

Thriving with AI: Finding the Right AI Tools



Rehmann
EMPOWER YOUR PURPOSE®

Meet the Panelists



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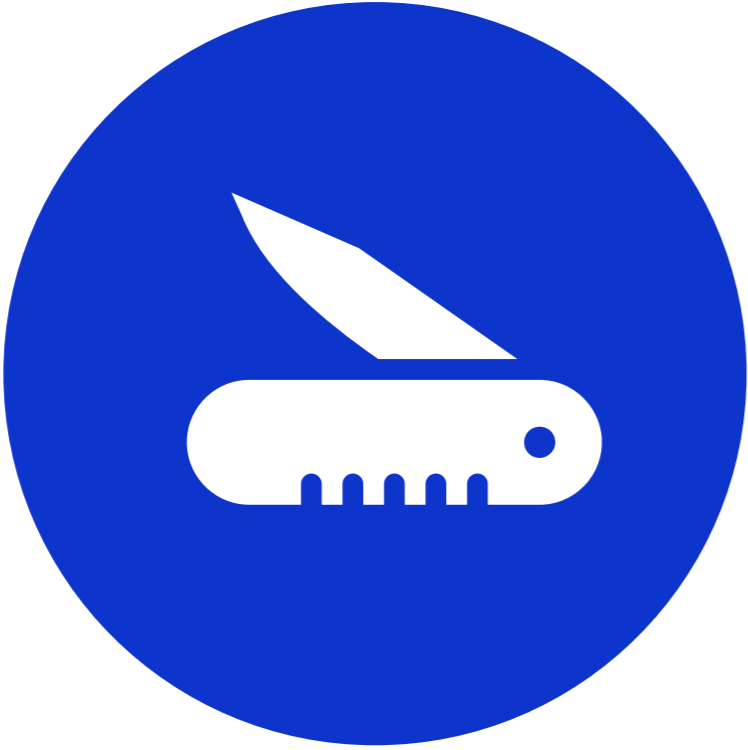
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Agenda

1. Quick Review
2. Data Structure
3. AI Maturity Model Tools
4. Explore LLMs
5. Q&A/Closing

Which AI is best for your purposes?

When it comes to your business, it's essential to understand which type of AI you need based on your specific goals and tasks.



General AI

If you want more versatile employees who can handle various tasks, General AI might be what you're looking for.



Narrow AI

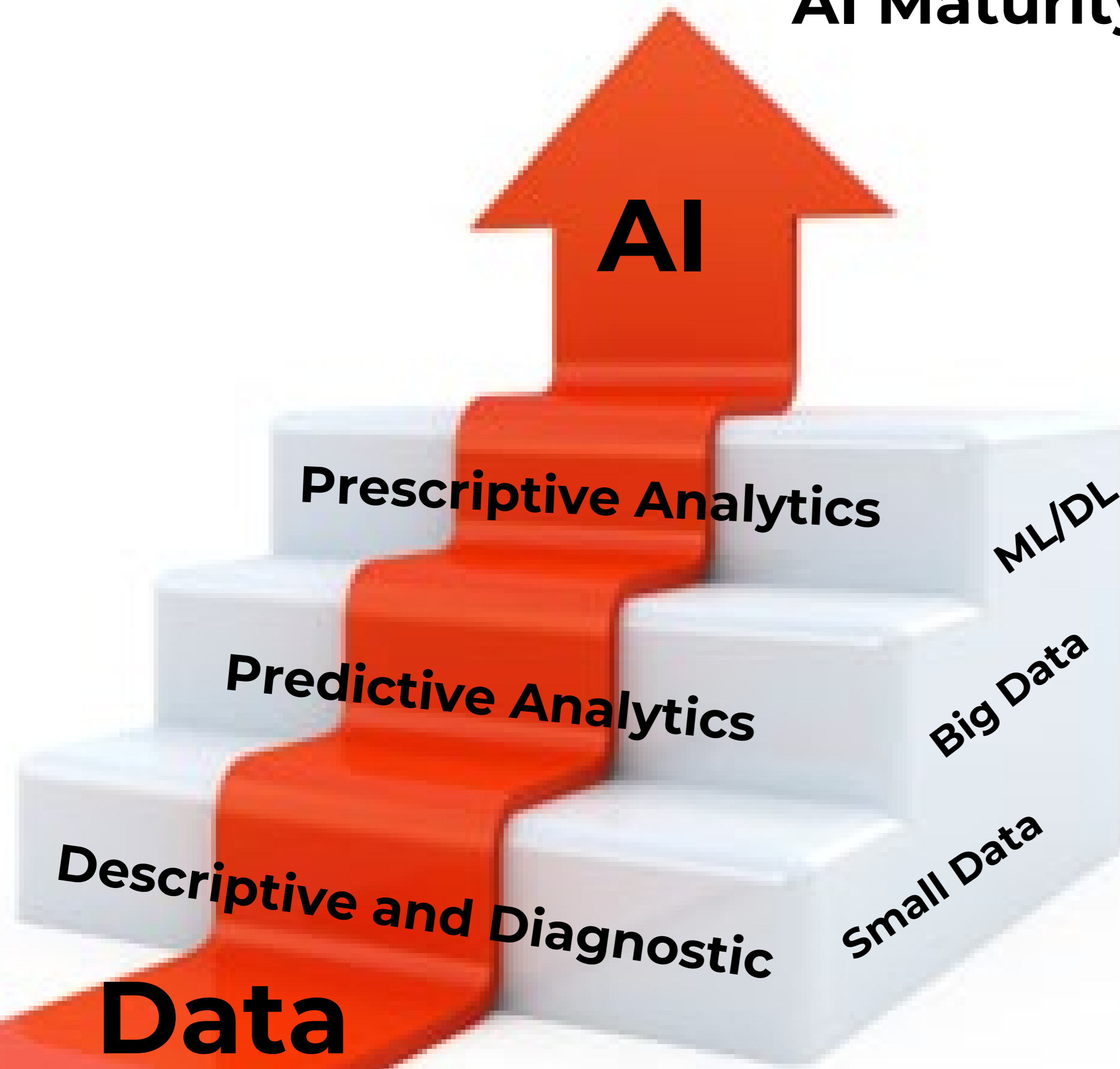
If you need help with a single, well-defined task like data analysis or customer support, Narrow AI specialists might be the right choice.



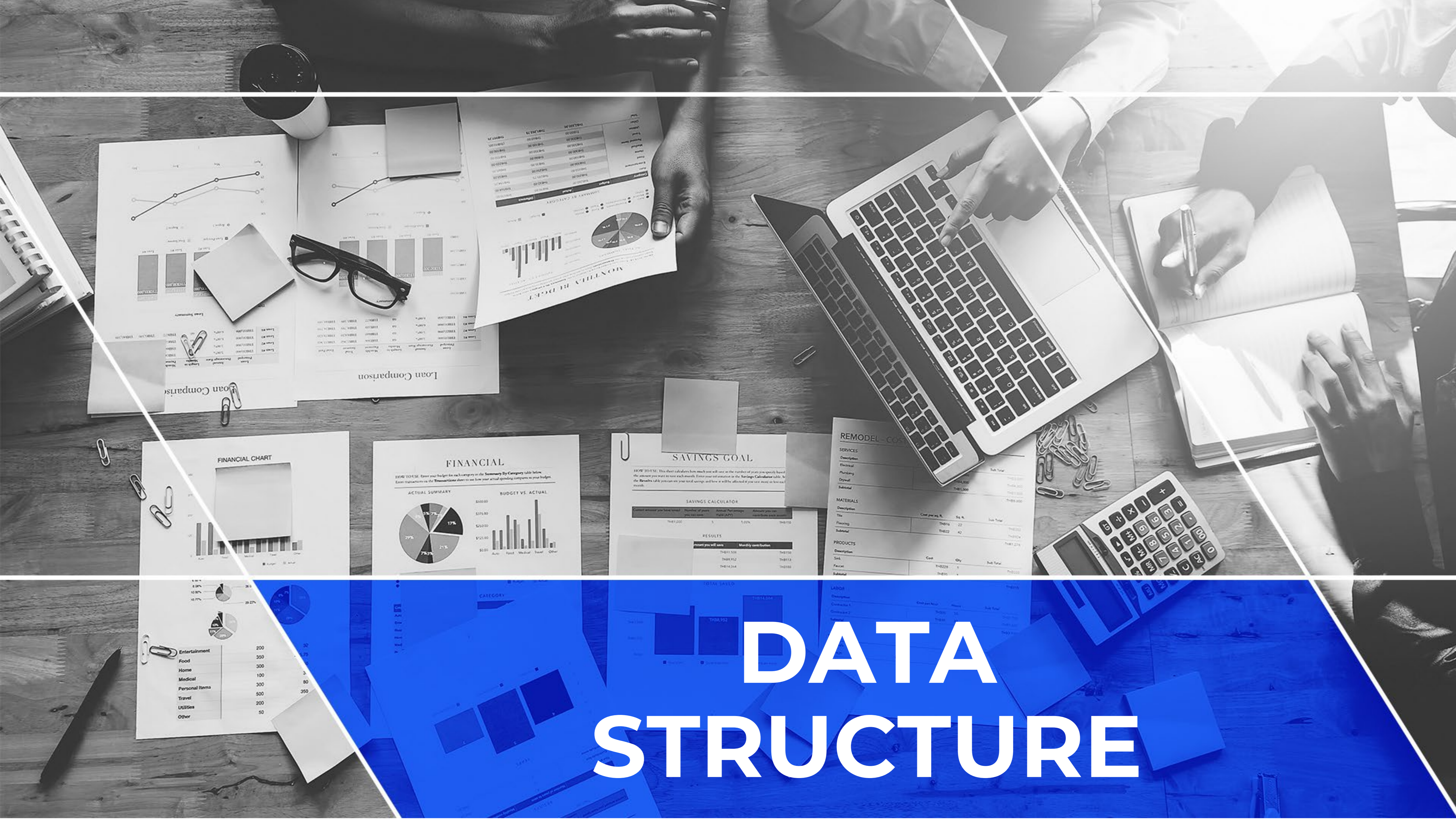
Generative AI

If you need creative content generation or imaginative solutions, Generative AI can be a valuable addition to your team.

AI Maturity Model



1. **Data**
 - Needs to be in order to get started
2. **Descriptive and Diagnostic**
 - Answer the What and Why
3. **Predictive**
 - Answers where a things are headed
4. **Prescriptive**
 - Answers what is next
5. **Value Chain**
 - Start with the Data



DATA STRUCTURE

Loan Comparison

| Loan # | Loan Amount | Interest Rate | Term (Years) | Monthly Payment | Total Interest |
|---------|-------------|---------------|--------------|-----------------|----------------|
| Loan #1 | \$100,000 | 5.00% | 30 | \$536.82 | \$93,055.20 |
| Loan #2 | \$100,000 | 6.00% | 30 | \$600.00 | \$110,000.00 |
| Loan #3 | \$100,000 | 7.00% | 30 | \$675.90 | \$128,672.00 |



SAVINGS GOAL

HOW TO USE: This sheet calculates how much you will need to save each month to reach your goal. Enter your goal amount in the Savings Calculator table. Enter your starting amount in the Results table. Enter your starting amount in the Results table. Enter your starting amount in the Results table.

| Amount you will save | Monthly contribution |
|----------------------|----------------------|
| \$41,500 | \$3,458.33 |
| \$48,952 | \$4,079.33 |
| \$48,004 | \$4,000.33 |

REMODEL COST

| Description | Cost per sq. ft. | Sq. ft. | Sub Total |
|-------------|------------------|---------|-----------|
| Tile | \$10 | 22 | \$220 |
| Subtotal | | | \$220 |

| Description | Cost | Qty | Sub Total |
|-------------|---------|-----|-----------|
| Paint | \$10.00 | 1 | \$10.00 |
| Subtotal | | | \$10.00 |

| Category | Amount |
|----------------|--------|
| Entertainment | 200 |
| Food | 350 |
| Home | 300 |
| Medical | 100 |
| Personal Items | 300 |
| Travel | 500 |
| Utilities | 200 |
| Other | 50 |





Structured Data

Definition: Structured data is highly organized and easily searchable in databases or spreadsheets because it follows a specific format or model. It's typically managed in relational databases.

Employee Records in a Database: Information like employee ID, name, position, and salary stored in a database where each field is clearly defined.

Sales Transactions: Records of sales transactions that include transaction ID, date, product ID, quantity, and price, stored in a tabular format.

Semi-Structured Data

Definition: Semi-structured data doesn't fit into a rigid database structure but still has some organizational properties that make it easier to analyze. It includes tags or markers to separate semantic elements and enforce hierarchies of records and fields.

Online reviews: while the star ratings are structured, the written comments are unstructured.

Social media posts: posts on platforms like Reddit or Facebook have unstructured text or media, along with structured data like timestamps, likes, and number of shares.

Unstructured Data

Definition: Unstructured data is information that either does not have a pre-defined data model or is not organized in a pre-defined manner. It's challenging to process and analyze using conventional tools and methods.

Business Documents: the content of Word documents, PDFs, spreadsheets, and presentations.

Videos and Images: media content such as YouTube videos, Instagram photos, and surveillance footage.



**HOW DO WE
STORE DATA?**

What is a Data Warehouse?

Supports business decision-making



Business intelligence activities



Consistent and historical view of data



Enables data mining, predictive analytics, and machine learning insights through AI



The Traditional Data Warehouse Model

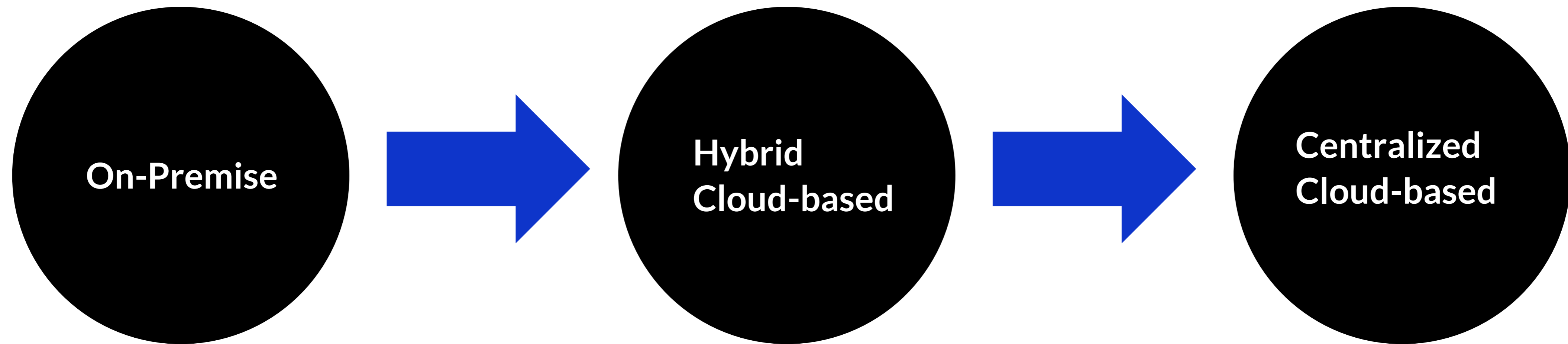
| | | |
|---|--|---|
| Traditional and still most common data warehouse model | Single source of truth for an entire organization | Based on relational database technology |
| High data quality, consistency, and security | Requires high maintenance, complex processes, and rigid data structures | Top-down approach: schema is designed first, then data sources are mapped into that structure. |

The Data Lake Model

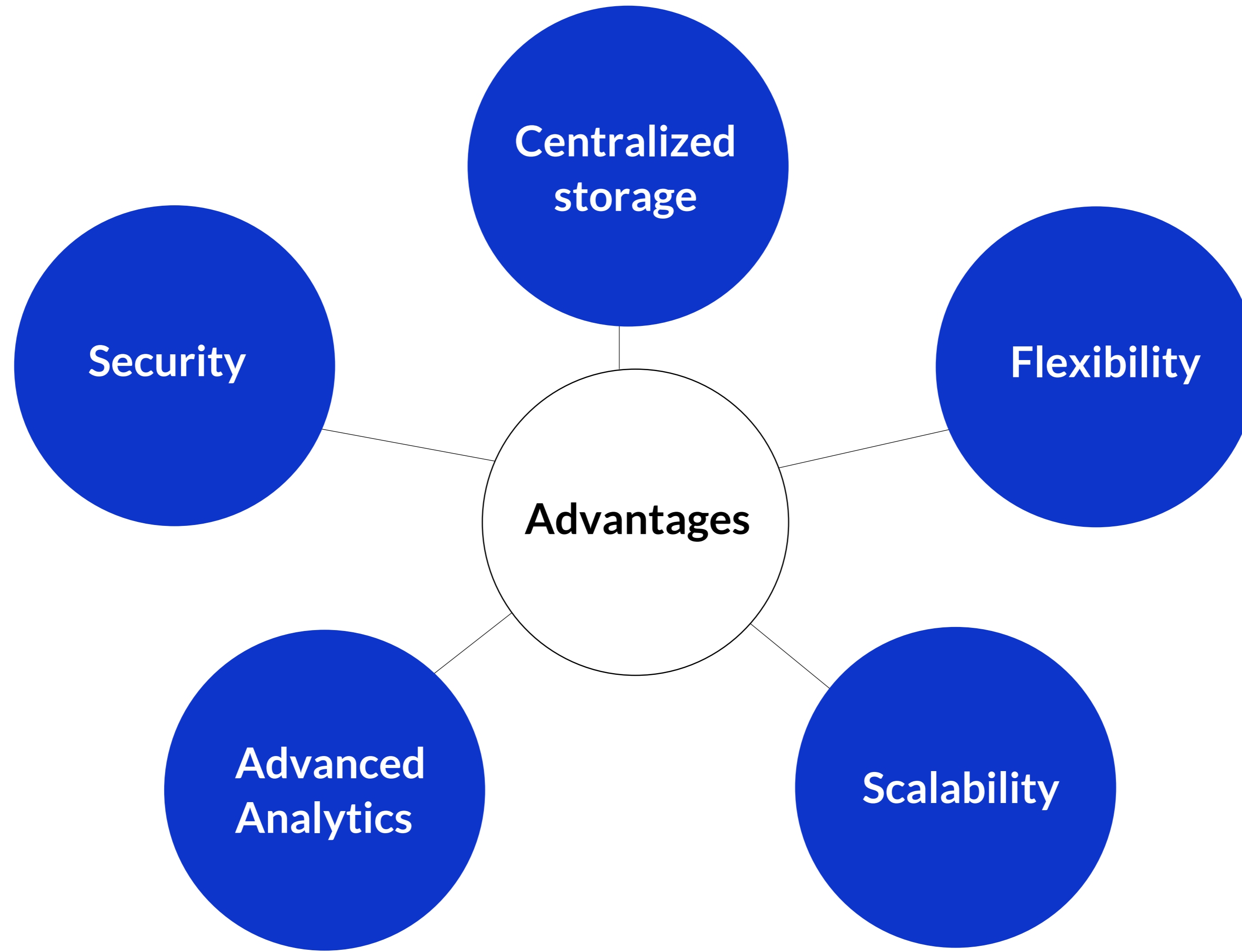


A vast reservoir – everything you know, everything you have, all together in one place

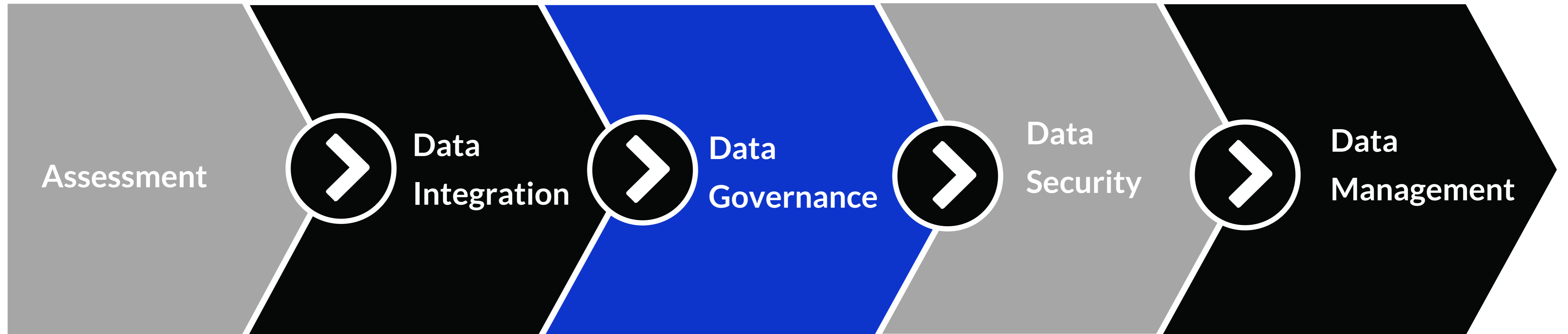
Where is Technology Headed?



Data Lake



Data Lake - Implementation

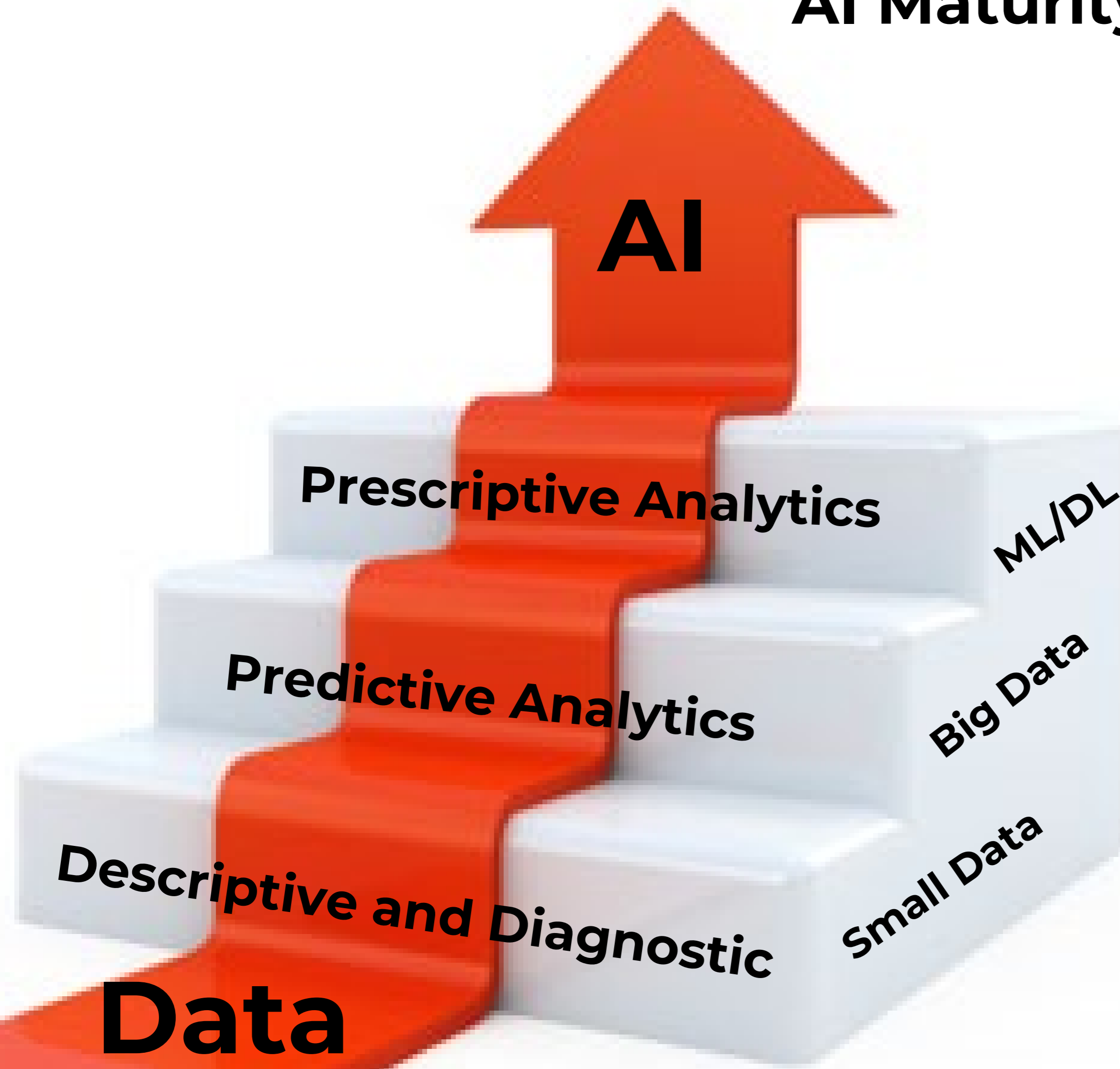




Serving people and protecting futures are at the heart of Wolverine Fire Protection Co., and Rehmann empowers this multi-generational business to continue this legacy.

AI TOOLS

AI Maturity Model



1. **Data**
 - Needs to be in order to get started
2. **Descriptive and Diagnostic**
 - Answer the What and Why
3. **Predictive**
 - Answers where a things are headed
4. **Prescriptive**
 - Answers what is next
5. **Value Chain**
 - Start with the Data

Extract, Transform and Load (ETL)

ETL is a process that involves extracting data from various sources, transforming it into a usable format, and loading it into a destination such as a data warehouse or database, enabling businesses to analyze and derive insights from their data.



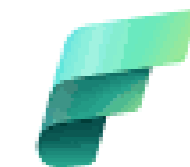
Descriptive and Diagnostic - Analytics

Descriptive analytics **focuses** on summarizing historical data to understand past events and trends, providing insights into what has happened in the past.

Diagnostic analytics **involves** analyzing data to determine the root causes of past events or outcomes, helping to explain why certain outcomes occurred



Microsoft Fabric



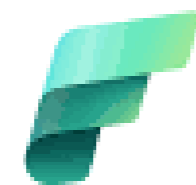
Qlik™

ORACLE
Analytics

Predictive & Prescriptive Analytics

Predictive analytics utilizes historical data and statistical algorithms to forecast future events or trends, enabling organizations to anticipate outcomes and take proactive measures.

Microsoft Fabric



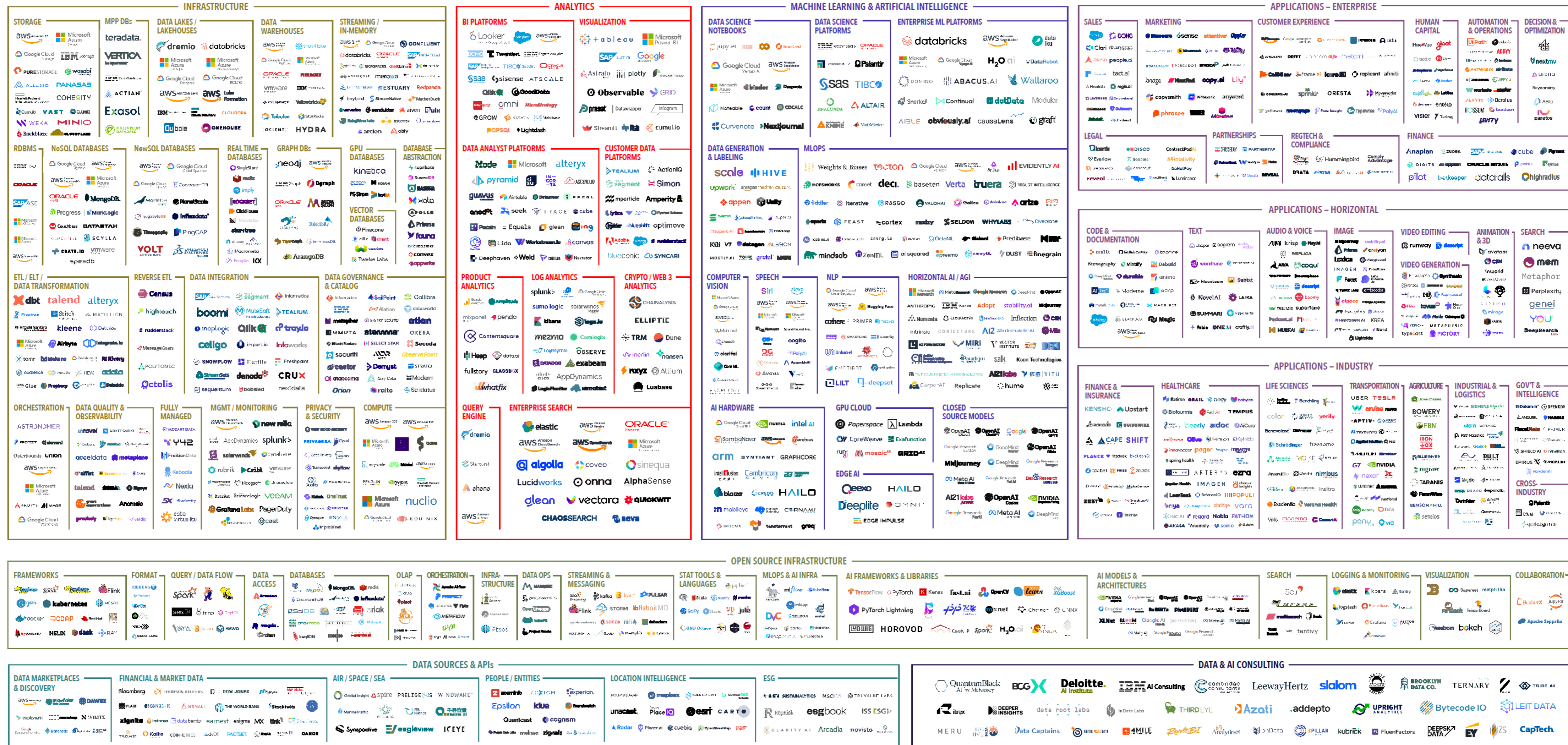
Google's AutoML



Prescriptive analytics goes beyond prediction to recommend actions or strategies based on predictive insights, guiding decision-makers on the best course of action to achieve desired outcomes

Challenge - Wall of Complexity

THE 2023 MAD (MACHINE LEARNING, ARTIFICIAL INTELLIGENCE & DATA) LANDSCAPE



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© Matt Turck (@mattturck), Kevin Zhang (@ykevinzhang) & FirstMark (@firstmarkcap)

Blog post: mattturck.com/MAD2023

Interactive version: MAD.firstmarkcap.com

Comments? Email MAD2023@firstmarkcap.com



What is Microsoft Fabric?

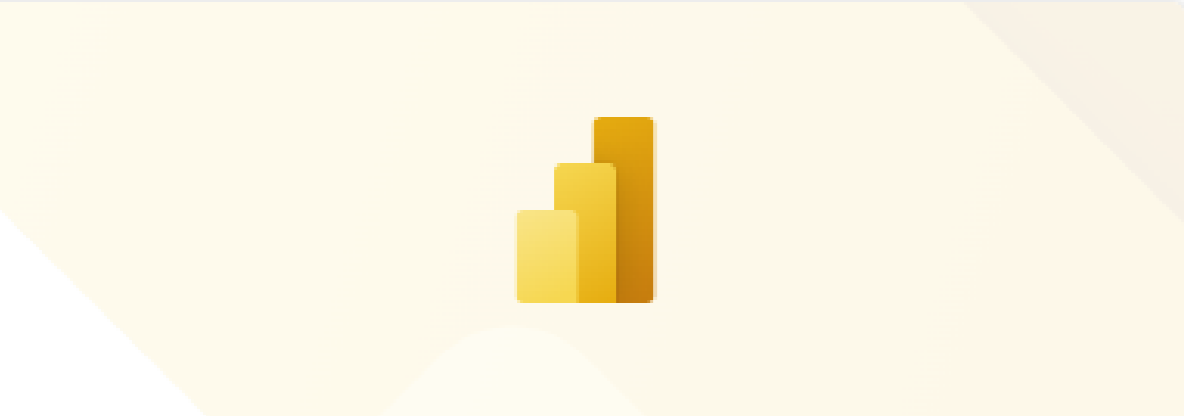




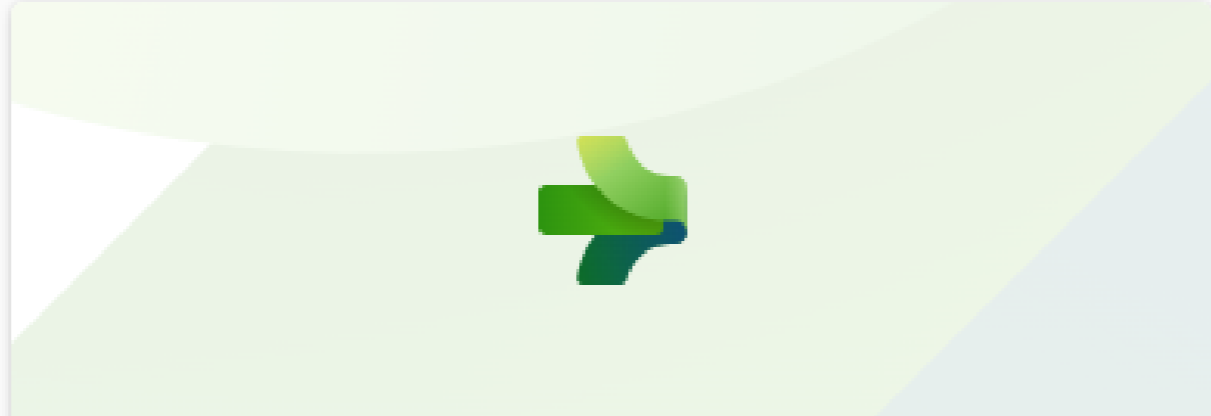
What is Microsoft OneLake?

1. Cloud-based data warehouse solution in Microsoft Azure
2. Leverages Azure Data Lake Storage (ADLS) and Azure Synapse Analytics (ASA) services
3. Scalable and secure data lake that can store and process any type and size of data
4. Powerful and integrated data warehouse that can perform advanced analytics and machine learning
5. Integrated with Microsoft Fabric

Microsoft Fabric



Power BI
Find insights, track progress, and make decisions faster using rich visualizations.



Data Factory
Solve the most complex data integration and ETL scenarios with cloud-scale data movement and data transformation services.



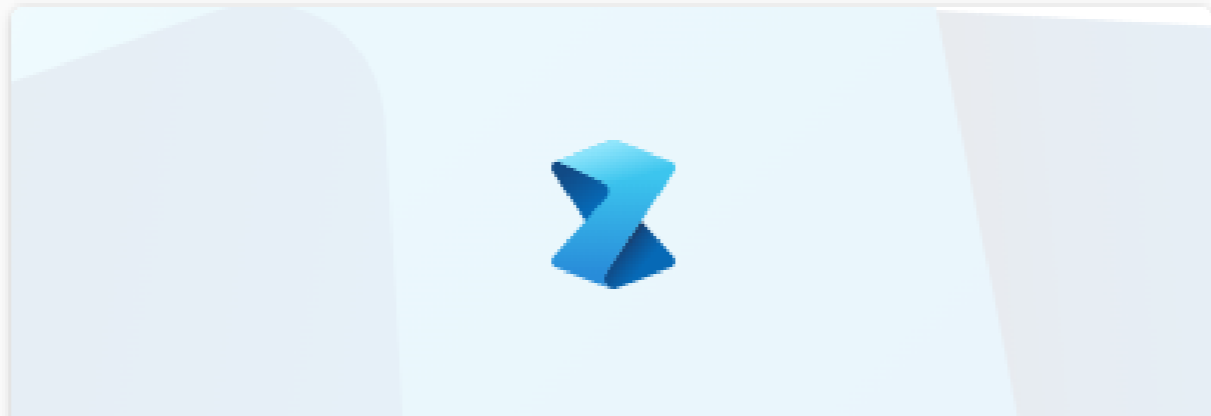
Data Activator
Monitor data to trigger alerts and automated actions so your organization adapts to changing conditions in real time.



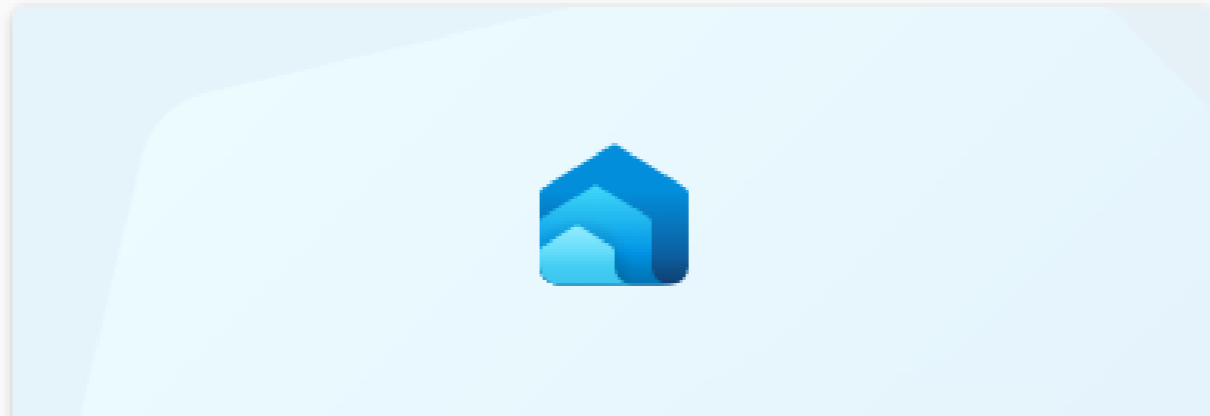
Industry Solutions
Get a head start with industry-relevant connectors, transformations, and scenario-specific tools.



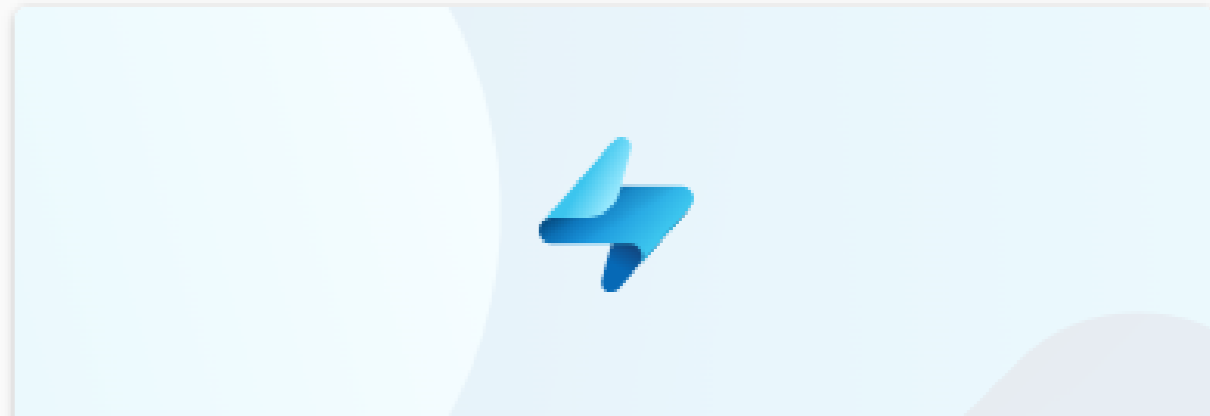
Synapse Data Engineering
Create a lakehouse, and use Apache Spark to transform and prepare organizational data to share with the business.



Synapse Data Science
Explore your data, and build machine learning models to infuse predictive insights into your analytics solutions and applications.

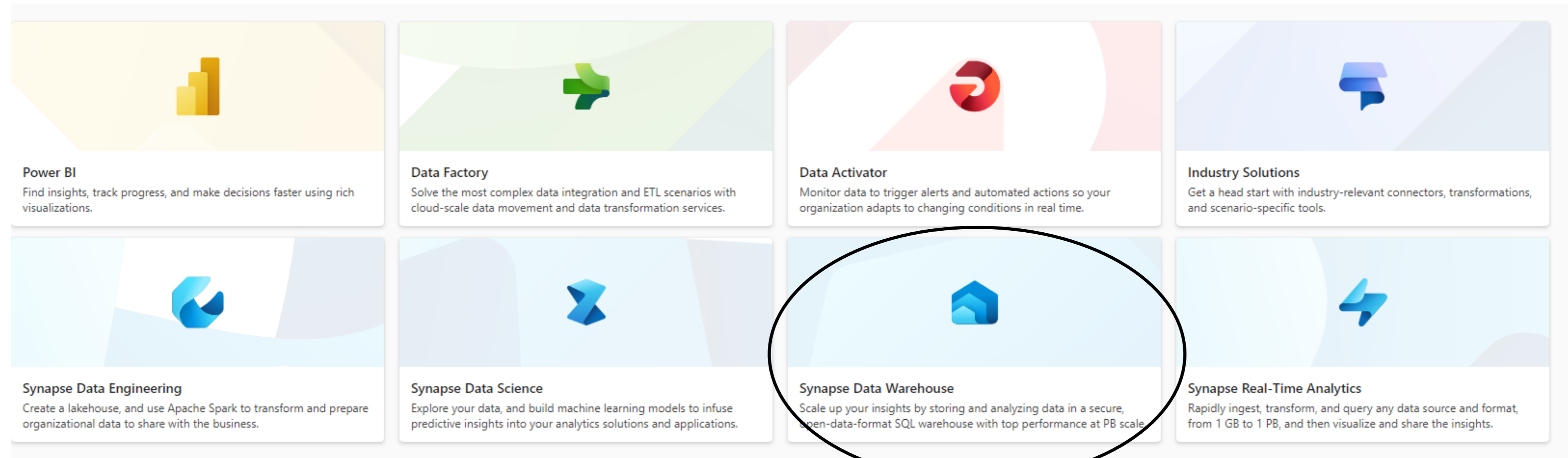


Synapse Data Warehouse
Scale up your insights by storing and analyzing data in a secure, open-data-format SQL warehouse with top performance at PB scale.



Synapse Real-Time Analytics
Rapidly ingest, transform, and query any data source and format, from 1 GB to 1 PB, and then visualize and share the insights.

Data Warehouse



Microsoft Fabric Data Warehouse is a database system that stores data in OneLake and provides an intuitive way to interact with the database using SQL commands.

It's designed to simplify an organization's investment in their analytics estate by converging data lakes and warehouses, ensuring seamless data preparation, analysis, and reporting.

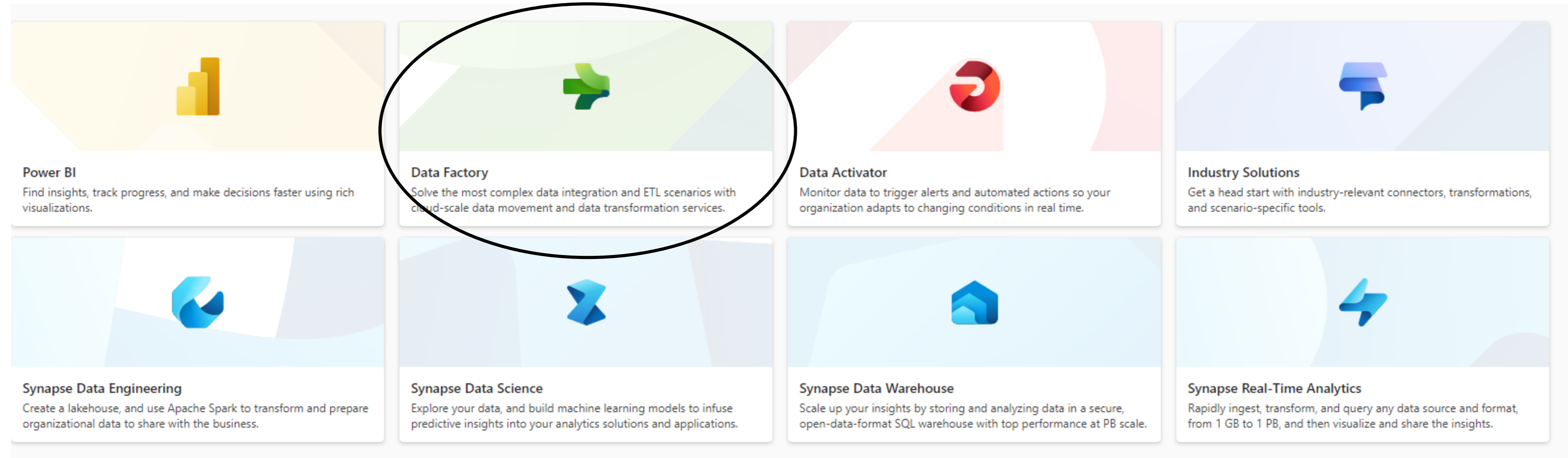
Data Engineering

The image displays a grid of eight Microsoft Fabric data services cards. Each card features a distinct icon and a brief description of the service. The 'Synapse Data Engineering' card, located in the second row, first column, is highlighted with a black circle. The other cards are: Power BI (top row, first column), Data Factory (top row, second column), Data Activator (top row, third column), Industry Solutions (top row, fourth column), Synapse Data Science (bottom row, first column), Synapse Data Warehouse (bottom row, second column), and Synapse Real-Time Analytics (bottom row, third column).

| Service | Description |
|---------------------------------|--|
| Power BI | Find insights, track progress, and make decisions faster using rich visualizations. |
| Data Factory | Solve the most complex data integration and ETL scenarios with cloud-scale data movement and data transformation services. |
| Data Activator | Monitor data to trigger alerts and automated actions so your organization adapts to changing conditions in real time. |
| Industry Solutions | Get a head start with industry-relevant connectors, transformations, and scenario-specific tools. |
| Synapse Data Engineering | Create a lakehouse, and use Apache Spark to transform and prepare organizational data to share with the business. |
| Synapse Data Science | Explore your data, and build machine learning models to infuse predictive insights into your analytics solutions and applications. |
| Synapse Data Warehouse | Scale up your insights by storing and analyzing data in a secure, open-data-format SQL warehouse with top performance at PB scale. |
| Synapse Real-Time Analytics | Rapidly ingest, transform, and query any data source and format, from 1 GB to 1 PB, and then visualize and share the insights. |

Data engineering in Microsoft Fabric empowers users to design, build, and maintain infrastructures and systems that enable organizations to collect, store, process, and analyze large volumes of data. It's all about creating the backbone for efficient data handling and transformation, ensuring that valuable insights can be extracted from raw data.

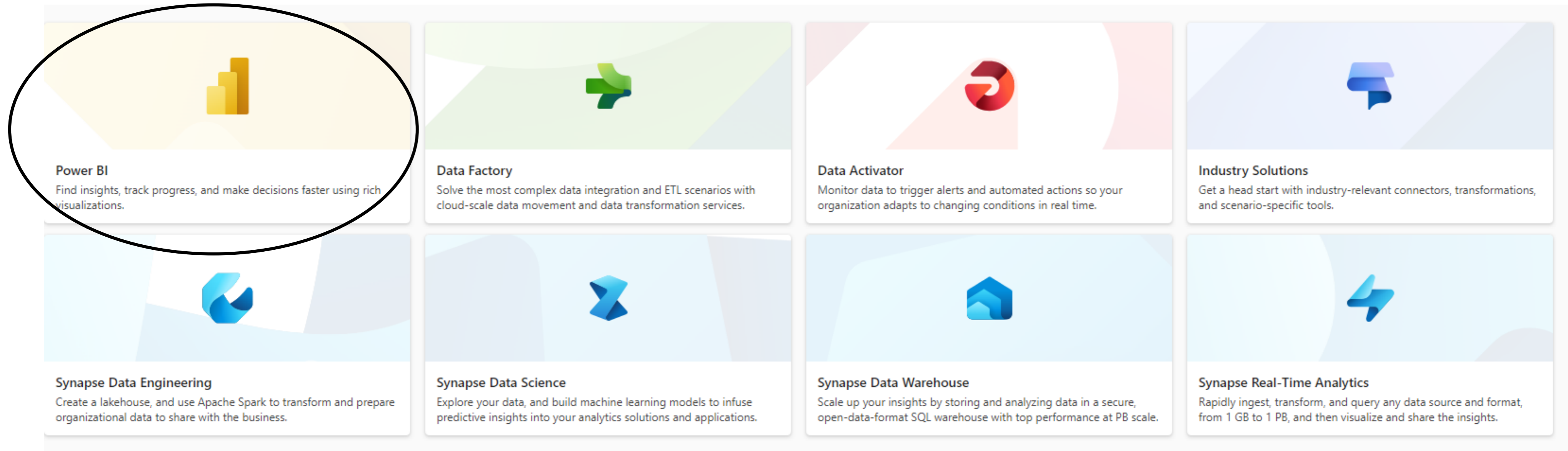
Data Factory (Azure)



Azure Data Factory is a managed cloud service designed for complex data integration projects. It orchestrates and transforms data from various sources, both on-premises and in the cloud, into actionable insights.









Think of it as a powerful tool that refines raw data into valuable business information, connecting the dots across different data stores and formats.

Power BI



Microsoft Power BI is a data visualization platform used primarily for business intelligence purposes. It enables business professionals to create visually immersive reports and dashboards from diverse data sources, including Excel spreadsheets and hybrid data warehouses.

Real Time Analytics

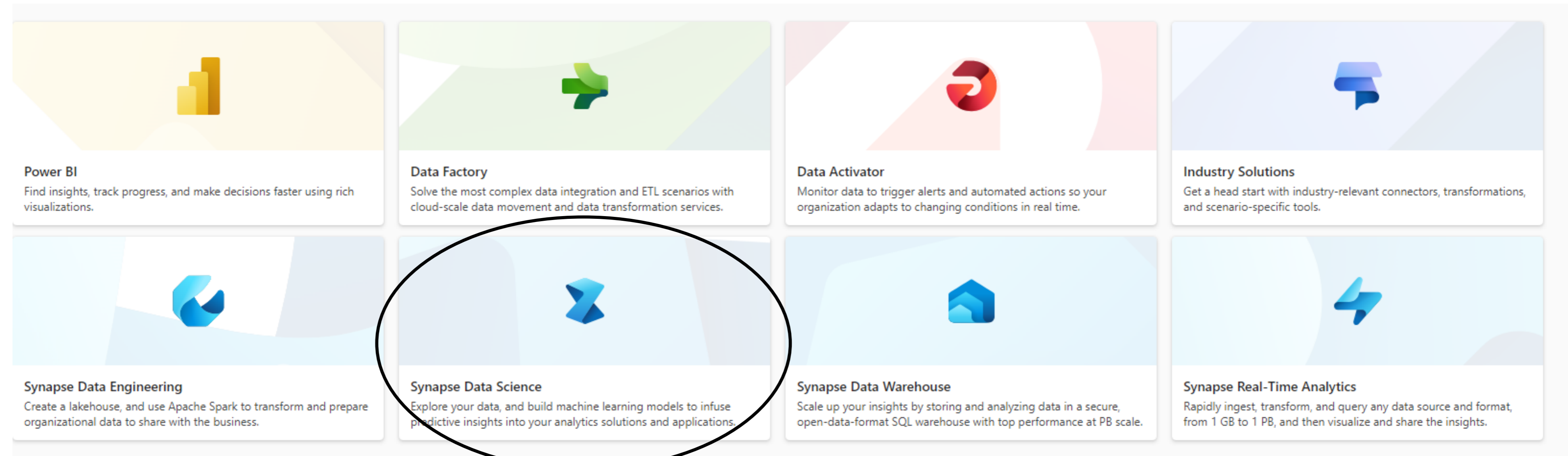
| | | | |
|--|---|---|--|
|  <p>Power BI Find insights, track progress, and make decisions faster using rich visualizations.</p> |  <p>Data Factory Solve the most complex data integration and ETL scenarios with cloud-scale data movement and data transformation services.</p> |  <p>Data Activator Monitor data to trigger alerts and automated actions so your organization adapts to changing conditions in real time.</p> |  <p>Industry Solutions Get a head start with industry-relevant connectors, transformations, and scenario-specific tools.</p> |
|  <p>Synapse Data Engineering Create a lakehouse, and use Apache Spark to transform and prepare organizational data to share with the business.</p> |  <p>Synapse Data Science Explore your data, and build machine learning models to infuse predictive insights into your analytics solutions and applications.</p> |  <p>Synapse Data Warehouse Scale up your insights by storing and analyzing data in a secure, open-data-format SQL warehouse with top performance at PB scale.</p> |  <p>Synapse Real-Time Analytics Rapidly ingest, transform, and query any data source and format, from 1 GB to 1 PB, and then visualize and share the insights.</p> |

Real-Time Analytics in Microsoft Fabric is a fully managed big data analytics platform optimized for streaming and time-series data.

It simplifies data integration, allowing quick access to insights through automatic data streaming, indexing, and partitioning.

Users can query raw data without complex transformations, making it valuable for scenarios like cybersecurity, predictive maintenance, and customer experience.

Microsoft Fabric: Data Science



Data Science in Microsoft Fabric empowers users to complete end-to-end data science workflows for data enrichment and business insights. Here's a concise overview:

- Problem Formulation and Ideation
- Data Discovery and Pre-processing
- Data Exploration
- Experimentation and Modeling
- Enrich and Operationalize
- Gain Insights



LARGE LANGUAGE MODELS (LLMS)

Why Use Third Party LLMs?



Cost Efficiency



Scalability



Availability



Personalization



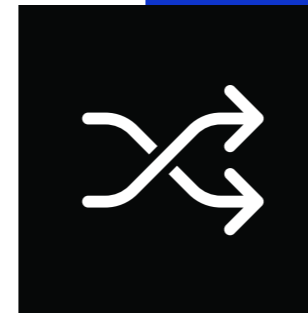
Innovation Potential

Risks in Using Third Party LLMs?

Accuracy and Reliability



Integration Challenges



Data Privacy Concerns



Depersonalization



Ongoing Management



Use Cases for LLMs Out of the Box?



Draft and Edit Documents



Meeting Summarization



Research Assistance



Idea Brainstorming



Content Summarization



Customer Communication Templates

Use Cases for Third Party LLMs?



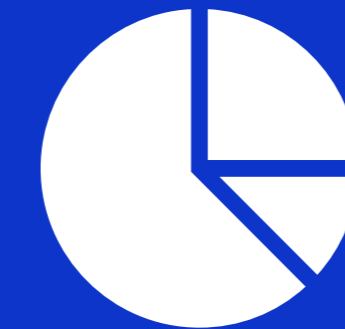
Customer
Support
Automation



Content
Creation and
Strategy



Personalized
Marketing



Business
Analytics and
Reporting



Efficient
Document
Processing

Large Language Models



ChatGPT

ChatGPT is an advanced AI language model developed by OpenAI, designed to understand and generate human-like text based on the input it receives. It's capable of engaging in conversation, generating written content across various genres, and assisting with a wide range of tasks, making it a versatile tool for both personal and professional use.



The screenshot shows the OpenAI ChatGPT web interface. On the left is a sidebar with navigation options: ChatGPT, DALL-E, Data Analyst, Explore GPTs, and a list of recent conversations categorized by 'Today', 'Yesterday', and 'Previous 7 Days'. At the bottom of the sidebar is a profile for 'Jim Carpp'. The main area features the OpenAI logo and the text 'How can I help you today?'. Below this are four suggested prompts: 'Plan a tour for architectural photography in Barcelona', 'Plan an itinerary for a fashion-focused exploration of Paris', 'Write a SQL query that adds a "status" column to an "orders" table', and 'Help me pick a gift for my dad who loves fishing'. At the bottom is a text input field 'Message ChatGPT...' with a send button and a disclaimer: 'ChatGPT can make mistakes. Consider checking important information.'

ChatGPT – Road Test

Prompt

Write a summary of less than 100 words and cover artificial intelligence, narrow artificial intelligence, general artificial intelligence and generative artificial intelligence.

Result

Artificial Intelligence (AI) encompasses the development of computer systems capable of performing tasks that typically require human intelligence. Narrow AI refers to AI systems designed to perform specific tasks or solve particular problems, often with remarkable efficiency, but without the broader understanding or adaptability of humans. General AI, or strong AI, aims to create systems with the ability to understand, learn, and apply intelligence across a wide range of tasks, mirroring human cognitive abilities. Generative AI focuses on creating new content, such as text, images, and music, that is original yet plausible, based on learning from vast datasets.

Copilot



Microsoft Copilot is an AI-powered tool available across different Microsoft applications, built as a ‘sidekick’ for users to enhance productivity. It’s created in partnership with OpenAI and Microsoft and has abilities like ChatGPT. Different versions of Copilot are available specifically to cater to each Microsoft application.

Microsoft Bing SEARCH Work Web NOTEBOOK James.Carpp@rehmann.com Protected

Copilot

Your everyday AI companion

- Organize**
Provide some tips on decluttering my workspace for maximum efficiency
- Laugh**
What are some hilarious one-liners that will brighten up my day?
- Compare**
Is a SWOT analysis or a priority matrix best for my project?
- Chat**
Help me learn a new language by quizzing me
- Write**
Summarize the main points of the latest research on AI
- Analyze**
What percentage of taxes should I withhold from my paycheck?

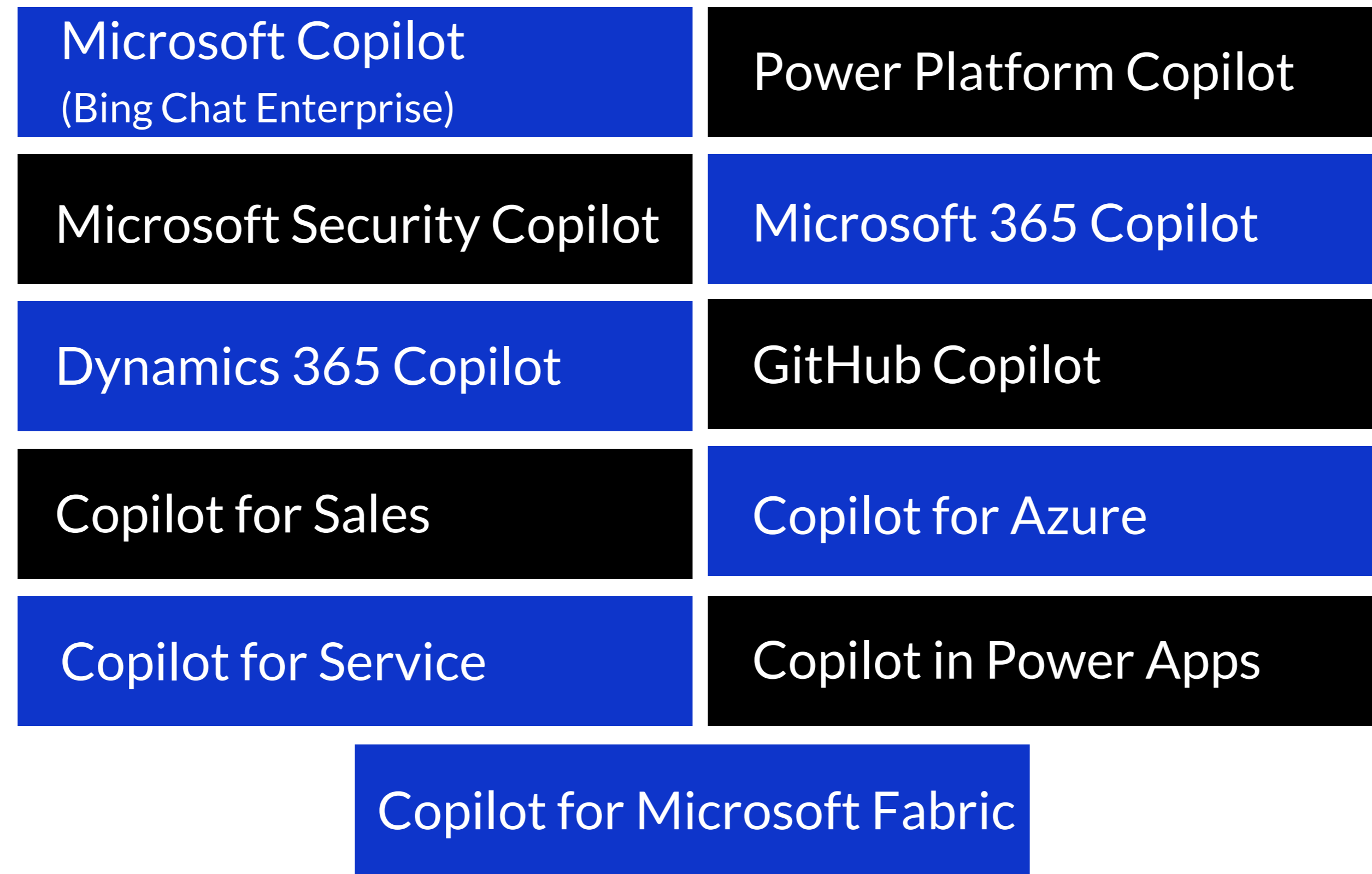
Copilot uses AI. Check for mistakes. [Terms](#) | [Privacy](#) | [FAQs](#) | [Learn more](#)

Choose a conversation style

More Creative More Balanced **More Precise**

New topic Ask me anything... 0/4000

The Many Faces Microsoft Copilot



Copilot – Road Test

Result

Prompt

Write a summary of less than 100 words and cover artificial intelligence, narrow artificial intelligence, general artificial intelligence and generative artificial intelligence.

- **Artificial Intelligence (AI):** Refers to the field of creating intelligent systems that can perform tasks typically requiring human cognition. AI encompasses a wide range of techniques and applications.
- **Narrow Artificial Intelligence (Narrow AI):** Also known as **Weak AI**, it focuses on specific tasks or domains. Narrow AI systems excel in well-defined areas, such as language translation, image recognition, or playing chess. However, they lack adaptability beyond their specialized functions.
- **General Artificial Intelligence (General AI):** Often referred to as **Strong AI**, this is a theoretical concept where machines possess human-like cognitive abilities. General AI would understand context, learn from diverse experiences, and perform any intellectual task a human can. Achieving true General AI remains a challenging goal.
- **Generative Artificial Intelligence (Generative AI):** This type of AI creates new content by learning patterns from existing data. It generates novel text, images, music, or other forms of creative output. Examples include language models like GPT and artistic style transfer algorithms.
- Remember, while Narrow AI dominates today's applications, the pursuit of General AI and the creative potential of Generative AI continue to shape the future of artificial intelligence.

Gemini

Gemini is an advanced AI model from Google, designed to understand and respond to information.



The screenshot shows the Gemini Google App interface. At the top, the browser address bar displays "gemini.google.com/app". Below the address bar, the Gemini logo is visible with a dropdown arrow. A dark blue banner contains the text "See the latest updates to the Gemini Apps Privacy Hub". The main content area features a personalized greeting: "Hello, Jim" in a large, colorful font, followed by "How can I help you today?". Below this, there are four light blue rounded rectangular cards, each with a specific prompt and an icon: "Look up a Linux shell command for a specific task" with a code icon, "Brainstorm ideas for a mocktail given specific ingredients" with a cocktail glass icon, "Brainstorm a tagline for my online store" with a tagline icon, and "As a social trend expert, explain a term" with a lightbulb icon. A light blue box with a shield icon contains a disclaimer: "Your conversations are processed by human reviewers to improve the technologies powering Gemini Apps. Don't enter anything you wouldn't want reviewed or used." with links for "How it works" and "Dismiss". At the bottom, there is a light blue input field with the placeholder text "Enter a prompt here" and icons for image upload and voice input. A small disclaimer at the very bottom reads: "Gemini may display inaccurate info, including about people, so double-check its responses. [Your privacy & Gemini Apps](#)".

Gemini – Road Test

Prompt

Write a summary of less than 100 words and cover artificial intelligence, narrow artificial intelligence, general artificial intelligence and generative artificial intelligence.

Result

Artificial intelligence (AI) is a broad field focused on creating intelligent machines. Narrow AI, the most common type, excels at specific tasks like playing chess or filtering spam. General AI, still theoretical, would mimic human intelligence and handle any intellectual task. Generative AI creates new data, like images or music, based on what it has learned.

Jasper



Jasper AI is an advanced artificial intelligence platform designed to assist in content creation, offering tools that can generate written content, such as blog posts, marketing materials, and emails, efficiently and creatively.

The screenshot shows the Jasper AI dashboard for a user named James Carpp. The browser address bar at the top displays 'app.jasper.ai/?utm_source=chrome_store'. The dashboard header includes the user's name and a 'Learn' button. A left-hand navigation menu contains options: '+ Create content', 'Dashboard', 'Your content', 'Campaigns', 'Art', 'Chat', 'Brand Voice', and 'Favorites'. The main content area is titled 'What do you want to create?' and features a text input field labeled 'Specify a writing task' with a 'Create' button. Below this are four pre-defined content creation options: 'Email newsletter: highlighting this month's top stories', 'LinkedIn post: sharing company news', 'Facebook post: announcing a new store sale', and 'Tweet: sharing product updates'. The background of the main area is a light blue gradient with a faint image of a document on the right.

Jasper

Prompt

Write a summary of less than 100 words and cover artificial intelligence, narrow artificial intelligence, general artificial intelligence and generative artificial intelligence.

Result

Artificial intelligence (AI) refers to computer systems designed to replicate human intelligence and perform tasks such as recognizing speech, making decisions, and translating languages. Narrow AI, or weak AI, is programmed to perform a single task – such as facial recognition or internet searches – and cannot perform beyond its set parameters. General AI, or strong AI, possesses the ability to understand and learn any intellectual task that a human can, demonstrating a flexible form of intelligence. Generative AI is a type of AI that can generate new content, including text, images, and audio, resembling human-like creativity by learning from a database of existing information.

DALL-E



Prompt - Create a photorealistic photo of a professional woman that could be used in LinkedIn.

DALL·E is an advanced artificial intelligence program developed by OpenAI, capable of generating highly detailed and creative images from textual descriptions, offering innovative solutions for visual content creation.



MidJourney

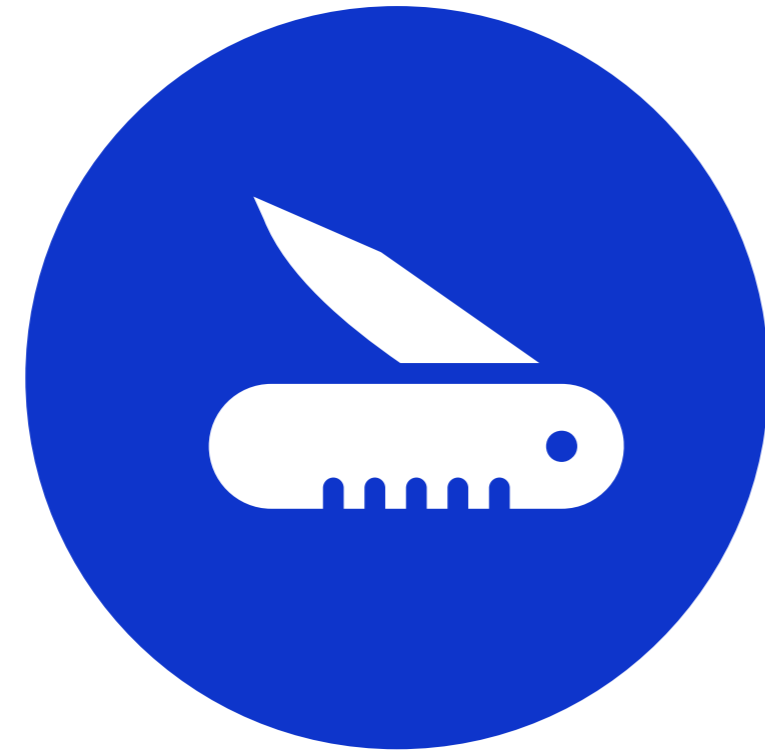


MidJourney is an innovative artificial intelligence tool that specializes in generating detailed and creative images based on textual prompts, enabling users to visualize concepts, ideas, or products with unprecedented ease and flexibility.

Prompt - Create a photorealistic photo of a professional woman that could be used in LinkedIn.



AI in Simple Terms



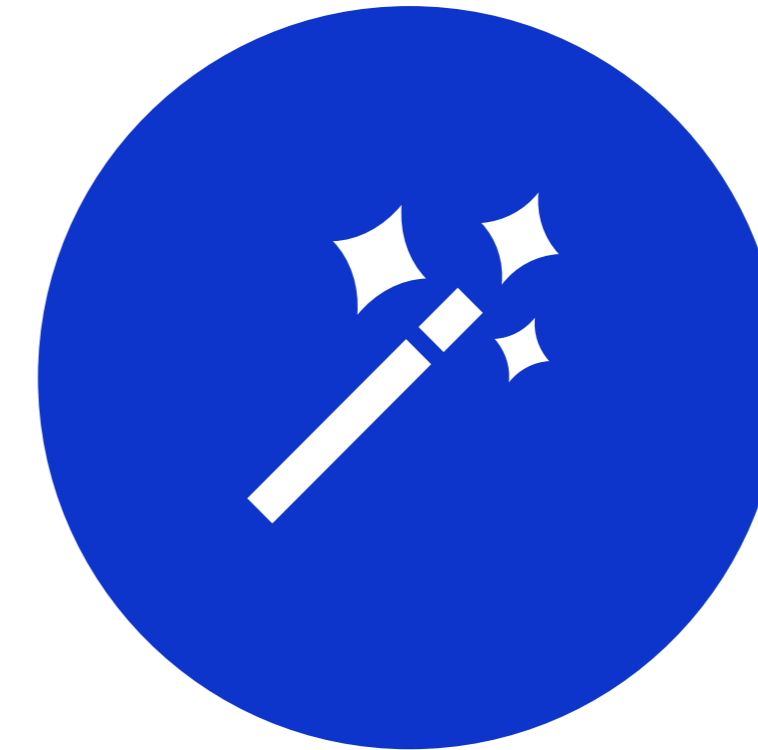
General AI

This is like a
“Swiss Army Knife.”



Narrow AI

This is like
“Specialized Tools.”



Generative AI

This is like a
“Magic Wand.”

Large Language Models



Copilot





Q&A

Slides to hold for now

Title

Add info Here

Fluff this up – Do your magic

What is Copilot for Microsoft Fabric?

Fluff this up – Do your magic

Claude

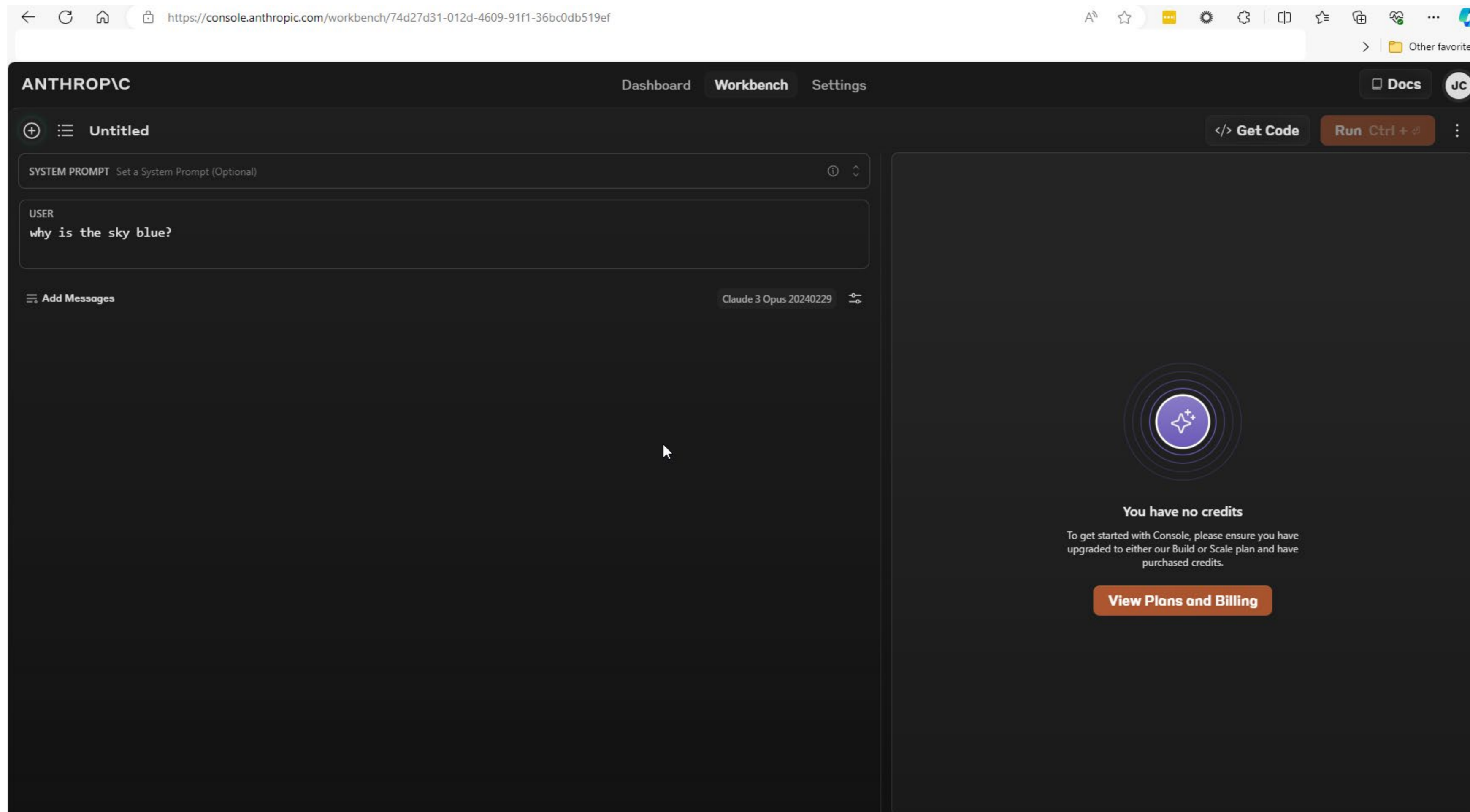
Claude AI is a state-of-the-art language model developed by Anthropic, designed to interact in conversational language, answer questions, generate text, and assist with a wide range of language-based tasks. It's built with a focus on safety and alignment to human values and intentions.

.

Fluff this up – Grab their Logos and place here



https://console.anthropic.com/workbench/74d27d31-012d-4609-91f1-36bc0db519ef



Jukebox

Chat GPT



Fluff this up – Grab their Logos
and place here

The Data Mart Model

| | | |
|--|---|--|
| <p>Specialized version (subset) of the Enterprise Data Warehouse model</p> | <p>Dimensional database modeling technology</p> | <p>Focused on a specific business function (sales, marketing, finance, etc.)</p> |
| <p>Bottom-up approach: data sources are integrated and transformed into a star schema to support the analytical needs of the data mart users</p> | <p>High performance, flexibility, and scalability</p> | <p>Introduces data redundancy, inconsistency, and complexity</p> |