How to architect a self-service strategy to power business intelligence at scale

ATSCALE

Today's Speaker Panel

Chad Wahlquist

Director of Data Strategy and Technology

Chad has 13 years of experience in building large-scale enterprise systems

Chad leads teams focused on building modern analytics platforms to enable Tyson Foods in their transition to a data driven company.

Chad has a background in emerging technologies from Blockchain to AI/ML and core analytics across the enterprise

@TysonFoods

Arun Ulag

Corporate VP, BI Platform

As the Corporate Vice President of the Business Intelligence Platform at Microsoft, Arun leads all engineering and product management for Microsoft's BI product portfolio. This includes Power BI, Azure Analysis Services, SQL Server Analysis Services, and SQL Server Reporting Services.

Previously,as General Manager, Arun ran Microsoft's APAC Cloud & Enterprise Division.

@arunulag

Andrew Brust

Research Director, Analytics, GigaOm & Microsoft MVP

Andrew has held developer, CTO, analyst, research director and market strategist positions at a number of organizations. He has worked with small, medium and Fortune 1000 clients in numerous industries and with software companies ranging from small ISVs to large clients like Microsoft. Andrew's resulting understanding of technology, and the way customers use it, makes his market and product analyses relevant, credible and empathetic.

@andrewbrust

Data & Analytics Maturity Model

Capabilities	Level 0 Initial	Level 1 Procedural	Level 2 Proactive	Level 3 Leading
Data	Siloed	Centralized	Enhanced	Shared
Access	Extracts	ETL/ELT	Virtualization	DataOps
Model	Object	Tabular	Logical	Dimensional
Analyze	Analyst	BI User/Data Scientist	Citizen Data Scientist	Everyone
Consume	Query	Dashboards	Self-service Analysis	Data as Code
Insights	Descriptive	Visual	Predictive/Augmented	Prescriptive/AI

Smarter Decisions

Today's Speaker Panel

Chad Wahlquist

Director of Data Strategy and Technology

Chad has 13 years of experience in building large-scale enterprise systems

Chad leads teams focused on building modern analytics platforms to enable Tyson Foods in their transition to a data driven company.

Chad has a background in emerging technologies from Blockchain to AI/ML and core analytics across the enterprise

@TysonFoods

Arun Ulag

Corporate VP, BI Platform

As the Corporate Vice President of the Business Intelligence Platform at Microsoft, Arun leads all engineering and product management for Microsoft's BI product portfolio. This includes Power BI, Azure Analysis Services, SQL Server Analysis Services, and SQL Server Reporting Services.

Previously,as General Manager, Arun ran Microsoft's APAC Cloud & Enterprise Division.

@arunulag

Andrew Brust

Research Director, Analytics, & Microsoft MVP

Andrew has held developer, CTO, analyst, research director and market strategist positions at a number of organizations. He has worked with small, medium and Fortune 1000 clients in numerous industries and with software companies ranging from small ISVs to large clients like Microsoft. Andrew's resulting understanding of technology, and the way customers use it, makes his market and product analyses relevant, credible and empathetic.

@andrewbrust

Data@Tyson

Secure
Data
Anyanswer
Anytime
Data@Tyson
Anyscale
Anywhere
Anyhow

Data@Tyson - Why?

No Ops: OnPrem → IaaS → PaaS → Serverless

Service/Solution Elasticity (Unbounded Scale)

Advanced Analytics – ML / Predictive / Prescriptive

Big Data $ Models – Separation of Storage and Compute

Cloud Native

Public/Syndicated Data

Building Blocks

Source Data

Ingest data from various Tyson source systems like S4 and Workday, and external sources like Walmart or Nielsen Retail

Data Lake

Raw data tables, production data, refreshed per schedule to meet business latency requirements

Data Hub

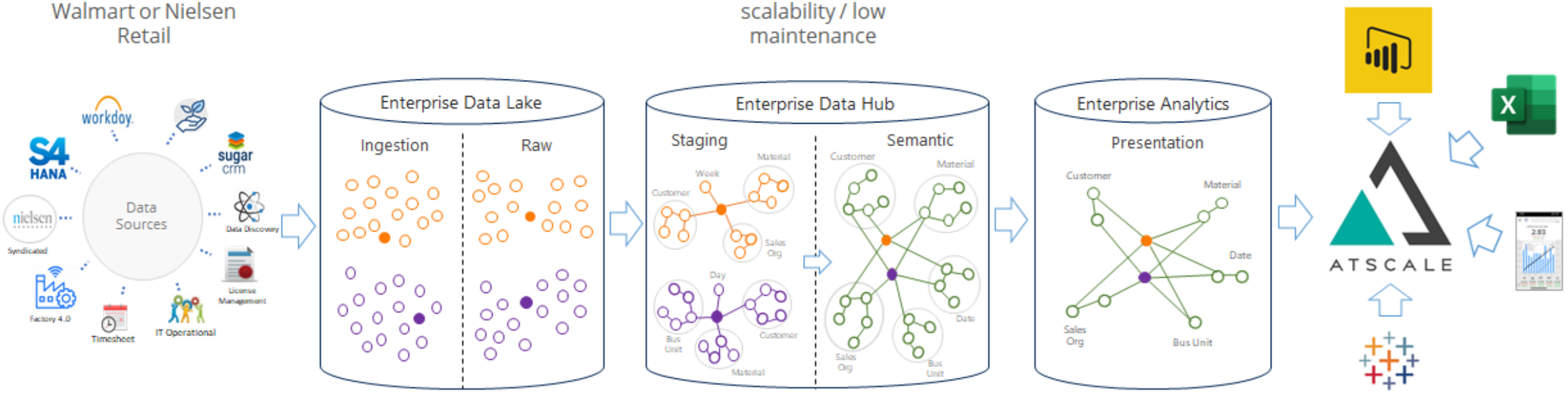
Data is modeled into it's subject area to enable scale and efficiency. Master data is reviewed and certified to ensure scalability / low maintenance

Analytics

Data views are built from the modeled data tables to create business friendly data views

Consumption

How our users interact with the data for analysis and reporting



Scalable Self Service Principles

-Self Service with **guard rails**

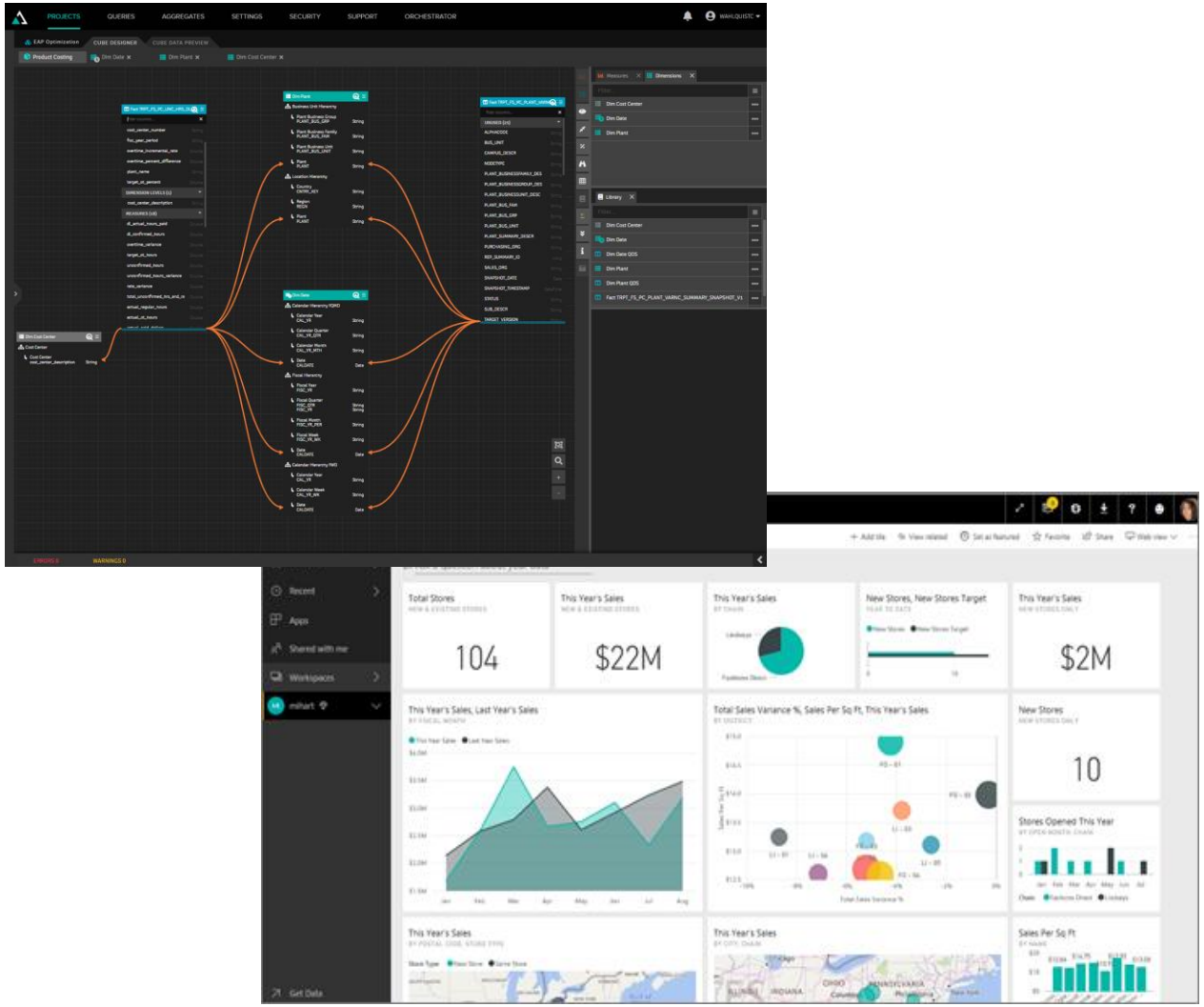
-Certified copy of the data **model**

-Quick Iterations to respond to business needs using **virtual** cubes

-Build for the **data** (via the model) not the report

-Solve for the **95%**

How We are Building



- Reusable building blocks give you starting point to quickly adapt to change
- Hyperscale and Virtual cubes allow you to test new ideas in minutes and hours not days and weeks
- Single version of the truth is the backbone of Digital Transformation
- Shift from “Just the Numbers” to Insights that drive outcomes

Today's Speaker Panel

Chad Wahlquist

Director of Data Strategy and Technology

Chad has 13 years of experience in building large-scale enterprise systems

Chad leads teams focused on building modern analytics platforms to enable Tyson Foods in their transition to a data driven company.

Chad has a background in emerging technologies from Blockchain to AI/ML and core analytics across the enterprise

@TysonFoods

Arun Ulag

Corporate VP, BI Platform

As the Corporate Vice President of the Business Intelligence Platform at Microsoft, Arun leads all engineering and product management for Microsoft's BI product portfolio. This includes Power BI, Azure Analysis Services, SQL Server Analysis Services, and SQL Server Reporting Services.

Previously,as General Manager, Arun ran Microsoft's APAC Cloud & Enterprise Division.

@arunulag

Andrew Brust

Research Director, Analytics, & Microsoft MVP

Andrew has held developer, CTO, analyst, research director and market strategist positions at a number of organizations. He has worked with small, medium and Fortune 1000 clients in numerous industries and with software companies ranging from small ISVs to large clients like Microsoft. Andrew's resulting understanding of technology, and the way customers use it, makes his market and product analyses relevant, credible and empathetic.

@andrewbrust

Power BI

Drive a data culture

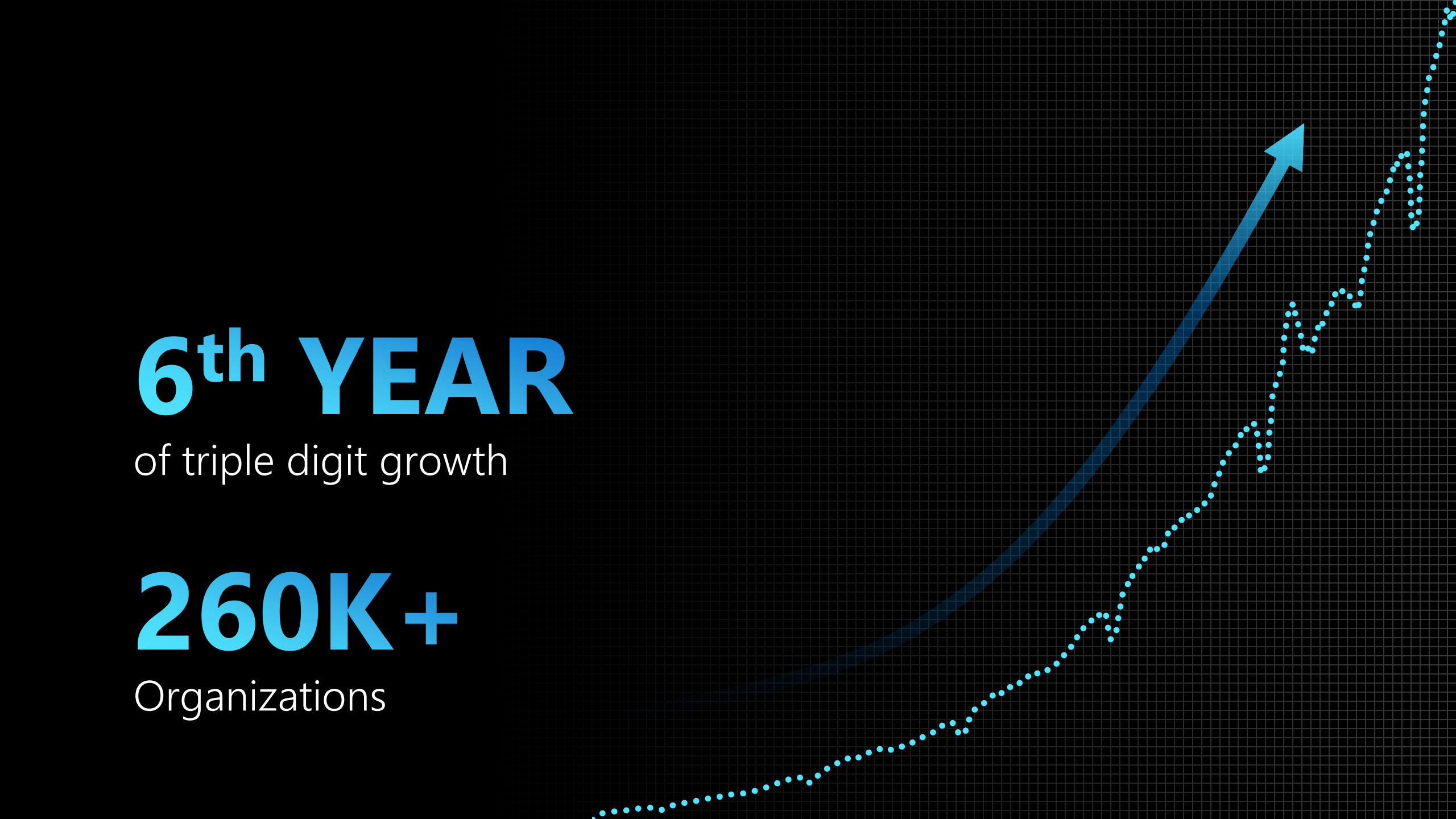
everyone | every decision | at any scale

6th YEAR

of triple digit growth

260K+

Organizations



Gartner®

February 2021

A Leader in Analytics & BI Platforms*

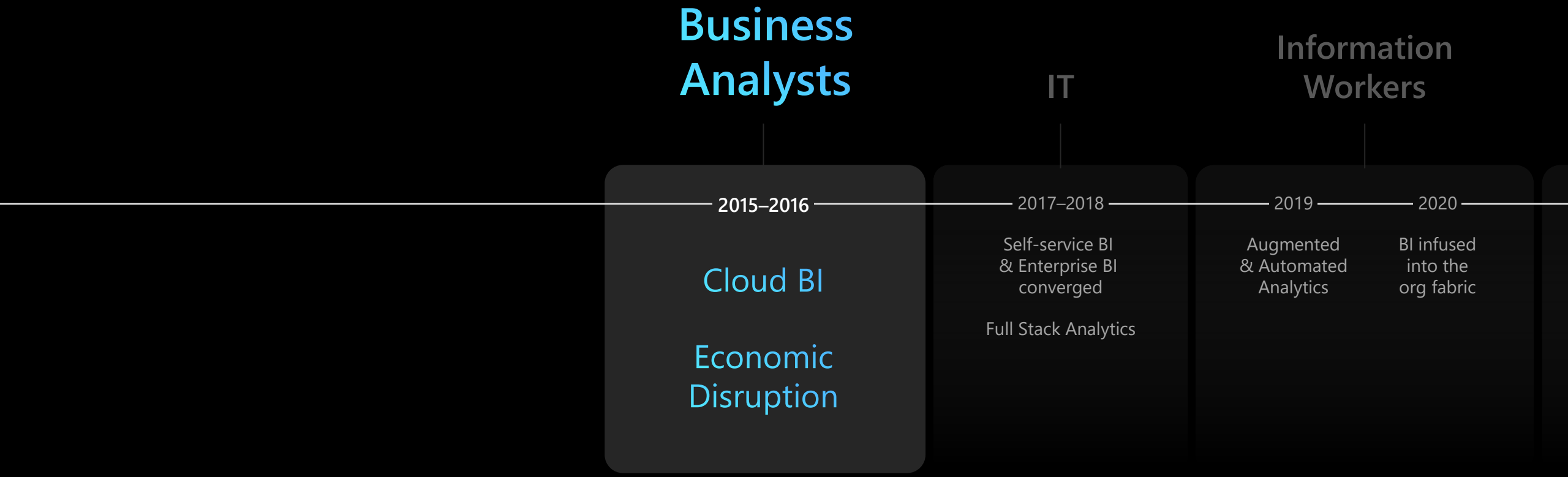
**Gartner does not endorse any vendor, product or service depicted in its research publications, and does not advise technology users to select only those vendors with the highest ratings or other designation. Gartner research publications consist of the opinions of Gartner's research organization and should not be construed as statements of fact. Gartner disclaims all warranties, expressed or implied, with respect to this research, including any warranties of merchantability or fitness for a particular purpose. This graphic was published by Gartner, Inc. as part of a larger research document and should be evaluated in the context of the entire document. The Gartner document is available upon request from Microsoft.*

2021 Gartner Magic Quadrant for Analytics and Business Intelligence Platforms, Analyst(s): James Richardson, Kurt Schlegel, Rita Sallam, Austin Kronz, Julian Sun

Figure 1: Magic Quadrant for Analytics and Business Intelligence Platforms

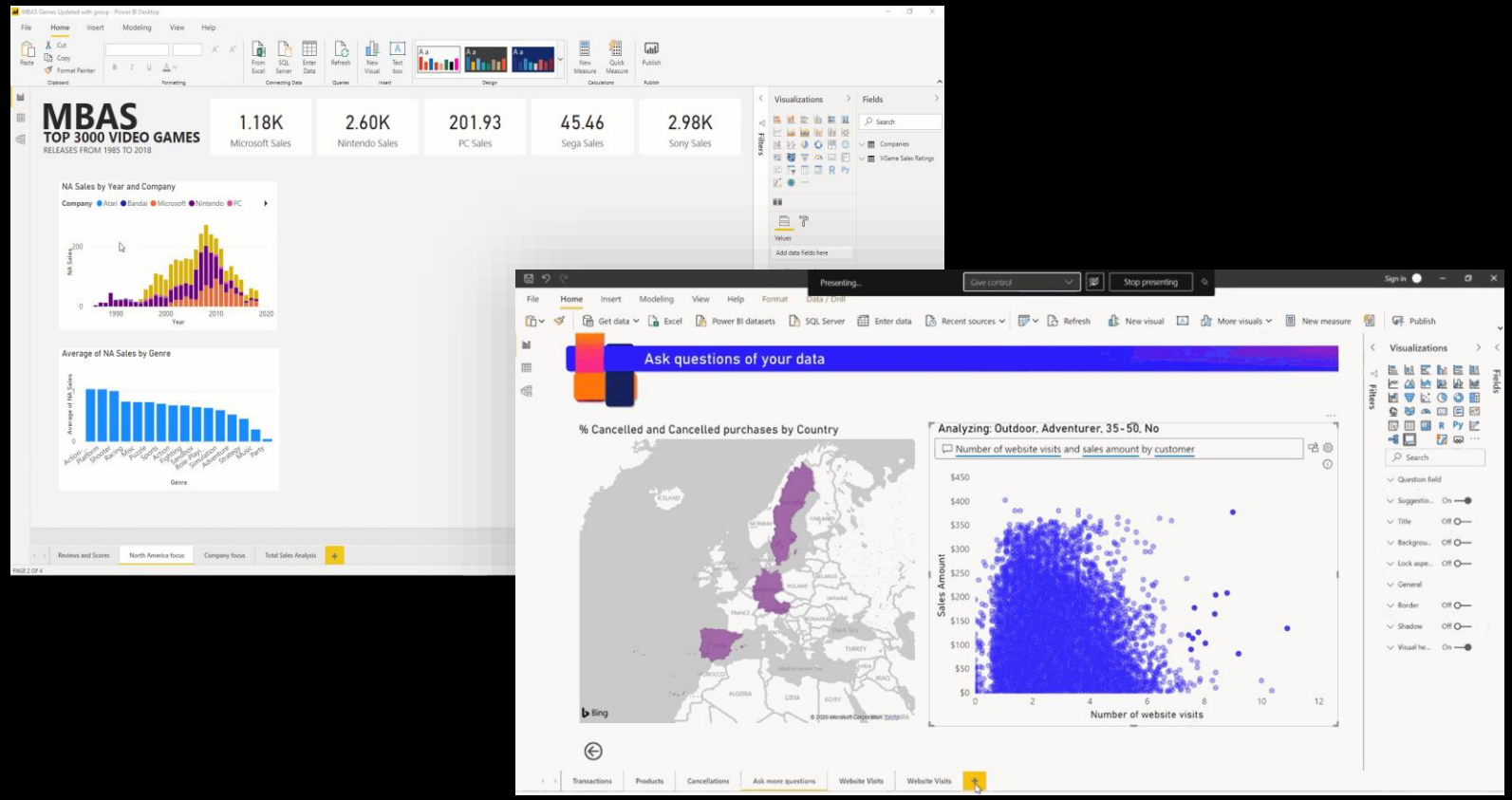
Source: Gartner (February 2021)

Power BI journey



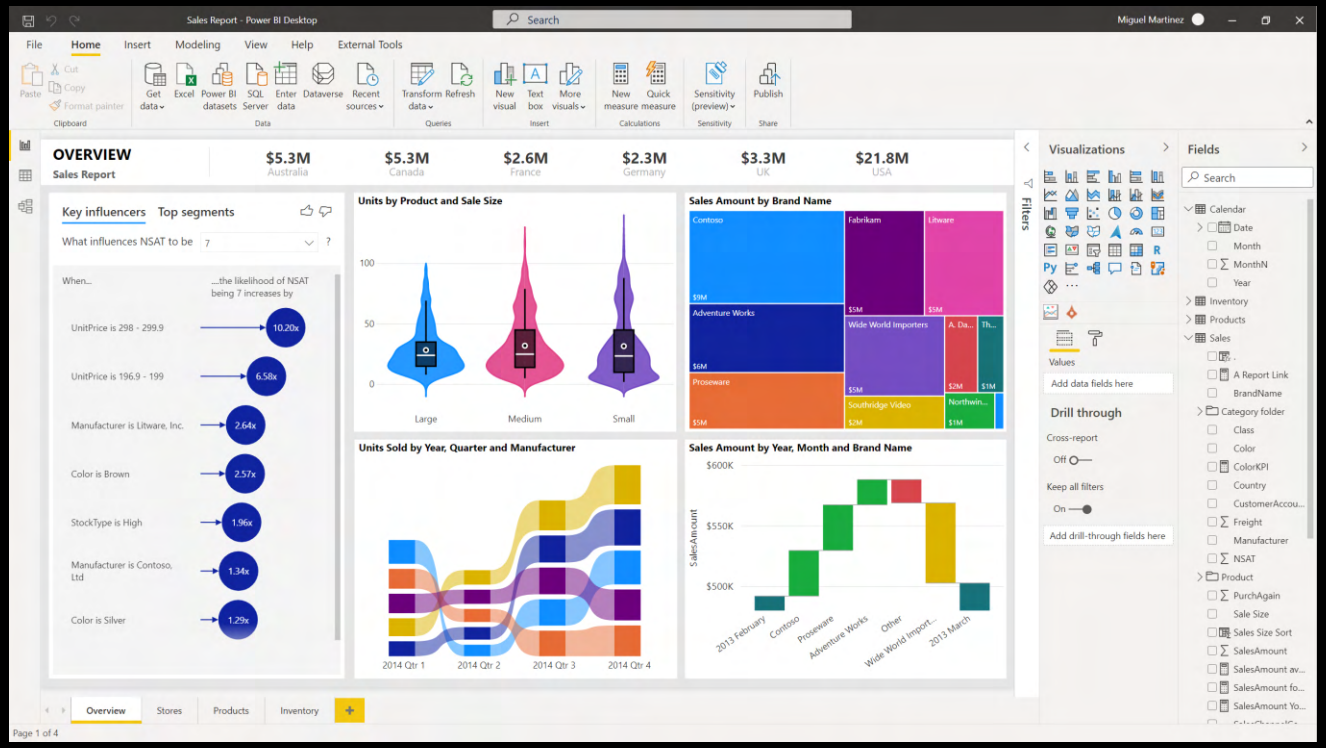
PowerPoint for Data

Instantly familiar Office experiences



Power BI Desktop

3M+ Power BI developers



50+
Datacenters Worldwide

43
Languages

National Clouds
US Government, China & Germany

Cloud = Economies of scale = Economic Disruption

2015 — **Power BI Desktop**
Free

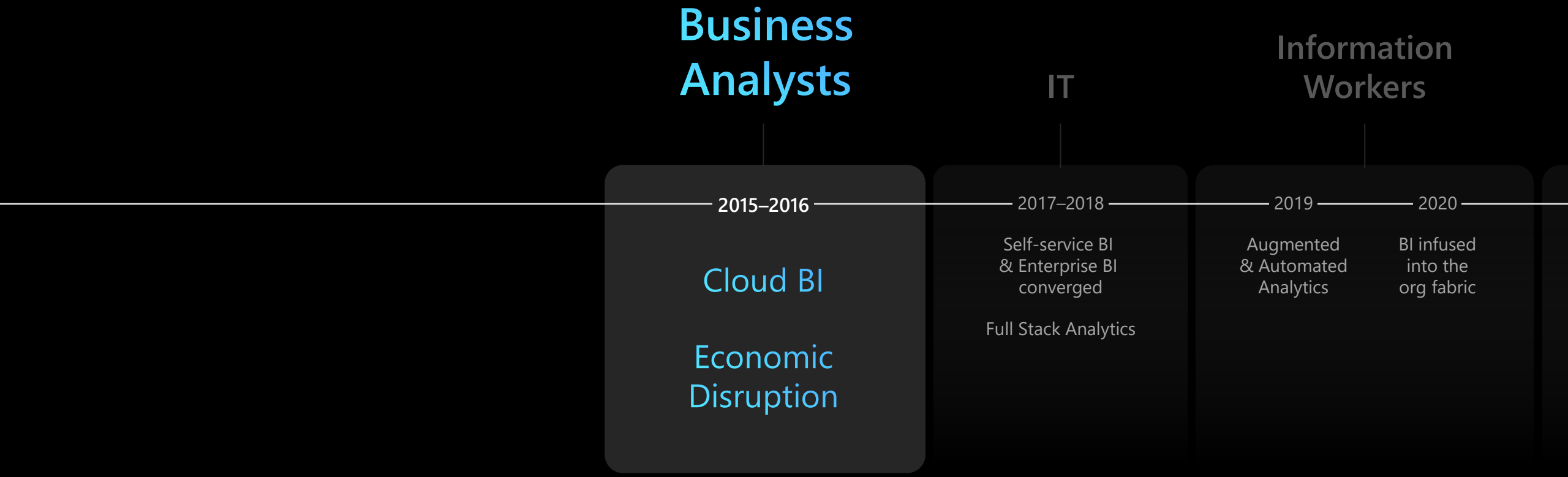
Power BI Pro
$10/user

2016 — **Power BI Office E5**
Included

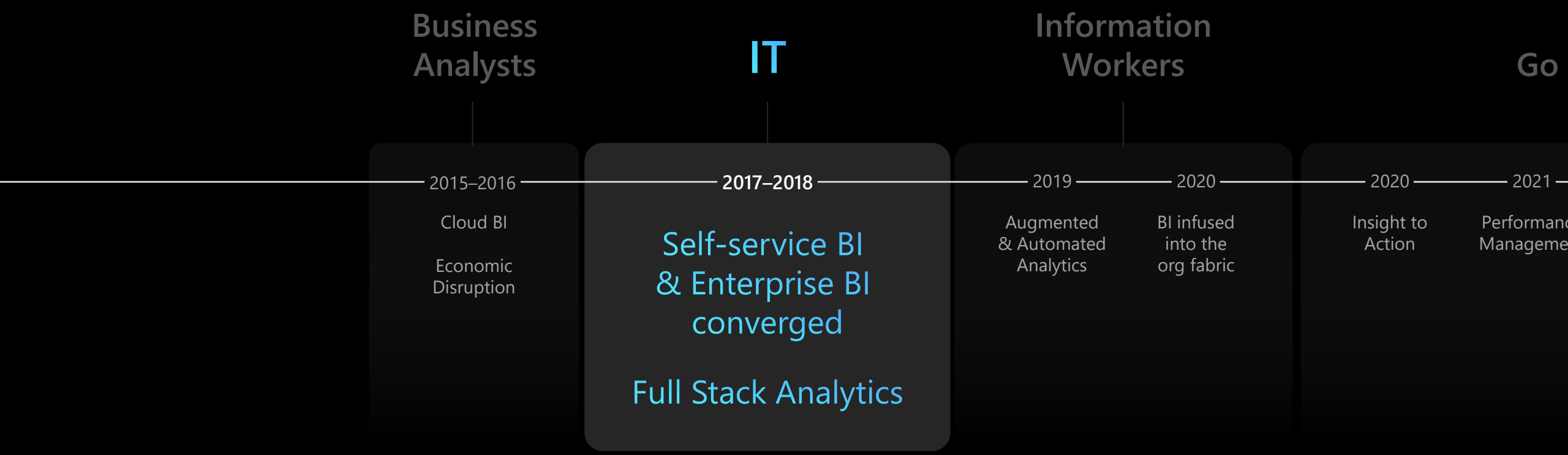
2017 — **Premium Capacity**
$5,000/P1

2021 — **Premium Per User**
$20/user

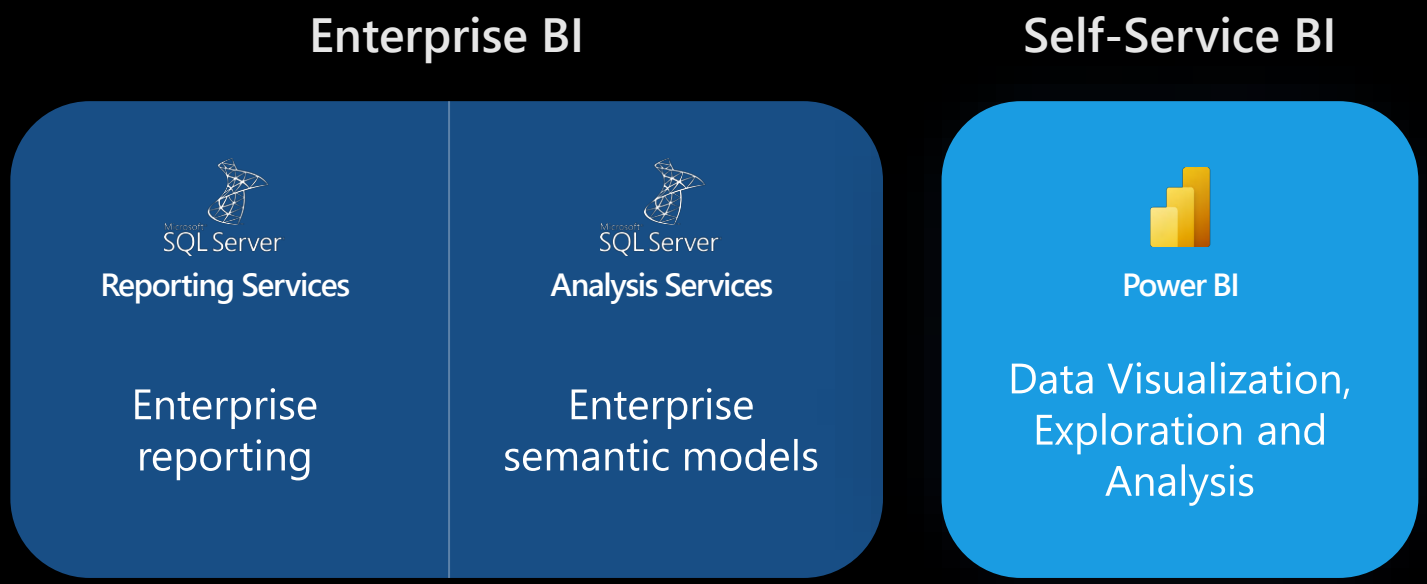
Power BI journey



Power BI journey

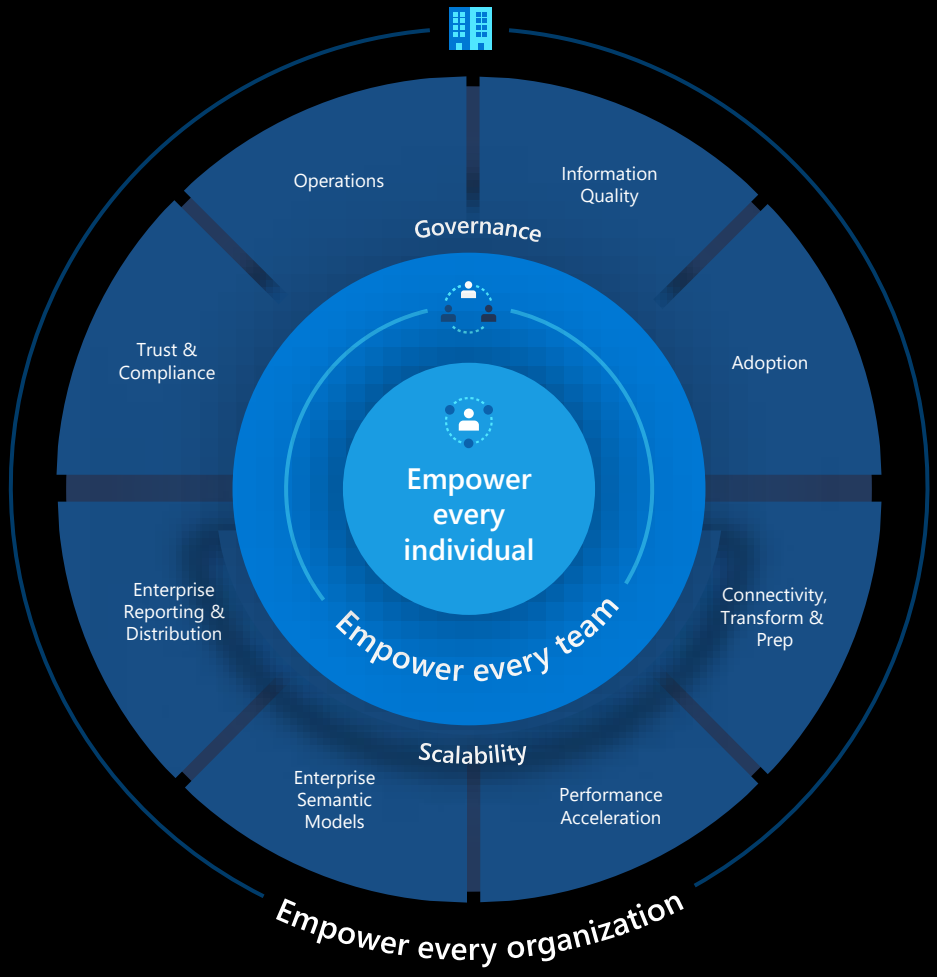


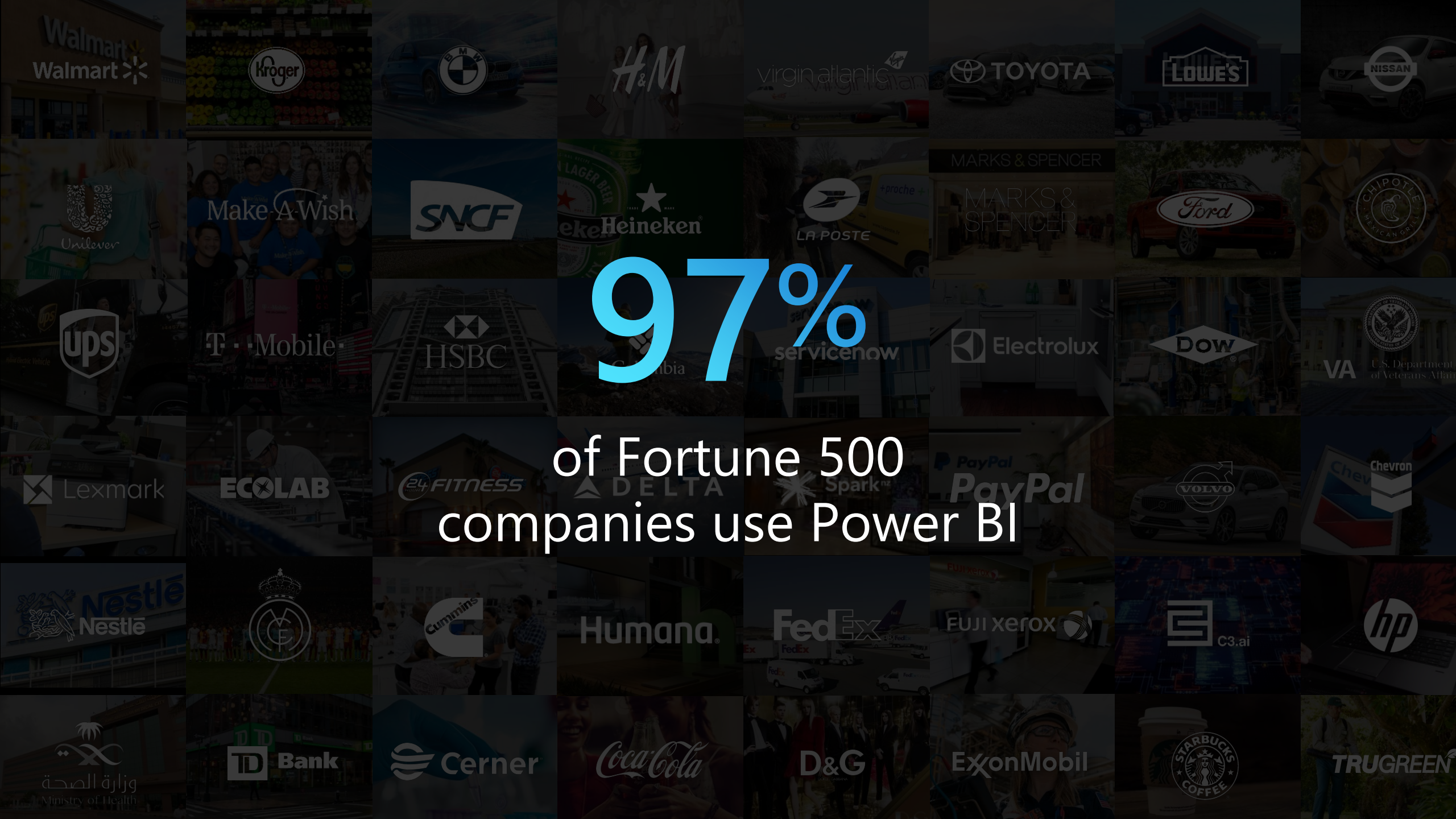
Enterprise & Self-Service Converged



Enterprise & Self-Service Converged

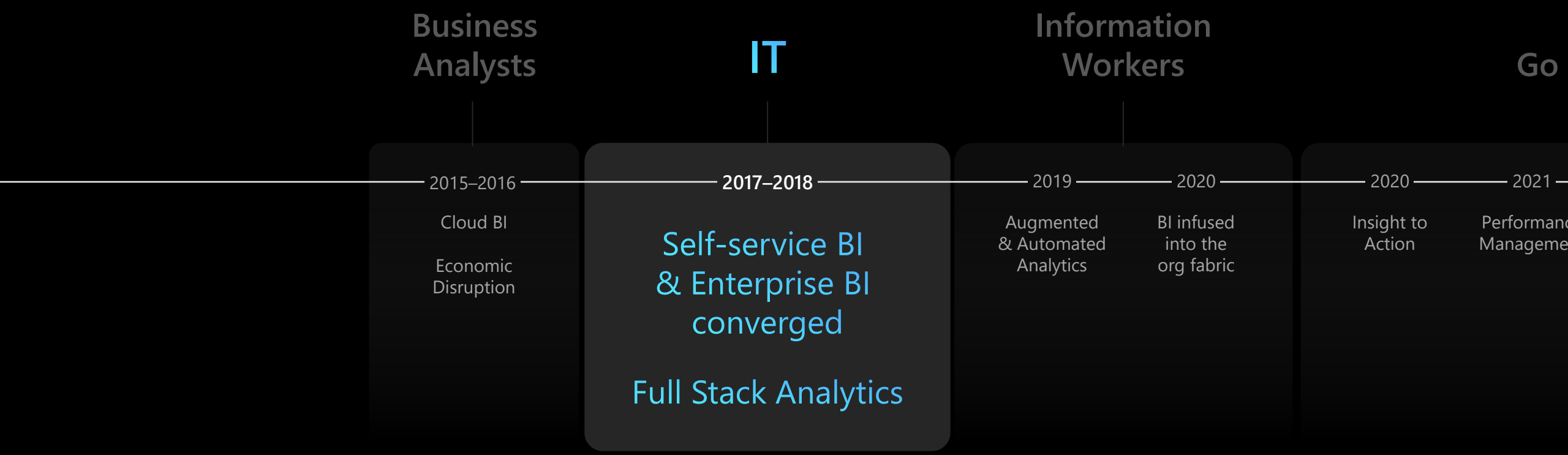
Enterprise & Self-Service Converged




97%
of Fortune 500
companies use Power BI

The world's
largest organizations are
standardizing on Power BI

Power BI journey



Power BI journey

Business Analysts

IT

Information Workers

Go Beyond

2015–2016

Cloud BI

Economic Disruption

2017–2018

Self-service BI & Enterprise BI converged

Full Stack Analytics

2019

Augmented & Automated Analytics

2020

BI infused into the org fabric

2020

Insight to Action

2021

Performance Management

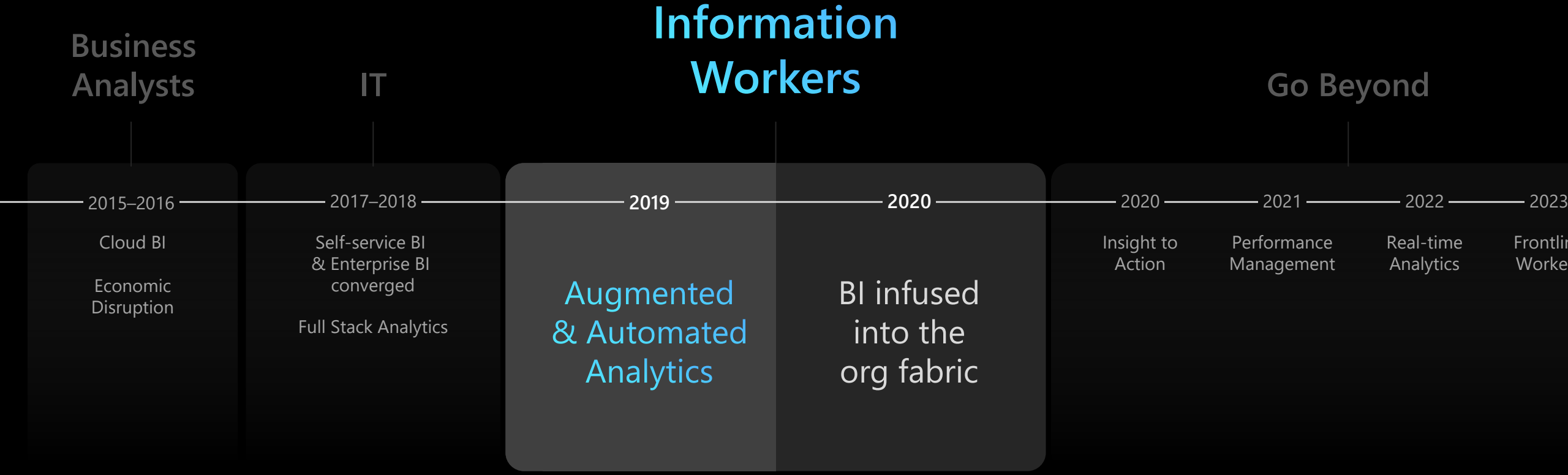
2022

Real-time Analytics

2023

Frontli
Worke

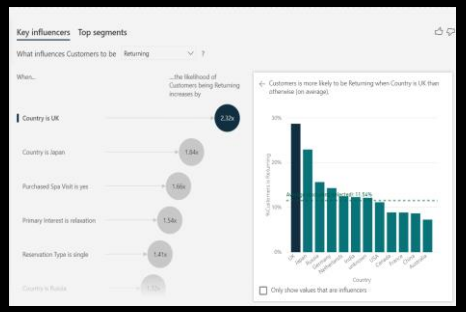
Power BI journey



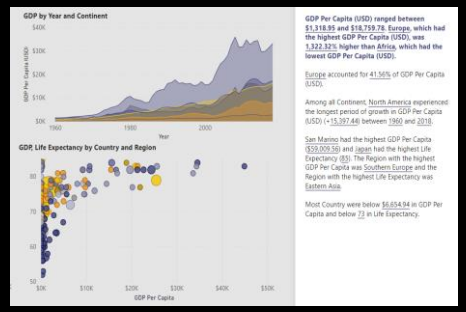
The Most Complete AI Capabilities in a BI Product

Information Workers

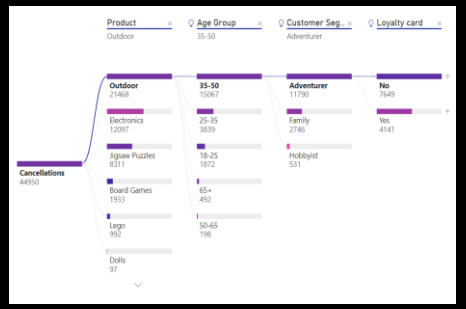
Key Driver Analysis



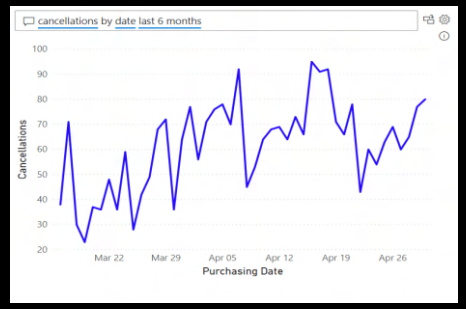
Smart Narratives



Root Cause Analysis



Q&A



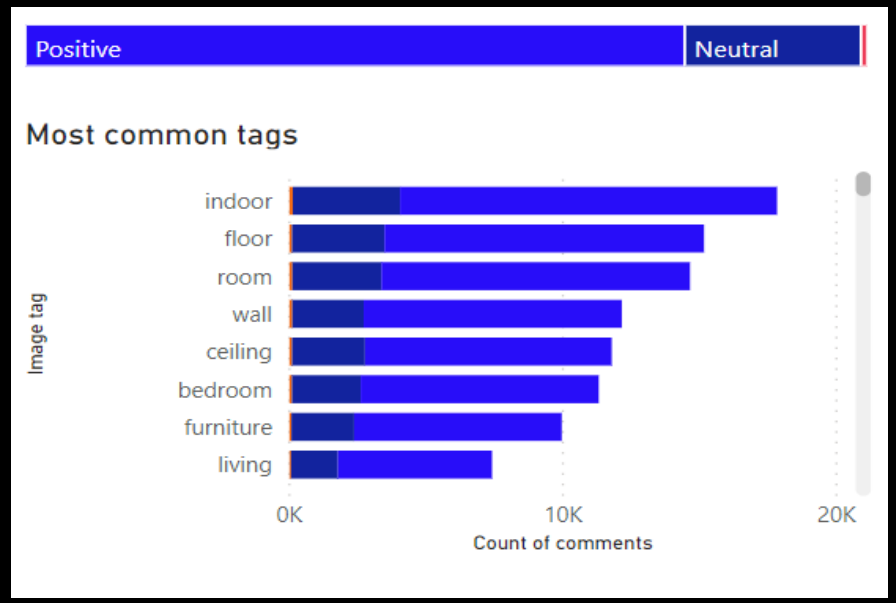
The Most Complete AI Capabilities in a BI Product

Business Analysts

Sentiment Analysis

Sentiment Score	Title
0.75	Great room. Loved the pool and view.
1.00	disappointing
0.79	will be returning to Grand Kailua again!
0.94	Nice Condo, excellent location in Kona, HI
0.03	Outdated, dirty unit in good location.
0.06	Filthiest place I have ever stayed
0.94	condition of room--VERY DISAPPOINTING !!!
0.71	Nice hotel that is walking distance to everything
0.99	Reasonable beach condo - well located
0.88	Great Location for ocean sunset views
0.97	Nice hotel on the beach
0.78	best location in kailua kona.
0.98	SCAM! DO NOT STAY HERE!
0.80	Nice hotel close to the beach. Spacious livingroom
0.12	Avoid at all cost
0.93	Great location adn condo building

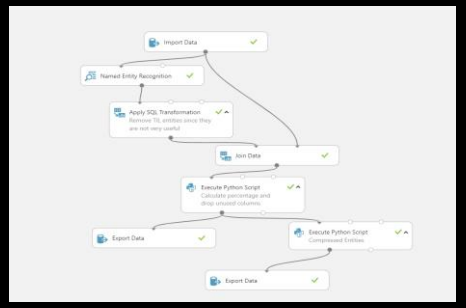
Key Phrase Extraction



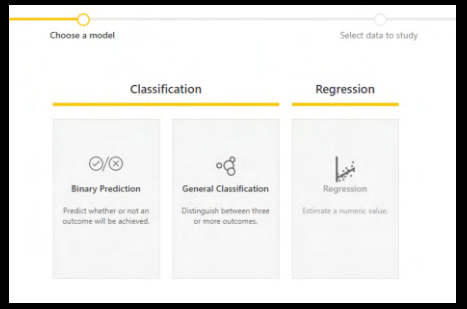
The Most Complete AI Capabilities in a BI Product

Data Scientists

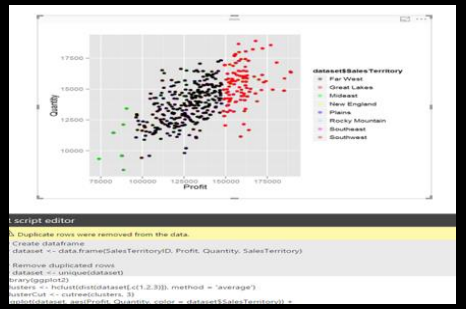
Extend with Azure ML



Create ML models

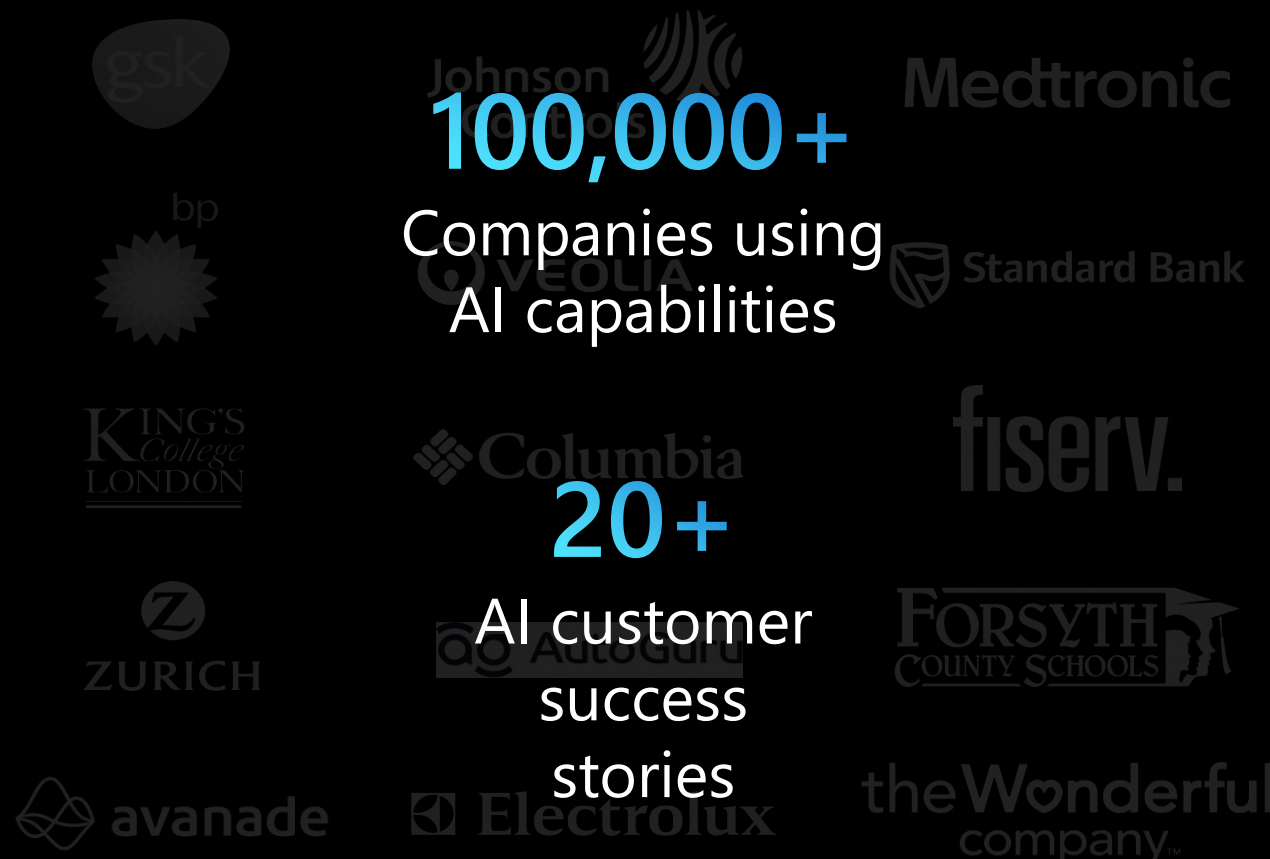


Python & R Integration



Explore Predictions

Strong adoption for AI



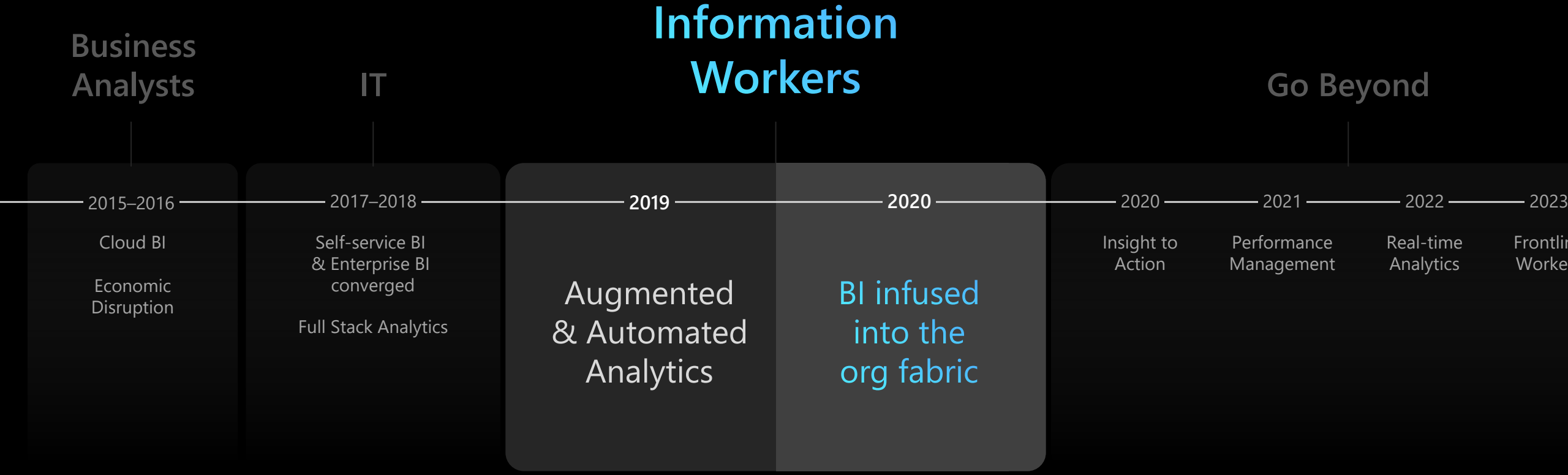
100,000+

Companies using AI capabilities

20+

AI customer success stories

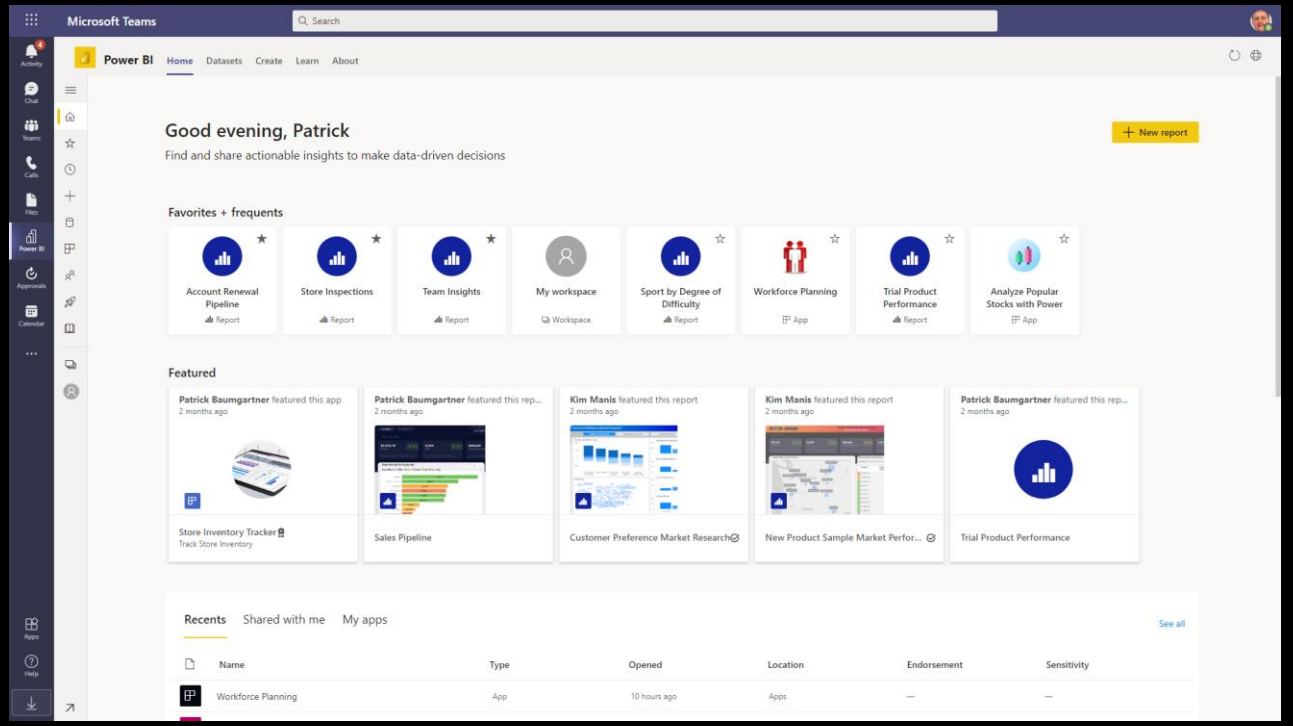
Power BI journey



Power BI + Teams

Your data is where you collaborate

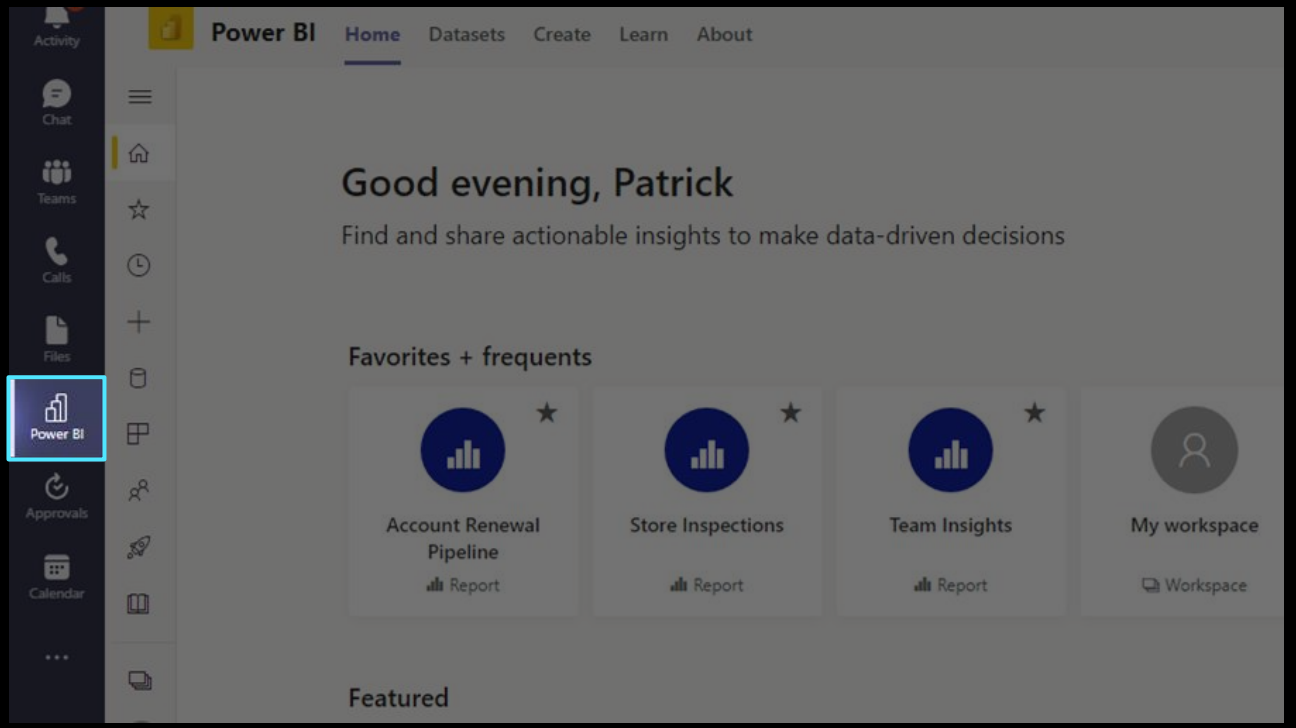
As fundamental as “chat”, “calendar” and “files”



Power BI + Teams

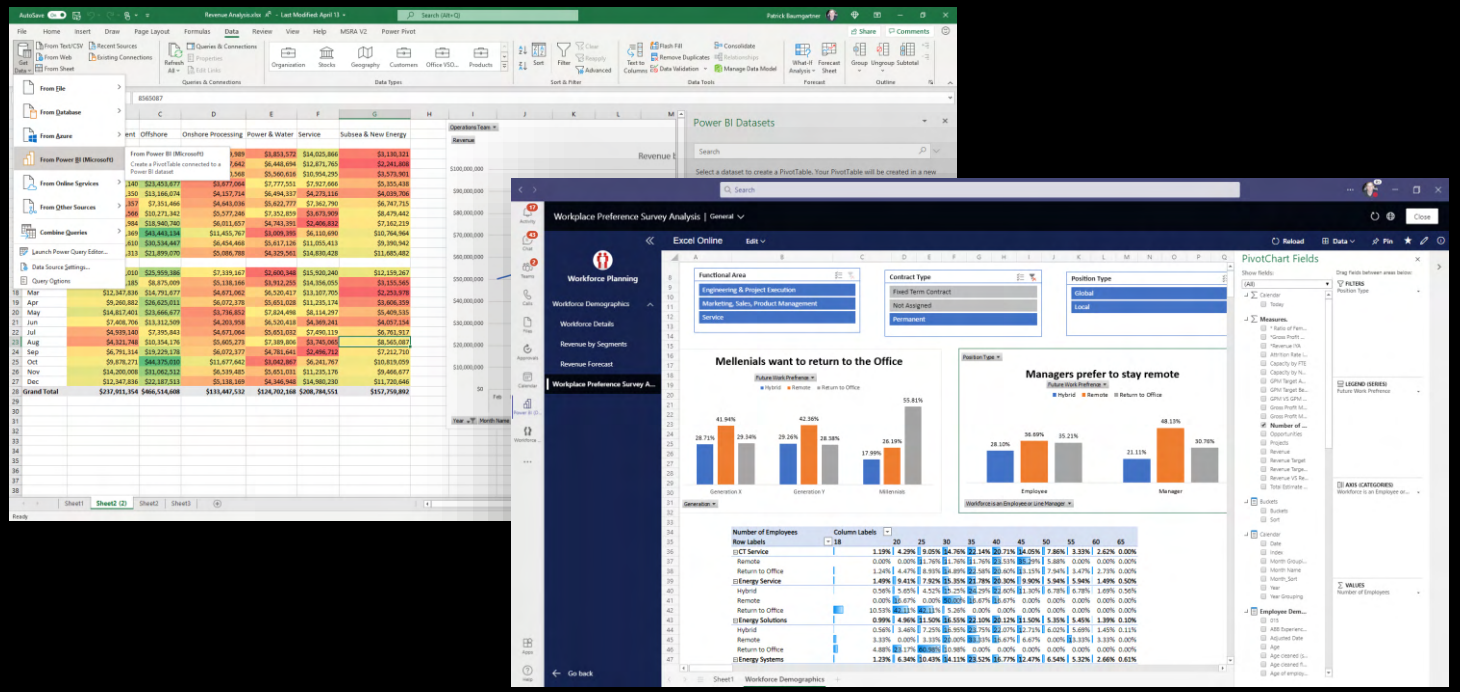
Your data is where you collaborate

As fundamental as “chat”, “calendar” and “files”



Power BI + Excel

Power BI Datasets in Excel



Excel integrated into Power BI

Power BI journey

Business Analysts

IT

Information Workers

Go Beyond

2015–2016

Cloud BI

Economic Disruption

2017–2018

Self-service BI & Enterprise BI converged

Full Stack Analytics

2019

Augmented & Automated Analytics

2020

BI infused into the org fabric

2020

Insight to Action

2021

Performance Management

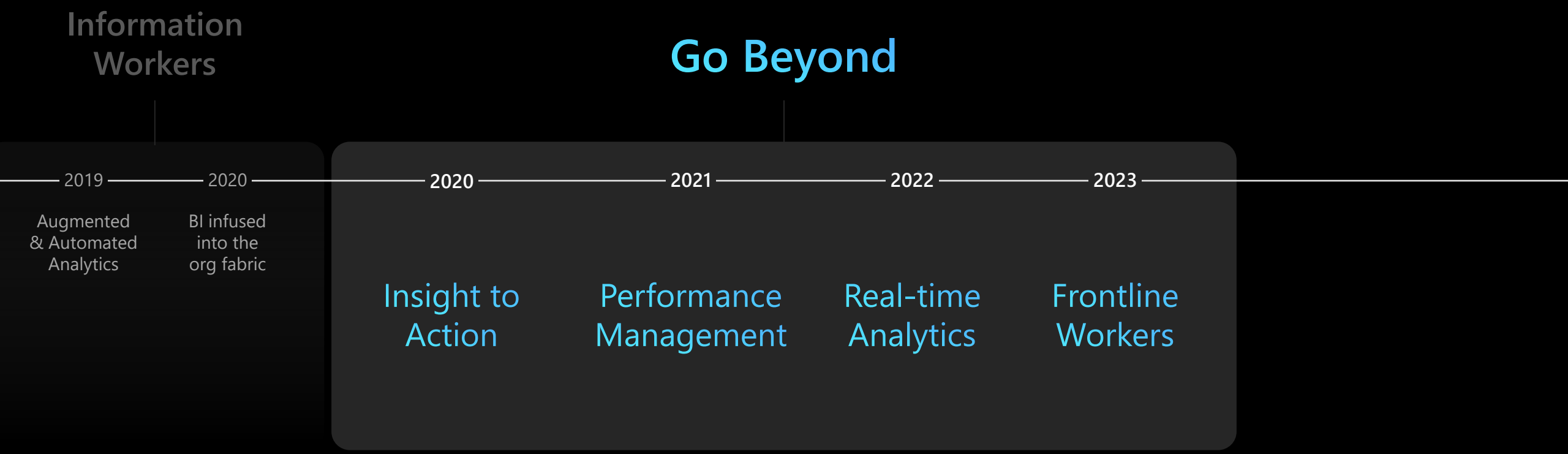
2022

Real-time Analytics

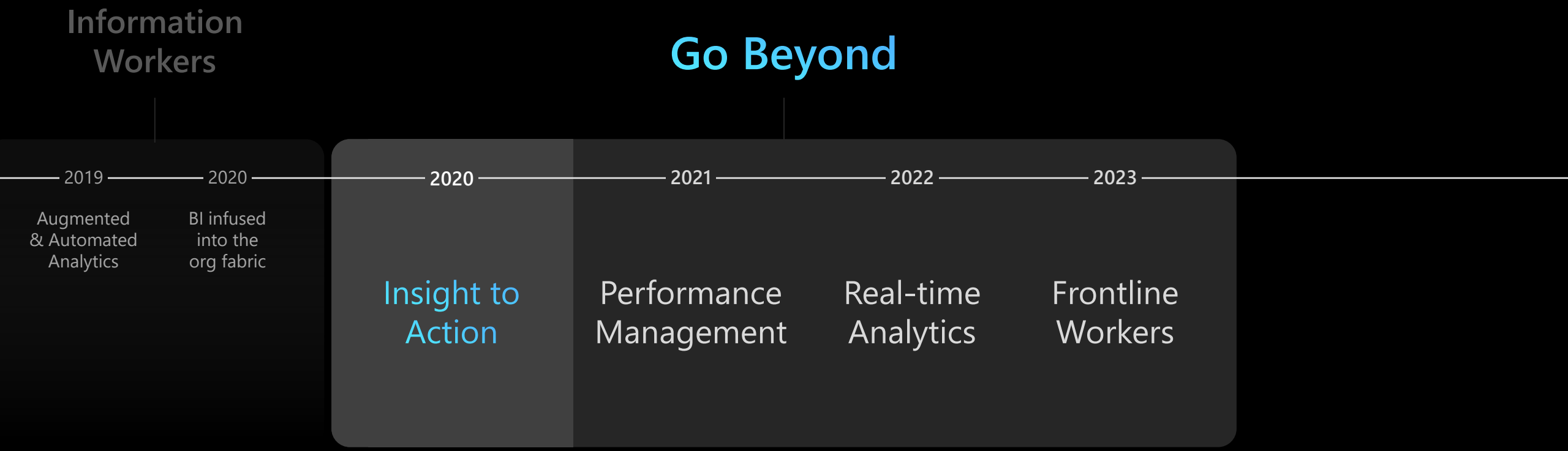
2023

Frontli
Worke

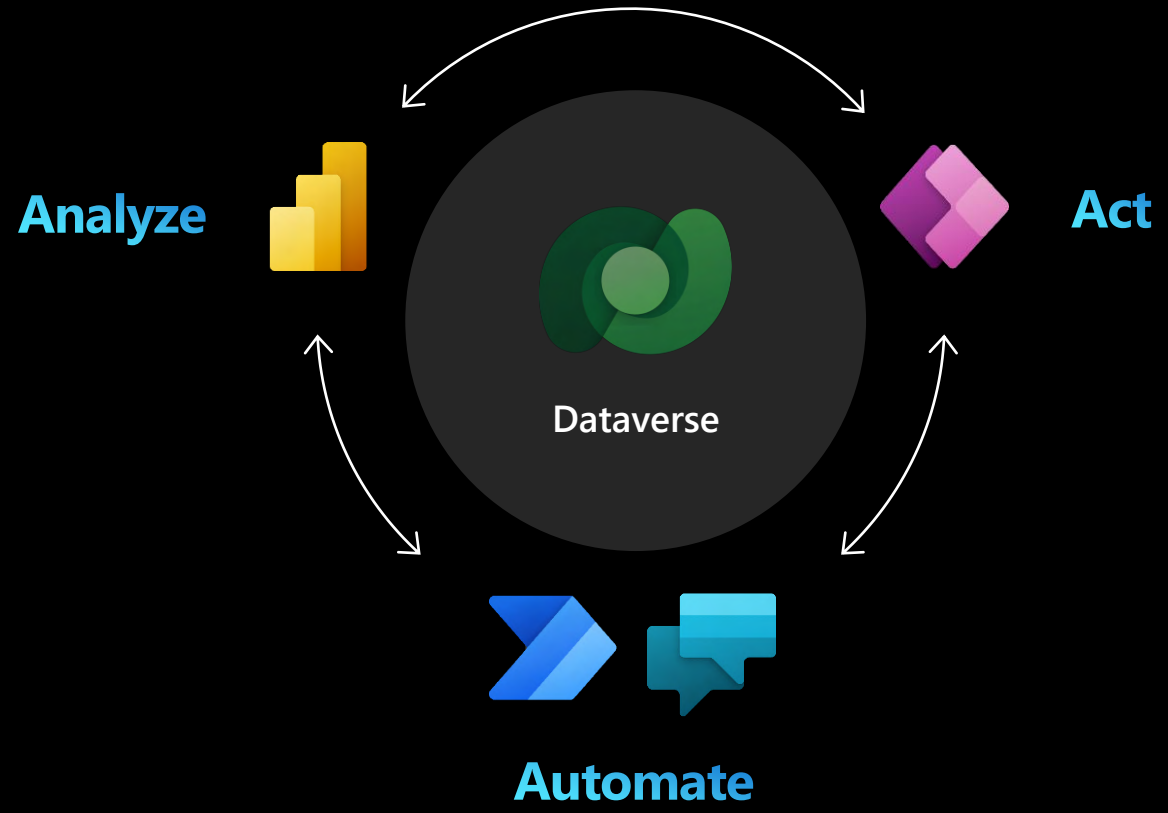
Power BI journey



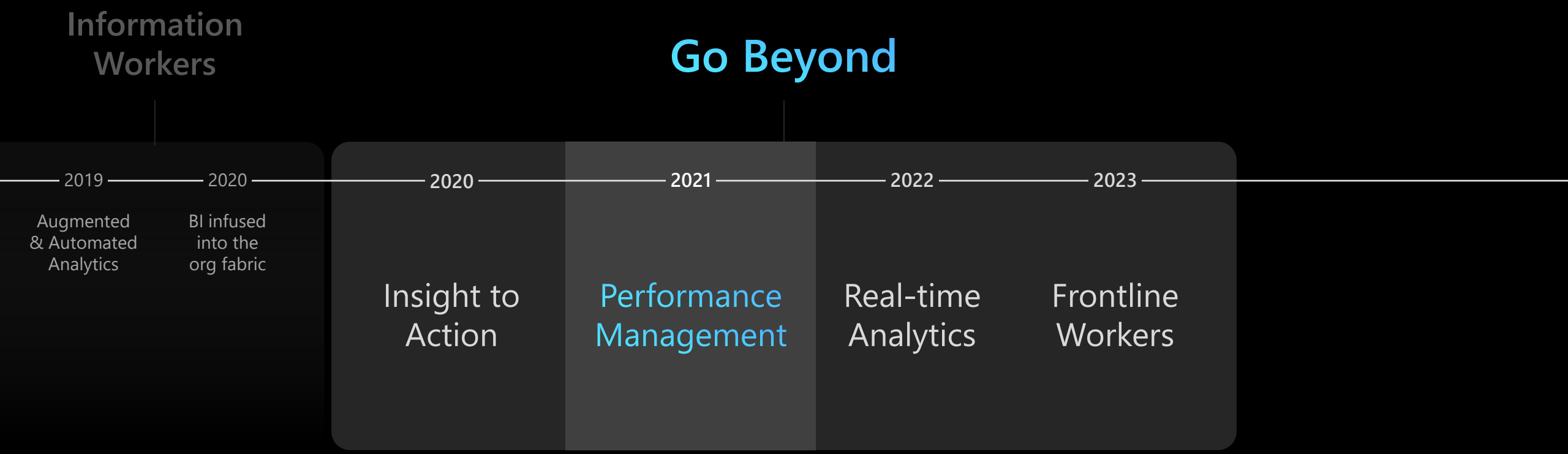
Power BI journey



From insight to action through the Power Platform

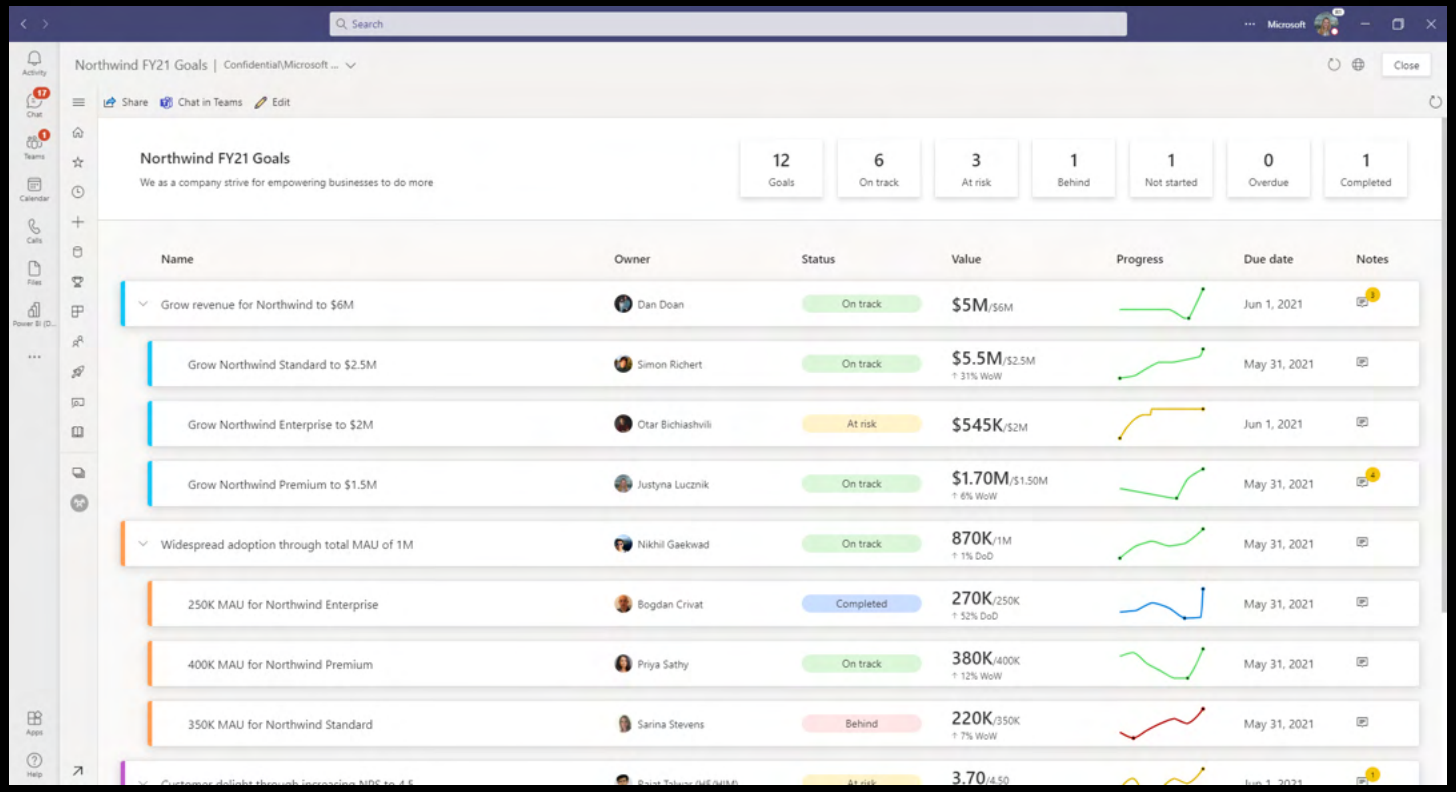


Power BI journey



NEW

Goals in Power BI



NEW

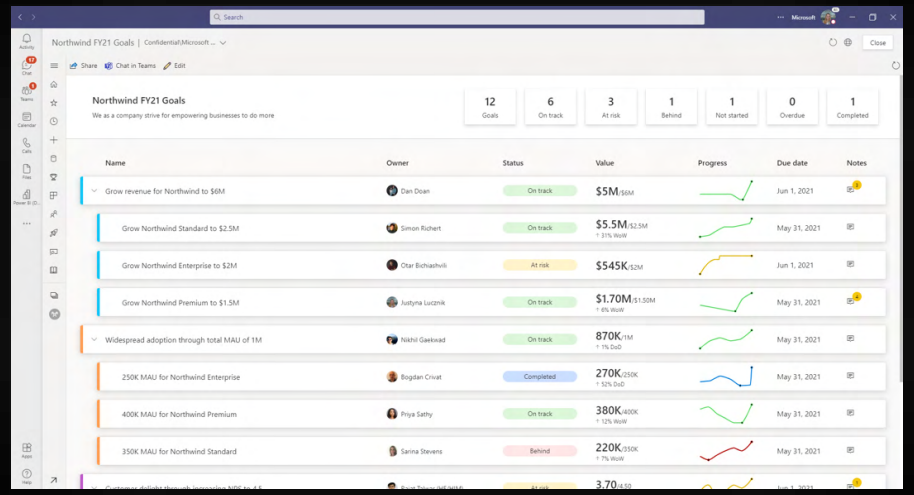
Goals in Power BI

Driven by data

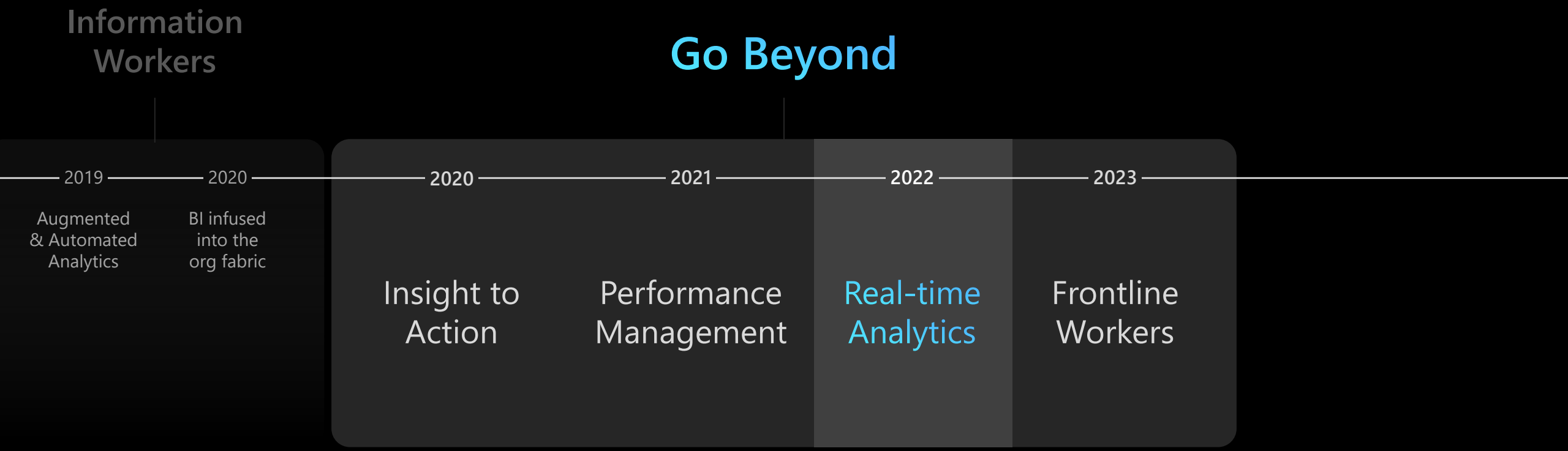
Built for teams

AI powered

Automated action

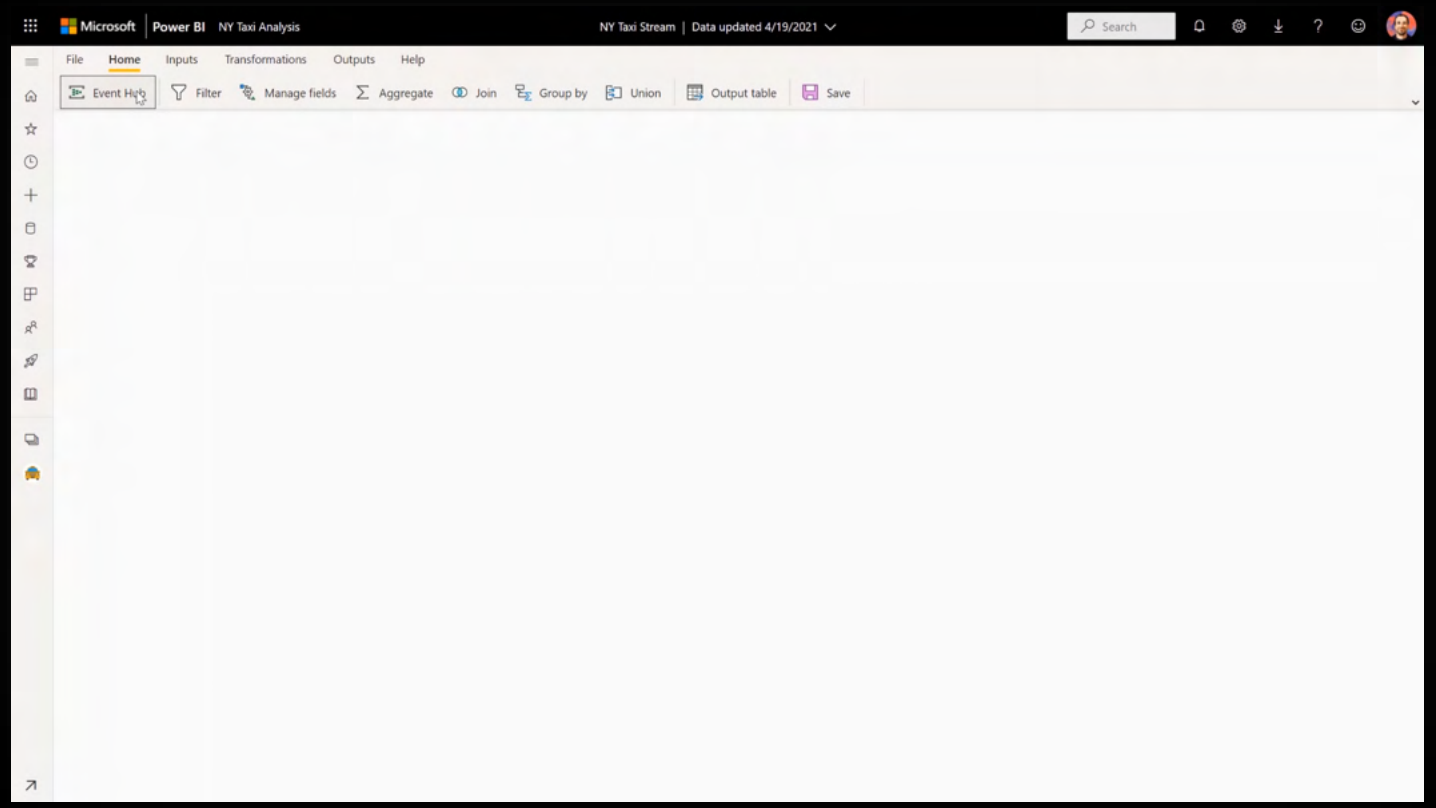


Power BI journey

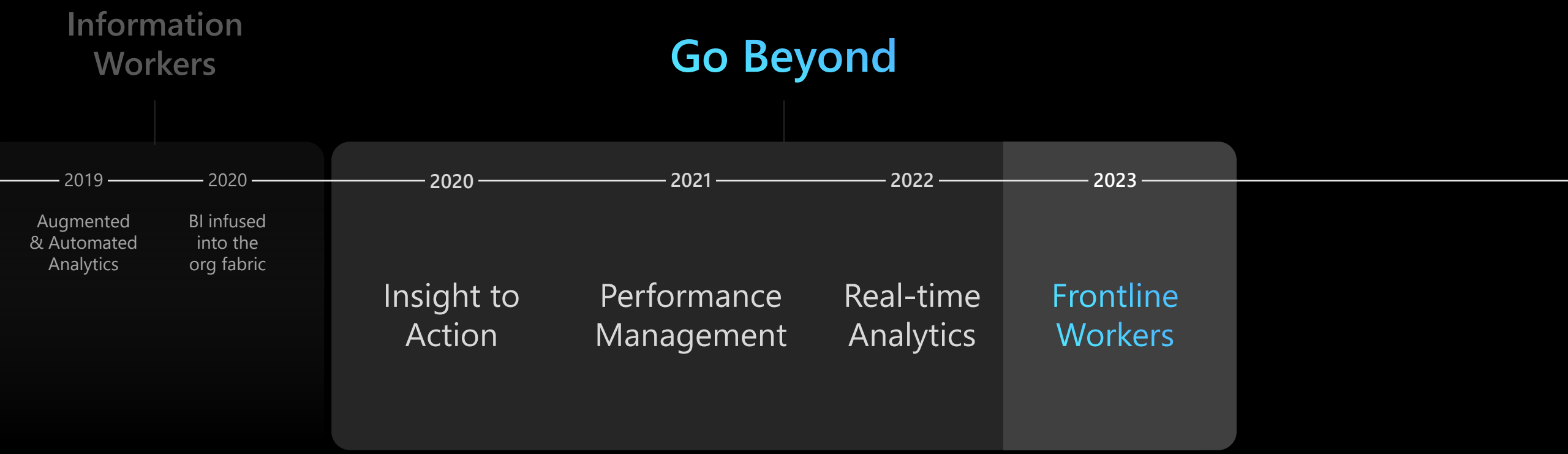


LATER THIS YEAR

Power BI Streaming Dataflows



Power BI journey



#1 in Mobile

4.7 Apple™ App Store

4.8 Google™ Play

50X >reviews than all others combined

Power BI in the real world

HoloLens 2

Today's Speaker Panel

Chad Wahlquist

Director of Data Strategy and Technology

Chad has 13 years of experience in building large-scale enterprise systems

Chad leads teams focused on building modern analytics platforms to enable Tyson Foods in their transition to a data driven company.

Chad has a background in emerging technologies from Blockchain to AI/ML and core analytics across the enterprise

@TysonFoods

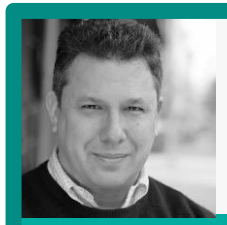
Arun Ulag

Corporate VP, BI Platform

As the Corporate Vice President of the Business Intelligence Platform at Microsoft, Arun leads all engineering and product management for Microsoft's BI product portfolio. This includes Power BI, Azure Analysis Services, SQL Server Analysis Services, and SQL Server Reporting Services.

Previously,as General Manager, Arun ran Microsoft's APAC Cloud & Enterprise Division.

@arunulag



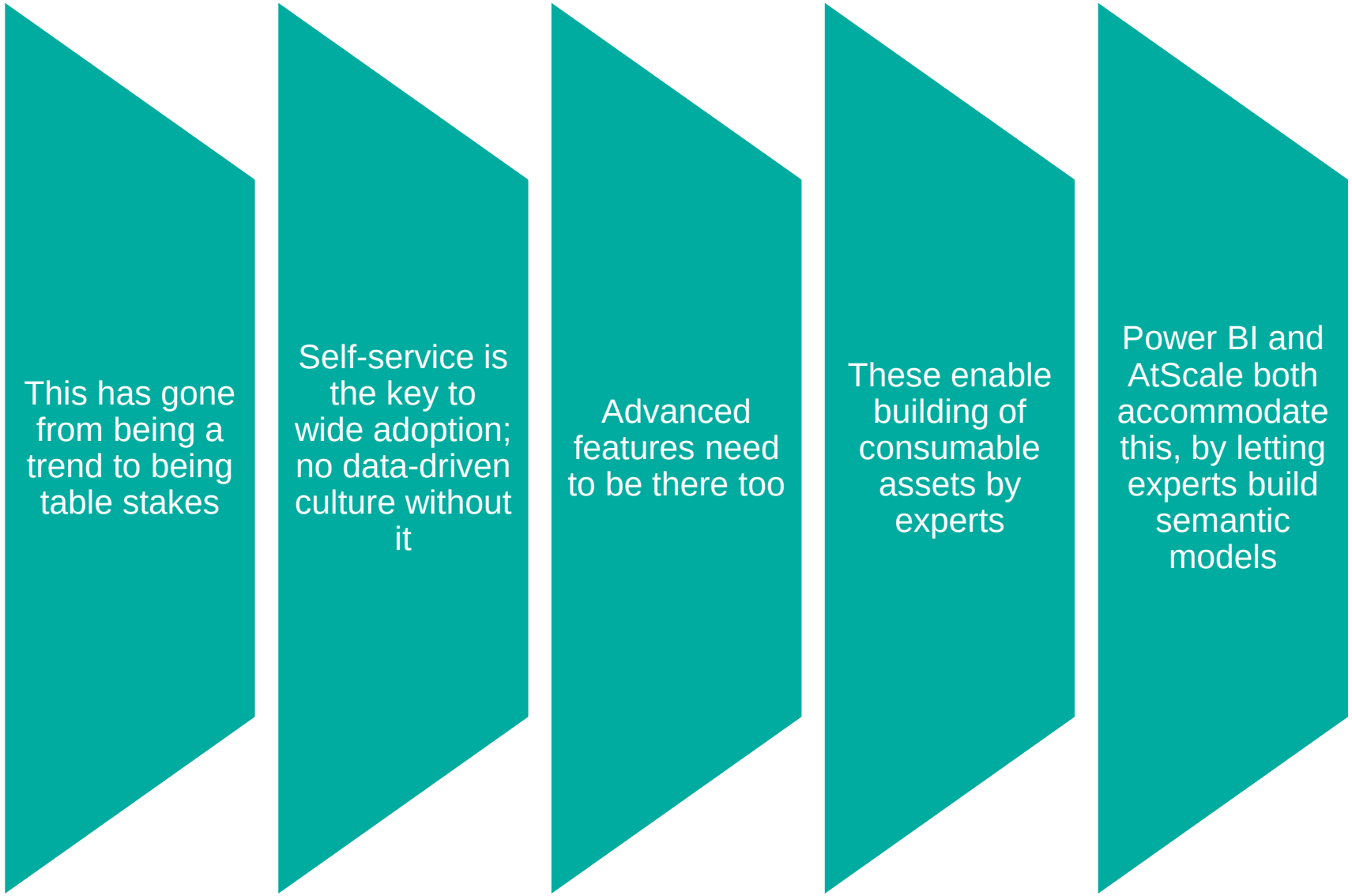
Andrew Brust

Research Director, Analytics, & Microsoft MVP

Andrew has held developer, CTO, analyst, research director and market strategist positions at a number of organizations. He has worked with small, medium and Fortune 1000 clients in numerous industries and with software companies ranging from small ISVs to large clients like Microsoft. Andrew's resulting understanding of technology, and the way customers use it, makes his market and product analyses relevant, credible and empathetic.

@andrewbrust

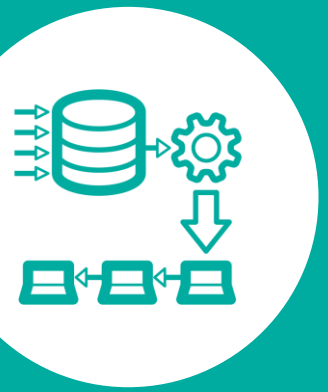
Self-Service Analytics



Data Literacy

- There are two elements to this: competency and evangelism/outreach
- Competency: everyone needs to be comfortable opening up data sets, doing some basic prep on them and visualizing them. Any intimidation factor here will be a blocker
- Evangelism/outreach: it's important to make data as discoverable and its analysis as enticing as possible.
- This requires education, internal marketing, incentives.
- It also requires data stewardship, curation and governance behind the scenes, to keep things safe and clean.

‘Data as Code’



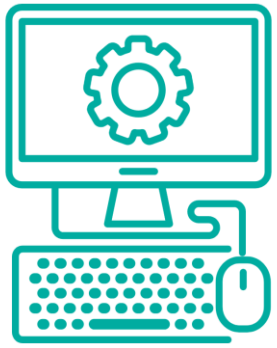
Data needs to be managed *operationally*, just as code has come to be

Version control, continuous integration, deployment

This also means changes in data must propagate to analytical models

Which means ROLAP/direct connect is often the way to go

‘DataOps’



There may be art involved in data work, but operational side is engineering

Ingest, transformation, and aggregation must kickoff in reliable workflows

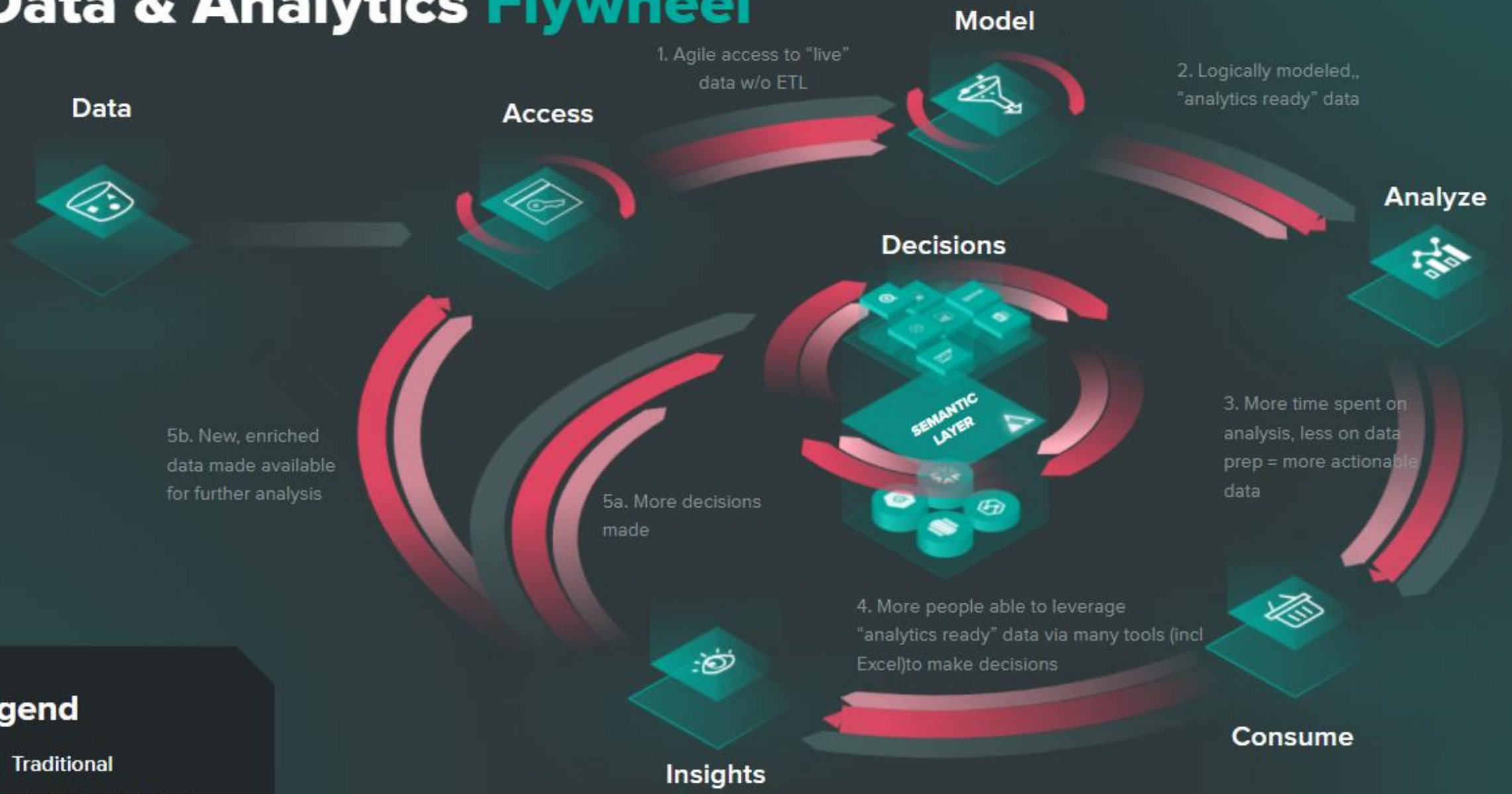
This goes for machine learning (data sets, experiments, models) too

Gives us DataOps and MLOps

DataOps is critical to data stewardship and curation

It’s the infrastructural support for self-service and data literacy/culture

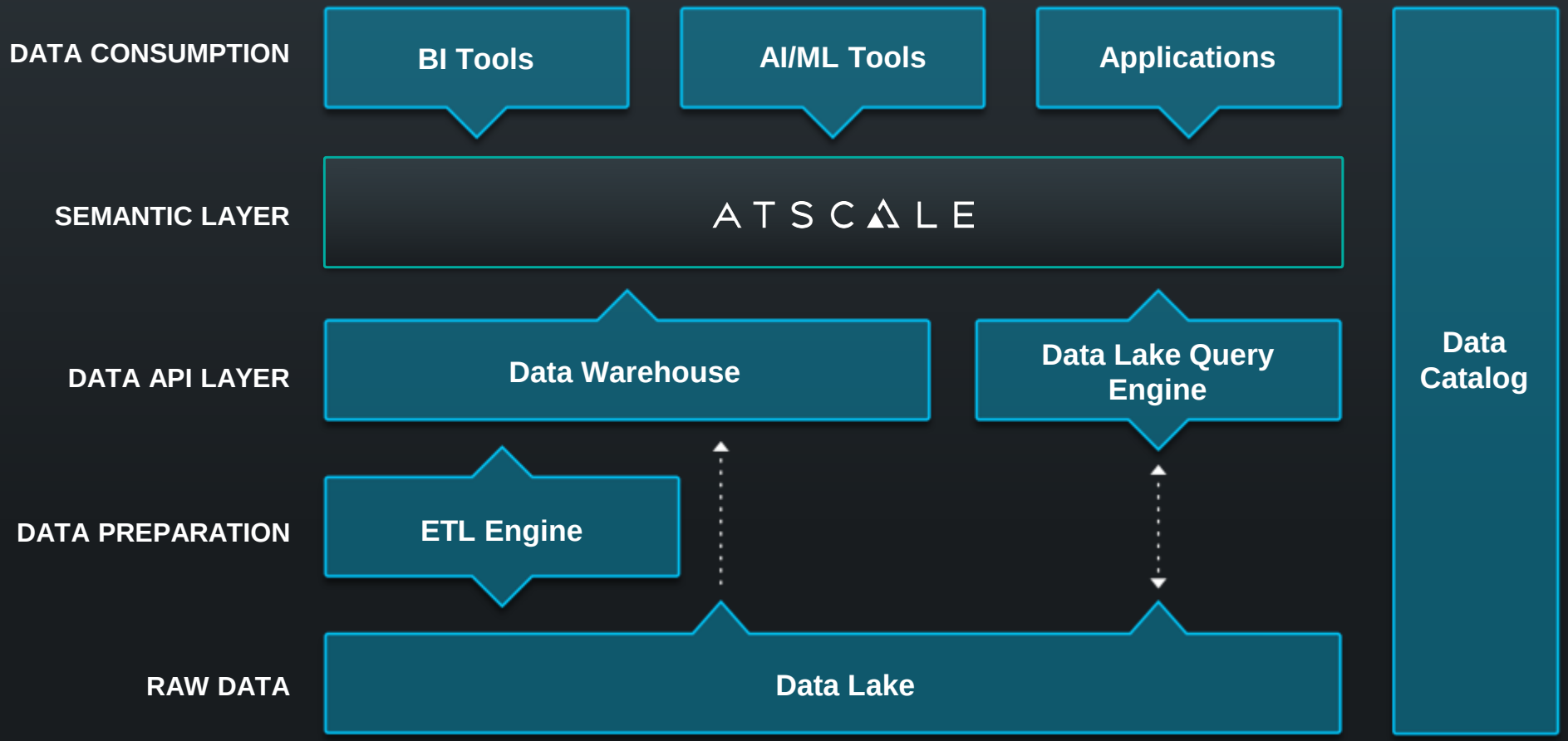
Data & Analytics Flywheel



Legend

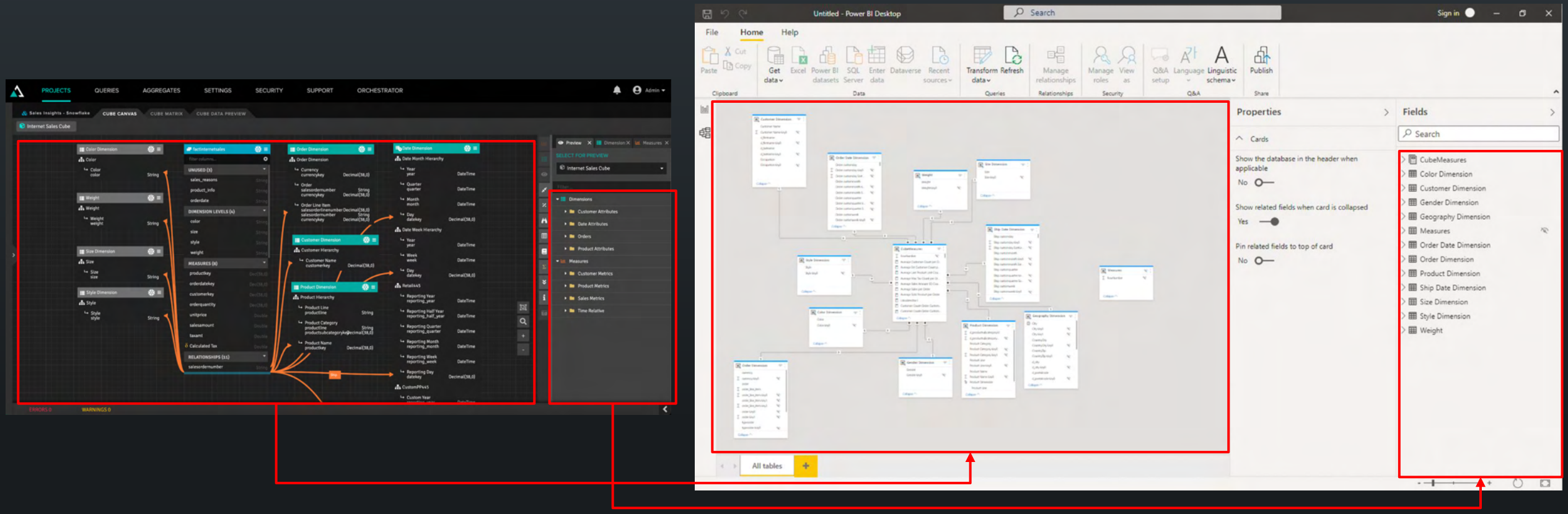
- Traditional
- w/ Semantic Layer

AtScale: *Where we fit.*



Power BI + AtScale: “Live” Connection to Big Data in the Cloud

AtScale + Power BI: One Model, One Semantic Layer



www.atscale.com

400 S El Camino Real, Ste 800, San Mateo, CA 94402