:

"There has been no significant change in the financial position or financial performance of GSI and its consolidated subsidiaries since 31 December 2022. There has been no material adverse change in the

prospects of GSI since 31 December 2022.";

- (c) deleting sub-section 4 entitled "*Litigation*" on page 330 of the Base Prospectus in its entirety and replacing it with the following:

"4. Litigation

"Save as disclosed in (i) "Legal Proceedings" of Note 25 to the Financial Statements (pages 70 to 71) of GSI's 2022 Annual Report and (ii) "Legal Proceedings" of Note 27 to the Financial Statements (pages 210 to 223) of GSG's 2022 Form 10-K, there have been no governmental, legal or arbitration proceedings (including any such proceedings which are pending or threatened of which GSI, GSW, GSFCI or GSG is aware) during the 12 months before the date of this Base Prospectus (as supplemented to, and including, the date of Prospectus Supplement No. 2) which may have, or have had in the recent past, significant effects on GSI, GSW, GSFCI or GSG's financial position or profitability."; and

- (d) deleting sub-section 5 entitled "*Availability of Documents*" on pages 330 to 331 of the Base Prospectus in its entirety and replacing it with the following:

"5. Availability of Documents

Copies of the following documents will be made available for at least 10 years and may be obtained free of charge upon request during normal business hours from the specified office of the Issuers and the office of the Paying Agent in Luxembourg and each of the Paying Agents (and in the case of (i) only, on https://www.goldmansachs.ch/ch/media/ch/dokumente/sonstiges/19-10-04-GSFCI_Constitutional_Documents.pdf and in the case of (ii) to (iv) and (xxx) to (xxxiv) on the website of the Issuer at <https://www.goldmansachs.com/investor-relations/>):

- (i) the constitutional documents of GSFCI;
- (ii) the constitutional documents of GSW;
- (iii) the constitutional documents of GSI;
- (iv) the certificate of incorporation of GSG;
- (v) GSI's 2022 Third Quarter Financial Report;
- (vi) GSI's 2022 Second Quarter Financial Report;
- (vii) GSI's 2022 First Quarter Financial Report;
- (viii) GSI's 2022 Annual Report;
- (ix) GSI's 2021 Annual Report;
- (x) GSI's 2020 Annual Report;
- (xi) GSFCI's 2022 Interim Financial Statements;
- (xii) GSFCI's 2021 Financial Statements;
- (xiii) GSFCI's 2021 Interim Financial Statements;
- (xiv) GSFCI's 2020 Financial Statements;
- (xv) GSG's 18 April 2023 Form 8-K;
- (xvi) GSG's 17 January 2023 Form 8-K;
- (xvii) GSG's 18 October 2022 Form 8-K;

- (xviii) GSG's 18 July 2022 Form 8-K;
- (xix) GSG's 14 April 2022 Form 8-K;
- (xx) GSG's 2022 Third Quarter Form 10-Q;
- (xxi) GSG's 2022 Second Quarter Form 10-Q;
- (xxii) GSG's 2022 First Quarter Form 10-Q;
- (xxiii) GSG's 2023 Proxy Statement;
- (xxiv) GSG's 2022 Proxy Statement;
- (xxv) GSG's 2022 Form 10-K;
- (xxvi) GSG's 2021 Form 10-K;
- (xxvii) the GSG (New York law) Guaranty;
- (xxviii) the GSI (English law) Guarantee;
- (xxix) the GSI (New York law) Guarantee (of PSL Notes under Cayman Islands law);
- (xxx) the Programme Agency Agreement;
- (xxxi) the Deed of Covenant and the Cayman Deed of Covenant;
- (xxxii) the Issue Terms for each Tranche or Series of Securities that are listed on the Official List of the Luxembourg Stock Exchange or any other stock exchange;
- (xxxiii) a copy of the Base Prospectus;
- (xxxiv) a copy of any supplement to the Base Prospectus and Issue Terms; and
- (xxxv) all reports, letters and other documents, balance sheets, valuations and statements by any expert any part of which is extracted or referred to in this Base Prospectus."

Interpretation

To the extent that there is any inconsistency between (a) any statement in this Prospectus Supplement and (b) any other statement in or incorporated by reference into the Base Prospectus, the statements in (a) above will prevail.

References to the Base Prospectus shall hereafter mean the Base Prospectus as supplemented by this Prospectus Supplement.

U.S. notice

This Prospectus Supplement is not for use in, and may not be delivered to or inside, the United States.

The date of this Prospectus Supplement is 5 May 2023