

Top five execution venues

Class of Instrument	Equities - Shares & Depository Receipts		
Notification if < 1 average trade per business day in the previous year	No		
Top five execution venues ranked in terms of trading volumes	Proportion of volume traded as a percentage of total in that class	Proportion of orders executed as percentage of total in that class	Percentage of directed orders
Xetra (MIC: XETR)	92,6%	8,8%	66,2%
Tradegate (MIC: TGAT)	4,0%	55,6%	18,0%
Börse Frankfurt (MIC: XFRA)	3,0%	21,6%	13,2%
Börse Stuttgart (MIC: XSTU)	0,3%	77,5%	1,4%
Börse München (XMUN)	0,1%	92,9%	1,0%

Class of Instrument	Debt instruments Bonds		
Notification if < 1 average trade per business day in the previous year	No		
Top five execution venues ranked in terms of trading volumes	Proportion of volume traded as a percentage of total in that class	Proportion of orders executed as percentage of total in that class	Percentage of directed orders
Börse Düsseldorf (MIC: XDUS)	54,9%	5,5%	100,0%
Börse Stuttgart (MIC: XSTU)	38,1%	63,1%	80,4%
Börse Frankfurt (MIC: XFRA)	4,3%	17,8%	95,9%
Börse Berlin (MIC: XBER)	1,7%	2,8%	100,0%
Tradegate (MIC: TGAT)	0,4%	5,2%	100,0%

Class of Instrument	Debt instruments Money markets instruments		
Notification if < 1 average trade per business day in the previous year	-		
Top five execution venues ranked in terms of trading volumes	Proportion of volume traded as a percentage of total in that class	Proportion of orders executed as percentage of total in that class	Percentage of directed orders
-	-	-	-

Class of Instrument	Interest rates derivatives Futures and options admitted to trading on a trading venue		
Notification if < 1 average trade per business day in the previous year	No		
Top five execution venues ranked in terms of trading volumes	Proportion of volume traded as a percentage of total in that class	Proportion of orders executed as percentage of total in that class	Percentage of directed orders
Eurex (MIC: XEUR)	100,0%	100,0%	100,0%

Class of Instrument	Interest rates derivatives Swaps, forwards, and other interest rates derivatives		
Notification if < 1 average trade per business day in the previous year	-		
Top five execution venues ranked in terms of trading volumes	Proportion of volume traded as a percentage of total in that class	Proportion of orders executed as percentage of total in that class	Percentage of directed orders
-	-	-	-

Top five investment firms

Class of Instrument	Equities - Shares & Depository Receipts		
Notification if < 1 average trade per business day in the previous year	No		
Top five investment firms ranked in terms of trading volumes	Proportion of volume traded as a percentage of total in that class	Proportion of orders executed as percentage of total in that class	Percentage of directed orders
UBS Limited (LEI: REYPIEJN7XZHSUI0N355)	55,0%	0,0%	2,0%
Barclays Bank PLC (LEI: G5GSEF7VJP5I7OUK5573)	13,9%	0,0%	2,0%
Deutsche Bank AG (LEI: 7LTFWFZYICNSX8D621K86)	5,6%	0,0%	2,0%
Credit Suisse AG (LEI: ANGGYXNX0JLX3X63JN86)	5,4%	0,0%	2,0%
HSBC Limited (LEI: 2HI3YI5320L3RW6NJ957)	3,6%	0,0%	2,0%

Class of Instrument	Schuldtitel Bonds		
Notification if < 1 average trade per business day in the previous year	Yes		
Top five investment firms ranked in terms of trading volumes	Proportion of volume traded as a percentage of total in that class	Proportion of orders executed as percentage of total in that class	Percentage of directed orders
Intesa Sanpaolo Bank Luxembourg S.A. (LEI: 549300H62SNDRT0PS319)	86,2%	59,1%	26,4%
ICF BANK AG (LEI: 529900E89HA1I45HB613)	13,8%	40,9%	14,0%

Class of Instrument	Debt instruments Money markets instruments		
Notification if < 1 average trade per business day in the previous year	-		
Top five investment firms ranked in terms of trading volumes	Proportion of volume traded as a percentage of total in that class	Proportion of orders executed as percentage of total in that class	Percentage of directed orders
-	-	-	-

Class of Instrument	Interest rates derivatives Futures and options admitted to trading on a trading venue		
Notification if < 1 average trade per business day in the previous year	Yes		
Top five investment firms ranked in terms of trading volumes	Proportion of volume traded as a percentage of total in that class	Proportion of orders executed as percentage of total in that class	Percentage of directed orders
UBS Switzerland AG (LEI: 549300WOIFUSNYH0FL22)	100,0%	100,0%	100,0%

Class of Instrument	Interest rates derivatives Swaps, forwards, and other interest rates derivatives		
Notification if < 1 average trade per business day in the previous year	-		
Top five investment firms ranked in terms of trading volumes	Proportion of volume traded as a percentage of total in that class	Proportion of orders executed as percentage of total in that class	Percentage of directed orders
-	-	-	-

Top five execution venues

Class of Instrument	Credit derivatives Futures and options admitted to trading on a trading venue		
Notification if < 1 average trade per business day in the previous year	-		
Top five execution venues ranked in terms of trading volumes	Proportion of volume traded as a percentage of total in that class	Proportion of orders executed as percentage of total in that class	Percentage of directed orders
-	-	-	-

Class of Instrument	Credit derivatives Other credit derivatives		
Notification if < 1 average trade per business day in the previous year	-		
Top five execution venues ranked in terms of trading volumes	Proportion of volume traded as a percentage of total in that class	Proportion of orders executed as percentage of total in that class	Percentage of directed orders
-	-	-	-

Class of Instrument	Currency derivatives Futures and options admitted to trading on a trading venue		
Notification if < 1 average trade per business day in the previous year	-		
Top five execution venues ranked in terms of trading volumes	Proportion of volume traded as a percentage of total in that class	Proportion of orders executed as percentage of total in that class	Percentage of directed orders
-	-	-	-

Class of Instrument	Currency derivatives Swaps, forwards, and other currency derivatives		
Notification if < 1 average trade per business day in the previous year	-		
Top five execution venues ranked in terms of trading volumes	Proportion of volume traded as a percentage of total in that class	Proportion of orders executed as percentage of total in that class	Percentage of directed orders
-	-	-	-

Class of Instrument	Structured finance instruments		
Notification if < 1 average trade per business day in the previous year	Yes		
Top five execution venues ranked in terms of trading volumes	Proportion of volume traded as a percentage of total in that class	Proportion of orders executed as percentage of total in that class	Percentage of directed orders
Börse Frankfurt (MIC: XFRA)	100%	100%	100%

Class of Instrument	Equity Derivatives Options and Futures admitted to trading on a trading venue		
Notification if < 1 average trade per business day in the previous year	No		
Top five execution venues ranked in terms of trading volumes	Proportion of volume traded as a percentage of total in that class	Proportion of orders executed as percentage of total in that class	Percentage of directed orders
Eurex (MIC: XEUR)	100%	100%	100%

Top five investment firms

Class of Instrument	Credit derivatives Futures and options admitted to trading on a trading venue		
Notification if < 1 average trade per business day in the previous year	-		
Top five investment firms ranked in terms of trading volumes	Proportion of volume traded as a percentage of total in that class	Proportion of orders executed as percentage of total in that class	Percentage of directed orders
-	-	-	-

Class of Instrument	Credit derivatives Other credit derivatives		
Notification if < 1 average trade per business day in the previous year	-		
Top five investment firms ranked in terms of trading volumes	Proportion of volume traded as a percentage of total in that class	Proportion of orders executed as percentage of total in that class	Percentage of directed orders
-	-	-	-

Class of Instrument	Currency derivatives Futures and options admitted to trading on a trading venue		
Notification if < 1 average trade per business day in the previous year	No		
Top five investment firms ranked in terms of trading volumes	Proportion of volume traded as a percentage of total in that class	Proportion of orders executed as percentage of total in that class	Percentage of directed orders
UBS Switzerland AG (LEI: 549300WOIFUSNYH0FL22)	100,0%	100,0%	100,0%

Class of Instrument	Currency derivatives Swaps, forwards, and other currency derivatives		
Notification if < 1 average trade per business day in the previous year	-		
Top five investment firms ranked in terms of trading volumes	Proportion of volume traded as a percentage of total in that class	Proportion of orders executed as percentage of total in that class	Percentage of directed orders
-	-	-	-

Class of Instrument	Structured finance instruments		
Notification if < 1 average trade per business day in the previous year	-		
Top five investment firms ranked in terms of trading volumes	Proportion of volume traded as a percentage of total in that class	Proportion of orders executed as percentage of total in that class	Percentage of directed orders
-	-	-	-

Class of Instrument	Equity Derivatives Options and Futures admitted to trading on a trading venue		
Notification if < 1 average trade per business day in the previous year	No		
Top five investment firms ranked in terms of trading volumes	Proportion of volume traded as a percentage of total in that class	Proportion of orders executed as percentage of total in that class	Percentage of directed orders
UBS Switzerland AG (LEI: 549300WOIFUSNYH0FL22)	100,0%	100,0%	100,0%

Top five execution venues

Class of Instrument	Equity Derivatives Swaps and other equity derivatives		
Notification if < 1 average trade per business day in the previous year	-		
Top five execution venues ranked in terms of trading volumes	Proportion of volume traded as a percentage of total in that class	Proportion of orders executed as percentage of total in that class	Percentage of directed orders
-	-	-	-

Class of Instrument	Securitized Derivatives Warrants and Certificate Derivatives		
Notification if < 1 average trade per business day in the previous year	No		
Top five execution venues ranked in terms of trading volumes	Proportion of volume traded as a percentage of total in that class	Proportion of orders executed as percentage of total in that class	Percentage of directed orders
Börse Stuttgart (MIC: XSTU)	58%	41%	62%
Börse Frankfurt (MIC: XFRA)	40%	50%	90%
Xetra (MIC: XETR)	2%	9%	100%
Tradegate (MIC: TGAT)	0%	0%	100%

Class of Instrument	Verbriefte Derivate Sonstige verbrieftete Derivate		
Notification if < 1 average trade per business day in the previous year	Yes		
Top five execution venues ranked in terms of trading volumes	Proportion of volume traded as a percentage of total in that class	Proportion of orders executed as percentage of total in that class	Percentage of directed orders
Börse Frankfurt (MIC: XFRA)	96%	75%	100%
Börse Stuttgart (MIC: XSTU)	4%	25%	100%

Class of Instrument	Commodities derivatives and emission allowances Derivatives Options and Futures admitted to trading on a trading venue		
Notification if < 1 average trade per business day in the previous year	-		
Top five execution venues ranked in terms of trading volumes	Proportion of volume traded as a percentage of total in that class	Proportion of orders executed as percentage of total in that class	Percentage of directed orders
-	-	-	-

Class of Instrument	Commodities derivatives and emission allowances Derivatives Other commodities derivatives and emission allowances derivatives		
Notification if < 1 average trade per business day in the previous year	-		
Top five execution venues ranked in terms of trading volumes	Proportion of volume traded as a percentage of total in that class	Proportion of orders executed as percentage of total in that class	Percentage of directed orders
-	-	-	-

Class of Instrument	Contracts for difference		
Notification if < 1 average trade per business day in the previous year	-		
Top five execution venues ranked in terms of trading volumes	Proportion of volume traded as a percentage of total in that class	Proportion of orders executed as percentage of total in that class	Percentage of directed orders
-	-	-	-

Top five investment firms

Class of Instrument	Equity Derivatives Swaps and other equity derivatives		
Notification if < 1 average trade per business day in the previous year	-		
Top five investment firms ranked in terms of trading volumes	Proportion of volume traded as a percentage of total in that class	Proportion of orders executed as percentage of total in that class	Percentage of directed orders
-	-	-	-

Class of Instrument	Securitized Derivatives Warrants and Certificate Derivatives		
Notification if < 1 average trade per business day in the previous year	Yes		
Top five investment firms ranked in terms of trading volumes	Proportion of volume traded as a percentage of total in that class	Proportion of orders executed as percentage of total in that class	Percentage of directed orders
BGC Brokers L.P. (LEI: ZWNFQ48RUL8VJZ2AIC12)	90,1%	37,5%	0,0%
Bank Vontobel AG (LEI: 549300L7V4MGECYRM576)	4,9%	21,9%	0,0%
Deutsche Bank AG (LEI: 7LTFWZYICNSX8D621K86)	3,3%	15,6%	0,0%
Commerzbank AG (LEI: 851WYGNLUQLFZBSYGB56)	1,6%	15,6%	0,0%

Class of Instrument	Verbriefte Derivate Sonstige verbrieftete Derivate		
Notification if < 1 average trade per business day in the previous year	-		
Top five execution venues ranked in terms of trading volumes	Proportion of volume traded as a percentage of total in that class	Proportion of orders executed as percentage of total in that class	Percentage of directed orders
-	-	-	-

Class of Instrument	Commodities derivatives and emission allowances Derivatives Options and Futures admitted to trading on a trading venue		
Notification if < 1 average trade per business day in the previous year	-		
Top five investment firms ranked in terms of trading volumes	Proportion of volume traded as a percentage of total in that class	Proportion of orders executed as percentage of total in that class	Percentage of directed orders
-	-	-	-

Class of Instrument	Commodities derivatives and emission allowances Derivatives Other commodities derivatives and emission allowances derivatives		
Notification if < 1 average trade per business day in the previous year	-		
Top five investment firms ranked in terms of trading volumes	Proportion of volume traded as a percentage of total in that class	Proportion of orders executed as percentage of total in that class	Percentage of directed orders
-	-	-	-

Class of Instrument	Contracts for difference		
Notification if < 1 average trade per business day in the previous year	-		
Top five investment firms ranked in terms of trading volumes	Proportion of volume traded as a percentage of total in that class	Proportion of orders executed as percentage of total in that class	Percentage of directed orders
-	-	-	-

Top five execution venues

Class of Instrument	Exchange traded products (Exchange traded funds, exchange traded notes and exchange traded commodities)		
Notification if < 1 average trade per business day in the previous year	No		
Top five execution venues ranked in terms of trading volumes	Proportion of volume traded as a percentage of total in that class	Proportion of orders executed as percentage of total in that class	Percentage of directed orders
Xetra (MIC: XETR)	95%	86%	50%
Börse Stuttgart (MIC: XSTU)	3%	6%	60%
Tradegate (MIC: TGAT)	1%	7%	56%
Quotrix (MIC: XQTX)	0%	1%	100%
Börse Frankfurt (MIC: XFRA)	0%	0%	1%

Class of Instrument	Emission allowances		
Notification if < 1 average trade per business day in the previous year	-		
Top five execution venues ranked in terms of trading volumes	Proportion of volume traded as a percentage of total in that class	Proportion of orders executed as percentage of total in that class	Percentage of directed orders
-	-	-	-

Class of Instrument	Other instruments		
Notification if < 1 average trade per business day in the previous year	Yes		
Top five execution venues ranked in terms of trading volumes	Proportion of volume traded as a percentage of total in that class	Proportion of orders executed as percentage of total in that class	Percentage of directed orders
Börse Stuttgart (MIC: XSTU)	62%	45%	95%
Börse Frankfurt (MIC: XFRA)	22%	20%	81%
Börse Hamburg (MIC: XHAM)	6%	10%	100%
Börse Berlin (MIC: XBER)	4%	3%	100%
Tradegate (MIC: TGAT)	2%	13%	100%

Top five investment firms

Class of Instrument	Exchange traded products (Exchange traded funds, exchange traded notes and exchange traded commodities)		
Notification if < 1 average trade per business day in the previous year	Yes		
Top five investment firms ranked in terms of trading volumes	Proportion of volume traded as a percentage of total in that class	Proportion of orders executed as percentage of total in that class	Percentage of directed orders
Jane Street Group, LLC (LEI: 5493002N1VX6KHGYO08)	31,3%	30,5%	0,0%
Société Générale SA (LEI: O2RNE8IBXP4R0TD8PU41)	22,6%	11,4%	0,0%
Flow Traders U.S., LLC (LEI:549300K64LZQW7R9ST34)	17,5%	21,0%	0,0%
Commerzbank AG (LEI: 851WYGNLUQLFZBSYGB56)	15,3%	19,8%	0,0%
Cantor Fitzgerald, L.P. (LEI: 549300RLUEEVQEMX0450)	5,0%	2,4%	0,0%

Class of Instrument	Emission allowances		
Notification if < 1 average trade per business day in the previous year	-		
Top five investment firms ranked in terms of trading volumes	Proportion of volume traded as a percentage of total in that class	Proportion of orders executed as percentage of total in that class	Percentage of directed orders
-	-	-	-

Class of Instrument	Other instruments		
Notification if < 1 average trade per business day in the previous year	Yes		
Top five investment firms ranked in terms of trading volumes	Proportion of volume traded as a percentage of total in that class	Proportion of orders executed as percentage of total in that class	Percentage of directed orders
ICF BANK AG (LEI: 529900E89HA1145HB613)	100,0%	100,0%	0,0%