

In Search of DevOps

An aerial photograph of a turquoise ocean. In the upper right, there are large, intricate white foam waves. Two surfers are visible: one in the center-left, lying on their surfboard, and another further to the right, also on a surfboard. The overall scene is serene and expansive.

Experience Report

The evolution of a data warehouse team towards DevOps (and DataOps)

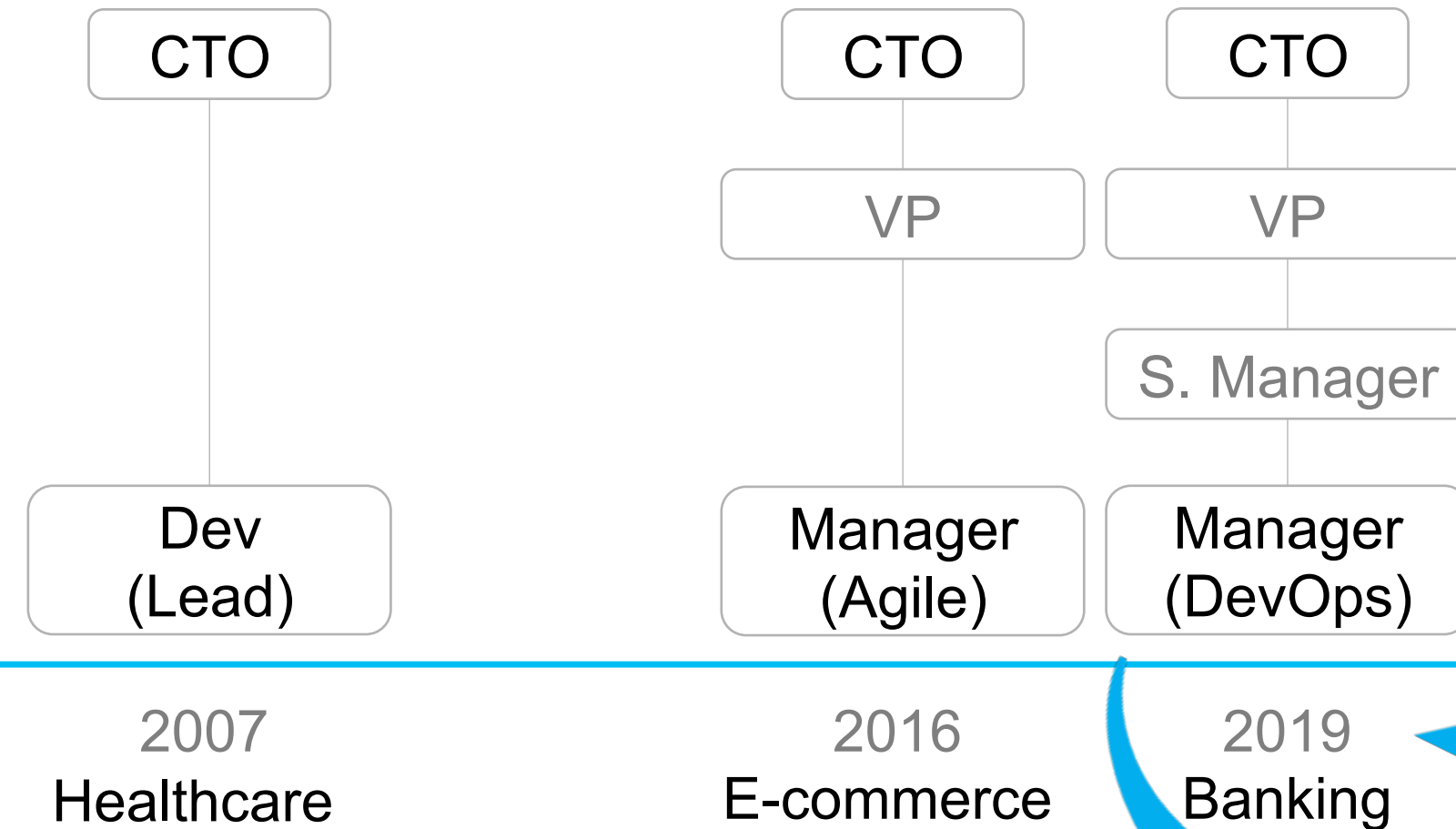
An aerial photograph of a winter landscape. A light-colored, winding road or path cuts through a dense forest of snow-covered evergreen trees. The scene is captured from a high angle, showing the intricate patterns of the forest and the curve of the road.

Maxime Clerk-Lamalice

Software engineer by training – based in Montréal, Canada.

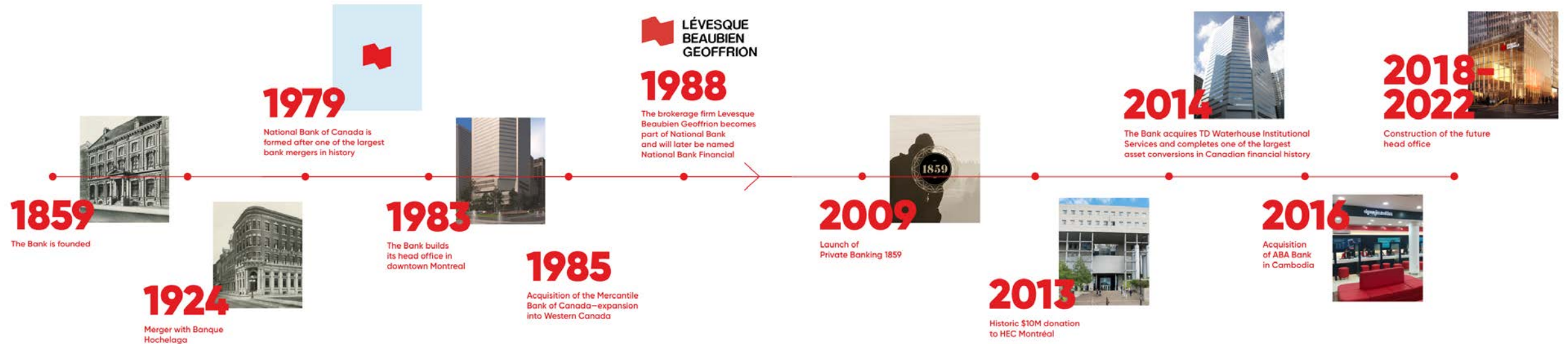
Focused on balancing software engineering practices and scaling high-performing teams. + fun factor

My Journey



Attendee - DOES
London 2018
Personal goal:
share our story

National Bank is the leading bank in Quebec and the partner of choice for SMEs. It is also one of the six systemically important banks in Canada and has branches in almost every province.



National Bank's head office is located in Montreal and its securities are listed on the Toronto Stock Exchange.



Have a **positive**
impact in
people's lives.

Building lasting relationships with our clients

A bank with a **human touch** that stands out for its **boldness**,
entrepreneurial culture and **passion for people**.

[Personal Banking](#)

[Commercial Banking](#)

[Institutions](#)

It operates four lines of business —
Personal and Commercial Banking,
Wealth Management,
Financial Markets, and
U.S. Specialty Finance and International.

The Bank in numbers

24,881

Employees

429

Branches

940

Banking machines

2.6 million

Clients

\$276B

Total assets

Source: nbc.ca

National Bank provides a complete range of services, including banking and investment solutions for individuals and corporate clients, securities brokerage, insurance and wealth management.

Disclaimer

An aerial photograph of a two-lane asphalt road winding through a dense forest. The trees are in various stages of autumn, with some showing bright orange and yellow leaves, while others are still green. A single dark-colored car is visible on the road, moving away from the viewer. The road has white dashed lines for lane separation and solid lines at the edges.

This story is NOT about
'big data,'
'data lakes,'
'data hub,'
visualization or
the cloud.

Corporate Data

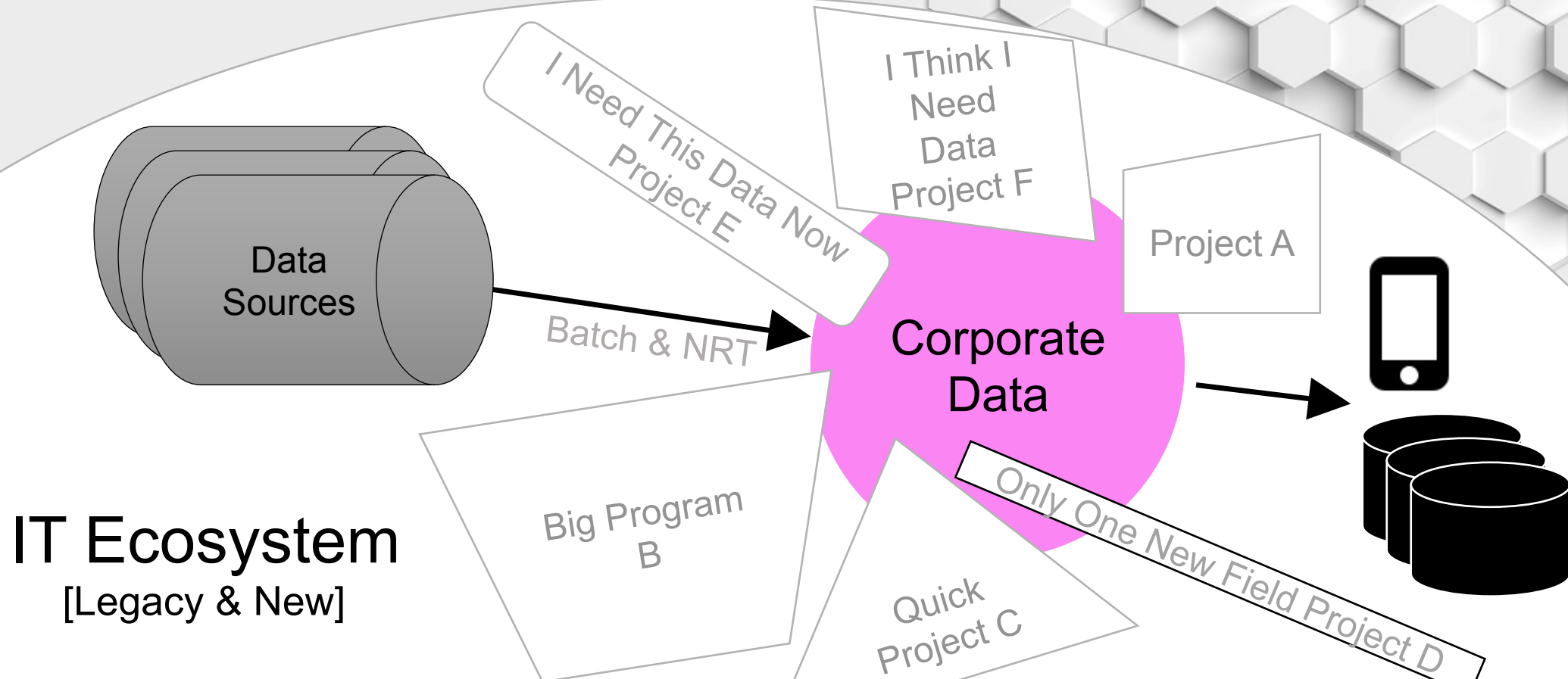
Open
For
Business
24/7

Multiple ODS and EDW

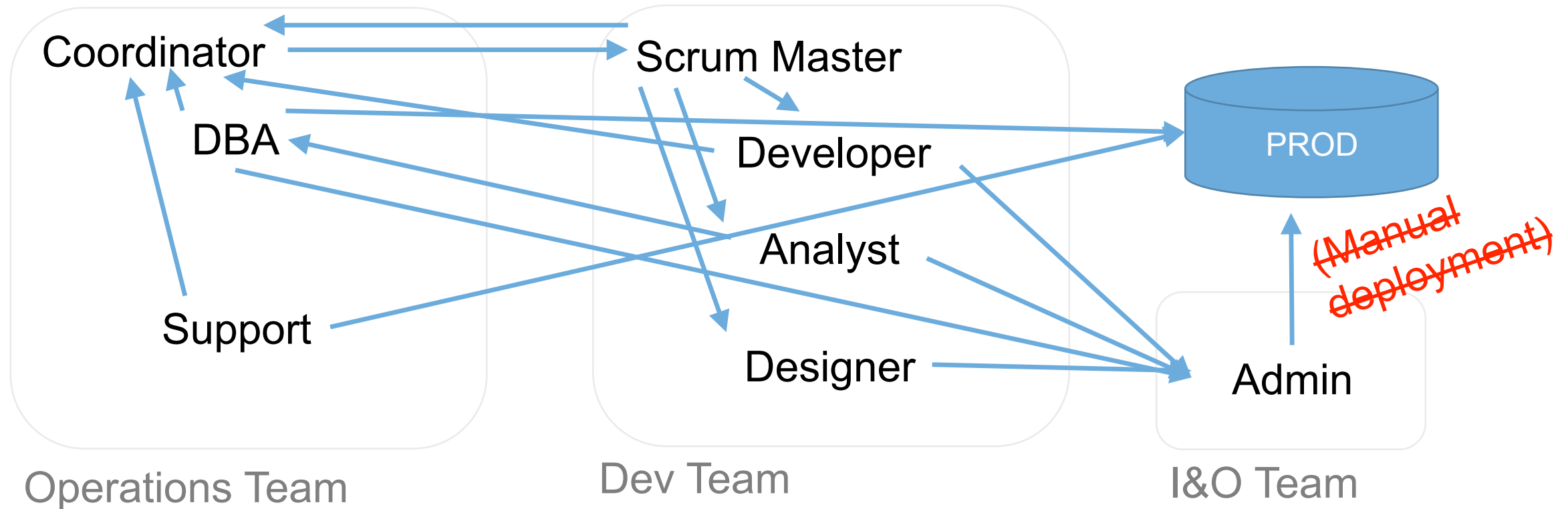
Classic ETL stack

65 employees

Get Data/Want Data NOW!



2016 ETL Deployment



Deployment +/- every 3 months

Where Did We Start?



People

Process

Technology



Everywhere ... but
in small steps


Highlights - People

Agile mindset with major/minor: 'You build it; you run it'


 NBC investing
in people: IT &
Business

 Support by
Squads

Dedicated QA person → quality built-in squads

 Tests Coverage;
Peer Reviews;
Static Code Analysis

Merged Dev Team & Ops Team → autonomous DevOps 'Data' squads

 From
request to
PROD

Highlights - Process

Unified backlog with weekly refinement

Data → Agile metrics → Weekly conversation KPIs

New request management: Service Desk & Kanban workflow

Highlights - Technology

Pipelines for ETL & scheduler deployment

git + Jenkins + Nexus

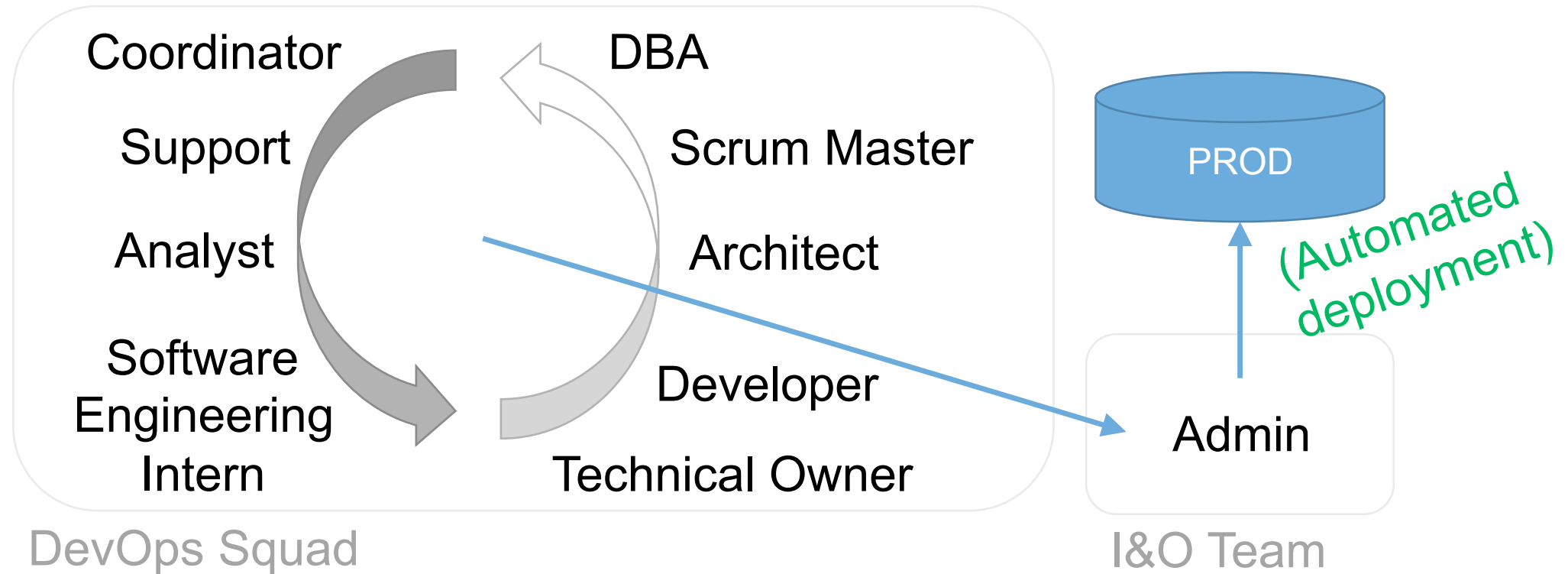
New integration/consumption patterns

APIs + Streaming (Kafka)

Database virtualization

Disk Space: 10x savings factor
Time: Data refresh in minutes (vs days)

2019 ETL Deployment



Results

Scalable x Squads

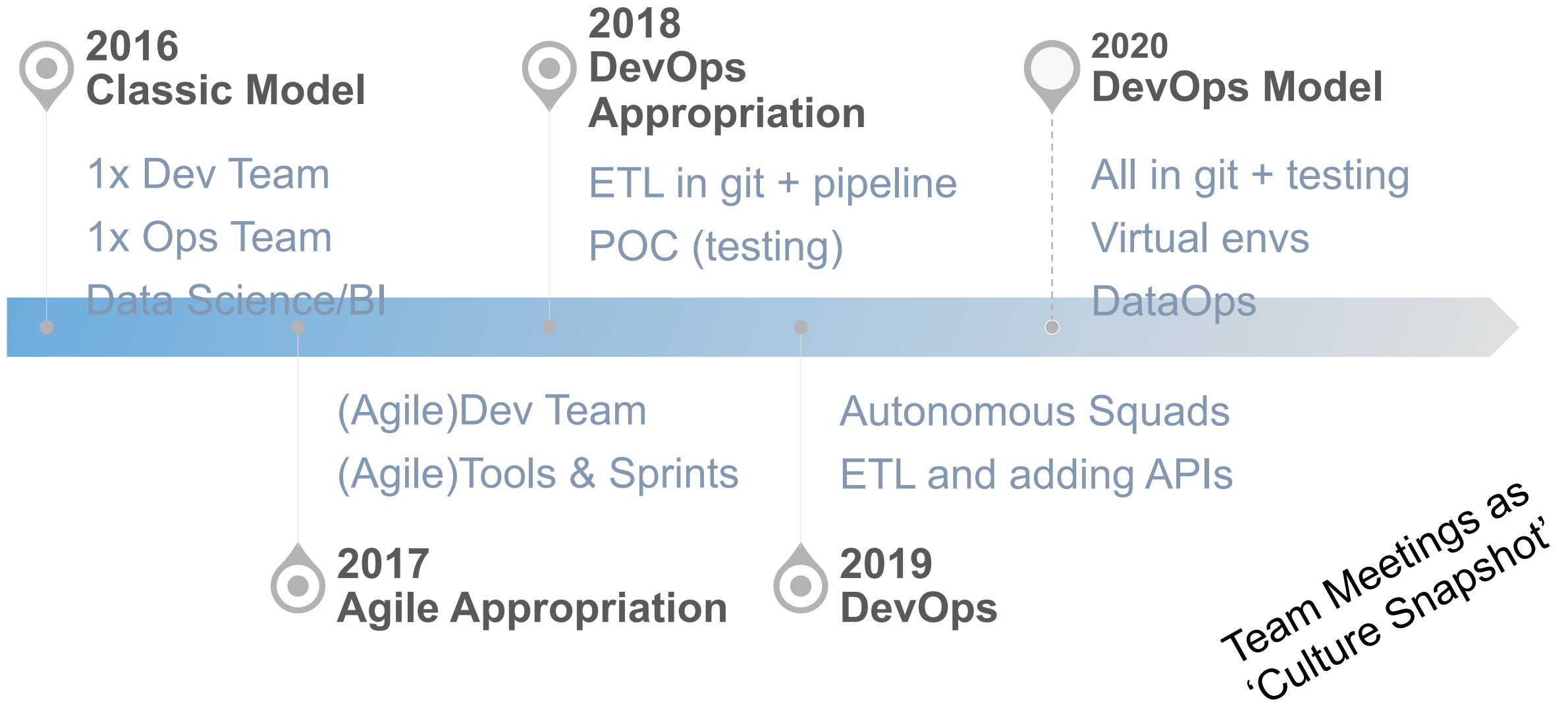
Weekly deployments

55% (↓) incidents

40% (↑) performance

Same team (↑) fun

Timeline



Challenges → Opportunities

Fixing forward & 'lessons learned'
= Wall of Fail

Integrating 'technology + processes'
requires more iterations
= Coaching all cross-sector teams

Dependency on DevOps experts → enablers
= Software development + new profiles (millennials)

DataOps

Team requested
DevOps follow-up ...

Now part of our mission.

We openly talk about 'data friction.' Naming it is the first step. Data culture.

Data as code? Data catalog?
Experimentation in progress...
Will update next year 😊

Must Do

Be bold, share your wins
and your journey; to
INSPIRE others

STARTUP mindset; plan for
enterprise
'taxes' (processes &
complexity)

Get closer to your users;
define data assets OWNER

Work on hard/COMPLEX
problems; not only quick
wins

Set department MISSION;
aligned with enterprise
guidelines

Let's Talk

I'm hoping to
continue the
conversation
with the
community
about ...

