



Investor Day 2019

“Roadmap 2020” – tangible progress achieved

London, 22 May 2019

Agenda

CEO perspective: strategy and “Roadmap 2020” progress

Pre-trading: STOXX and Data

Trading & clearing: Eurex, EEX and 360T

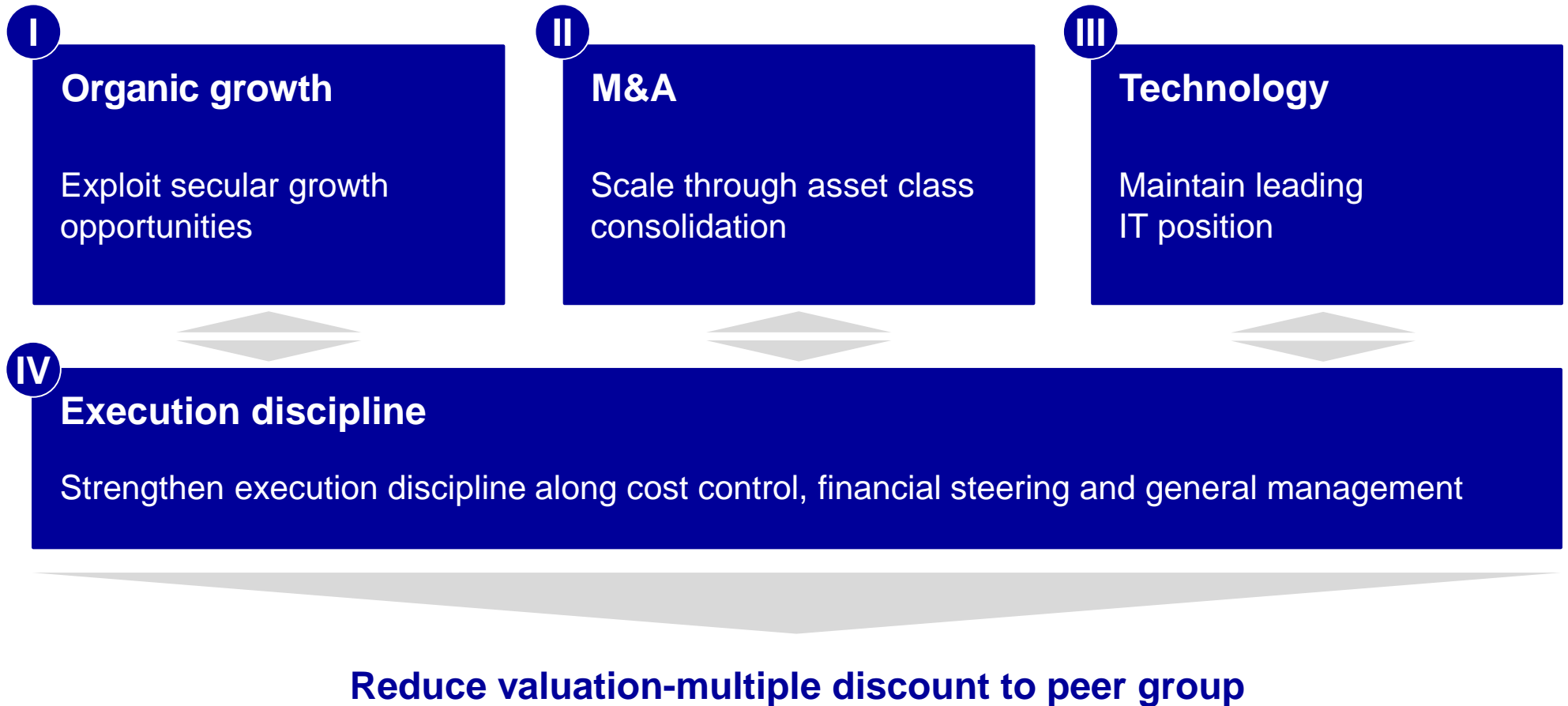
Cash equities: Xetra

Post-trading: Clearstream, GSF and IFS

IT & new technologies

CFO perspective: financials and guidance

Key pillars of Deutsche Börse's "Roadmap 2020" growth strategy



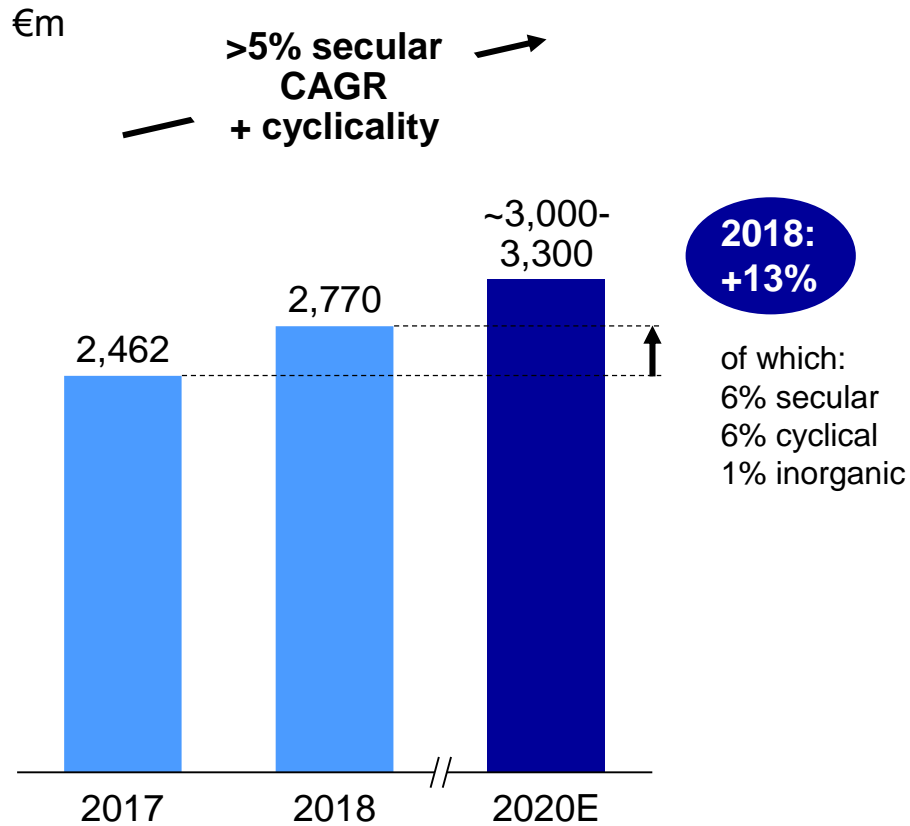
Good progress along all “Roadmap 2020” pillars

- 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; Q1/2019 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 ~€1.5 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

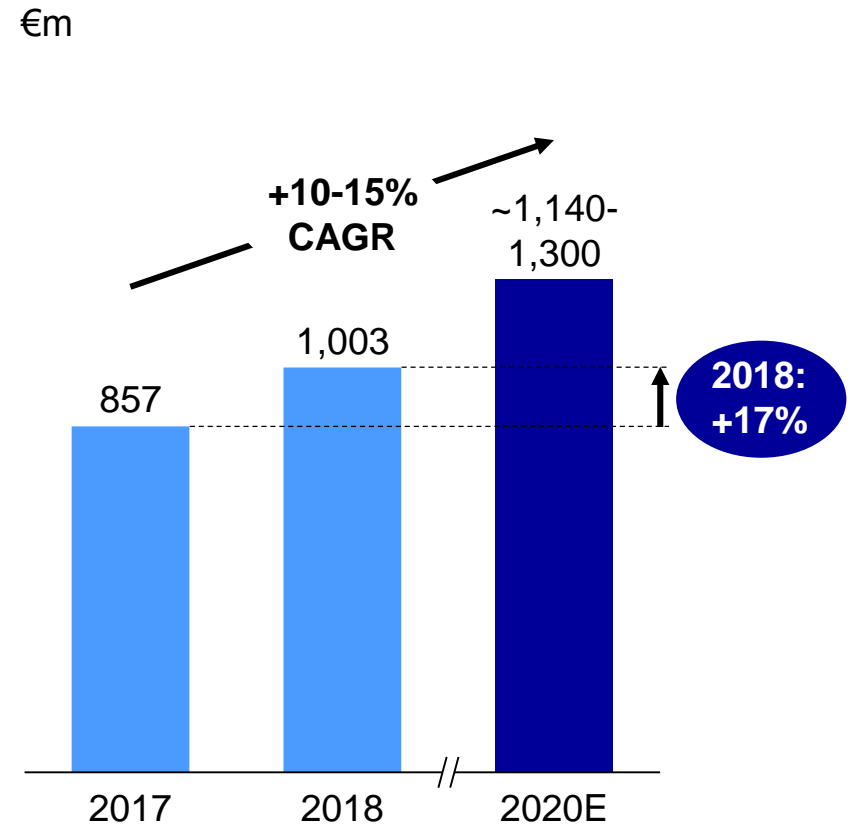
Significant improvement of valuation multiples

I Organic growth – midterm targets significantly exceeded in 2018; “Roadmap 2020” targets confirmed

Net revenue growth target (organic)



Net profit growth target (organic)¹⁾



1) Adjusted for exceptional items

II M&A – individual approach required for different external growth areas

M&A focus on five growth areas

| | |
|-------------------------------|--------------------|
| Pre-trading | ① Data / Index |
| Trading & clearing | ② Commodities |
| | ③ Foreign exchange |
| | ④ Fixed income |
| Post-trading | ⑤ Investment funds |

Ingoing position

Deutsche Börse is lagging behind in most dimensions: products, clients (buy-side) and geographies

Deutsche Börse offers well established platforms, however, scale could be further improved

Largely white spot for Deutsche Börse on the trading & clearing layer; good coverage in post-trading

Deutsche Börse provides a leading solution to increase the efficiency of fund processing market

M&A strategy

Catch up with peers; don't overpay; use partnership formats

Consider assets that help to gain scale and add value through growth and synergies

Limited availability of assets, but ongoing monitoring of market

Consider assets with value adding products & geographies to grow and expand leading position

II 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 **Grexel 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)



5 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)



II M&A – Axioma acquisition serves as basis to create a leading index and portfolio / risk analytics business

Data / Index

1 Axioma acquisition and smart transaction structure address **shortcoming** in Deutsche Börse's pre-trading offering **very well**

- Transaction is **fully in line** with Deutsche Börse's "**Roadmap 2020**" strategy
- **Strengthens Deutsche Börse's pre-trading offering** and improves **access to the buy-side**
- **Combination is highly complementary** (clients, products and geographies) and creates **meaningful synergies of around €30 million** by the end of 2021 (annualised run-rate, pre-tax)
- New company will be a **buy-side intelligence leader** uniquely **positioned to benefit from trends that are reshaping investment management** (active to passive, quant- and factor-investing, demand for risk analytics, and index customisation) and thus, **strong value generation** is expected
- **Partnership with General Atlantic** will help to **further accelerate growth** potentially including **further M&A**
- Transaction structure **crystallises value of index asset** and **preserves the Group's M&A firepower**

Technology – capabilities in new technologies are growing steadily and first products will be ready in 2019

Four transformational technology trends

Public cloud

Cloud and provision of services via APIs is helping to increase agility, improve quality and reduce costs

- **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

DLT / block-chain

Helps to create new market structures and allows adding products onto existing structures

- **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**

Robotics / automation / AI

Key efficiency driver for operations-heavy tasks

- **Centre of excellence** for automation **established**; several **automation tools already in production** for task automation; further steps defined along use case roadmap

Big data / advanced analytics

Advanced analytics is both a revenue driver adding value to data, and an efficiency lever

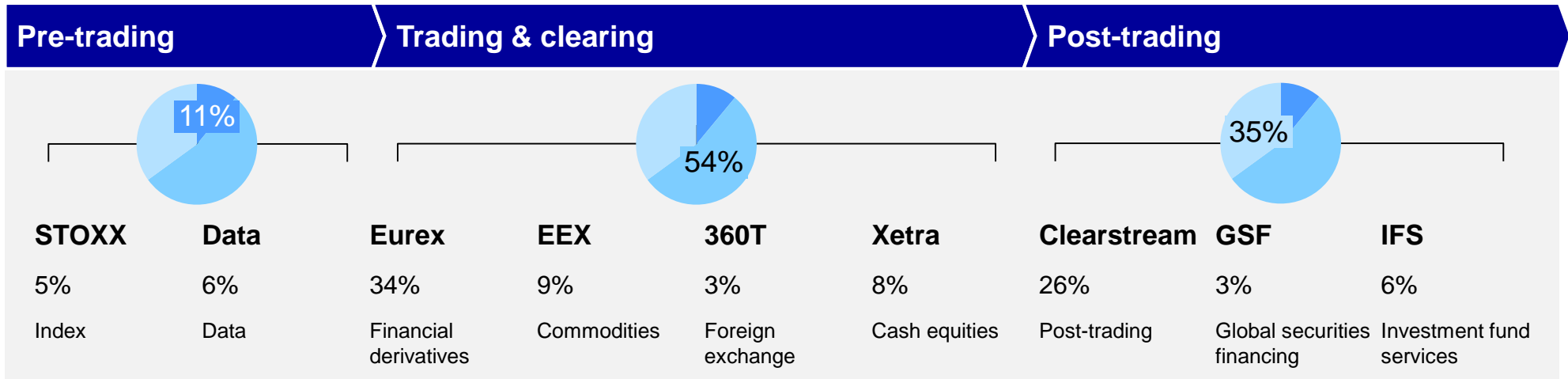
- **New client requirements** regarding data / analytics are addressed by the creation of a **buy-side intelligence leader** as part of the **Axioma acquisition**

IV Execution discipline – strengthened discipline along cost control, financial steering and general management

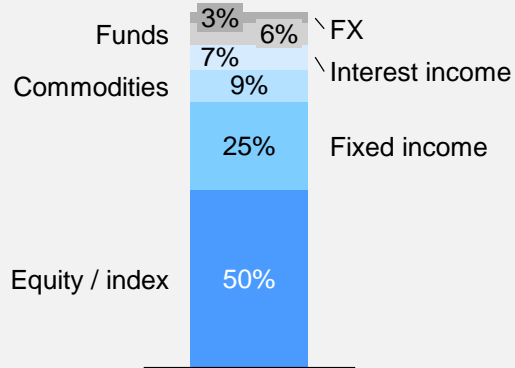
Execution discipline

- **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

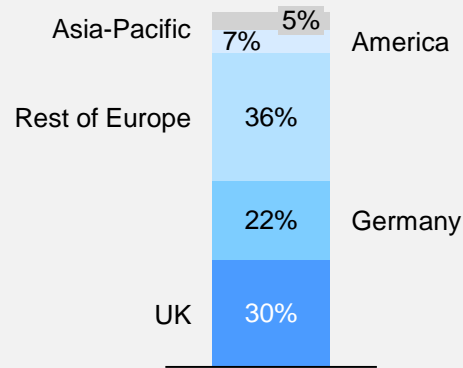
Diversified, scalable and resilient business portfolio serves as basis for further growth



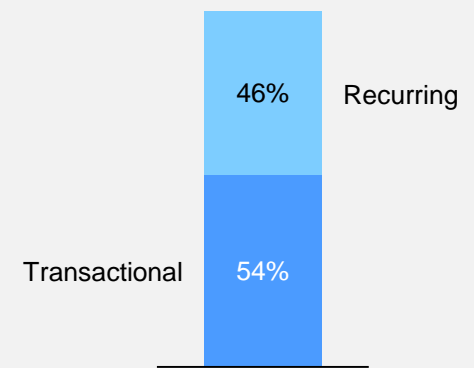
Multi-asset class offering



Geographically diversified



High recurring revenues



All figures in per cent of 2018 Group net revenue

Secular growth drivers fully intact despite dynamic environment



Main drivers for secular growth

Shift to central clearing

- Demand for liquid EU-based OTC CCP alternative
- Pull effects for new products and services (e.g. collateral)

Over the counter (OTC) to on-exchange

- Shift from OTC to regulated markets (e.g. futurisation)
- Electronification of less penetrated asset classes

Active to passive investments

- Continued shift from active to passive investing
- Europe still offers significant growth potential

Shift to buy-side

- Increasingly self-directed buy-side and corporates
- Continued pressure on banking industry in general

Impact on the business

Pre-trading

Trading & clearing

Post-trading



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IT & new technologies

CFO perspective: financials and guidance

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
- **€145 million net revenue** with **12% CAGR** (2015-18) as **award-winning innovator** in investment strategies

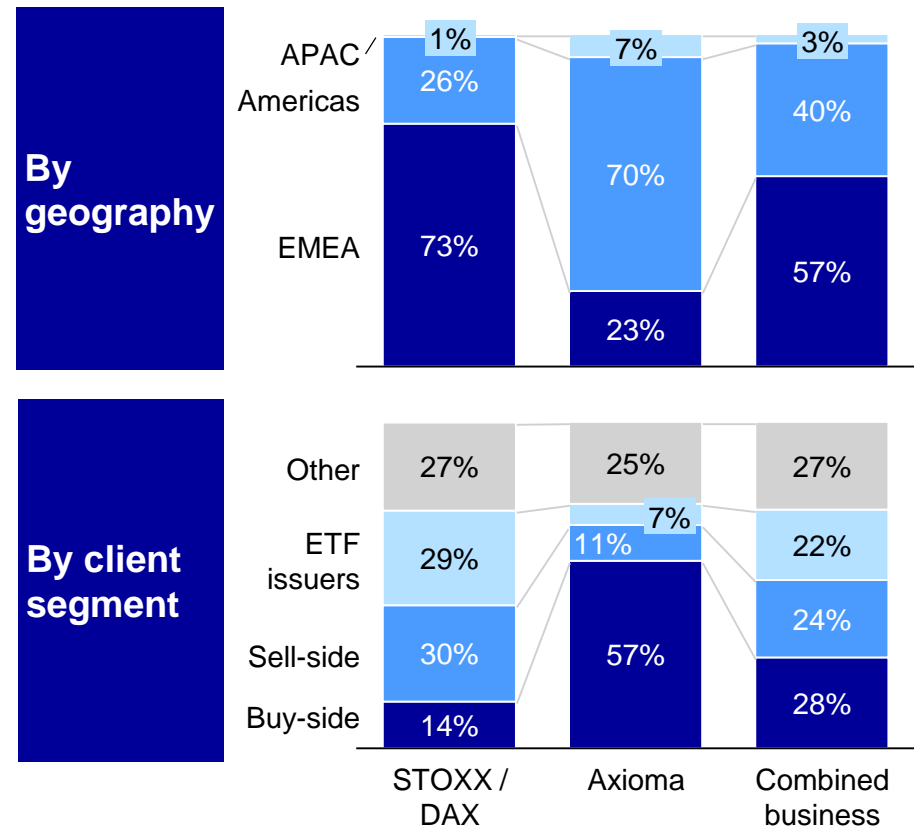
Business overview and attractions



- **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
- **~US\$100 million** annualised contract value (~75% from software licences)

Revenue structure STOXX / DAX + Axioma

Pro forma¹⁾



1) Indicative pro-forma view combining IFRS (STOXX / DAX) and US GAAP (Axioma)

STOXX (index) – Axioma transaction: strong strategic rationale for highly complementary combination

Vision

Create a buy-side intelligence leader with open infrastructure

Analytics, indices, performance, risk, compliance, global coverage

Contribution

Index business (STOXX / DAX)

Axioma

| | | |
|----------------|---|--------------------------------------|
| Domains | Indices, compliance | Analytics, performance, risk |
| Clients | Passive buy-side, custodians, vendors | Active buy-side |
| Regional focus | Europe, global | US, global |
| Data sets | Transaction-, market- and reference data | Risk factor data, portfolio holdings |
| Revenue model | Asset based fees, brand & data licensing, subscriptions | Software sales & licensing |

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

Strategic rationale

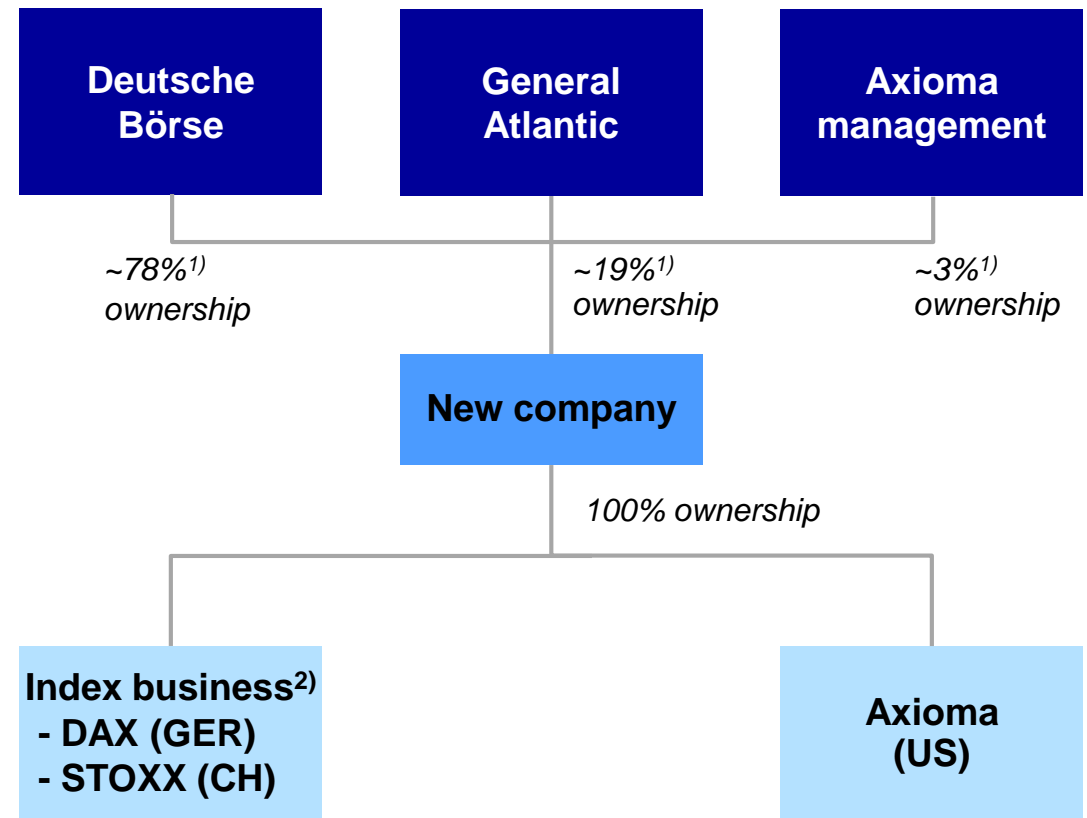
- Combination of Axioma risk analytics and Deutsche Börse's index business creates **unique offering to benefit from macro industry trends**
- **Flexibility / open architecture** approach creates future-proof positioning and **ability to increase scale**
- **Leading capabilities in customisation** create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

STOXX (index) – Axioma transaction: new entity with unique entrepreneurial set-up

Transaction highlights

- Deutsche Börse to acquire Axioma for **US\$850 million** cash / debt free and combine it with its index business valued at **€2.6 billion**
- General Atlantic to invest **~US\$715 million** to fund Axioma acquisition; key Axioma management, incl. Sebastian Ceria (CEO), to reinvest **~US\$105 million**
- **Ownership:** Deutsche Börse ~78%, General Atlantic ~19% and Axioma management ~3%
- **Medium-term partnership** with General Atlantic with multiple optionalities for Deutsche Börse
- Transaction **structure preserves M&A fire power** for Deutsche Börse
- Transaction expected to **close in Q3/2019**

Simplified transaction structure



1) Preliminary ownership percentages; final figures depend in particular on roll-over amount

2) Simplified structure

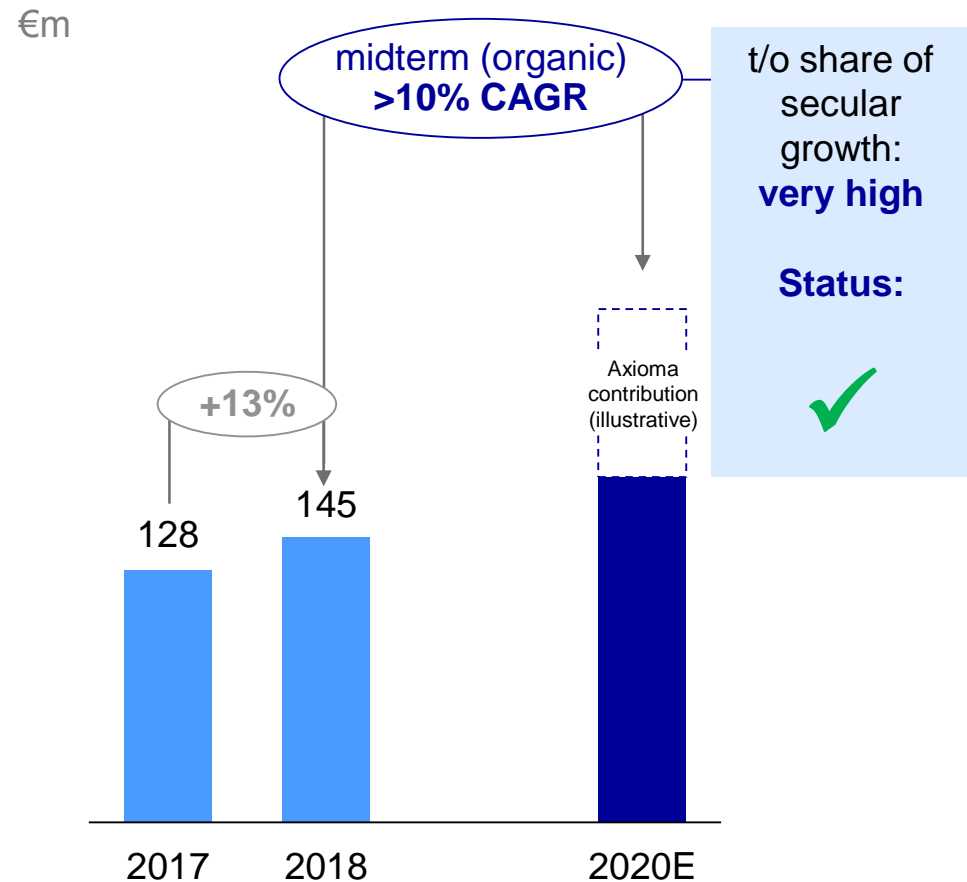
STOXX (index) – Axioma transaction: immediate joint opportunities enable strong secular growth

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

**Synergies of ~€30 million by the end of 2021
(annualised run-rate, pre-tax)**

Net revenue guidance



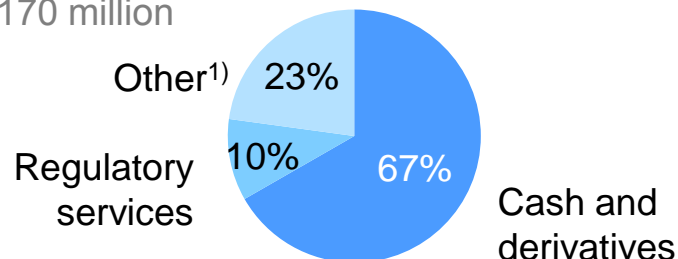
Data – global real-time distribution network for market data

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

100% = €170 million

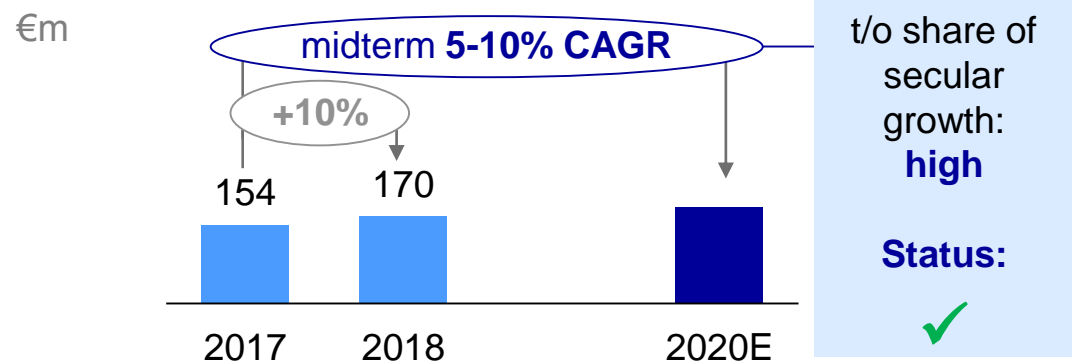


1) Including net revenue from internal and external cooperations and CEF data services

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



Strategic imperative: Leverage platform to address broader market

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CFO perspective: financials and guidance

Trading and clearing – benchmark across major asset classes

1 Eurex (financial derivatives)

Index and equity

Fixed income

- Largest European index and equity liquidity pool
- Strong global benchmark with EURO STOXX, VSTOXX, DAX, MSCI

- 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

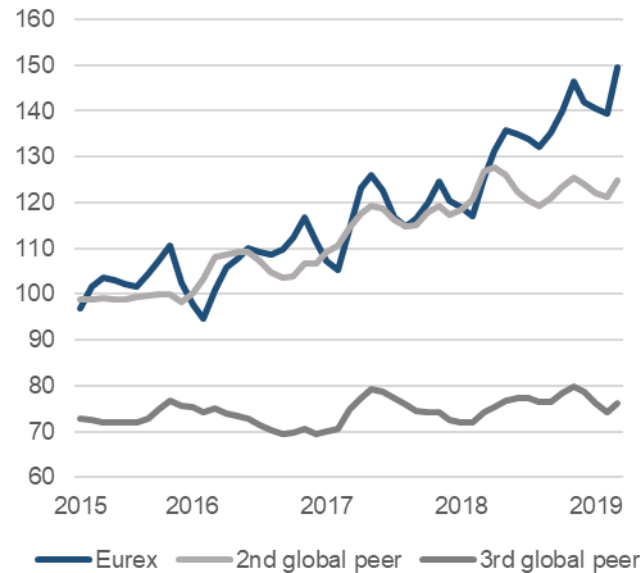
The global venue for Euro yield curve

The preferred global commodities exchange

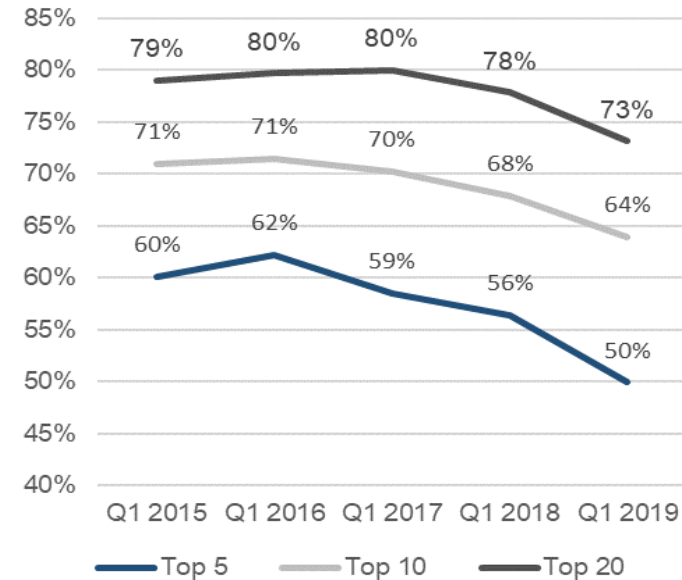
An innovator in global FX markets

1 Eurex (financial derivatives) – number one in open interest ahead of global peers

Open interest development against peers



Product concentration at Eurex



- 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

- 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



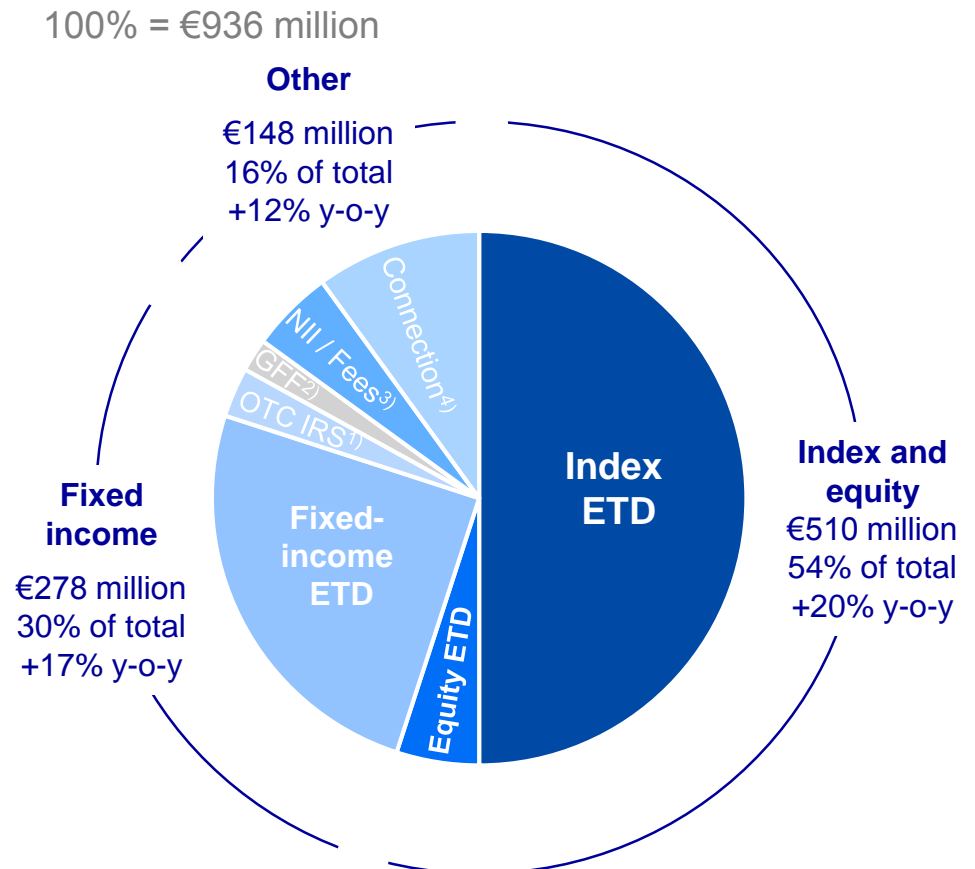
Reduced product concentration

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

Business overview and attractions

| | |
|-------------------|--|
| Liquidity | <ul style="list-style-type: none"> ▪ Leading global venue Global benchmark to trade European indices and the Euro yield curve |
| Efficiency | <ul style="list-style-type: none"> ▪ Unique clearing offering Integrated clearing, collateral and margining for ETD and OTC |
| Innovation | <ul style="list-style-type: none"> ▪ Strong innovation track record Successful OTC-to-ETD product launches: volatility, dividend, total-return, MSCI and ESG derivatives |
| Technology | <ul style="list-style-type: none"> ▪ Strong technology track record Best in class in connectivity, performance, scalability and market model functionality |

Net revenue breakdown 2018



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

1 Eurex (financial derivatives) – secular drivers help to grow and diversify product portfolio

Secular drivers and opportunities

Global indices

- 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

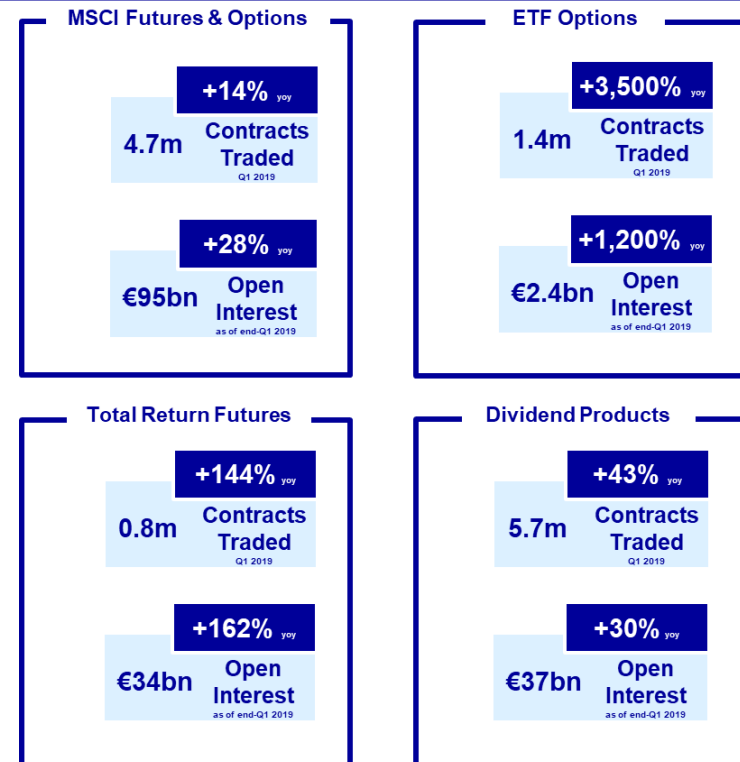
Futurisation

- 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

Strategic positioning

The global venue for benchmark indices

Growth dynamics in new products (Q1/2019)



Product portfolio strategy

Reduce cyclical dependency



Reduce product concentration

1 Eurex (financial derivatives) – growth in OTC clearing supports fixed-income expansion

Secular drivers and opportunities

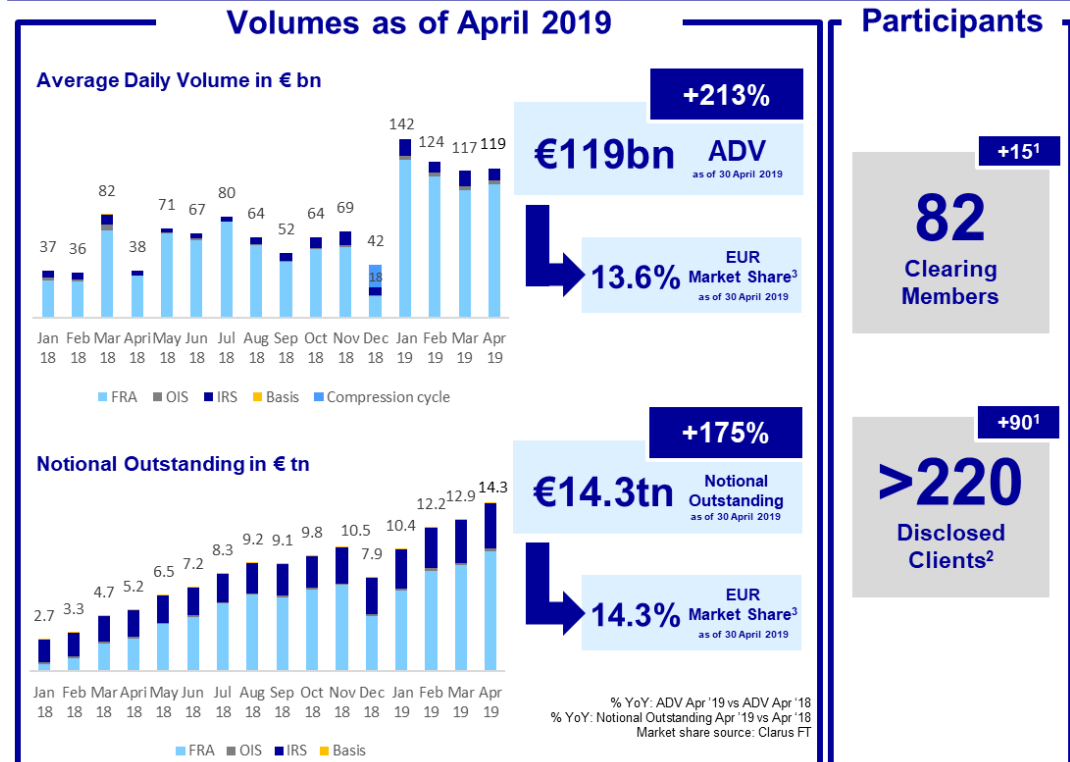
Shift to central clearing

- 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

Strategic positioning

The global venue for Euro yield curve

Growth dynamics in OTC clearing



Product portfolio strategy

Increase market share in OTC clearing



Leverage coverage across OTC, ETD and repo

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

2 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

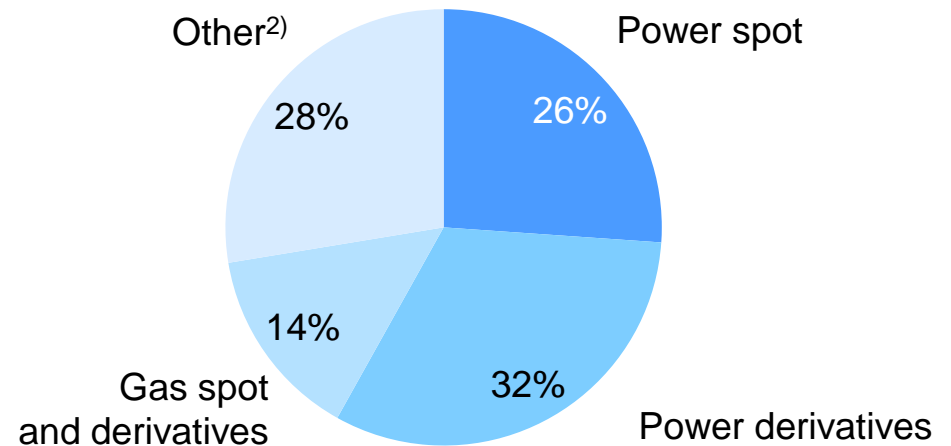
- #2 in European emissions with 20% of total trading and auctioning market
- Growth dynamics: +2% in spot, +318% in derivatives

Revenue lever

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

Net revenue breakdown 2018

100% = €257 million



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

OTC to ETD

- 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

New markets and regions

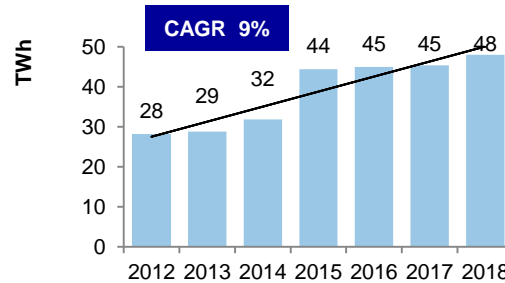
- Expansion of emissions trading in Europe and development of markets in other time zones
- Diversification strategy with focus on new geographical markets and multi-commodity offering

Strategic positioning

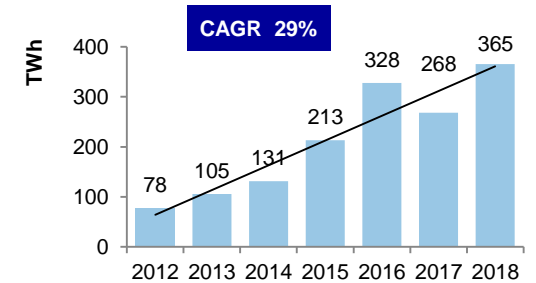
The preferred global commodities exchange

Growth dynamics across power, gas and emissions

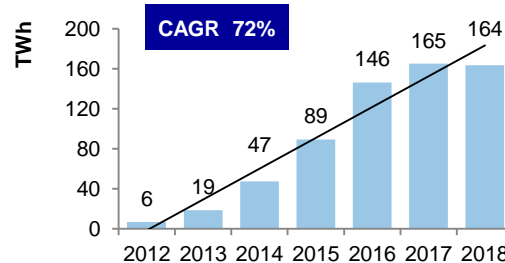
Power spot



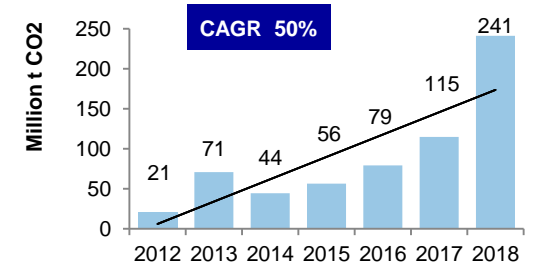
Power derivatives



Gas markets (spot and derivatives)



Emission markets (auctions and derivatives)



Product and market portfolio strategy

Increase market share vs OTC and enter into new markets

3 360T (foreign exchange) – top-ranked global FX platform

Business overview and attractions

Liquidity

- Top-ranked global FX trading platform with strong FX liquidity with >200 liquidity providers

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

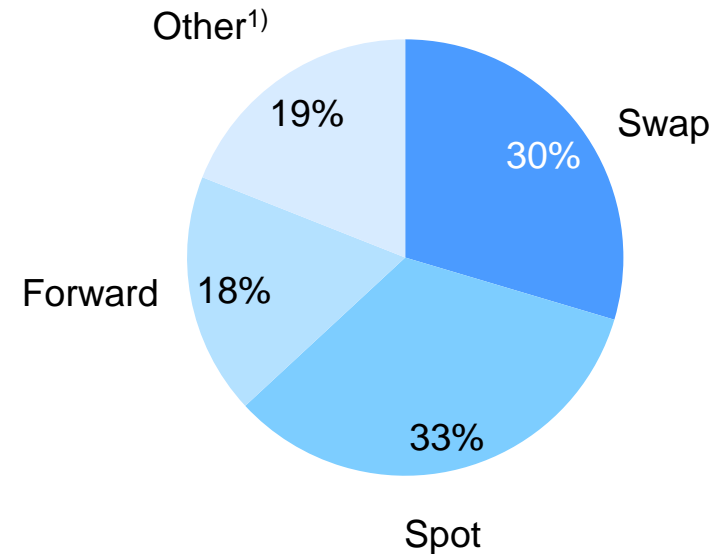
- Broad and growing international client base with corporates, MTBs, institutionals and asset managers
- Secular growth of 9% in 2018 through addition of new clients

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

100% = €79 million



1) Including net revenue from connectivity and member fees

3 360T (foreign exchange) – FX platform with multiple growth drivers

Secular drivers and opportunities

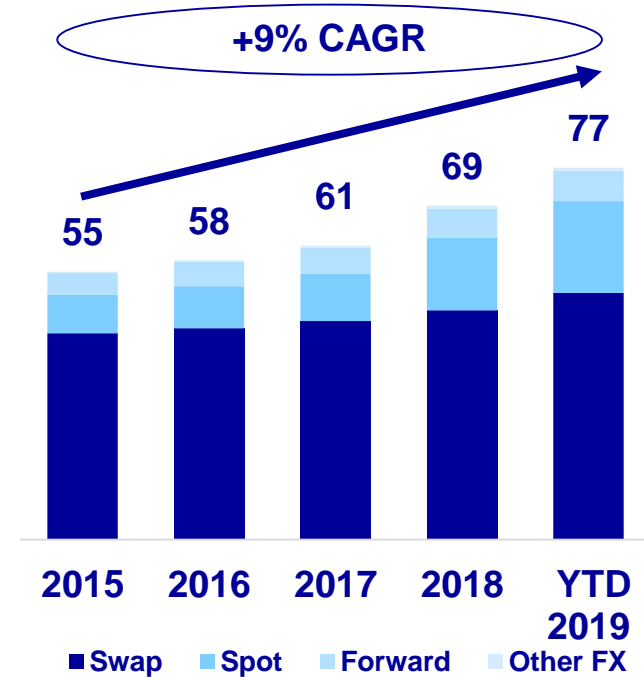
| | |
|-------------------------------------|---|
| Ongoing electronic-ification | <ul style="list-style-type: none"> ▪ Ongoing shift to electronic execution across regions and client segments ▪ Growth in Americas and APAC; growth from asset managers, hedge funds, market taking banks |
| Innovation | <ul style="list-style-type: none"> ▪ New products and services: trading mechanisms (T7 / CLOB), workflows (EMS) and market data (Swap pts) |
| Futurisation | <ul style="list-style-type: none"> ▪ Excellent proposition for FX ETD (e.g. rolling spot and classic futures) |
| Central clearing | <ul style="list-style-type: none"> ▪ Strong proposition for centralised credit mitigation: OTC FX and cross-currency clearing |

Strategic positioning

An innovator in global FX markets

Growth dynamics in FX products

ADV; €bn



Product and market portfolio strategy

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

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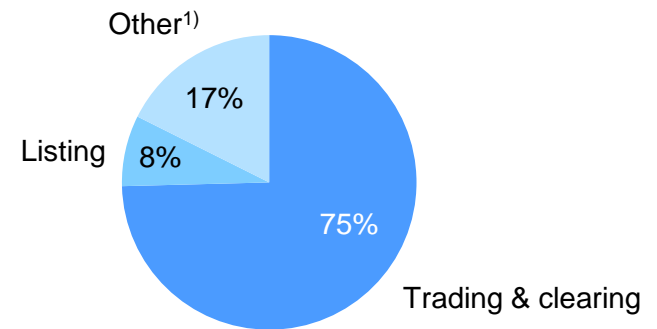
Xetra (cash equities) – reference market for German equities and revenue enabler across the value chain

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

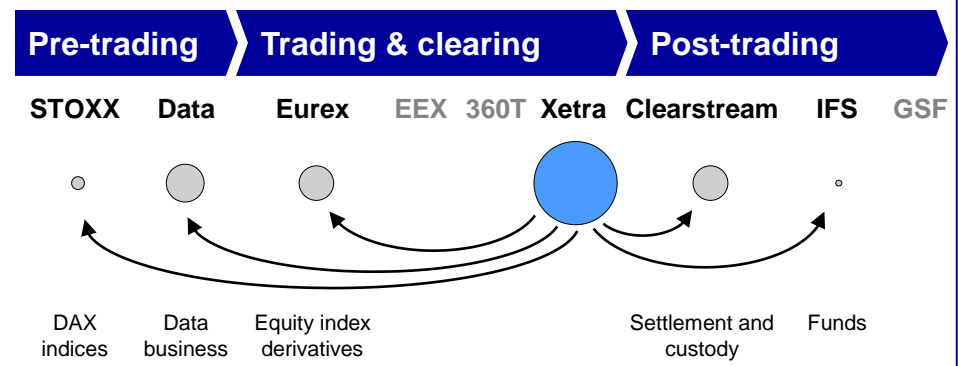
Net revenue breakdown 2018

100% = €229 million



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

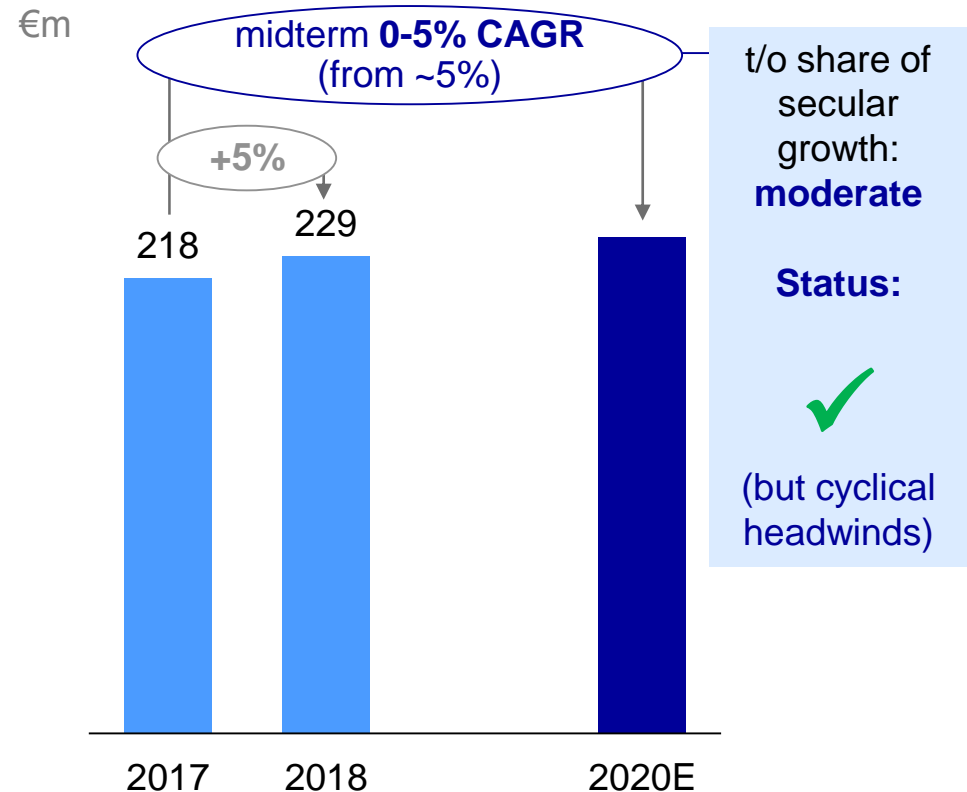
Expand into new services

- 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



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Post-trading: Clearstream, GSF and IFS

IT & new technologies

CFO perspective: financials and guidance

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

| Clearstream €718 million ¹⁾ | | | | Global securities financing €83 million ¹⁾ | Investment fund services €154 million ¹⁾ |
|--|--|---|---|--|--|
| Issuer CSD (DE / LU) | Eurobond market (XS) | Investor CSD / T2S | Global markets | | |
| Biggest continental European securities issuance hub | ~40% of all Eurobond issuance activity | ~8% custody market share ²⁾ and links to 80% of T2S volume | Global custody network and 36 country links | Among the top 4 global collateral managers | Leading fund order routing platform (Vestima) |

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

1) 2018 net revenue

2) 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

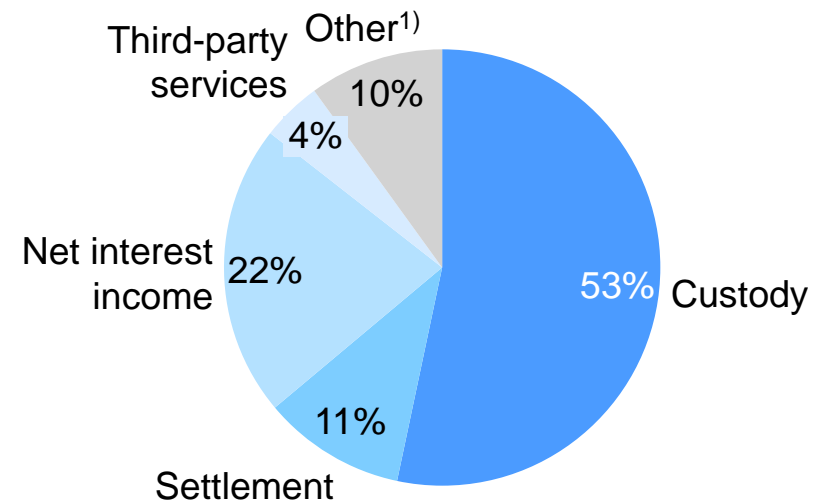
- European custody product anchored in access to all T2S markets and relevant CCPs
- Replacing reduced settlement revenue with custody fees, e.g. through standardised value adding services

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



Strategic imperative

Win volumes through efficiency and stronger value adding services

1) Including net revenue from connectivity, account services and reporting

Clearstream – Investor CSD roll-out is delayed due to competing priorities on client side and broadening client requirements

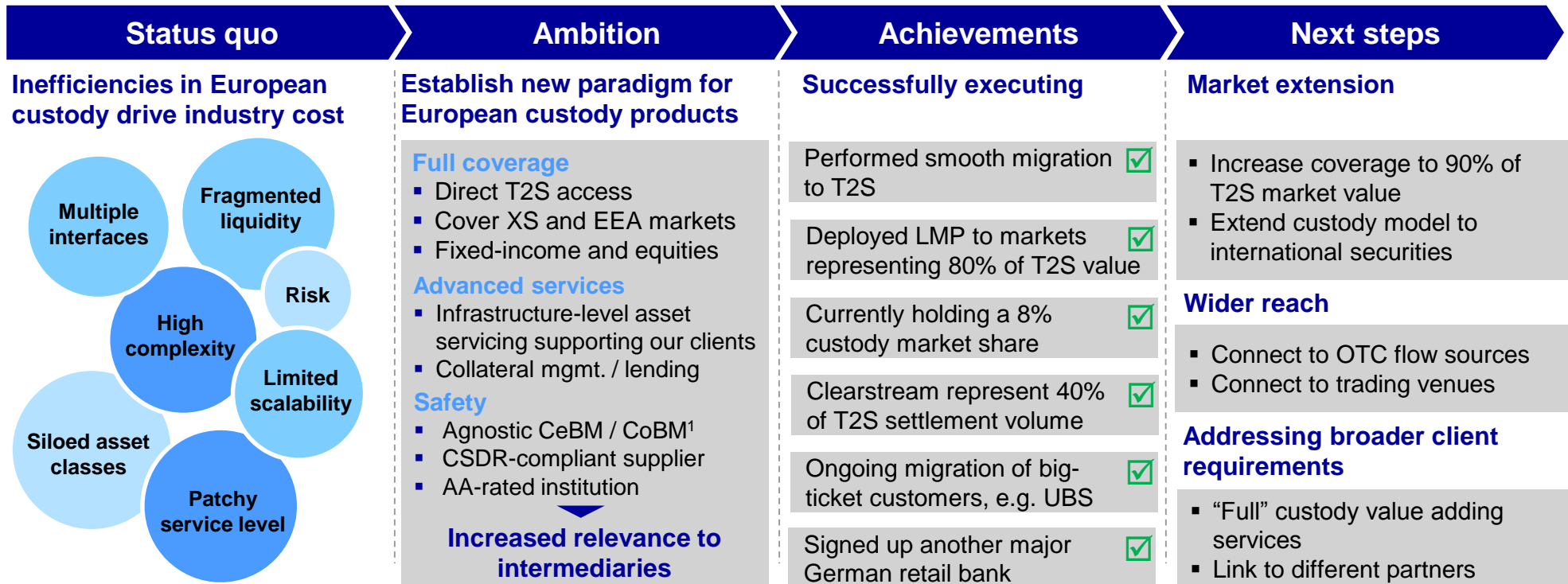
deep-dive

The Investor CSD is a long-term play that relies on 3 cornerstones ...

- Shift of liquidity and trading flows in fixed income from ICSDs to CSDs
- Emergence of new market space in European equities that would benefit from our cross-border model
- Consolidation of the above-mentioned flows with ICSD fixed income assets to benefit from liquidity and collateral pooling on a single platform

... that faces delays

- Banks' focus on other topics (especially Brexit)
- Dependency on third parties to set up cross-border connections



1) Central- and commercial bank money

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

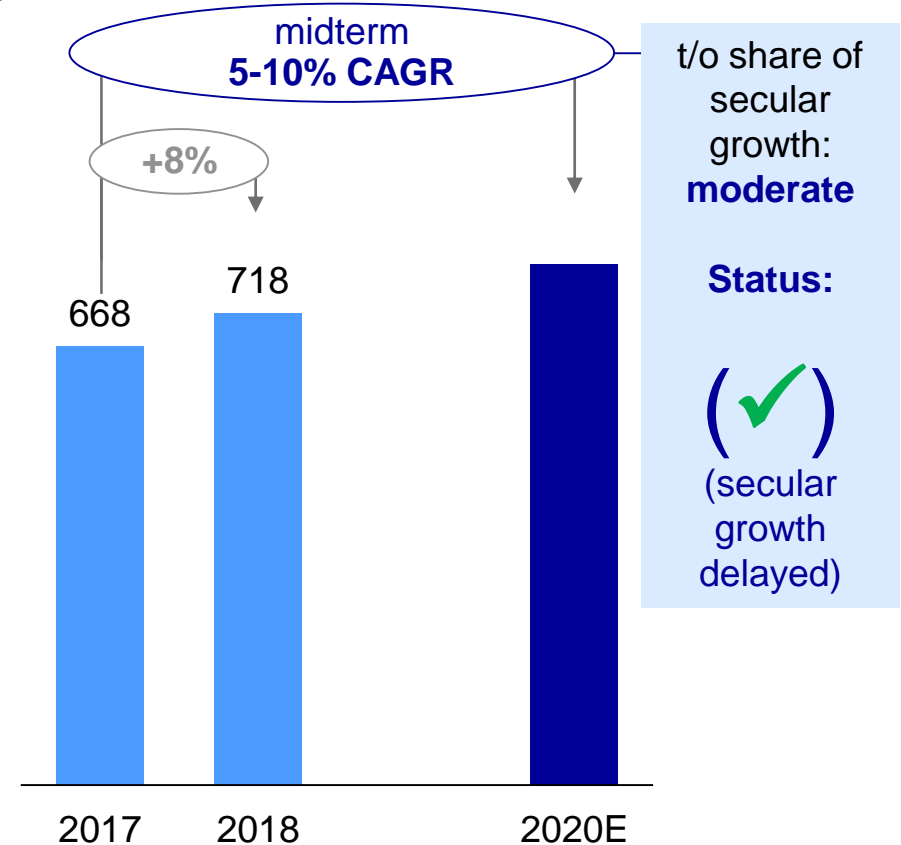
- Capture momentum from new technology-driven services for growth

Excellence in client management

- Differentiate from competition by client service quality
- Sales force effectiveness and focus

Net revenue guidance

€m



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

Product overview and development focus

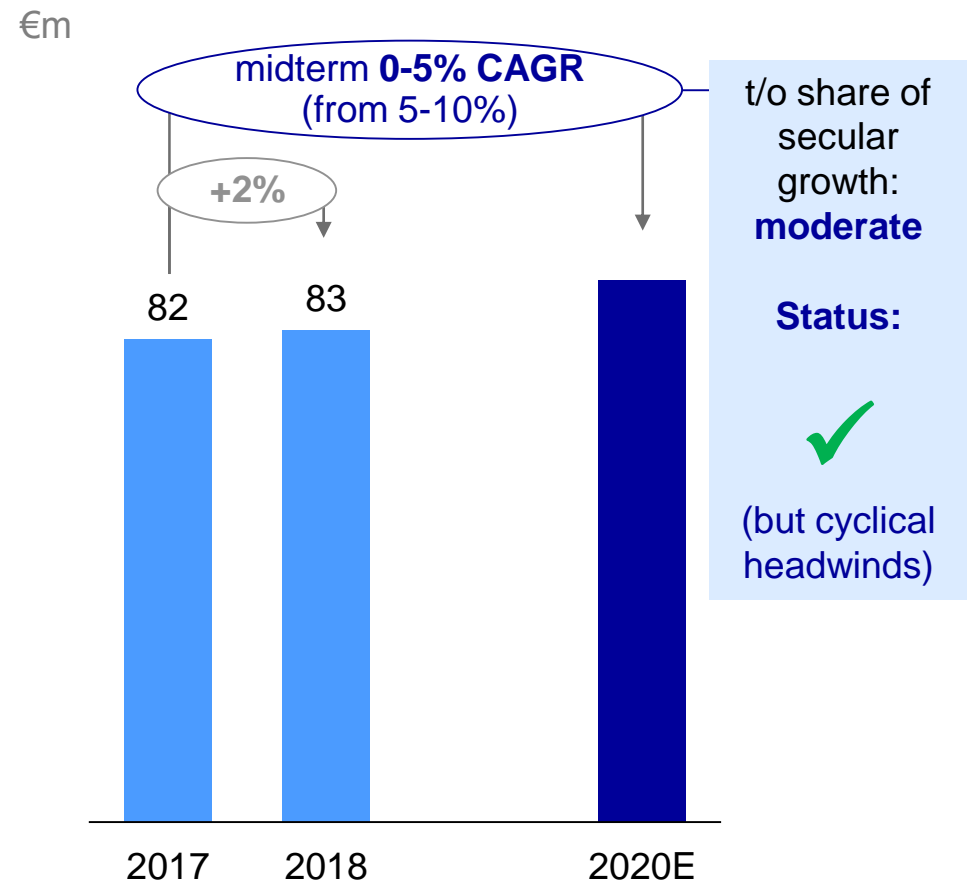
Securities lending (48% of net revenue)

- 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



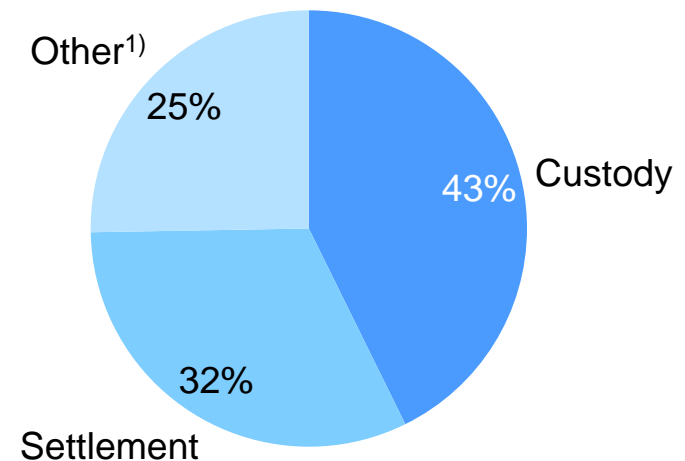
IFS (investment fund services) – leading infrastructure for the fund industry

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



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

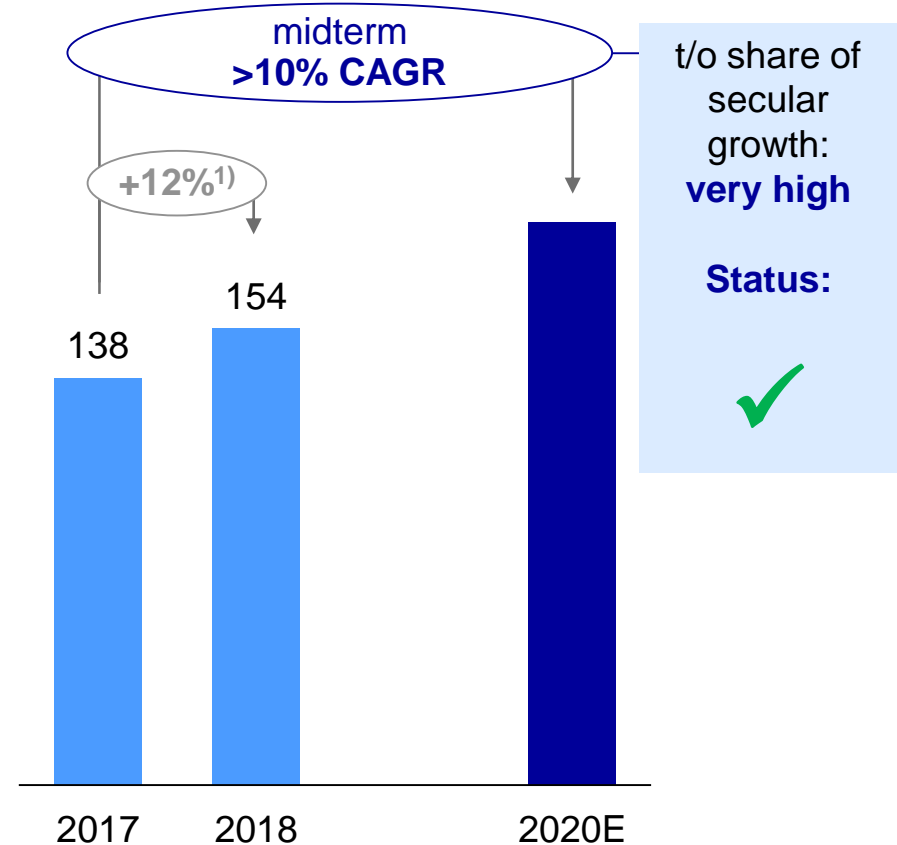
New services

- 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**

1) Thereof organic: 10%

Net revenue guidance

€m



IFS (investment fund services) – strengthening growth potential through tactical bolt-on acquisitions

Swisscanto Funds Centre (April 2018)

Description

- Distribution intermediation capabilities: distribution contract management, commission management, fund and suitability data, as well as marketing support

Rationale

- Integration of an adjacent and highly synergetic data service offering with Clearstream's strong investment fund settlement, custody and order routing services

Benefits in realisation

- Custody-related synergies and efficiencies began to accrue immediately following asset migration
- UK staff integration to generate further synergies
- Market launch of newly-branded "Funds Desk" distribution intermediation service with positive interest from Clearstream client base

Ausmaq (May 2019)

Description

- Specialist managed funds services business from National Australia Bank

Rationale

- Entry point to the Australian fund market, currently worth in excess of €2 trillion assets under custody
- Exposure to expanding market, with steady ~10% growth driven by compulsory salary contributions to the superannuation industry

Expected benefits

- Broadening of service range available on the Vestima platform, with the addition of 1,400 managed funds
- Positive impact on margin with the addition of 350,000 transactions per year based on scalable model
- "Running start" to accompany global fund clients into Australia

Agenda

CEO perspective: strategy and “Roadmap 2020” progress

Pre-trading: STOXX and Data

Trading & clearing: Eurex, EEX and 360T

Cash equities: Xetra

Post-trading: Clearstream, GSF and IFS

IT & new technologies

CFO perspective: financials and guidance

Innovation is in our DNA – technology has been at the core of Deutsche Börse's success

Selected technological milestones

Deutsche Börse IT established its leading position by

- Launching **electronic trading** system **Xetra**
- Founding **derivatives exchange Eurex**
- Launching **commodity market trading** platform
- Introducing **risk management** system Prisma
- Renewing the **trading and clearing systems “T7” and “C7”** (technology refresh)
- Establishing **distributed-ledger technology (DLT)** centre of excellence
- Establishing **strategic partnership with Microsoft Azure** to enable migration of material workloads to cloud



Key strengths of Deutsche Börse IT

- **Infrastructure technology leader** with strong track record for high-volume market infrastructure and large-scale data processing
- **Operating excellence** with high process reliability, stability and scalability
- **Credible and reputable infrastructure provider** qualifying as a strategic partner for innovative IT solutions

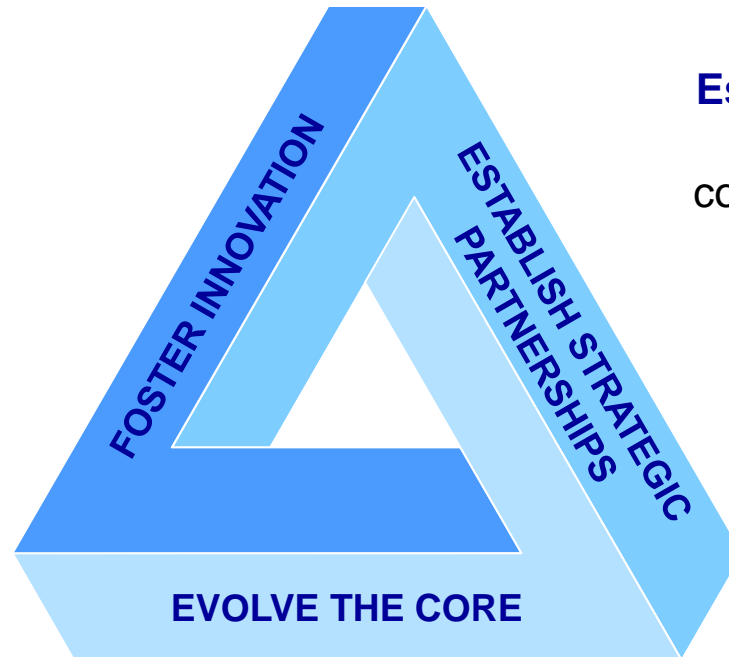
Deutsche Börse IT is in a position of strength to act on overarching trends and maintain a market leading position



Our vision is to be the leading technology provider

Build up new technologies

(cloud, distributed-ledger, automation, as well as big data and advanced analytics) for our existing businesses and new markets



Establish strategic partnerships

with selected top companies complementing Deutsche Börse to ensure a powerful value proposition in ecosystems

Maintain high delivery quality and efficient, stable and secure operations; increase **innovating performance for our businesses**, ensure seamless customer experiences

Deutsche Börse IT has started an evolution of its core IT – clear benefits to customers and business units visible

Not exhaustive

| | Key achievements | Benefits of evolving the core IT |
|--|---|--|
|  IT architecture | Strong architecture strategy driving the IT from application silos to cloud service architecture | Increased flexibility and speed for businesses, higher harmonisation and better scale in non-differentiating activities |
|  Target operating model | Started implementation of industry standard IT governance framework (COBIT¹⁾) | Ensured compliance with existing and new regulations , increased transparency and efficiency including comprehensive dashboards |
|  Organisational structure | Evolved product organisation and strengthened competencies of central IT functions | Improved business orientation and consolidated functional areas to increase delivery efficiency and KPI structures |
|  People and skills | Kicked-off initiatives to attract, retain and grow critical “tech talent” for the future | Extended talent pool leading to higher performance and innovating power of IT employees |
|  Digital workplaces | Roll-out of new digital workplace solutions and infrastructure components | Enhanced security and user experience and operating performance of workplace solutions including flex office and mobile integration |

1) COBIT (Control Objectives for Information and Related Technologies) is the industry standard framework for IT management and governance



Clearly defined innovation agenda

Innovation agenda of Deutsche Börse IT

- Focus on quick and large-scale **cloud adoption** as underlying **innovation enabler**
- Develop focused **partnerships for DLT, big data and advanced analytics**
- **Extend automation capabilities** by implementing leading platform, **executing solid use case pipeline**

Performance transformation centres of excellence (CoE)

Focus today

Distributed-ledger technology

- **Strategic partnerships** create **Swiss ecosystem**
- **First products market-ready in 2019**
- Legally binding **repo transaction** with **Commerzbank**

Automation

- **Automation tools in production, first use cases deployed (>100)**, multi-purpose platform in design
- Continuous **pipelining** of cases
- Directly **contributing to cost performance improvements**

Big data and advanced analytics

- Design of an **integrated machine learning platform kicked-off**
- **First use cases in analysis**

Cloud

- **Compliant ambitious approach** to migrate **material workloads to cloud**
- **Use strategic partnerships to set contract standards in the EU**



We are committed to use public cloud as a driver for innovation and efficiency

Cloud strategy

- Move now to benefit fast, work with market leaders, execute in waves over next years
- We expect speed, automation and resilience
- We will invest a high double-digit million euro amount (expected payback after ~3 years) and take a leading position

2019


- **Established partnership** with **Microsoft Azure**, addressing regulatory requirements ensuring compliance
- **Partnerships** with other leading cloud service providers in negotiation
- **First wave: migrating test and development systems to cloud, migrating material enterprise workloads**
- Prepare **2020 moves to cloud**

2020

- **Migrate** substantial share of **business apps** and **production workloads** to cloud, retire back-up centres
- **Drive agility, innovation** and **cost efficiency**
- **Increase performance** and **stability** of core products through cloud features
- Prepare **2021 moves to cloud**

Expected benefits

- **Agility and faster time to market**
- **Higher reliability and global scale**
- **Higher quality, better security, lower risk**
- **Efficiency through more automation and standardisation**
- **Leverage native cloud capabilities like machine learning services to benefit from ecosystem**



Tokenised economy on DLT / blockchain will redefine financial markets

Tokenisation of assets

- Broad spectrum of **assets can be tokenised**, e.g. financial instruments, real estate and art
- By tokenising traditional assets, a digital representative with **smart features** and **real underlying value** is created

Infrastructure for digital assets

- Digital assets need a **trusted, comprehensive, regulatory compliant infrastructure**
- This infrastructure is the basis for the **registration, safekeeping** and **transfer of digital assets**



Deutsche Börse ...

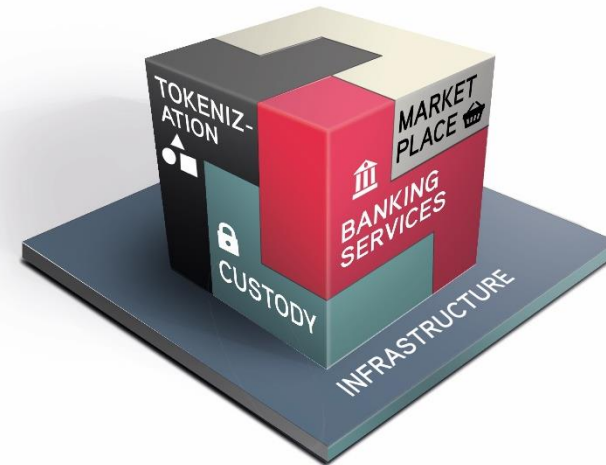
- ... is in a **perfect position** to lead the marathon for **establishing an infrastructure for digital assets**.
- ... has the **possibility to broaden business scope** and tap into new revenue pools when new asset classes (tokenised assets) will be created in a DLT environment.
- ... sees **potential business value** in the DLT / blockchain space **within the next 10 years up to €1 billion** (expected market size in 2030: US\$3.1 trillion).

Regulatory framework and product perspective of Swiss market environment as basis for an integrated ecosystem offering

Ecosystem development

- Strategic partnership with Swisscom and Sygnum to jointly **build and grow an ecosystem for digital assets** in Switzerland
- The core includes **issuance, custody, access to liquidity, and banking services** – all leveraging distributed-ledger technology
- The partnership is **strengthened through cross-shareholdings in two early-stage companies** (Custodigit AG and Daura AG)
- Tokenisation of assets as the **next level of asset digitisation** is transforming current economic landscapes
- Providing a **clear value especially for institutional buy-side clients** and empower them to tap into these new asset classes

Integrated offering



Initial ecosystem parties



Build, load and operate
financial market infrastructure



Trusted distributed ledger
technology infrastructure



Integrated banking
services to manage
digital assets



Integrated
equity issuance
solution



Enterprise grade, fully
compliant technical
solution for custody

Deutsche Börse IT will establish strong strategic partnerships to accelerate innovation and enable growth

Key objectives for strategic partnerships

Align roadmaps and co-invest into joint innovation to increase efficiencies and gain scale

Broaden the product and service offering and tap into new growth markets

Actively shape the ecosystem and get in touch with new talent pools

Examples of already established partnerships



Accelerating our cloud adoption and innovation for common clients



Distributed-ledger technology to help market participants to redistribute liquidity more effectively



Joint venture to build a digital asset ecosystem



Conducting blockchain proof-of-concepts together (e.g. for legally binding repo transactions)



Agenda

CEO perspective: strategy and “Roadmap 2020” progress

Pre-trading: STOXX and Data

Trading & clearing: Eurex, EEX and 360T

Cash equities: Xetra

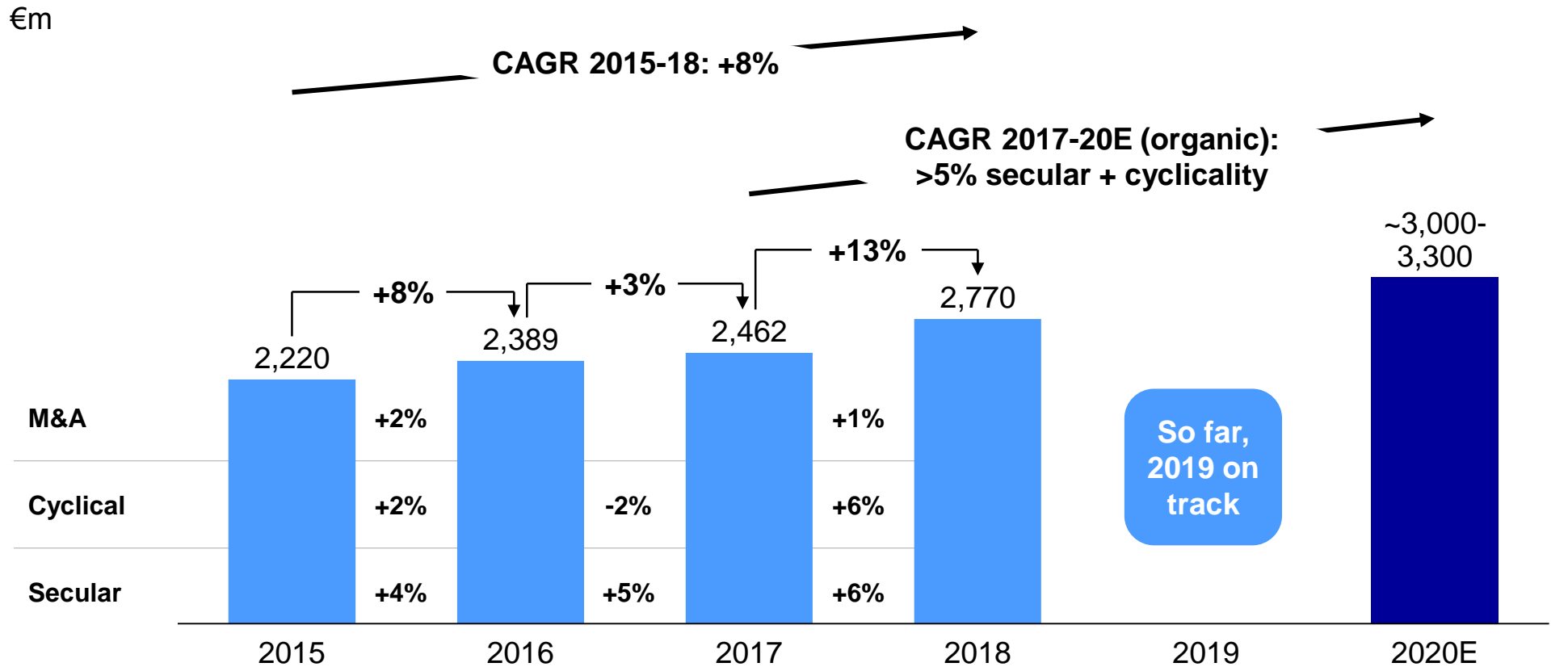
Post-trading: Clearstream, GSF and IFS

IT & new technologies

CFO perspective: financials and guidance

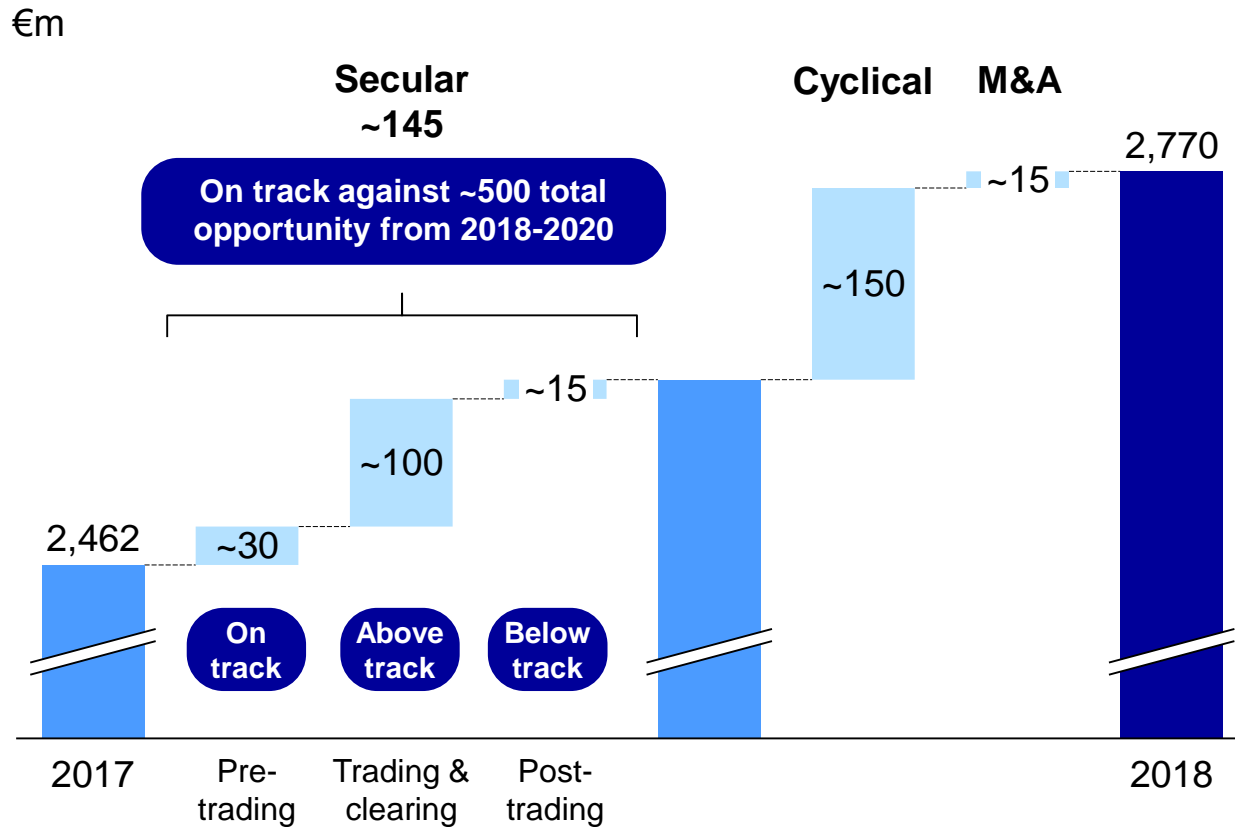
Strong net revenue growth in the past; confirmation of “Roadmap 2020” growth targets

Net revenue development



In 2018 solid delivery against midterm secular net revenue targets

Net revenue development 2018



Secular growth drivers

Pre-trading

- STOXX: active to passive investments
- Data: regulatory reporting, pricing

Trading & clearing

- Eurex: shift to central clearing and buy-side, OTC to on-exchange, pricing
- EEX: OTC to on-exchange
- 360T: OTC to on-exchange, new clients and products

Post-trading

- Clearstream: market share through T2S (delayed)
- IFS: new clients and products

Midterm secular net revenue growth opportunities intact

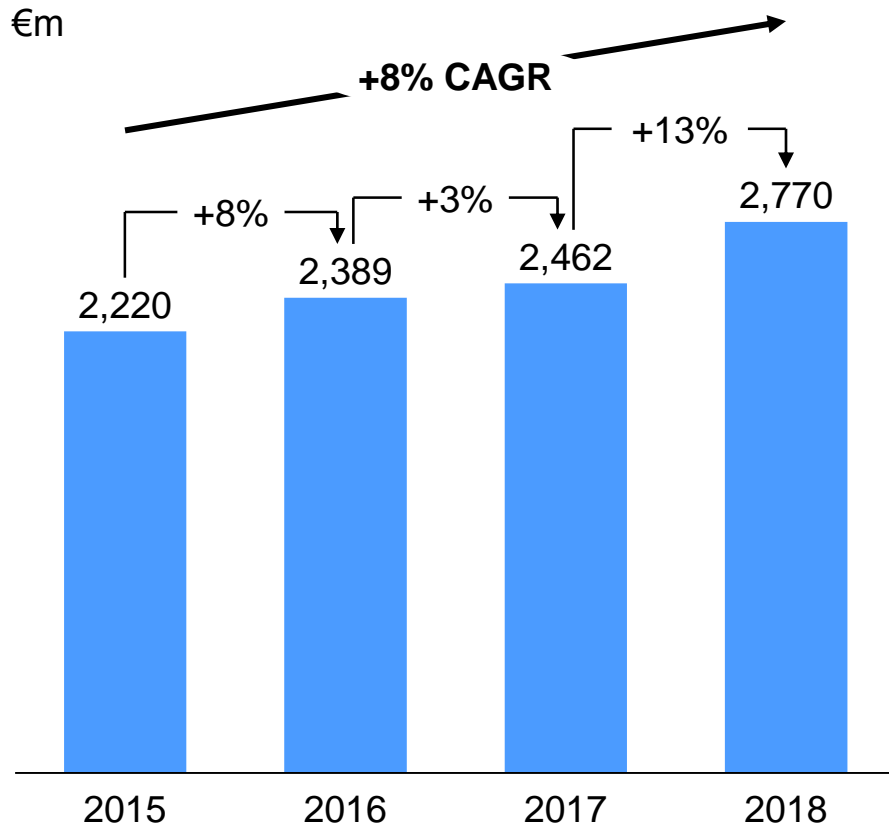
| | | Growth expectation (organic) | | |
|-------------------------------|---------------------------------------|-------------------------------------|--------------------|------------------------------|
| | | CAGR 2017-2020E | | |
| Business segments | | (incl. cyclical growth) | t/o secular growth | Status secular growth |
| Pre-trading | STOXX (index business) | >10% | Very high | ✓ |
| | Data | 5-10% | High | ✓ |
| Trading & clearing | Eurex (financial derivatives) | >10% | High | ✓ |
| | EEX (commodities) | >10% | High | ✓ (upside) |
| | 360T (foreign exchange) | >10% | Very high | ✓ |
| | Xetra (cash equities) | 0-5% (from ~5%) | Moderate | ✓ (but cyclical headwinds) |
| Post-trading | Clearstream (post-trading) | 5-10% | Moderate | (✓) (secular growth delayed) |
| | IFS (investment fund services) | >10% | Very high | ✓ |
| | GSF (collateral management) | 0-5% (from 5-10%) | Moderate | ✓ (but cyclical headwinds) |

Strong cyclical net revenue growth contribution in 2018; outlook on interest-rate related opportunities slightly weakened

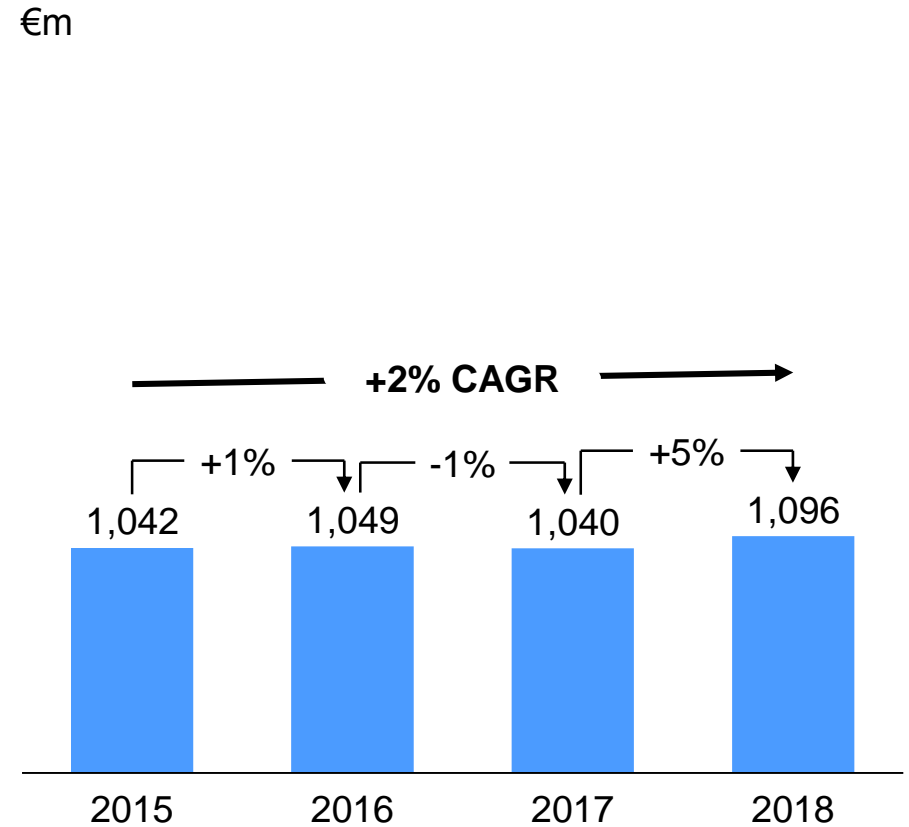
| | Description | Volatility | Interest rates | Net revenue impact 2017-2020E (€m) | Achievement 2018 (€m) |
|---------------------|---|------------|----------------|------------------------------------|-----------------------|
| Eurex | <ul style="list-style-type: none"> ▪ Increase of market volatility resulting in higher index derivatives activity | ✓ | | 50-100 | ~50 |
| | <ul style="list-style-type: none"> ▪ Expectation on future interest rates drives fixed-income activity | | ✓ | 50-100 | ~25 |
| Clear-stream | <ul style="list-style-type: none"> ▪ Net interest income from banking business directly correlated to ECB / US Fed rates | | ✓ | 50-150 | ~50 |
| | <ul style="list-style-type: none"> ▪ Higher net issuance of bonds if interest rates increase | | ✓ | 50-100 | - |

In past years, Deutsche Börse's business model has proven to be scalable

Net revenue development



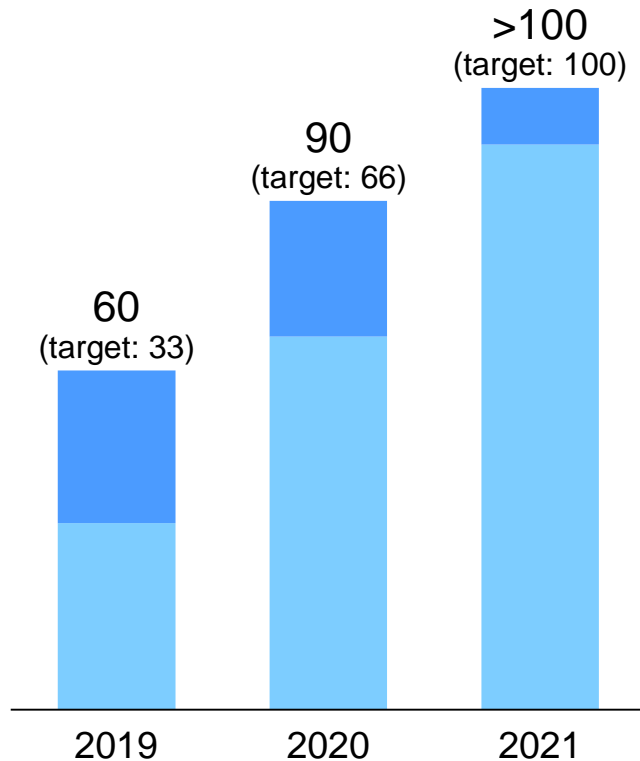
Adjusted operating cost development



Ramp-up of structural performance improvement programme (SPIP) faster than planned

Ramp-up of operating cost savings and composition

€m



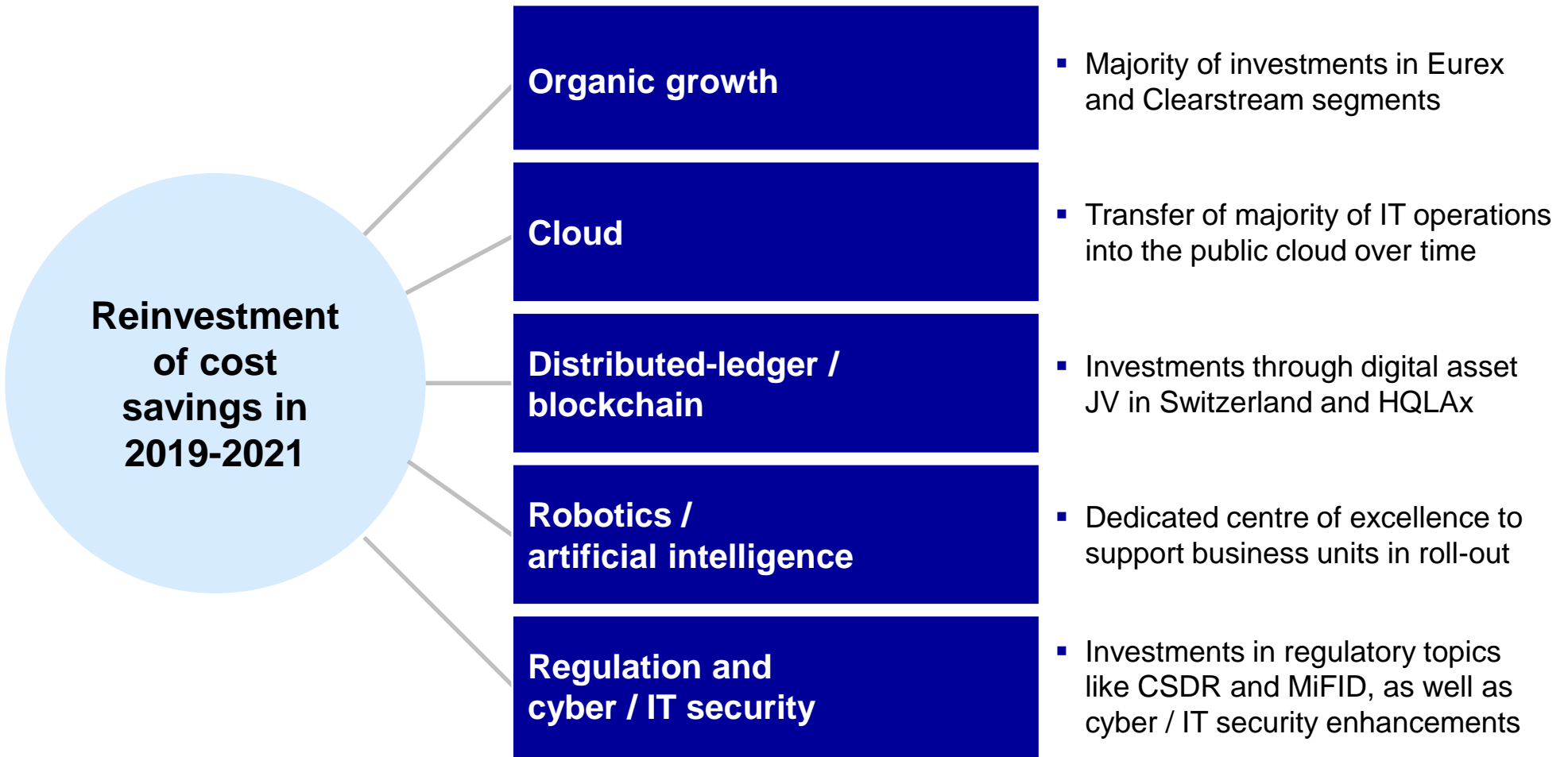
Staff cost
>50

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

Non-staff
cost
>50

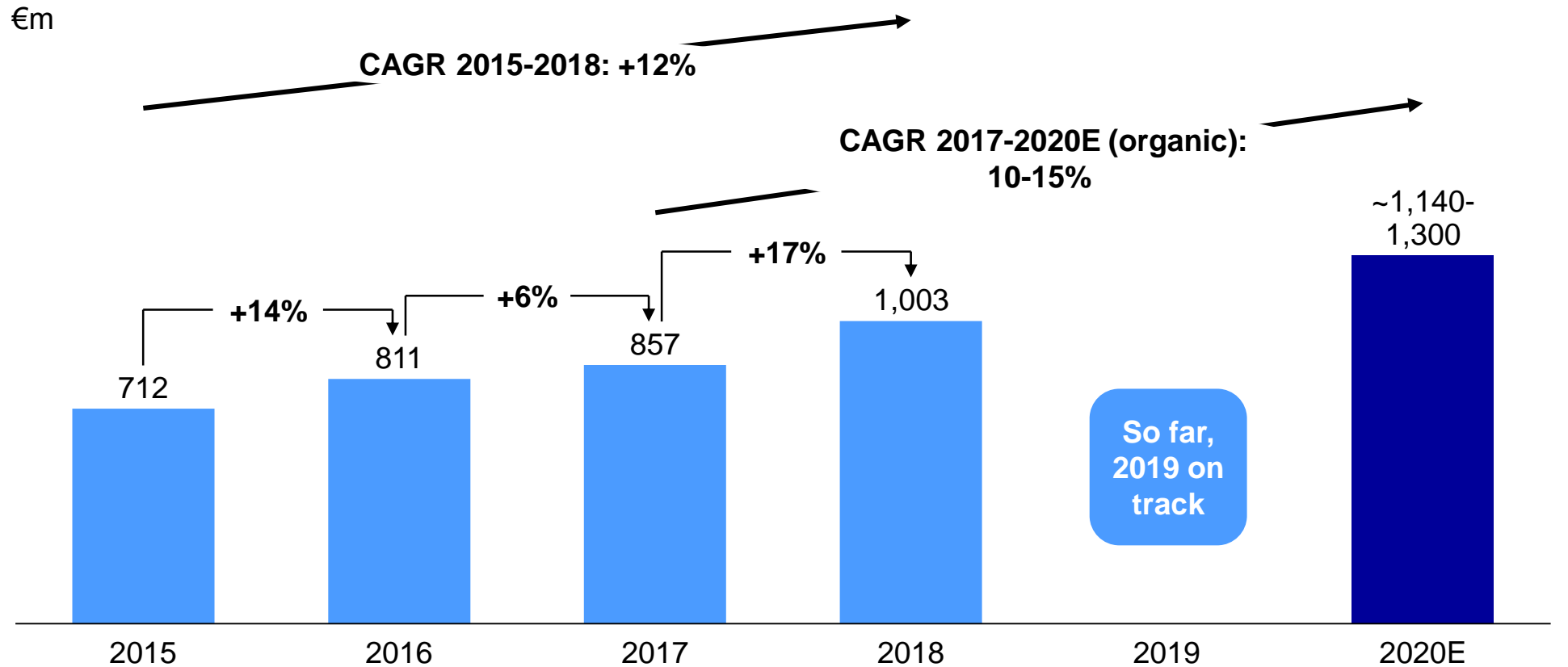
- IT simplification and legacy replacements
- Procurement optimisation
- Spend reductions across all cost categories

Cost savings will be reinvested into growth, new technology and regulation



Double digit net profit growth in the past; confirmation of 10-15% average annual growth target from 2017 to 2020

Net profit development



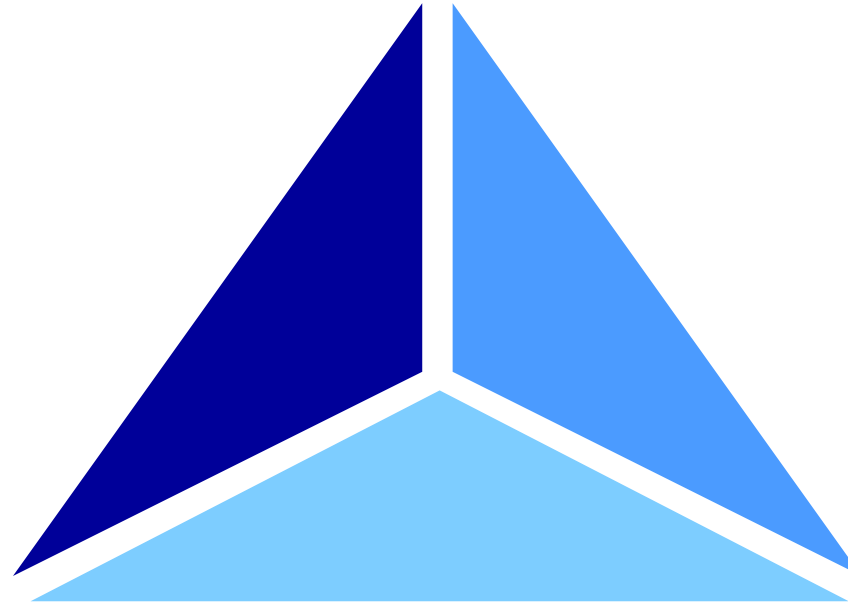
“Roadmap 2020” financial targets confirmed

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; €1.5bn 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

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