NatWest – Our Camunda Journey

Adoption, Growth, Innovation and Transformation

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NatWest Bank plc

I have worked within technology and specifically financial services sector for the last 15+ years, working across Markets, Payments and Treasury technology domains. Since 2015, I have specialized in BPMN technology, and over the last 4.5 years lead the Camunda delivery team and COE lead. With a passion for process automation and innovation, I am very excited to share our experiences, challenges, successes and our Camunda strategy for the future.

About NatWest

Our history goes back for hundreds of years, to our origins in seventeenth century Britain.

Today, we are a relationship bank for a digital world. Championing potential, helping people, families and businesses to thrive.

By supporting our customers at every stage of their lives, we can build long-term value, invest for growth, make a positive contribution to society and drive sustainable returns for shareholders.

NatWest

Royal Bank of Scotland

Ulster Bank

Lombard

RBS International

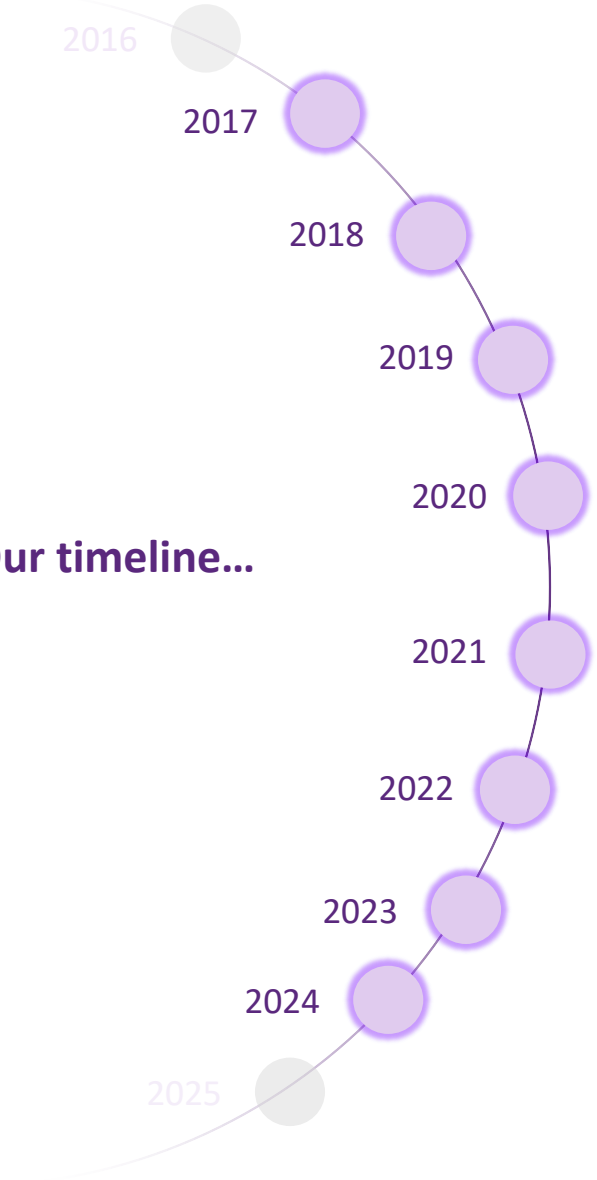
HOLT'S MILITARY BANKING

Coutts

The journey so far…

The NatWest Camunda Journey

Our timeline…



Year 1

2017

Camunda becomes strategic BPMN Solution at **Natwest Bank PLC**

2018

First Camunda Applications launched for Financial Crime & Risk

2019

Internal Camunda Delivery team established to support platform adoption

Year 4

2020

Camunda POD Model Introduction
Increase customer ownership & reduce COE dependency

Year 5

2021

15th Camunda Application Launched **(500% Growth)**

2022

New **Camunda self-service delivery model** introduced (semi to full self service delivery)

2023

22nd Camunda application and **1st Camunda 8** Application live (AWS Hosted)

Year 8

2024

1st Multi-tenancy solution established and **introduction of Optimize & Low code to self-service**

NatWest Camunda Adopters

Commercial & Institutional Banking	**RBS International**	**Shared Services**	**Risk**	**Retail Banking**
Enterprise Engineering	**Financial Crime**	**Trustee Services**	**Security**	**Tax**

NatWest Group

Our Camunda Community

Adopted by **10 departments across Natwest Group**

Supporting **critical business** process and customer services such as **Financial Crime, Tax, Payments, Security and Lending**

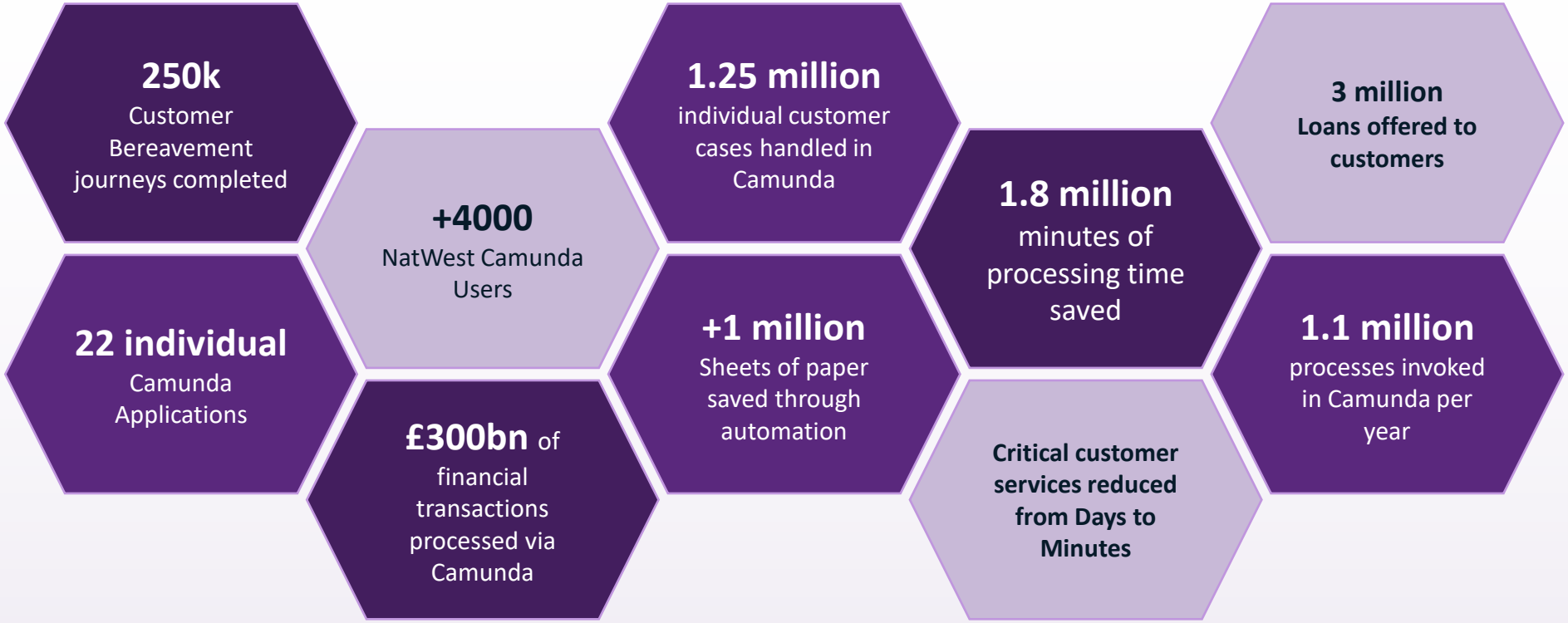
6 individual self-service Camunda Hubs

4 new adopters since 2020

Impact & Benefits

Future Adoption & Innovation

Camunda Benefits, utilization & Customer Impacts



Future Adoption & Innovation

Future Adoption & Innovation

Bankwide Integration

- Proven and readily available (self-service) integration patterns for all **core internal NatWest Banking applications**
- Proven and readily available (self-service) integration patterns for key **external services and/or applications**
- Adoption and proven self-service availability for key **Camunda connectors**

Multi-Tenancy

- **Establish a Muti-Tenancy model** for hosting and maintaining multiple use cases for Camunda 8 on AWS
- **Self-serviceable patterns** in place to enable simple, fast and consistent adoption
- The number of single instance applications has **reduced by =>30%**

Adoption of and Migration to Camunda 8

- All new applications, post December 2023 will be **built using Camunda 8**
- NatWest have a proven, self-service **pattern/design for migrating / adopting Camunda 8 (from 7**)
- =>50% of C7 applications have **migrated or commenced migration to C8**

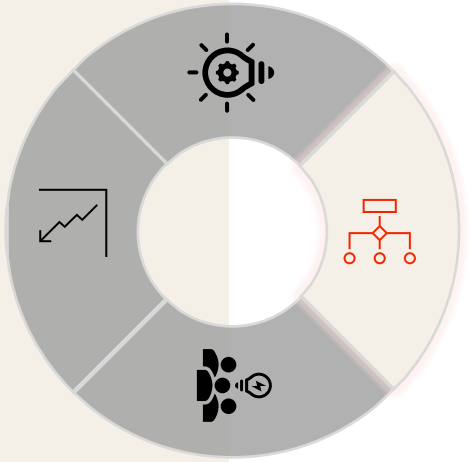
Innovation and Product development

- **Low code & Optimize** capability adopted for all new Camunda applications (2024 onwards)
- Development of new **Camunda and NatWest connectors** – self-service capable
- **Integration with core NatWest automation technologies** into Camunda ecosystem

Technology overview and insight

Pieter Schutte
NatWest Bank plc, Camunda Principal Engineer

“Camunda” Architecture



1

Traditionally, a typical “Camunda” (7) application within NatWest is a bespoke application, with Camunda only handling BPM concerns

2

Camunda manages only the workflow component and is not coupled to the UI

3

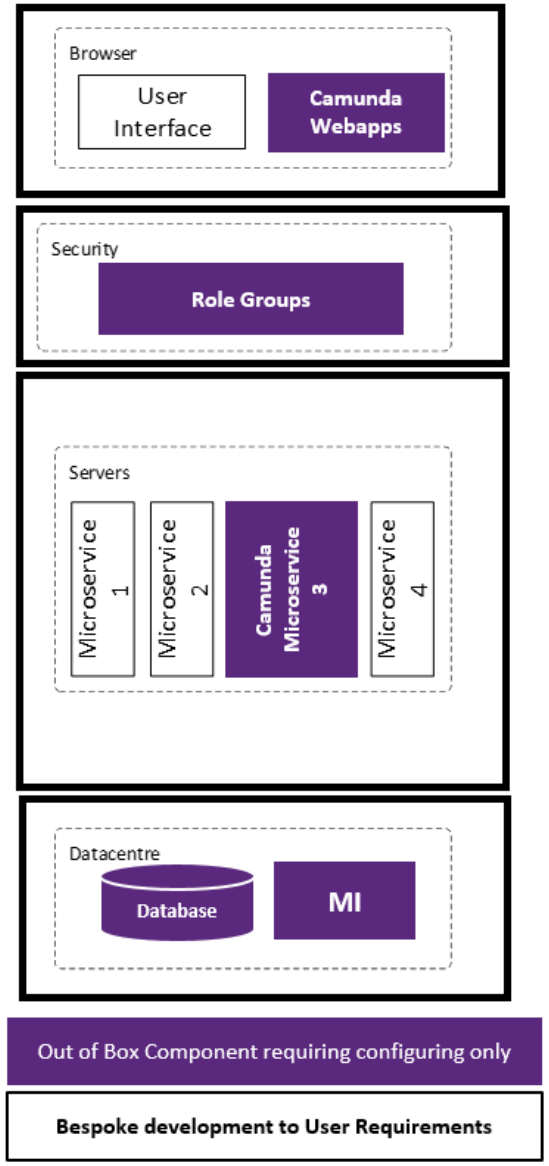
Clear separation between Business and Camunda data

4

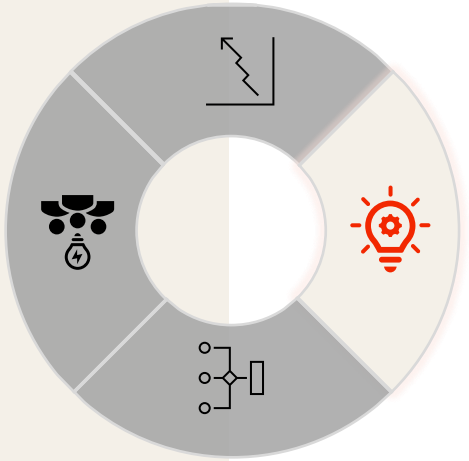
Microservice Architecture means the right tool for the job can be utilised, e.g. Spring Batch or a Rules Engine

5

The rest is made up of NatWest Strategic technologies, as outlined opposite



Principles and Patterns



Data Separation

Application data and Camunda data are kept in separate schemas. Data in Camunda itself is limited to Business Key reference and routing variables. This leaves your business data free to be used in whatever way you choose

Short lived processes linked via Data

Short lived processes means process change causes minimal impact. Process are linked via the Business Key, meaning that if process X completes, we can run a ruleset on the business data and kick off process Y depending on the rules output

Archetypes

A set of Maven Archetypes which Self Service customers can use to spin up bare bones UI and Camunda code repositories, containing recommended patterns to allow for standardization

Spring Event Bus

Process events (Case start, Task Complete, Gateway result) are received via Spring Event Bus, meaning subscribers can take any action on the back of the Event – More on this later in Camunda 8 section

Queue View

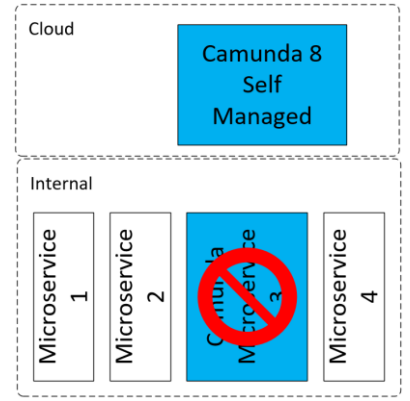
Task Creation / Completion Events are picked up and task details saved in a table in the Application database, keeping UI concerns out of Camunda

Standard Java Patterns

For example a pattern that performs Task Release operation which persists the domain object and releases the task, with configurable config for specifying Process Variables in success and failure business scenarios (e.g. Approve or Decline)

Camunda 8 Adoption

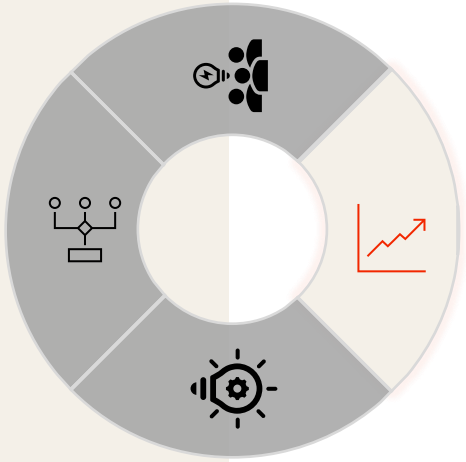
Our move from Embedded Engine to Standalone makes the adoption of Camunda 8 simpler with Current architecture suitable for Camunda 8 – Self Managed



Spring Event bus functionality will be simulated via the Camunda 8 Exporter feature – interim step until Task Listeners are released

Changes to Zeebe allows for

- Spinning up new Clusters or hosting smaller apps in existing cluster
- Additional High Frequency / Low Latency use cases
- Freedom of database



Camunda 8.2

Allows creation of a single Camunda 8 cluster hosting the Pilot application for the Camunda COE with Role based authentication

Camunda 8.3

Tenancy allows for the on-boarding of another application into the Camunda 8 cluster, with individual support teams managing their respective applications. Optimize having insight to all processes will allow COE to recommend process improvements

Camunda 8.4

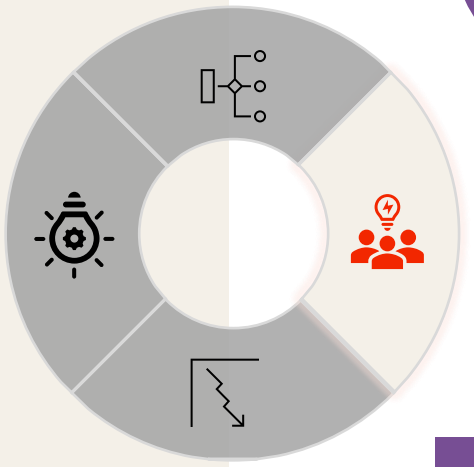
Camunda Web Console will allow multiple clusters to be created and supported via a single support function, with individual application teams supporting their respective applications within those clusters

Camunda 8.x

Camunda 7 Feature Parity, including Task Listeners which will alleviate lack of Spring Event Bus

Camunda 8 - Pilot

Our own internal COE engagement process is unstructured relying on a single document questionnaire and email communication between COE and prospective Programmes. In order to prove Camunda 8 and build up experience within the team, we will digitise this process.



Hands on Experience with Camunda 8

Creation of adoption processes and standards

Produce Camunda 8 Archetypes

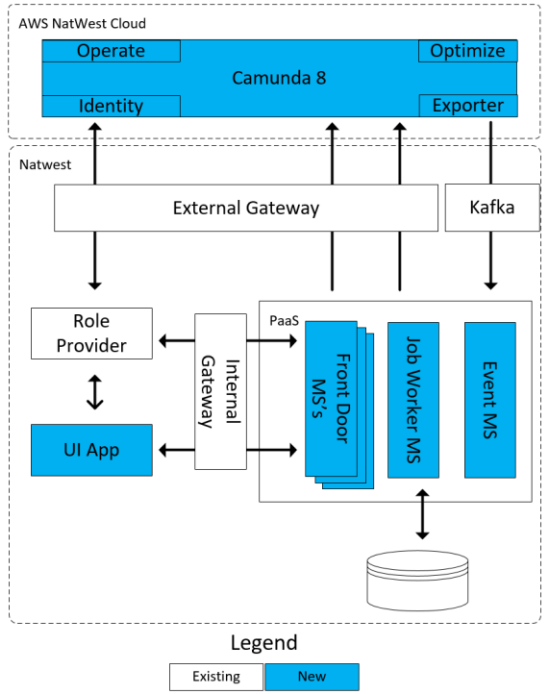
Produce Camunda 8 Connectors

Produce utility Process catalogues

Automation of Cloud environment deployment

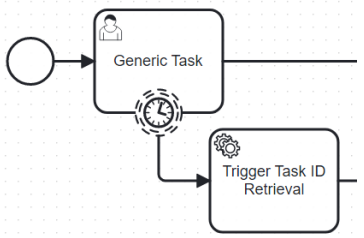
Implementation of Optimize

Validate Camunda 8 assumptions



Challenges

- Task ID's are not available from Jobs published on *io.camunda.zeebe:userTask*
- "But it worked that way in Camunda 7"
- Multiple Service Tasks to simulate Events
- Managing a single cluster for multiple customers
- Infrastructure for Self Managed instance
- Migration of existing Camunda 7 Applications



Q & A

Thank you