



DEUTSCHE BÖRSE
GROUP

Annual report 2018

Excerpt: fundamental information about the Group

www.deutsche-boerse.com



Combined management report

This combined management report covers both Deutsche Börse Group and Deutsche Börse AG and includes the combined non-financial statements according to the CSR directive. It follows the requirements of the Handelsgesetzbuch (HGB, German Commercial Code) and the Deutscher Rechnungslegungs Standard Nr. 20 (DRS 20, German Accounting Standard No. 20). This management report also takes into account the requirements of the Practice Statement “Management Commentary” issued by the International Accounting Standards Board (IASB).

Fundamental information about the Group

Overview of Deutsche Börse Group

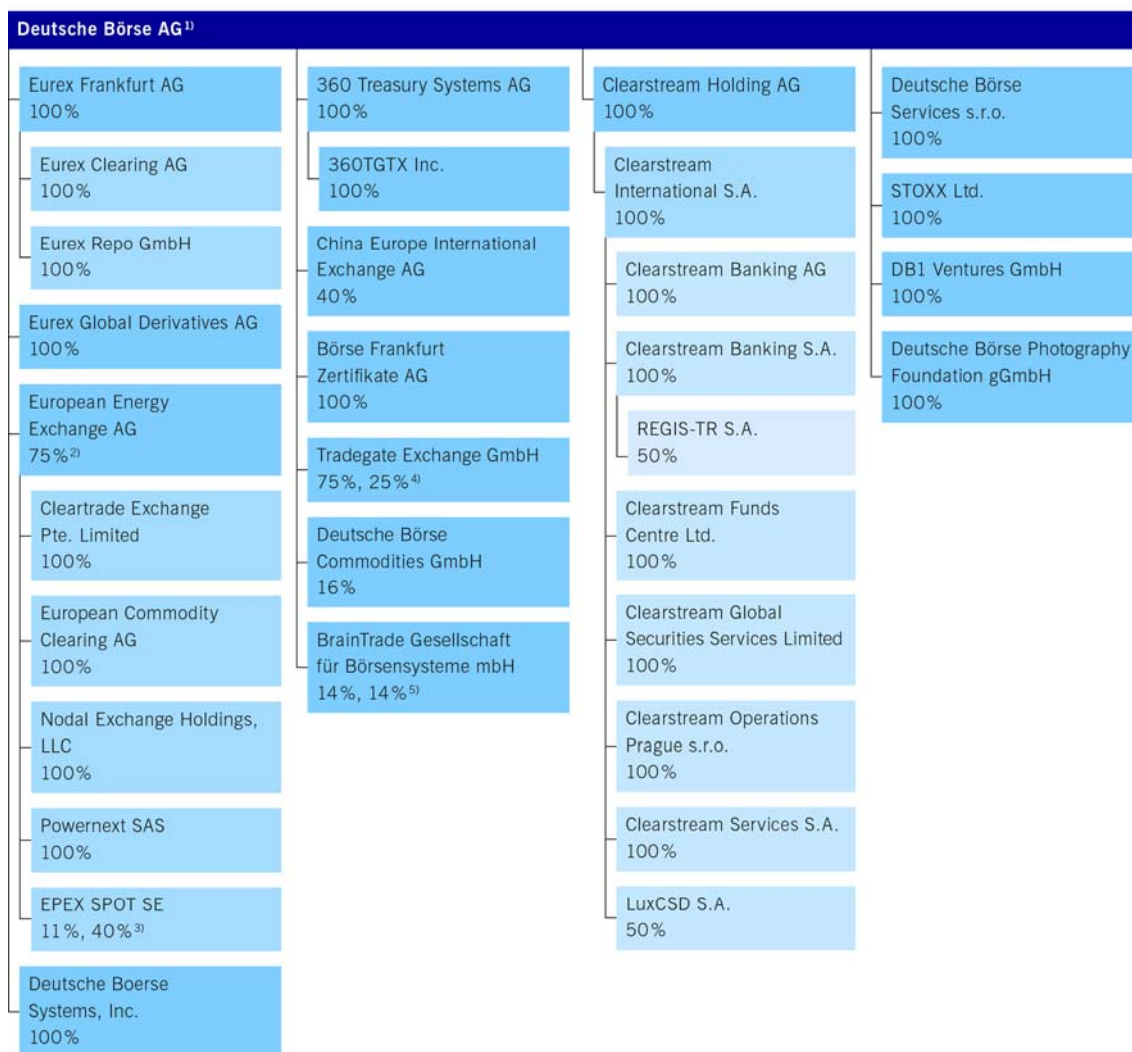
Business operations and Group structure

Deutsche Börse AG, which is headquartered in Frankfurt/Main, Germany, is the parent company of Deutsche Börse Group. As at 31 December 2018, the Group employed 5,964 people at 37 locations in 26 countries. As one of the largest market infrastructure providers worldwide, Deutsche Börse Group offers its customers a wide range of products and services. These cover the entire financial market transactions value creation chain – covering the dissemination of market information and provision of indices (pre-trading), services for trading and transaction clearing and settlement, securities custody, as well as services for liquidity and collateral management (post-trading). In addition, the Group develops and operates the IT systems that support all these processes.

Deutsche Börse AG markets price and reference data of Deutsche Börse Group’s systems and platforms as well as other trading information; it also develops and sells indices via its subsidiary STOXX Ltd. In addition, Deutsche Börse AG operates the Eurex Exchange derivatives market via Eurex Frankfurt AG. Commodities spot and derivatives markets are operated by the Group’s direct subsidiary European Energy Exchange AG (EEX). Deutsche Börse AG provides a foreign-exchange trading platform via its subsidiary 360 Treasury Systems AG (360T); the Group operates the cash market at Frankfurter Wertpapierbörse (FWB[®], the Frankfurt Stock Exchange) with its fully electronic trading venue Xetra[®] and offers trading in structured products (certificates and warrants) in Germany via Börse Frankfurt Zertifikate AG. The Group also offers clearing services for the cash and derivatives markets (Eurex Clearing AG). All post-trading services that Deutsche Börse Group provides for securities are handled by Clearstream Holding AG and its subsidiaries (Clearstream Holding group). These include transaction settlement, the administration and custody of securities, as well as services for investment funds and global securities financing. Deutsche Börse AG and Clearstream Services S.A. develop and operate Deutsche Börse Group’s technological infrastructure.

The “Shareholding structure of Deutsche Börse Group” chart gives an overview of Deutsche Börse Group’s main shareholdings; its basis of consolidation is presented in full in [note 2 to the consolidated financial statements](#).

Shareholding structure of Deutsche Börse Group



1) Simplified presentation of main shareholdings (rounded values), as at 1 January 2019

2) Economic participation; lower voting rights

3) Direct equity interest European Energy Exchange AG: 11%, direct equity interest Powernext SAS: 40%

4) Direct equity interest Deutsche Börse AG: 75%, direct equity interest Tradegate AG Wertpapierhandelsbank: 25%

5) Direct equity interest Deutsche Börse AG: 14%, direct equity interest Börse Frankfurt Zertifikate AG: 14%

Reporting segments

Since 1 January 2018, Deutsche Börse Group has divided its business activities into nine segments:

- The former Eurex segment was divided into three segments: Eurex (financial derivatives), EEX (commodities) and 360T (foreign exchange).
- The former Clearstream segment was divided into three segments: Clearstream (post-trading), IFS (investment fund services) and GSF (collateral management).
- The former Market Data + Services (MD+S) segment was separated into STOXX (index business) and Data. Revenue from the Infrastructure Services division, the third pillar of the former MD+S segment, have been allocated to the Eurex (financial derivatives) and Xetra (cash equities) segments.
- The Group continues to report on business developments in the cash market within the Xetra (cash equities) segment.

This structure serves as a basis for the Group's internal management and financial reporting (see the following table entitled "Deutsche Börse Group's reporting segments" for details). This more detailed segment reporting further enhances transparency, highlighting growth areas. Recognising the growing importance of some business areas, these have been shown as independent reporting segments as of the financial year 2018. Hence, the Group also reports the reporting segments' cost base and EBITDA on a segment level.

Deutsche Börse Group's reporting segments

Reporting segment	Business areas
Eurex (financial derivatives)	<ul style="list-style-type: none"> ▪ Electronic derivatives trading (Eurex Exchange) ▪ Eurex Repo[®] over-the-counter (OTC) trading platform ▪ C7[®] electronic clearing architecture ▪ Central counterparty for on- and off-exchange derivatives and repo transactions
EEX (commodities)	<ul style="list-style-type: none"> ▪ Electronic trading of electricity and gas products as well as emission rights (EEX group) ▪ Central counterparty for cash market and derivative products
360T (foreign exchange)	<ul style="list-style-type: none"> ▪ Electronic foreign-exchange trading (360T[®]) ▪ Central counterparty for on- and off-exchange derivatives
Xetra (cash equities)	<ul style="list-style-type: none"> ▪ Cash market with the Xetra[®], Börse Frankfurt and Tradegate trading venues ▪ Central counterparty for equities and bonds ▪ Admission of securities (listing)
Clearstream (post-trading)	<ul style="list-style-type: none"> ▪ Custody and settlement services for securities
IFS (investment fund services)	<ul style="list-style-type: none"> ▪ Investment fund services (order routing, settlement and custody)
GSF (collateral management)	<ul style="list-style-type: none"> ▪ Global securities financing and collateral management services, such as collateralised money market lending, repo or securities lending transactions
STOXX (index business)	<ul style="list-style-type: none"> ▪ Development and marketing of indices (STOXX[®] and DAX[®])
Data	<ul style="list-style-type: none"> ▪ Distribution of licences for trading and market signals ▪ Technology and reporting solutions for external customers ▪ Trading participant connectivity

Management

The governing bodies of Deutsche Börse AG, which is a German stock corporation, are the Annual General Meeting, the Supervisory Board and the Executive Board, each of which has its own areas of responsibility.

The Annual General Meeting rules on the appropriation of the unappropriated surplus, appoints the shareholder representatives on the Supervisory Board and approves the actions of the Executive Board and the Supervisory Board. In addition, it rules on corporate actions and other matters governed by the Aktiengesetz (AktG, German Stock Corporation Act).

The Supervisory Board appoints, supervises and advises the Executive Board and is directly involved in key decisions affecting the company. Additionally, it approves the consolidated financial statements prepared by the Executive Board. Members of the Supervisory Board are appointed for a period of three years, although the Annual General Meeting may determine a shorter term of office when electing members. Since staffing numbers at Deutsche Börse AG in Germany have surpassed the threshold of 2,000 employees, the Supervisory Board must be composed in accordance with the provisions of the Mitbestimmungsgesetz (German Co-determination Act). Since the 2018 Annual General Meeting, Deutsche Börse AG's Supervisory Board has consisted of eight shareholder representatives and eight employee representatives. This increase accounted for the growing demands placed upon Supervisory Board members in connection with the growth of the company and the Group, particularly with regard to diversity and internationalisation of Supervisory Board work. Previously, the Supervisory Board had been comprised of twelve members: eight shareholder representatives and four employee representatives. Further details are described in the [“Combined corporate governance statement and corporate governance report”](#) section.

The Executive Board is responsible for the management of the company; the Chief Executive Officer (CEO) coordinates the activities of the Executive Board members. During the financial year 2018, the Executive Board of Deutsche Börse AG had five members until the end of June. Since the retirement of Jeffrey Tessler and the appointments of Thomas Book and Stephan Leithner at the beginning of July, the Executive Board has counted six members. Andreas Preuß retired from the Executive Board with effect from 31 October 2018. He was succeeded by Christoph Böhm on 1 November 2018. The remuneration system and the remuneration paid to the individual members of the Executive Board are described in detail in the [remuneration report](#).

Organisational structure

The Chief Executive Officer (CEO) is, among other things, responsible for the Group's strategy and M&A activities, communication, the area of Group Legal & Regulatory Affairs and Group Audit. The portfolio of the Chief Financial Officer (CFO) includes, amongst other things, financial reporting and controlling, risk management, compliance and investor relations. The Trading & Clearing division bundles derivatives trading and the clearing houses of Deutsche Börse Group. The electronic foreign-exchange trading platform 360T[®], as well as EEX group, also belong to this division. The Post-Trading, Data & Index division includes Clearstream's settlement and custody business, the reporting segments IFS (Investment Fund Services) and GSF (Collateral Management), as well as the index and data business. Deutsche Börse Group's cash market businesses – comprising the trading venues Xetra[®], the Frankfurt Stock Exchange, and the certificates and warrants business – are allocated to the Cash Market, Pre-IPO & Growth Financing division. The division is also responsible for the build-up of a pre-IPO market and tools for growth financing. Human Resources completes this area of responsibility. The Chief Information Officer's/Chief Operating Officer's division combines Deutsche Börse Group's IT activities and market operations.

Technological transformation and digitalisation are key issues expedited by this division. The [“Leadership structure of Deutsche Börse Group as at 1 February 2019”](#) chart gives an overview of Deutsche Börse Group's current organisational structure.

Leadership structure of Deutsche Börse Group as of 1 February 2019

Group Executive Board						
CEO	CFO	CIO/COO		Trading & Clearing	Cash Market, Pre-IPO & Growth Financing	Post-Trading, Data & Index
T. Weimer	G. Pottmeyer	C. Böhm		T. Book	H. Stars	S. Leithner
Group Strategy/ Mergers & Acquisitions/ Chief of Staff	Financial Accounting & Controlling	Market Operations	Corporate Systems	Derivatives Markets Trading	Cash Market Development & Operational Management	Strategy & Controls
Group Communications & Marketing	Chief Compliance Officer	GFF IT	Data IT	Clearing	Cash Market Sales & Partner Markets	Regulatory Implementation
Group Regulatory Strategy	Investor Relations	IFS IT	Energy	Business Analytics & Strategy	Pre-IPO & Capital Markets	Clearstream Global Ops.
Group Audit	Treasury	Digital Workplace	Risk IT	FX/360T	Community Development	Market Data + Services
Group Legal	Chief Risk Officer	Derivatives & Cash Trading IT	Office of the CTO	European Energy Exchange (EEX)	Digitisation/ Platforms	Global RM, Sales & Services
	Group Organisational Services	Asset Servicing	Innovation		Human Resources	Clearstream Products
	Compensation Officer	IT Infrastructure				
	Group Tax	Settlement IT				
	External Findings Management	DLT, Crypto Assets & New Market Structure				
		Executive Office				
		Clearing IT				

Objectives and strategies

Deutsche Börse Group's objectives and strategies

Deutsche Börse Group is one of the largest market infrastructure providers worldwide. The Group's business model enhances the capital markets' stability, efficiency and integrity. Issuers benefit from the low capital procurement costs it offers, while investors enjoy high liquidity and low transaction costs. At the same time, Deutsche Börse stands for transparent, secure capital markets in which organised trading is based on free price formation.

Deutsche Börse Group's business model is based on a broadly diversified range of products and services, covering the entire financial market transactions value creation chain. It aims to provide customers with reliable services, in an efficient and cost-effective manner, benefiting from the scalability of the business; it is based on the following key elements:

- Integrating different financial market services such as trading, clearing, settlement, securities custody, liquidity and collateral management, as well as index and market data services
- Providing these services for different asset classes such as equities, bonds, funds, commodities, foreign-exchange (FX) products, interest rate products, as well as derivatives on these underlyings
- Developing and operating proprietary electronic systems for all processes along the value creation chain
- Organising an impartial marketplace to ensure orderly, supervised trading with fair price formation, plus providing risk management services

The efficiency of this business model is proven by the fact that Deutsche Börse Group is one of the most cost-effective providers of trading, clearing and settlement services for comparable products worldwide. Thanks to its efficient cost base and highly scalable business, Deutsche Börse Group has generated strong cash flows from operating activities for many years.

In order to maintain and expand its leading position among exchange organisations, Deutsche Börse Group is pursuing a growth strategy called "Roadmap 2020". To achieve this strategic objective, Deutsche Börse is, on the one hand, focusing on generating structural, organic growth and, on the other hand, also accelerating non-organic growth through acquisitions in five defined business segments. The third pillar of the strategy is to strengthen and further expand its leading position in the IT area.

Against this background, the Group conducted an in-depth review of its organic growth initiatives in the 2018 reporting year and reprioritised where appropriate. In particular, Deutsche Börse Group is focusing on the expansion in structural growth markets and asset classes, considering the consequent and successful implementation of introduced initiatives as highly important. Please refer to the [report on opportunities](#) for an overview of key initiatives and growth drivers. Moreover, the remuneration system for the Executive Board and executive staff has created, among other things, incentives for growth in the individual divisions. For a detailed description of all objectives, see the [remuneration report](#). As far as external growth opportunities are concerned, the focus is on strengthening existing high-growth areas and exploring new asset classes and services.

Deutsche Börse Group has a scalable business model, which permits higher business volumes at relatively minor additional costs. With strong business performance and organic or external growth, this means that revenue growth will exceed cost increases. To reinforce the scalability of its business model, the Group has introduced clearly defined net revenue and profit growth targets. Based on its current

business portfolio, the Group anticipates structurally driven net revenue increases of at least 5 per cent annually until 2020. With regard to the annual earnings before interest, tax, depreciation and amortisation (EBITDA) and consolidated net profit for the period attributable to Deutsche Börse AG shareholders, the Group is targeting increases of a yearly average of 10 to 15 per cent until 2020.

The factors with material impact on Deutsche Börse Group's organic growth are, amongst others:

- Regulatory requirements affecting all market participants: if regulatory initiatives (e.g. EMIR, MiFIR and Capital Requirements Directives) strengthen the role of exchanges, this will also benefit Deutsche Börse Group.
- Structural changes in the financial markets: e.g. trading activity increases if investment funds make greater use of derivatives to implement their trading strategies.
- Innovative strength: if Deutsche Börse Group succeeds in continually introducing new products and services for which there is demand on the market, the Group will further grow its business.
- The effect of macroeconomic conditions on the financial markets: e.g. greater stock market volatility typically leads to higher levels of trading in the cash and derivatives markets, and rising interest rates drive higher net interest income and trading volumes of interest rate derivatives.

Deutsche Börse Group is committed to maintaining transparent, reliable and liquid financial markets; although it cannot affect how the volume drivers for these markets, i.e. cyclical factors, develop. However, the Group is able to influence the other factors to some extent or to control them in full; for instance, it can lobby for a favourable legal framework for the financial markets, or it can develop products and services to support customer business. This also enables it to reduce dependence on those factors beyond its control.

Management approach for a Group-wide commitment to sustainability

Deutsche Börse Group's objectives and strategies include discharging its corporate responsibility holistically. In line with this, its management approach is guided by three action-based principles that aim to sustainably strengthen and preserve the value added to the economy and to society by Deutsche Börse Group:

- Building trust. Deutsche Börse Group aims to organise the capital markets in a way that ensures their integrity, transparency and security. The availability of high-quality information is a key aspect in this process and something that the company is working constantly to enhance. In this context, providing sustainability information is as significant as engaging in a constructive dialogue on the future viability of the international capital markets with customers and the general public alike.
- Leading by example. As a listed service provider, Deutsche Börse Group aims to ensure that its own corporate activities are conducted responsibly and with a view to the future. In addition, the Group pursues a sustainable human resources policy and is committed to the environment and hence to conserving resources. It enhances its commitment to sustainability and related reporting on an ongoing basis in order to establish itself as a long-term role model on the market.
- Increasing public awareness. The Group is part of civil society and as such has a responsibility towards it. It is committed to fulfilling this role both in Germany and in its international locations. It systematically bases its actions on local requirements and, as a good corporate citizen, takes part in long-term cooperative initiatives aimed at strengthening structures in the non-profit sector.

In 2016, Deutsche Börse established a Group Sustainability Board to continuously develop the Group-wide sustainability strategy along the entire value chain and advise the Executive Board on sustainability issues. The Board convenes twice a year; in 2018, its members comprised 15 representatives of the Executive Board divisions, plus the Head of Group Sustainability. Due to the 2018 restructuring of the Executive Board divisions, the Board met only once in the year under review.

Internal management

Management systems

Deutsche Börse Group's internal management system is based on key performance indicators taken from the consolidated income statement (net revenue; operating costs excluding depreciation, amortisation and impairment losses; EBITDA; Group's net profit for the period attributable to Deutsche Börse AG shareholders), as well as on various parameters derived from the consolidated statement of financial position and the consolidated statement of cash flows (cash flows from operating activities, liquidity, equity less intangible assets). Additionally, the system includes key performance indicators derived from the adjusted consolidated income statement and the balance sheet (interest coverage ratio, interest-bearing gross debt / EBITDA and return on shareholders' equity).

Net revenue is composed of sales revenue plus net interest income from banking business and from other operating income, less volume-related costs. Sales revenue from external customers is generally dependent on the growth factors described above (regulatory and structural changes, the Group's innovative strength, and performance of the financial markets). Net interest income from banking business is dependent on how Clearstream's international settlement business performs, on the one hand, and on developments of short-term interest rates, particularly in the USA and in the eurozone, on the other. In addition to income from the Clearstream segment, net interest income has also included interest income and expenses in the Eurex segment. This income is generated by the Group's clearing houses from investing their clients' cash collateral. Other operating income results from exchange rate differences, among other things.

Volume-related costs normally correlate with business development in the relevant business areas, such as fees and commissions from banking business or the cost of purchasing price data. In addition, various licence fees (e.g. for index licences) contribute to volume-related costs.

To facilitate transparency in reporting costs and results, and to increase comparability with competitors, Deutsche Börse Group has been separately disclosing operating costs as well as depreciation, amortisation and impairment losses since the second quarter of 2017, introducing EBITDA as an additional parameter. Consequently, operating costs include staff costs as well as other operating expenses, but exclude depreciation, amortisation and impairment losses. Staff costs consist of wages and salaries, social security contributions and the cost of retirement benefits. They are subject to inflation adjustments and depend partially on the company's performance, as they also include a variable remuneration. Other operating expenses mainly comprise the costs of developing and operating the Group's technological infrastructure, office infrastructure costs and marketing costs. The item depreciation, amortisation and impairment losses includes depreciation and amortisation of, and impairment losses on, intangible assets and property, plant and equipment.

Around 75 per cent of Deutsche Börse Group's costs are fixed costs (unadjusted). As a result, the Group can handle higher volumes of business without a significant increase in total costs. Conversely, a decline in business volumes has a direct impact on the Group's profitability. Approximately 25 per cent of the Group's costs are volume-related costs.

Deutsche Börse Group manages its EBITDA using net revenue and operating costs. At Group level, the net profit for the period attributable to Deutsche Börse AG shareholders also serves as a performance indicator for internal management.

The performance indicators derived from the statement of financial position and the statement of cash flows include cash flows from operating activities, a predefined liquidity target, and equity less intangible assets. Liquidity planning aims at maintaining liquidity at about the same level of operating costs for one quarter (currently between €150 million and €250 million). There is no set target for the Group's management KPI of equity less intangible assets; rather, the objective is to maintain a positive figure.

The interest coverage ratio is the ratio of EBITDA to the interest expense from financing activities. As part of its capital management programme, the Group aims to achieve an interest coverage ratio of at least 16 for Deutsche Börse Group. In addition, the goal is to achieve a maximum ratio of interest-bearing gross debt to EBITDA of 1.5 at Group level. The latter performance indicator is particularly important at present in protecting the Group's current AA rating. The target for the Clearstream subgroup is to maintain an interest coverage ratio of 25 and to comply with other capital adequacy measures to protect its current AA rating. Because Clearstream had no financial liabilities from non-banking business in either the reporting period or the previous year, no interest coverage ratio had to be calculated for the subgroup.

Beginning with the 2019 financial year, the Group will use new key performance indicators based on the consolidated balance sheet. Prompting this was an adjustment by the S&P Global Ratings (S&P) rating agency in the key indicators it follows and in their calculation. The most important new indicators are free funds from operations (FFO) in relation to net debt and net debt in relation to EBITDA. The Group will continue to use the interest coverage indicator, but the calculation has been adjusted.

In order to achieve the minimal financial risk profile consistent with an AA rating as defined by S&P, the company is targeting an FFO to net debt ratio of at least 50 per cent, a net debt to EBITDA ratio of no more than 1.75 and an interest coverage ratio of at least 14. These key indicators will be incorporated into the Group's reporting as of the first quarter of 2019. Details on how the indicators were calculated for the year 2018, as well as a comparison with the previous calculation methodology, are presented in the [“Financial position” section](#).

Group projects are prioritised and steered using strategic and financial criteria, taking project-specific risks into account. The main criterion used to assess the strategic attractiveness of projects is their (expected) contribution to the strategic objectives for Deutsche Börse Group and its business areas. The main financial criteria are key performance indicators such as net present value (NPV), the payback period and the return after tax, which are calculated on the basis of the project or business plans. Risks are monitored at all levels of project work, i.e. both when prioritising and steering projects and during ongoing project management.

Details concerning the non-financial performance indicators used by Deutsche Börse Group are outlined in the [“Combined non-financial statement”](#) section.

Internal control system as part of the financial reporting process

Deutsche Börse has established a Group-wide internal control system (ICS). The ICS comprises rules to manage the company's activities as well as guidelines defining how compliance with these rules is monitored. Monitoring tasks are implemented through process-integrated measures (such as organisational safeguards and controls) as well as through process-independent measures. All business divisions are responsible that Group-wide ICS requirements are met in their respective areas of responsibility.

The purpose of the accounting-related ICS is to ensure orderly accounting practices. The central Financial Accounting and Controlling (FA&C) division, together with decentralised units acting on the requirements set out by FA&C, are responsible for preparing the accounts at Deutsche Börse AG and its consolidated subsidiaries. Group Tax is responsible for determining tax items within the scope of the accounting; the relevant department heads are responsible for the related processes, including effective security and control measures. The goal is to ensure that risks in the accounting process are identified early on so that remedial action can be taken in good time.

In order to maintain consistent and continuous accounting processes, FA&C provides regularly updated accounting manuals as well as guidelines and work instructions for the material accounting processes – as part of the preparation of the annual financial statements and consolidated financial statements of Deutsche Börse AG. All FA&C employees have access to this documentation, accounting manuals and account allocation guidelines, allowing them to obtain information on the management judgements and accounting options exercised by Deutsche Börse Group.

Moreover, Deutsche Börse Group continuously monitors and analyses changes in the accounting environment and adjusts its processes in line with them. This applies in particular to national and international accounting standards.

Another key feature of the ICS is the principle of the separation of functions: tasks and responsibilities are clearly defined and allocated within the organisation. Incompatible tasks – such as modifying master data on the one hand and issuing payment instructions on the other – are strictly segregated at a functional level. An independent control unit grants individual employees access rights to the accounting system and continuously monitors these permissions using a so-called incompatibility matrix. Transactions are initially recorded in the general ledger or the appropriate sub ledgers on the basis of the chart of accounts and the account allocation guidelines.

Major Deutsche Börse Group subsidiaries maintain and consolidate their general ledgers in the same system. Accounting data from the other companies is uploaded for inclusion in the consolidated financial statements. Liabilities, expenses and income for individual transactions are recorded in separate accounts under the name of the counterparty concerned. Any consolidation differences are reviewed centrally and sent to the accounting departments of the companies concerned for clarification.

The processes, systems and controls described above aim to provide reasonable assurance that the accounting system complies with the applicable principles and laws. In addition, Compliance and Internal Audit act as a further line of defence, performing risk-based, process-independent controls on whether the ICS is appropriate and effective. The Executive Board and the Audit Committee established by the Supervisory Board receive regular reports on the effectiveness of the ICS with respect to the financial reporting process.

Research and development activities

As a service provider, Deutsche Börse Group does not engage in research and development activities comparable to those of manufacturing companies. As a result, this combined management report does not contain a detailed research and development report. However, Deutsche Börse does develop and operate its own trading and clearing systems, as well as systems solutions designed to achieve its structural growth objectives. The company constantly works to maintain and enhance the technological leadership and stability of its electronic systems in the interests of its customers and the systemic stability of the financial markets. During the years 2014 to 2018, Deutsche Börse therefore significantly overhauled its trading and clearing technology, which go by the trade names T7[®] and C7[®]. During the reporting period, the T7 trading technology was rolled out on the US Nodal Exchange, which has been a part of Deutsche Börse Group since May 2017. Other technically challenging projects of the past financial year include the implementation of the increasing reporting obligations according to EMIR and MiFID II, as well as the introduction of the pan-European intraday power market (XBID) and the clearing functionality for FX trading.

In 2018, research and development expenses amounted to €130.8 million (2017: €154.4 million); of this figure, approximately 61 per cent (2017: 56 per cent) was attributable to development costs that were capitalised as internally developed software. Accordingly, research and development costs amounted to 5 per cent of net revenue (2017: 6 per cent). In addition, €36.8 million of capitalised development costs were amortised in 2018. Details can be found in the [notes 7 and 24 to the consolidated financial statements](#).

Further details of product and services development activities can be found in the [report on opportunities](#) and the [report on expected developments](#).

Takeover-related disclosures

Disclosures in accordance with sections 289a (1) and 315a (1) of the HGB and notes

In accordance with sections 289a (1) and 315a (1) of the Handelsgesetzbuch (HGB, German Commercial Code), Deutsche Börse AG hereby makes the following disclosures as at 31 December 2018:

The share capital of Deutsche Börse AG amounted to €190.0 million on the above-mentioned reporting date and was composed of 190 million no-par value registered shares. There are no other classes of shares besides these ordinary shares.

The share capital has been contingently increased by up to €19.3 million by issuing up to 19.3 million no-par value registered shares (contingent capital 2014). The contingent capital increase will be implemented only to the extent that holders of convertible bonds or warrants attaching to bonds with warrants issued by the company or a Group company in the period until 14 May 2019 on the basis of the authorisation granted to the Executive Board in accordance with the resolution of the Annual General Meeting on 15 May 2014 on item 5 (a) of the agenda exercise their conversion or option rights, that

they meet their conversion or option obligations, or that shares are tendered, and no other means are used to settle such rights or obligations. More details can be found in Article 4 (7) of the Articles of Association of Deutsche Börse AG.

The Executive Board is only aware of limitations to voting rights that result from the Aktiengesetz (AktG, German Stock Corporation Act), according to which voting rights arising from shares affected by section 136 of the AktG may not be exercised. Furthermore, shares held by Deutsche Börse AG as treasury shares are exempted from the exercise of any rights according to section 71b of the AktG.

Under the Wertpapierhandelsgesetz (WpHG, German Securities Trading Act), any investor whose shareholding reaches, exceeds or falls below specified voting right thresholds as a result of purchase, sale or any other transaction is required to notify the company and the Bundesanstalt für Finanzdienstleistungsaufsicht (BaFin, German Federal Financial Supervisory Authority). The lowest threshold for this disclosure requirement is 3 per cent. Deutsche Börse AG is not aware of any direct or indirect equity interests in its capital exceeding 10 per cent of the voting rights.

There are no shares with special rights granting the holder supervisory powers.

Employees holding shares in Deutsche Börse AG exercise their rights in the same way as other shareholders in accordance with the statutory provisions and the Articles of Association.

Members of the Executive Board are appointed and dismissed in accordance with sections 84 and 85 of the AktG and with Article 6 of the Articles of Association of Deutsche Börse AG. Amendments to the Articles of Association of Deutsche Börse AG are adopted by resolution of the Annual General Meeting in accordance with section 119 (1) No. 5 of the AktG. Under Article 12 (4) of the Articles of Association of Deutsche Börse AG, the Supervisory Board has the power to make changes to the Articles of Association that relate to the wording only. In accordance with Article 18 (1) of the Articles of Association of Deutsche Börse AG, resolutions of the Annual General Meeting are passed by a simple majority of the votes cast, unless otherwise mandated by the AktG. Insofar as the AktG additionally prescribes a majority of the share capital represented at the time of a resolution, a simple majority of the share capital represented is sufficient where this is legally permissible.

Subject to the approval of the Supervisory Board, the Executive Board is authorised to increase the share capital by up to a total of €13.3 million on one or more occasions in the period up to 10 May 2021 by issuing new no-par value registered shares in exchange for cash and/or non-cash contributions (authorised capital I). Shareholders must be granted pre-emptive rights. However, subject to the approval of the Supervisory Board, the Executive Board may exclude shareholders' pre-emptive rights with respect to fractional amounts. However, according to the authorisation, the Executive Board may only exclude shareholders' pre-emptive rights if the total number of shares that are issued during the term of the authorisation and that exclude shareholders' pre-emptive rights does not exceed 20 per cent of the share capital. Full authorisation, and particularly the conditions under which shareholders' pre-emptive rights can be excluded, is derived from Article 4 (3) of the Articles of Association of Deutsche Börse AG.

The Executive Board is also authorised to increase the share capital by up to a total of €19.3 million on one or more occasions in the period up to 12 May 2020, subject to the approval of the Supervisory Board, by issuing new no-par value registered shares against cash and/or non-cash contributions (authorised capital II). Shareholders must be granted pre-emptive rights, which the Executive Board can disapply in certain cases, subject to the approval of the Supervisory Board in each case. The Executive Board is authorised to exclude shareholders' pre-emptive rights: (i) in the case of cash capital increases, provided that the issue price of the new shares is not significantly lower than the prevailing exchange price, and the total number of shares issued under exclusion of shareholders' pre-emptive rights does not

exceed 10 per cent of the share capital; (ii) in the case of physical capital increases in exchange for non-cash contributions for the purpose of acquiring companies, parts of companies, interests in companies, or other assets; or (iii) with respect to fractional amounts. However, according to the authorisation, the Executive Board may only exclude shareholders' pre-emptive rights if the total number of shares that are issued during the term of authorisation and that exclude shareholders' pre-emptive rights does not exceed 20 per cent of the share capital. The full authorisation, and particularly the conditions under which shareholders' pre-emptive rights can be disapplied, is derived from Article 4 (4) of the Articles of Association of Deutsche Börse AG.

In addition, the Executive Board is authorised to increase the share capital by up to a total of €38.6 million on one or more occasions in the period up to 12 May 2020, subject to the approval of the Supervisory Board, by issuing new no-par value registered shares in exchange for cash contributions (authorised capital III). Shareholders must be granted pre-emptive rights, which the Executive Board can exclude, subject to the approval of the Supervisory Board, only for fractional amounts. However, according to the authorisation, the Executive Board may only exclude shareholders' pre-emptive rights if the total number of shares that are issued during the term of authorisation and that exclude shareholders' pre-emptive rights does not exceed 20 per cent of the share capital. The exact content of this authorisation is derived from Article 4 (5) of the Articles of Association of Deutsche Börse AG.

Furthermore, the Executive Board is authorised to increase the share capital by up to a total of €6.0 million on one or more occasions in the period up to 16 May 2022, subject to the approval of the Supervisory Board, by issuing new no-par value registered shares against cash and/or non-cash contributions (authorised capital IV). Shareholders must be granted pre-emptive rights unless the Executive Board makes use of the authorisation granted to it to disapply such rights, subject to the approval of the Supervisory Board. The Executive Board is authorised to disapply shareholders' pre-emptive rights for fractional amounts with the approval of the Supervisory Board. However, according to the authorisation, the Executive Board may only exclude shareholders' pre-emptive rights if the total number of shares that are issued during the term of the authorisation and that exclude shareholders' pre-emptive rights does not exceed 20 per cent of the share capital. Full authorisation is derived from Article 4 (6) of the Articles of Association of Deutsche Börse AG.

The Executive Board is authorised to acquire treasury shares amounting to up to 10 per cent of the share capital. However, the acquired shares, together with any treasury shares acquired for other reasons that are held by the company or attributed to it in accordance with sections 71a ff. of the AktG, may at no time exceed 10 per cent of the company's share capital. The authorisation to acquire treasury shares is valid until 16 May 2019 and may be exercised by the company in full or in part on one or more occasions. However, it may also be exercised by dependent companies, by companies in which Deutsche Börse AG holds a majority interest or by third parties on its or their behalf. The Executive Board may elect to acquire the shares (1) on the stock exchange, (2) via a public tender offer addressed to all shareholders or via a public request for offers of sale addressed to the company's shareholders, (3) by issuing tender rights to shareholders or (4) using derivatives (put options, call options, forward purchases or a combination of put options, call options and forward purchases). The full and exact wording of the authorisation to acquire treasury shares, and particularly the permissible uses to which the shares may be put, can be found in items 5 and 6 of the agenda for the Annual General Meeting held on 17 May 2017.

The following material agreements of the company are subject to a change of control following a takeover bid:

- On 28 March 2017, Deutsche Börse AG and its subsidiary Clearstream Banking S.A. entered into a multicurrency revolving facility agreement with a banking syndicate for a working capital credit totalling up to €750 million. If there is a change of control, the credit relationship between Deutsche Börse AG and the lenders can be reviewed in negotiations within a period of no more than 60 days. In this process, each lender has the right, at its own discretion, to terminate its credit commitment and demand partial or full repayment of the amounts owing to it. A change of control occurs if Deutsche Börse AG no longer directly or indirectly holds the majority of Clearstream Banking S.A. or if a person or a group of persons acting in concert acquires more than 50 per cent of the voting shares of Deutsche Börse AG.
- Under the terms of Deutsche Börse AG's €600.0 million fixed-rate bond issue 2015/2041 (hybrid bond), Deutsche Börse AG has a termination right in the event of a change of control which, if exercised, entitles Deutsche Börse AG to redeem the bonds at par, plus accrued interest. If Deutsche Börse AG does not exercise this termination right, the affected bonds' coupon will increase by 5 percentage points. A change of control occurs if a person or a group of persons acting in concert, or third parties acting on their behalf, has or have acquired more than 50 per cent of the shares of Deutsche Börse AG or the number of Deutsche Börse AG shares required to exercise more than 50 per cent of the voting rights at Annual General Meetings of Deutsche Börse AG. In addition, the relevant bond terms require that the change of control must adversely affect the long-term rating given to Deutsche Börse AG by Moody's Investors Services, Inc., S&P Global Ratings or Fitch Ratings Limited. Further details can be found in the applicable bond terms.
- The terms of the €500.0 million fixed-rate bonds 2015/2025, the €600.0 million fixed-rate bonds 2018/2028, and the €600.0 million fixed-rate bonds 2012/2022, which were all issued by Deutsche Börse AG, all provide Deutsche Börse AG with a termination right in the event of a change of control. If these cancellation rights are exercised, the bonds are repayable at par plus any accrued interest. A change of control occurs if a person or a group of persons acting in concert, or third parties acting on their behalf, has or have acquired more than 50 per cent of the shares of Deutsche Börse AG or the number of Deutsche Börse AG shares required to exercise more than 50 per cent of the voting rights at Annual General Meetings of Deutsche Börse AG. In addition, the respective sets of bond terms require that the change of control must adversely affect the rating given to one of the preferential unsecured debt instruments of Deutsche Börse AG by Moody's Investors Services, Inc., S&P Global Ratings or Fitch Ratings Limited. Further details can be found in the applicable bond terms.
- Under certain conditions, members of Deutsche Börse AG's Executive Board have a special right to terminate their contracts of service in the event of a change of control. According to the agreements made with all Executive Board members, a change of control occurs if (i) a shareholder or third party discloses possession of more than 50 per cent of the voting rights in Deutsche Börse AG in accordance with sections 33 and 34 of the WpHG (sections 21 and 22 of the WpHG [previous version]), (ii) an intercompany agreement in accordance with section 291 of the AktG is entered into with Deutsche Börse AG as a dependent company, or Deutsche Börse AG is absorbed in accordance with section 319 of the AktG or (iii) Deutsche Börse AG is merged in accordance with section 2 of the Umwandlungsgesetz (UmwG, German Reorganisation and Transformation Act).

Moreover, agreements for compensation in the case of a change of control have been entered into with the members of the Executive Board. A description of these agreements, which are in line with customary national and international practice, can also be found in the [remuneration report](#).

Deutsche Börse AG shares

The average annual return since Deutsche Börse AG's initial public offering in 2001 has been about 14 per cent. Thus, Deutsche Börse AG shares have proven to be an attractive long-term investment. They closed financial year 2018 with a strong increase of 8 per cent – better than the performance of the Dow Jones Global Exchanges Index, which tracks other exchange organisations and rose by 4 per cent during 2018. Deutsche Börse AG shares significantly outperformed the DAX® blue-chip index (price index: minus 21 per cent) as well as the STOXX® Europe 600 Financials Return (minus 21 per cent) (see the [“Share price development of Deutsche Börse AG and benchmark indices in 2018”](#) chart).

Deutsche Börse AG shares: key figures

		2018	2017
Earnings per share (basic) ¹⁾	€	5.42	4.59
Dividend per share	€	2.70 ²⁾	2.45
Dividend distribution ratio ¹⁾	%	49	53
Dividend yield ³⁾	%	2.4	2.7
Opening price (as at 1 Jan) ⁴⁾	€	96.80	77.54
High ⁵⁾	€	121.15	100.25
Low ⁵⁾	€	95.30	74.27
Closing price (as at 31 Dec)	€	104.95	96.80
Average daily trading volume on trading venue Xetra®	m shares	0.6	0.5
Number of shares (as at 31 Dec)	m	190.0	193.0
thereof outstanding (as at 31 Dec)	m	183.3	186.6
Free float (as at 31 Dec)	%	100	100
Price-earnings ratio ³⁾		20.5	19.9
Market capitalisation (as at 31 Dec)	€bn	19.2	18.1
Average annual return since IPO in 2001	%	13.8	15.0
Attendance of share capital at the Annual General Meeting	%	71.1	73.7
Share of investors from Germany/UK/USA/other countries	%	20/26/33/21	18/26/34/22
Institutional investors	%	94	93
Number of shareholders		ca. 52,000	ca. 50,000
Analyst recommendations buy/hold/sell (as at 31 Dec)	%	37/47/16	43/52/5
Average target price set by analysts at year-end	€	119.75	98.00

1) Adjusted for exceptional effects

2) For financial year 2018, proposal to the Annual General Meeting 2019

3) Based on the volume-weighted average of the daily closing prices

4) Closing price on preceding trading day

5) Intraday price

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