# Chief Operating Office (COO) responsibilities

<table>
<thead>
<tr>
<th>Chief Operating Office</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chief Information Office</td>
<td>Sets Deutsche Bank IT standards; modernizes the bank’s IT platform and services to reduce complexity and risk and enables business growth</td>
</tr>
<tr>
<td>Chief Security Office</td>
<td>Protects information and manages security operations</td>
</tr>
<tr>
<td>Chief Data and Innovation Office</td>
<td>Manages data processes, provides tools to control and simplify data flows; creates innovation through internal development and partnerships</td>
</tr>
<tr>
<td>Corporate Services</td>
<td>Ensures efficient use of real estate, facilities management, procurement and logistics services</td>
</tr>
<tr>
<td>CIB Operations</td>
<td>Manages and runs operational services for CIB globally</td>
</tr>
<tr>
<td>Client LifeCycle Management</td>
<td>Ensures that Anti-Money Laundering risks are appropriately captured, measured and managed</td>
</tr>
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**Corporate & Investment Bank**

**Private & Commercial Bank**

**Asset Management**
### Introduction

#### Three focus areas

<table>
<thead>
<tr>
<th>Pillars</th>
<th>Description</th>
<th>Primary benefits</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1</strong> Stability</td>
<td>— Fulfill current regulatory requirements and be prepared for new regulation</td>
<td>✓ Revenues</td>
</tr>
<tr>
<td></td>
<td>— Ensure robust performance of our systems</td>
<td>✓ Costs</td>
</tr>
<tr>
<td></td>
<td>— Provide accurate, timely and complete data to support businesses and processes</td>
<td>✓ Control</td>
</tr>
<tr>
<td><strong>2</strong> Efficiency</td>
<td>— Reduce bureaucracy and speed up decision making</td>
<td>✓ Costs</td>
</tr>
<tr>
<td></td>
<td>— Lower costs by optimizing demand and eliminate inefficiencies, overlap and complexity</td>
<td></td>
</tr>
<tr>
<td></td>
<td>— Automate and leverage technology where possible</td>
<td></td>
</tr>
<tr>
<td><strong>3</strong> Future of Banking</td>
<td>— Drive innovation across the organization and adopt new technologies to continuously enhance products and client services</td>
<td>✓ Revenues</td>
</tr>
<tr>
<td></td>
<td>— Leverage internal and external innovations to drive revenues, efficiency and improve controls</td>
<td>✓ Costs</td>
</tr>
<tr>
<td></td>
<td>— Empower and enable teams across Deutsche Bank to work in an agile and efficient way</td>
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</table>
Regulatory preparedness
1 Stability

IT stability is essential

Core components of IT stability

- Stringent Governance
- Incident and Crisis Mgmt.
- Standardization
- Change Control
- Realtime Release Cycle
- In-depth Risk Management

2018 achievements

- Achieved 2018 critical application stability target with IT uptime of 99.97%
- Very few critical IT incidents
- Reduced operational losses by 83% in 2018
- Roadmap compliance\(^{(1)}\) at 91% in 2018 (<80% in 2015). On track for 95% target in 2020

\(^{(1)}\) % of components running on supported products
Accelerated cost reductions
€ bn, adjusted costs

Introduction | Stability | Efficiency | Future of Banking | Conclusion

2016: 24.7
2017: 23.9
2018: 22.8
FY 2019 impact from 2018 actions: (0.8)
2019 target: 21.8

- Lower compensation costs from 2018 headcount actions
- Disposals
- Non-compensation reductions, e.g. vendor rationalization
- Targeted headcount reductions
- German retail merger synergies
- Further non-compensation savings and efficiency gains

(1) Total noninterest expenses excluding impairment of goodwill and other intangible assets, litigation, and restructuring and severance
Cost Catalyst program

What is Cost Catalyst?

Think & act differently:

— Simplify the organization
— Enhance transparency and ownership of costs
— Drive cost consciousness and awareness for demand management
— Improve collaboration and share best practices

Cost Catalyst program

Workstreams

1. Aligning Role and Reward
2. Defining ‘Home of Best Fit’
3. Demand Management & Process Optimization
4. Optimizing External Spend:
   External Spend is addressing €~9bn of the 2019 group adjusted cost target of €21.8bn
5. Streamlining Approval Processes
6. Defining Regional Operating Model

Examples of achievements in Cost Catalyst program in 2018:

— Introduced internal billing models for better cost transparency
— Optimized infrastructure in non-hub locations
— Rationalized vendors and price renegotiations
2. Efficiency

IT costs – focused on increasing efficiency
€ bn, adjusted costs

<table>
<thead>
<tr>
<th>Year</th>
<th>IT costs</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016</td>
<td>24.7</td>
</tr>
<tr>
<td>2017</td>
<td>23.9</td>
</tr>
<tr>
<td>2018</td>
<td>22.8</td>
</tr>
<tr>
<td>Target</td>
<td>21.8</td>
</tr>
</tbody>
</table>

Highlights

— Continuing IT investment despite group cost reduction targets
— Generating efficiency savings in IT spend through
  — Reducing complexity (e.g. 26 operating systems in 2018 from 45 in 2015)
  — Move to low cost hubs; reduction of staff-presence in high-cost locations
  — Streamlining IT organization
— Continue to reinvest savings into modernization of our platform:
  — Prepare infrastructure for cloud
  — Launch of state-of-the-art tools for customers
  — Invest in research and development capabilities (e.g. Innovation labs, Digital Factory, Datalab)
### Future of Banking

Ecosystem established to foster sustainable innovation

<table>
<thead>
<tr>
<th>Research</th>
<th>Development</th>
<th>Execution / Implementation</th>
</tr>
</thead>
<tbody>
<tr>
<td>db Innovation Labs (1)</td>
<td>Digital Factory Frankfurt</td>
<td>Centre of Excellence</td>
</tr>
<tr>
<td>Massachusetts Institute of Technology</td>
<td>Technology Centres (3) / Functions</td>
<td>Business Divisions (CIB, PCB and AM)</td>
</tr>
<tr>
<td>Plug and Play Accelerator</td>
<td>Data Lab Dublin</td>
<td></td>
</tr>
<tr>
<td>API (2)/ Hackathons</td>
<td>Quartier Zukunft Berlin</td>
<td></td>
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</tbody>
</table>

(2) Application programming interface
(3) Located in Bucharest, Cary (US), Moscow, St. Petersburg and Pune (India)
Deutsche Bank Cloud Strategy

- **Cloud first** – Build all new apps to work in the Cloud:
  - Balance public and private cloud depending on economic terms
  - Strong control framework
  - Use scalable capacity of Cloud
- **Gradual shift of infrastructure** – where applicable and where makes economic sense
- **Central Centre of Excellence** – Deutsche Bank’s centre of accountability for Cloud
Future of Banking
Select innovation highlights

**CIB**
- Autobahn
  - CIB’s brand for internal and external provision of digital products & services
- Quantiguous Solutions
  - Acquisition of Quantiguous to accelerate the development and adoption of APIs\(^{(1)}\) globally
- Data Innovation Group applications (i.e. α-DIG); use of Artificial Intelligence to provide data-driven investment solutions

**PCB**
- Verimi
  - Deutsche Bank one of key partners. Cross-industry identity and payment-platform
  - Successful launch of Apple Pay
- Yunar
  - Non-banking service to retail customers

**AM**
- WorkFusion
  - Process automation for cost reduction, productivity increase and improved client experience
- Web & mobile investment applications to increase scale of distribution
- Algorithms to convert unstructured broker requests and to lend stocks to best performing brokers

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\(^{(1)}\) Application programming interface

Deutsche Bank Investor Relations
20 March 2019
Introduction | Stability | Efficiency | Future of Banking | Conclusion
Autobahn – continuing to invest and expand our offerings

Our clients expect

- Direct access to Deutsche Bank CIB products and services
- High quality interaction with Deutsche Bank people and systems
- Alignment to industry standards with the ability to tailor client-specific and product-specific solutions

Autobahn provides

- A unified digital platform for CIB clients as well as sales and client servicing employees
- Convenience with access via web, mobile and APIs
- A broad range of 120+ digital services across liquidity, pricing, transactions and client servicing
- An expanding set of solutions to solve clients’ operational challenges

(1) Application programming interface
**Conclusion**

COO is an important enabler to group financial targets

### Near-term targets

<table>
<thead>
<tr>
<th></th>
<th>2018</th>
<th>2019</th>
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<tbody>
<tr>
<td>Post-tax return on tangible equity</td>
<td></td>
<td>&gt;4%</td>
</tr>
<tr>
<td>Adjusted costs</td>
<td>€ 23bn</td>
<td>€ 21.8bn</td>
</tr>
<tr>
<td>Employees (1)</td>
<td>&lt;93,000</td>
<td>&lt;90,000</td>
</tr>
<tr>
<td>CET 1 ratio</td>
<td>13.6%</td>
<td>&gt;13%</td>
</tr>
</tbody>
</table>

(1) Internal full-time equivalents, end of period

### COO contribution and focus

**Costs**
Continue strong execution discipline and leverage accountability on expenses

**IT**
Implement end-to-end accountability and ensure internal and external connectivity (API, Cloud)

**Processes**
Ensure and exploit scale by investing in automation and innovative technologies
Cautionary statements

The figures in this presentation are preliminary and unaudited. Our Annual Report 2018 and SEC Form 20-F are scheduled to be published on 22 March 2019.

This presentation contains forward-looking statements. Forward-looking statements are statements that are not historical facts; they include statements about our beliefs and expectations and the assumptions underlying them. These statements are based on plans, estimates and projections as they are currently available to the management of Deutsche Bank. Forward-looking statements therefore speak only as of the date they are made, and we undertake no obligation to update publicly any of them in light of new information or future events.

By their very nature, forward-looking statements involve risks and uncertainties. A number of important factors could therefore cause actual results to differ materially from those contained in any forward-looking statement. Such factors include the conditions in the financial markets in Germany, in Europe, in the United States and elsewhere from which we derive a substantial portion of our revenues and in which we hold a substantial portion of our assets, the development of asset prices and market volatility, potential defaults of borrowers or trading counterparties, the implementation of our strategic initiatives, the reliability of our risk management policies, procedures and methods, and other risks referenced in our filings with the U.S. Securities and Exchange Commission. Such factors are described in detail in our SEC Form 20-F of 16 March 2018 under the heading “Risk Factors.” Copies of this document are readily available upon request or can be downloaded from www.db.com/ir.

This presentation also contains non-IFRS financial measures. For a reconciliation to directly comparable figures reported under IFRS, to the extent such reconciliation is not provided in this presentation, refer to the Q4 2018 Financial Data Supplement, which is accompanying this presentation and available at www.db.com/ir.