

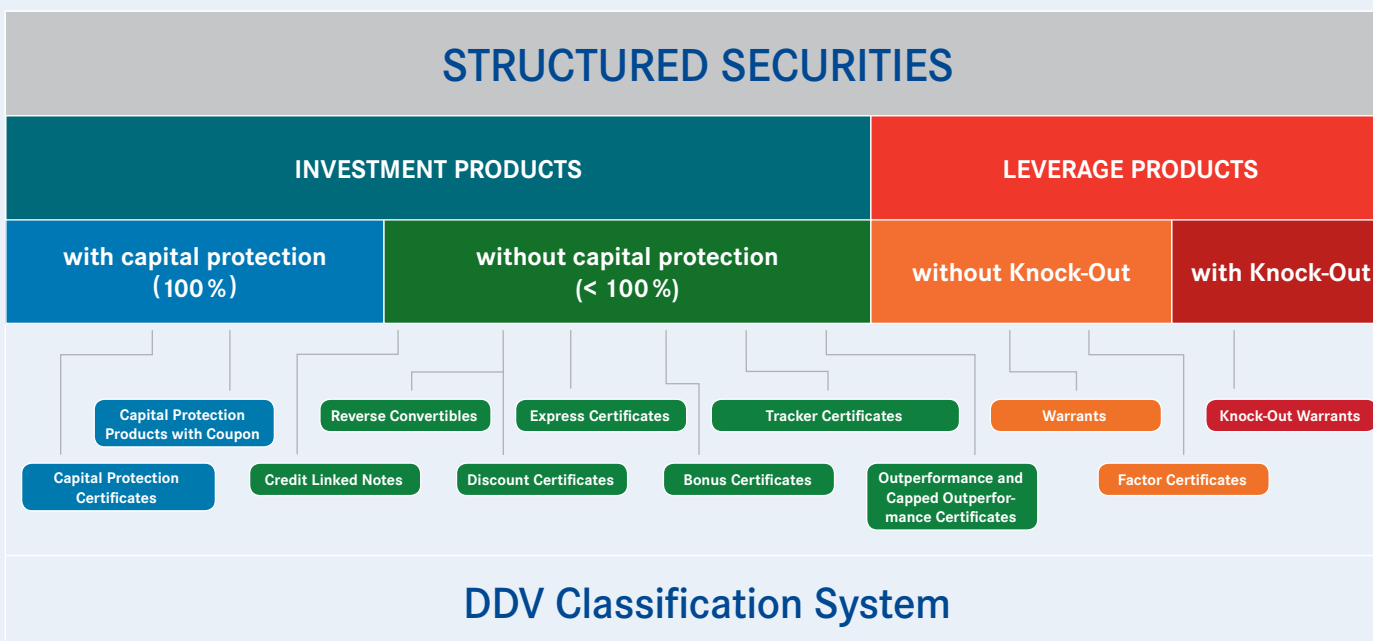
Market Volume

in Derivatives

Volume of German structured products market at EUR 69.6 billion

Capped Capital Protection Certificates in particularly high demand

STRUCTURED SECURITIES



DDV Classification System

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February | 2018

- The total volume of the German structured products market in February was EUR 69.6 billion.
- The market volume of investment products grew by 0.2 percent to almost EUR 61.8 billion.
- Discount Certificates recorded a significant increase of 7.8 percent, which brought their volume to EUR 4.9 billion.
- Investment products with indices as an underlying recorded growth of 0.9 percent. The volume invested in these products was EUR 18.0 billion.

Volume of German structured products market at EUR 69.6 billion

Capped Capital Protection Certificates in particularly high demand

There was a slight decrease in the outstanding volume of the German structured products market in February. When the figures are extrapolated to all issuers, the total volume of the German structured products market in February 2018 works out at EUR 69.6 billion. This represents a month-on-month decline of 0.3 percent, or EUR 0.2 billion. These trends are shown by the latest set of figures collected each month from 15 banks by the European Derivatives Group (EDG) on behalf of the German Derivatives Association (Deutscher Derivate Verband, DDV). The ratio of investment products to leverage products shifted slightly in favour of investment products.

Investment products by product category

Contrary to the overall trend, there was a slight increase in the volume invested in investment products. Particularly strong growth was recorded in **Discount Certificates** and **Bonus Certificates**, where volumes increased to EUR 4.9 billion and EUR 2.4 billion respectively. However, **Capital Protection Products** offering full capital protection recorded a decline. Altogether 36.7 percent of the market volume in February was invested in **Capital Protection Products with Coupon** and **Uncapped Capital Protection Certificates**. The volume of **Tracker Certificates** also fell to EUR 3.0 billion.

Leverage products by product category

At EUR 2.2 billion, the market volume of **leverage products** was significantly lower in February, after gains in the previ-

ous month. All product categories recorded a decline, with **Knock-Out Warrants** suffering the biggest drop.

Investment products by underlying

Investment products with **interest rates as an underlying** remained the most popular category in February, with a volume of EUR 22.0 billion. In second place were investment products with **equities as an underlying**. The volume invested in these products was EUR 20.4 billion. Investment products with **indices as an underlying** saw an increase in February, as in the previous month. The volume invested in this product group was EUR 18.0 billion. Investment products with **commodities as an underlying** recorded a decline to EUR 609.5 million in February. The strongest growth was in the volume of investment products with **investment funds as an underlying**, which rose by 3.2 percent to EUR 623.4 million.

Leverage products by underlying

There were significant declines in the dominant classes of underlying for leverage products in February. The market volume of leverage products with **equities as an underlying** fell to EUR 1.4 billion, while the volume invested in leverage products with **indices as an underlying** went down to EUR 596.4 million. The market volume of leverage products with **commodities or currencies as an underlying** decreased to EUR 187.3 million in total. Contrary to the general trend, the volume invested in leverage products with **interest rates as an underlying** rose to EUR 42.0 million. ■



Deutscher Derivate Verband (DDV)

Deutscher Derivate Verband (DDV), the German Derivatives Association, is the industry representative body for the leading issuers of derivative securities in Germany, who represent more than 90 percent of the German structured products market: BayernLB, BNP Paribas, Citigroup, Commerzbank, Deka-Bank, Deutsche Bank, DZ BANK, Goldman Sachs, Helaba, HSBC Trinkaus, HypoVereinsbank, LBBW, Société Générale, UBS and Vontobel. Furthermore, the Association's work is supported by fourteen sponsoring members, which include the Stuttgart and Frankfurt Exchanges, Baader Bank, the direct banks comdirect bank, Consorsbank, DAB Bank, flatex, ING-DiBa and S Broker, as well as finance portals and other service providers.

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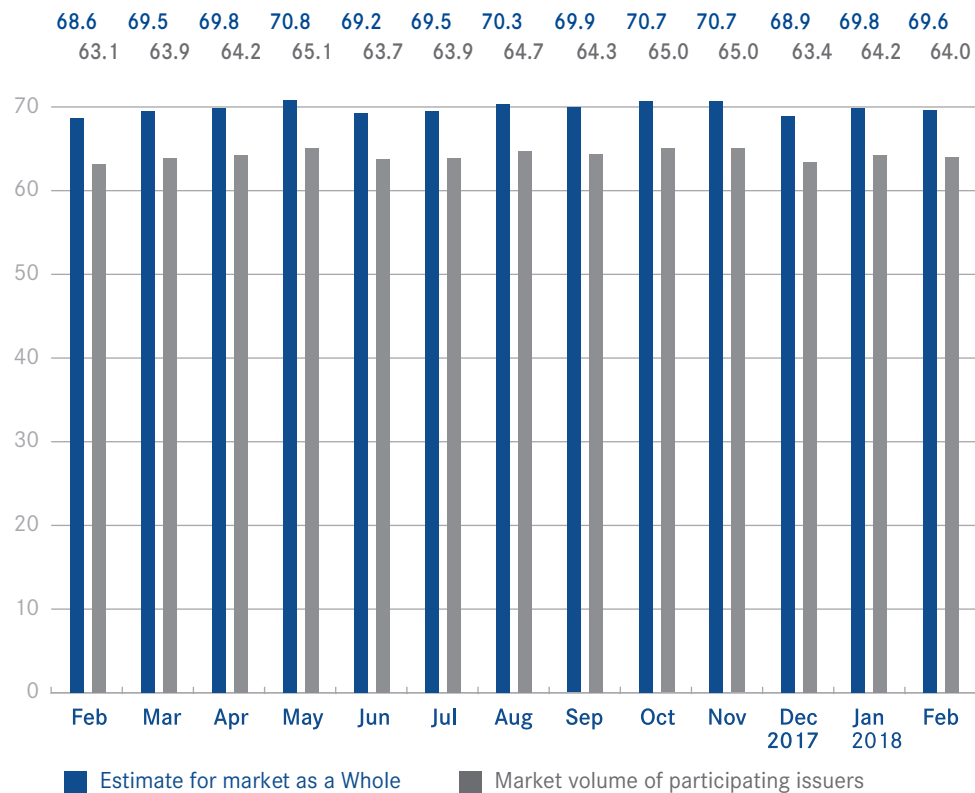
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Market volume since February 2017



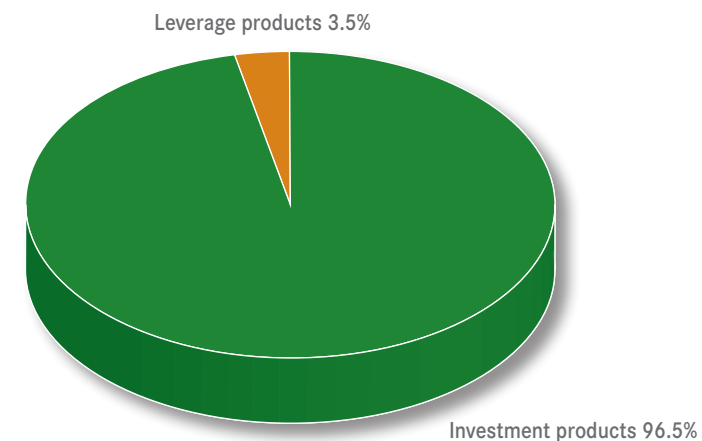
Product classes

Market volume as at 28 February 2018

Product classes	Market volume	Share
	T€	%
Investment products with capital protection	22,635,595	36.7%
Investment products without capital protection	39,124,591	63.3%
Total Investment products	61,760,187	100.0%
Leverage products without Knock-Out	1,251,213	56.3%
Leverage products with Knock-Out	970,839	43.7%
Total Leverage products	2,222,052	100.0%
Total Investment products	61,760,187	96.5%
Total Leverage products	2,222,052	3.5%
Total Derivatives	63,982,238	100.0%

Product classes

Market volume as at 28 February 2018

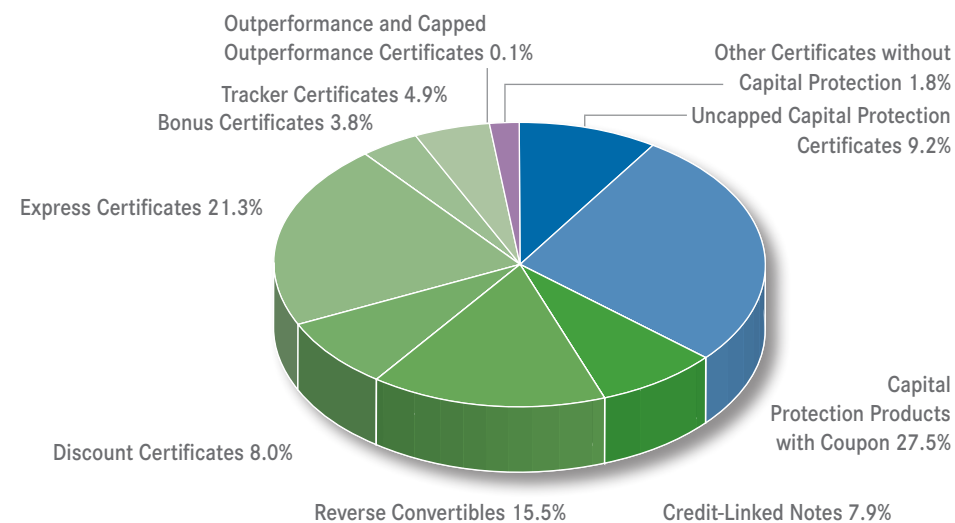


Market volume by product category as at 28 February 2018

Product categories	Market volume		Market volume price-adjusted		Number of Products	
	T€	in %	T€	in %	#	in %
■ Uncapped Capital Protection Certificates	5,675,304	9.2%	5,755,796	9.2%	1,580	0.3%
■ Capital Protection Products with Coupon	16,960,292	27.5%	16,965,784	27.2%	3,217	0.7%
■ Credit-Linked Notes	4,883,878	7.9%	4,889,286	7.8%	2,353	0.5%
■ Reverse Convertibles	9,579,522	15.5%	9,723,326	15.6%	130,062	26.8%
■ Discount Certificates	4,946,043	8.0%	4,998,087	8.0%	145,568	30.0%
■ Express Certificates	13,150,741	21.3%	13,415,627	21.5%	11,377	2.3%
■ Bonus Certificates	2,365,501	3.8%	2,397,772	3.8%	187,033	38.6%
■ Tracker Certificates	2,999,403	4.9%	3,067,682	4.9%	1,444	0.3%
■ Outperformance and Capped Outperformance Certificates	61,831	0.1%	64,817	0.1%	1,421	0.3%
■ Other Certificates without Capital Protection	1,137,673	1.8%	1,165,250	1.9%	887	0.2%
Investment products total	61,760,187	96.5%	62,443,428	95.9%	484,942	31.0%
■ Warrants	885,324	39.8%	1,071,774	40.3%	578,496	53.6%
■ Factor Certificates	365,888	16.5%	496,026	18.7%	5,715	0.5%
■ Knock-Out Warrants	970,839	43.7%	1,089,801	41.0%	494,167	45.8%
Leverage products total	2,222,052	3.5%	2,657,601	4.1%	1,078,378	69.0%
Total	63,982,238	100.0%	65,101,028	100.0%	1,563,320	100.0%

Investment products by product category

Market volume as at 28 February 2018

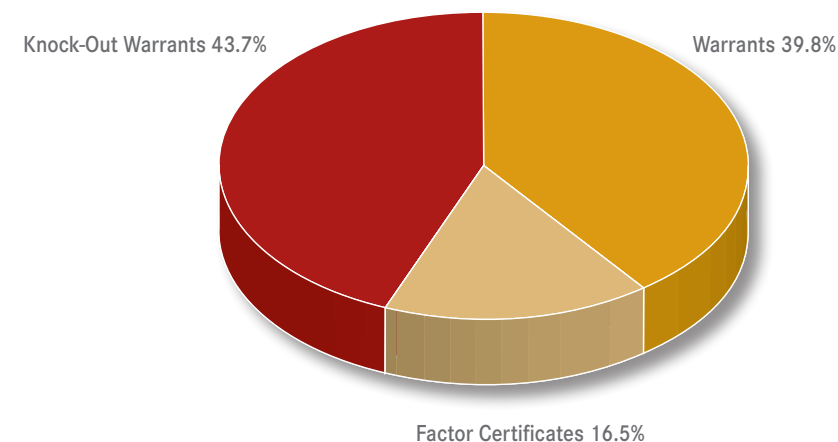


Change in market volume by product category in comparison with previous month

Product categories	Change		Change price-adjusted		Price effect
	T€	in %	T€	in %	in %
■ Uncapped Capital Protection Certificates	-85,087	-1.5%	-4,595	-0.1%	-1.4%
■ Capital Protection Products with Coupon	-127,221	-0.7%	-121,728	-0.7%	0.0%
■ Credit-Linked Notes	-19,549	-0.4%	-14,141	-0.3%	-0.1%
■ Reverse Convertibles	7,621	0.1%	151,425	1.6%	-1.5%
■ Discount Certificates	357,261	7.8%	409,305	8.9%	-1.1%
■ Express Certificates	25,713	0.2%	290,599	2.2%	-2.0%
■ Bonus Certificates	155,482	7.0%	187,753	8.5%	-1.5%
■ Tracker Certificates	-168,724	-5.3%	-100,445	-3.2%	-2.2%
■ Outperformance and Capped Outperformance Certificates	-4,004	-6.1%	-1,018	-1.5%	-4.5%
■ Other Certificates without Capital Protection	-20,571	-1.8%	7,007	0.6%	-2.4%
Investment products total	120,921	0.2%	804,162	1.3%	-1.1%
■ Warrants	-81,198	-8.4%	105,252	10.9%	-19.3%
■ Factor Certificates	-55,272	-13.1%	74,866	17.8%	-30.9%
■ Knock-Out Warrants	-171,386	-15.0%	-52,425	-4.6%	-10.4%
Leverage products total	-307,856	-12.2%	127,693	5.0%	-17.2%
Total	-186,935	-0.3%	931,855	1.5%	-1.7%

Leverage products by product category

Market volume as at 28 February 2018



Market volume by underlying asset as at 28 February 2018

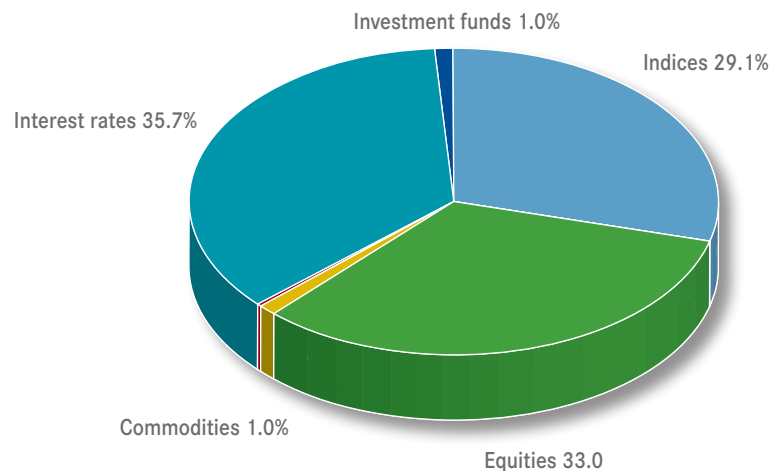
Underlying	Market volume		Market volume price-adjusted*		Number of Products	
	T€	%	T€	%	#	%
Investment products						
Indices	17,982,379	29.1%	18,243,244	29.2%	110,085	22.7%
Equities	20,402,625	33.0%	20,804,506	33.3%	366,398	75.6%
Commodities	609,525	1.0%	621,171	1.0%	2,611	0.5%
Currencies	101,693	0.2%	95,270	0.2%	18	0.0%
Interest rates	22,040,613	35.7%	22,051,539	35.3%	5,616	1.2%
Investment funds	623,353	1.0%	627,699	1.0%	214	0.0%
	61,760,187	96.5%	62,443,428	95.9%	484,942	31.0%
Leverage products						
Indices	596,399	26.8%	773,785	29.1%	241,070	22.4%
Equities	1,396,362	62.8%	1,625,645	61.2%	722,246	67.0%
Commodities	138,937	6.3%	163,672	6.2%	48,354	4.5%
Currencies	48,385	2.2%	50,980	1.9%	60,220	5.6%
Interest rates	41,970	1.9%	43,519	1.6%	6,488	0.6%
Investment funds	0	0.0%	0	0.0%	0	0.0%
	2,222,052	3.5%	2,657,601	4.1%	1,078,378	69.0%
Total	63,982,238	100.0%	65,101,028	100.0%	1,563,320	100.0%

*Market volume adjusted for price changes = quantity outstanding as at 28 February 2018 x price as at 31 January 2018

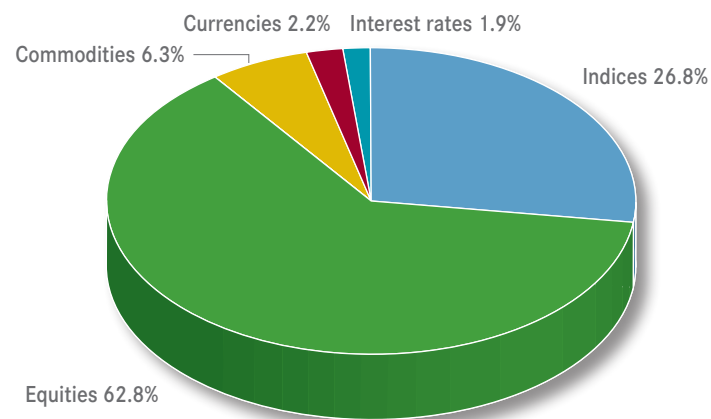
Change in the market volume by underlying asset in comparison with previous month

Underlying	Change		Change price-adjusted		Price effect
	T€	%	T€	%	
Investment products					
Indices	167,381	0.9%	428,246	2.4%	-1.5%
Equities	124,629	0.6%	526,509	2.6%	-2.0%
Commodities	-39,814	-6.1%	-28,168	-4.3%	-1.8%
Currencies	9,256	10.0%	2,833	3.1%	6.9%
Interest rates	-159,970	-0.7%	-149,044	-0.7%	0.0%
Investment funds	19,439	3.2%	23,785	3.9%	-0.7%
	120,921	0.2%	804,162	1.3%	-1.1%
Leverage products					
Indices	-97,462	-14.0%	79,924	11.5%	-25.6%
Equities	-189,858	-12.0%	39,425	2.5%	-14.5%
Commodities	-16,832	-10.8%	7,903	5.1%	-15.9%
Currencies	-7,326	-13.2%	-4,732	-8.5%	-4.7%
Interest rates	3,622	9.4%	5,172	13.5%	-4.0%
Investment funds	0	n. a.	0	n. a.	n. a.
	-307,856	-12.2%	127,693	5.0%	-17.2%
Total	-186,935	-0.3%	931,855	1.5%	-1.7%

Investment products by underlying asset Market volume as at 28 February 2018



Leverage products by underlying asset Market volume as at 28 February 2018



Collection, validation and analysis methodology

1. Calculation of the market volume

In calculating the outstanding volume, the first step is to establish the market volume for an individual issue by multiplying the quantity outstanding by the market price on the last trading day of the month under review. The total market volume is calculated by adding the individual values. The price-adjusted figure is obtained by valuing the outstanding quantities at the market prices on the last trading day of the previous month. Newly launched products are valued at the price on the last trading day in the month under review.

2. Calculation of the turnover

Turnover is calculated at the relevant exercise price by aggregating the individual trades per issue and period and then adding them up. Purchases and sales are included at their relevant absolute amounts. The only turnover recorded is that relating to end customers. Also, issues are not classified as turnover until their value dates. By contrast, repayments are not included in the turnover figures, since they do not constitute actual trades. This means that there is a natural outflow of funds at the maturity date of the products, although this is offset by new issues if investors continue to invest in these investment classes. This turnover calculation can lead to inflows of funds in one investment class in one month that exceed the turnover recorded for that month in terms of their amounts. Also, large price fluctuations can lead to a change in the market volume that exceeds the turnover amount in terms of its amount.

3. Definition of the retail products covered

The collection and analysis process covers market volume and turnover in retail products that are publicly offered and listed on at least one German stock exchange in the relevant survey period. Private placements, institutional transactions and white-label trading are not covered. The possibility that parts of an issue may be bought by institutional investors, for instance through the stock exchange, cannot be ruled out.

4. DDV classification system (Derivatives League)

The product classification system used is based on DDV's Derivatives League concept. Investment products include Uncapped Capital Protection Certificates, Capital Protection Products with Coupon, Reverse Convertibles, Discount Certificates, Express Certificates, Bonus Certificates, Tracker Certificates, Outperformance and Capped Outperformance Certificates, as well as other investment products without capital protection. Leverage products comprise Warrants and Knock-Out Warrants. (For further details please refer to http://www.derivateverband.de/DE/MediaLibrary/Document/ddv_klassifizierung_final.pdf).

5. Differentiation by investment class

Retail products are differentiated by the investment class of the underlying. All products with an equity component are included among the equity-based investment or leverage products. Products with a purely bond-based underlying (e.g. index certificates based on the German REX bond index, capital protected certificates based on the EURIBOR Euro Interbank Offered Rate) are included in the investment class of bonds. The currencies and commodities investment class comprises products based on goods, commodities and currencies. Hedge fund products are also shown separately.

6. Collection of the data

Each month, the issuers provide the relevant data in a specified scope and format from their internal systems (trading, risk management and pricing systems etc.). The mandatory information comprises ISIN, product type, asset class of the underlying, product category, turnover, market volume, quantity outstanding, maturity date of the products, product name, issue date, issue volume (quantity issued). The optional information includes details of the underlying, the knock-out thresholds, market prices and listings on German stock exchanges.

7. Monitoring of compliance with the self-commitment

Compliance with the code of conduct is monitored by means of on-site and off-site inspection of data and systems. Random sampling and targeted requests for selected information are backed up by cross-checking of data using stock exchange data, information services and the websites of issuers. In particular, the data are reconciled on a regular basis in cooperation with Boerse Stuttgart, with the main focus on stock exchange listing, the categorisation of products and the substantiation of figures for turnover and outstanding volumes.

DISCLAIMER

EDG AG regularly checks the methods and analyses on which this interpretation is based. However, it does not guarantee the correctness of the analyses. By signing up to the voluntary agreement, the issuers have agreed to ensure the correctness of the transaction data provided by them, and on which the analysis is based. However, EDG AG cannot guarantee the correctness or the completeness of the data from the issuers.

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