

DevOps Enterprise Summit 2022

Data Operations

Simone Steel

**Chief Data and Analytics Officer &
CIO for Enterprise Data Platforms**



A bit about Nationwide...

We're a **building society**, or **mutual**, **owned by our members**. That's anyone who banks, saves or has a mortgage with us.

We're run for **their benefit** and to **help the communities** around us.

- ✓ Founded in 1884
- ✓ UK Financial Institution
- ✓ Size of a FTSE 250 company
- ✓ c.17 million members
- ✓ +15,000 colleagues in branches and offices

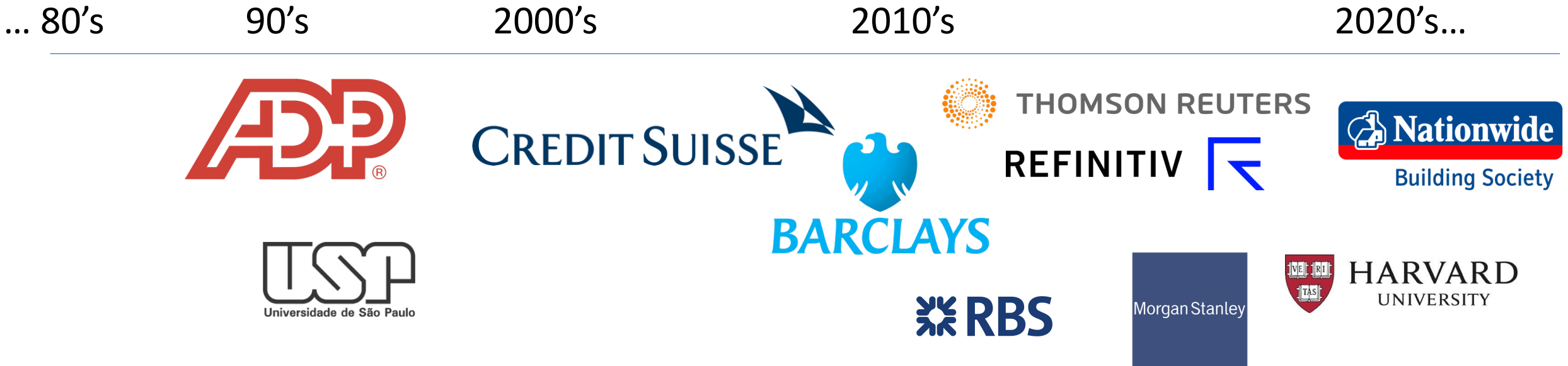


How did I get here?

Technology and Data Services

Academia – Computing, Economics, Data Science

Financial Services



Goal: Better connections



An aerial photograph of a large, calm body of water, possibly a lake or a wide river. The water is a deep, dark blue-grey color. In the upper portion of the image, there are several small, irregularly shaped islands or peninsulas covered in dense green vegetation. The lighting suggests a bright day, with some reflections on the water's surface.

Data

Business or Technology?
Business and Technology?



My job in a nutshell...

to ensure that the use and management
of data in the Society is ethical, valuable,
safe and compliant



Claire Tracey

Chief Strategy and Sustainability Officer

*"The way we've been able to use advanced analytics, including machine learning, to **model the carbon emissions from our mortgage book** has been a game-changer, as we think about how to help our members **make their homes greener.**"*



Sara Bennison

Chief Proposition and Marketing Officer

*"Working with Data & Analytics allowed us to get **accurate understanding of our membership**, which enabled the timely and successful launch of our **Member Prize Draw (£1 million/month)**, returning value directly to our members."*

Goal: Better connections...
through better **Data Operations**



A bit of data analysis history...

Earliest data records of periodic motions of celestial bodies

Assyro-Babylonians, 104-101 BCE

...c.200 BCE ...

...



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Source: https://www3.astronomicalheritage.net/images/astronomicalheritage.net/gallery/ahp_themes/12_mesopotamia-and-the-middle-east/002.jpg

A bit of modern data analysis history...

...90's

2000's

2010's

2020's...

Dawn of databases

Analysis through Visicalc, Lotus, Excel

MIS and Report-based business management

BI tools emerge

Big Data technologies, accessible computing power and specialist languages and tools enables the emergence of enterprise data scientists*

*Arguably data scientists are just a recent expression of earlier professions assisted by modern tools (statisticians, economists, geophysicists, geneticists, etc.)

Context (Financial Sector)

Software-enabled business => Data-enabled business

...90's

2000's

2010's

2020's...

Dodd-Frank, Sarbannes-Oxley:
Control software => DevOps

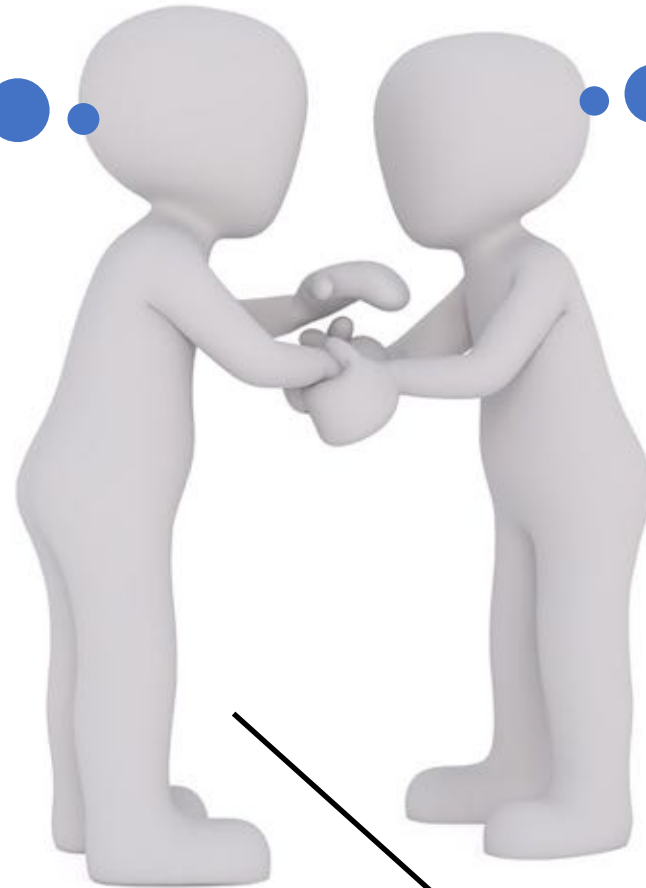
Financial Crisis and the dawn of CDO:
Govern data

Data professionals are citizen developers, not **End Users**
Data scientists, data engineers and data managers
straddle the Tech and End User labels

Misunderstanding and mistrust?

Your primitive handling of the code lifecycle is shocking and will get us into trouble!

Why do you have to automate everything before understanding what the data insights are?



Tech camp

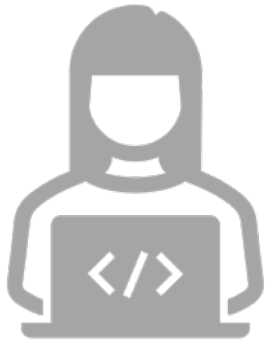
Data camp



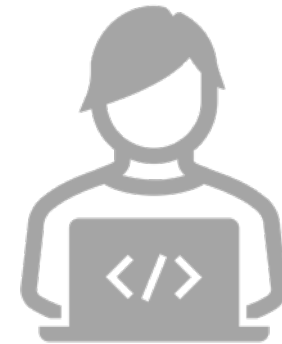
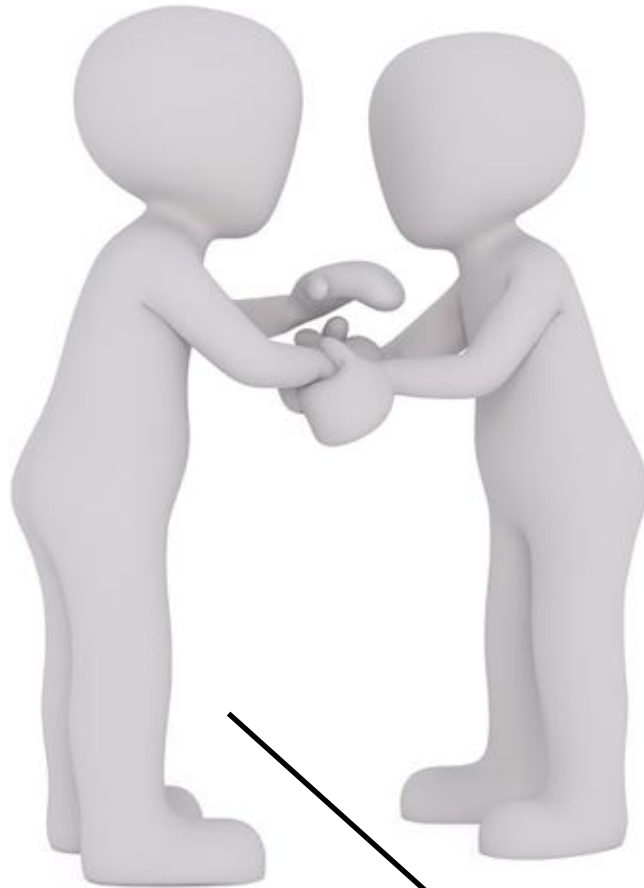
Common goal

To offer a financial product at real time, based on the customer's circumstances and behaviours

Software and Data needs

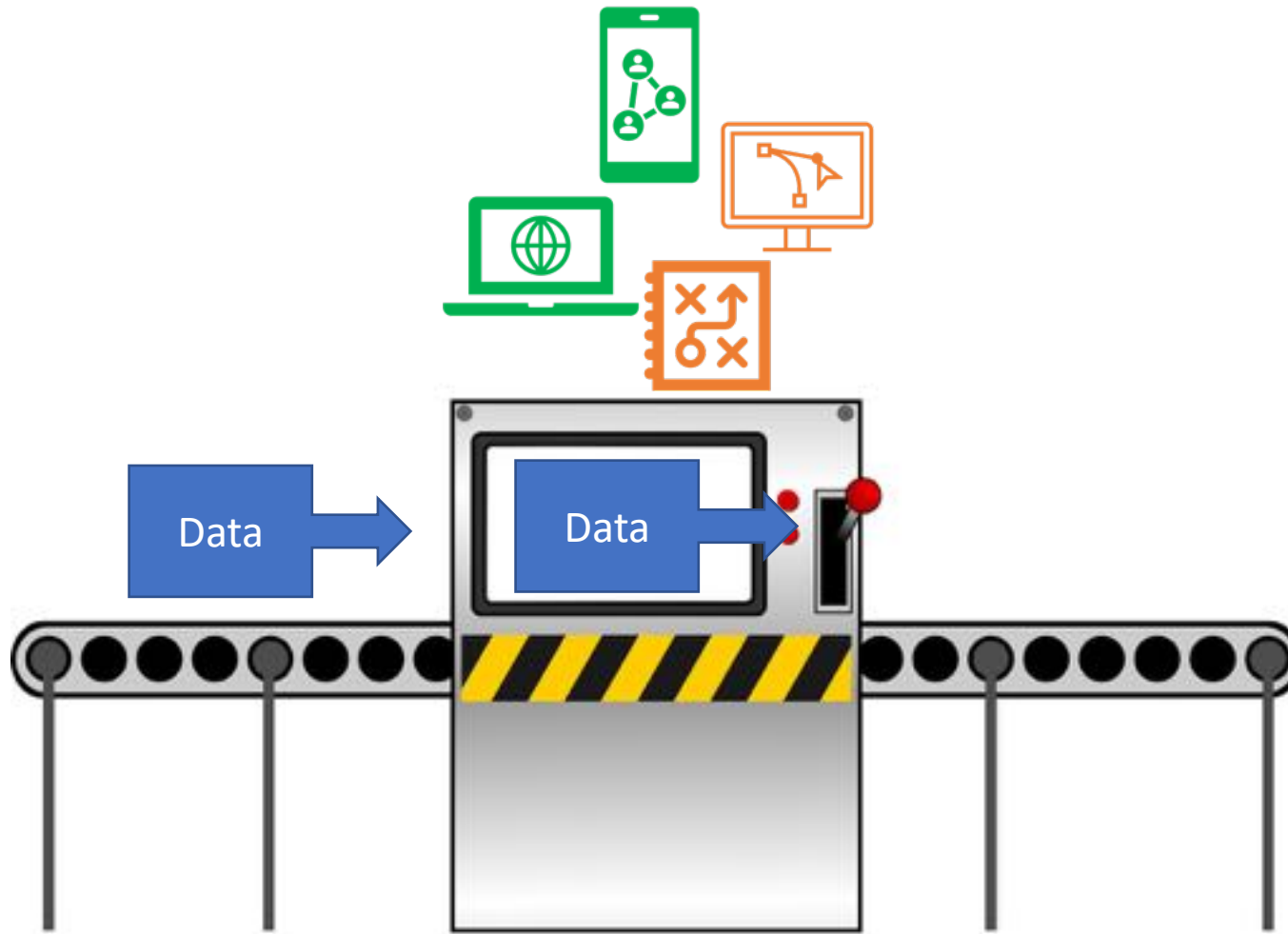


Software products



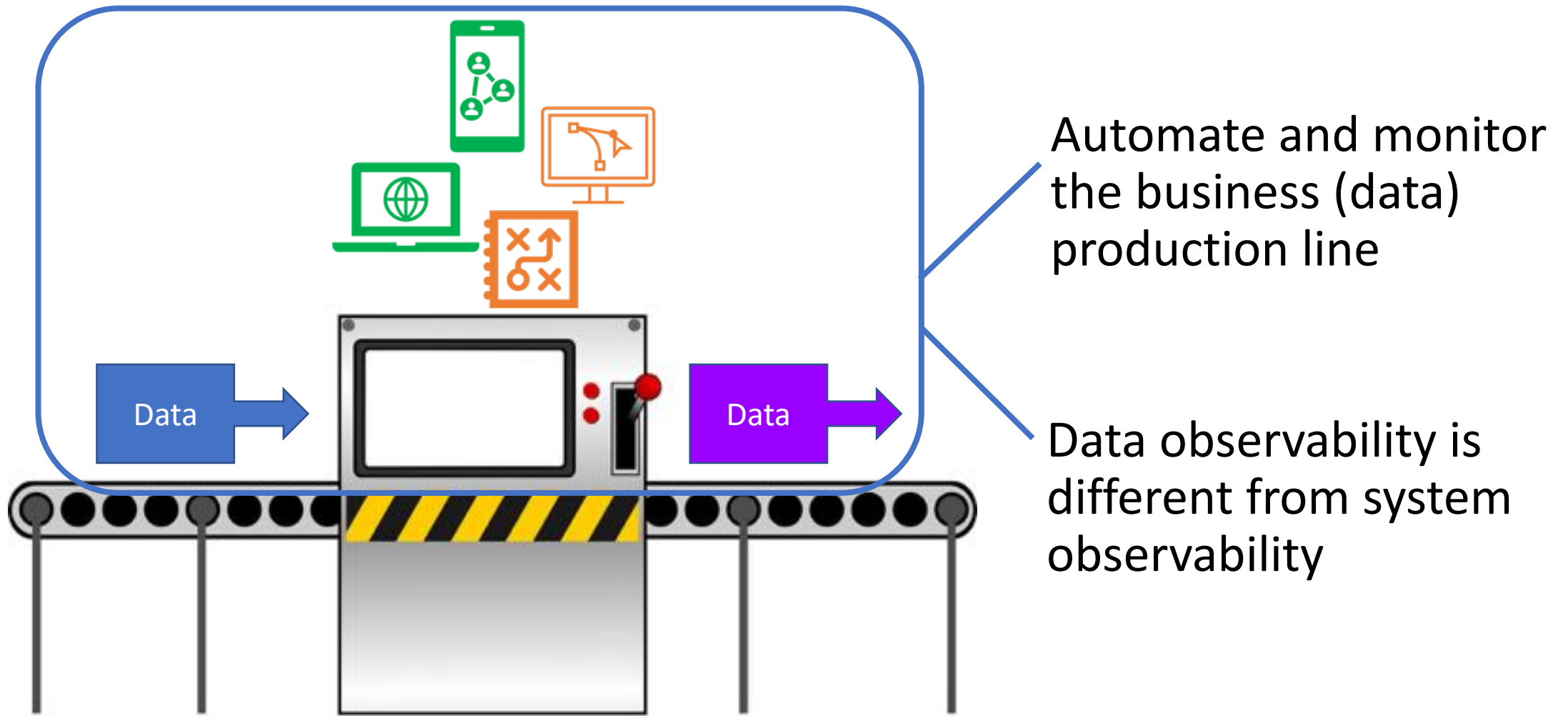
Predictive models, insights

Business virtual production line



We need better team **interactions** and appreciation for their contribution to business results

Data Operations - DataOps



Reality is a bit more complex



A dark, atmospheric photograph of two figures in traditional Indian attire, possibly from a film. The figure on the left is in a dynamic, low-to-the-ground pose, wearing a light blue and white patterned outfit with red borders. The figure on the right stands upright, wearing a more ornate costume with a tall, golden, tiered headdress, a green and red patterned top, and orange dhotis. They are on a dirt path with a stone wall and trees in the background. The overall tone is dramatic and cinematic.

My request to you:

Can you think about your role in creating better connections (human and technical) through a lens of **Data Operations**?

DataOps – how did we get here?

HBR article defining the problem space

...2013 2015 2017 2019 2021...



*“[...] to extract insights from the massive amounts of data now available from internal and external sources, many companies are **spending heavily on IT tools and hiring data scientists.***

*Yet most are **struggling to achieve a worthwhile return.** That’s because they treat their big **data and analytics** projects the same way they treat all **IT projects**, not realizing that the two are completely different animals.”*

DataOps

TAMR's Andy Palmer's working definition of practices

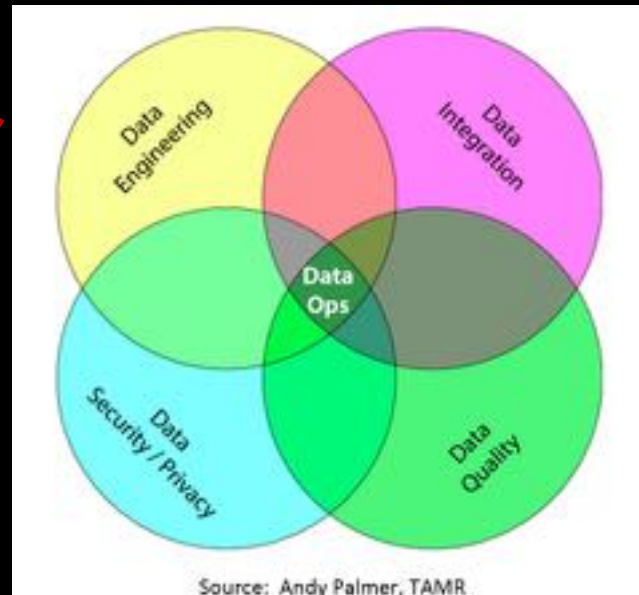
...2013

2015

2017

2019

2021...



DataOps

Definition from a Data Science perspective
Bill Vorhies, contributing editor for Data Science Central

...2013 2015 2017 2019 2021...

*Recognising “**conflicting goals of the different data tribes** in the organization, data science, BI, line of business, operations, and IT”*

*... and proposing “basis for a new category of data access, blending, and deployment platforms that may **solve data conflicts in your organization**”*



DataOps

Definition from a Technology perspective

...2013 2015 2017 2019 2021...

“Inspired by the DevOps movement, the DataOps strategy strives to **speed the production of applications** running on big data processing frameworks.

[...] including data development, data transformation, data extraction, data quality, data governance, data access control, data center capacity planning and system operations”



Agile approach to designing, implementing and maintaining a distributed data architecture

DataOps

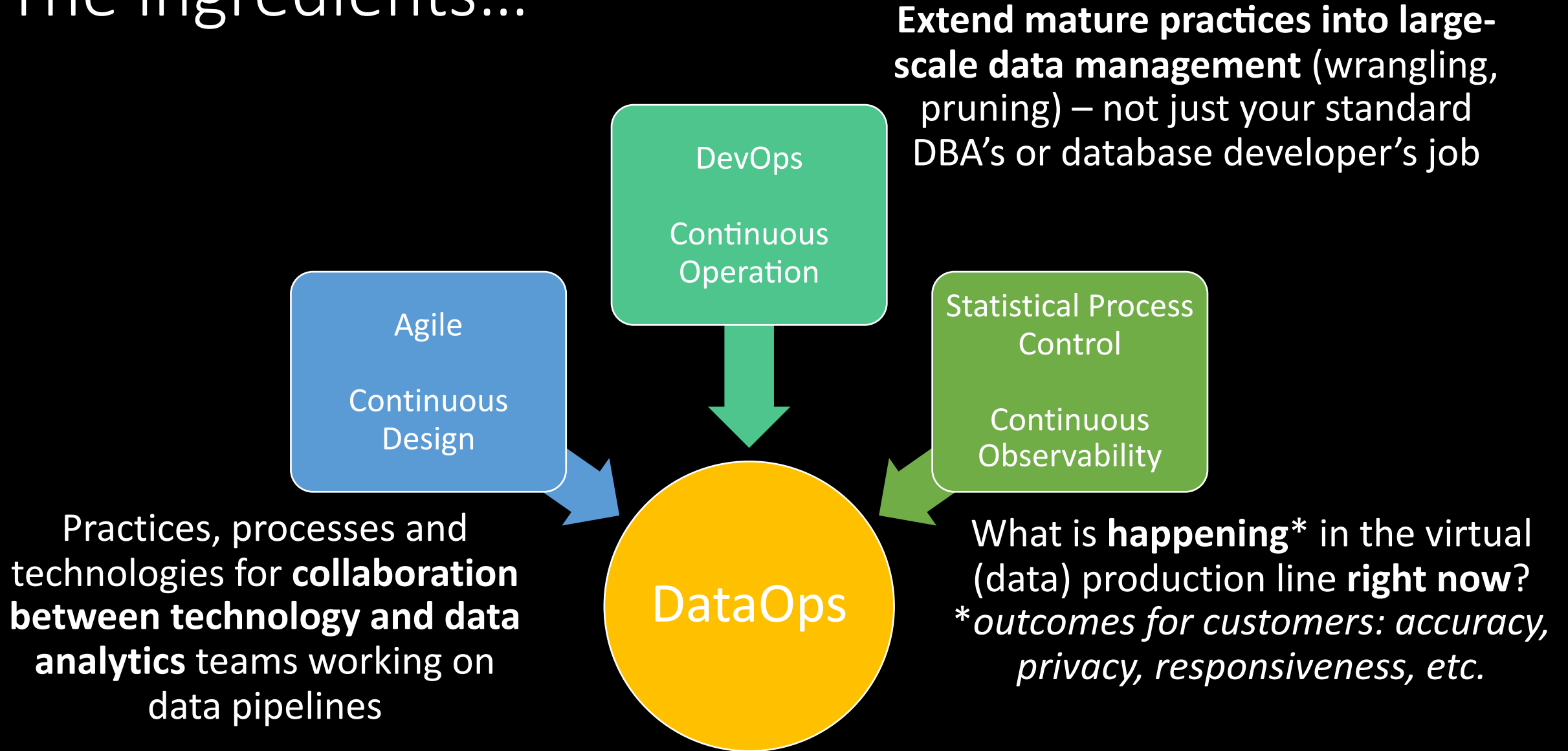


DataOps – do we share a North Star?

Integrity of data and timeliness of decisions, with...

- Better team interactions and technology interoperability for reduced data science applications' cycle time, acknowledging that...
- Data analytics has moved away from static MIS (heavy ETL, brute force wrangling) towards dynamic insights needing rigorous metadata management.

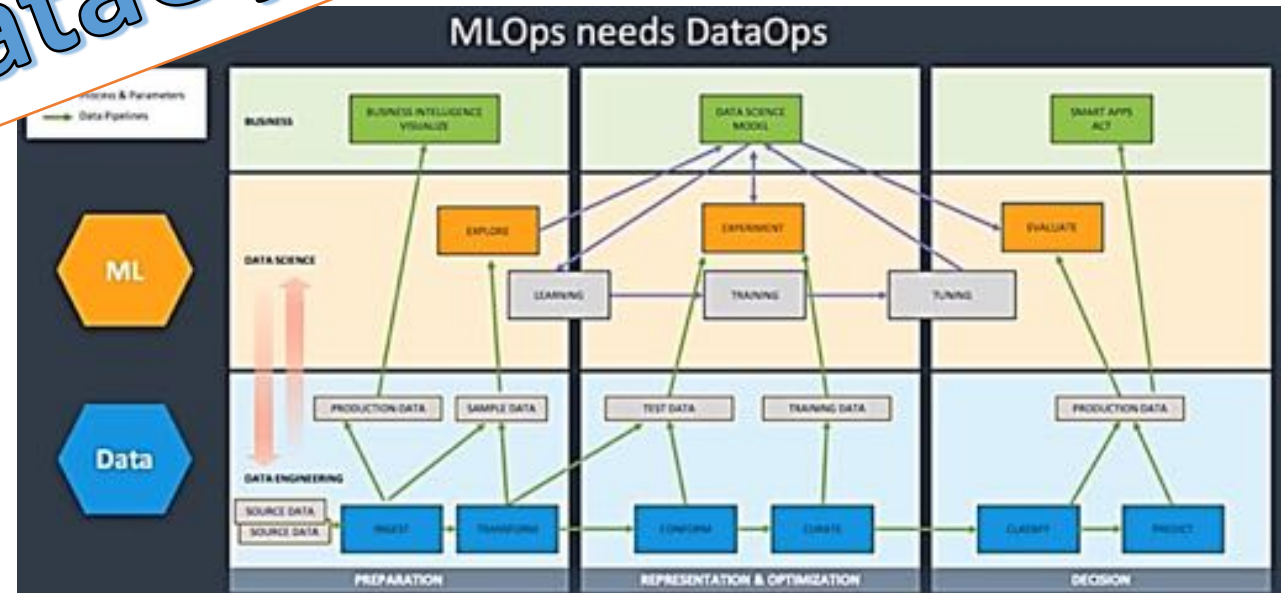
The ingredients...



Not covered today...
MLOps and
AnalyticsOps

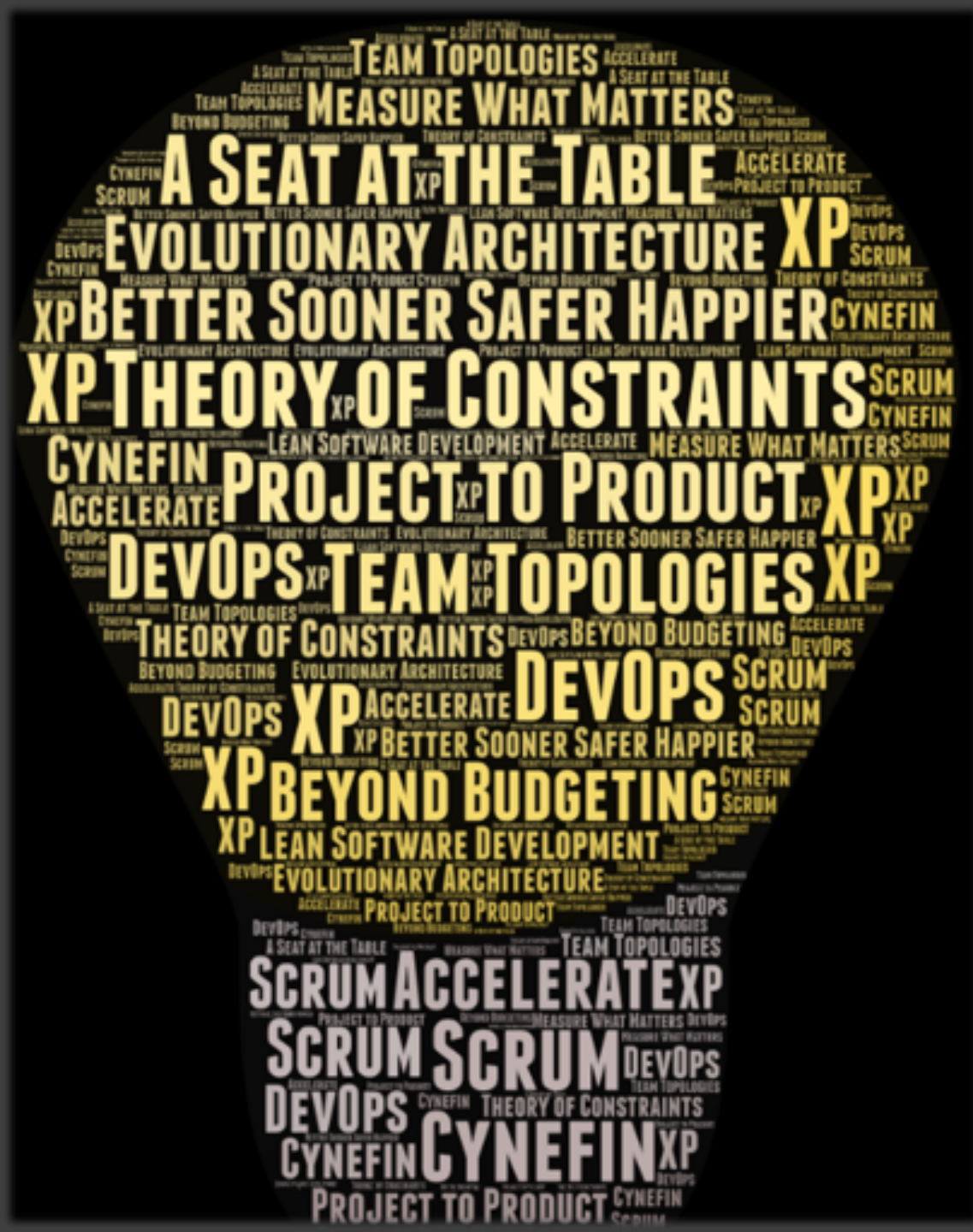
Emerging practices of automation
and monitoring of deployment,
delivery and performance of
AI/ML models

DataOps Summit



References

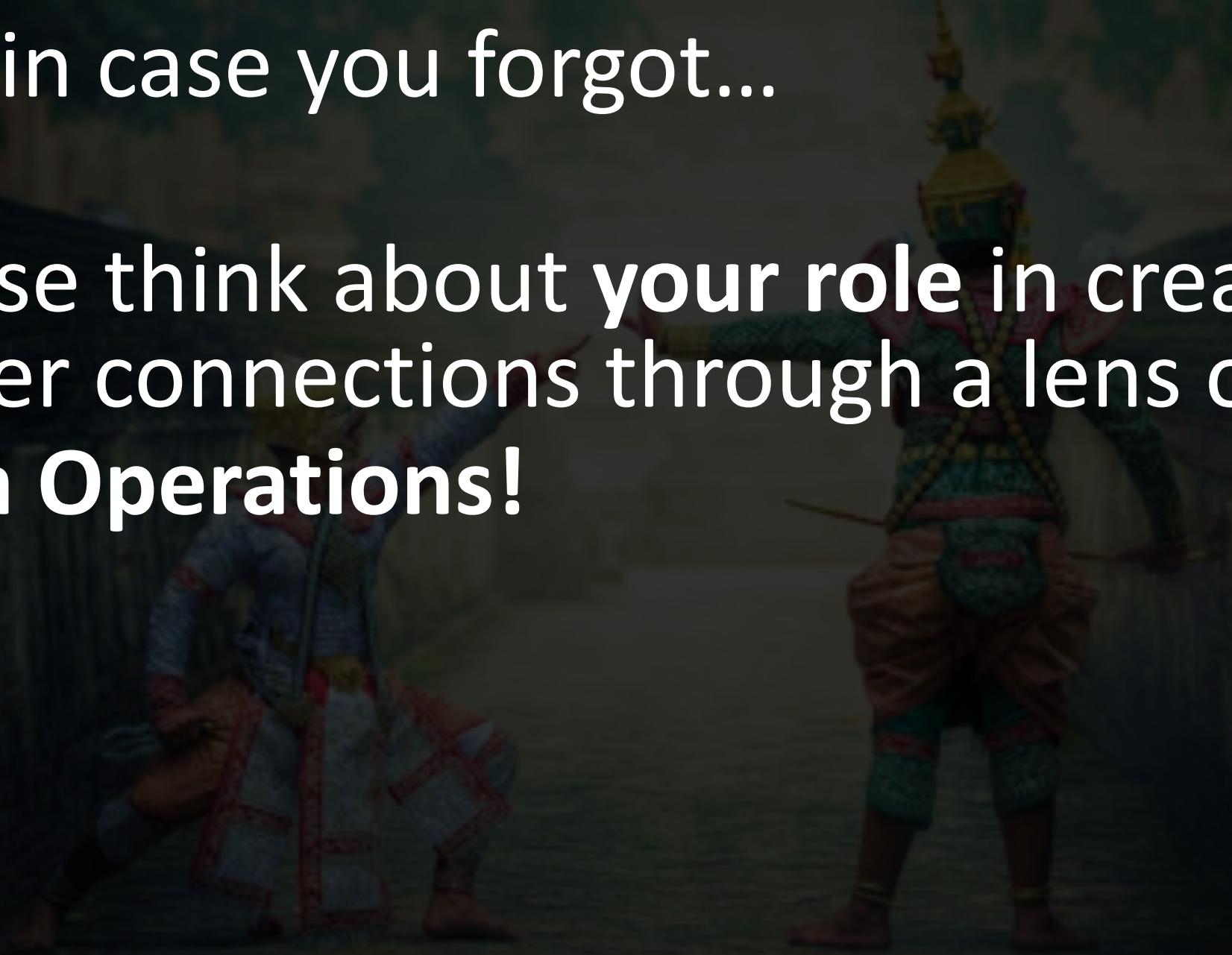
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<https://www.techtarget.com/searchdatamanagement/definition/DataOps>



Standing on the
shoulders of giants

Just in case you forgot...

Please think about **your role** in creating
better connections through a lens of
Data Operations!





Thank you!