



From Silos to Success: Modernizing Analytics with Data Governance and GenAI

Shane Risk
Microsoft
Principal Manager – Microsoft Fabric

A hand in a blue shirt points at a tablet displaying a 3D bar chart. The chart has several bars of varying heights, with the tallest bar on the right. The background is a blurred office setting.

How to Develop a Modern Analytics and Governance Strategy

What we've heard



Ideally, organizations want to have.....

Barriers to achieve business outcomes

-  Platform to actionable Insights to the business
-  Robust data governance
-  Ability to increase the value of hidden data
-  To spend less time preparing data
-  Improve operational efficiency

Why do organizations struggle with data?

MIT Technology Review Insights Survey

92%

Culture, people, process

8%

Technology

What does good look like?

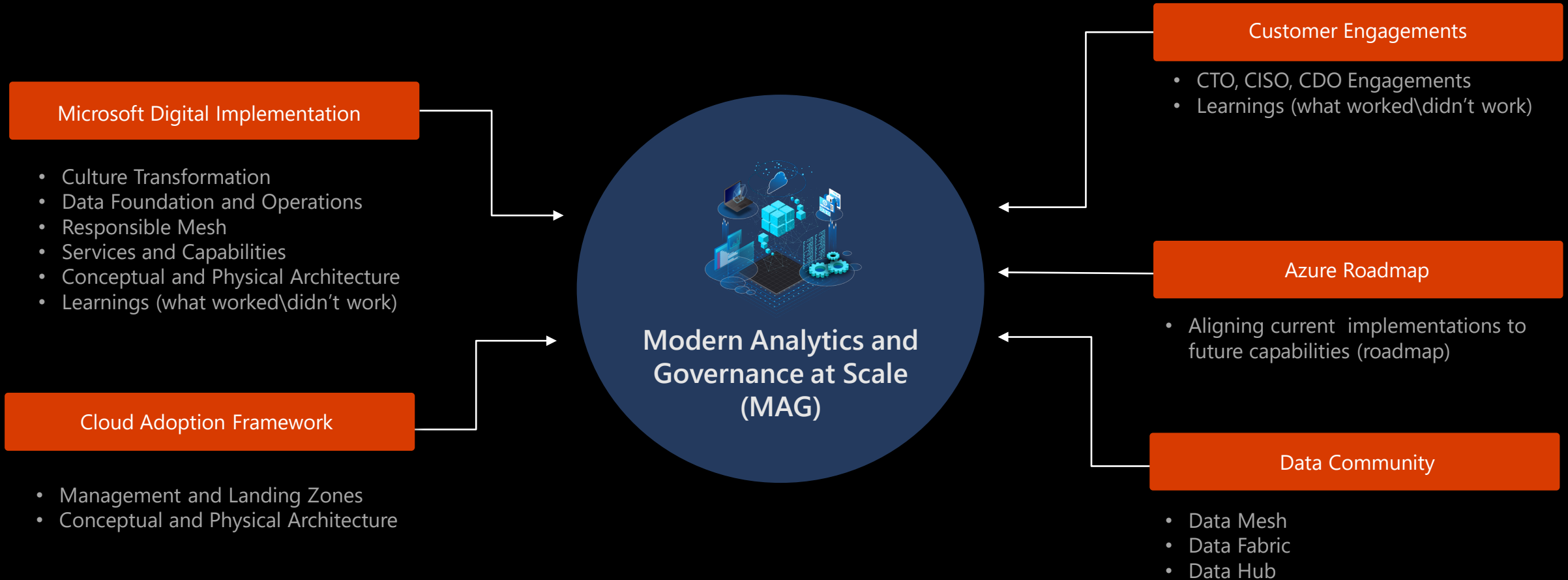
Reduced duplication	47%
Ease of data access	38%
Data engineering	36%
Data quality	31%

What holds companies back?

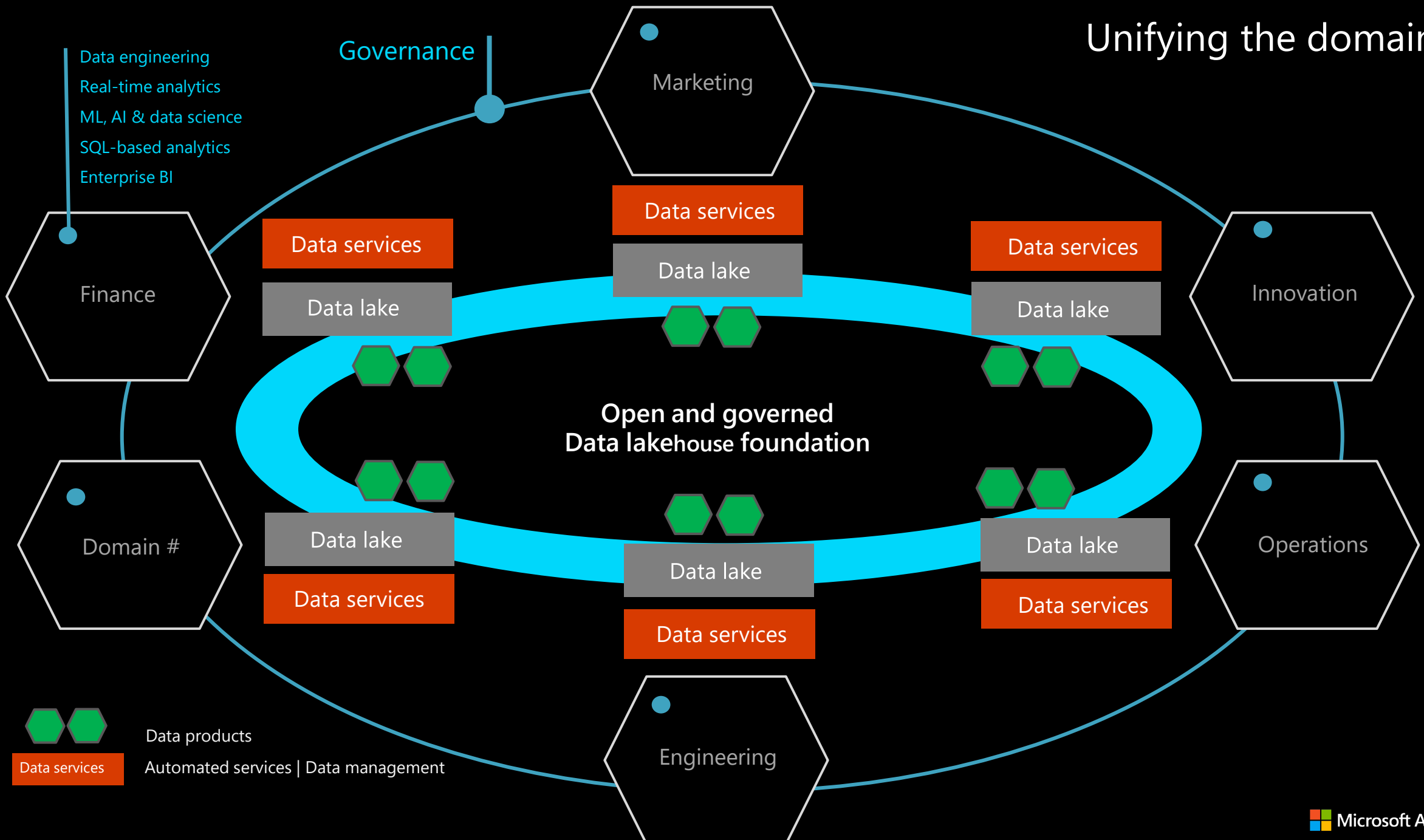
Lack of data management	44%
Slow data processing	39%
Lack of collaboration on analytics	29%
High data duplication	22%

Modern Analytics and Governance at Scale (MAG)

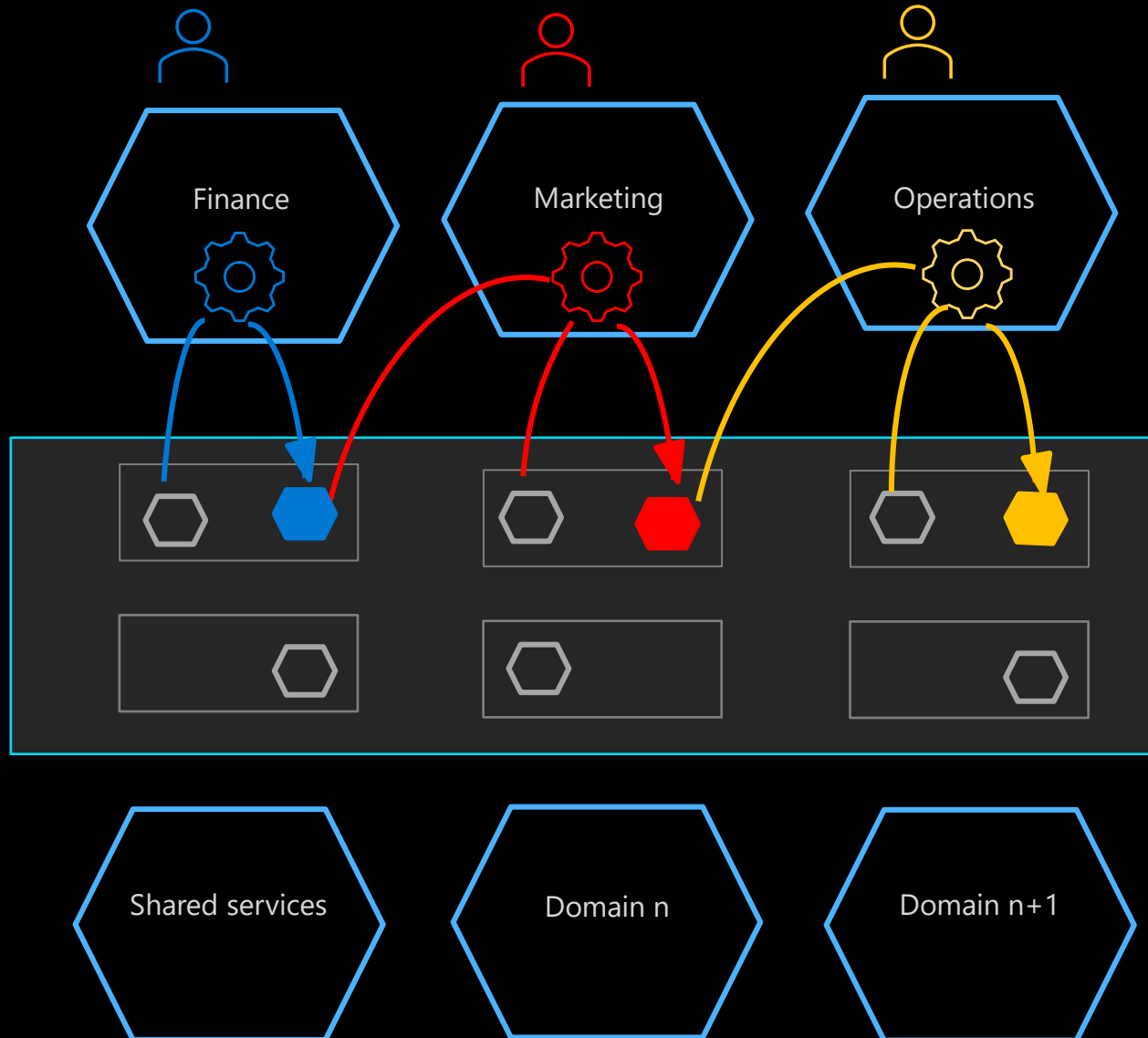
Empowering business units without compromising enterprise requirements



Unifying the domains



Enable Lines of businesses



- Self-serve analytics
 - Empower LOBs to implement their own analytics projects
 - Democratize data and analytics across LOBs
- Accelerate cross-business unit collaboration
- Leverage LOB SMEs for business analytics
- Re-use Data products across domains
 - Reduce data engineering
 - Improve data agility

Enterprise data governance

Automated capabilities to implement frictionless governance

Data catalog

Data classification

Data lineage

Master data

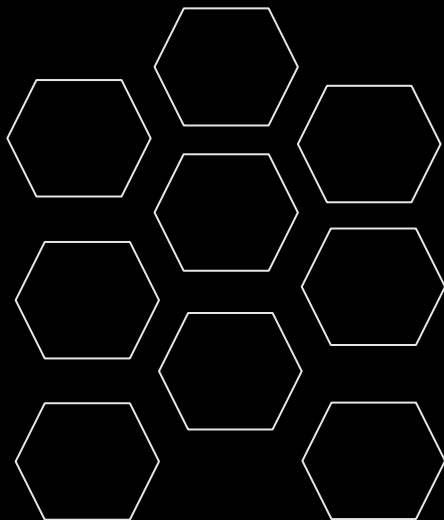
Data use governance

Data policy

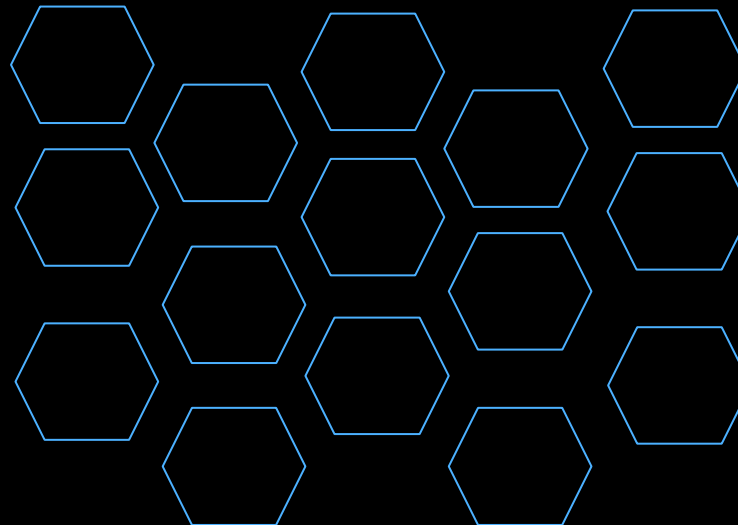
Data quality

Data sharing

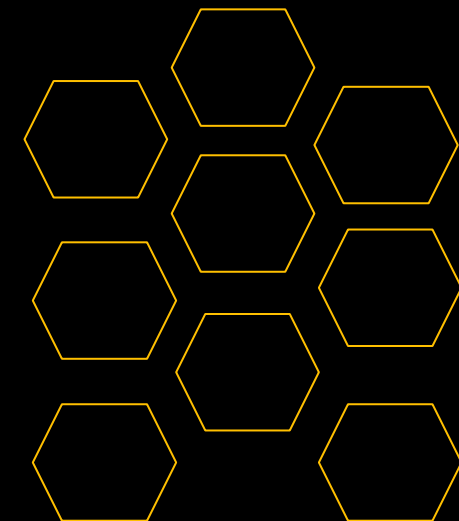
On-premise



Azure

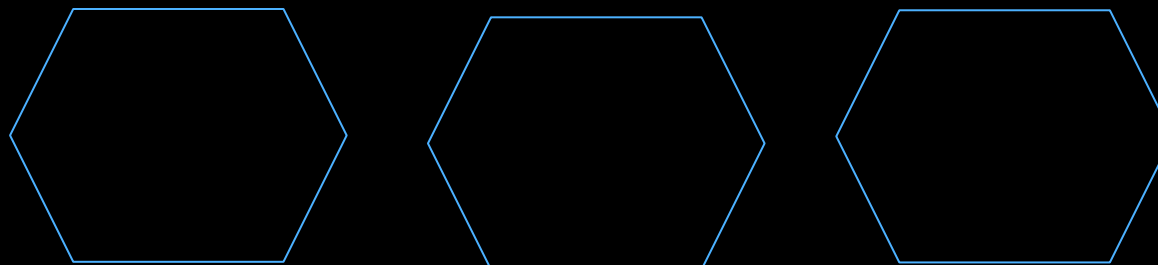
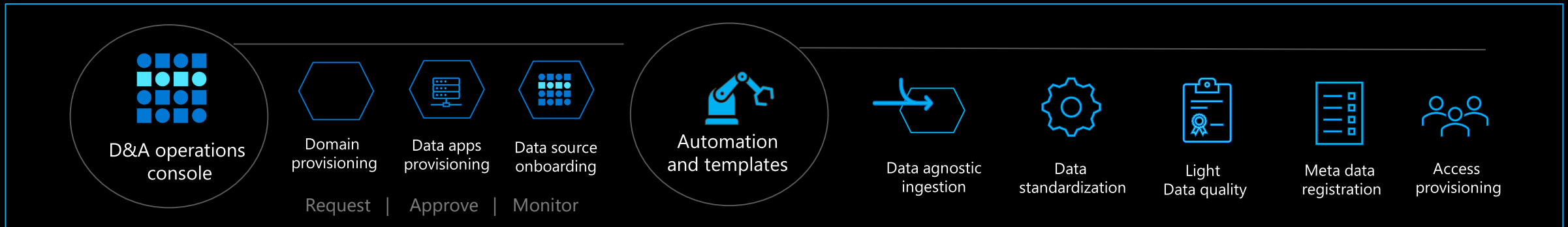
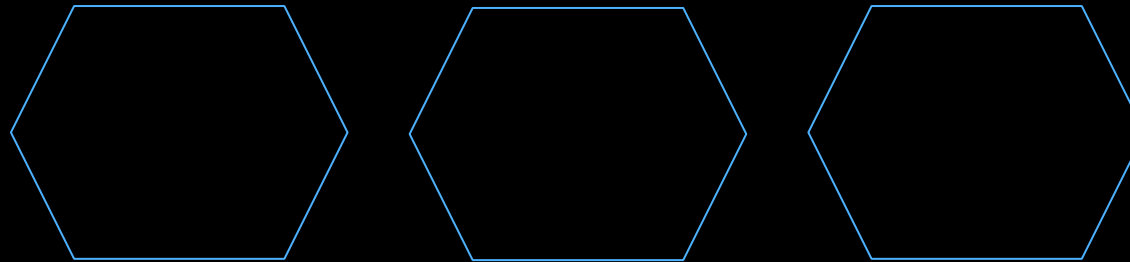


Other cloud



Automated data services

Domain zones



Analytics patterns and practices per domain

Aligning business use-cases and analytics patterns



Type 0 Ingestion and curation	Type 1 Discovery/onboarding	Type 2 Descriptive analytics	Type 3 Predictive analytics	Type 4 Data exchange
<ul style="list-style-type: none">• Ingesting data from data sources• Data engineering	<ul style="list-style-type: none">• Project onboarding• Data exploration, Inventory and profiling• Ad-hoc queries	<ul style="list-style-type: none">• Data products creation• Reliable and trusted data for business analysis• Reporting and dashboarding• Ad-hoc queries	<ul style="list-style-type: none">• Data products creation• AI/ML labs to build, train and deploy models• Data wrangling	<ul style="list-style-type: none">• Exchange trusted data to and from vendor and partners• Data exchange between domains

Note: These are top analytics patterns prioritize by organizations, but implementations are not limited to this list.

MAG Implementation stages

Planning

Current state vs Future State

- **Current State**
 - Architecture
 - Services
 - Deployment
 - New use-cases\projects
- **Evolution to Future State**
 - Leverage MS and Partner Ips\Accelerators
- **Recommendations**
 - MVPs and prioritization
 - Roadmap alignment

Phase 1

Deploy the open and governed foundation services including data operations zone and domain, and onboarding one data product to the platform.

- **Foundation**
 - Domain zones (template)
 - Data lake
 - Template creation
- **Data governance:**
 - Data definition, glossary, and Catalog (Purview)
 - PII detection (Purview GA)
 - PII governance
- **Data discovery:** data access management (Purview, in private preview)
- **Ingestion:**
 - Metadata-driven ingestion framework
 - Data standardization
- **Data provisioning**
 - Host data to server use-cases

Phase 2

Onboarding more data products, optimize UI and operation to be ready for full production.

- **Data governance:**
 - Attribute-based control (ADLS Gen2, SQL, Purview Policy)
- **Data discovery:**
 - Shared with me (customer build)
 - Custom attributes (customer build)
 - Catalog extension to other UIs (Purview Q2 CY22)

Phase 3

Enhancements

- **Data governance**
 - Data standardization
 - Standardized data models
 - Master reference data for data cleansing
 - Programmable data quality rules
- **Discovery**
 - Data exploration with data profile:
 - Ingestion tags
 - Data usage dashboard
- **Ingestion**
 - Micro batch/streaming (customer build)
- **Data management**
 - Metadata management
 - Master data management
- **Artificial Intelligence**

An aerial night view of a city skyline, likely Shanghai, with numerous skyscrapers and illuminated buildings. Overlaid on the city are glowing yellow and white lines and arcs, representing data connections and network paths. The lines form a complex web across the city, with some arcs connecting distant points. The overall atmosphere is futuristic and technological.

Data & AI: Starting Your Generative AI Journey


Forbes

FORBES > INNOVATION > ENTERPRISE TECH

5 Unexpected Ways Generative AI May Change Your Daily Life

By **Bernard Marr** Contributor @ [Follow](#)

Jan 8, 2024, 02:35am EST



5 Unexpected Ways Generative AI May Change Your Daily Life - 40988 STOCK

No doubt you've seen dozens of headlines (or more) about generative AI and how tools like ChatGPT are going to transform our jobs. But what about everyday life? Because the fact that AI can now generate content – including text, images, video, and


MIT Technology Review [SUBSCRIBE](#)

ARTIFICIAL INTELLIGENCE

AI for everything: 10 Breakthrough Technologies 2024

Generative AI tools like ChatGPT reached mass adoption in record time, and reset the course of an entire industry.

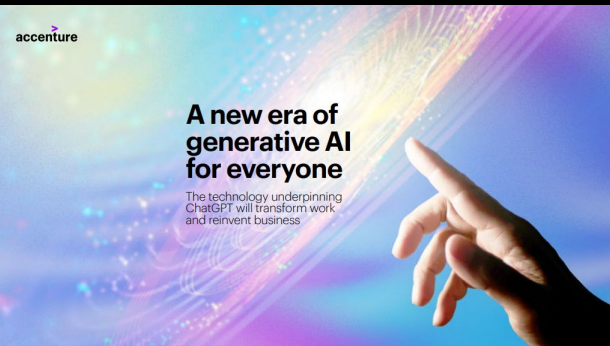
By **Will Douglas Heaven**
January 8, 2024



accenture

A new era of generative AI for everyone

The technology underpinning ChatGPT will transform work and reinvent business



WIRED BACKCHANNEL BUSINESS CULTURE GEAR IDEAS MORE [SIGN IN](#) [SUBSCRIBE](#)

How WIRED Will Use Generative AI Tools

Some publications are already using text and image generators. Here's how WIRED will—and won't—use the technology.

LIKE PRETTY MUCH everyone else in the past few months, journalists have been trying out generative AI tools like ChatGPT to see whether they can help us do our jobs better. AI software can't call sources and wheedle information out of them, but it can produce half-decent transcripts of those calls, and new generative AI tools can condense hundreds of pages of those transcripts into a summary.

Writing stories is another matter, though. A few publications have tried—sometimes with disastrous results. It turns out current AI tools are very good at churning out convincing (if formulaic) copy riddled with falsehoods.

This is WIRED, so we want to be on the front lines of new technology, but also to be ethical and appropriately circumspect. Here, then, are some ground rules on how we are using the current set of generative AI tools. We recognize that AI will develop and so may modify our perspective over time, and we'll acknowledge any changes in this post. We welcome feedback at mail@wired.com.

Text Generators (e.g. LaMDA, ChatGPT)

We do not publish stories with text generated by AI, except when the fact that it's AI-generated is the whole point of the story. (In such cases we'll disclose the use and flag any errors.) This

Bloomberg [Values](#) [Careers](#) [Stories](#) [Press](#) [Find jobs](#)

Generative AI to Become a \$1.3 Trillion Market by 2032, Research Finds

June 01, 2023

Bloomberg Intelligence: New Report Finds That the Emerging Industry Could Grow at a CAGR of 42% Over the Next 10 Years

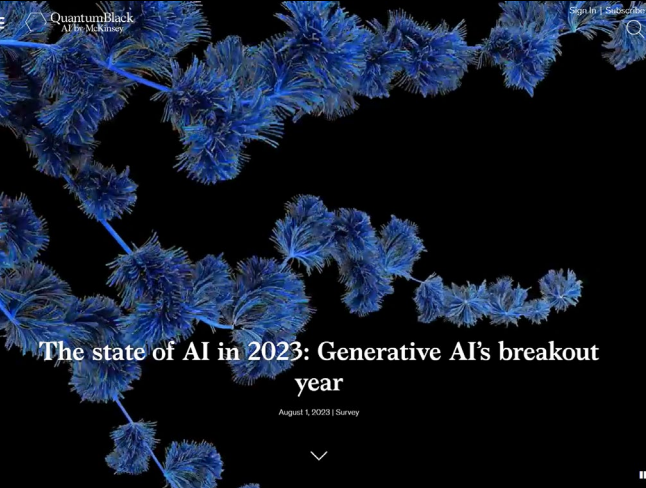
Rising demand for generative AI products could add about \$280 billion of new software revenue

New York, June 01, 2023 – With the influx of consumer generative AI programs like Google's Bard and OpenAI's ChatGPT, the generative AI market is poised to explode, growing to \$1.3 trillion over the next

QuantumBlack
AI by McKinsey

The state of AI in 2023: Generative AI's breakout year

August 1, 2023 | Survey

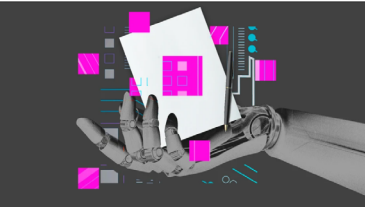


FAST COMPANY

12-03-23

What Is Generative AI? Your Questions Answered

As generative AI becomes increasingly popular, here's a guide that will get you up to speed.



(Photo: Rawpixel (hand, pen and paper; circuit board))

BY **DANICA LO** LONG READ

Generative AI seems to have popped up everywhere in the mainstream lately—primarily via the popularity of ChatGPT, but also through the proliferation of text-to-image tools and AI avatars in our social media feeds. But beyond fun smartphone apps and ways for students to shirk essay writing assignments, what can generative AI do? How does it work? How will it AI

THE WALL STREET JOURNAL
English Edition • Print Edition • Video • Audio • Latest Headlines • More

Latest: World Business U.S. Politics Economy Tech Finance Opinion Arts & Culture Lifestyle Real Estate Personal Finance Health Style Sports

How Did Companies Use Generative AI in 2023? Here's a Look at Five Early Adopters

Business technology leaders in construction, travel, retail, healthcare and energy say AI is already improving productivity and changing customer behavior. But they are also sorting through its high costs and limitations.

By **Bele Liu** [Follow](#)
Dec. 29, 2023 7:00 am ET

[Share](#) [Listen \(2 min\)](#)

Generative artificial intelligence emerged this year as the most buzzed-about new technology for businesses, promising to supercharge productivity while transforming the way white-collar work gets done.

But AI's high cost, need for specialized talent, and legal and privacy risks have stymied attempts to fully realize that promise, with many businesses cautious

THOMAS R. LECHLESTER/THE WALL STREET JOURNAL

How Generative AI Can Deliver

Generative AI is a game changer
... now it's all about implementation!

To maximize value, consider use cases that serve **unmet user needs**

LEARNING

Transform internal and external search functions into **human-centered insight hubs** for collaboration and marketing

1

Chat with your data

TRAINING

Empower customer service with insight and encouragement that **helps customers** while supporting talent

2

Intelligent call centers

What are your employee and customer pain points?

CREATIVITY

Bring generative assistance **into your custom app** workflows with your data for any user

3

Your own copilots

REASONING

Aggregate and reason over multiple data sources to **enrich decisions** and customer interactions

4

Information discovery

TAILORING

Create recommendation engines that **enhance products and services** or launch new offerings

5

Hyper-personalization

The **core dimensions** of implementing generative AI effectively

Model choice

Select the right models **for your use case**, benchmark and test them with your data

Total trust

Innovate confidently on top of data privacy, security, compliance, and critical **content safeguards**

Experience quality

Build high-quality LLM-based applications with **information retrieval** and prompt engineering

Streamlined lifecycles

Operationalize and scale the **management** of your GenAI apps as they evolve over time



GenAI

“Through the incorporation of a lease report generator into our fleet AI system...we have revolutionized a time-consuming task that previously took 4 hours, reducing it to just 5 minutes.”



大成 DENTONS

Sam Chen, Dentons
Legal AI Adoption Manager

THE CHALLENGE

Expedite summarization of legal contracts and documentation for the **largest global law firm in the world**

THE INNOVATION

fleetAI, an internal chatbot that helps lawyers conduct research, generate content and identify arguments fast

THE TECHNOLOGY

- Azure OpenAI Service GPT-4
- Meta Llama 2

Approaching **your optimal** model selection

Content Generation

Empower your users with AI-generated content based on natural prompt commands

Summarization
Text generation
Image generation
Natural language to code

Multimodality

Increase user engagement with rich interactions that integrate vision, speech, and text

Chat
Image to text
Text to image
Video to text

Fine-tuning

Enhance model performance using your own data and adapt nimbly to feedback

Question answering
Text classification
Token classification
Zero-shot image classification

Build Capabilities Across Model Families



Microsoft Research
Model Family



Azure OpenAI
Model Family



Meta Llama 2
Model Family



Hugging Face
Model Family



Mistral AI
Model Family

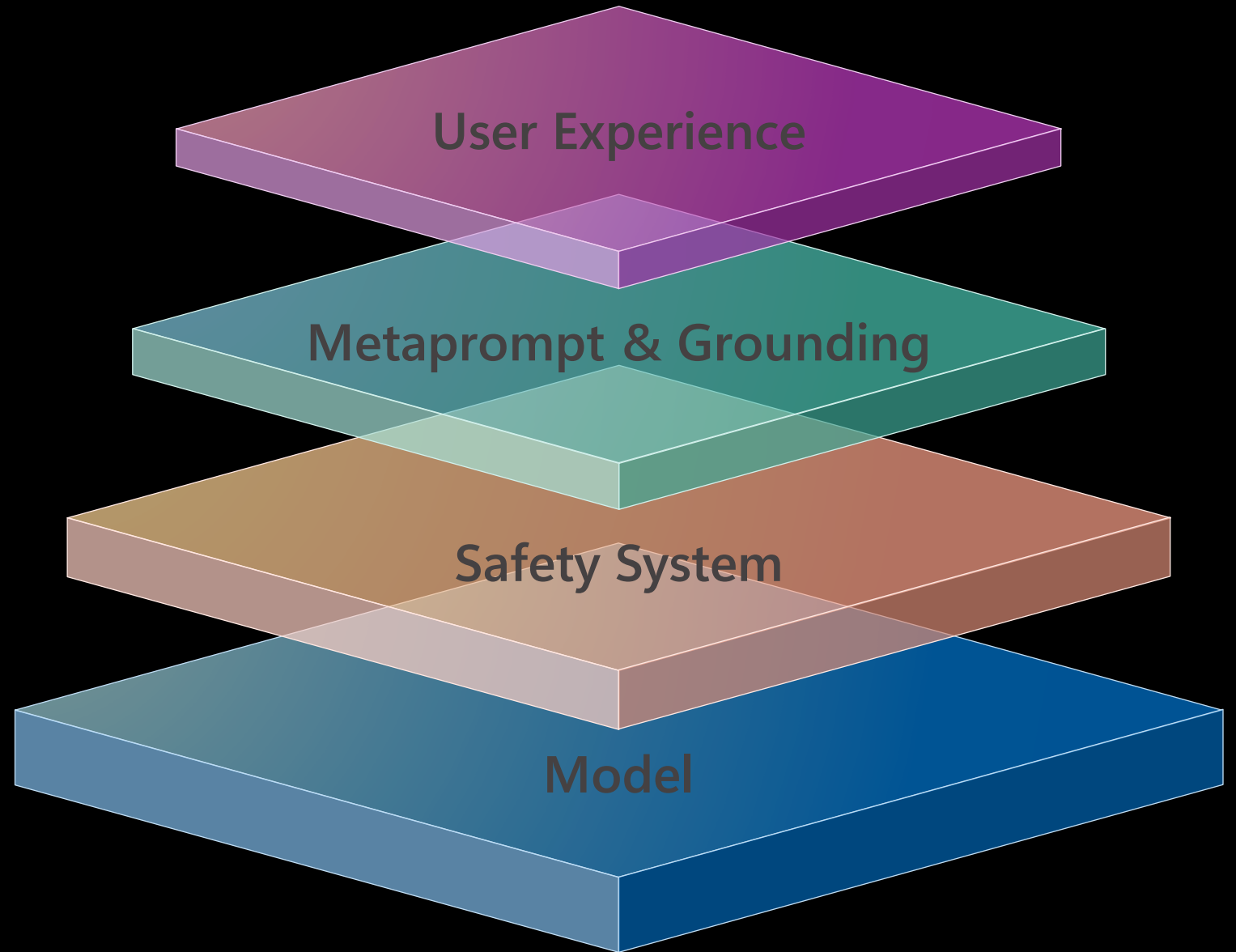


NVIDIA
Model Family



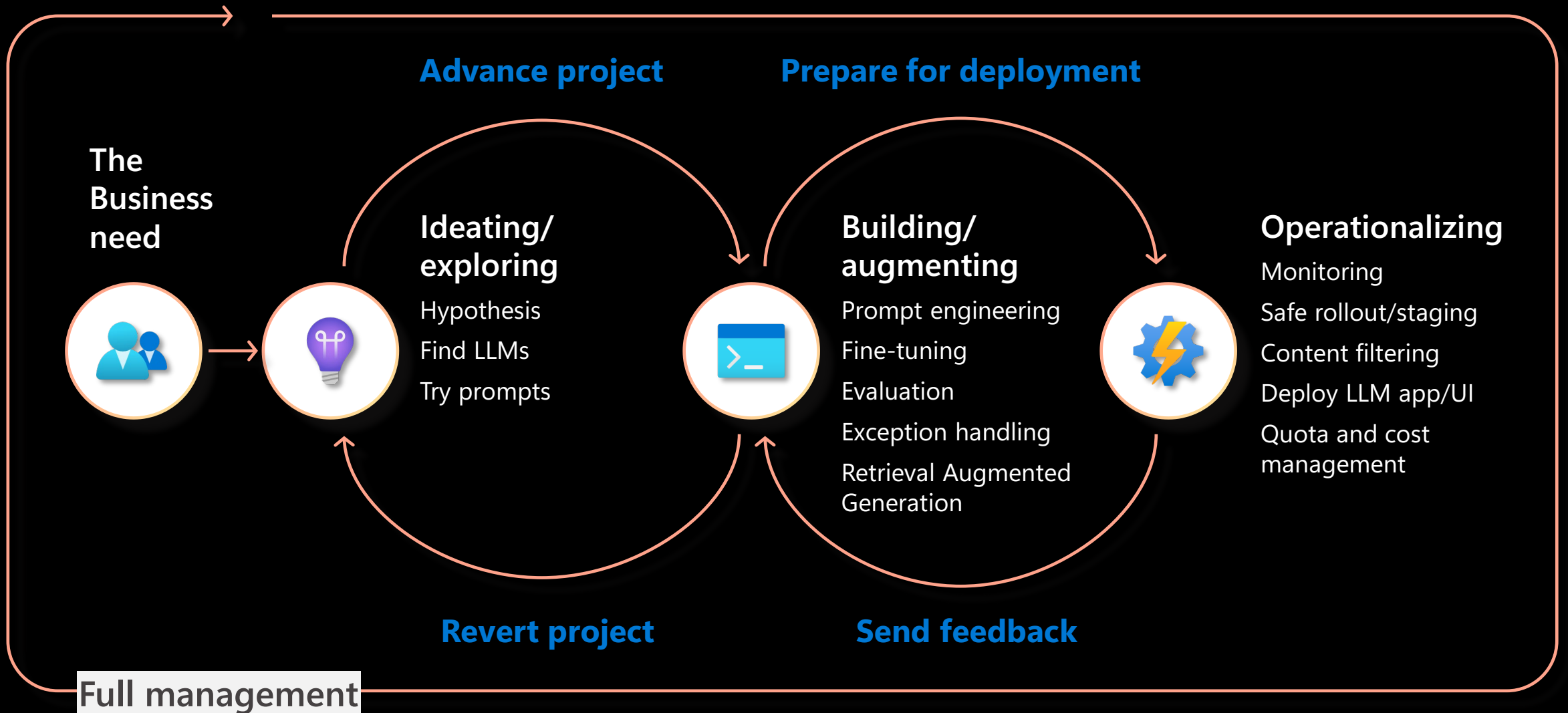
Deci AI
Model Family

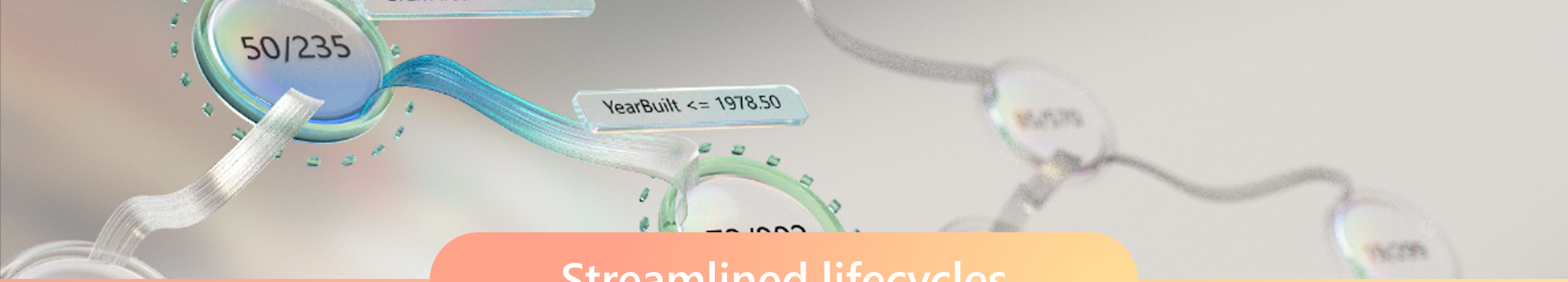
Mitigation layers



Responsible AI

An LLM lifecycle in the real world





Streamlined lifecycles

Unlock repeatable value and operationalize AI



Streamline the entire development process with intuitive **prompt flows** for iteration and collaboration



Continue to refine your LLM apps with flexible **prompt engineering** that helps you adapt to human feedback



Apply **responsible AI** throughout the lifecycle to build fair, explainable, and highly performant apps

The **core dimensions** of implementing generative AI effectively

Model choice

Select the right models **for your use case**, benchmark and test them with your data

Total trust

Innovate confidently on top of data privacy, security, compliance, and critical **content safeguards**

Experience quality

Build high-quality LLM-based applications with **information retrieval** and prompt engineering

Streamlined lifecycles

Operationalize and scale the **management** of your GenAI apps as they evolve over time



GenAI

Generative AI-based experiences will **elevate all aspects** of digital life

FROM

Data

1

Chat with your data



Learning

Turnover

2

Intelligent call centers



Retention

Drudgery

3

Your own copilots



Creativity

Insight

4

Information discovery



Reasoning

Generic

5

Hyper-personalization



Contextual

TO

Copilot



Thank You!

Shane Risk

shrisk@microsoft.com

Microsoft

Principal Manager – Microsoft Fabric

www.linkedin.com/in/shanerisk