How to get started & utilize visual dashboards using Power BI

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Agenda

- Power BI Get → Transform → Model → Report
- Data + Analytics [BI + Analytics + Machine Learning]
- Modern Data Warehouse, Data Lake, Lakehouse
- Architecture for Analytics Projects or Use Cases
- Analytics Roles supported by Architecture
- Demo
- Hands-on Workshop
- Power BI, Data Warehouse, Data Lake, Lakehouse Resources

CITE Hands-on Workshop

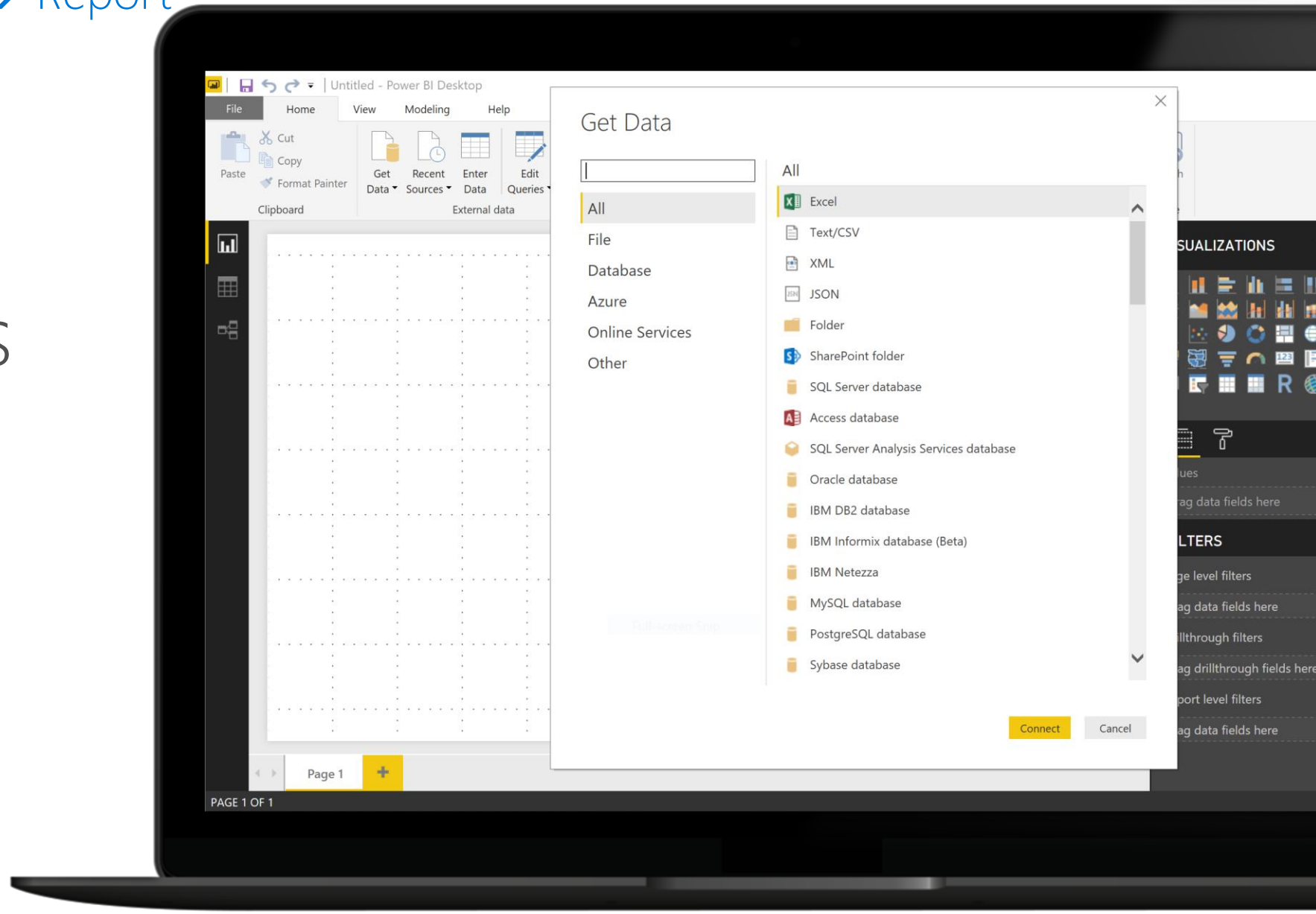
- Azure Lab Services – Not available after the session – Please download Power BI Desktop at https://powerbi.microsoft.com/en-us/desktop/
- GitHub Repo https://github.com/DataSnowman/CITE2021
- PowerBI.com https://powerbi.microsoft.com/en-us/

Get → Transform → Model → Report

Connect to all your data, wherever it lives

Over 80+ data sources and growing

In the cloud, on-premises, or both (hybrid)



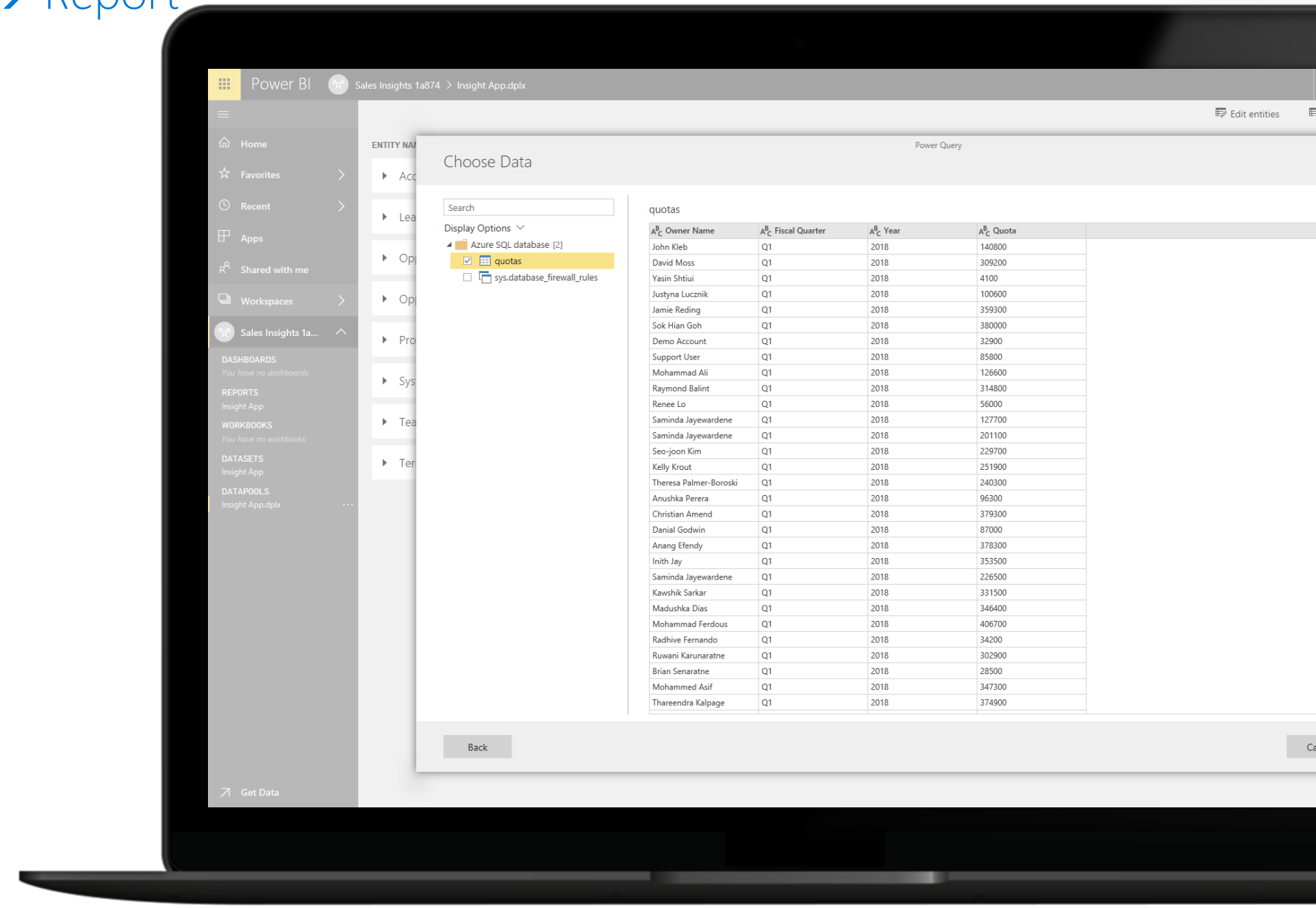
Get → Transform → Model → Report

Self-service prep for big data

Prep your data using the familiar Power Query experience

Get started quickly with a common data model

Unify access to data between Power BI and Azure Data Lake Storage



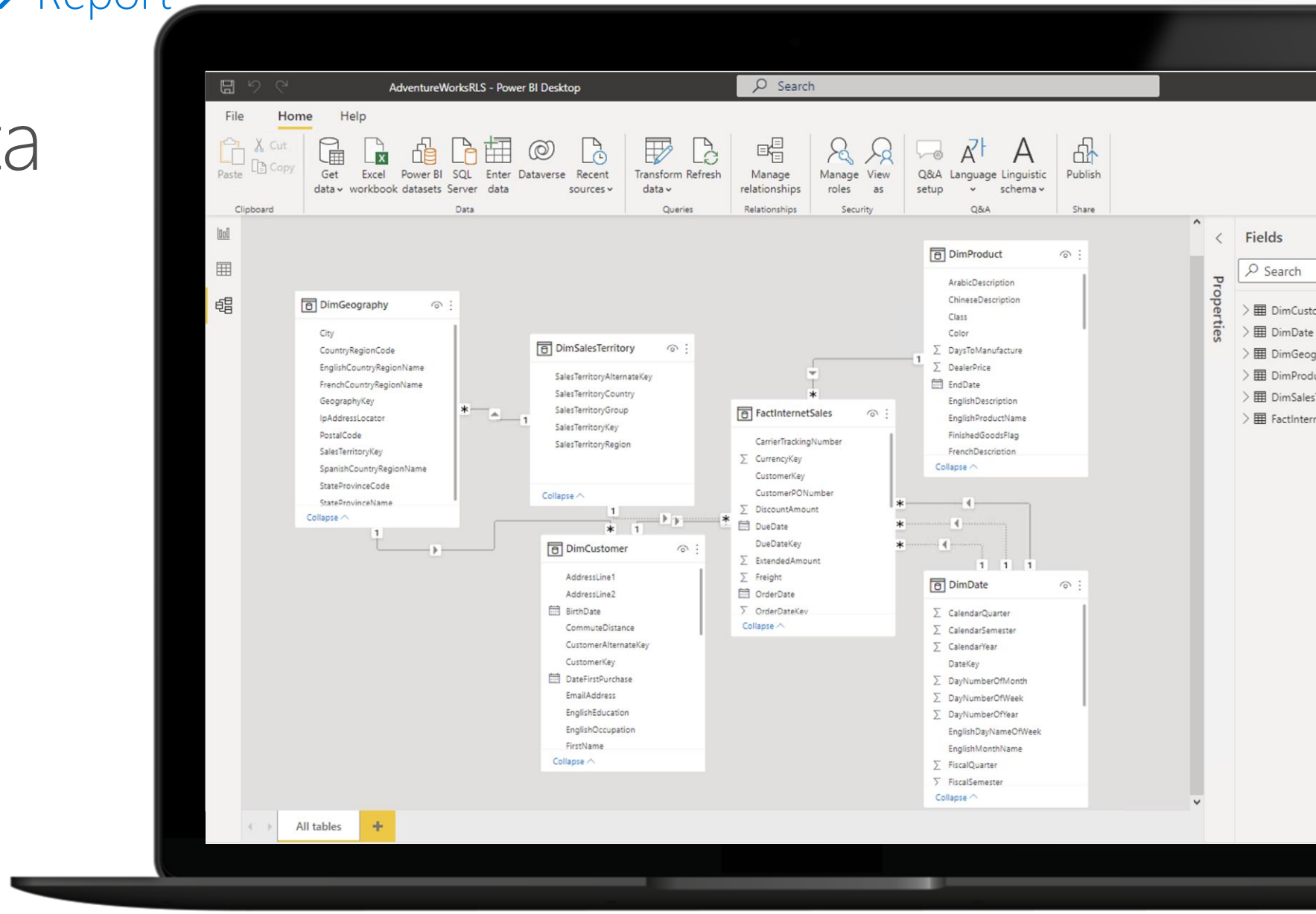
In preview

Get → Transform → Model → Report

Model your data

Manage relationships between tables

Manage roles for security



Get → Transform → Model → Report

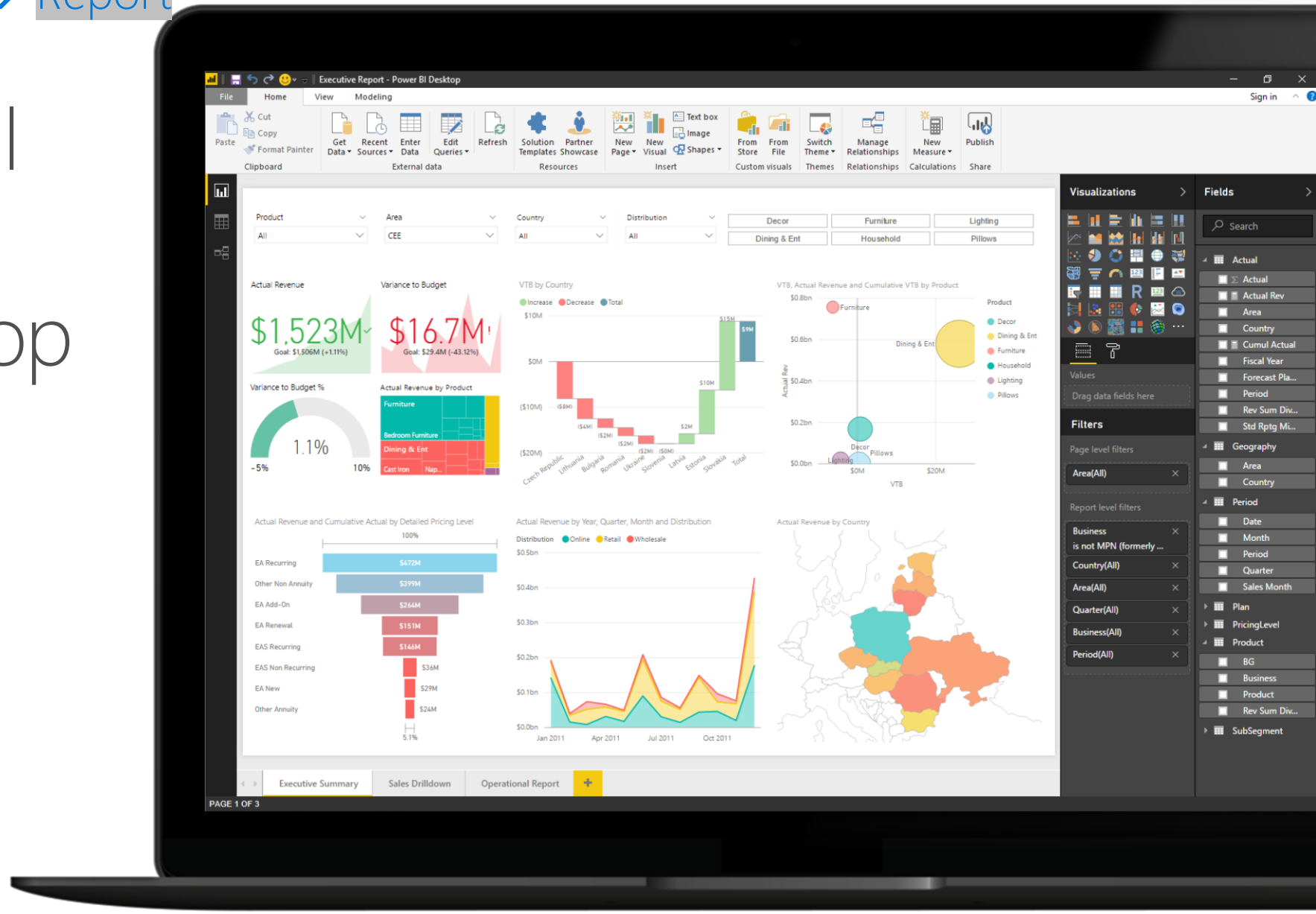
Create powerful reports with Power BI Desktop

Discovery & exploration

Easy report authoring

Custom visualizations

R integration

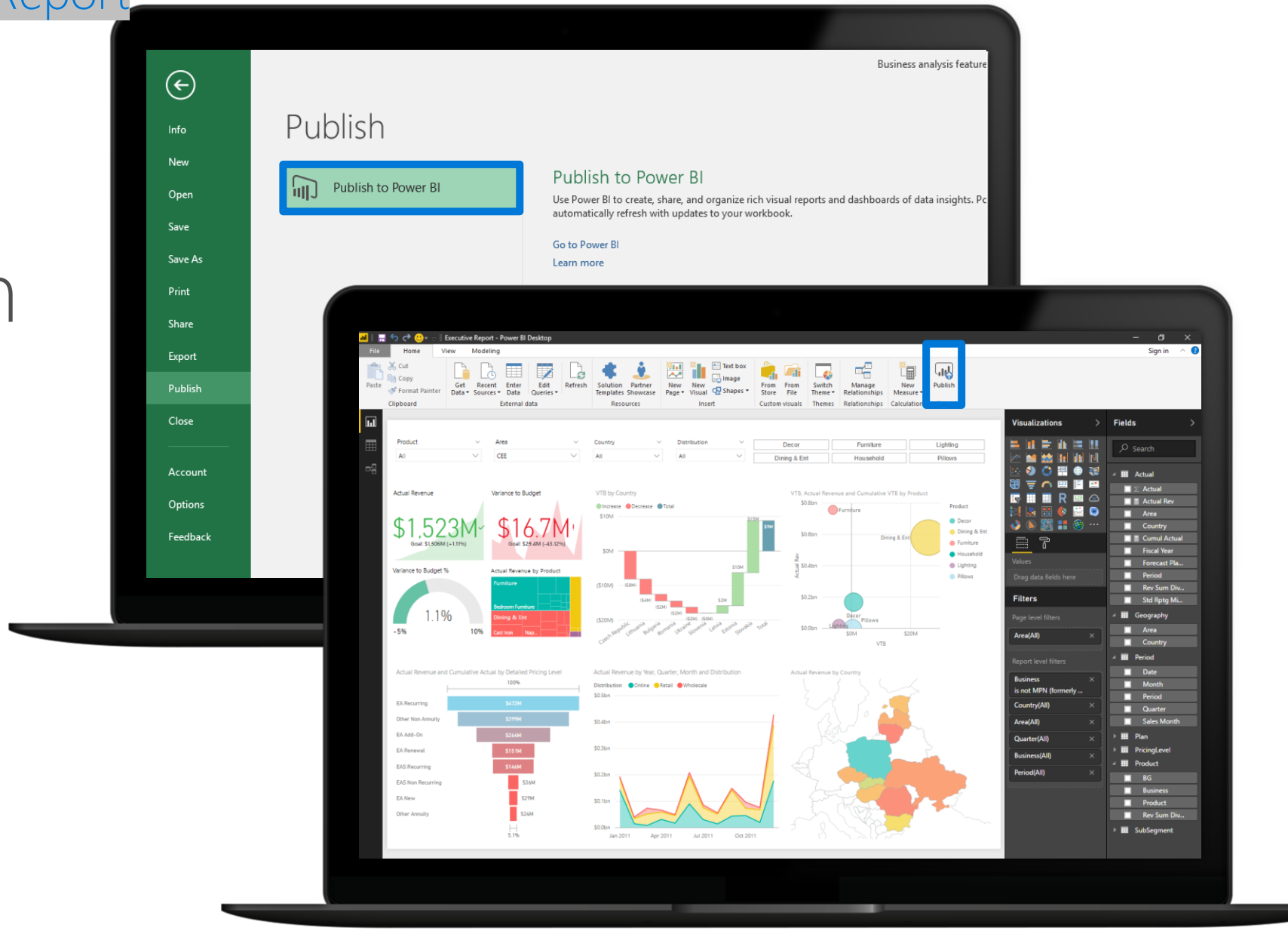


Get → Transform → Model → Report

One-click publish to Power BI

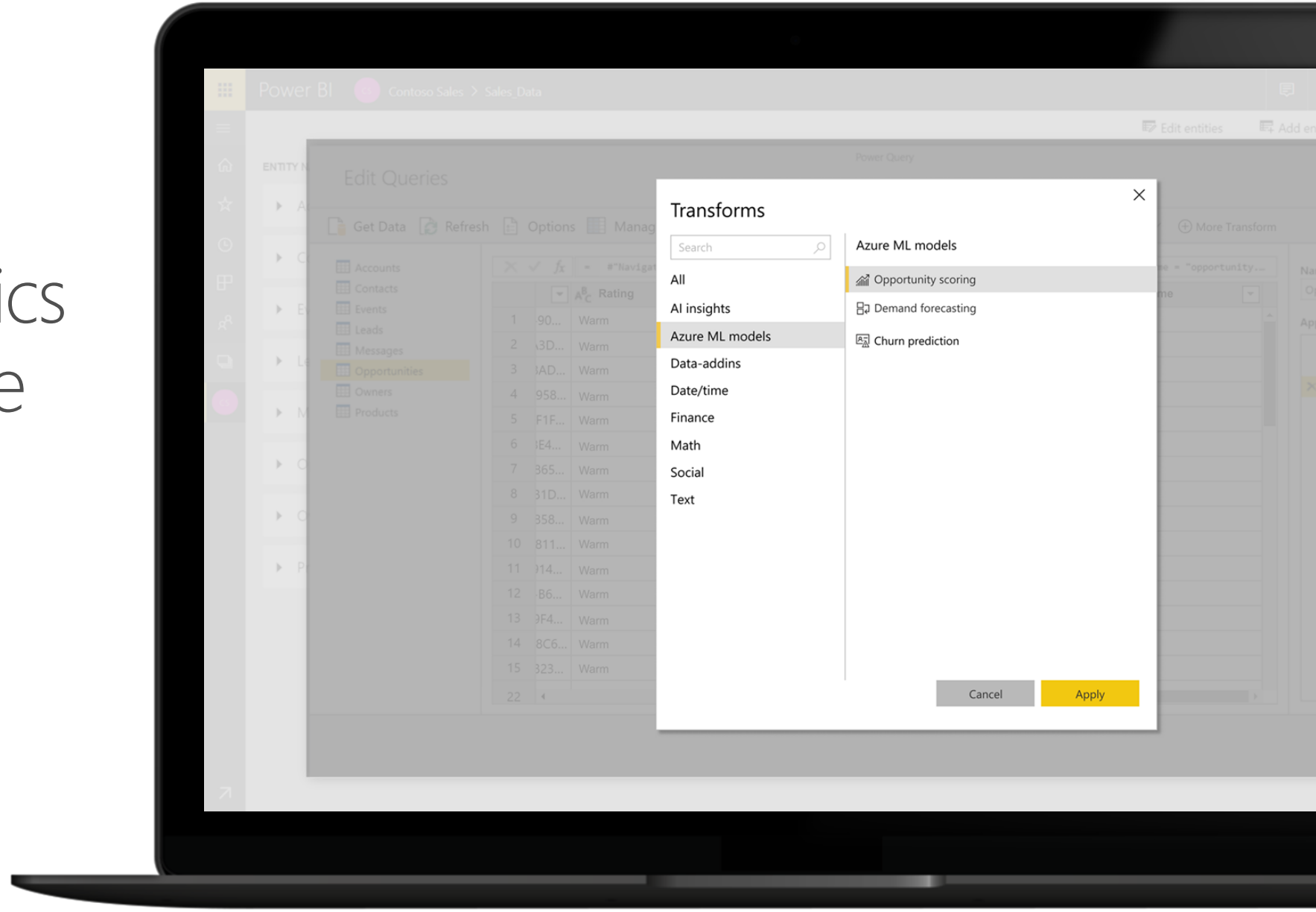
Power BI Desktop
Publish button on the ribbon

Excel
Publish to Power BI button



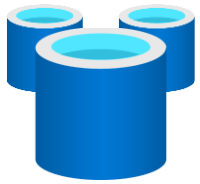
Advanced analytics and AI with Azure

Business analysts can benefit from the work of data scientists who build ML models in Azure



In preview

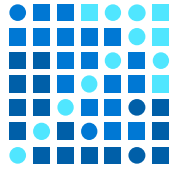
Data + Analytics



Relational

Non-relational

Data Warehouse



Big Data

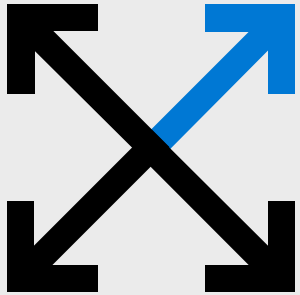
Data Lake
Lakehouse

Bring together the best of both worlds with the market-leading BI service and the industry-leading analytics platform

BI

Power BI can analyze and visualize massive volumes of data

Analytics



Azure Synapse Analytics provides a scalable platform to enable real-time BI

Machine learning

Azure Machine Learning natively integrates with Azure Synapse & Power BI to democratize AI across your business

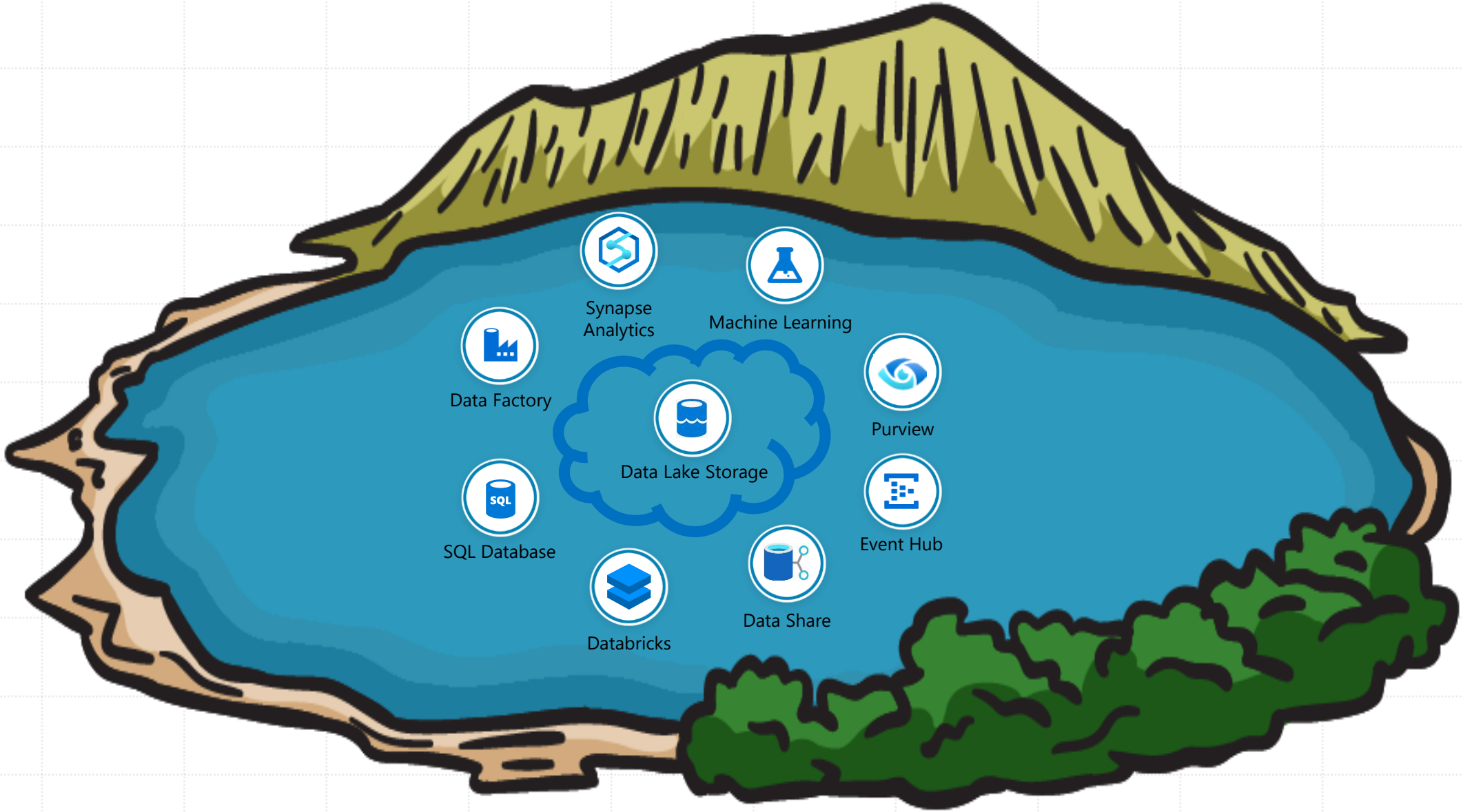
Modern Data Warehouse, Data Lake, Lakehouse

Spring, Summer, Fall, Winter... and Spring

2003 South Korean film directed by Kim Ki-duk

Characteristics

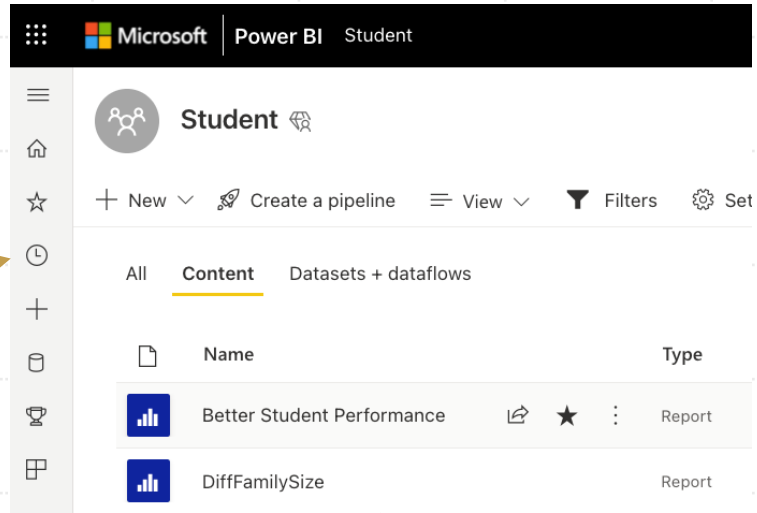
- Azure Data Lake Storage account(s)
- Project or Departmental use case
- Eclectic use of decoupled Azure Data Services
  - Azure Data Factory
  - Azure SQL Database
  - Azure Databricks (Lakehouse)
  - Azure Synapse Analytics
  - Azure Machine Learning
  - Azure Data Share
  - Azure Purview
  - Azure Event Hub


Synapse Analytics
Machine Learning
Data Factory
Purview
Data Lake Storage
SQL
SQL Database
Event Hub
Databricks
Data Share

Your On-premises Network

M365 Tenant

PowerBI.com Service



Your Network Data Stores

ORACLE

File Storage

Power Platform On-premises Data Gateway

Self-Hosted Integration Runtime

Azure Subscription

Your Desktop PC

Excel

Power BI Desktop

Azure Data Studio

Azure Storage Explorer

Azure Data Lake

Data Factory

SQL Database

Data Lake Storage

Azure Cloud Desktop

IaaS VM

Excel

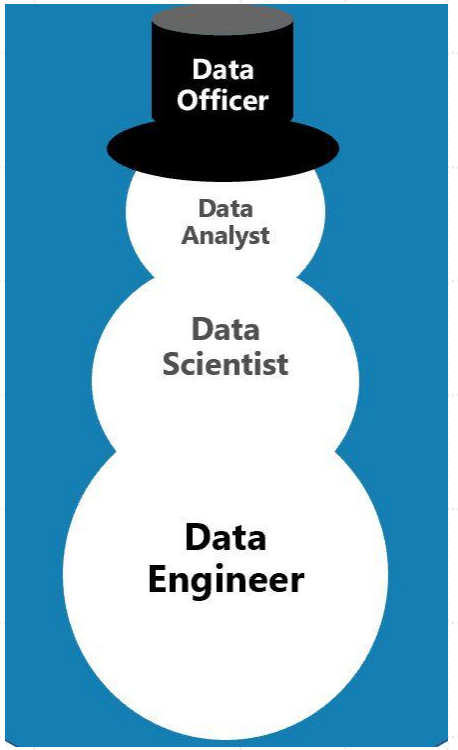
Power BI Desktop

Azure Data Studio

Azure Storage Explorer

Analytics Roles supported by Architecture

- Data Officers
- Data Analysts
- Data Scientists
- Data Engineers



DataSnowman

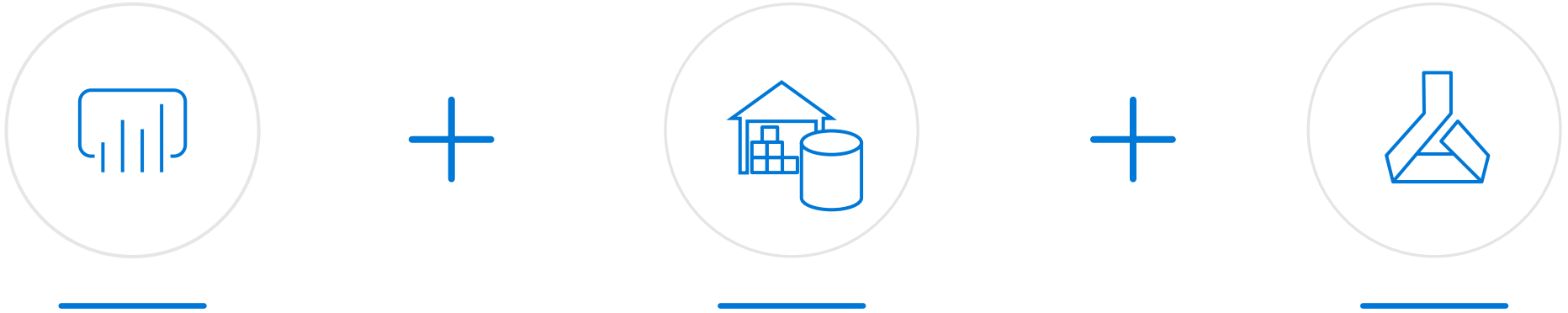
The average rainfall is 1,687 millimeters per year
Nearly $66^{1/2}$ inches

Snow Lake Washington

47°28′1″N 121°27′20″W

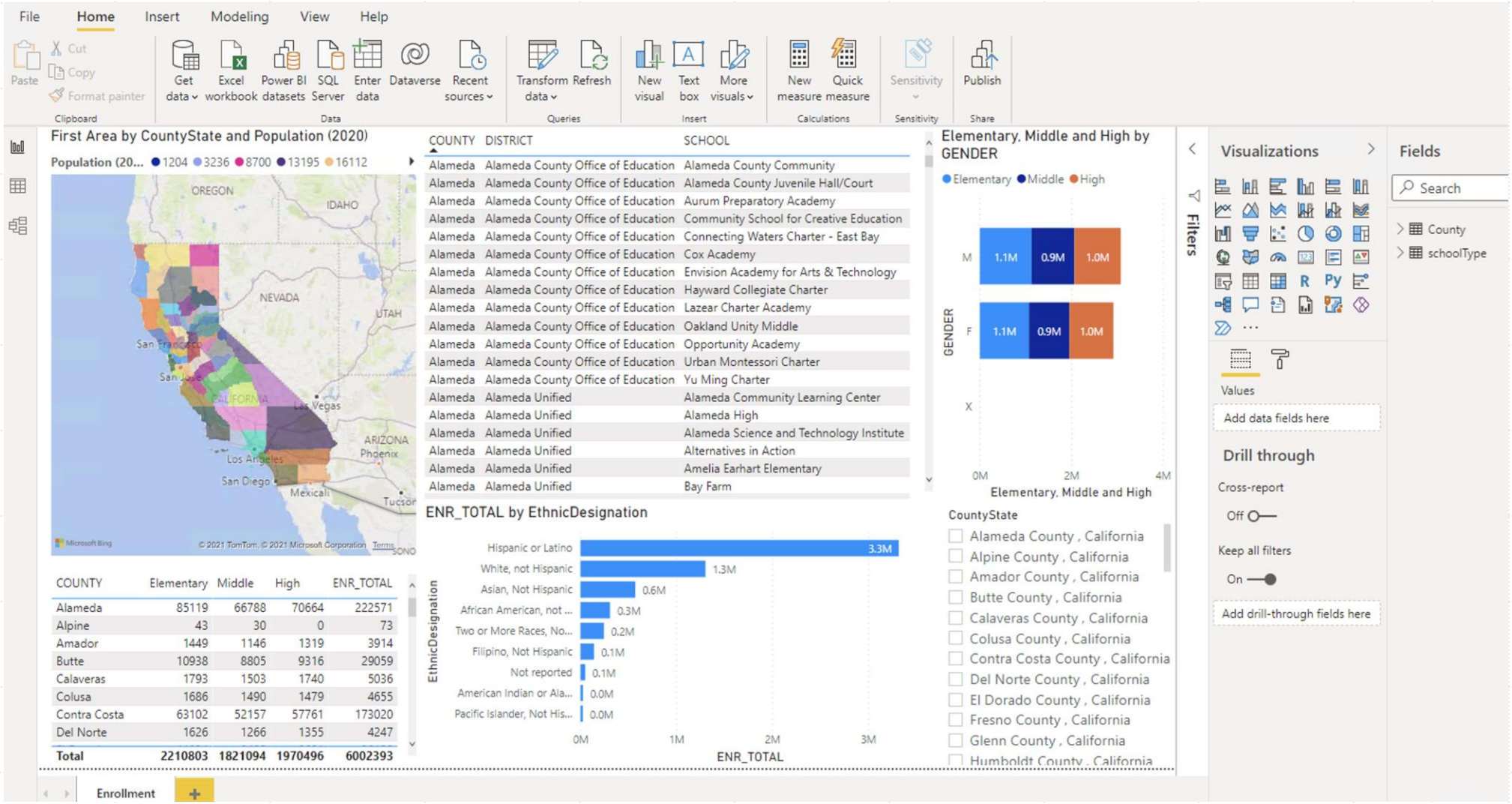
Photo taken by Dani Weatherholt

Business agility requires seamless data collaboration across the entire organization



Get → Transform → Model → Report

Demo



Power BI, Data Warehouse, Data Lake, Lakehouse Resources

Spring, Summer, Fall, Winter... and Spring

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Links

- Power BI Desktop
- powerbi.microsoft.com
- Excel Power Query
- Power BI Dataflows
- Azure Data Studio
- Azure Storage Explorer
- Azure Data Lake Storage
- Azure Data Factory
- Azure SQL Database
- Azure Synapse Analytics
- Azure Databricks
- Azure Purview
- Azure Machine Learning
- Azure Event Hub
- Azure Data Share


Kaleetan Peak
The Summit at Snoqualmie
90
90
906
Snoqualmie Pass