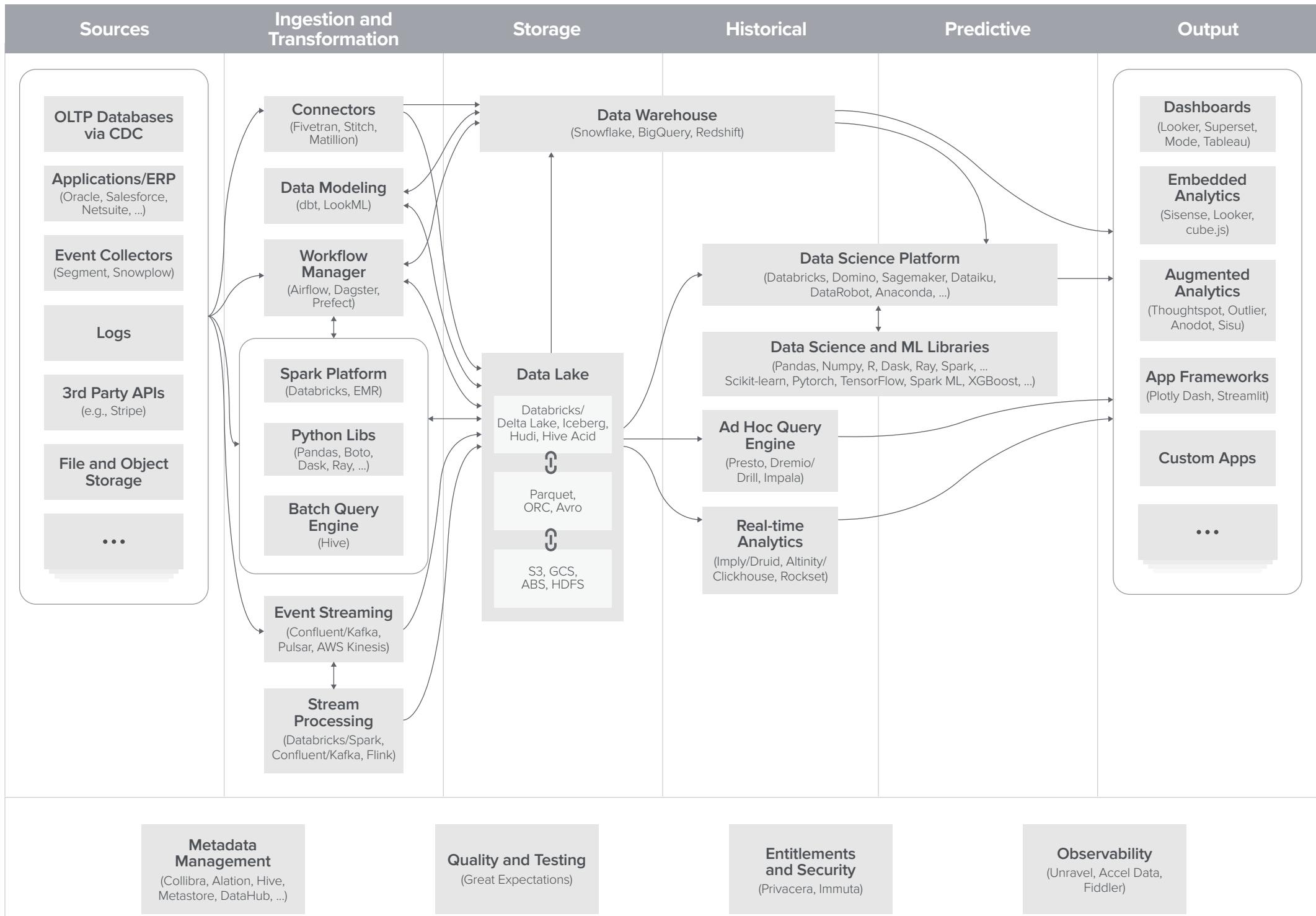


# A Unified Data Infrastructure Architecture

Query and Processing



# Interpreting the Architecture

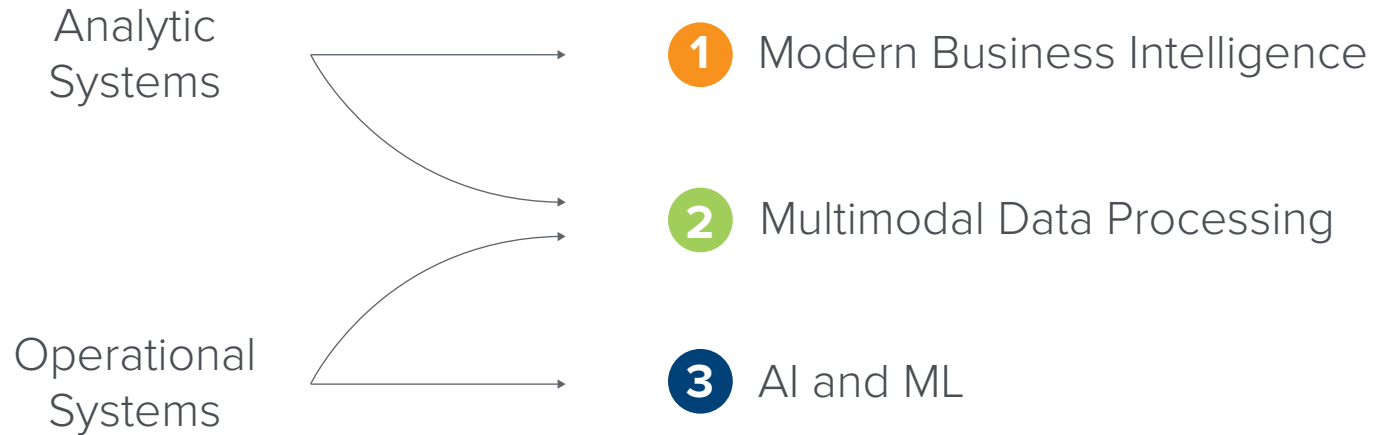
————— Query and Processing —————

Sources	Ingestion and Transformation	Storage	Historical	Predictive	Output
<p>Generate relevant business and operational data</p>	<p>Extract data from operational systems (E)</p> <p>Deliver to storage, aligning schemas between source and destination (L)</p> <p>Transform data to a structure ready for analysis (T)</p>	<p>Store data in a format accessible to query &amp; processing systems</p> <p>Optimize for low cost, scalability, and analytic workloads (e.g., column store)</p> <p>In some cases, provide additional data structures or guarantees</p>	<p>Provide an interface for analysts and data scientists to derive insights (query)</p> <p>Execute queries and data models against stored data, often using distributed compute (processing)</p> <div style="text-align: center;"> </div> <p>Describe what happened in the past (including very recent past)</p> <p>Predict what will happen in the future</p> <p>Build data-driven/ML applications</p>	<p>Present results of data analysis to internal and external users</p> <p>Embed data models into operational systems and applications</p>	

Coordinate the flow of data and the execution of computations across the full lifecycle

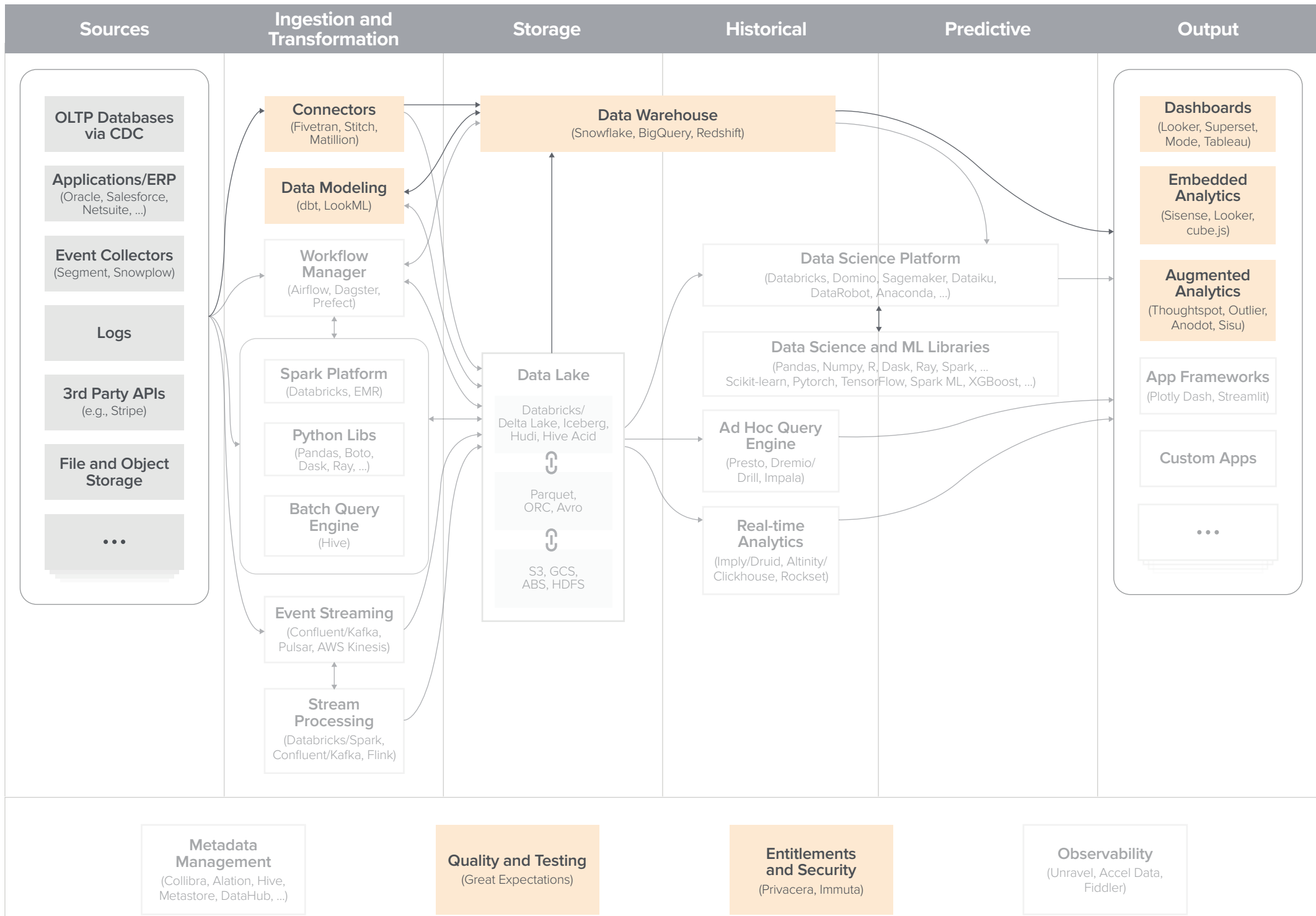
Ensure proper data quality, performance, and governance of all systems and datasets

# Three Common Blueprints



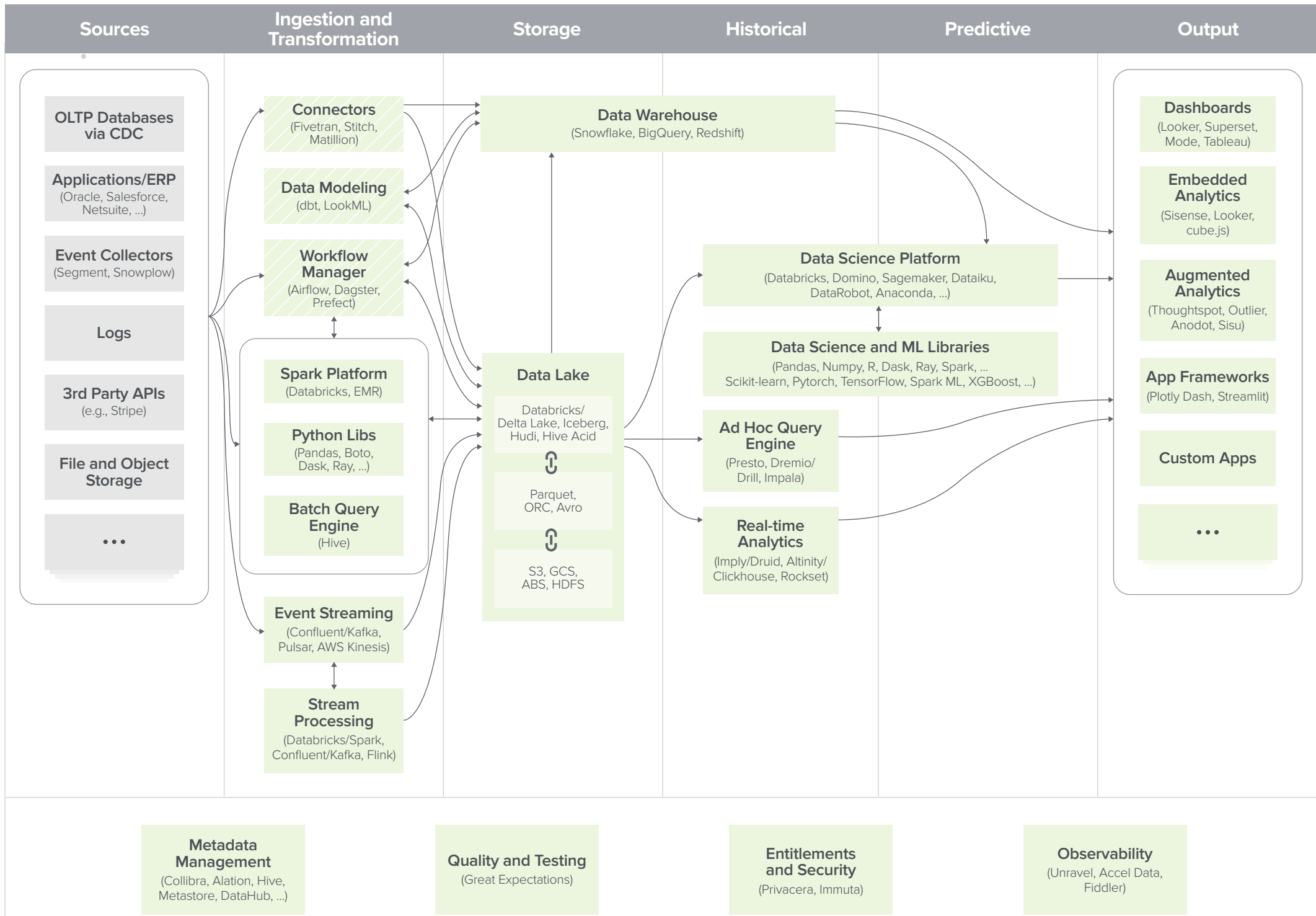
# 1. Modern Business Intelligence Blueprint

Query and Processing



# 2. Multimodal Data Processing Blueprint

Query and Processing



# 3. AI and ML Blueprint

