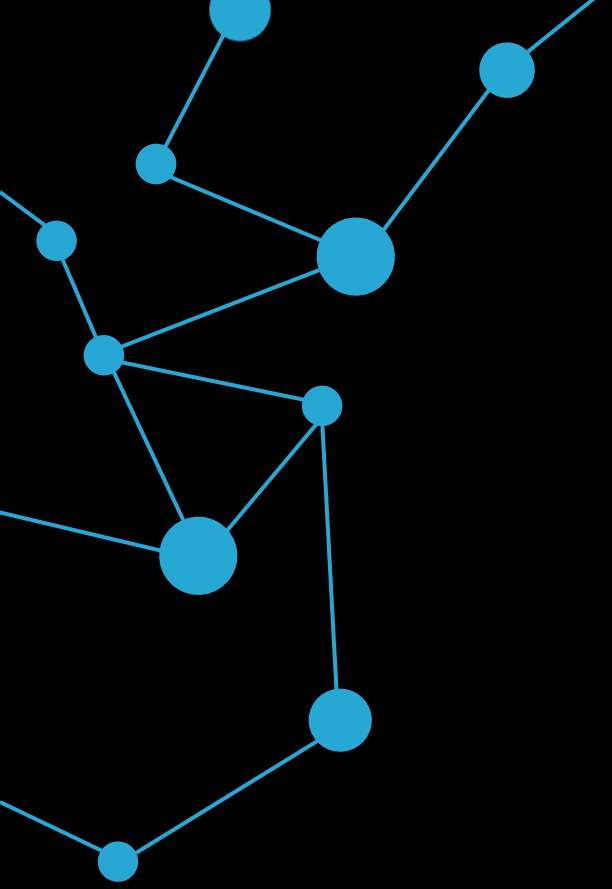


Zetaris AI Bootcamp

Instant AI and Analytics. Any data. Anywhere

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Welcome to the AI Bootcamp

Bootcamp Objectives

Purpose	**Accelerate AI adoption and identify high-value use cases**
Duration	1-day or 3-day **intensive workshop with relevant stakeholders**
Outcome	**Prioritized list of use cases, MVP prototype, and deployment roadmap**

AI Bootcamp

Outcomes



Connect, Prepare, and Activate LLMs grounded in your private data



Implement AI Guardrails, Monitoring and Governance

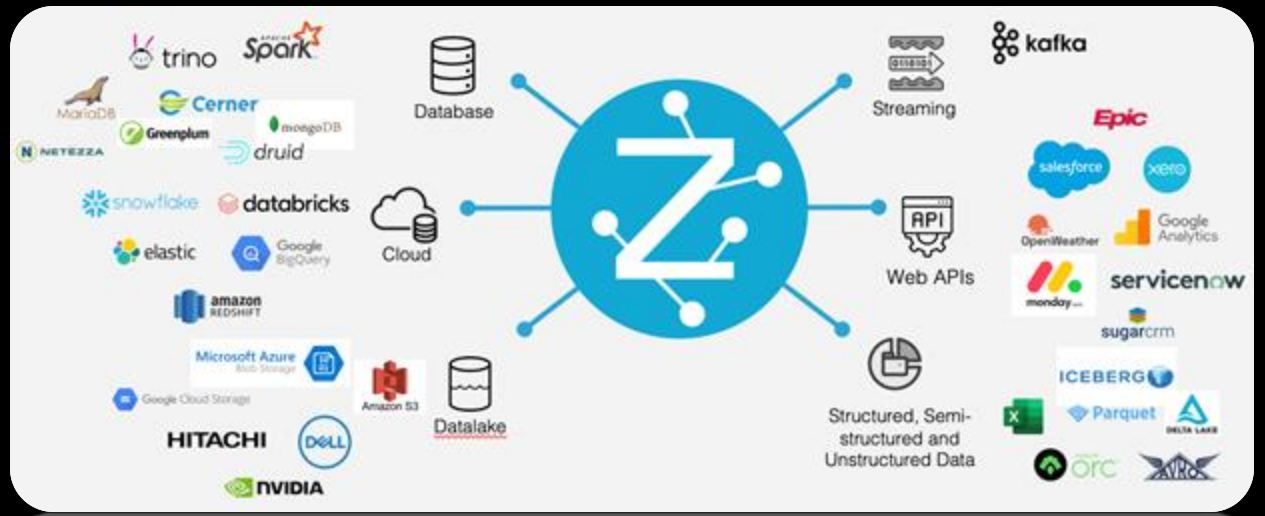


Co-develop and deploy an AI use-case privately in your operations

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AI Bootcamp

Components and Deliverables



Pre-Bootcamp

Bootcamp Agreement
Business Interviews
Stakeholder Map
Corporate and Data Strategy
Data Readiness Assessment
Private Data Environment

Zetaris AI Data Hub

Unified Data Access
Data Discovery
Data Preparation
Data Governance
Semantic Layer
Security and Sharing

Bootcamp Deliverables

Product Co-development
Hands-on Training
AI Certification
Gen AI Platform
Private Deployment
Operate and Scale

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AI Bootcamp

Bootcamp Framework

People	**Dedicated Zetaris AI Experts** Hands-on training **and co-development**
Software	**Initialize the Zetaris AI Hub in your private environment**
Outcome	**Deploy AI in your operations on your private network**

AI Bootcamp

Bootcamp Cadence

Pre-Bootcamp

- Data Agreement
- Data Assessment
- Scope Use-Cases
- Initialize Stack

Phase 1

- Platform Deep Dive
- Building AI Intuition
- AI Data Preparation
- Use-Case Selection

Phase 2

- Hands-on Keyboards Sessions
- Immersive Training
- Use-Case Development

Phase 3

- Test and Deploy Use-Case
- Tactical Roadmap
- Showcase and Assessment
- Certification

Generative AI Use-Cases

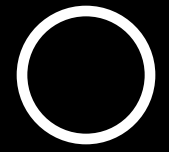
Prepare your data for actionable insights with AI-driven decision-making

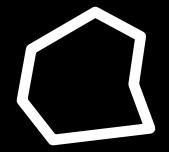


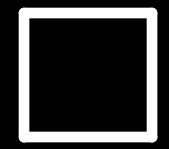
The Zetaris AI Data Hub

A Quick Recap









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Zetaris allows you to securely **connect, develop, & access all your data,** through a single platform for **AI & Analytics**

Your **Data**

- Databases
- OLTP, ERP, CRM Systems
- Data Lakes
- Social Networks and REST APIs
- Web Logs and Streams
- Sensor Data
- Structured, semi-structured and unstructured file types

Your **Data Management** & **Query Engine** platform

Zetaris

CONNECT & DISCOVER

Catalog & query your data immediately

DEVELOP & MANAGE

Transform and bring your data together

SECURITY & GOVERNANCE

User, role, column, row and field level data security

QUERY RUN-TIME

Market leading query engine, Auto-scale, Heterogeneous query optimization

Gen

AI powered

- Data Classification
- Relationship Finder
- Data Lakehouse Builder

Your **Data Access**

Gen

AI powered

Enterprise Chatbot

(with RAG system)

- Virtual Assistant
- ChatBot
- Business Intelligence e.g. Tableau, PowerBI
- Data Applications
- Data Science e.g. python
- Chatbots / CoPilots

AI & Analytics tools have **direct access to all your data**

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Zetaris allows you to securely **connect, develop, & access all your data,** through a single platform for **AI & Analytics**

Your **Data**

Structured, semi-structured and unstructured

Microsoft Azure Blob Storage · Amazon S3 · Google Cloud Storage · ORACLE · IBM · Microsoft SQL Server · PostgreSQL · SAP · teradata. · mongoDB · Epic · Cerner · databricks · Apache Spark · snowflake · elastic · Google BigQuery · kafka · amazon REDSHIFT · Greenplum · trino · Google Analytics · xero · OpenWeather · salesforce · NETEZZA · IBM DB2 · cassandra · MariaDB · druid · ICEBERG · VERTICA · servicenow · DELTA LAKE · Apache orc · Parquet · AVRO · SQLite · Excel

...and many more

Your **Data Management** & **Query Engine** platform

Zetaris

CONNECT & DISCOVER	DEVELOP & MANAGE	SECURITY & GOVERNANCE
Catalog & query your data immediately	Transform and bring your data together	User, role, column, row and field level data security

QUERY RUN-TIME
Market leading query engine, Auto-scale, Heterogeneous query optimization

Gen · AI powered

- Data Classification
- Relationship Finder
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Your **Data Access**

Gen · AI powered **Enterprise Chatbot** (with RAG system)

- Virtual Assistant
- ChatBot

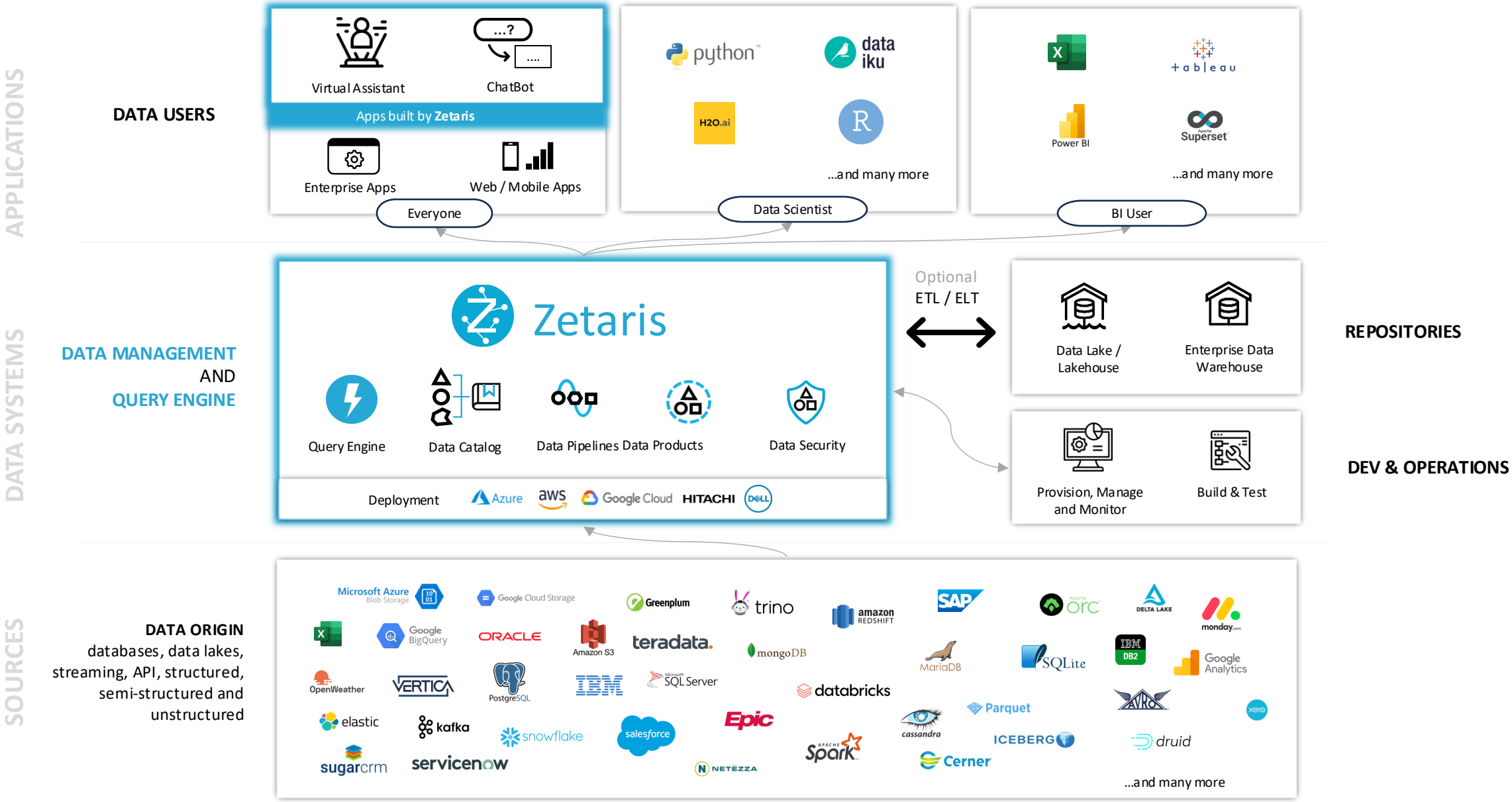
tableau · Power BI · Excel · Apache Superset · python · H2O.ai · data iku · R

Data Applications · Chatbots / CoPilots · ...and many more

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Zetaris **Platform** | Reference Architecture

Where does Zetaris fit in the stack?

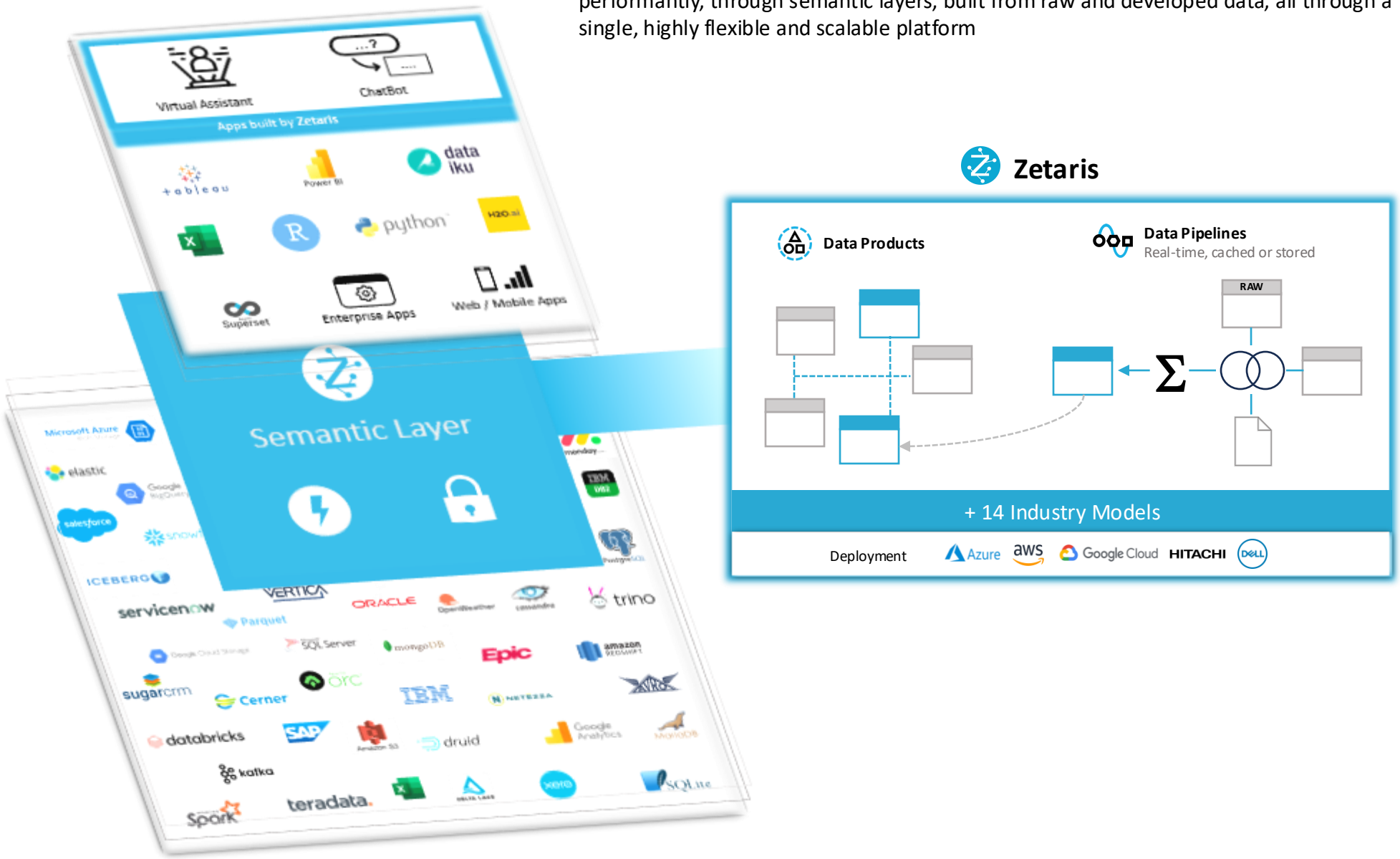


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Zetaris | Core Capability

Unified Semantic Layer

Zetaris allows you to access all your structured and unstructured data securely and performantly, through semantic layers, built from raw and developed data, all through a single, highly flexible and scalable platform



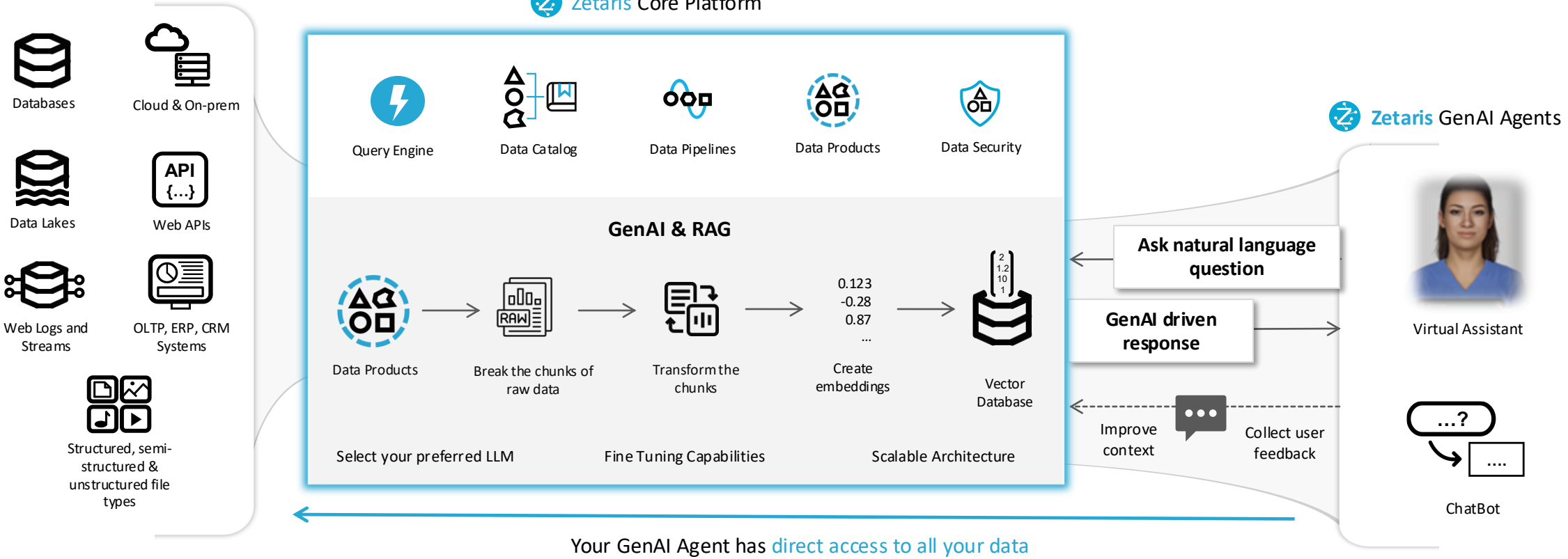
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Zetaris | GenAI & RAG

High Level Design, with RAG System

The Zetaris **Core Platform** serves as the **central brain** linking to Zetaris **GenAI Agents** and systems, facilitating automated and real-time integration across various platforms and environments.

Your **Data Sources**



Your GenAI Agent has direct access to all your data

Compute Engine

Scalable Spark based compute engine, with added enhancements
Isolated and Scalable Compute
Query Rewriting, Data Source and Caching Optimizations

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Zetaris | GenAI & RAG

AI Avatar Maturation Framework

How to build & mature the brain?



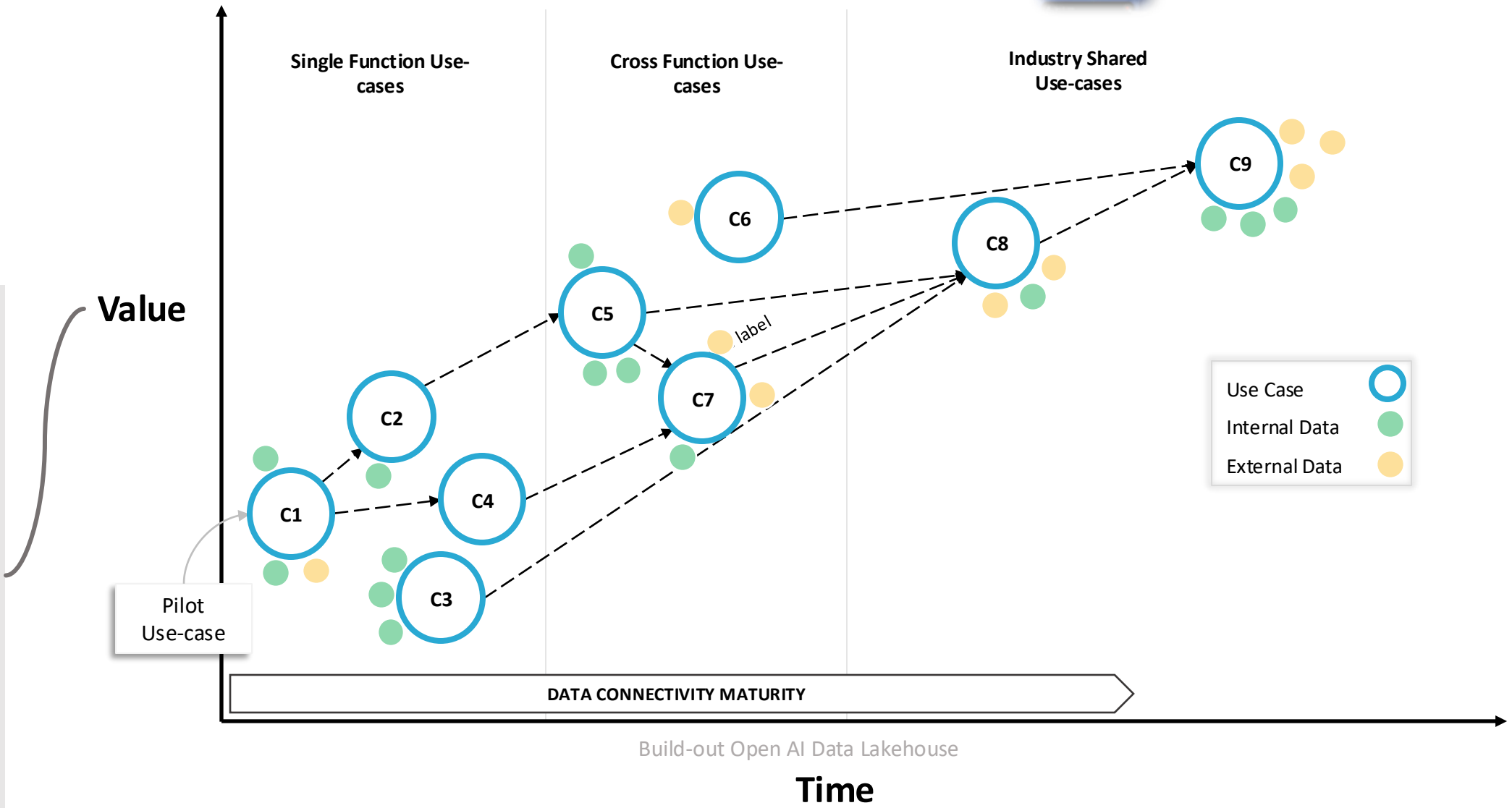
Value

Connect, Join and Prepare

Metadata Store

Unified Semantic Layer

Use Case Views

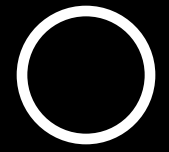


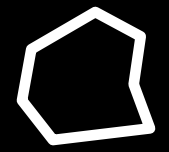
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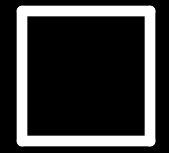
AI Bootcamp

From Concept to Actionable Intelligence









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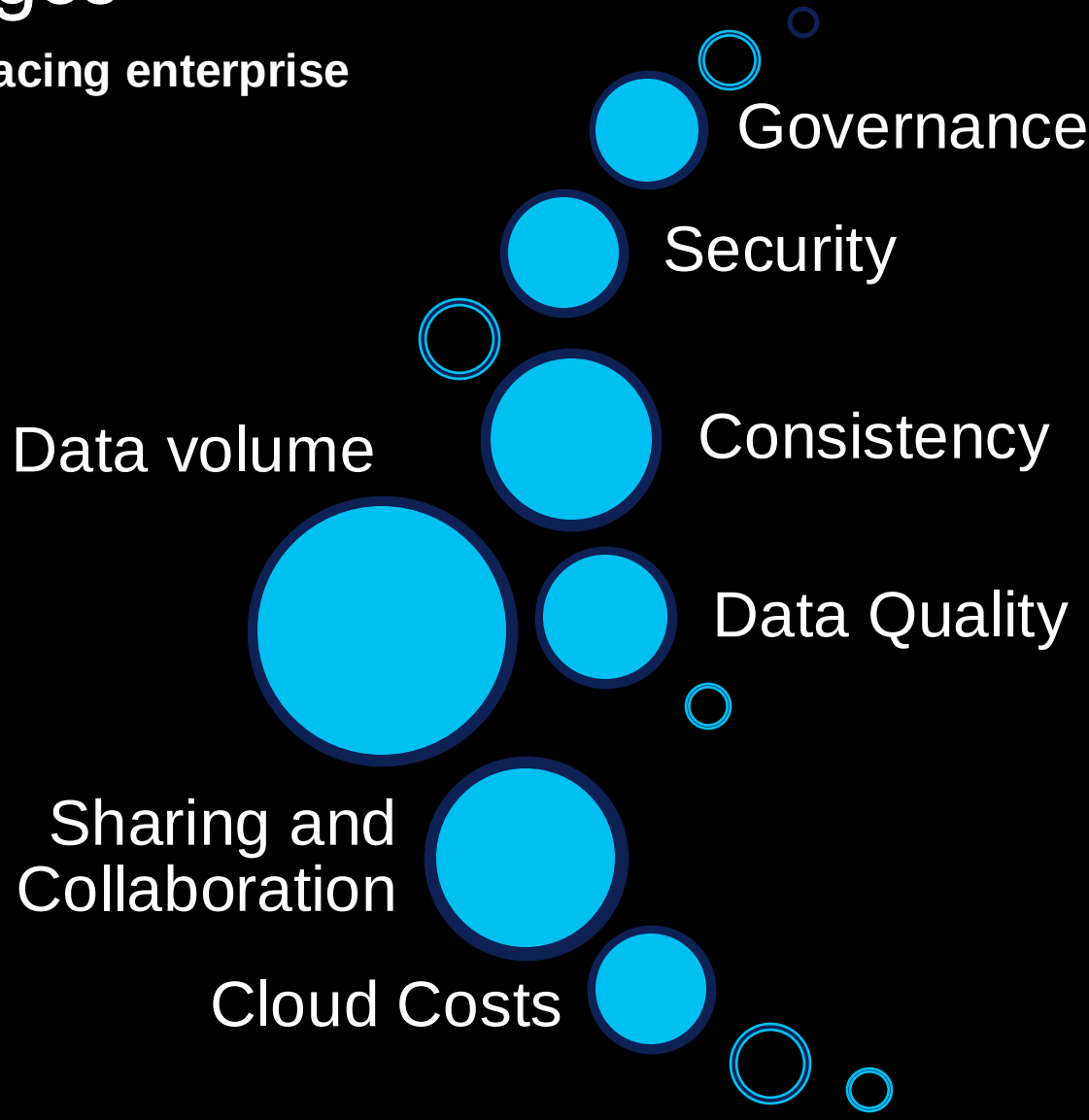
Bootcamp Objectives

What we'll achieve together

- Develop a compelling business case
- Create an MVP for a high-priority use-case
- Establish an AI Data Platform (up to 5 data sets)
- Prioritize potential use cases and create a roadmap
- Train and set up deployment team + AI certification

Big Data Challenges

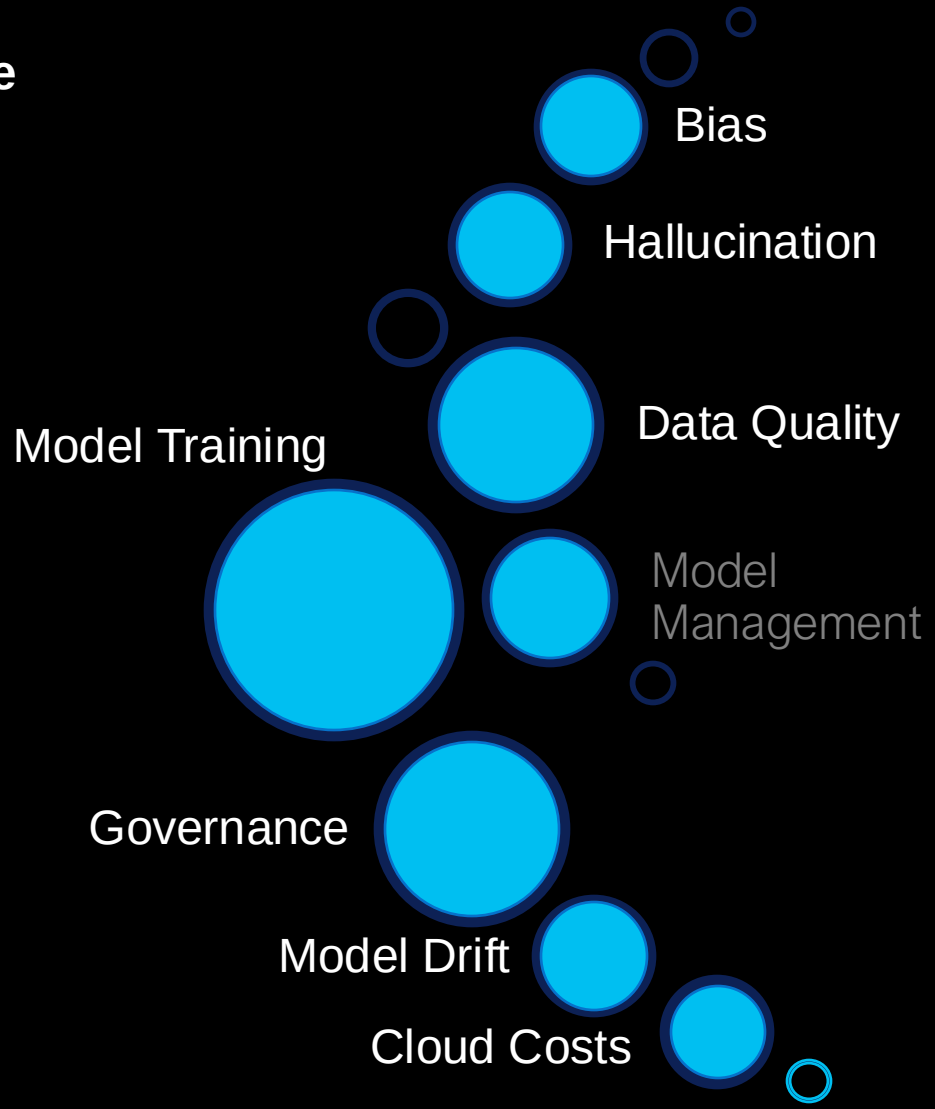
Common data challenges facing enterprise



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AI Challenges

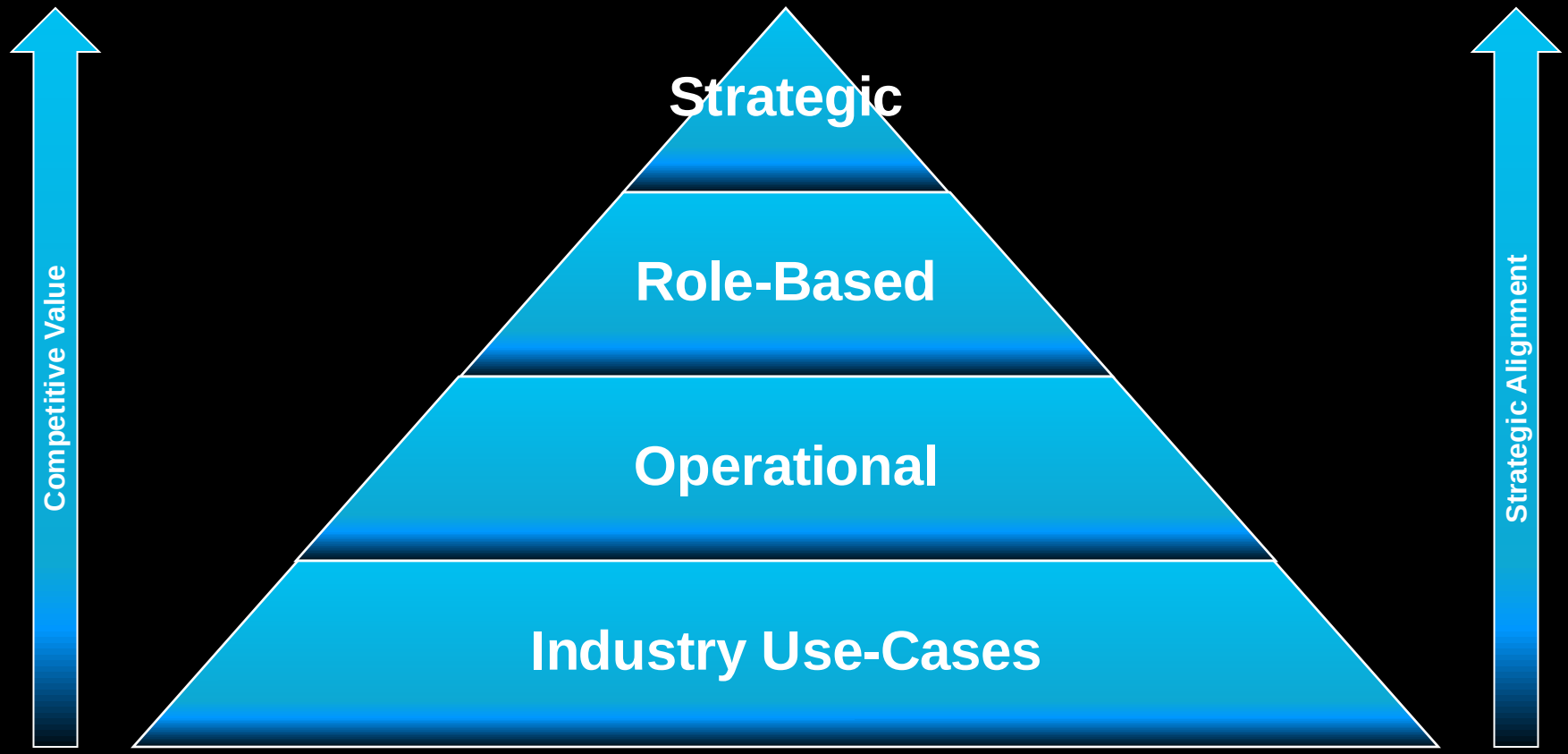
AI challenges facing enterprise



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Use-Case Value Mapping

Competitive Value and Strategic Alignment



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Pre-Bootcamp Preparation

Setting the stage for success

Activity	Definition
Terms of Service Agreement	Initialize stack for private deployment in customer environment
Business Discovery Interviews	Structured conversations with stakeholders to gather insights and requirements
Stakeholder Mapping	Confirm participant roles including business owners, users, and IT stakeholders
Corporate and Data Strategy	Document data management goals to drive business growth and innovation
Data Readiness Assessment	Conduct Data Readiness and AI Maturity assessment
Confirm Target MVP Use-Case	Prioritize AI use-cases and select candidate for bootcamp development



Tailored implementation plan for Zetaris AI Data Hub aligned with your company goals through hands-on development of an AI use-case

Phase 1 – Building AI Intuition

Interactive overview of large language models and Generative AI capabilities in the context of your enterprise

Prerequisite: Working data layer reflecting the customer's operating environment

Level Set and Educate

- Data concepts
- AI Concepts
- Business level certification

Review and Confirm Use-Case

- Card ranking
- Value vs cost quadrant
- Use case team pitch

Prioritized list of use cases and deployment roadmap

Phase 1 - Agenda

Welcome and Objectives:

- ✓ Overview and recap of the Bootcamp objectives
- ✓ Setting expectations and goals for the three days

Gain Consensus on Readiness:

- ✓ Assessing the current AI maturity and readiness of participants
- ✓ Review results of pre-bootcamp discovery interviews
- ✓ Identifying key stakeholders and their roles

Vision and Roadmap:

- ✓ Establishing a shared vision for AI implementation
- ✓ Mapping out a strategic AI roadmap aligned with business goals

Use Case Identification:

- ✓ Collaborative session to identify high-impact AI use cases
- ✓ Prioritizing use cases based on business value and feasibility
- ✓ Assess use-cases using value versus cost quadrant

Overview of AI Deployment Challenges:

- ✓ Discussing common challenges in AI deployment
- ✓ Strategies to overcome these challenges

Introduction and Overview of Zetaris AI Data Hub:

- ✓ Introduction to the Gen AI Hub platform
- ✓ Step-by-step guide to platform implementation
- ✓ Data Quality, Data Access, Data Management, and Virtual Pipelines

Introduction to Machine Learning Approaches:

- ✓ Overview of fundamental machine learning concepts
- ✓ Introduction to different ML models and their applications

Hands-on Sessions with LLMs and Generative AI:

- ✓ Practical exercises using Large Language Models (LLMs)
- ✓ Exploring generative AI applications

Activity - Case Study Analysis

Discuss and present case studies of successful and unsuccessful AI implementations. Participants analyze and discuss as a group:

- Strengths and weaknesses of the solution
- What went right or wrong
- What could have been done differently

This helps participants learn from real-world examples and apply those lessons to their own projects.

Example Use Cases:
IBM Watson for Healthcare
Microsoft's Tay Chatbot

Activity - Gen AI Readiness

Review the results of the Gen AI Readiness Assessment in the context of the customers specific industry and use-cases.

The Gen AI Readiness Assessment is designed to evaluate an organization's preparedness to adopt, implement, and support generative AI (GenAI) solutions.

By examining key areas such as strategy, data management, AI model alignment, adoption capabilities, people resources, and platform infrastructure, this assessment identifies strengths, potential gaps, and actionable insights to help organizations effectively integrate GenAI into their operations.

The outcome of the assessment will ensure:

- Guided strategic decision-making
- GenAI initiatives are aligned with business goals
- Initiatives are supported by the necessary resources, and capable of delivering tangible value

Activity - Use-Case Brainstorming

This session helps participants brainstorm potential AI use cases relevant to their industry.

1. Each participant lists their top three most impactful AI use-cases.
2. Participants can present their ideas with justification and the group may wish to prioritise the list.

This helps participants think creatively about how to apply GenAI and align it with their business objectives.

Extension
Participants are asked to identify third-party datasets and data sources (including APIs) that may provide value to their company and use-cases.

Activity - LLM System Prompts

System prompts are an integral part of LLM operations. Understanding the impact of well engineered system prompts helps system design.

1. Provide participants with a set of different prompts designed to achieve the same task and have them compare the outputs.
2. Discuss why certain prompts perform better and what elements contribute to effective prompt design.

Extension
Assess the impact different system prompts have on user prompts.

Activity - LLM System Prompt Evaluation

gpt-4o

SYSTEM

You are an expert financial advisor named Finn. You are friendly, concise, and helpful and can provide financial advice to maximise the customers potential earnings.

USER

Provide a list of the top three stocks that are most likely to have the largest returns in the near to mid-term.

ASSISTANT

While I can't predict specific stock performance with absolute certainty, I can provide some examples of companies that analysts are currently bullish on due to strong growth prospects, market position, and innovative capacities. As of the latest information, here are three stocks commonly recommended for potential near to mid-term returns:

1. **Tesla Inc. (TSLA)**:
   - **Rationale**: Tesla continues to lead the electric vehicle (EV) market, boasts strong brand loyalty, and is making significant strides in battery technology and energy solutions. Their expansion into global markets and new models could fuel further growth.

2. **NVIDIA Corporation (NVDA)**:
   - **Rationale**: NVIDIA is at the forefront of the graphics processing unit (GPU) industry, essential for gaming, AI, and data centers. Their leadership in technology and innovative solutions for various high-

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gpt-4o

SYSTEM

You are an expert financial advisor named Finn. You are gruff, to the point, and extremely risk averse. You will only ever provide advice if you are absolutely certain of the outcome.

USER

Provide a list of the top three stocks that are most likely to have the largest returns in the near to mid-term.

ASSISTANT

Look, if you're looking for guarantees, you're barking up the wrong tree. Stocks are volatile and there's no crystal ball that gives you a sure-fire winner. That said, if you want stable and dependable, I'd steer you towards blue-chip companies or diversified ETFs. Play it safe. Don't gamble with your future.

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Phase 2 – Data Product Development

Bringing your data to life through intensive hands-on sessions

- **Data engineering**
- **Governance**
- **Airflow orchestration**
- **Model training**
- **Visual design**
- **Solution stack**

Phase 2 - Agenda

Deployed Gen AI Data Hub Platform:

- ✓ Data engineering and virtual pipelining
- ✓ Data quality and data governance features
- ✓ Orchestration and automation using Airflow
- ✓ Leveraging validated design with Semantic Layer
- ✓ Integrating GenZ and NVidia for inferencing and model customization

Deep Dive into Prompt Engineering and Agentic-Design Patterns:

- ✓ Advanced techniques in prompt engineering
- ✓ Exploring agentic-design patterns for AI applications

Practical Sessions on Fine-Tuning Models:

- ✓ Hands-on exercises in model fine-tuning
- ✓ Customizing models to meet specific business needs

Strategies to Avoid Data Drift and Maintain Performance:

- ✓ Understanding data drift and its impact
- ✓ Implementing strategies to maintain model performance over time

Product Design and Development

- ✓ Product design
- ✓ Product development process
- ✓ Virtual data set creation using Virtual Pipelines
- ✓ Model training and fine-tuning

Activity - Data Quality

Participants work in groups to analyze a dataset that contains known data quality issues. Each group works together to:

- Identify and quantify data quality issues
- Discuss potential impacts
- Propose solutions to improve data quality

Solutions can include data cleansing, validation, and governance techniques.

Extension
Implement the proposed data quality validation checks using the Zetaris AI Hub Data Quality node in Pipelines.

Activity - Unified Semantic Layer

Participants are tasked with creating a unified semantic layer for a given business scenario using Virtual Datamarts to map complex data into familiar business terms and ensure consistency across different data sources.

This exercise helps participants understand the role of semantic layers in simplifying data access and analysis.

Extension
Create pipelines to unify and harmonize data sources and add the newly created pipelines to the semantic layer.

Activity - Integration and Preparation

Participants integrate disparate data sources using Zetaris' no-code integration tools.

During the session participants will:

- Connect to disparate data sources using the AI Hub
- Prepare the data for analysis
- Create a seamless data flow
- Address any integration challenges.

This hands-on activity reinforces the practical use of the Zetaris platform.

Activity - Advanced Prompting

Participants work in pairs to troubleshoot and improve poorly performing prompts.

This helps participants develop:

- Prompt enginnering skills
- Problem-solving skills
- A deeper understanding of how prompts interact with the underlying AI model.

Extension

Using the bootcamp notebooks apply the provided tools and frameworks to automatically evaluate the effectiveness of prompts. Participants can use these tools to assess their prompts and refine them based on feedback from the tools.

Phase 3 – Data Product Deployment

Product Deployment and Innovation Roadmap

Guided development

Fine-tuning

Advanced techniques

Evaluation

Innovation roadmap

Production deployment plan

Private Data Product Deployment

Phase 3 - Agenda

Hands-on Deployment of AI Applications:

- ✓ Practical deployment exercises with Zetaris experts
- ✓ AI application deployment and monitoring

Use-Case Deployment with Zetaris Experts:

- ✓ Collaborative sessions to deploy prioritized use case
- ✓ Iterative development and testing of AI solutions

Development of Target Architectures and Deployment Patterns:

- ✓ Designing target architectures for AI applications
- ✓ Establishing deployment patterns for scalability and robustness

Deployed Model, Tuned with Customer Data:

- ✓ Fine-tuning deployed models with customer-specific data
- ✓ Ensuring models are optimized for real-world performance

Test and Iterate Model Design:

- ✓ Testing deployed models to ensure they meet business objectives
- ✓ Iterating on model design based on feedback and performance metrics

Wrap-Up and Next Steps:

- ✓ Recap of the Bootcamp learnings and achievements
- ✓ Defining next steps for participants to continue their AI journey
- ✓ Q&A session and closing remarks

Activity - Unstructured Data

Consolidating structured and unstructured data sources is a common challenge within modern enterprises. In this session participants will:

1. Connect to an unstructured data source
2. Develop a pipeline to extract structured information
3. Employ the skills acquired in the LLM Session to create a RAG pipeline to chunk, embed, search, and retrieve data elements from each document.

Extensions

1. Persist the extracted data using a Sink attached to the Pipeline
2. Automate the pipeline to execute on a user-defined schedule using the Airflow orchestration tool built into the platform.

AI Bootcamp Outcomes

1-day and 3-day Bootcamp

1-Day AI Bootcamp

- Deployed AI Use-case
- Private AI Data Platform
- Immersive Training
- Business Level Certification

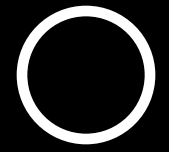
3-Day Bootcamp

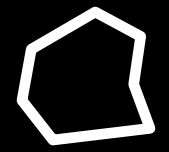
- Deployed Use-Case
- AI Data Platform
- Private AI Data Platform
- Immersive Training
- AI Readiness Assessment
- Data Management
- GenAI Concepts
- Business Level Certification

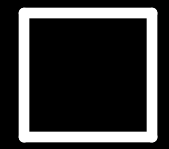
Appendix

AI Bootcamp









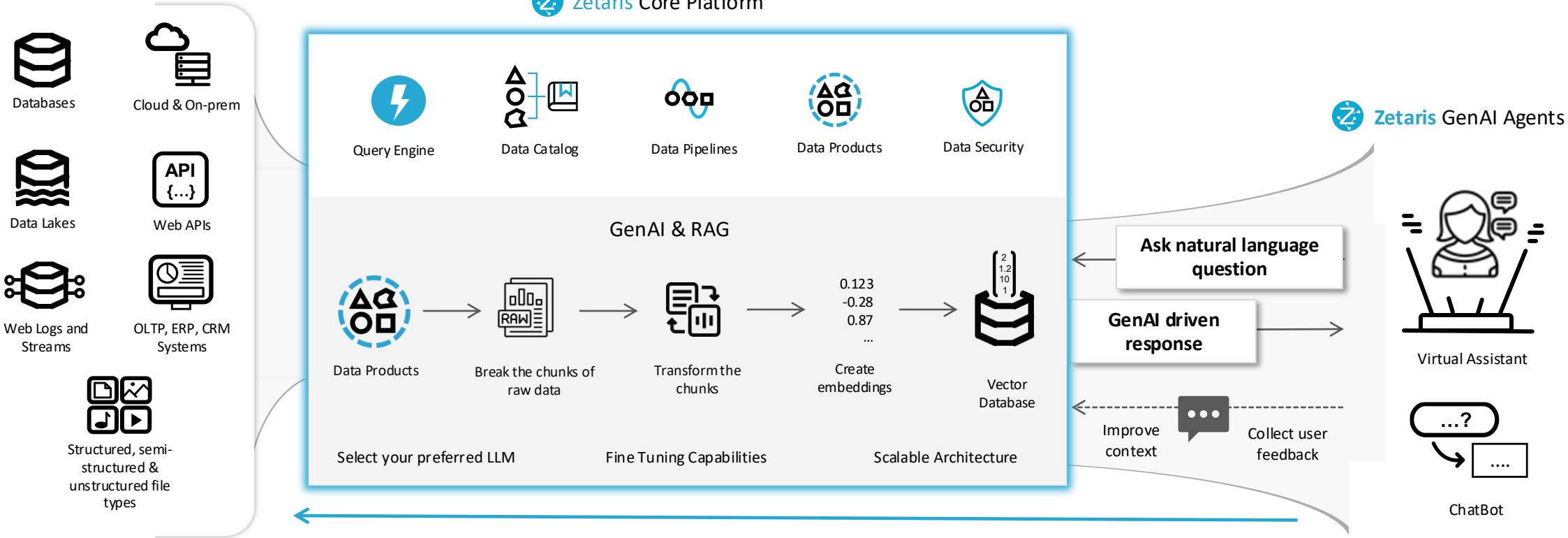
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Zetaris | GenAI & RAG

High Level Design, with RAG System

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Your **Data Sources**

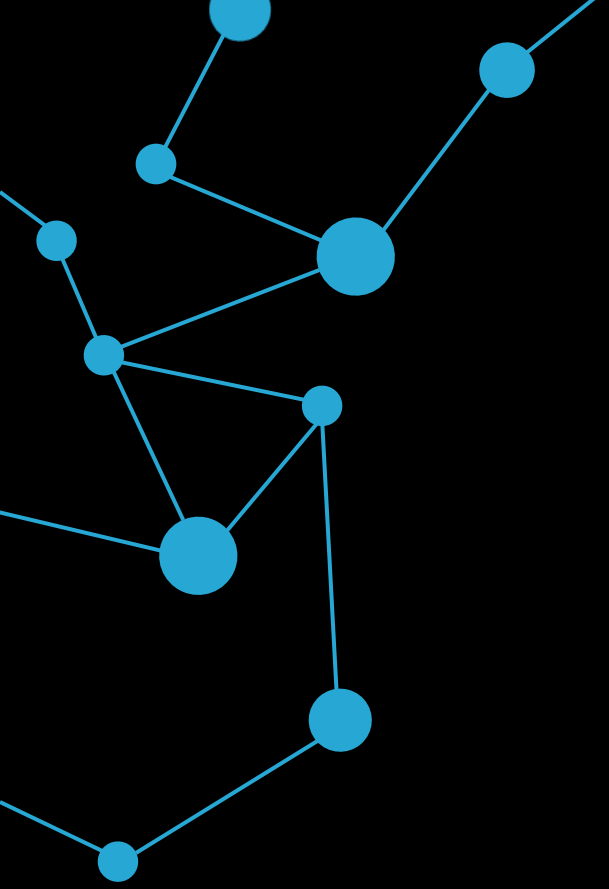


Your GenAI Agent has direct access to all your data

Compute Engine

Scalable Spark based compute engine, with added enhancements
Isolated and Scalable Compute
Query Rewriting, Data Source and Caching Optimizations

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