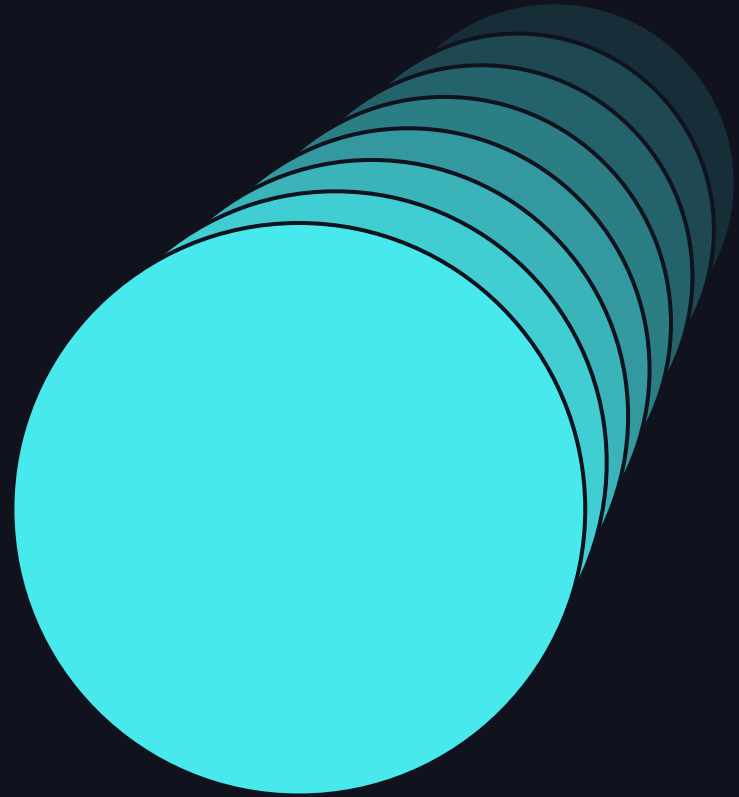


GROWING AI/ML MATURITY & ADOPTION – IT TAKES A VILLAGE

Patrick Rudolph, Coy McNew
Bridgestone



Agenda

- About Bridgestone
- Data & Analytics Org Ecosystem
- DS Tech Stack – Old vs New
- Model Lifecycle
- ML Use Cases
- AI Portfolio Strategy
- Advice and Lessons Learned
- Q&A



“

A complex system that works is invariably found to have evolved from a simple system that worked. A complex system designed from scratch never works and cannot be patched up to make it work. You have to start over with a working simple system

-- John Gall

”

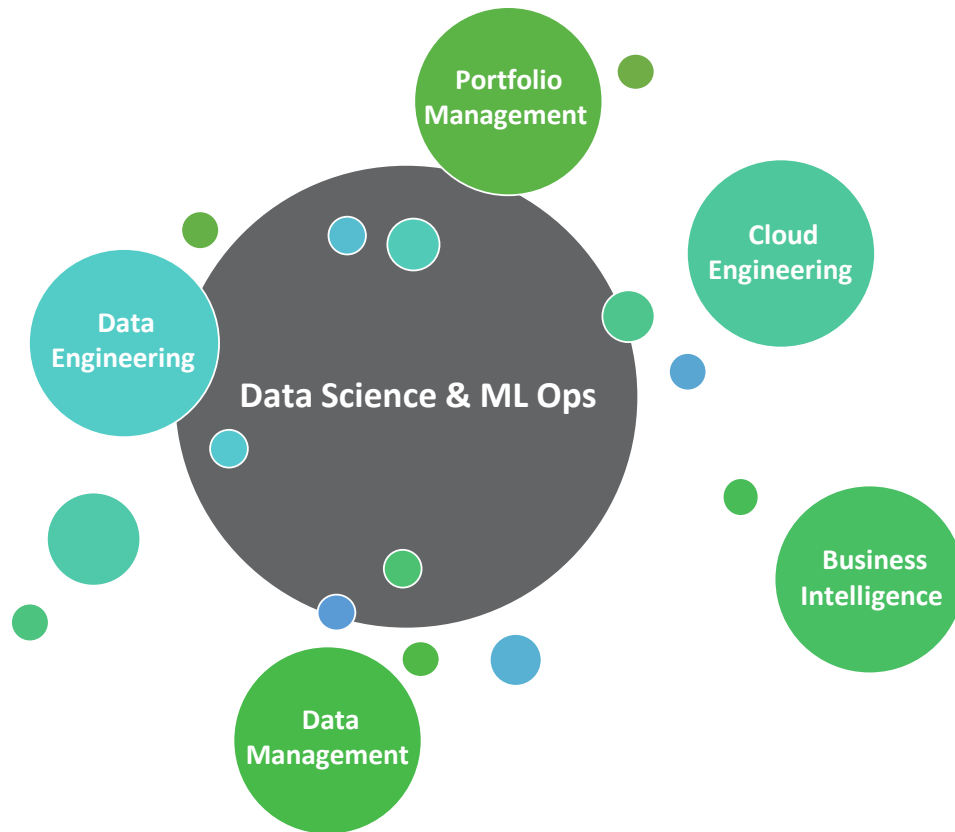
Our Global Footprint



NY-! Ncf Y1s -oQYT >Yf
NY-! N- YTj s S coQYT

FROM RAW MATERIAL
TO RETAIL SHOP

Organizational Ecosystem



DS Tech Stack

Transitioned from entirely on-prem Linux servers to cloud

Old (On-Prem)



Python
(Dev/Prod)



SAS (Prod)



GitHub
Enterprise



FileShare
(20 TB)

New (Cloud)



Databricks
(SB/Dev/QA/Prod)



ADO
(SB/Deployment)

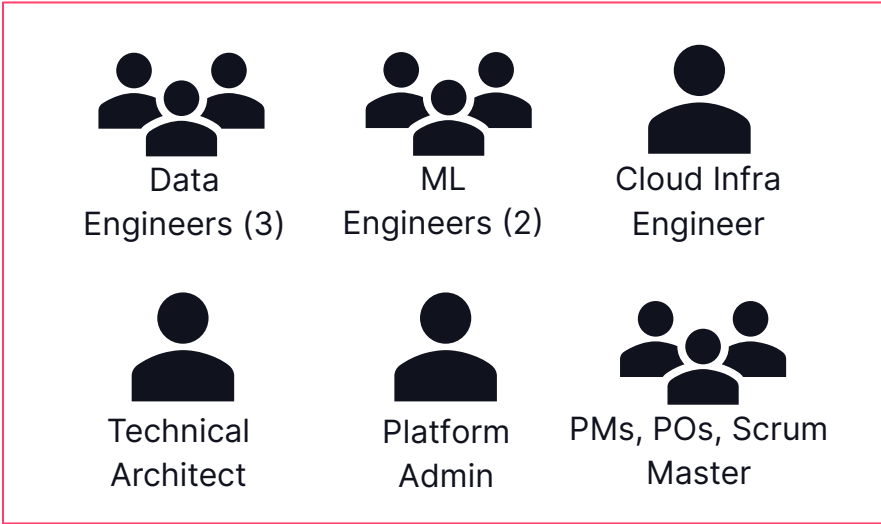


AWS Services
(EC2, ECR, EKS, S3)

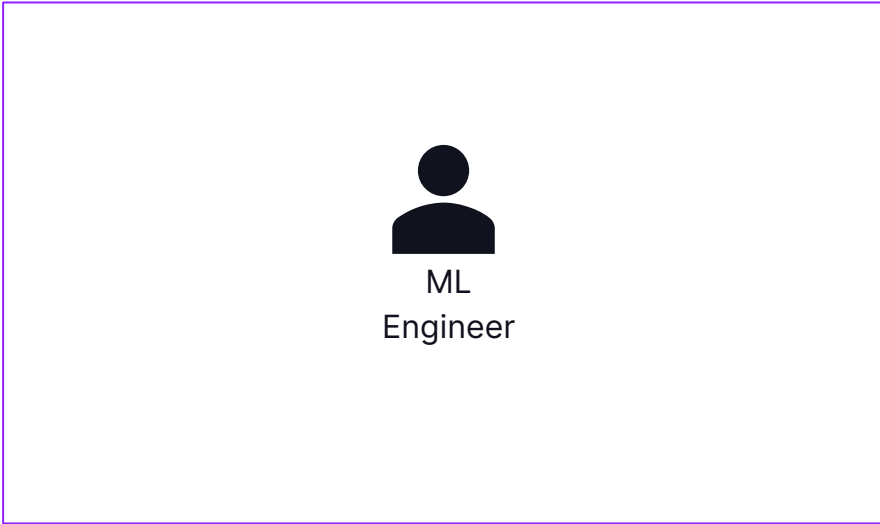
DS Team Support Structure



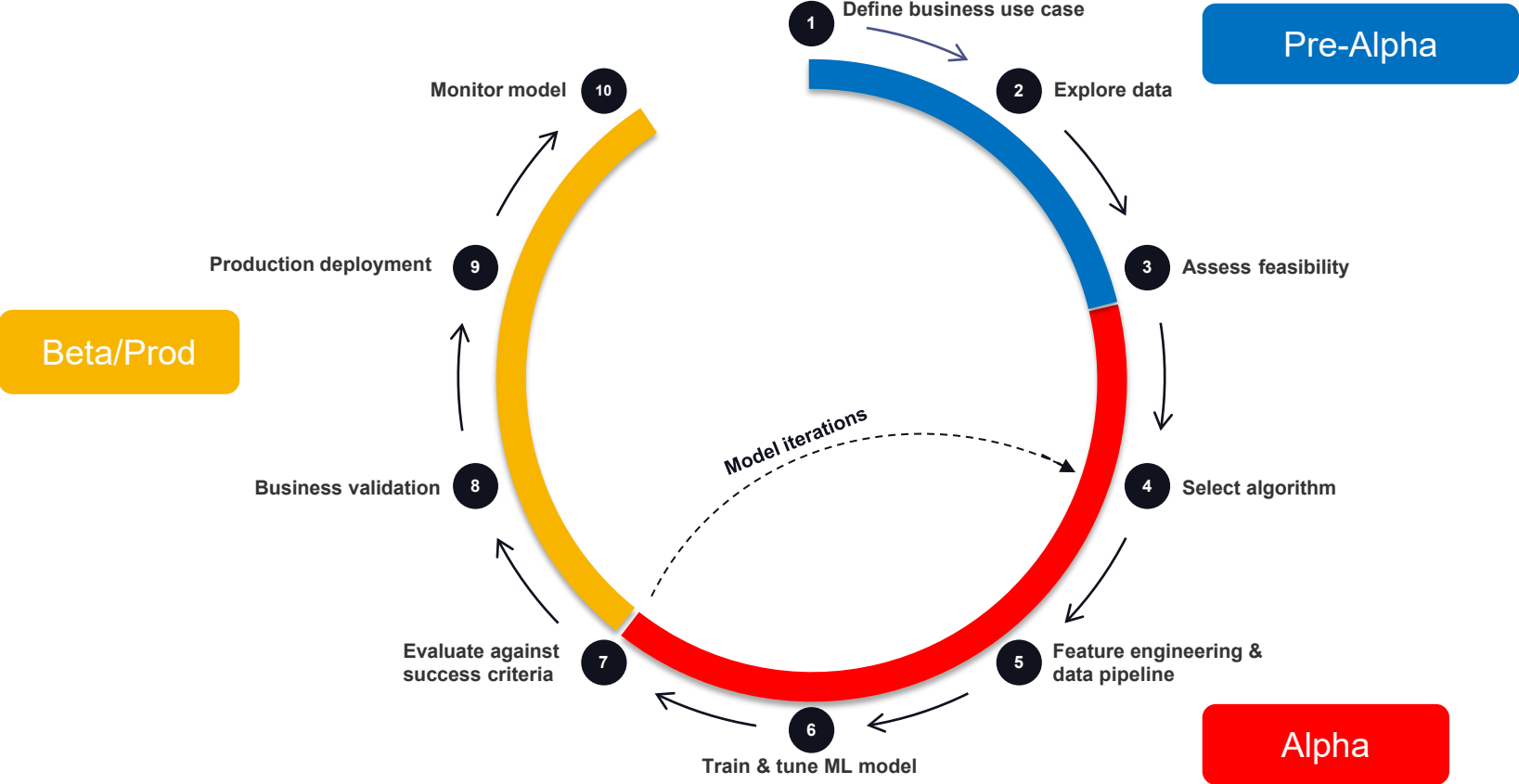
Ideal State



Current State



ML Model Lifecycle



EXAMPLE USE CASES



Patrick Rudolph, Coy McNew
Bridgestone

Use Case #1 – Machine Learning

Guayule as an Alternative Source of Rubber



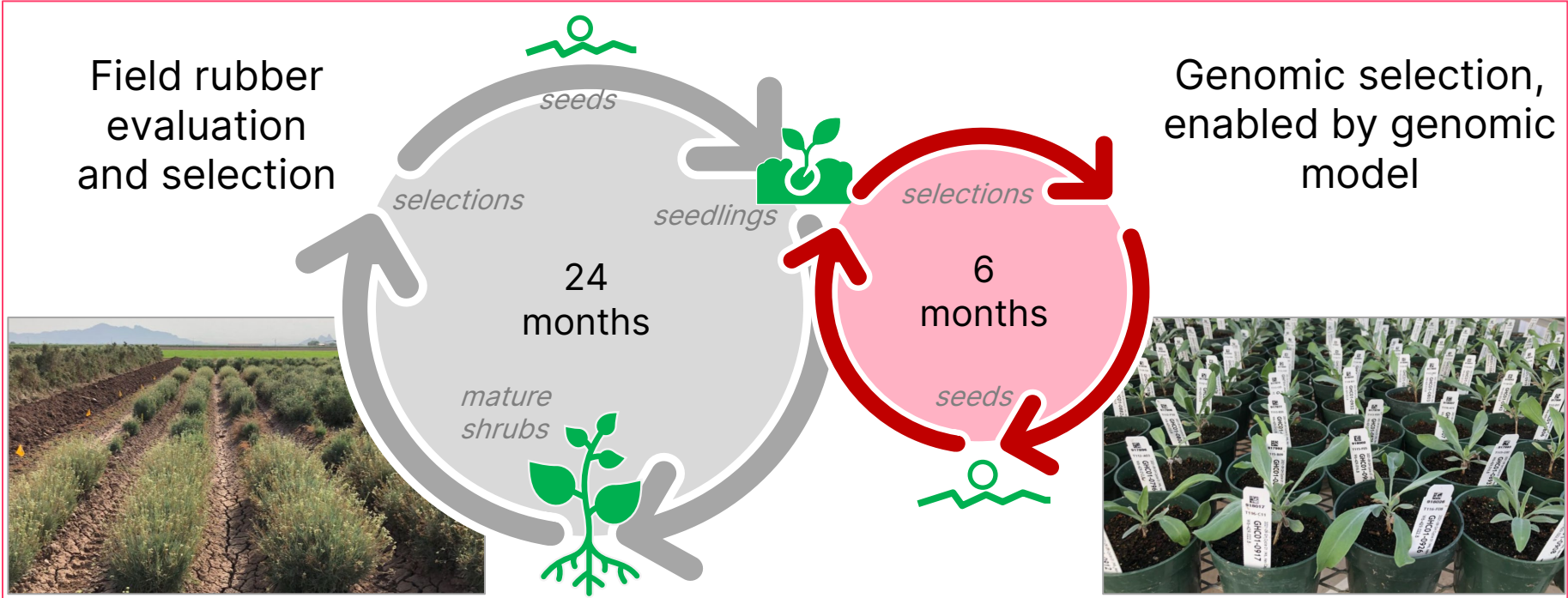
Ecology
Committed to advancing sustainable tire technologies
and solutions that preserve the environment
for future generations



Parthenium argentatum (guayule) is a desert shrub native to the Chihuahuan Desert and suitable for cultivation in arid and semiarid regions.

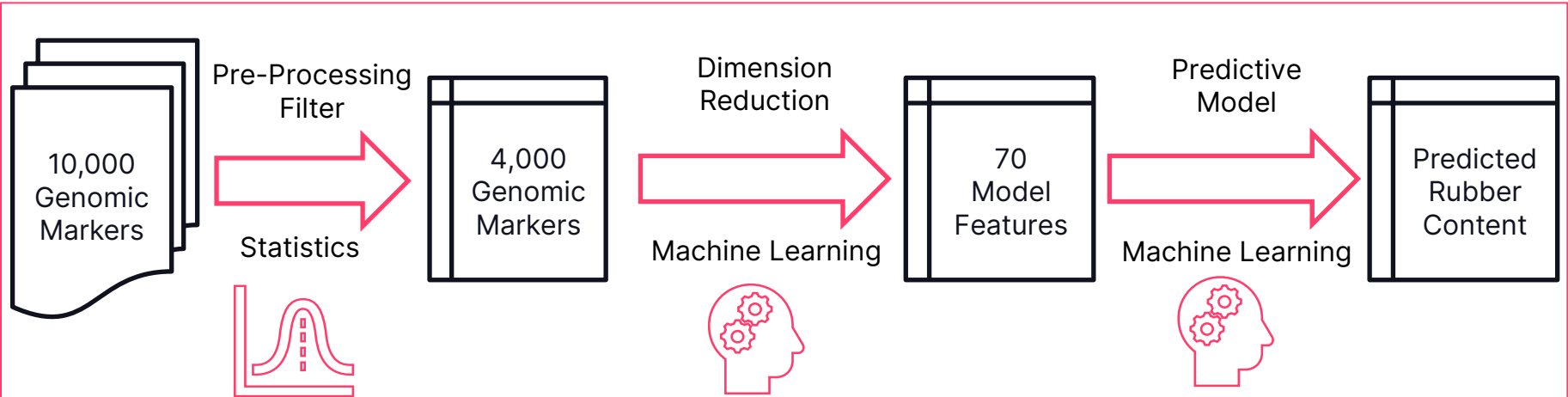
Use Case #1 - Machine Learning

Genomic selection allows for rapid acceleration of breeding cycles



Use Case #1 - Machine Learning

Genomic Model Pipeline



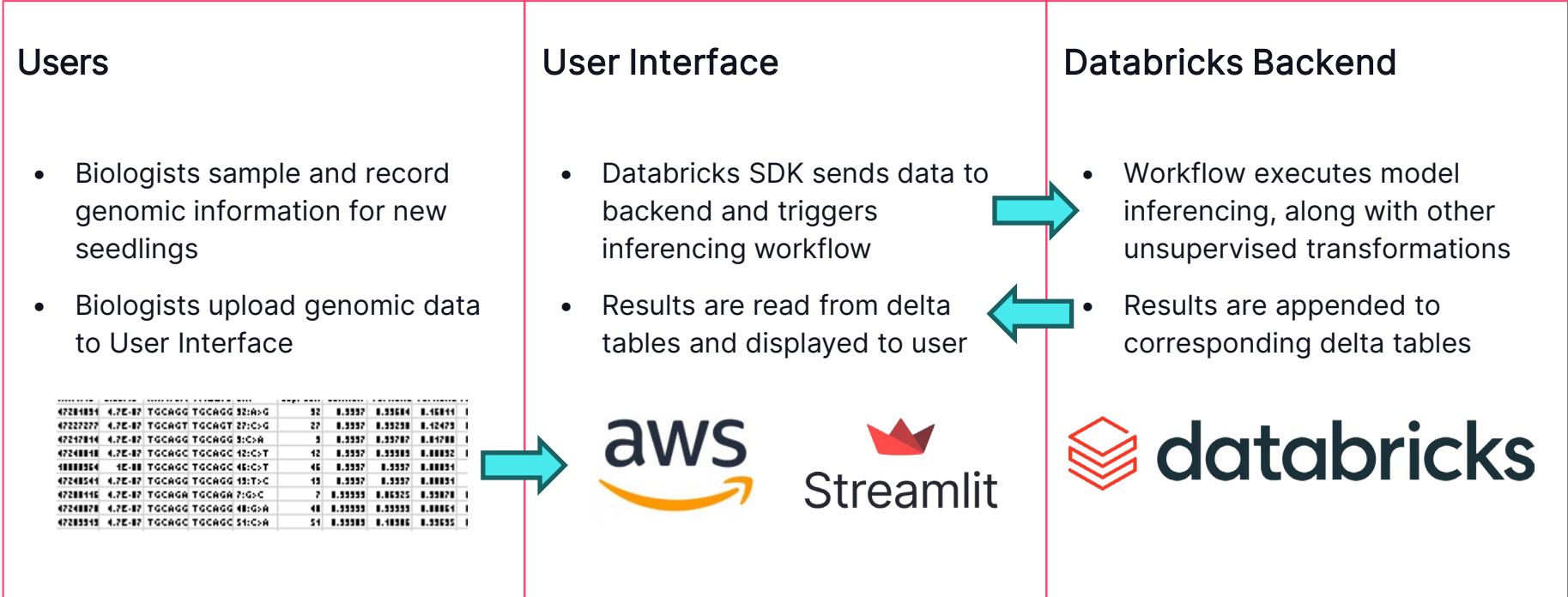
How

- Experimentation, tuning, model candidate management in MLFlow
- Inferencing pipeline managed as Databricks Workflow



Use Case #1 - Machine Learning

Application Framework



Use Case #2 – Generative AI

Enabling the Corporate Strategy Team with Retrieval Augmented Generation



Current State

- On a daily basis, the Corporate Strategy (CS) team receives volumes of competitive market information
- It would take hundreds of hours for a CS teammate to properly consume all of this text, audio, and video
- Domain knowledge is likely lost due to lack of efficient material interrogation techniques

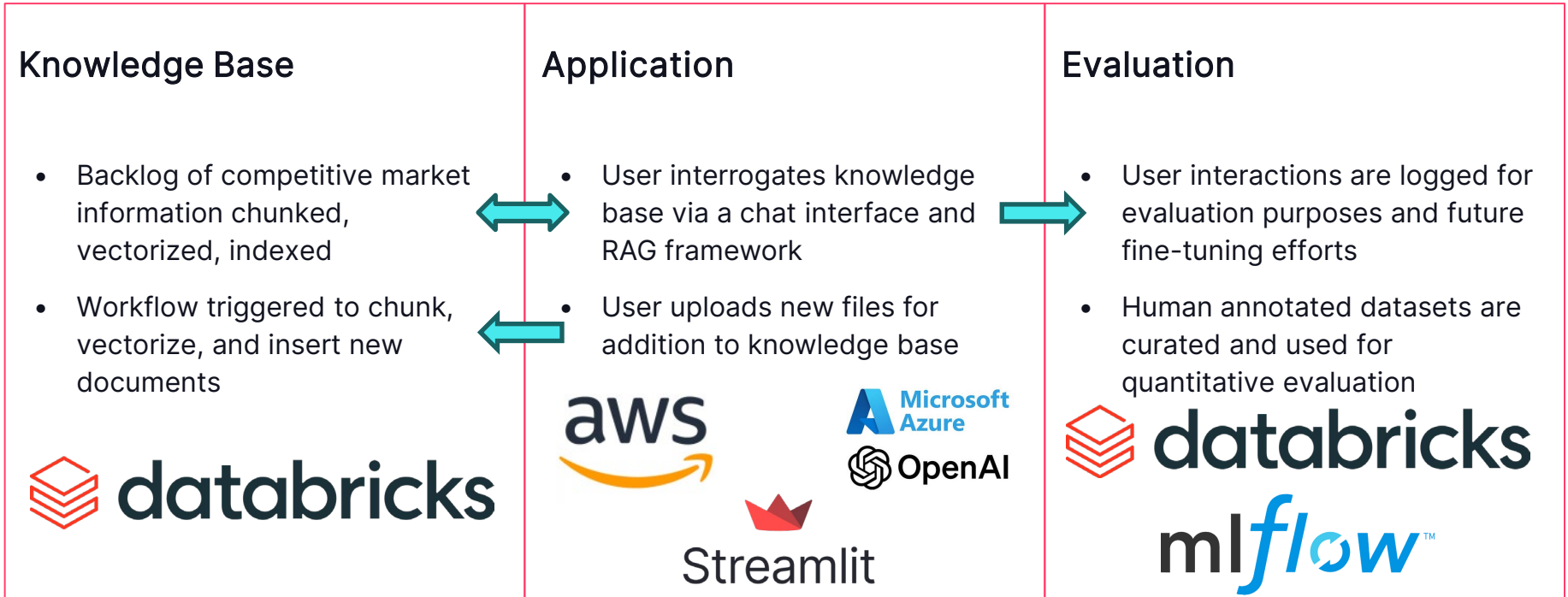


Future State

- Backlog of competitive market information is chunked, vectorized, and indexed
- CS team interrogates entire knowledge base through a chat interface in natural language
- Upon receipt of new information, an automated workflow updates the knowledge base

Use Case #2 – Generative AI

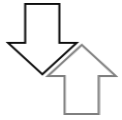
Application Framework – Beta phase development



AI/ML Strategy



AI Portfolio Strategy



Hybrid approach to blend Top-down Strategic Direction with Bottoms-up Innovation Ideas



Balance risk and opportunities with governance through AI Committee



Dual-speed with AI Extensions (Buy) & AI Solutions (Build)



Get the flywheel turning with proof of value opportunities

AI Value Pools

Pools	Opportunity
Teammate Experience	Engagement Score, Attract & Retain Talent
Customer Experience	Brand Loyalty, Ease of business, Stickiness
Productivity	Lean & Strategic workforce
Knowledge Management	Unique Insights, Competitive Advantages, Change Management
Product Improvement	New Materials or Designs, Accelerate time to market
Direct P&L	Revenue, Pricing, Operating Expense, etc.
Risk Management	Fraud Prevention, Vulnerability, Legal, Compliance, Product Quality or Safety

AI Scaling

Success is primarily determined by people, process, and culture

Categories	Strengths	Opportunities/Concerns
10% Algorithms	Skilled teammates	Fully leveraging partner investments / capabilities
20% Technology	Cloud-as-a-Service	Multi-cloud operations, Global Network, Scaling Build & Buy
70% People, Process, Culture	Core team engagement	Sponsorship, data quality, Policies, adoption, new operational costs, and value/cost tracking

Advice & Lessons Learned

1. Initially, focus on proving and testing rather than standards and planning
2. Start with small and simple solution deployments
3. Be scrappy. Do what it takes to get solutions implemented and used
4. Build relationships (SMEs, security, hardware, leadership, business units)
5. Utilize tech partners knowledge and resources (MS, AWS, Databricks)
6. Don't rely on one single platform or service to meet all your needs
7. Balance POC/R&D and high business impact initiatives
8. Look for opportunities to educate leaders and business units. Cut through the hype!

Q&A

