Belfius

The Belfius Data Strategy

Bank & Insurance

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TECHNOLOGY

Agenda

1. Get to know us
2. The Belfius ambitions
3. Our Data Platform
4. A dedicated exposure layer to facilitate the transition
5. AI & ML Platform Stack
6. Wrapping up

Get to know us

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Belfius, meaningful & inspiring for the Belgian Society. Together

The Belfius Group: a unique Belgian Bank - Insurer

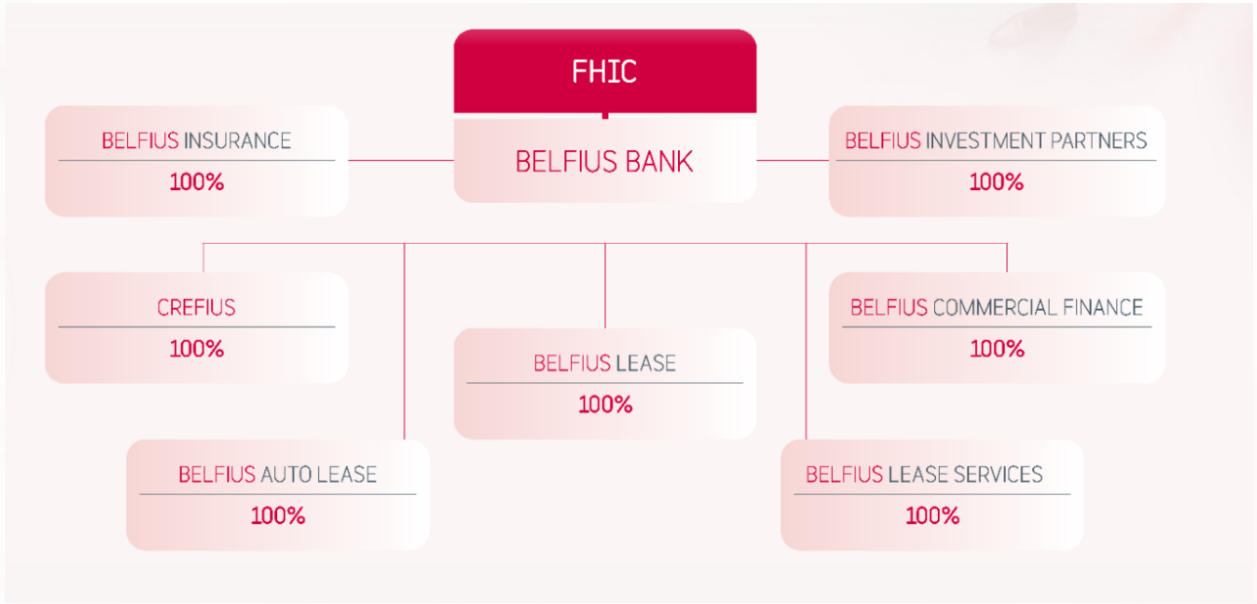
Belfius is an integrated bank-insurer, currently owned by the Belgian federal state through the Federal Holding and Investment Company (FPIM – SFPI). Belfius Bank operates as the mother company, with Belfius Insurance and various other companies as (fully owned) subsidiaries.

> 3.6 million customers

590 branches

9,400 employees

55 million monthly digital interactions

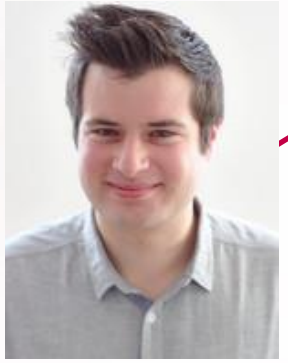


Where are we (Nicolas & Pieter) located in the Belfius Group

Belfius Technology

Technology Belfius Bank | Technology Belfius Insurance | AI, Data & Corp. Services | Corp. Office Technology | ...

Nicolas has 10 years experience in digital, data & AI transformation. After having worked 8 years in consultancy, he joined Belfius to shape and scale the AI activities of the group. He is gradually taking a more broader role driving the insight & analytics journey beyond the AI scope.



Pieter Segaert joined Belfius 5 years ago after obtaining a doctoral degree in mathematics and statistics. After gaining experience at Belfius Insurance supporting and transforming operations, he joined the Enterprise Architecture team in the summer of 2020. His main focus lies around the domain of analytics, data science and AI in the broad sense.

The Belfius Ambitions

Belfius, meaningful & inspiring for the Belgian Society. Together

Digital leadership, striving to human-digital excellence

Constant focus on our customer obsession and trust

Reinvent banking & insurance: personalized advice, meaningful & inspiring insights

Safety, privacy, trust by design

Efficient processes: STP first, data supported, AI enabled

The Belfius strategy translated into ambitions for Belfius Data

Switch from batch-based data operations to real-time data integrations

Enable processing of new types of data

Harmonize tooling and way of working in the group such skills may be used transversally and specialization is possible

All data exposed to consumers is governed and secured via the corporate data model.

E2E stacks for reporting, AI analytics and decisioning, putting business in the driver's seat

Safety, privacy and trust, a cornerstone of the Corporate Data Platform design

Our commitment: customer obsession and trust comes first. Always.

Security of our customer data.
Our first concern

Respecting the regulatory context

- Belfius as bank-insurer has to comply with several Belgian and European directives including e.g.
  - Directives from the Belgian and European National Bank on operational business continuity and security of systemically important financial institutions
  - Specific reporting legislation such as Solvency II, IFRS17
  - Specific legislation and directives on e.g. AML models
- European GDPR legislation: Schrems II throws an extra curve ball when bringing data to the cloud
- European AI framework guidelines (similar trajectory to GDPR)

Our Data Platform

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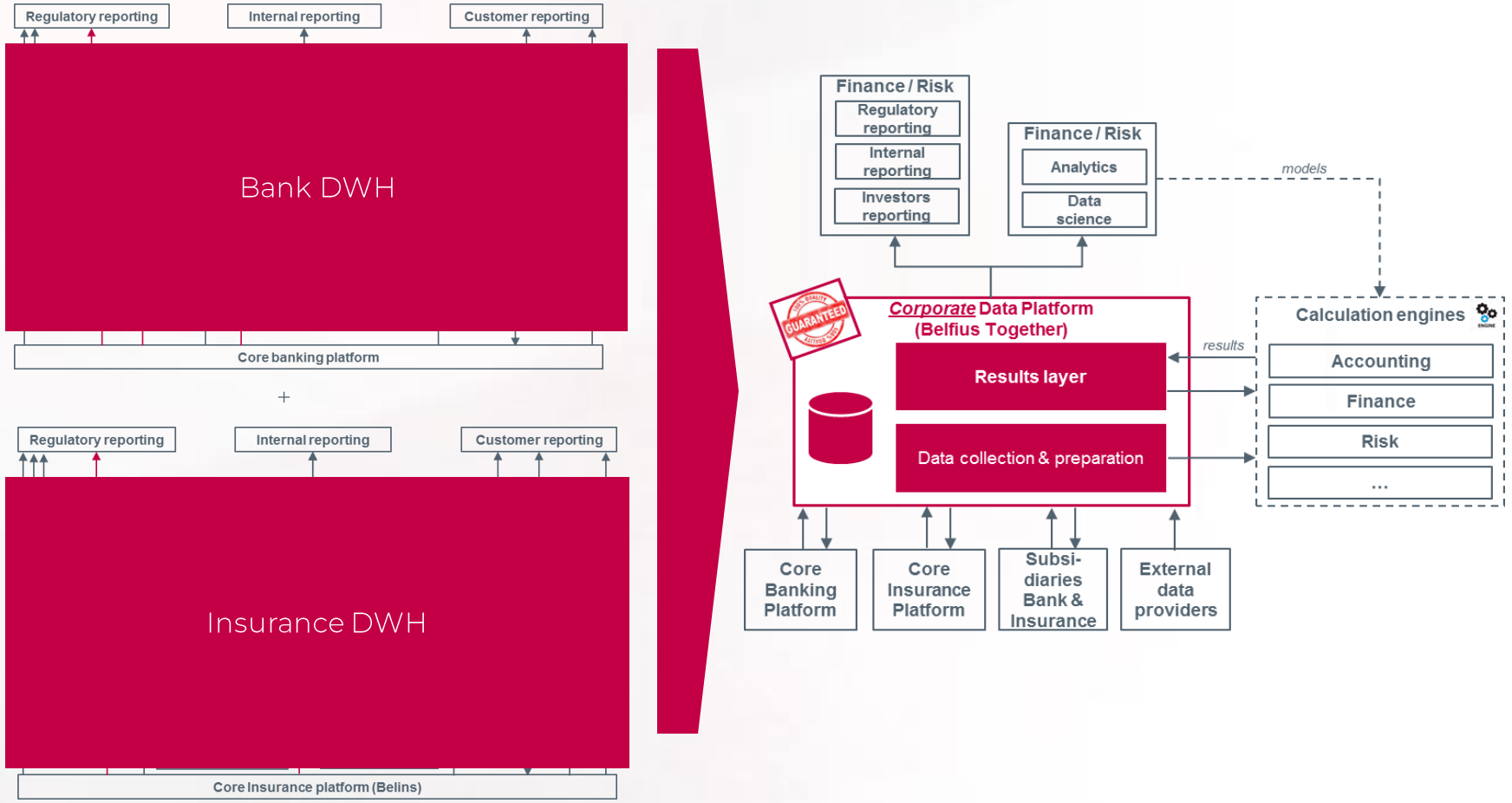
The Corporate Data Platform, a rationalization for the future new target



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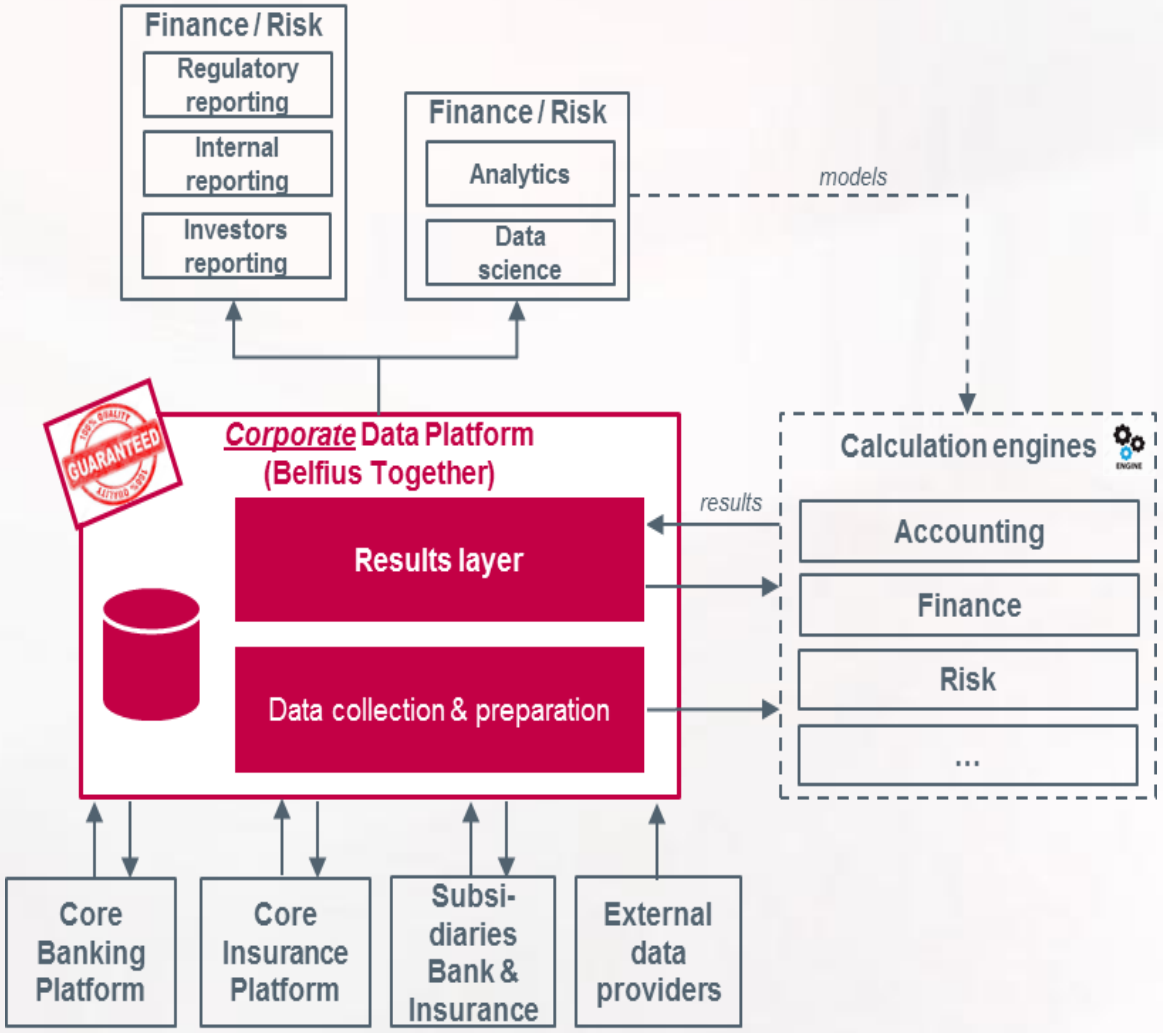
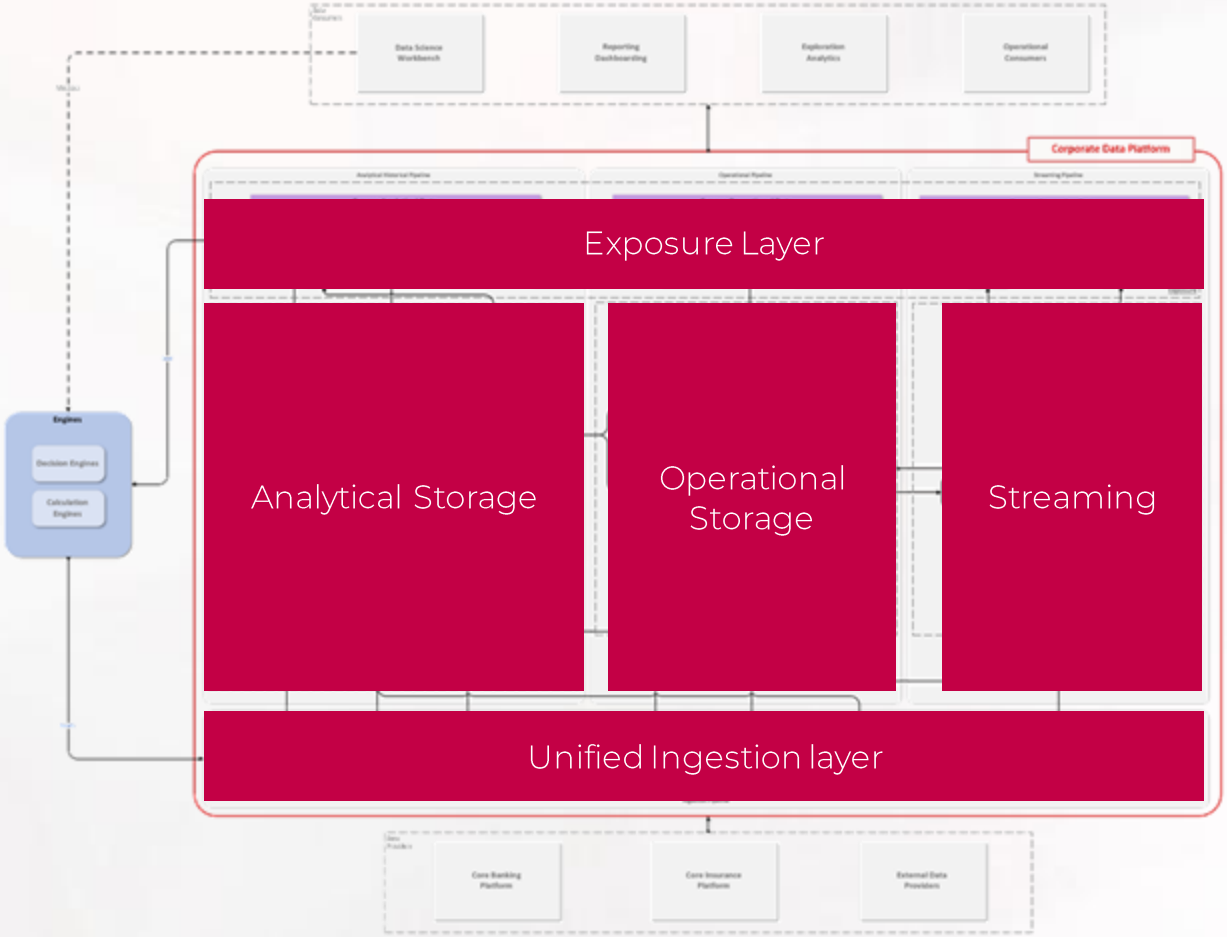
The Corporate Data Platform, a rationalization for the future new target



Evolution to the Corporate Data Platform

- One Corporate data platform instead of multiple DWHs (to avoid data redundancy and inconsistencies)
- Focussing on real-time integration and analytical processing generating insights in operational processes (fraud analytics, dynamic pricing, customer Next Best Action....)
- Multiple "plug-in" calculation engines from multiple owners. Business owns the data and the analytical models, IT manages the platforms.
- "The only source for data" is the Corporate Data platform

Our CDP, a platform supporting data usage in any way



Three major pillars inspired by the consumption modes:

- Analytical
- Operational
- Streaming

Build upon a unified ingestion layer

The determining factor is really the type of consumption.

An analytical engine can produce it results e.g. in batch but the consumption of the result can be operational. On the platform we will have to enable that operational consumption.

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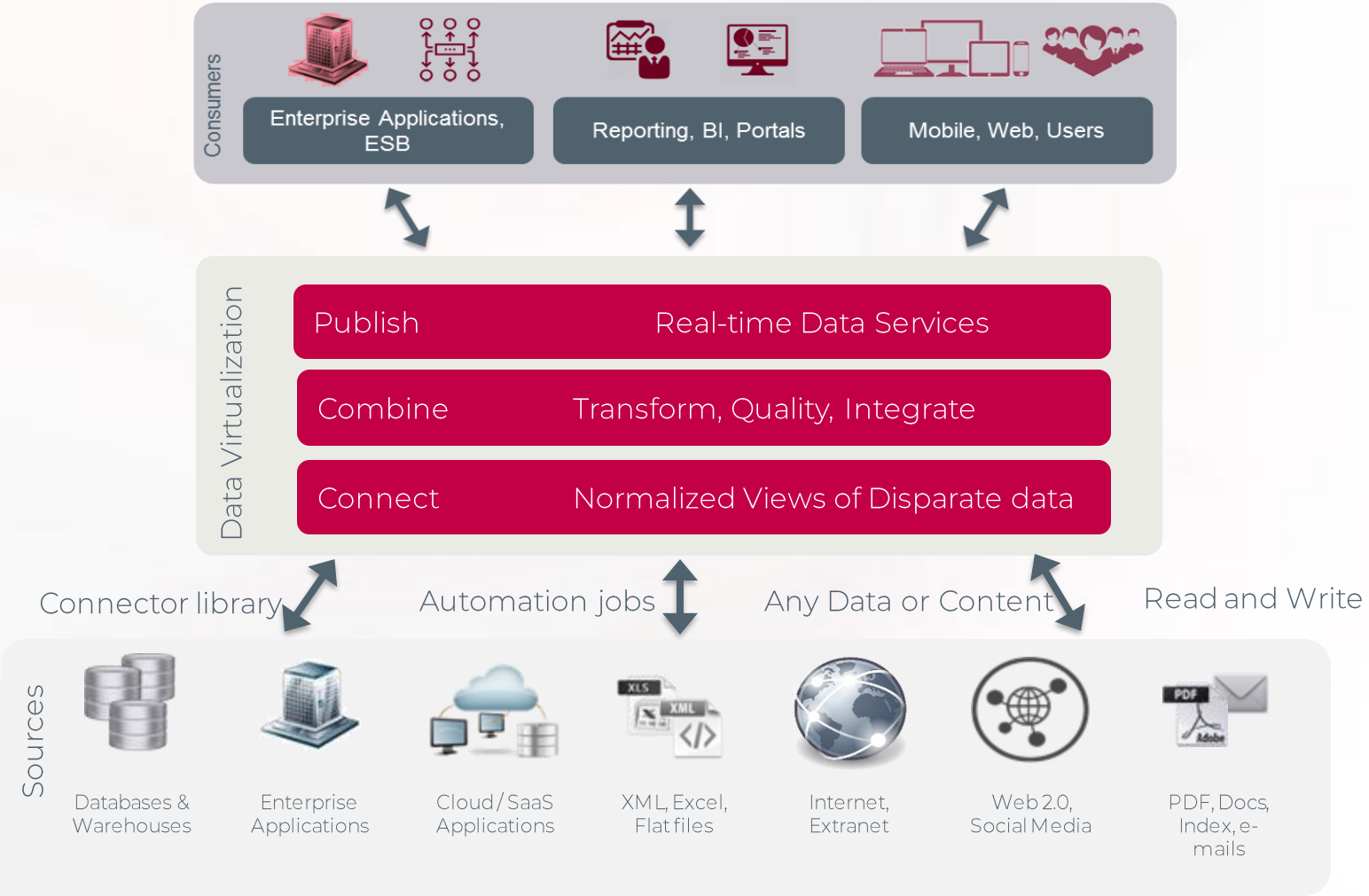
A dedicated exposure layer to facilitate the transition

A high-level view on the concept of Data Virtualization



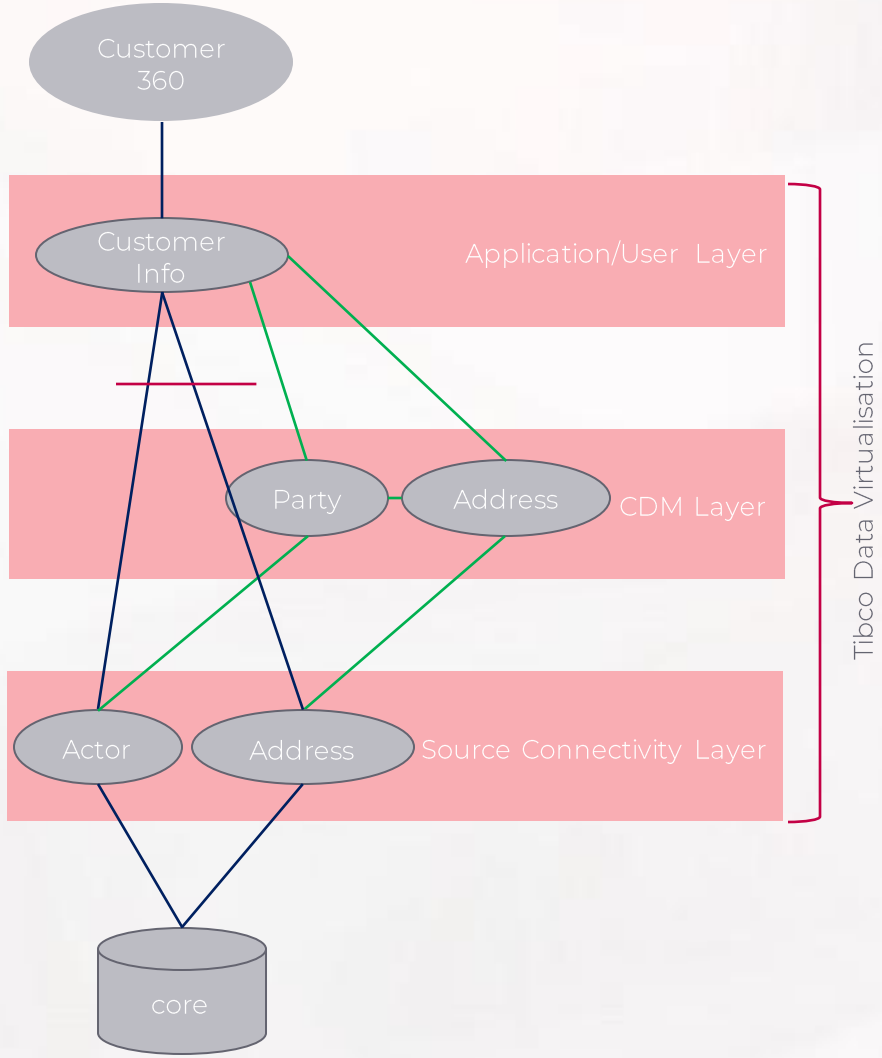
Some key characteristics

- Easy access to all data
- Virtual data layer
- Minimization of data replication
- Optimization of performance
- Real-time (Right-time)
- Data services reuse
- Lighter, flexible integration
- Integrates with existing tools

TIBCO®

Product of choice at Belfius
Tibco Data Virtualization

Similar to traditional warehousing, data virtualization is a layered approach



Designing the virtual layer requires careful thought as we are placing the Belfius business semantic in our Corporate Data Model on top of operational data stores

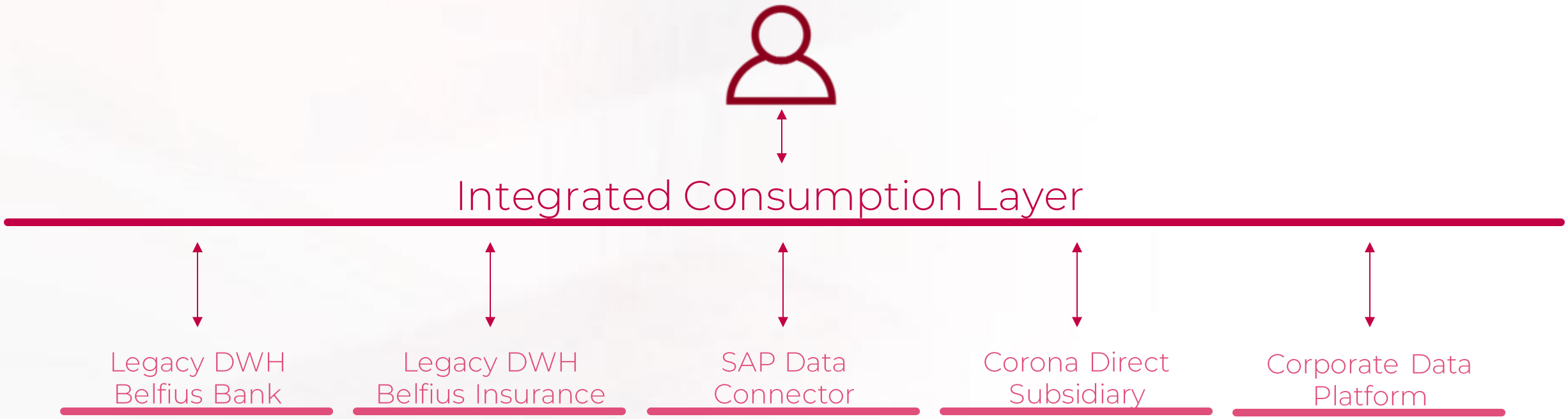
- Connectivity layer

  Data Virtualization allows to read and combine data from a whole myriad of sources: files, Oracle databases, mainframe DB2,....
- Corporate Data Model layer

  The data as represented in the sources is not always in line with business semantics and this addition of semantics and meaning (with clear definitions) is done in the CDM layer effectively translating/transforming the data from the source systems.
- Application / User layer

  The model might be too complex and hard to consume without a thorough understanding of the business and/or data model. Therefore, an application/user specific (mostly aggregated) view on the CDM may be created using CDM terminology so that a less advanced consumer can also benefit.

Accelerating business delivery via virtualisation



Where and how the data is stored is abstracted away. The physical onboarding of data into the new platform therefore is never a blocker into a project.

We can immediately leverage cloud consumption capabilities (reporting, analytics, AI&ML,....) without first having to do painful data movement projects.

AI & ML Platform Stack

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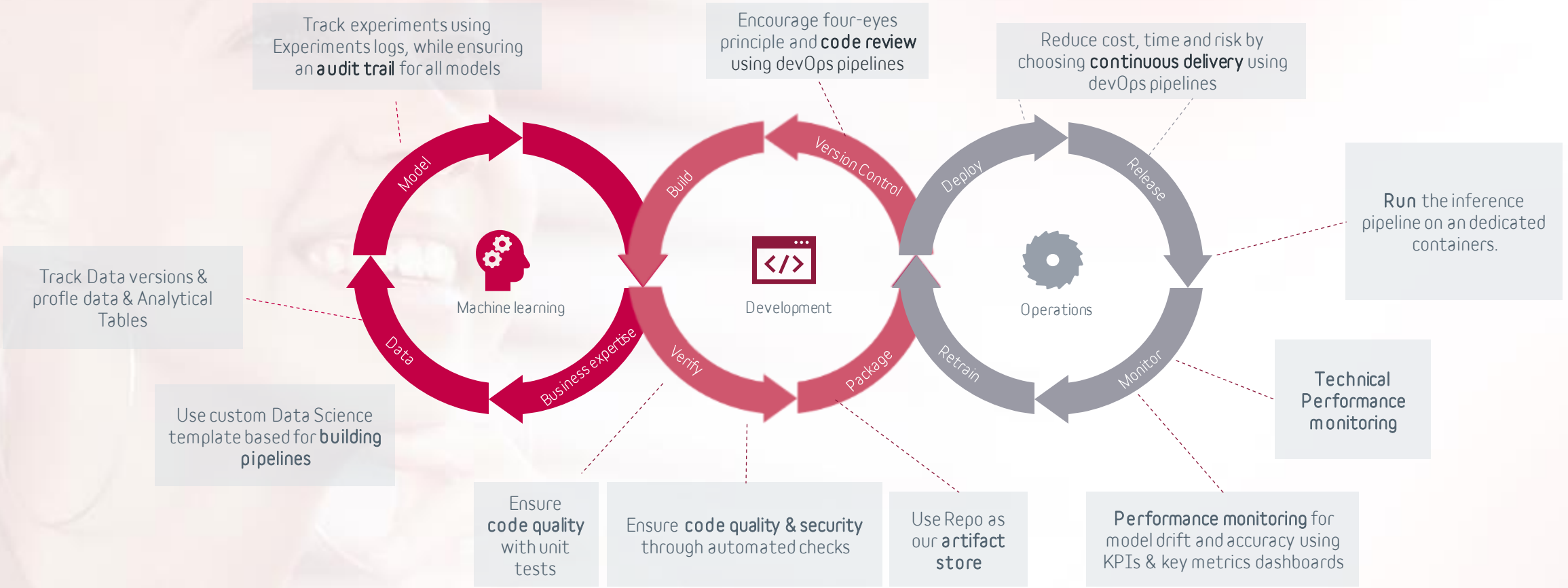
Scalable AI operations through MLOps in the Cloud



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Ethical AI embedded in our AI activities aligned with our Meaningful strategy

Step 1: Clarify the objective of the project

Understand the scope and intent.
Highlight what is at stake.

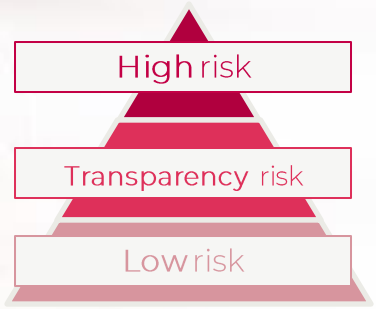
Step 2: Assess impact & risk level.

Standardized risk assessment
Classification based on a question form

Step 3: Implement risk control mechanisms.

Structured requirements
Concrete risk detection
Embedded in the modeling process

Intent



Risk level based biais control metrics & KPIs

From uninformed & subjective decisions to informed & backed decisions controlling ethical risk

Wrapping up

“ It is like changing an oil tanker to a speed boot whilst making it run on solar energy and remaining operational with an oil delivery expected yesterday by the client ”

It is all about change management: people, minds and technologies

- Explaining the why and how of the entire eco-system takes continuous effort to increase adoption.
  You can’t do this alone. Make sure to have a group of ambassadors to share the heavy lifting
- Create a Pathfinders team to lead the way. Many first-time (technical) issues will appear. Dedicate staff with a clear mandate and time to solve them.
- Start with items that bring business value
- Data touches everything, avoid changing all at once

We are happy to discuss with you!

Questions?