

DATA SATURDAY #23 - OSLO

Enterprise guide to analytics capabilities

A journey for data-driven insights and innovation



John Mousa



Engineer at heart, enabling enterprise customers in DACH and world wide bridge the worlds of microservices and analytics as a Sr. Solutions Architect at Amazon Web Services.



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@JohnMousa_



Architecture is about the long-term

Maximizing the
Business Value taking
into account the
***Long-Term
consequences*** of
technical decisions



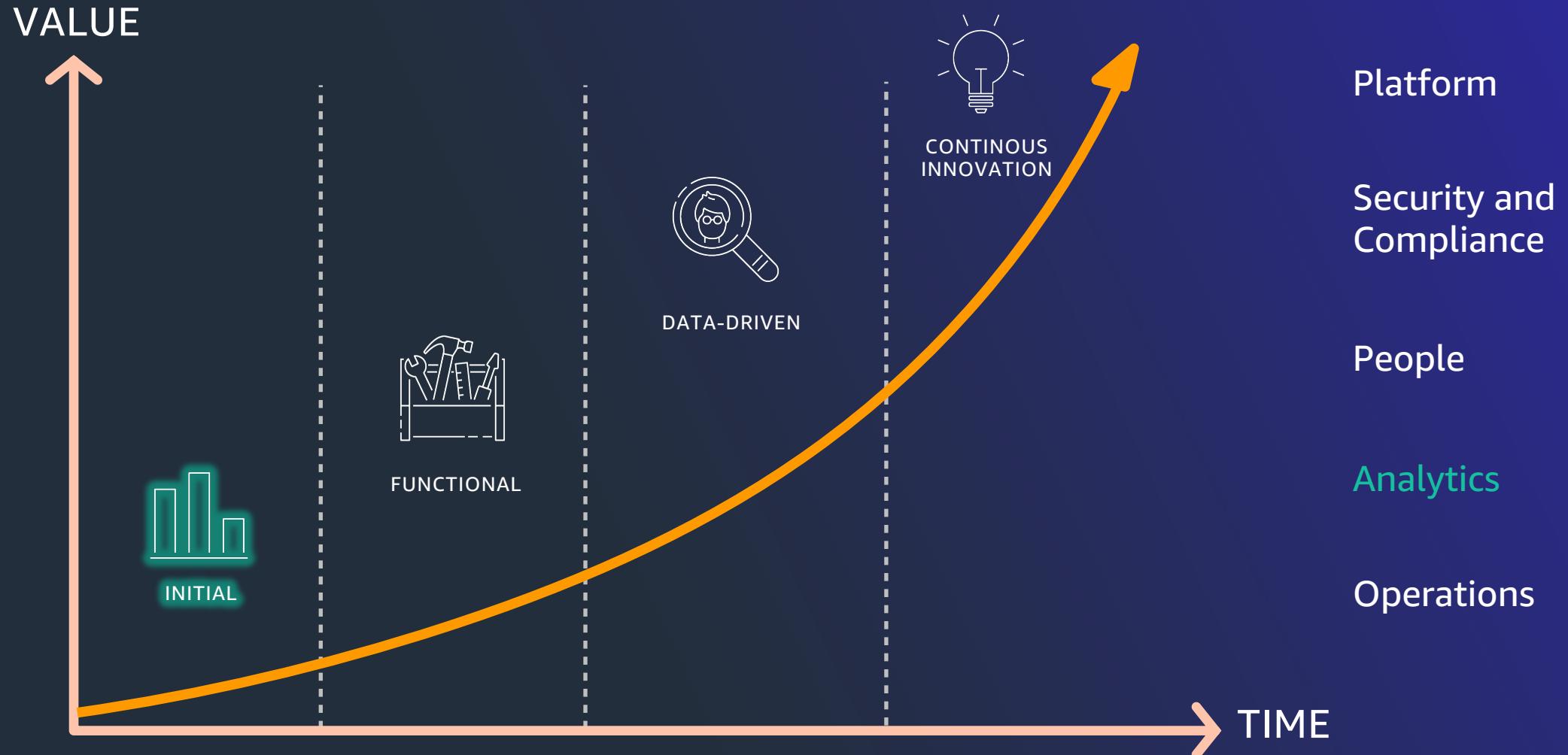
Long Term Decision and Commitments



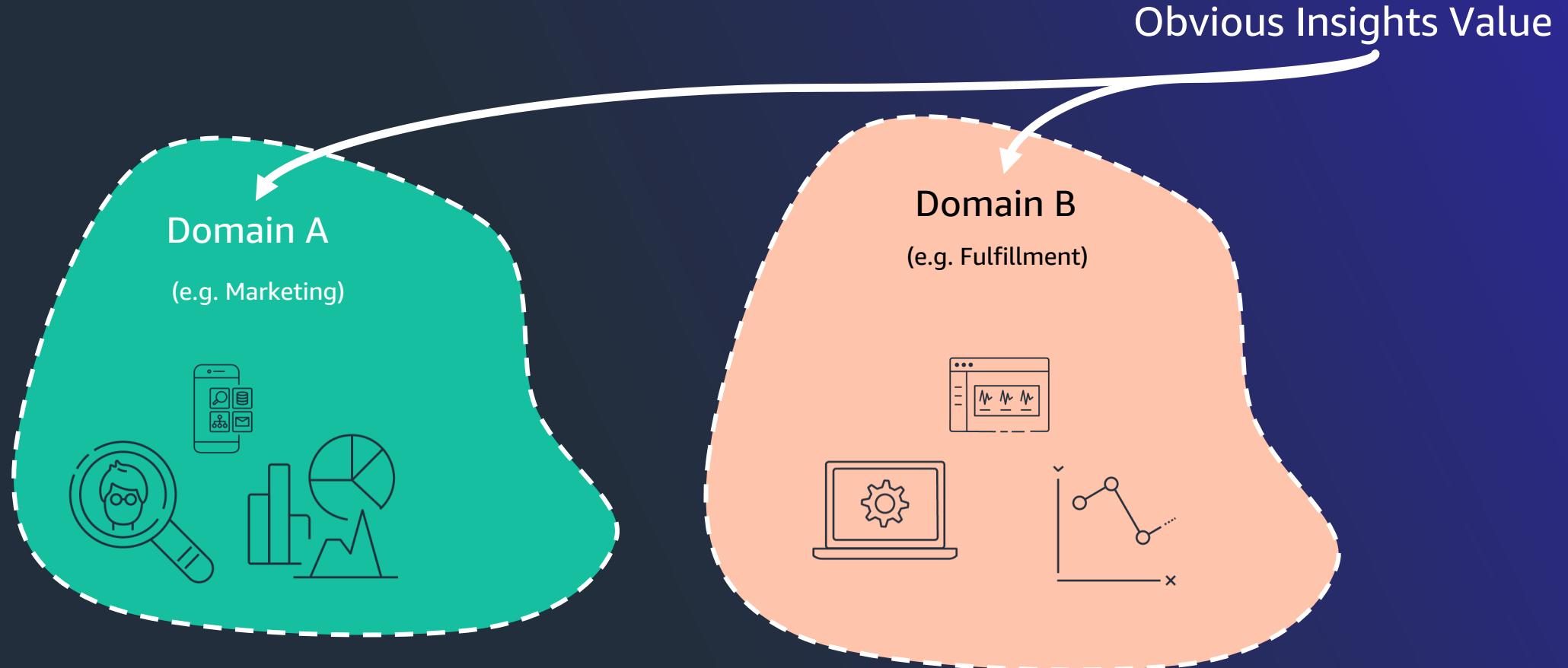
"One of an architect's major objectives is to Create Options."

Gregor Hohpe

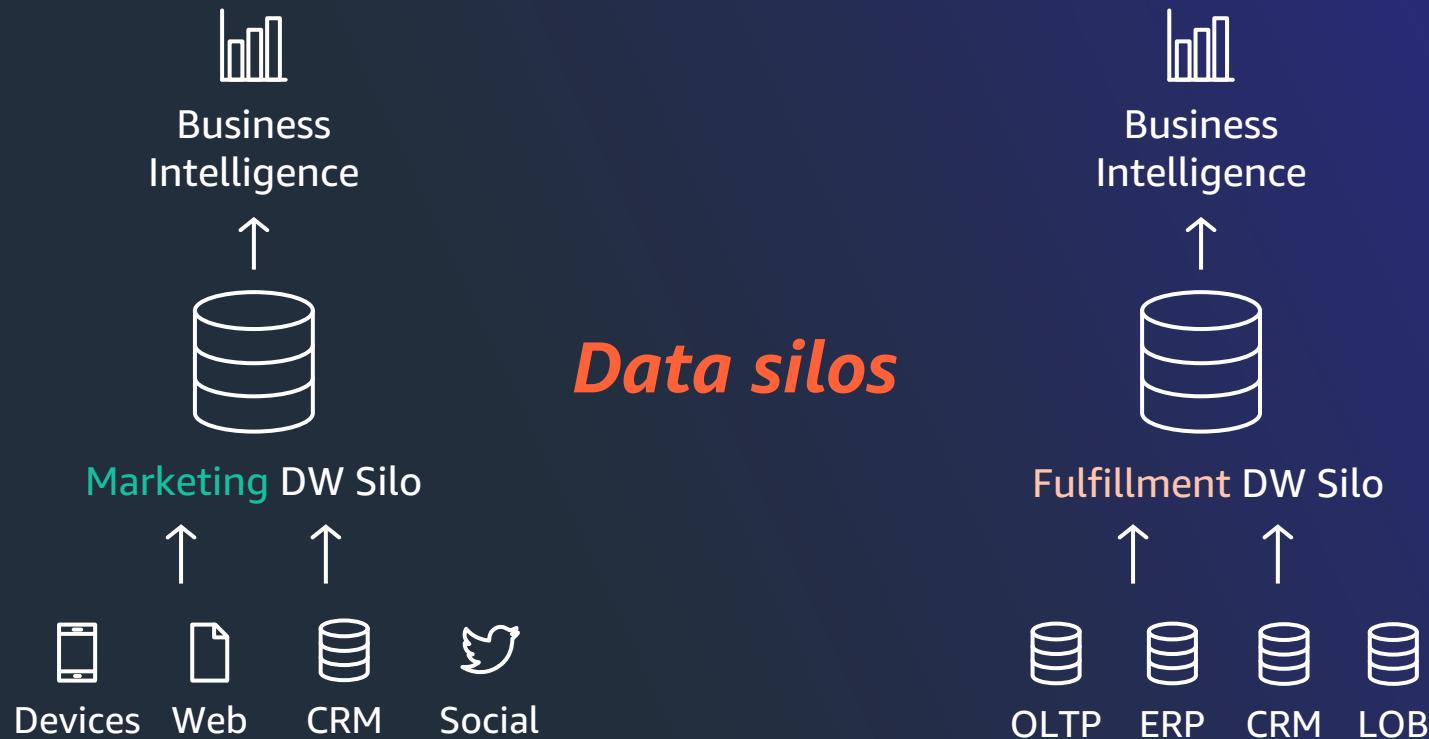
Advancing Analytical Capabilities Model - Initial



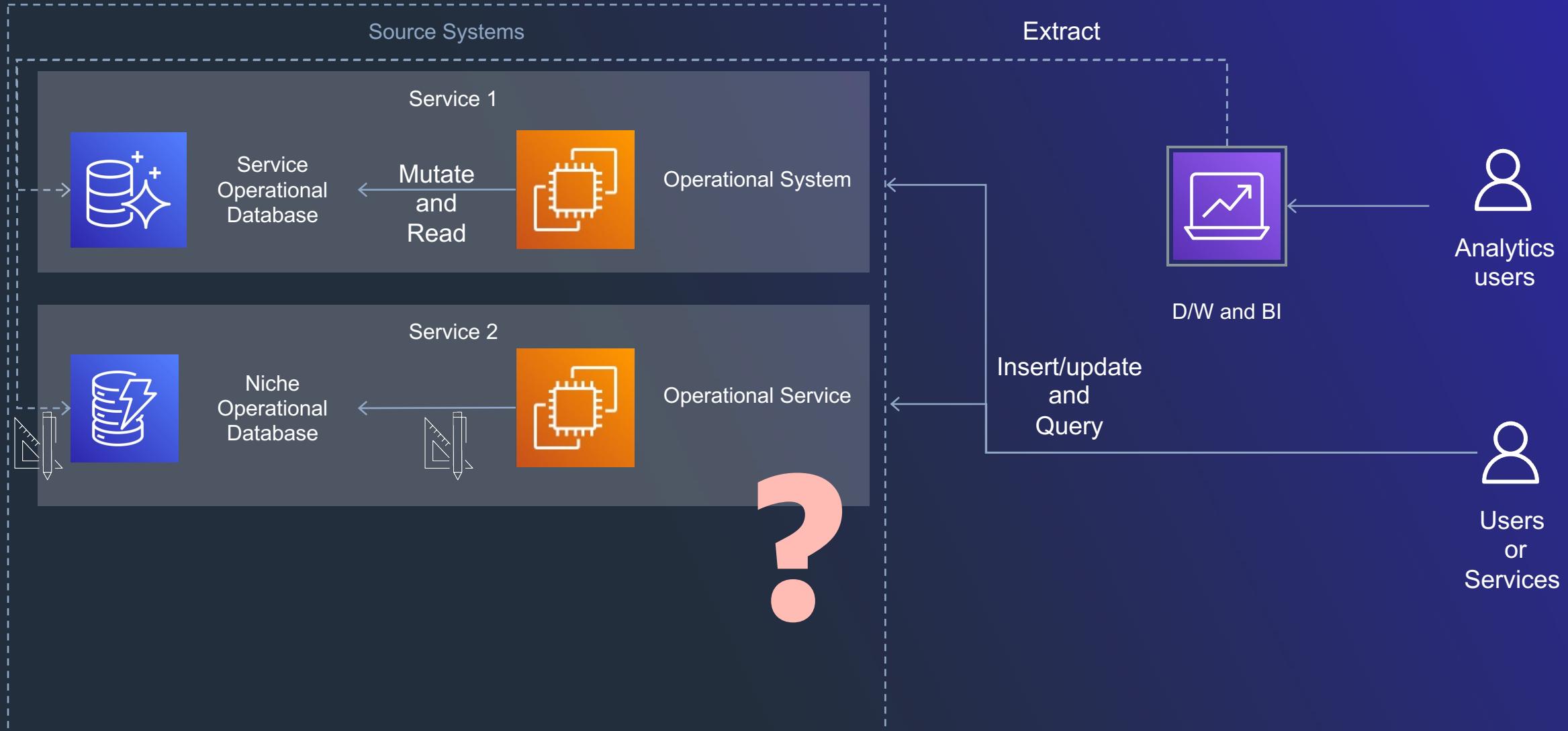
Organizational Landscape



Traditional Analytics Landscape

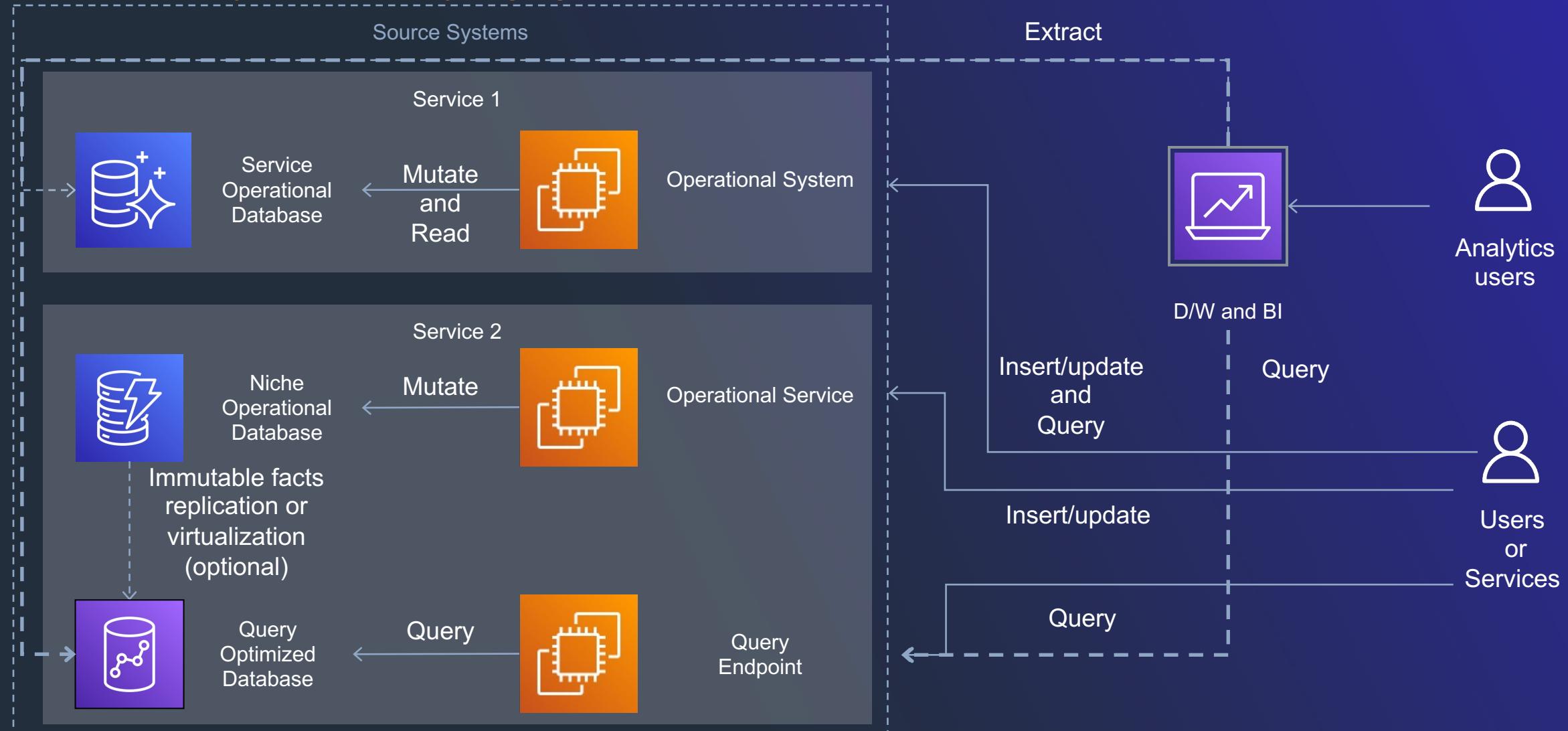


Extracting Data From Source Systems



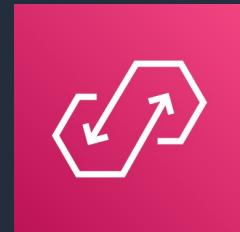
Extracting Data From Source Systems

Command Query Responsibility Segregation - CQRS



Bring Data from SAP into AWS

Use Amazon AppFlow to connect and run data flows from SAP using OData Services.



Amazon AppFlow



Amazon S3



Lambda



Redshift



Rekognition

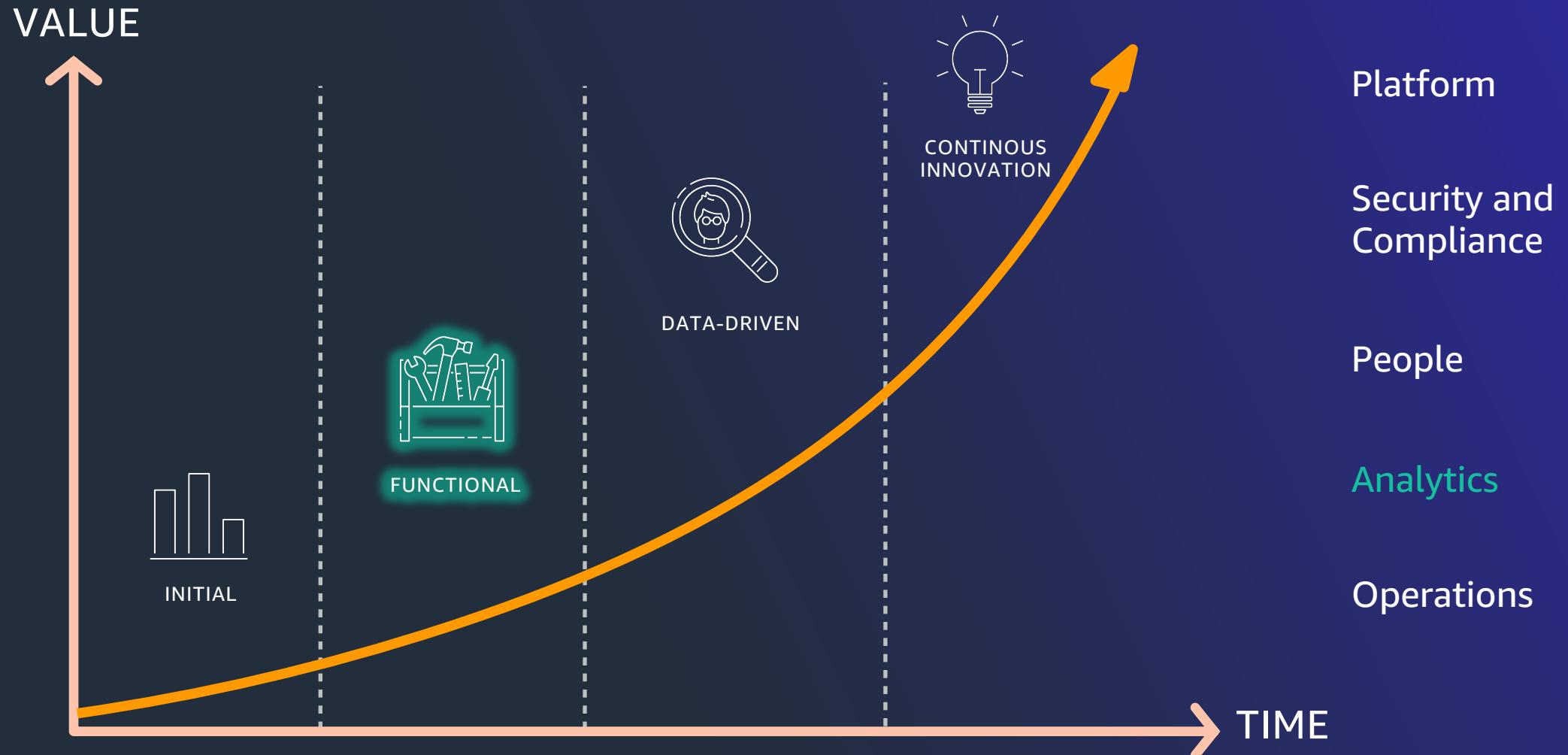


SageMaker

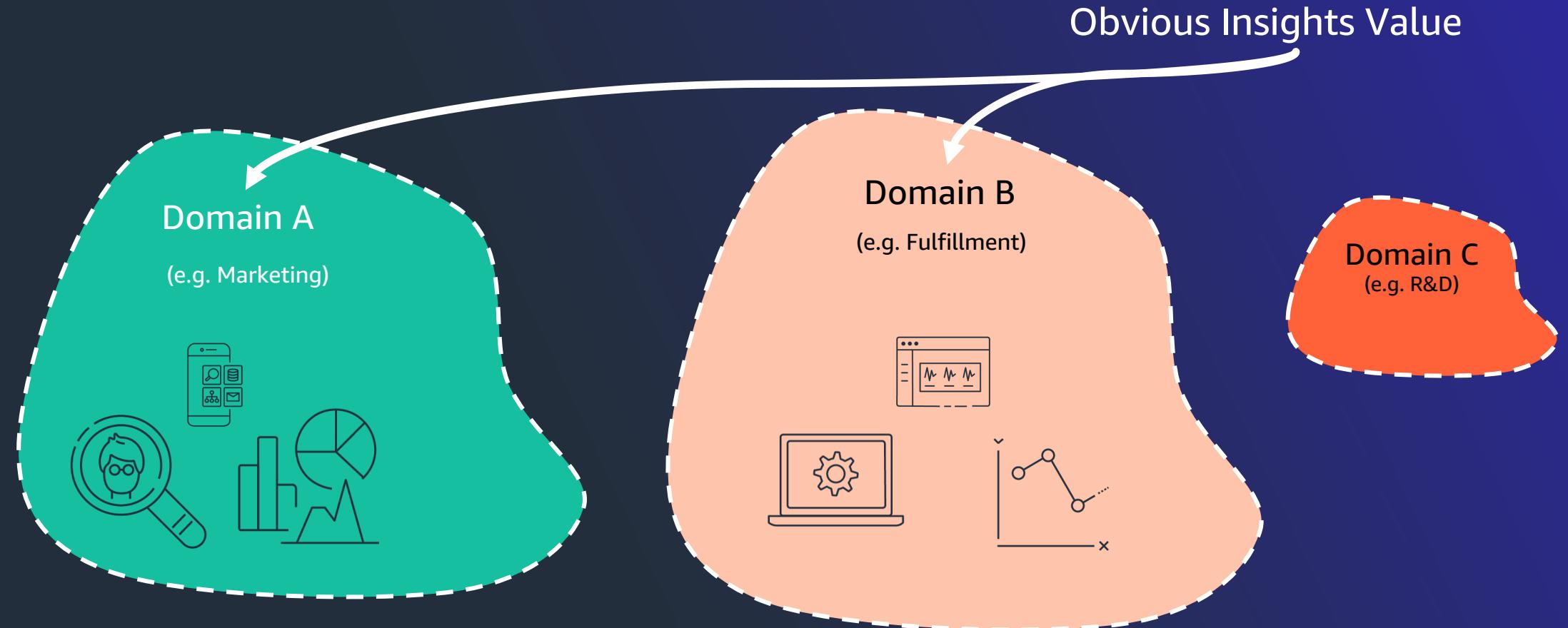
Challenges to Watch Out For

- Oops, I'm using my BI tools for data processing
 - Push back immutability and basic cleaning logic to source
 - Support skills and knowledge gaps
 - Simplify data pipelines
- Vendor choice for BI and Data Warehouse
 - Support of object storage
 - Separation of Storage and Compute

Advancing Analytical Capabilities Model - Functional

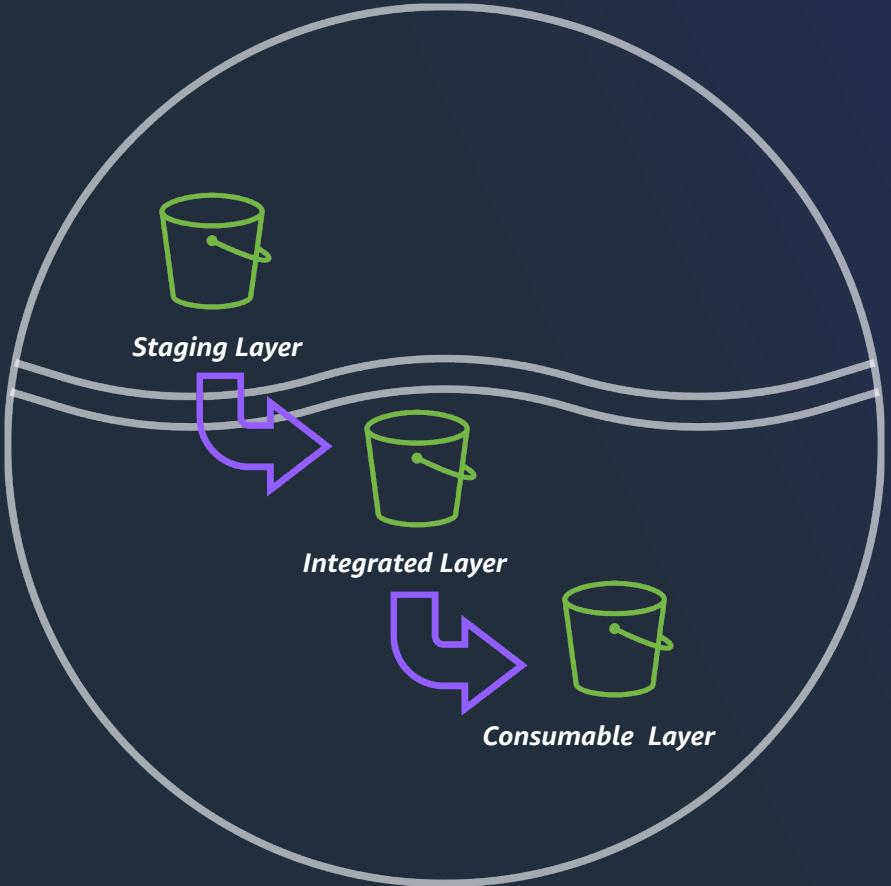


Finding Opportunities



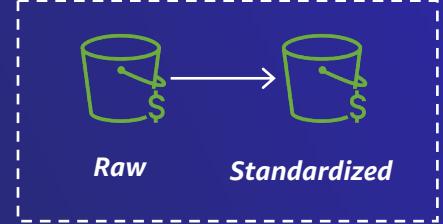
Solutions to Consider

Modern Data Strategy



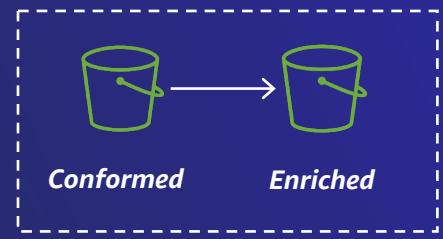
Staging Layer

- Factual source data for all time
- Data treated as immutable
- ***Cost effective***



Integrated Layer

- Trustworthy
- Accessible, ***Interoperable*** and ***Open***
- Valuable



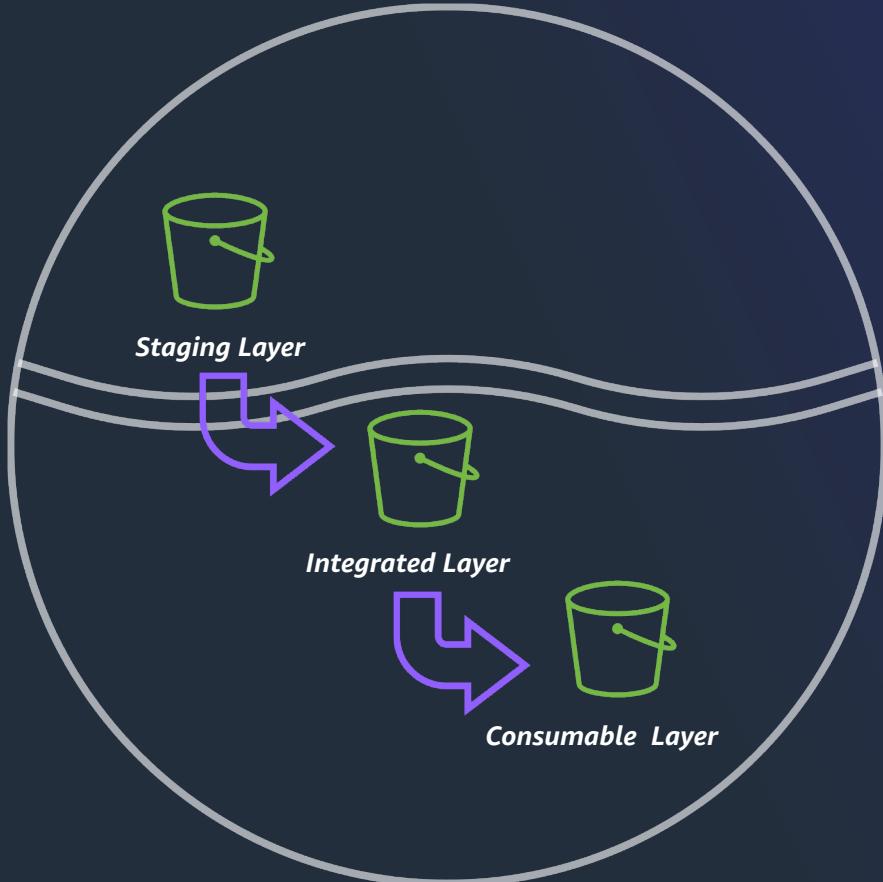
Consumable Layer

- Application-Specific format and granularity
- Fits consumer's technology
- Adds ***Flexibility*** to integrated layer



Stakeholders

Modern Data Strategy



Data Scientists

Exploration, Integration,
Predictive Models



Data Experts

Ad-hoc Reports,
Exploring KPIs



Business Users

Dashboarding, Slice & Dice,
What-if



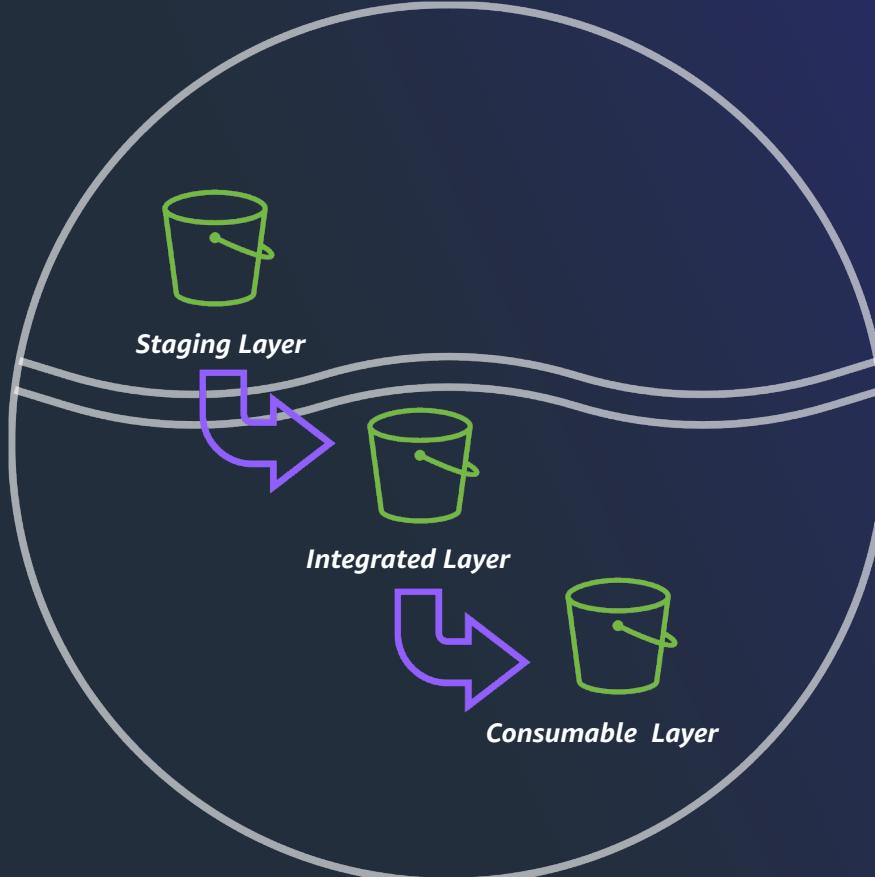
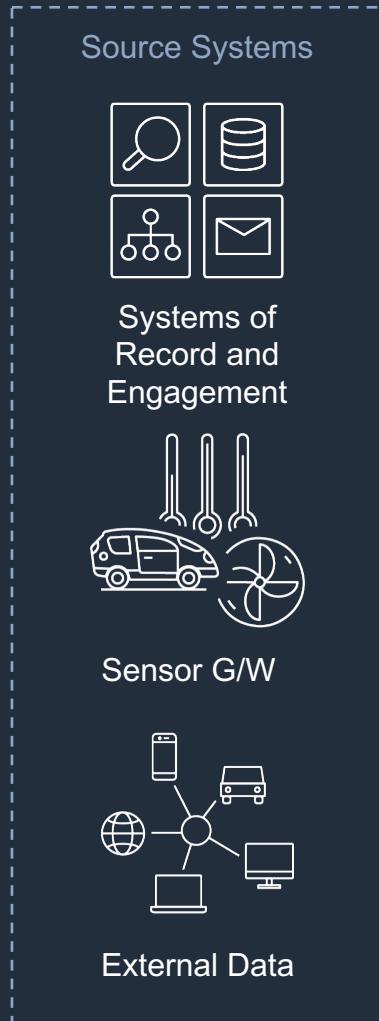
Smart Applications

Exploration, Integration,
Predictive Models



Modern Data Strategy in Action

Modern Data Strategy



Data Scientists

Exploration, Integration,
Predictive Models



Data Experts

Ad-hoc Reports,
Exploring KPIs



Business Users

Dashboarding, Slice & Dice,
What-if



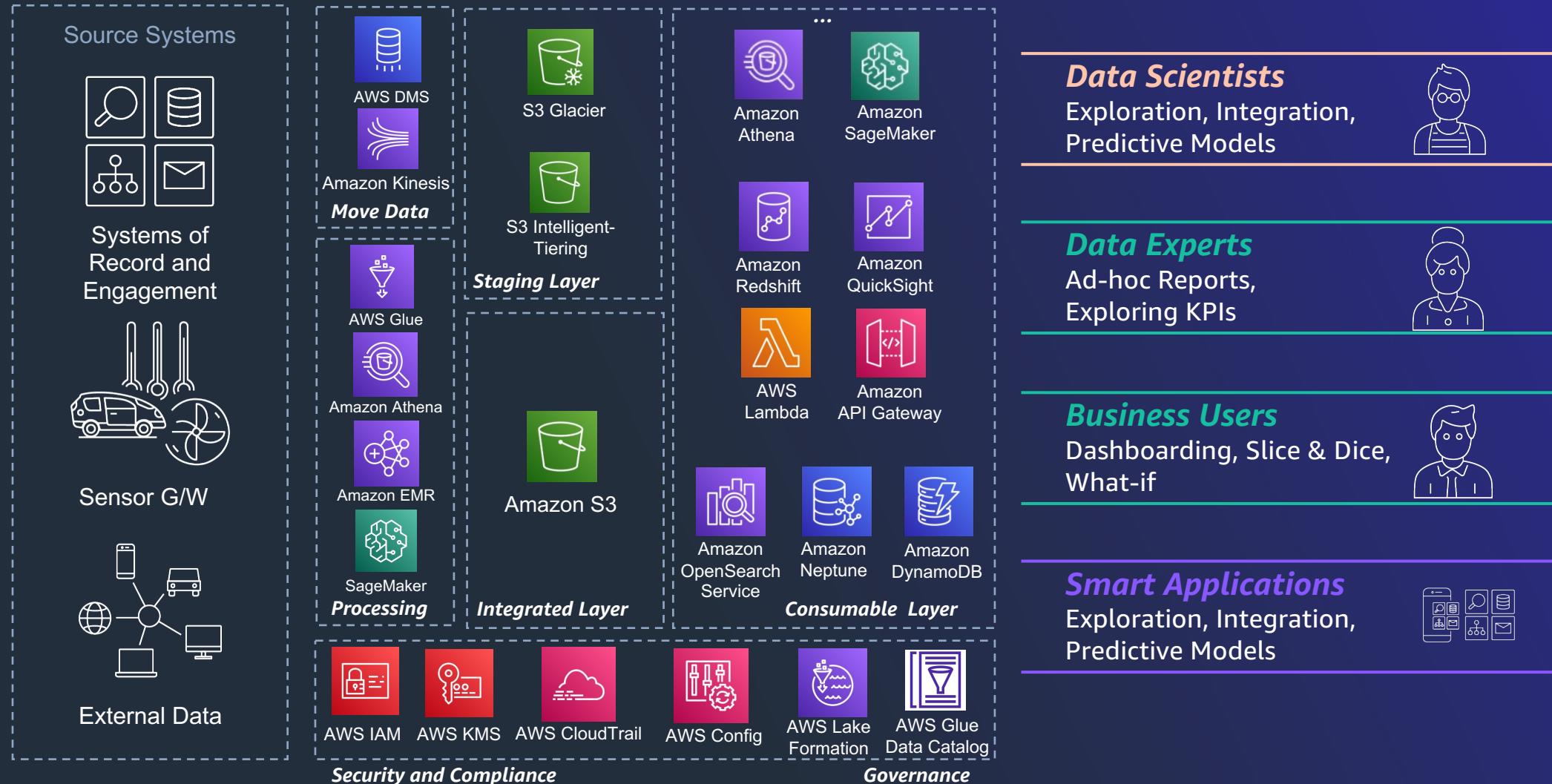
Smart Applications

Exploration, Integration,
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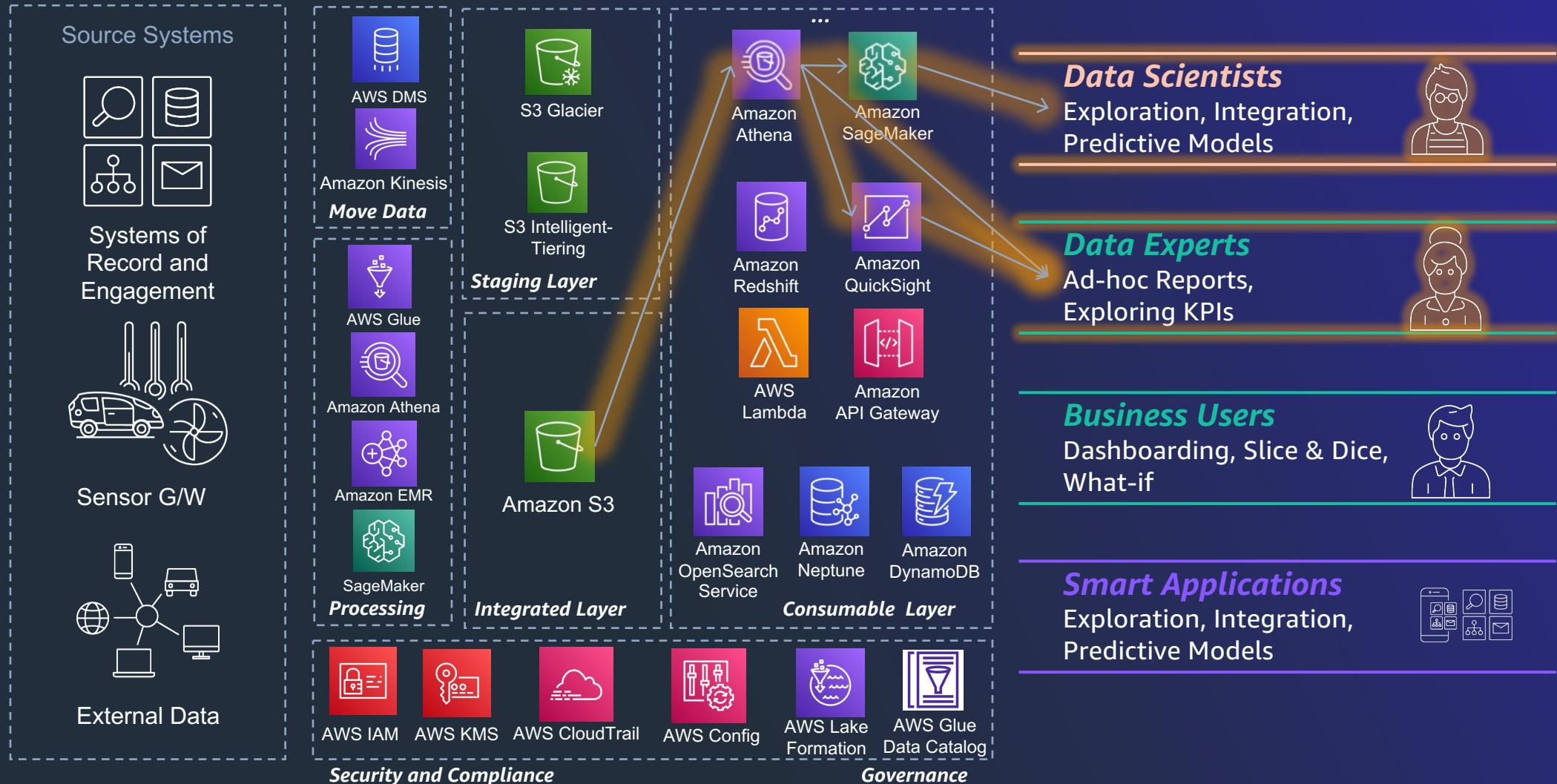


Modern Data Strategy in Action

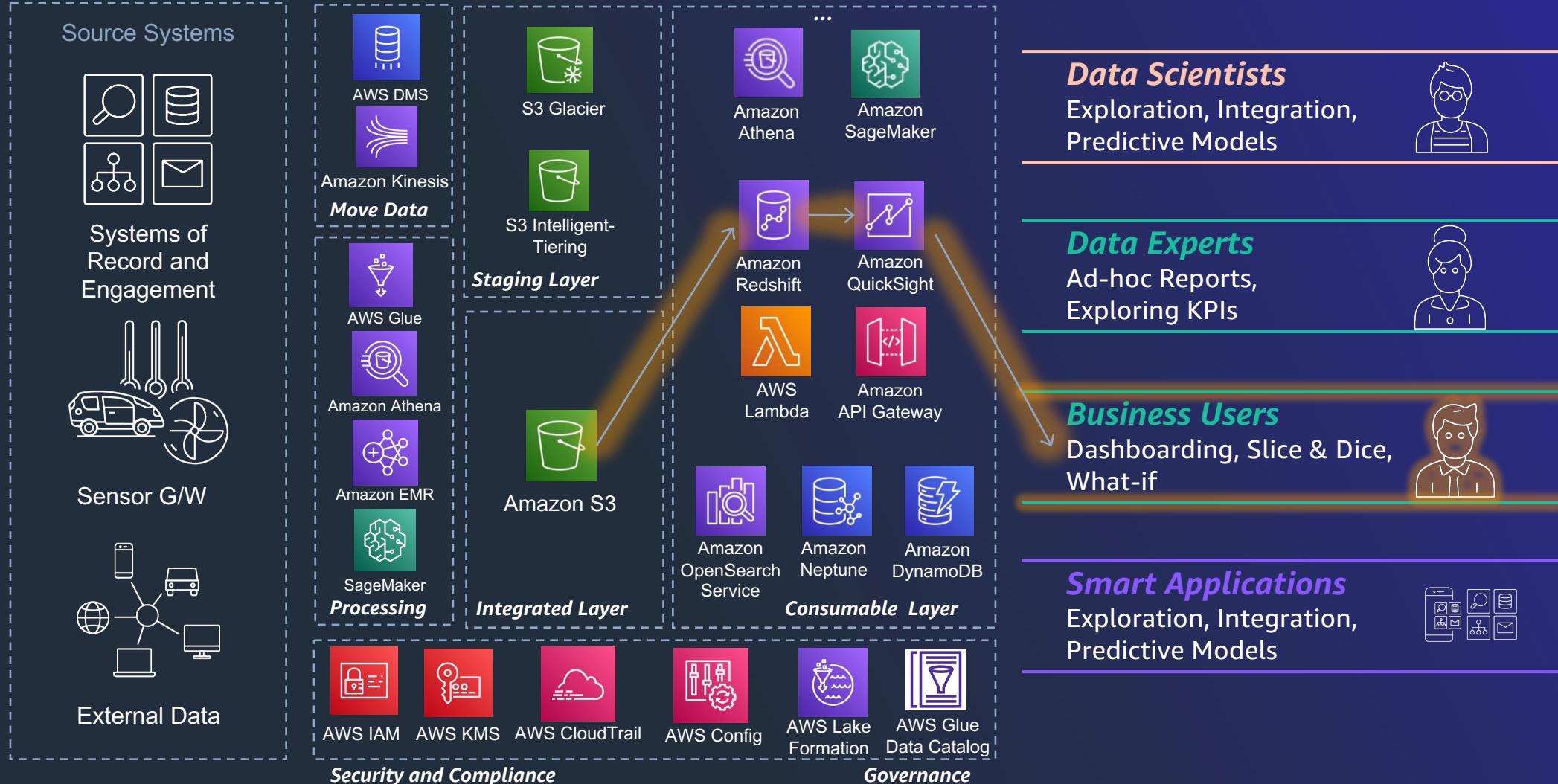
Modern Data Strategy



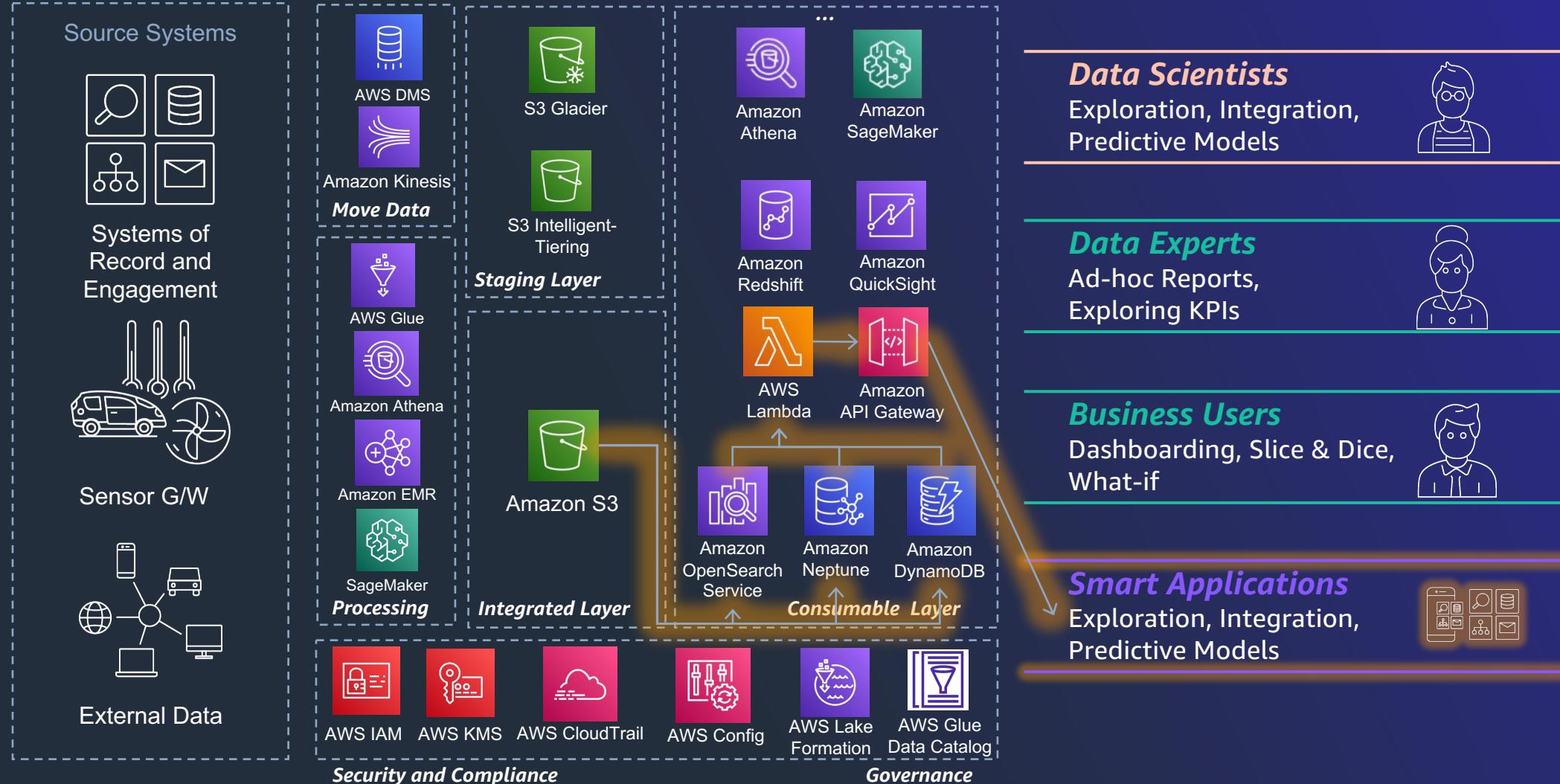
Modern Data Strategy in Action



Modern Data Strategy in Action



Modern Data Strategy in Action



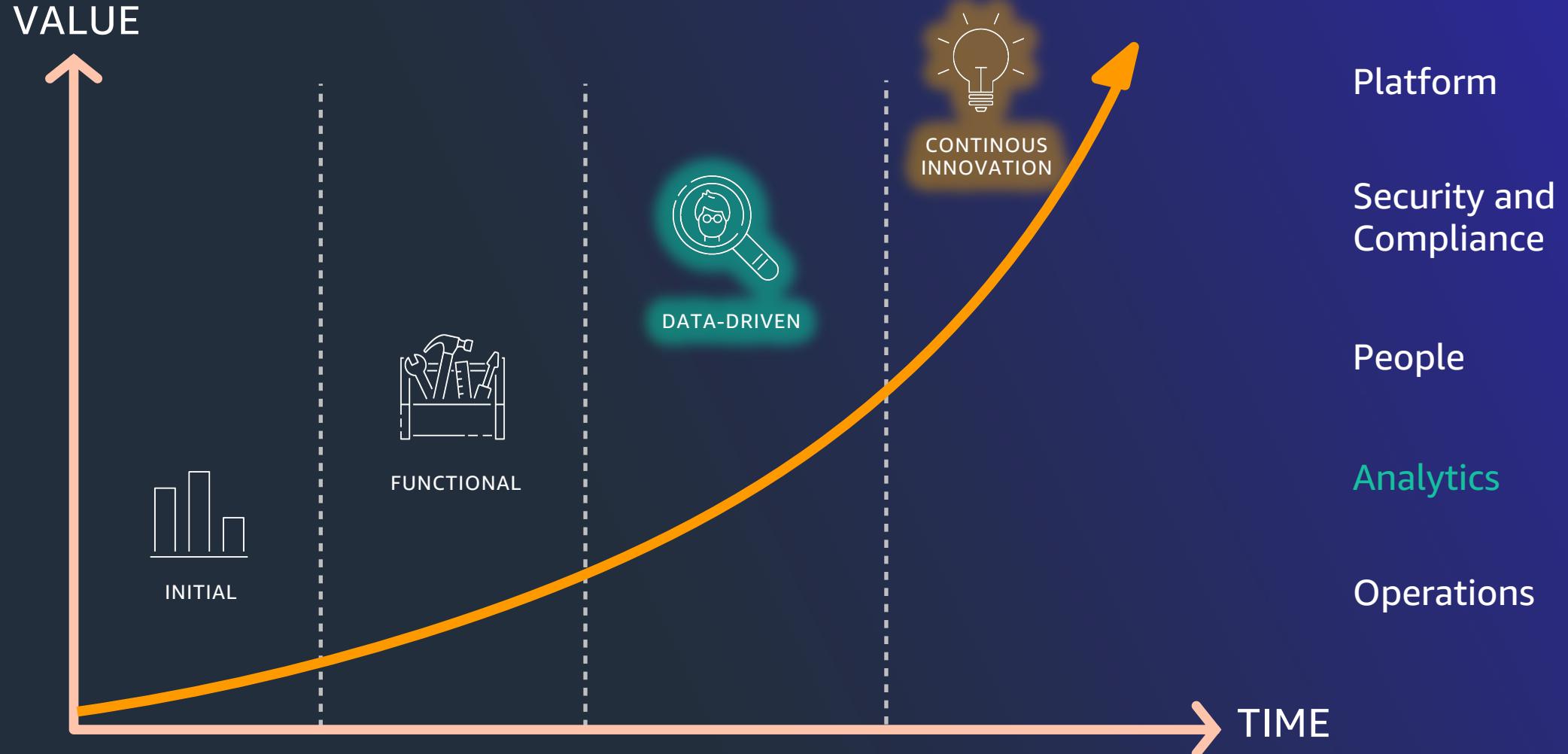
AWS Expansive Serverless Data Analytics in the Cloud



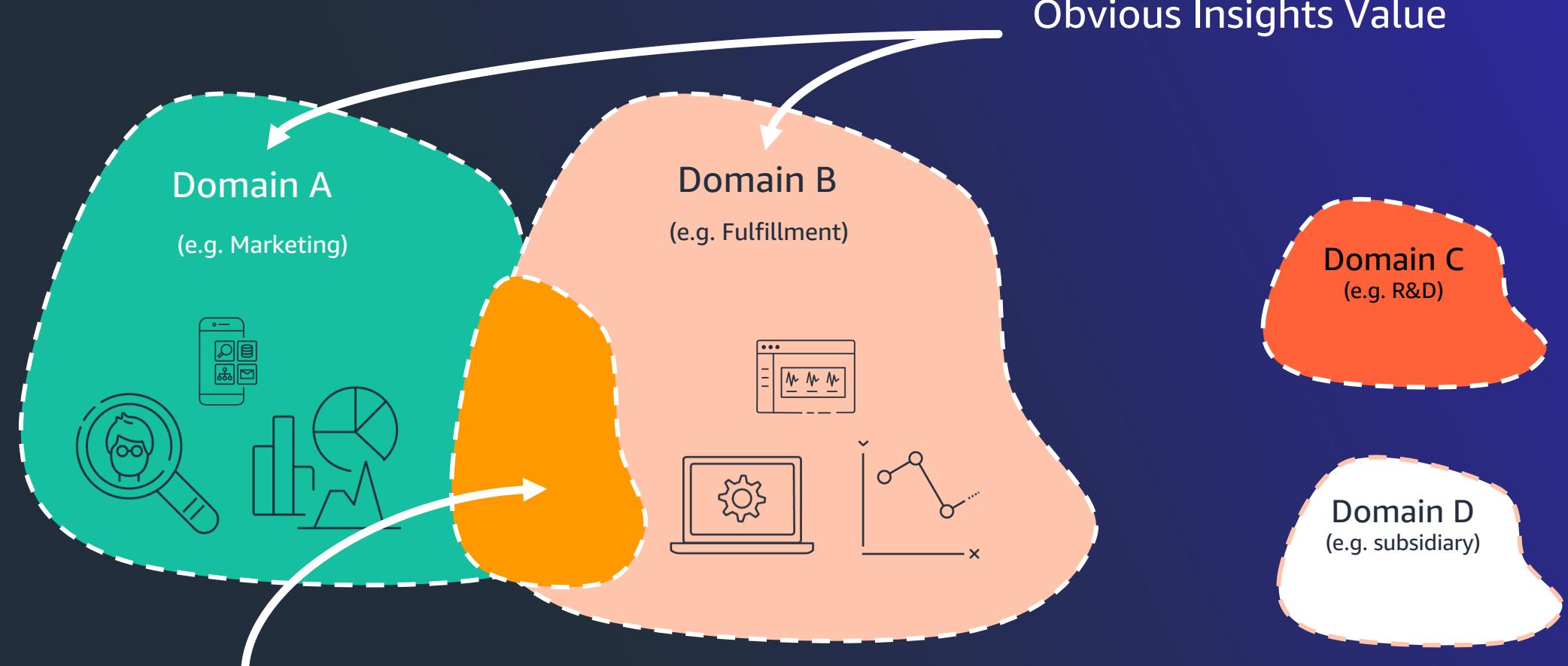
Challenges to Watch Out For

- Right personas are not involved
 - You have no product owner
- IT or Infra team over indexing on owning and executing
 - Domain team know best about their use case and consumption patterns
- You get caught up in the “Platform” discussion
 - Enterprise wide RfP for one solution to cover all consumption use cases

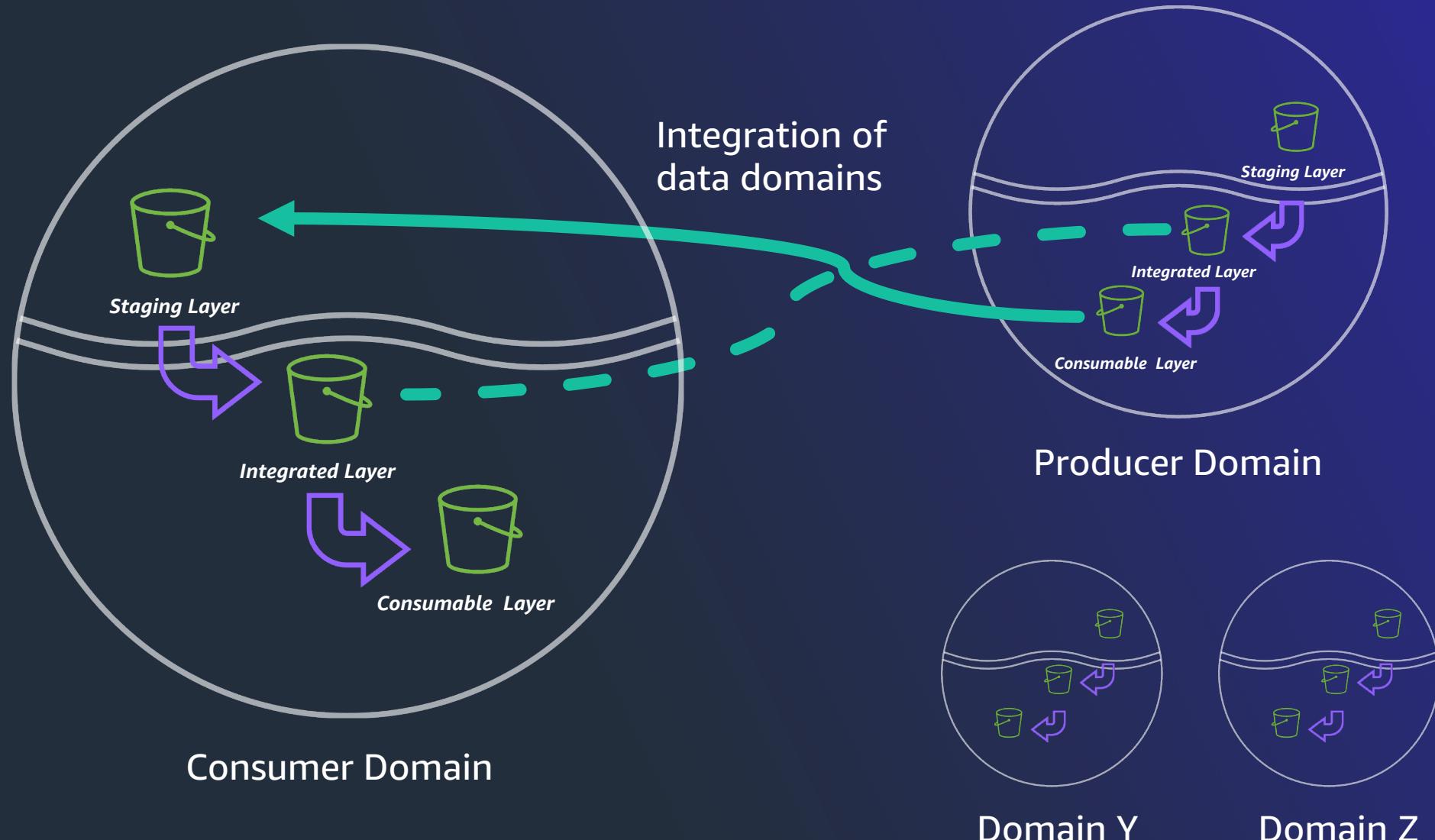
Advancing Analytical Capabilities Model - Innovation



Data Integration Value for Business Scalability

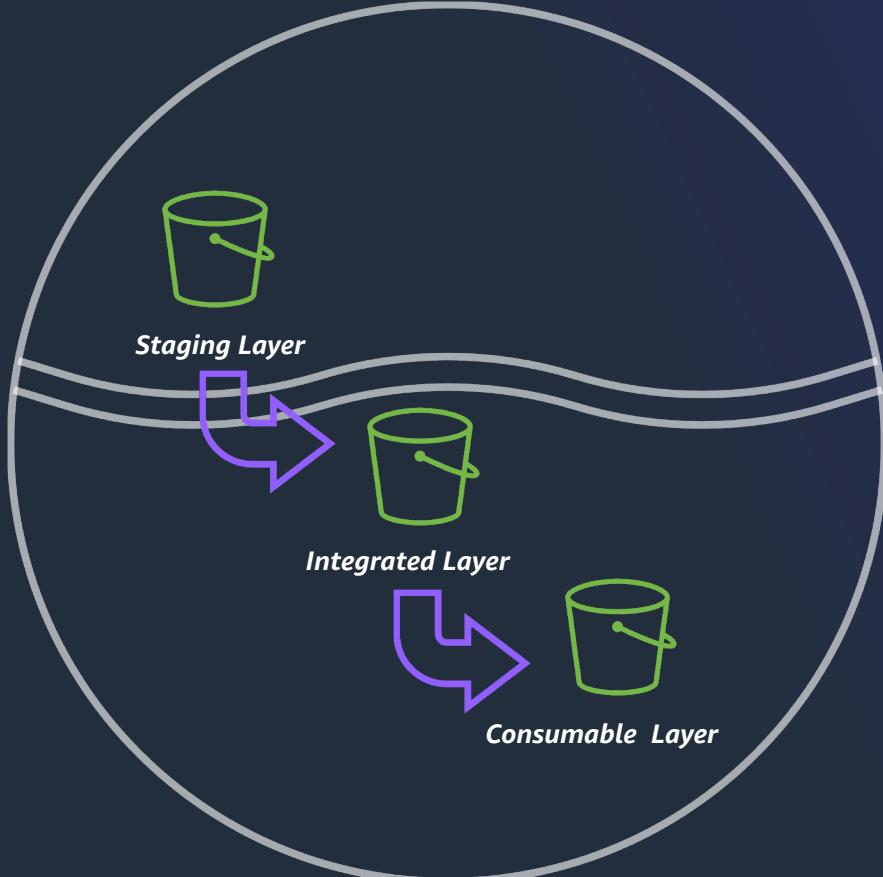


Integrate Enterprise Domains



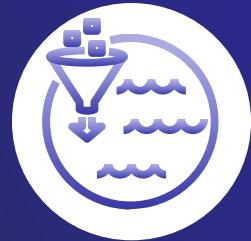
Hub and Spoke approach for Integration

Data Marketplace



Marketplace

- Frictionless
- Discoverability
- Producer incentives
- Consumer incentives
- Operator incentives



AWS Lake Formation

BUILD A SECURE
DATA LAKE IN DAYS



Build data lakes quickly



Simplify security management



Provide self-service access to data

Challenges to Watch Out For

- Silos are forming up
 - You're not building modern data silos
 - Govern consumable solutions vs your interoperable integration layer
 - Discoverability
- Building Entity360 views by integrating the whole world
 - Work backwards from specific use cases
 - Aggregate cohesive entities
- Aggregates that are owned by IT

It's Definitely a Journey

- Work backwards from context and use-cases, don't build technical platforms
- Architect for **flexibility**
- Modern Data Strategy is an analytical pattern for **reversible** decisions
- You're one **Experiment** away



More Resources

- Modern Data Architecture [Whitepaper](#)
- Derive Insights from AWS Modern Data [Whitepaper](#)
- Well Architected Framework – [Analytics Lens](#)
- AWS serverless data analytics pipeline reference architecture [blog post](#)
- AWS Prescriptive Guidance – [Enabling data persistence in microservices](#)
- Data Lake Foundation on AWS – [Quick Start](#)



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<https://eventbox.dev/survey/1J020R6>



Thank you!

John Mousa

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Sr. Solutions Architect | AWS DACH
Enterprise

