Investor Presentation
Our purpose

We at Deutsche Börse create trust in the markets of today and tomorrow.
Deutsche Börse equity story

- **Leading European** capital markets **infrastructure provider** with **global growth ambitions**
- **Nine business segments** that cover the **full capital markets value chain** including:
  - Eurex, the largest European derivatives exchange
  - Clearstream, a leading post-trading services provider
  - Fast growing new businesses: EEX (commodities), 360T (foreign exchange) and IFS (investment fund services)
- Deutsche Börse follows with the *“Roadmap 2020”* a three pillar growth strategy:
  - Systematically **execute** secular and cyclical **growth opportunities**, capitalizing on **key industry trends**, **political developments** and **new client needs**
  - Pursue a **programmatic M&A** agenda in **five growth areas with a focused and disciplined approach**
  - Invest in **four key technologies** to tap into new revenue opportunities and further increase the operating **efficiency**
- The company **efficiently manages operating cost** to ensure scalability of the business model and reduces its **structural** cost base to **reinvest** into **growth** and **technology**
- **To ensure a successful execution**, Deutsche Börse streamlined the organisation and strengthened the consequence management
- **Dividend policy** with pay-out between 40 to 60 per cent of net profit
▪ Strategy – “Roadmap 2020”
  ▪ Group financials
  ▪ Business segments
Diversified, scalable and resilient business portfolio serves as basis for growth

Pre-trading | Trading & clearing | Post-trading
---|---|---
**STOXX (Qontigo¹)** 5% Data 6% Eurex 34% EEX 9% 360T 3% Xetra 8% Clearstream 26% GSF 3% IFS 6%
Index Data Financial derivatives Commodities Foreign exchange Cash equities Post-trading Global securities financing Investment fund services

Multi-asset class offering
- Funds
- Commodities
- Equity / index

Geographically diversified
- Asia-Pacific
- Rest of Europe
- UK
- America
- Germany

High recurring revenues
- Recurring
- Transactional

All figures in per cent of 2018 Group net revenue
1) Since mid-September new Qontigo segment established to combine Deutsche Börse’s index business (STOXX) and Axioma
Key pillars of Deutsche Börse’s “Roadmap 2020” growth strategy

I. Organic growth
   Exploit secular growth opportunities

II. M&A
   Scale through asset class consolidation

III. Technology
   Maintain leading IT position

IV. Execution discipline
   Strengthen execution discipline along cost control, financial steering and general management

Reduce valuation-multiple discount to peer group
Organic growth – secular growth drivers fully intact despite dynamic environment

<table>
<thead>
<tr>
<th>Main drivers for secular growth</th>
<th>Impact on the business</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Shift to central clearing</strong></td>
<td>Pre-trading</td>
</tr>
<tr>
<td>• Demand for liquid EU-based OTC CCP alternative</td>
<td><img src="image1" alt="Diagram" /></td>
</tr>
<tr>
<td>• Pull effects for new products and services (e.g. collateral)</td>
<td><img src="image4" alt="Diagram" /></td>
</tr>
<tr>
<td><strong>Over the counter (OTC) to on-exchange</strong></td>
<td></td>
</tr>
<tr>
<td>• Shift from OTC to regulated markets (e.g. futurisation)</td>
<td><img src="image7" alt="Diagram" /></td>
</tr>
<tr>
<td>• Electronification of less penetrated asset classes</td>
<td><img src="image10" alt="Diagram" /></td>
</tr>
<tr>
<td><strong>Active to passive investments</strong></td>
<td></td>
</tr>
<tr>
<td>• Continued shift from active to passive investing</td>
<td><img src="image13" alt="Diagram" /></td>
</tr>
<tr>
<td>• Europe still offers significant growth potential</td>
<td><img src="image16" alt="Diagram" /></td>
</tr>
<tr>
<td><strong>Shift to buy-side</strong></td>
<td></td>
</tr>
<tr>
<td>• Increasingly self-directed buy-side and corporates</td>
<td><img src="image19" alt="Diagram" /></td>
</tr>
<tr>
<td>• Continued pressure on banking industry in general</td>
<td><img src="image22" alt="Diagram" /></td>
</tr>
</tbody>
</table>
Organic growth – midterm targets

### Net revenue growth target (organic)

<table>
<thead>
<tr>
<th>Year</th>
<th>€m</th>
<th>&gt;5% secular CAGR</th>
<th>+ cyclicality</th>
<th>~3,000-3,300</th>
</tr>
</thead>
<tbody>
<tr>
<td>2017</td>
<td>2,462</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2018</td>
<td>2,770</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2020E</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

2018: +13%

Of which:
- 6% secular
- 6% cyclical
- 1% inorganic

### Net profit growth target (organic)

<table>
<thead>
<tr>
<th>Year</th>
<th>€m</th>
<th>+10-15% CAGR</th>
<th>~1,140-1,300</th>
</tr>
</thead>
<tbody>
<tr>
<td>2017</td>
<td>857</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2018</td>
<td>1,003</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2020E</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

2018: +17%

1) Adjusted for exceptional items
### Organic growth – segmental net revenue growth targets

**Growth expectation (organic)**

<table>
<thead>
<tr>
<th>Business segments</th>
<th>CAGR 2017-2020E (incl. cyclical growth)</th>
<th>t/o secular growth</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Pre-trading</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>STOXX (index business) (Qontigo(^1))</td>
<td>&gt;10%</td>
<td>Very high</td>
</tr>
<tr>
<td>Data</td>
<td>5-10%</td>
<td>High</td>
</tr>
<tr>
<td><strong>Trading &amp; clearing</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eurex (financial derivatives)</td>
<td>&gt;10%</td>
<td>High</td>
</tr>
<tr>
<td>EEX (commodities)</td>
<td>&gt;10%</td>
<td>High</td>
</tr>
<tr>
<td>360T (foreign exchange)</td>
<td>&gt;10%</td>
<td>Very high</td>
</tr>
<tr>
<td>Xetra (cash equities)</td>
<td>0-5%</td>
<td>Moderate</td>
</tr>
<tr>
<td><strong>Post-trading</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clearstream (post-trading)</td>
<td>5-10%</td>
<td>Moderate</td>
</tr>
<tr>
<td>IFS (investment fund services)</td>
<td>&gt;10%</td>
<td>Very high</td>
</tr>
<tr>
<td>GSF (collateral management)</td>
<td>0-5%</td>
<td>Moderate</td>
</tr>
</tbody>
</table>

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\(^1\) Since mid-September new Qontigo segment established to combine Deutsche Börse’s index business (STOXX) and Axioma
**M&A – individual approach required for different external growth areas**

<table>
<thead>
<tr>
<th>M&amp;A focus on five growth areas</th>
<th>Ingoing position</th>
<th>M&amp;A strategy</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Pre-trading</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>① Data / Index</td>
<td>Deutsche Börse is lagging behind in most dimensions: products, clients (buy-side) and geographies</td>
<td>Catch up with peers; don’t overpay; use partnership formats</td>
</tr>
<tr>
<td><strong>Trading &amp; clearing</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>② Commodities</td>
<td>Deutsche Börse offers well established platforms, however, scale could be further improved</td>
<td>Consider assets that help to gain scale and add value through growth and synergies</td>
</tr>
<tr>
<td>③ Foreign exchange</td>
<td>Largely white spot for Deutsche Börse on the trading &amp; clearing layer; good coverage in post-trading</td>
<td>Limited availability of assets, but ongoing monitoring of market</td>
</tr>
<tr>
<td>④ Fixed income</td>
<td>Deutsche Börse provides a leading solution to increase the efficiency of fund processing market</td>
<td>Consider assets with value adding products &amp; geographies to grow and expand leading position</td>
</tr>
<tr>
<td><strong>Post-trading</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>⑤ Investment funds</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
M&A – focused and disciplined approach started in 2018 yielded first results

M&A delivery since 2018

1. Data / Index
   - **Axioma** acquisition strengthens Deutsche Börse’s pre-trading offering and improves access to the buy-side (April 2019)

2. Commodities
   - Acquisition of **Grecel Systems**, the leading provider of energy certificate registry in Europe (December 2018)
   - **Spark Commodities** JV with Kpler for liquefied natural gas trading (April 2019)

3. Foreign exchange
   - Acquisition of the spot FX platform **GTX ECN** allowed for expansion into the US and the dealer-to-dealer market segment (May 2018)

4. Investment funds
   - Acquisition of **Swisscanto Funds Centre** to expand services with management of distribution contracts and data processing (April 2018)
   - Acquisition of **Ausmaq**, a managed funds services business for the steadily growing Australian fund market (May 2019)
## Technology – capabilities in new technologies are growing steadily and first products will be ready in 2019

### Four transformational technology trends

<table>
<thead>
<tr>
<th><strong>Public cloud</strong></th>
<th>Cloud and provision of services via APIs is helping to increase agility, improve quality and reduce costs</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>DLT / block-chain</strong></td>
<td>Helps to create new market structures and allows adding products onto existing structures</td>
</tr>
<tr>
<td><strong>Robotics / automation / AI</strong></td>
<td>Key efficiency driver for operations-heavy tasks</td>
</tr>
<tr>
<td><strong>Big data / advanced analytics</strong></td>
<td>Advanced analytics is both a revenue driver adding value to data, and an efficiency lever</td>
</tr>
</tbody>
</table>

- **First contract** regarding **public cloud** operation has been signed with **Microsoft**
- Contract meets regulatory requirements to move **significant parts of operations into the public cloud** over time
- **Strategic partnership** with **Swisscom** and **Sygnum** to build trusted **digital asset ecosystem** for tokenisation of assets
- **HQLAx**: innovative **blockchain solution** for collateral management based on tokens to improve **collateral mobility**
- **Centre of excellence** for automation **established**; several **automation tools already in production** for task automation; further steps defined along use case roadmap
- **New client requirements** regarding data / analytics are addressed by the creation of a **buy-side intelligence leader** as part of the **Axioma acquisition**
Execution discipline – strengthened discipline along cost control, financial steering and general management

- **New executive board** set-up completed in 2018 with stronger business and technology focus

- **New segment structure** with increased P&L responsibilities to realise secular growth and improve transparency

- **Structural cost improvement programme** largely implemented; savings above €100 million target and faster ramp-up

- **Upgraded M&A capabilities** allow for systematic execution of external growth opportunities

- **Tighter steering** and strict **consequence management**

- **Regained trust and support** of internal and external stakeholders
Execution discipline – ramp-up of structural performance improvement programme faster than planned

Ramp-up of operating cost savings and composition

€m

- Management delayering
- Process automation and digitisation (robotics / AI)
- Nearshoring
- Position cuts

- IT simplification and legacy replacements
- Procurement optimisation
- Spend reductions across all cost categories

<table>
<thead>
<tr>
<th>Year</th>
<th>Staff cost &gt;50</th>
<th>Non-staff cost &gt;50</th>
</tr>
</thead>
<tbody>
<tr>
<td>2019</td>
<td>60 (target: 33)</td>
<td>90 (target: 66)</td>
</tr>
<tr>
<td>2020</td>
<td>&gt;100 (target: 100)</td>
<td></td>
</tr>
<tr>
<td>2021</td>
<td>&gt;50</td>
<td></td>
</tr>
</tbody>
</table>
Execution discipline – cost savings will be reinvested into growth, new technology and regulation

- Reinvestment of cost savings in 2019-2021
  - Organic growth
    - Majority of investments in Eurex and Clearstream segments
  - Cloud
    - Transfer of majority of IT operations into the public cloud over time
  - Distributed-ledger / blockchain
    - Investments through digital asset JV in Switzerland and HQLAx
  - Robotics / artificial intelligence
    - Dedicated centre of excellence to support business units in roll-out
  - Regulation and cyber / IT security
    - Investments in regulatory topics like CSDR and MiFID, as well as cyber / IT security enhancements
Execution discipline – Good progress along all “Roadmap 2020” pillars

I Organic growth
- Net revenue (+13%) and net profit (+17%) growth in 2018 significantly above guidance
- For 2019 at least 5% secular net revenue growth and around 10% net profit growth expected; Q1-3/2019 in line with guidance

II M&A
- Five attractive bolt-ons since 2018 in Commodities, FX and IFS; Axioma acquisition significantly expands position in data / index
- Focus in 2019 is on further M&A to gain scale in the still smaller asset classes; cash / debt firepower ~€2.0 billion + equity

III Technology
- Distributed-ledger technology: centre of excellence drives use cases to real-life applications (e.g. HQLAx, Swiss digital asset JV)
- Public cloud: Deutsche Börse at forefront of regulatory compliant cloud adoption in the European financial services industry

IV Execution discipline
- Organisational enhancements: Executive Board, segments, M&A capabilities, tighter steering and consequence management
- Structural cost improvement programme largely implemented; savings above €100 million target and faster ramp-up
“Roadmap 2020” financial targets

Growth targets 2017-2020

**Net revenue:** Secular growth of at least 5% on average per annum plus positive cyclical effects

**Net profit:** Growth of 10-15% on average per annum

**Additional external growth:** Value accretive M&A in five focus areas; €2.0bn cash / debt firepower + equity

Cost management

**Scalability:** Operating costs managed to achieve 10-15% net profit CAGR 2017-2020

**Structural performance improvement programme:** >€100 million cost reduction to finance growth, new technologies and regulation

Capital management

**Dividend:** 40-60% of net profit depending on business development and continuity considerations

**Rating:** “AA” because of post-trading business; new rating metrics: net debt/EBITDA <1.75 and FFO/net debt >50%

**Excess cash:** Planned to be reinvested via M&A; in case no use buy-backs considered
▪ Strategy – “Roadmap 2020”

▪ Group financials

▪ Business segments
Q3/2019 – group financials

<table>
<thead>
<tr>
<th>Net revenue</th>
<th>Operating costs</th>
<th>EBITDA</th>
<th>Net profit</th>
</tr>
</thead>
<tbody>
<tr>
<td>€m</td>
<td>€m</td>
<td>€m</td>
<td>€m</td>
</tr>
<tr>
<td>Q3/18</td>
<td>Q3/18</td>
<td>Q3/18</td>
<td>Q3/18</td>
</tr>
<tr>
<td>651</td>
<td>248</td>
<td>408</td>
<td>240</td>
</tr>
<tr>
<td>+13%</td>
<td>+10%</td>
<td>+13%</td>
<td>+18%</td>
</tr>
<tr>
<td>Q3/19</td>
<td>Q3/19</td>
<td>Q3/19</td>
<td>Q3/19</td>
</tr>
<tr>
<td>734</td>
<td>274</td>
<td>462</td>
<td>283</td>
</tr>
</tbody>
</table>

Note: Net revenue Q3/18 and operating costs adjusted for exceptional items; operating costs and EBITDA Q3/18 non-GAAP indicative figures.
Q1-3/2019 – group financials

<table>
<thead>
<tr>
<th>Net revenue</th>
<th>Operating costs</th>
<th>EBITDA</th>
<th>Net profit</th>
</tr>
</thead>
<tbody>
<tr>
<td>€m</td>
<td>€m</td>
<td>€m</td>
<td>€m</td>
</tr>
<tr>
<td>Q1-3/18</td>
<td>Q1-3/18</td>
<td>Q1-3/18</td>
<td>Q1-3/18</td>
</tr>
<tr>
<td>2,030</td>
<td>740</td>
<td>1,296</td>
<td>772</td>
</tr>
<tr>
<td>Q1-3/19</td>
<td>2,179</td>
<td>1,403</td>
<td>863</td>
</tr>
</tbody>
</table>

Note: Net revenue (Q1-3/18) and operating costs adjusted for exceptional items; operating costs and EBITDA Q1-Q3/18 non-GAAP indicative figures.
Q1-3/2019 – secular net revenue growth in line with the company’s plan

Net revenue growth drivers in Q1-3/2019

- All segments, except GSF, contributed to secular net revenue growth (+5%). Major contributors were Eurex (~€44m) with OTC clearing, product innovation and pricing, as well as EEX (~€21m) with market share gains.
- Cyclical net revenue development (+1%) benefited mainly from higher net interest income at Clearstream, which was partly off-set by lower market volatility.
- Consolidation effects (+1%) driven by IFS (Swisscanto, Ausmaq ~€11m), Qontigo (Axioma ~€6m) and 360T (GTX ~€5m), were partly off-set by discontinuation of managed services as part of third party services at Clearstream.

Note: Net revenue Q1-Q3/18 adjusted for exceptional items
In total, adjusted operating costs increased by ~6% in Q1-3/2019.

Inflationary pressures and higher share based compensation were partly off-set by lower provisions for variable compensation (net +€15m).

Investments in growth initiatives, new technology and regulations were largely off-set by cost savings from the structural performance improvement programme (net +€16m).

Consolidation effects driven by IFS (Swisscanto, Ausmaq), Qontigo (Axioma) and 360T (GTX) were partly off-set by discontinuation of managed services as part of third party services at Clearstream (net +€11m).

Note: Operating costs adjusted for exceptional items; operating costs Q1-Q3/18 non-GAAP indicative figures.
## Development of segment financials (1/3)

### Eurex

<table>
<thead>
<tr>
<th></th>
<th>€m</th>
</tr>
</thead>
<tbody>
<tr>
<td>Net revenue</td>
<td>Q1-3/18: 679, Q1-3/19: 722</td>
</tr>
<tr>
<td>EBITDA</td>
<td>Q1-3/18: 470, Q1-3/19: 524</td>
</tr>
</tbody>
</table>

+6%  
+12%

### EEX

<table>
<thead>
<tr>
<th></th>
<th>€m</th>
</tr>
</thead>
<tbody>
<tr>
<td>Net revenue</td>
<td>Q1-3/18: 185, Q1-3/19: 215</td>
</tr>
<tr>
<td>EBITDA</td>
<td>Q1-3/18: 84, Q1-3/19: 109</td>
</tr>
</tbody>
</table>

+17%  
+29%

### 360T

<table>
<thead>
<tr>
<th></th>
<th>€m</th>
</tr>
</thead>
<tbody>
<tr>
<td>Net revenue</td>
<td>Q1-3/18: 57, Q1-3/19: 68</td>
</tr>
<tr>
<td>EBITDA</td>
<td>Q1-3/18: 25, Q1-3/19: 31</td>
</tr>
</tbody>
</table>

+19%  
+27%

---

Note: Adjusted for exceptional items; Q1-3/2018 non-GAAP indicative figures
## Development of segment financials (2/3)

### Xetra

<table>
<thead>
<tr>
<th>Quarter</th>
<th>Net Revenue (€m)</th>
<th>EBITDA (€m)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q1-3/18</td>
<td>171</td>
<td>102</td>
</tr>
<tr>
<td>Q1-3/19</td>
<td>168</td>
<td>102</td>
</tr>
</tbody>
</table>

-2% → 0% →

### Qontigo

<table>
<thead>
<tr>
<th>Quarter</th>
<th>Net Revenue (€m)</th>
<th>EBITDA (€m)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q1-3/18</td>
<td>111</td>
<td>79</td>
</tr>
<tr>
<td>Q1-3/19</td>
<td>122</td>
<td>83</td>
</tr>
</tbody>
</table>

+11% → +5% →

### Data

<table>
<thead>
<tr>
<th>Quarter</th>
<th>Net Revenue (€m)</th>
<th>EBITDA (€m)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q1-3/18</td>
<td>118</td>
<td>79</td>
</tr>
<tr>
<td>Q1-3/19</td>
<td>119</td>
<td>80</td>
</tr>
</tbody>
</table>

+1% →

---

Note: Adjusted for exceptional items; Q1-3/2018 non-GAAP indicative figures

1) As part of the combination, certain licence revenues were re-allocated from the Data segment to the new Qontigo segment
## Development of segment financials (3/3)

### Clearstream

<table>
<thead>
<tr>
<th></th>
<th>€m</th>
</tr>
</thead>
<tbody>
<tr>
<td>Net revenue</td>
<td>Q1-3/18: 534</td>
</tr>
<tr>
<td></td>
<td>Q1-3/18: +7%</td>
</tr>
<tr>
<td>EBITDA</td>
<td>Q1-3/18: 336</td>
</tr>
</tbody>
</table>

### IFS

<table>
<thead>
<tr>
<th></th>
<th>€m</th>
</tr>
</thead>
<tbody>
<tr>
<td>Net revenue</td>
<td>Q1-3/18: 114</td>
</tr>
<tr>
<td></td>
<td>Q1-3/18: +17%</td>
</tr>
<tr>
<td>EBITDA</td>
<td>Q1-3/18: 52</td>
</tr>
</tbody>
</table>

### GSF

<table>
<thead>
<tr>
<th></th>
<th>€m</th>
</tr>
</thead>
<tbody>
<tr>
<td>Net revenue</td>
<td>Q1-3/18: 62</td>
</tr>
<tr>
<td></td>
<td>Q1-3/18: -6%</td>
</tr>
<tr>
<td>EBITDA</td>
<td>Q1-3/18: 33</td>
</tr>
</tbody>
</table>

Note: Adjusted for exceptional items; Q1-3/2018 non-GAAP indicative figures
Around 10% net profit growth expected in 2019

- After strong growth in 2018 the expectations of Deutsche Börse for 2019 are slightly more subdued as a result of risks to economic growth and political uncertainty.

- Nevertheless, the company continues to expect at least 5% growth of secular net revenue in 2019. Major secular opportunities include: Euro OTC clearing, new Eurex products, Commodities (EEX), Foreign exchange (360T), Investment Fund Services (IFS), as well as the index & analytics business (Qontigo).

- In combination with an efficient management of operating costs, the company is expecting around 10% growth of the adjusted net profit in 2019. Depending on the development of the equity market volatility, net profit growth could be somewhat higher or lower.
Capital management policy foresees 40-60% pay-out

- Deutsche Börse aims to distribute 40 to 60% of the adjusted annual net profit to shareholders in form of the regular dividend. Within this range, the dividend pay-out ratio is mainly depending on the business development and dividend continuity considerations.

- The remaining recurring free cash is planned to be re-invested into the business to support the Group’s strategy with its organic and external opportunities.

- In case there should be no use for the remaining recurring free cash, additional distributions to shareholders through share buy-backs might be considered.

- Due to its considerable clearing and post-trading business activities, Deutsche Börse is focused on maintaining a strong credit and rating profile, including Clearstream Banking S.A.’s strong “AA” credit rating.

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1) Adjusted for exceptional items
• Strategy – “Roadmap 2020”
• Group financials
• Business segments
STOXX (index) – Axioma transaction: combining unique strengths and accelerating access to the buy-side

**Business overview and attractions**

- **#4 global** provider of rules-based strategies, benchmarks, and datasets, **#1 European tradable index**
- **Usage-based licensing** providing recurring revenues (ETFs, ETDs, structured products, mandates, data), leveraging issuing venues Eurex and Xetra
- **€157 million net revenue** for FY2018 with **12% CAGR** (2015-18) as award-winning innovator in investment strategies

**Business overview and attractions**

- **Global, leading edge** provider of multi-asset class portfolio / risk management software solutions and analytics with **>7,000 professional users**
- **>400 customers** including leading asset managers and asset owners
- **20% revenue CAGR** (2015-18) from product and client expansion
- **€65-70 million** net revenue expected for FY2019 for Axioma stand-alone

**Revenue structure STOXX / DAX + Axioma**

**Pro forma**

<table>
<thead>
<tr>
<th>Geography</th>
<th>APAC/Americas</th>
<th>EMEA</th>
<th>Combined Business</th>
</tr>
</thead>
<tbody>
<tr>
<td>Buy-side</td>
<td>26%</td>
<td>73%</td>
<td>40%</td>
</tr>
<tr>
<td>Sell-side</td>
<td>11%</td>
<td>20%</td>
<td>27%</td>
</tr>
<tr>
<td>Other</td>
<td>27%</td>
<td>25%</td>
<td>27%</td>
</tr>
</tbody>
</table>

**By client segment**

- STOXX / DAX: 73%
- Axioma: 23%
- Combined: 57%

1) Indicative pro-forma view combining IFRS (STOXX / DAX) and US GAAP (Axioma)
STOXX (index) – Axioma transaction: strong strategic rationale for highly complementary combination

Create a buy-side intelligence leader with open infrastructure
Analytics, indices, performance, risk, compliance, global coverage

<table>
<thead>
<tr>
<th>Domain</th>
<th>Index business (STOXX / DAX)</th>
<th>Axioma</th>
</tr>
</thead>
<tbody>
<tr>
<td>Domains</td>
<td>Indices, compliance</td>
<td>Analytics, performance, risk</td>
</tr>
<tr>
<td>Clients</td>
<td>Passive buy-side, custodians, vendors</td>
<td>Active buy-side</td>
</tr>
<tr>
<td>Regional focus</td>
<td>Europe, global</td>
<td>US, global</td>
</tr>
<tr>
<td>Data sets</td>
<td>Transaction-, market- and reference data</td>
<td>Risk factor data, portfolio holdings</td>
</tr>
<tr>
<td>Revenue model</td>
<td>Asset based fees, brand &amp; data licensing, subscriptions</td>
<td>Software sales &amp; licensing</td>
</tr>
</tbody>
</table>

Strategic rationale
- Combination of Axioma risk analytics and Deutsche Börse’s index business creates unique offering to benefit from macro industry trends
- Flexibility / open architecture approach creates future-proof positioning and ability to increase scale
- Leading capabilities in customisation create opportunity to address attractive growing market segments
- Highly complementary client focus, regional footprint and revenue model results in meaningful synergies

Opportunities
- New tools and functionalities (e.g. benchmark studio)
- New analytics and indices
- Add-on acquisitions in index area
- Standard APIs – new partnerships
- Attractive opportunity for talent development
STOXX (index) – Axioma transaction: immediate joint opportunities enable strong secular growth

Joint tangible growth opportunities

- Accelerate **penetration of investment managers** with modern tools and analytics
- Capitalise on Axioma’s **buy-side access** to increase usage of STOXX benchmarks
- Leverage **combined IP and data sets** to launch and licence innovative investment solutions and analytics, esp. around factor investing
- Build on **existing Eurex relationship** to generate new futures and options based on Axioma / STOXX analytics and models
- Integrate **index creation and production capabilities** in Axioma’s product suite to enable creation of customised investment solutions
- Use joint footprint as a platform for **further acquisitions**, increasing buy-side workflow coverage

**Net revenue guidance**

<table>
<thead>
<tr>
<th></th>
<th>€m</th>
</tr>
</thead>
<tbody>
<tr>
<td>2017</td>
<td>128</td>
</tr>
<tr>
<td>2018</td>
<td>145</td>
</tr>
<tr>
<td>2020E</td>
<td></td>
</tr>
</tbody>
</table>

**t/o share of secular growth:** very high

**Status:** ✓

**Synergies of ~€30 million by the end of 2021** (annualised run-rate, pre-tax)
Data – global real-time distribution network for market data

Business overview and attractions

- **Global real-time distribution network** for data with deep market penetration (>4,500 institutions, 550 data vendors connected)
- **Proprietary and partner data** assets from pre- to post-trade – 90% recurring revenues (data licence fees)
- **Innovation platform** for analytics leveraging Group-wide data pools
- Comprehensive service offering around **trade and transaction reporting** for capital market participants

### Net revenue breakdown 2018

- **Cash and derivatives**: 67%
- **Regulatory services**: 23%
- **Other**: 10%

100% = €170 million

Secular growth opportunities

- Further expansion of **proprietary analytics and services** combining Deutsche Börse, client and partner data
- Commercialise **yet untapped data assets** of the Group and open platform to external data sets
- **Inorganic expansion opportunities** in adjacent data business areas, such as new asset classes or ESG data
- Expand **regulatory service offering** with new regulations (e.g. SFTR) and analytics

### Net revenue guidance

<table>
<thead>
<tr>
<th>Year</th>
<th>100% (= €170 million)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2017</td>
<td>154</td>
</tr>
<tr>
<td>2018</td>
<td>170</td>
</tr>
<tr>
<td>2020E</td>
<td></td>
</tr>
</tbody>
</table>

**t/o share of secular growth: high**

Status: ✓

Strategic imperative: Leverage platform to address broader market
Trading and clearing – benchmark across major asset classes

1. Eurex (financial derivatives)
   - Index and equity
     - Largest European index and equity liquidity pool
     - Strong global benchmark with EURO STOXX, VSTOXX, DAX, MSCI
   - Fixed income
     - Largest European interest rate liquidity pool
     - Strong European benchmark with BUND, BOBL, SCHATZ, OAT, BTP, OTC IRS, EurexRepo

2. EEX (commodities)
   - Leading European energy exchange with US spearhead
   - Strong European benchmark with PHELIX, EPEX, PEGAS

3. 360T (foreign exchange)
   - 360T top ranked global FX platform
   - Strong global brands and distribution with 360T and 360TGTX

Secular growth drivers
- Shift to buy-side
- From active to passive
- Shift to central clearing
- From OTC to on-exchange (ETD)

Strategic positioning
- The global venue for benchmark indices
- The global venue for Euro yield curve
- The preferred global commodities exchange
- An innovator in global FX markets
1. Eurex (financial derivatives) – number one in open interest ahead of global peers

- 18% increase in 2018 far above global peers
- Increase largely driven by directional buy-side rather than volatility-driven proprietary trading flows
- Increase driven by longer dated risk transfer positions migrating from OTC-to-ETD

### Open interest development against peers

<table>
<thead>
<tr>
<th>Year</th>
<th>Eurex</th>
<th>2nd global peer</th>
<th>3rd global peer</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2016</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>2017</td>
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<td></td>
</tr>
<tr>
<td>2018</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2019</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Product concentration at Eurex (monthly averages ytd Sep)

- 10% drop in product concentration contrasts with peers
- Investment-driven products like MSCI and total-return futures contributed above average increase
- Volatility and dividend derivatives also contributed above average to increase

---

Reduced cyclical dependency

Reduced product concentration
1. Eurex (financial derivatives) – one of the world’s largest derivatives exchanges and clearing houses

**Business overview and attractions**

- **Liquidity**
  - Leading global venue
    - Global benchmark to trade European indices and the Euro yield curve

- **Efficiency**
  - Unique clearing offering
    - Integrated clearing, collateral and margining for ETD and OTC

- **Innovation**
  - Strong innovation track record
    - Successful OTC-to-ETD product launches: volatility, dividend, total-return, MSCI and ESG derivatives

- **Technology**
  - Strong technology track record
    - Best in class in connectivity, performance, scalability and market model functionality

**Net revenue breakdown 2018**

100% = €936 million

- **Index and equity**
  - €510 million
  - 54% of total
  - +20% y-o-y

- **Fixed income**
  - €278 million
  - 30% of total
  - +17% y-o-y

- **Other**
  - €148 million
  - 16% of total
  - +12% y-o-y

---

1) Including margin fees on OTC clearing related collateral
2) GFF (Global Securities Funding and Financing) incl. Eurex Repo
3) Including net interest income and securities collateral fee
4) Including net revenue from connectivity and member fees
Eurex (financial derivatives) – secular drivers help to grow and diversify product portfolio

Secular drivers and opportunities

- Shift to passive strategies accelerates buy-side demand for index trading
- Global demand for international benchmarks across time zones
- Trading hours extension supports structural diversification and global ambition
- Shift to central clearing accelerates OTC-to-ETD futurisation
- Increasing demand for innovative ETD to facilitate overlays and synthetic strategies
- Portfolio margining extensions support product diversification

Growth dynamics in new products (Q1-3/2019)

<table>
<thead>
<tr>
<th>Product</th>
<th>Q3 2019</th>
<th>YoY Change</th>
<th>End-Quarter Interest</th>
</tr>
</thead>
<tbody>
<tr>
<td>MSCI Future &amp; Options</td>
<td>14.8m</td>
<td>+30%</td>
<td>€103bn</td>
</tr>
<tr>
<td>ETF Options</td>
<td>3.6m</td>
<td>+519%</td>
<td>€2.7bn</td>
</tr>
<tr>
<td>Total Return Futures</td>
<td>2.6m</td>
<td>+172%</td>
<td>€45bn</td>
</tr>
<tr>
<td>Dividend Products</td>
<td>13.0m</td>
<td>+23%</td>
<td>€41bn</td>
</tr>
</tbody>
</table>
Eurex (financial derivatives) – growth in OTC clearing supports fixed-income expansion

Secular drivers and opportunities

Shift to central clearing

- Balance sheet and cost pressure drive demand for central clearing
- Margin and collateral efficiencies across OTC and ETD and across derivatives, repo and sec financing supports Euro benchmark ambition
- Market demand for liquid, EU-based alternative for OTC interest rate derivatives

Growth dynamics in OTC clearing

The global venue for Euro yield curve

1) Reflects newly admitted clients since 1 January 2019, 2) Multiple clearing relations of the same entity are not counted, 3) Based on ADV and subject to the ECAG trading calendar
EEX (commodities) – leading European energy exchange with growing US business

Business overview and attractions¹)

- **Power**
  - Leading power trading platform worldwide
    - #1 in European derivatives with 72% on-exchange market share (31% including OTC)
    - #2 in US derivatives with 21% market share
    - Growth dynamics: +6% in spot, +19% in derivatives (excl. Nodal)

- **Gas**
  - #2 in European derivatives with 9% on-exchange market share (4% including OTC)
  - Growth dynamics: +34% in spot, -26% in derivatives

- **Emissions**
  - #2 in European emissions with 20% of total trading and auctioning market
  - Growth dynamics: +2% in spot, +318% in derivatives

- **Revenue lever**
  - Record net revenue 2018 with €257 million
  - Revenue dynamics: +21% in 2018, midterm growth CAGR 2018-20E >10%

---

¹) Market share and growth figures based on 2018 volumes

²) Including net revenue from connectivity, member fees and emission allowances
2 EEX (commodities) – increasing demand for more efficient on-exchange trading and clearing

Secular drivers and opportunities

- Efficiencies of on-exchange (ETD) vs. OTC markets (e.g. driven by share of renewables)
- Lever strong position in European gas spot market to strengthen role in gas derivatives market
- Expansion of emissions trading in Europe and development of markets in other time zones
- Diversification strategy with focus on new geographical markets and multi-commodity offering

Growth dynamics across power, gas and emissions

- **Power spot**
  - CAGR 9%
  - TWh: 28, 29, 32, 44, 45, 48

- **Power derivatives**
  - CAGR 29%
  - TWh: 78, 105, 131, 213, 328, 268, 365

- **Gas markets (spot and derivatives)**
  - CAGR 72%
  - TWh: 6, 19, 47, 89, 146, 165, 164

- **Emission markets (auctions and derivatives)**
  - CAGR 50%
  - Million t CO2: 21, 71, 44, 56, 79, 115, 241

OTC to ETD

- New markets and regions

The preferred global commodities exchange

Strategic positioning

Product and market portfolio strategy

Increase market share vs OTC and enter into new markets
### 360T (foreign exchange) – top-ranked global FX platform

#### Business overview and attractions

<table>
<thead>
<tr>
<th>Liquidity</th>
<th>• Top-ranked global FX trading platform with strong FX liquidity with &gt;200 liquidity providers</th>
</tr>
</thead>
</table>
| Awarded technology | • Best-in-class technology; seamless execution and solutions  
| | • 2018 FX Week Awards: best professional e-trading venue and vendor for dealing technology |
| Client growth | • Broad and growing international client base with corporates, MTBs, institutionals and asset managers  
| | • Secular growth of 9% in 2018 through addition of new clients |
| Global expansion | • Expansion in FX spot / inter-bank trading as well as in the US by acquiring GTX ECN in 2018 |

#### Net revenue breakdown 2018

| | 
|-----------------|---|
| Swap            | 30% |
| Spot            | 33% |
| Forward         | 18% |
| Other\(^1\)     | 19% |

100% = €79 million

---

\(^1\) Including net revenue from connectivity and member fees
360T (foreign exchange) – FX platform with multiple growth drivers

Secular drivers and opportunities

- **Ongoing electronicization**
  - Ongoing shift to electronic execution across regions and client segments
  - Growth in Americas and APAC; growth from asset managers, hedge funds, market taking banks

- **Innovation**
  - New products and services: trading mechanisms (T7 / CLOB), workflows (EMS) and market data (Swap pts)

- **Futurisation**
  - Excellent proposition for FX ETD (e.g. rolling spot and classic futures)

- **Central clearing**
  - Strong proposition for centralised credit mitigation: OTC FX and cross-currency clearing

<table>
<thead>
<tr>
<th>Strategic positioning</th>
</tr>
</thead>
<tbody>
<tr>
<td>An innovator in global FX markets</td>
</tr>
</tbody>
</table>

Growth dynamics in FX products (as of end-Q3/19)

- Ongoing shift to electronic execution across regions and client segments
- Growth in Americas and APAC; growth from asset managers, hedge funds, market taking banks
- New products and services: trading mechanisms (T7 / CLOB), workflows (EMS) and market data (Swap pts)
- Excellent proposition for FX ETD (e.g. rolling spot and classic futures)
- Strong proposition for centralised credit mitigation: OTC FX and cross-currency clearing

Expand globally, win new clients, launch new products / services to holistically serve FX OTC and ETD

<table>
<thead>
<tr>
<th>Year</th>
<th>ADV; €bn</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015</td>
<td>55</td>
</tr>
<tr>
<td>2016</td>
<td>58</td>
</tr>
<tr>
<td>2017</td>
<td>61</td>
</tr>
<tr>
<td>2018</td>
<td>69</td>
</tr>
<tr>
<td>YTD 2019</td>
<td>81</td>
</tr>
</tbody>
</table>

+9% CAGR
Xetra (cash equities) – reference market for German equities and revenue enabler across the value chain

Business overview and attractions

- **Reference market for German equities** with market share in DAX grown to >68% (up from 58% in Q2/2016) and strong retail position in Germany
- **European market leader in ETF trading**
- **Strong pre-IPO ecosystem** developed in recent years providing solid IPO pipeline
- **Attractive integrated equity clearing** subject to Open Access regulation (MiFID II) – limited impact on business expected

Net revenue breakdown 2018

100% = €229 million

<table>
<thead>
<tr>
<th>Category</th>
<th>Revenue Breakdown</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trading &amp; clearing</td>
<td>75%</td>
</tr>
<tr>
<td>Listing</td>
<td>8%</td>
</tr>
<tr>
<td>Other 1)</td>
<td>17%</td>
</tr>
</tbody>
</table>

Entry point of Deutsche Börse’s value chain

**Enabler for revenue** in other businesses across the value chain in total doubling Xetra’s net revenue

1) Including net revenue from connectivity and partner markets
Xetra (cash equities) – growth path with clear priorities beyond capturing cyclicity

Secular growth opportunities

**Win in the core**
- Expand reference market position with enhanced trading offerings, in particular for large-in-scale orders, with focus on equities / ETFs
- Gain trading volumes from OTC and SI
- Strengthen the pre-IPO ecosystem
- Expand European market position in fast-growing ETF market (+17%); partner with ETF issuers; gain flow from MTFs and OTC

**Expand into new services**
- Develop issuer and corporate services, introduce a digital format vis-à-vis issuers
- Enter and grow newly tradeable asset classes and leverage thematic trends (e.g. green bonds)

**Strategic imperative**
Increase market share vs competitors and OTC / capture cyclicity / maintain high profitability in a slowly growing market

Net revenue guidance

- **midterm 0-5% CAGR** (from ~5%)
- 2017: €218m
- 2018: €229m
- 2020E: €229m

Status: ✓
(t/o share of secular growth: moderate)

(but cyclical headwinds)
Post-trading – leading positions as CSD-Custodian in six product clusters allow to benefit from secular industry drivers

<table>
<thead>
<tr>
<th>Clearstream €718 million&lt;sup&gt;1)&lt;/sup&gt;</th>
<th>Global securities financing €83 million&lt;sup&gt;1)&lt;/sup&gt;</th>
<th>Investment fund services €154 million&lt;sup&gt;1)&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Issuer CSD (DE / LU)</strong></td>
<td><strong>Eurobond market (XS)</strong></td>
<td><strong>Investor CSD / T2S</strong></td>
</tr>
<tr>
<td>Biggest continental European securities issuance hub</td>
<td>~40% of all Eurobond issuance activity</td>
<td>~8% custody market share&lt;sup&gt;2)&lt;/sup&gt; and links to 80% of T2S volume</td>
</tr>
</tbody>
</table>

**Secular industry drivers**

- Continued integration / efficiency pressure post-T2S for European custody providers
- CSDR and wider regulatory requirements increasing critical size for CSDs
- Sell- and buy-side focus on funding / collateral and settlement efficiency
- New technology opportunity for players with ability to set industry standards
- Global growth for third-party fund distribution
- Efficiency pressure of buy-side value chain
- New service requirements

<sup>1</sup> 2018 net revenue

<sup>2</sup> Clearstream’s market share of T2S markets excluding Issuer CSD (DE / LU) assets
Clearstream – custody revenue stream combined with stable client cash deposit base

Product overview and development focus

Issuer CSD
- Singular issuance point for DE securities optimised through new technology and pan-European offering post CSDR (e.g. warrants, bonds)

Eurobond market
- Central node of Eurobond issuance ecosystem focused on stepping up attractiveness to issuers and partners globally (e.g. China, “European capital markets union” drive)

Investor CSD / T2S
- European custody product anchored in access to all T2S markets and relevant CCPs
- Replacing reduced settlement revenue with custody fees, e.g. through standardised value adding services

Global markets
- Highly efficient global network embedded in ICSD infrastructure, driving enhancement of links (e.g. US, Emerging Markets)

Net revenue breakdown 2018

100% = €718 million

- Custody: 53%
- Settlement: 22%
- Net interest income: 11%
- Third-party services: 4%
- Other: 10%

Strategic imperative

Win volumes through efficiency and stronger value adding services

1) Including net revenue from connectivity, account services and reporting
Clearstream – programme launched to capture full potential from secular growth

**Cornerstones**

**Product focus**
- Strengthen excellence focus in four product areas

**Regulatory compliance**
- Leverage rising regulatory compliance standards for differentiation

**Internal efficiency**
- Step change in straight through processing of remaining activities through digitisation and AI
- Optimize operational setup across Europe
- Realise savings from cloud and system consolidation / overhaul in IT

**Momentum of long term growth**
- Capture momentum from new technology-driven services for growth

**Excellence in client management**
- Differentiate from competition by client service quality
- Sales force effectiveness and focus

**Net revenue guidance**

<table>
<thead>
<tr>
<th>Year</th>
<th>€m</th>
</tr>
</thead>
<tbody>
<tr>
<td>2017</td>
<td>668</td>
</tr>
<tr>
<td>2018</td>
<td>718</td>
</tr>
<tr>
<td>2020E</td>
<td></td>
</tr>
</tbody>
</table>

midterm 5-10% CAGR

+8%

t/o share of secular growth: moderate

Status: (✓) (secular growth delayed)
GSF (global securities financing) – secular growth opportunities on the basis of extensive counterparty network

Product overview and development focus

**Securities lending (48% of net revenue)**
- Established and credible counterpart for lenders and borrowers across a large set of asset classes
- Continued growth in securities lending by extending asset types (equities / ETFs) and leveraging T2S / Investor CSD
- Increased relevance of principal securities lending based on enhanced risk management capabilities
- Further diversification of securities lenders and borrowers and increased relevance of agency lending model

**Collateral management (52% of net revenue)**
- Custodian of choice for cleared and non-cleared OTC derivatives obligations
- Seamless link between collateral pools and ever expanding exposure type and venue coverage
- Harmonisation of collateral management platform and further development of collateral re-use opportunities
- Addressing collateral needs through innovative DLT-based solution developed in partnership with HQLAx

**Net revenue guidance**

<table>
<thead>
<tr>
<th>€m</th>
<th>2017</th>
<th>2018</th>
<th>2020E</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>82</td>
<td>83</td>
<td></td>
</tr>
</tbody>
</table>

midterm 0-5% CAGR (from 5-10%)

+2%

82% share of secular growth: moderate

Status: ✓ (but cyclical headwinds)
IFS (investment fund services) – leading infrastructure for the fund industry

Business overview and key features

- **Leading provider** of international fund order routing, administration, settlement and custody services
- Assets under custody: €2.4 trillion; number of transactions processed: 25 million (both 2018)
- **Leading technology** platform Vestima®
- **Clients** from >70 countries
- More than 190,000 eligible funds of **all types** (mutual funds, ETFs, hedge funds etc.) from >40 **domiciles**
- Strong track record of client onboarding

Net revenue breakdown 2018

100% = €154 million

- **Custody** 43%
- **Settlement** 32%
- Other 1) 25%

Strategic imperative

Win market share by onboarding new clients and funds, entering new geographies and new services organically or by bolt-on M&A

---

1) Including net revenue from connectivity, order routing and Clearstream Funds Centre
IFS (investment fund services) – strong secular growth opportunities on the basis of service and regional expansion

**Secular growth opportunities**

**New clients and funds**
- Expansion of service to alternative funds
- Increased service offerings for ETFs
- New (growth) geographies
- Acquisition of Ausmaq Ltd. will provide exposure to the fast-growing Australian funds market
- „Follow-the-client“ approach centered in Asia

**New services**
- Increased revenue flows due to the addition of distribution intermediation capabilities through the integration of Swisscanto Funds Centre
- Extension of fund issuance services to domestic CSDs and T2S

**Medium-term: bring Vestima to the next stage of evolution leveraging blockchain technology**

**Net revenue guidance**

<table>
<thead>
<tr>
<th>€m</th>
<th>2017</th>
<th>2018</th>
<th>2020E</th>
</tr>
</thead>
<tbody>
<tr>
<td>t/o share of secular growth: very high</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>midterm &gt;10% CAGR</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1) Thereof organic: 10%
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