Decide on the fly: Real-Time Analytics in MS Fabric

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sqlbits
*** 2024 ***
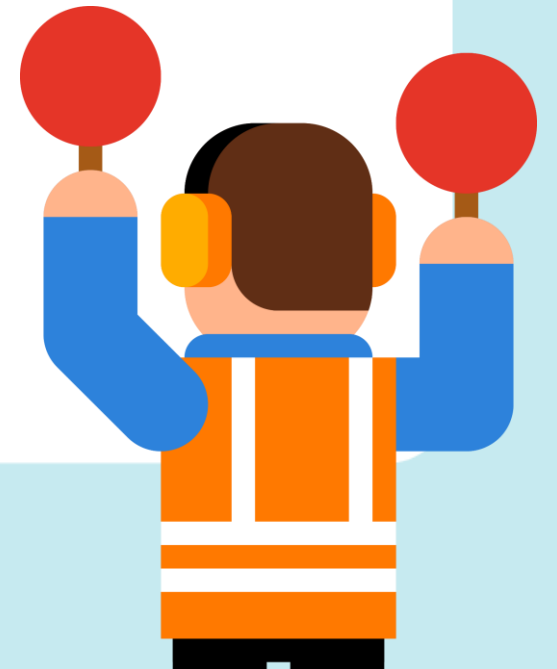
Who are we?

📍 **Porto, Portugal**

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Sónia Cruz

BI Specialist | Data & Analytics @ DevScope

ℹ️ 5 years working within the Business Intelligence universe, creating solutions across multiple industries

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Joana Barbosa

Head of Data & Analytics @ DevScope

ℹ️ 10+ years solving data problems and finding ways of turning raw data into valuable insights!

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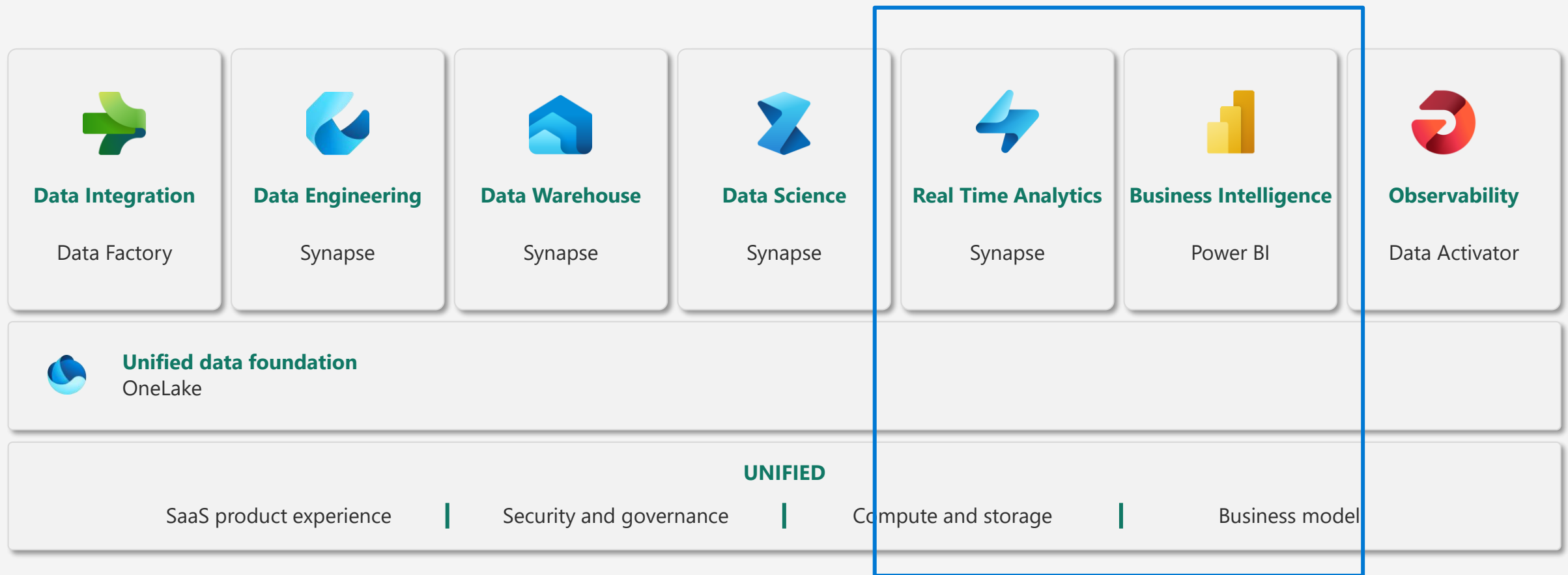in/joanavbarbosaa

1

Fabric

Introducing Microsoft Fabric

Microsoft Fabric enables you to manage your data in one place with a suite of analytics experiences that work together seamlessly, including:

- Data Factory

- Synapse Data Engineering

- Synapse Data Warehouse

- Synapse Data Science

- Synapse Real-Time Analytics

- Power BI

- Data Activator

Microsoft Fabric does it all—in a unified solution

An end-to-end analytics platform that brings together all the data and analytics tools that organizations need to go from the data lake to the business user
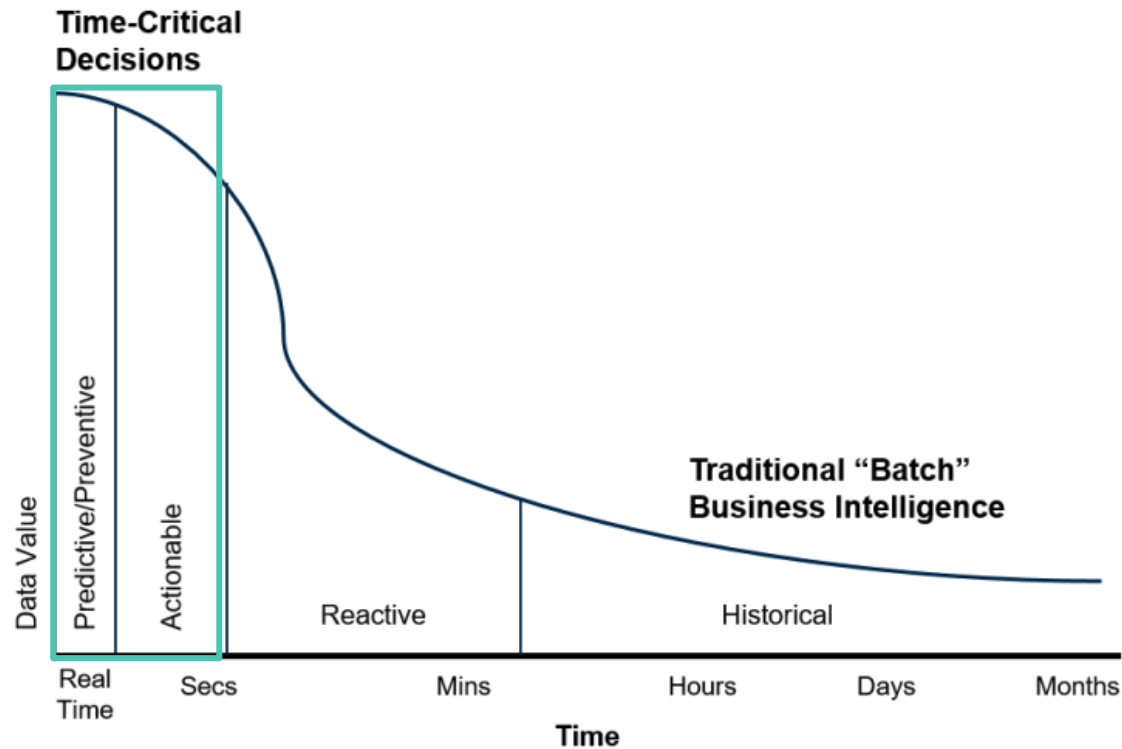
Data Integration	Data Engineering	Data Warehouse	Data Science	Real Time Analytics	Business Intelligence	Observability
Data Factory	Synapse	Synapse	Synapse	Synapse	Power BI	Data Activator

Unified data foundation
OneLake

UNIFIED

SaaS product experience | Security and governance | Compute and storage | Business model

2

**Real-Time
Analytics**

What is & Why Real-time Analytics?

Time Value of Data

- Snappy, responsive applications
- Faster decision-making
- Automated Intelligence
- Time-sensitive interventions

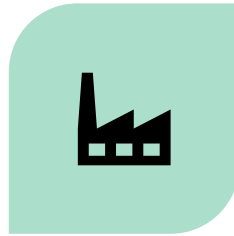*"**The discipline that applies logic and mathematics to data to provide insights for making better decisions quickly.**"*
Gartner

Real-time analytics use cases across industries

TRANSPORTATION & LOGISTICS

SMART CITIES/BUILDINGS/HOME

MANUFACTURING OPERATION

AUTOMOTIVE INDUSTRY

ENERGY OIL AND GAS

IOT ANALYTICS

LOG ANALYTICS

Transitioning to Real-time analytics in MF
(from **Kusto / Azure Data Explorer**)

BEFORE FABRIC

WITH FABRIC

In Power BI - Streaming Datasets
- Very (very) Limited

With Azure
- Data Explorer (ADX):
  - PaaS
  - Costly and complex to provision

Real-Time Analytics
- The power of Azure Data Explorer
- SaaS simplified platform
- Seamless integration with OneLake
(and all the other fabric experiences)
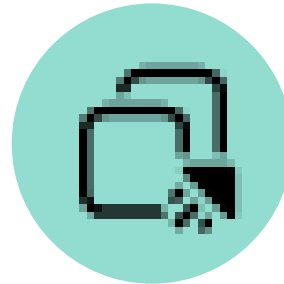
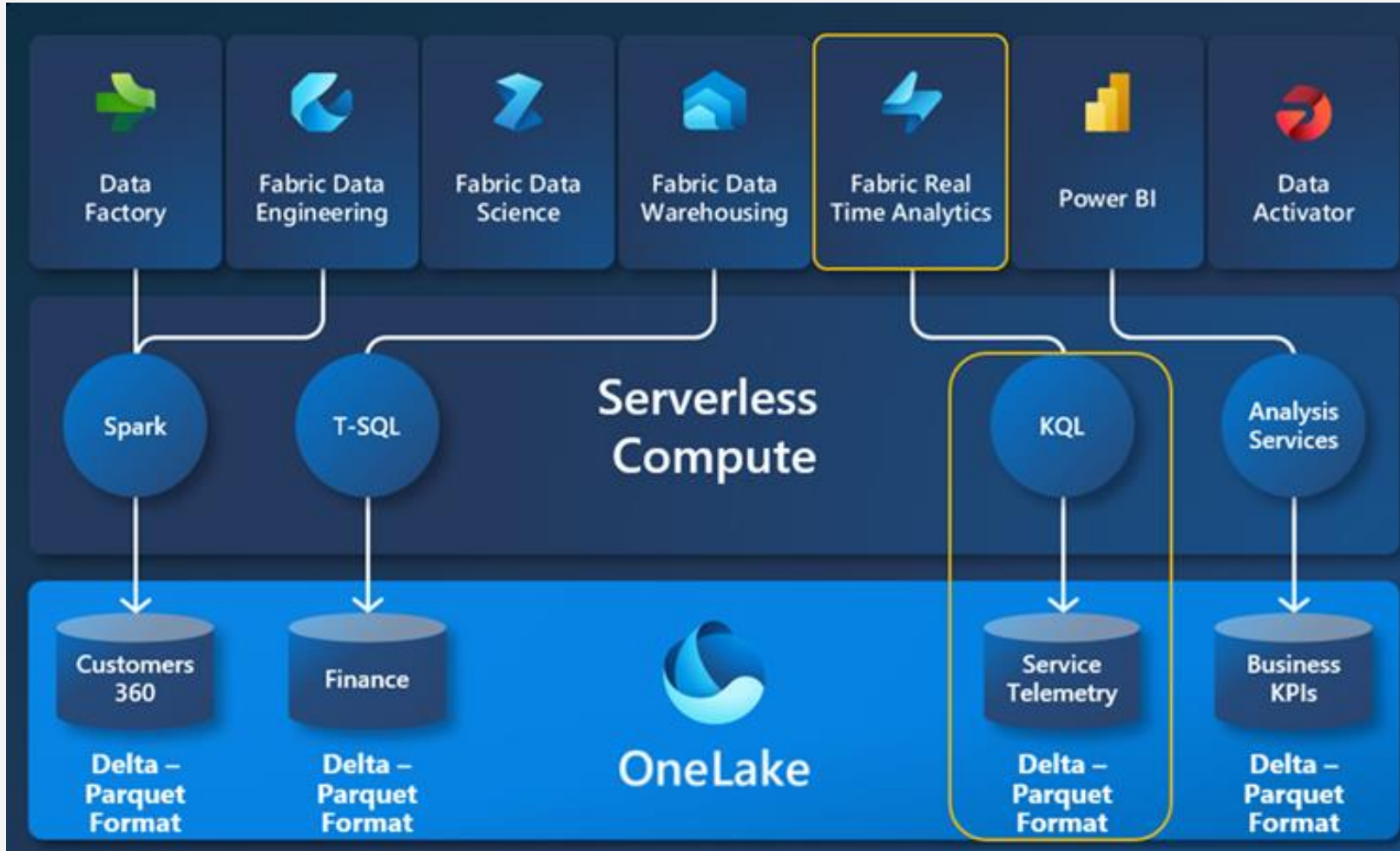# Real-time analytics in Microsoft Fabric

Components:

Event Stream

KQL Database

KQL Queryset

Eventhouse
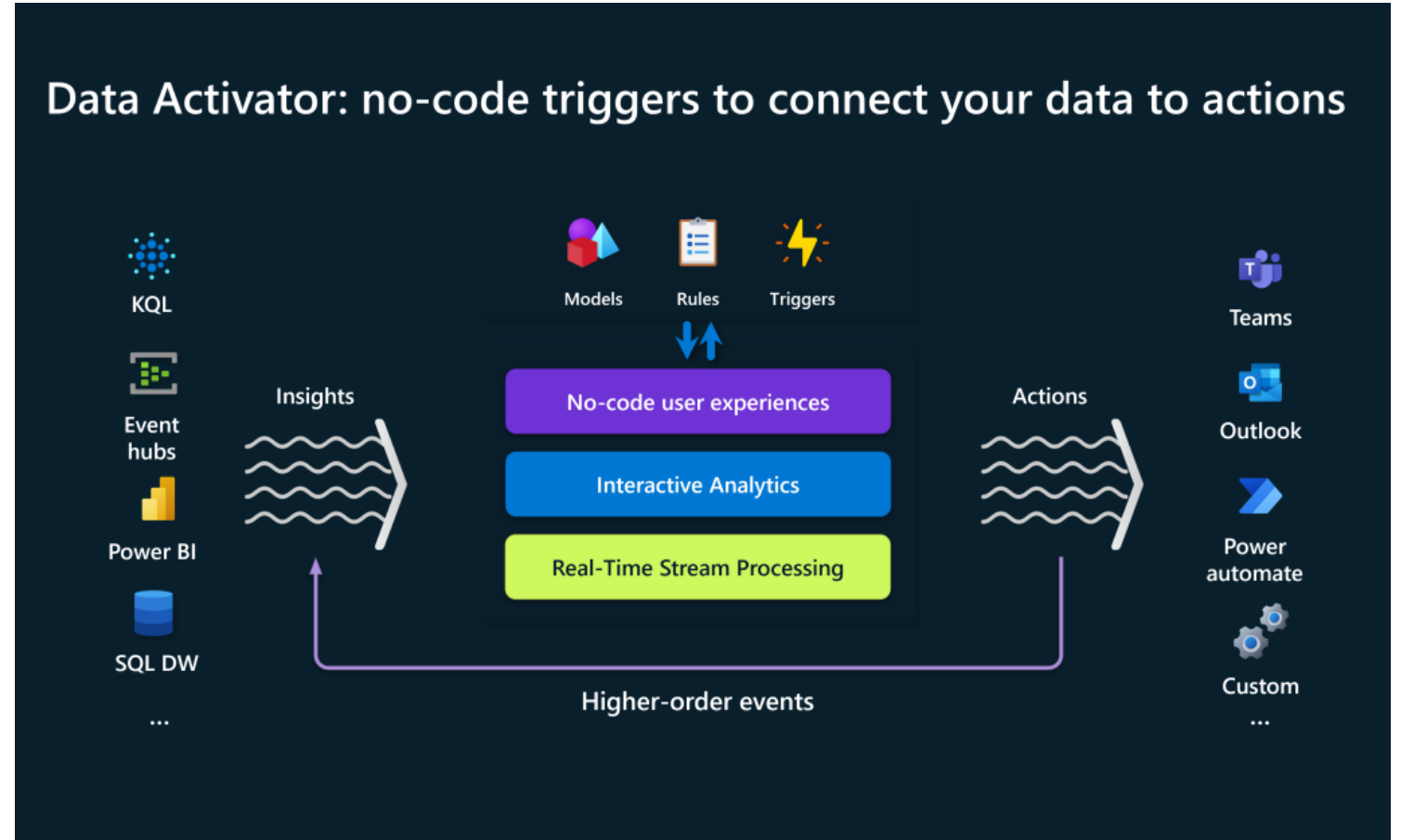(Preview)

Microsoft Fabric does it all—in a unified solution

Dedicated query language (KQL) and Engine (KQL Database)

Microsoft Fabric
Data Activator

A new way to drive actions from your data

How it works:

1. Connect to your data
2. Detect actionable conditions
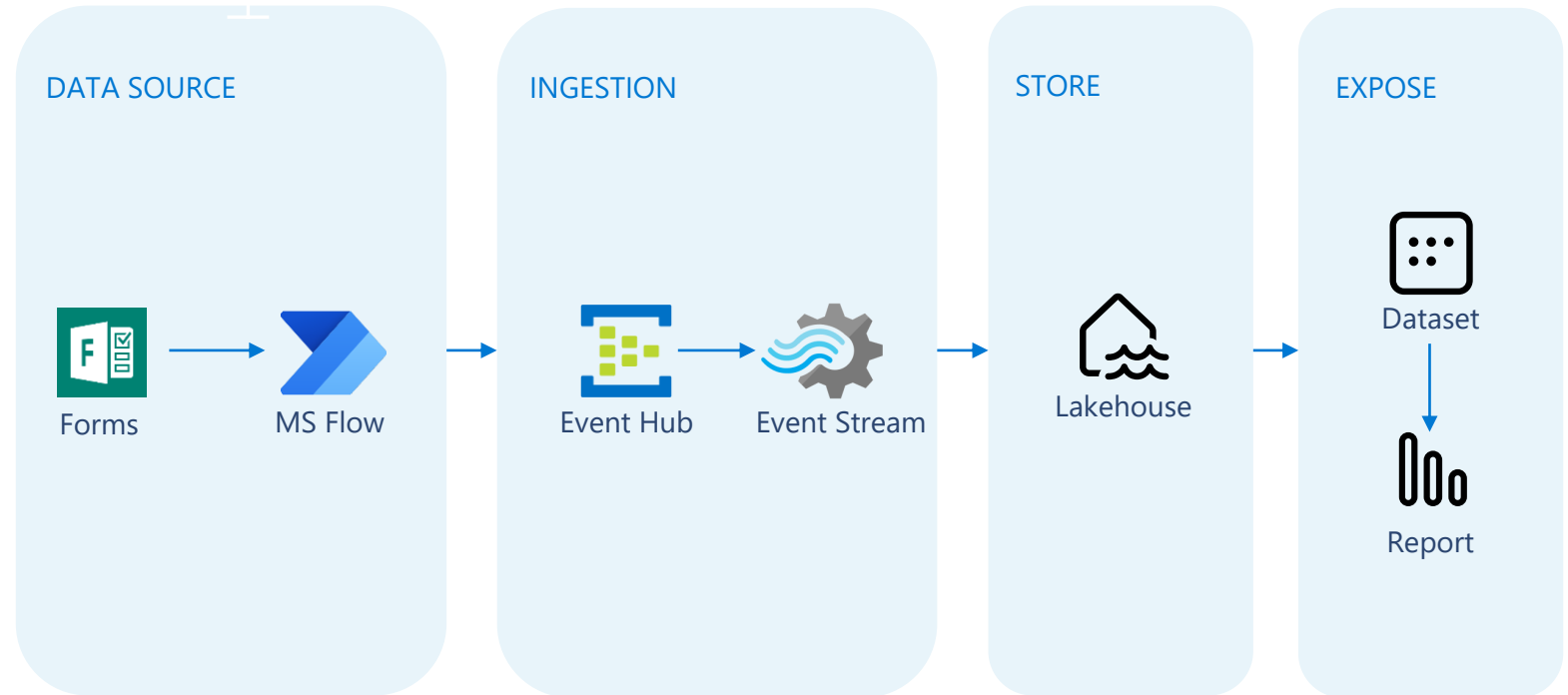3. Trigger Actions

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3

Demo Time
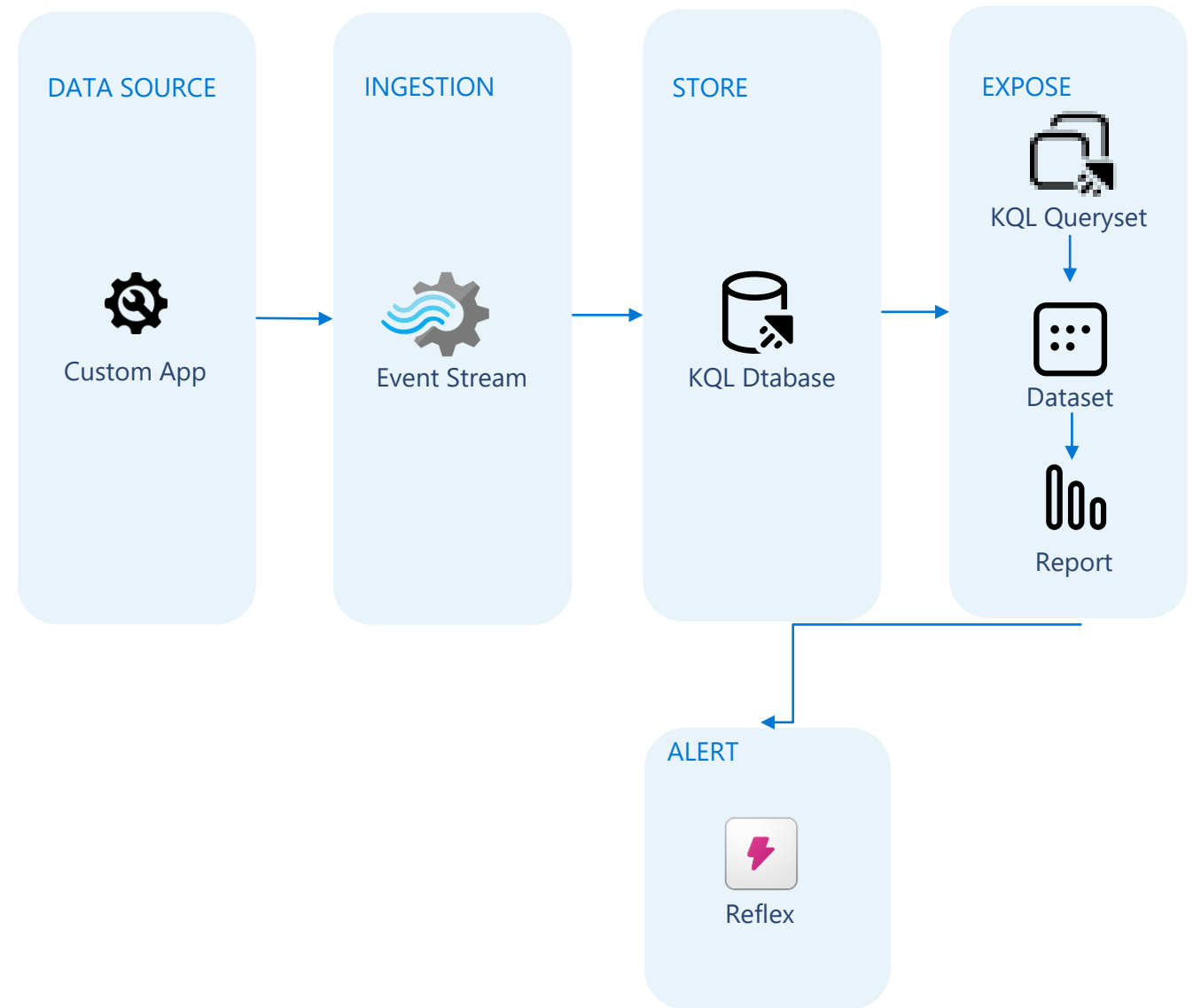**Forms**

Demo - Forms

Architecture

DATA SOURCE

Forms → MS Flow

INGESTION

Event Hub → Event Stream

STORE

Lakehouse

EXPOSE

Dataset

Report

4

Demo Time
Flight Data

Demo - Flight Prices Data

Architecture

DATA SOURCE

Custom App

INGESTION

Event Stream

STORE

KQL Dtabase

EXPOSE

KQL Queryset

Dataset

Report

ALERT

Reflex

Wrap Up

- MS Fabric offers a complete and easy to setup solution for real-time analytics scenarios

- Use Onelake and direct lake to shortcut your process

- Alternatively, use Kusto's engine to build a more robust solutions for a more demanding workload

- Changing schema in onelake tables or datasets in direct lake not fully supported *yet*

- Power BI Dataset Quick Create from KQL database could use some improvements

Questions?

Please give us feedback ;)
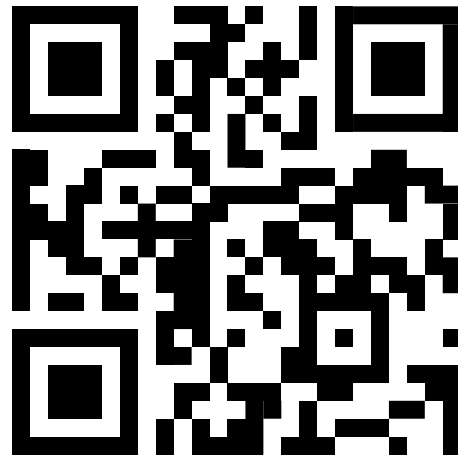
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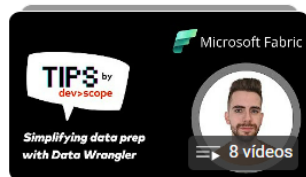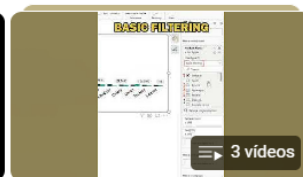
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