Key points

• Digital banking, innovation and transformation is in our DNA
• Being digital guides our investments and transformation efforts
• All our initiatives are geared towards creating one, efficient and safe ING worldwide
• We have realised structural savings while also servicing an increased demand aimed at regulatory compliance
• We have achieved major milestones in the past two years while at the same time successfully transforming our Technology function
• We continue to realise efficiencies needed to fund our investments in digitalisation and customer solutions
Digital banking, innovation and transformation are in our DNA

- ING Direct in 9 countries with one digital value proposition
- Generated €240 bln of customer deposits
- Served 24 mln customers fully online

From local entrepreneurship...

- Integrated Postbank and ING Bank in NL
- Moved to digital services in NL
  - Branches from ~600 to ~260
  - ~5,500 FTEs reduction
  - Account opening from 20 days to 20 minutes
- ING Bank Online for SMEs in Poland
- Global consolidation of Wholesale Banking and IT organisations

...towards global digital leadership

- (Accelerate) Think Forward strategic transformation
- Building One ING brand globally
- Focus on cross-border scalable platforms
- Implement One Way of Working across ING
- In-house developed start-ups and >150 active fintech partnerships
### Being digital guides our investments and transformation efforts

#### Our principles to be a digital player...

<p>| | |</p>
<table>
<thead>
<tr>
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<tbody>
<tr>
<td><img src="http://example.com/icon1.png" alt="Icon" /></td>
<td>Customer experience first: personal, instant, relevant and seamless</td>
</tr>
<tr>
<td><img src="http://example.com/icon2.png" alt="Icon" /></td>
<td>Adapting fast, while remaining fully safe, secure and compliant</td>
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<tr>
<td><img src="http://example.com/icon3.png" alt="Icon" /></td>
<td>Digital is end-to-end, not just a customer interaction layer</td>
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<tr>
<td><img src="http://example.com/icon4.png" alt="Icon" /></td>
<td>Being truly data driven, leveraging Artificial Intelligence and Analytics</td>
</tr>
<tr>
<td><img src="http://example.com/icon5.png" alt="Icon" /></td>
<td>Open, modular, scalable, global architecture</td>
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</table>
Our transformation supports all key components of our strategy

Keeping the bank **safe** and **compliant** with regulation

Building **one foundation** for all

Improving **cross-border scalability** with **one platform, one ING experience**

Enhancing our **value propositions** (for all financial matters and beyond)
Cost savings realised while servicing increased demand for regulatory compliance

Increased regulatory demand impacts resources, investments and timelines

- Regulatory requirements translate into additional change demand for regulatory deliverables
- Regulatory requirements take precedent and we manage the prioritisation of change demand through quarterly business review cycles
- In some cases this additional change demand impacts the delivery of our global roadmap
- The complexity of interdependencies between deliverables is managed closely

Status of investments, cost savings and impact on FTEs (2016 – 2018)

<table>
<thead>
<tr>
<th></th>
<th>Cumulative investments* (in € mln)</th>
<th>Gross annual cost savings (in € mln)</th>
<th>Gross staff reduction** (in FTE)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Efficiency programmes initiated before 2016</td>
<td>199</td>
<td>380</td>
<td>-2,300</td>
</tr>
<tr>
<td>Accelerating Think Forward transformation programmes</td>
<td>575</td>
<td>235</td>
<td>-2,900</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>-5,200</td>
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</table>

* Defined as incremental expenses from efficiency programmes initiated before 2016 and the Accelerating Think Forward transformation programmes (as announced in 2016) and includes project expenses, depreciation and amortisation of new IT assets, as well as impacts from impairments of legacy IT systems and other assets

** Internal and external FTEs excluding temporary backfill staffing
Unite be+nl will deliver same digital channels for retail customers in 2019

### Achievements to date

- Integration of Record Bank in BE
- New customer service organisation across both countries
- Cross-border Ops & Tech organisation
- Harmonised cross-border value proposition designed

| ~600k Record Bank customers migrated | ~600 branches closed | ~2,000 FTEs reduced* |

### Next steps

- OneApp and OneWeb for all retail customers in NL and BE
- Migration of BE retail customers with a de-risked phased approach
- Same data and assisted channels platform
- Harmonised products fully in place across NL and BE
- Initiate data centre migration for BE

| OneApp live for 20 mln** customers | ~60% harmonised retail product offering | 3,500 total FTEs reduction end-2021* |

* Prioritisation based on customers and safety first

** ~20 mln customers for the Netherlands, Belgium and Germany

* Internal and external FTEs excluding temporary backfill staffing and in scope of Accelerating Think Forward plans
Model Bank will deliver a platform for >7 million retail customers

## Achievements to date

- Platform live in Czech Republic, built and running on global components
- Harmonised value propositions and processes for Savings & Daily Banking

<table>
<thead>
<tr>
<th>~400k customers migrated in Czech Republic</th>
<th>ING Cloud and Data Lake</th>
<th>Model Bank team established in Madrid</th>
</tr>
</thead>
</table>

## Next steps

- Live in 4 countries with migration of ~7 million customers in 2021
- Product and process harmonised for all retail products
- One Way of Working implemented across France, Italy, Spain and Czech Republic

<table>
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<tr>
<th>~7 mln customers migrated</th>
<th>Fully digital product offering</th>
<th>Faster time to volume &amp; value</th>
</tr>
</thead>
</table>
Project Welcome has increased efficiency in Germany

Achievements to date

- New mobile app (OneApp) rolled-out in DE (and NL)
- Go2Place platform launched including digital must-haves:
  - Digital on-boarding, e-signature, easy authentication
  - Multi-banking account overview, forecasting, personalisation, web-chat
  - Digital tax and other 3rd party services
  - End-to-end digital process for account opening, consumer loans and mortgages

Project successfully finished

- ~800k fewer calls due to digitalisation
- 12% FTEs reduced in Operations & Service
- 50% faster mortgage processing

Full digitalisation of value propositions and processes
Wholesale TOM delivering efficiencies

Achievements to date
- Single IT platform for payments, loans and trade finance across multiple countries
- Single account opening process in 18 countries
- Shared Service centres hosting >1,500 WB operations experts
- Consolidated FM Trading franchise

Next steps
- Product IT platforms rolled-out globally
- Major client service processes for Trade Finance, Lending and PCM** digitalised
- Automation of client service requests via Artificial Intelligence & Native Language Processing
- Continued migration of activities and FTE to Shared Service centres (>600 FTEs by 2021)

* In the period 2014-2019
** Payments & Cash Management
We are building one common foundation & approach for all...

**Highlights of achievements to date**

- 1,200 robots in use equivalent to 390 FTEs
- >20 customer journey improvements completed
- 14 countries using ING Private Cloud
- 20 mln customers on OnePAM*
- Implemented agile in Wholesale Banking and 8 retail countries
- 4 Shared services centres
- Shared security services used by 38 countries
- All countries on one global data platform and governance
- >95% of risk and finance core data in standard terms

* OnePAM = Customer, Agreement and Reference Data Management
...while in parallel we transform our IT function

We are transforming our IT function while generating savings...

**Reduced, consolidated and simplified**
- From 16 to 4 data centres in NL, BE and FR*
- 70% of applications removed from mainframe NL
- Decommissioned >700 IT applications in Wholesale Banking*

**Renewed, modernised and standardised**
- Core banking systems upgraded in NL, CZ and RO
- Service availability 99.7% for Retail and 99.9% for Wholesale Banking
- Deployment of IT infrastructure reduced from 10 days to minutes by ING Private Cloud

**One global IT workforce**
- 80% of tech talent assessed on our ‘Engineering Profile’
- >45% of IT workforce works on cross-border solutions
- Strategic partnerships embedding external talent in ING DevOps agile teams

* In the period 2014-2019

...to keep IT cost base flat (in € bln)

![Chart showing CAGR +1% from 2015 to 2018 with data points for Bank Support Functions, Wholesale Banking, Retail Challengers & Growth Markets, and Retail Benelux]

2015: 2.4
2016: 2.2
2017: 2.3
2018: 2.4

CAGR +1%

* In the period 2014-2019
ING Group’s annual accounts are prepared in accordance with International Financial Reporting Standards as adopted by the European Union (‘IFRS-EU’). In preparing the financial information in this document, except as described otherwise, the same accounting principles are applied as in the 2018 ING Group consolidated annual accounts. All figures in this document are unaudited. Small differences are possible in the tables due to rounding.

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