



# CLUB UTILISATEURS DE SOLUTIONS ORACLE



# ORACLE



# CLUBS ORACLE WEBINAR IA

*Jeudi 6 juin  
11h00-12h00  
En distanciel*



**CLUB UTILISATEURS  
DE SOLUTIONS ORACLE**

**ORACLE®**

# ÉVÈNEMENTS À VENIR

- ✓ **WEBINAR | Fraude bancaire avec TrustPair**  
Mercredi 12 juin 2024
- ✓ **ATELIER | Finance JDE**  
Jeudi 20 juin 2024
- ✓ **JOURNEE UTILISATEURS 2024**  
Mardi 1<sup>er</sup> octobre 2024



# SOMMAIRE

## 1. Etat de l'art de l'IA

## 2. OCI – AI Capabilities (Infra GPU)

## 3. AI Services

- LLM/GenAI
- AI Services
- Cas d'usages

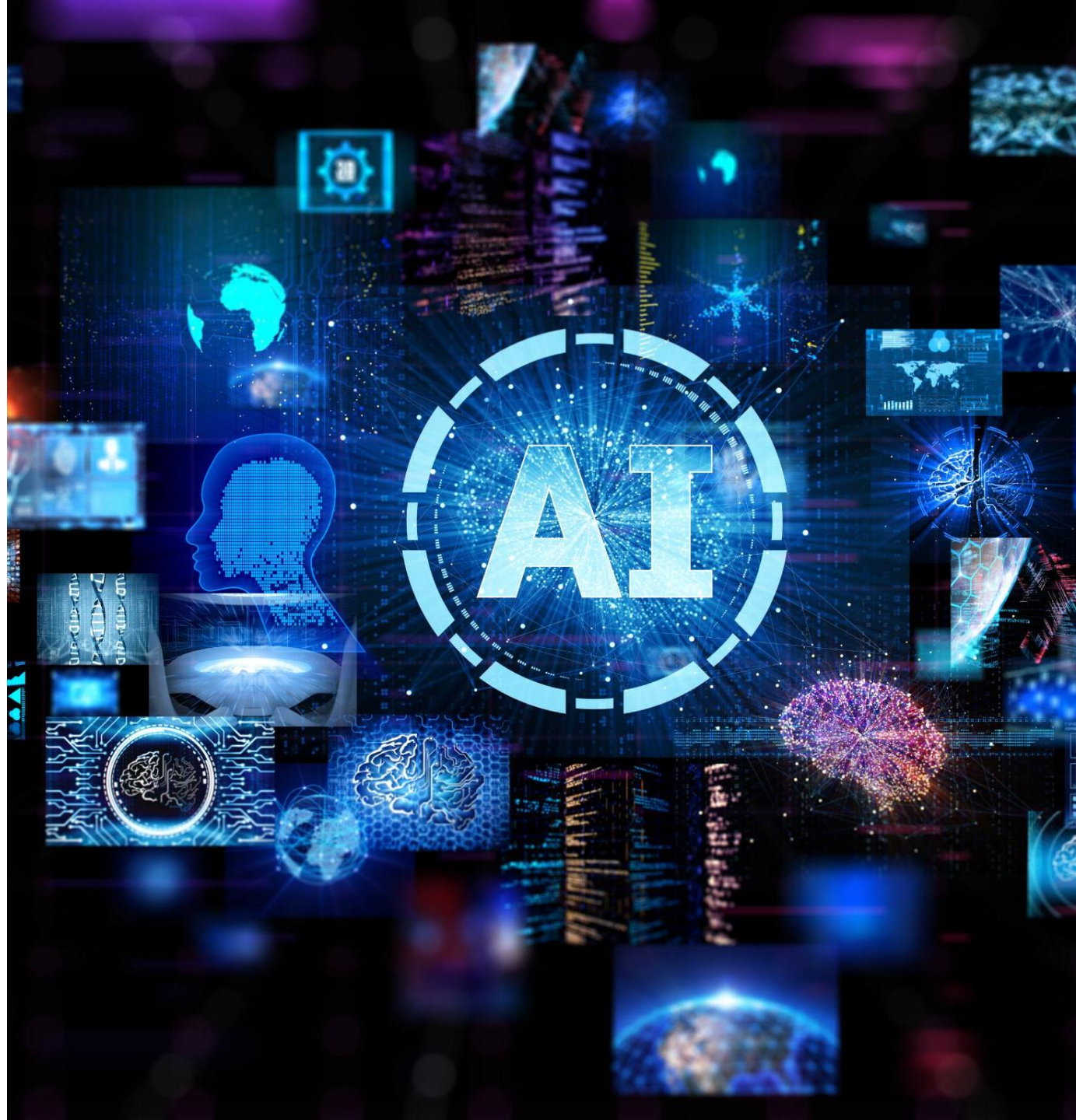
## 3. AI inside Apps : AI Fusion, ERP Cloud



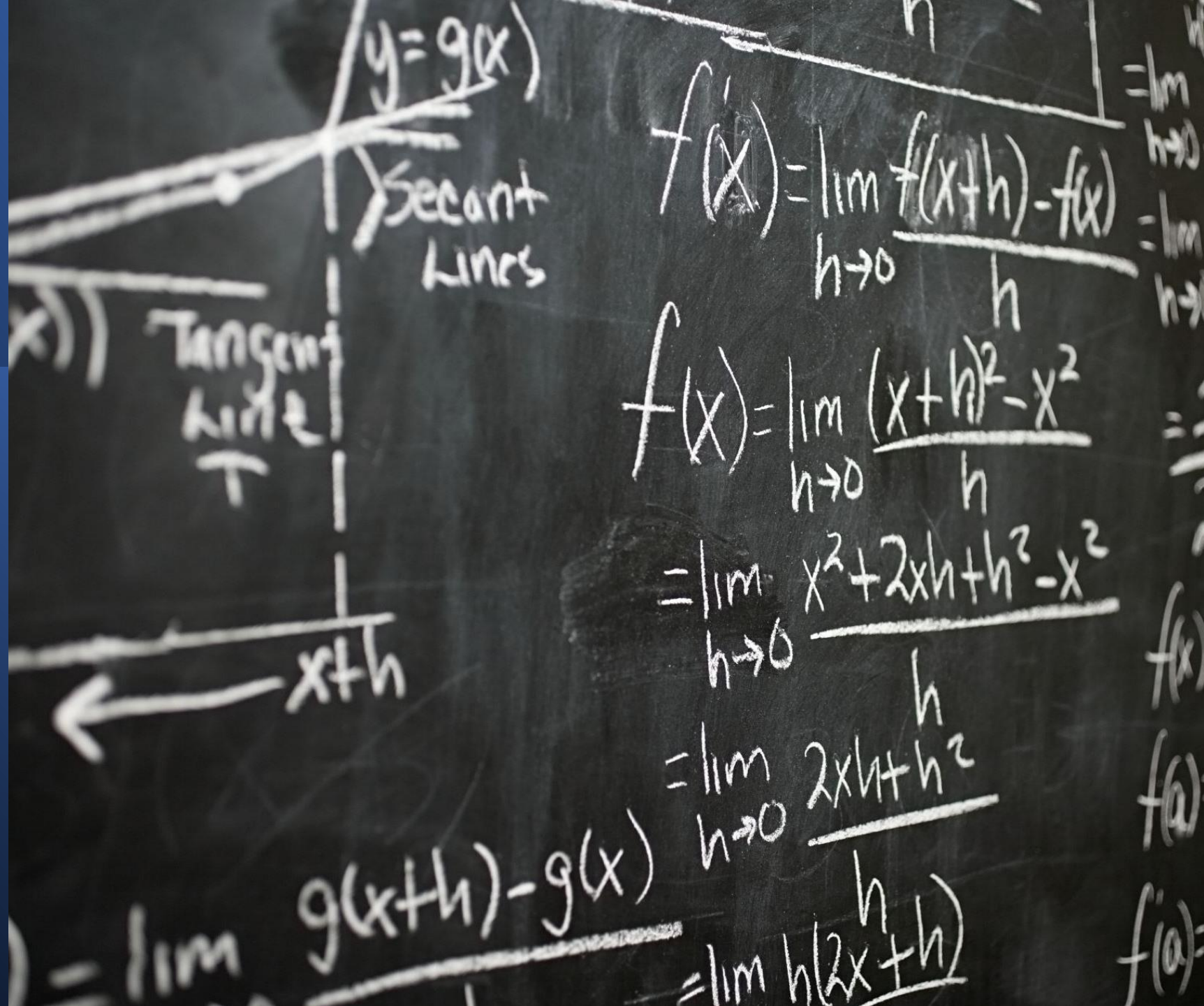
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# Agenda

- Evolution / état des lieux
- Adoption de l'IA
- Cas d'usages



# Evolution de l'IA



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« **toute activité  
intellectuelle** peut être  
**décrite** avec suffisamment  
de précision pour être  
**simulée** par une  
**machine** »

*John MacCarthy*



1956 : **Dartmouth** Summer Research Project on Artificial Intelligence

# Neural networks

Perceptron (P)



1957 Frank Rosenblatt

Feed Forward (FF)



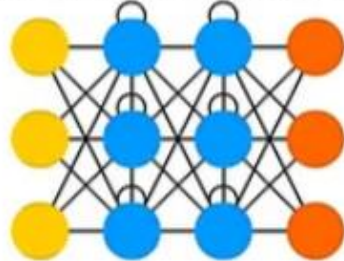
Radial Basis Network (RBF)



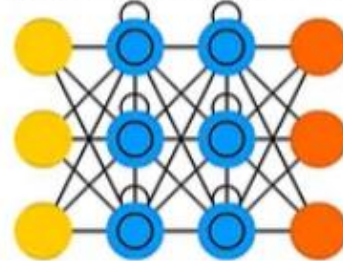
Deep Feed Forward (DFF)



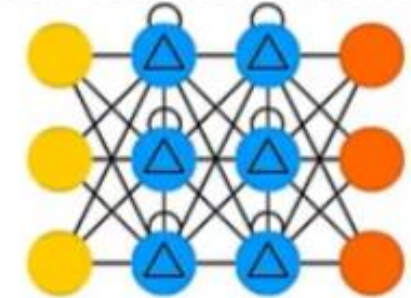
Recurrent Neural Network (RNN)



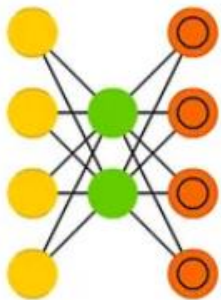
Long / Short Term Memory (LSTM)



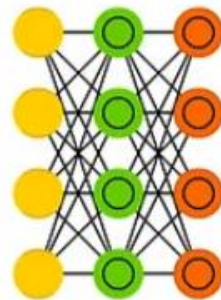
Gated Recurrent Unit (GRU)



Auto Encoder (AE)



Variational AE (VAE)



Denosing AE (DAE)



Sparse AE (SAE)



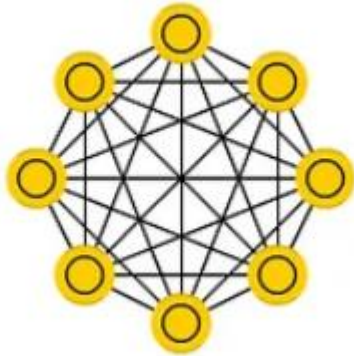


# Neural networks

Markov Chain (MC)



Hopfield Network (HN)



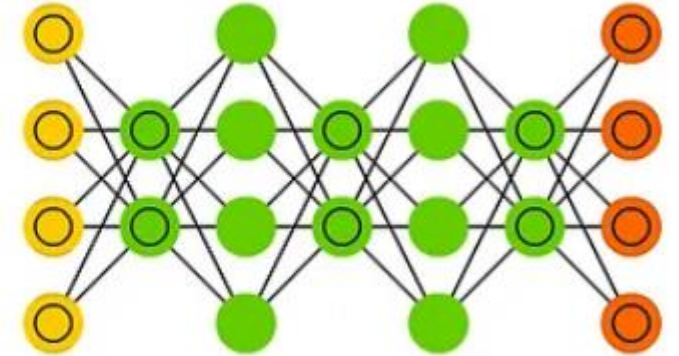
Boltzmann Machine (BM)



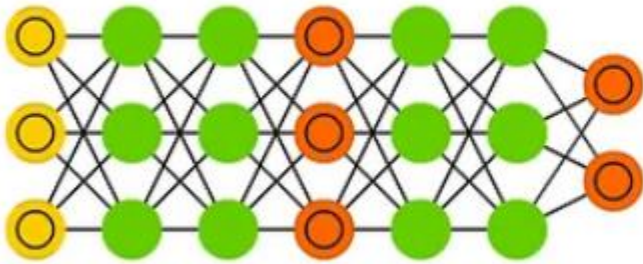
Restricted BM (RBM)



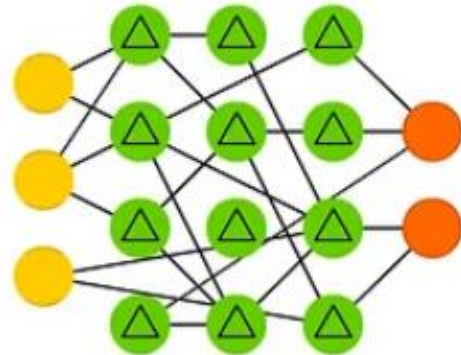
Deep Belief Network (DBN)



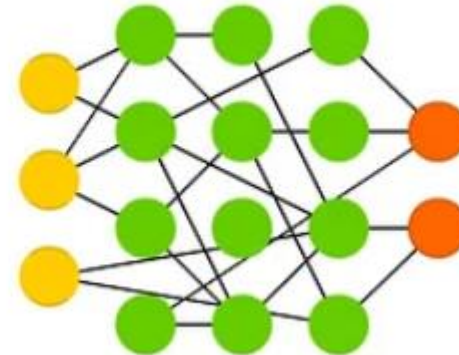
Generative Adversarial Network (GAN)



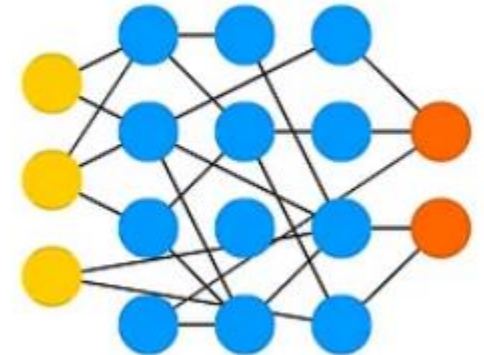
Liquid State Machine (LSM)



Extreme Learning Machine (ELM)

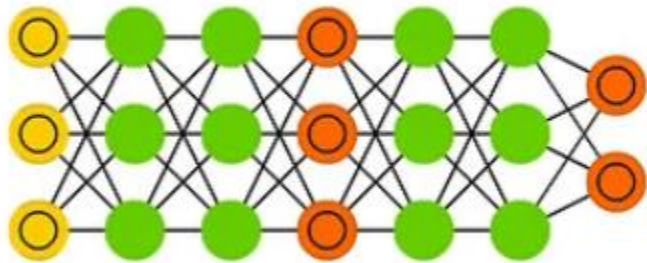


Echo State Network (ESN)

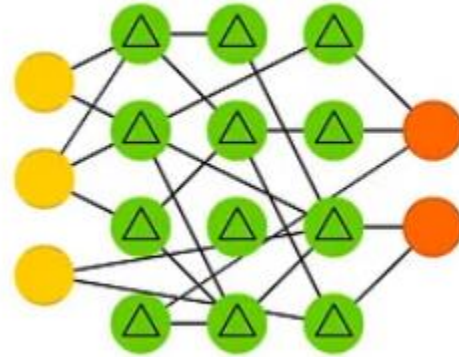


# Neural networks

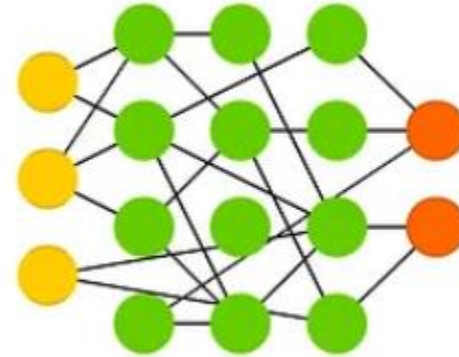
Generative Adversarial Network (GAN)



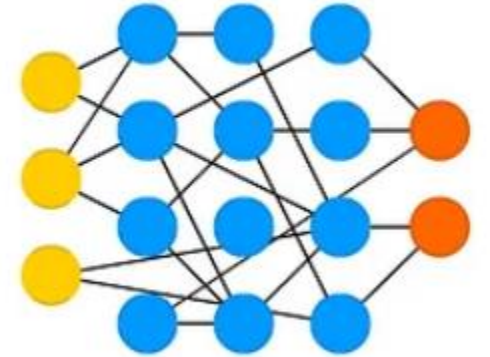
Liquid State Machine (LSM)



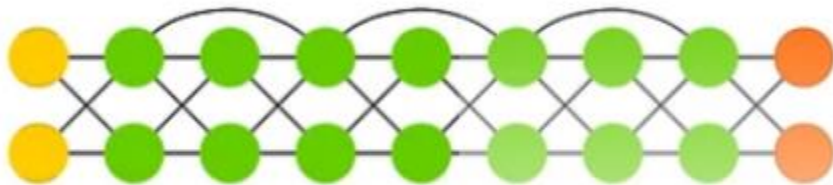
Extreme Learning Machine (ELM)



Echo State Network (ESN)



Deep Residual Network (DRN)



Kohonen Network (KN)



Support Vector Machine (SVM)

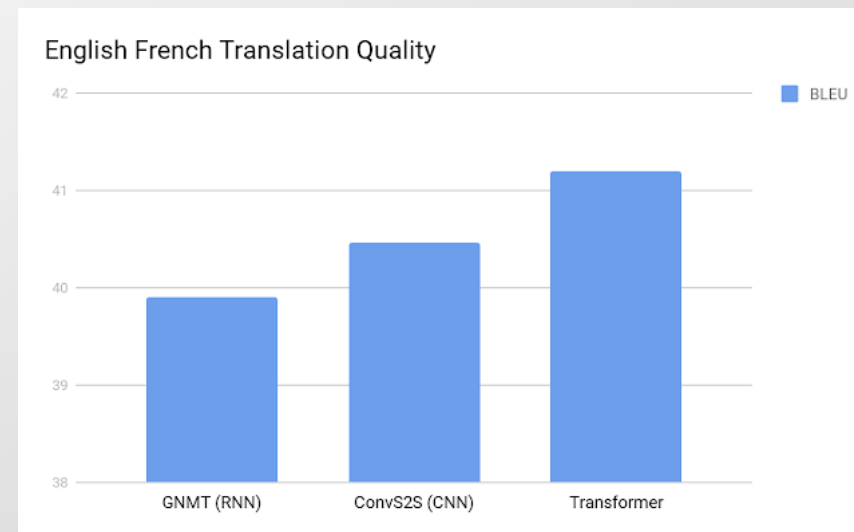
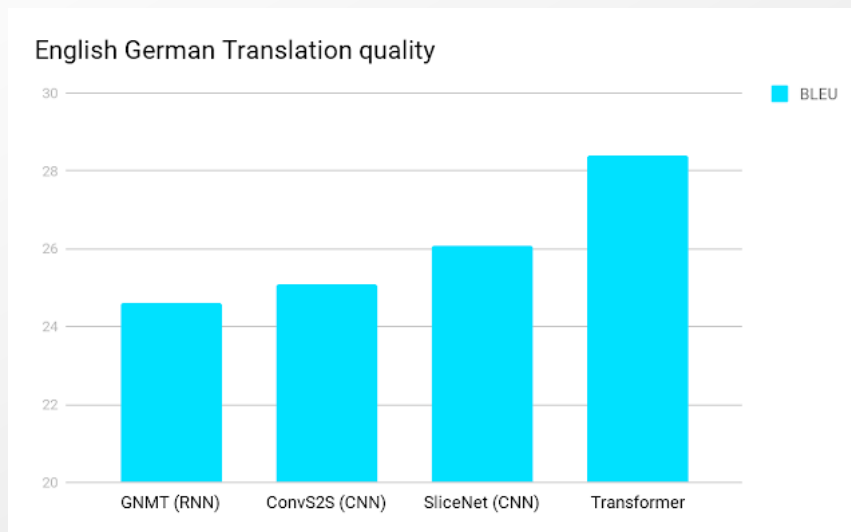


Neural Turing Machine (NTM)



<https://towardsdatascience.com/the-mostly-complete-chart-of-neural-networks-explained-3fb6f2367464>

- 2017 : Publication par Google, Jakob Uszkoreit « Transformers ».  
Utilisé par OpenAI, Méta, Mistral pour les LLM reconnus : GPT 3.5 4, Llama, Mistral AI...



*The animal didn't cross the street because it was too tired.  
L'animal n'a pas traversé la rue parce qu'il était trop fatigué.*

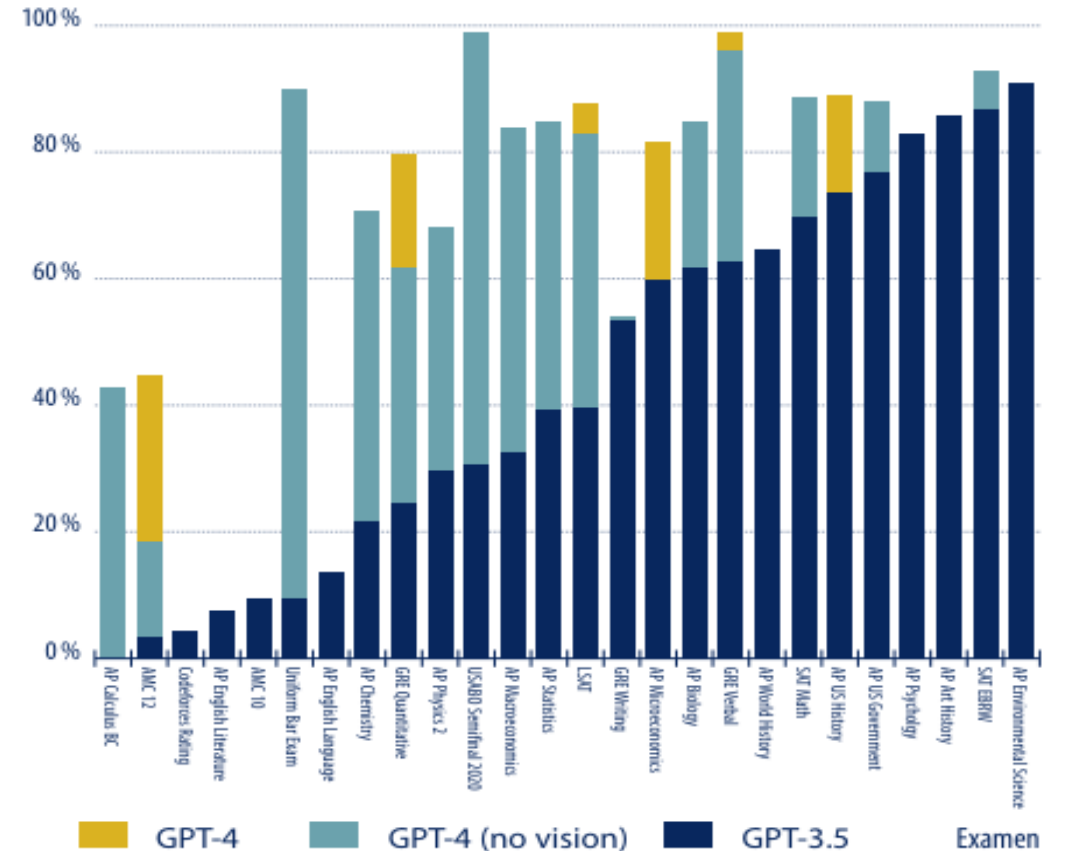
*The animal didn't cross the street because it was too wide.  
L'animal n'a pas traversé la rue parce qu'elle était trop large.*

# Evolution et performance

- Exercices quantitatifs du GRE (Graduate Record Examination) :
- 2023 : GPT 3 ne dépassait que 25% des étudiants à l'université
- 2024 : GPT 4 est au-dessus de 80% des élèves ayant réalisé ce test

Résultats de l'examen  
(classés par performance GPT-3.5)

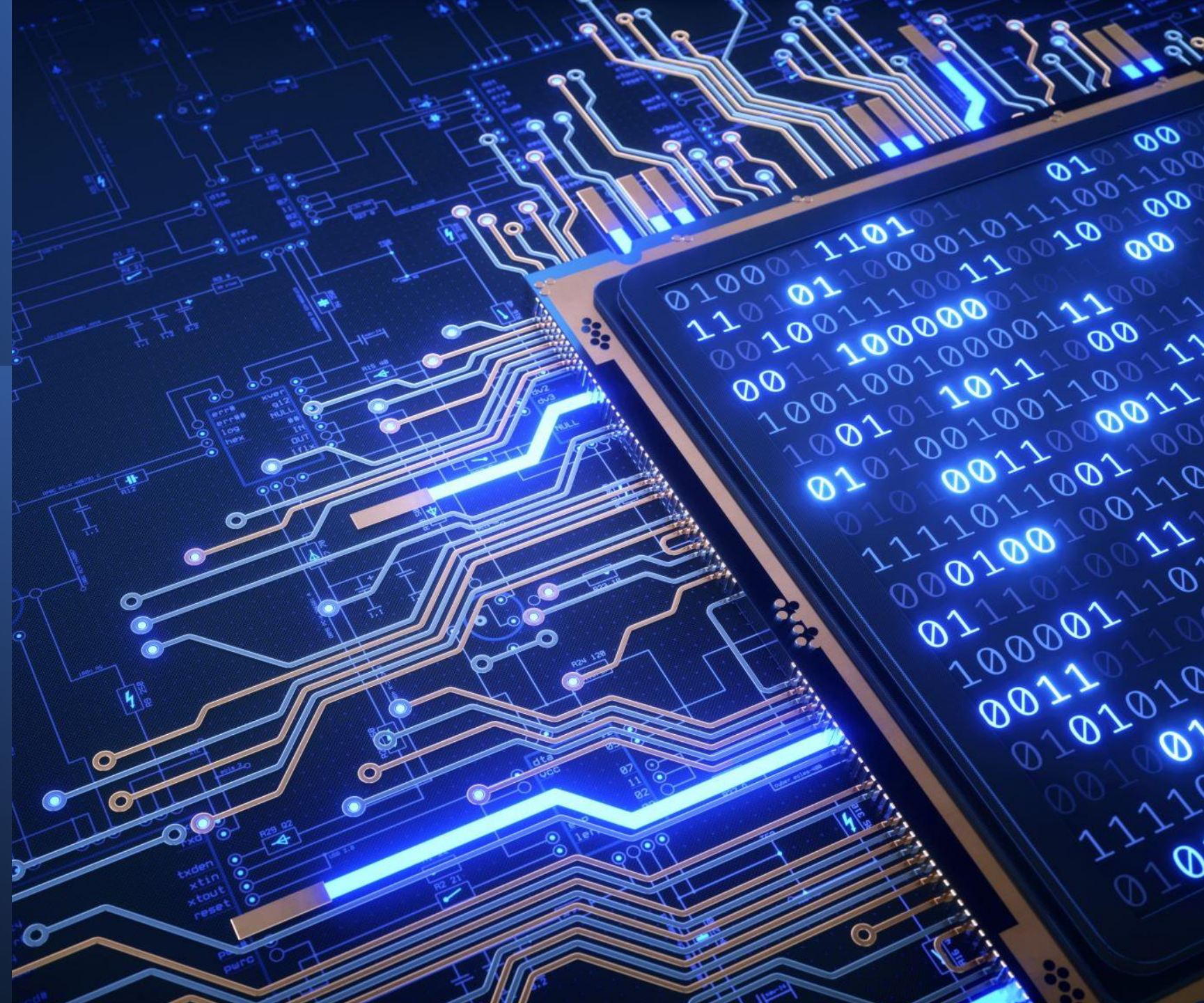
Estimation de la limite inférieure du percentile (parmi les participants au test)



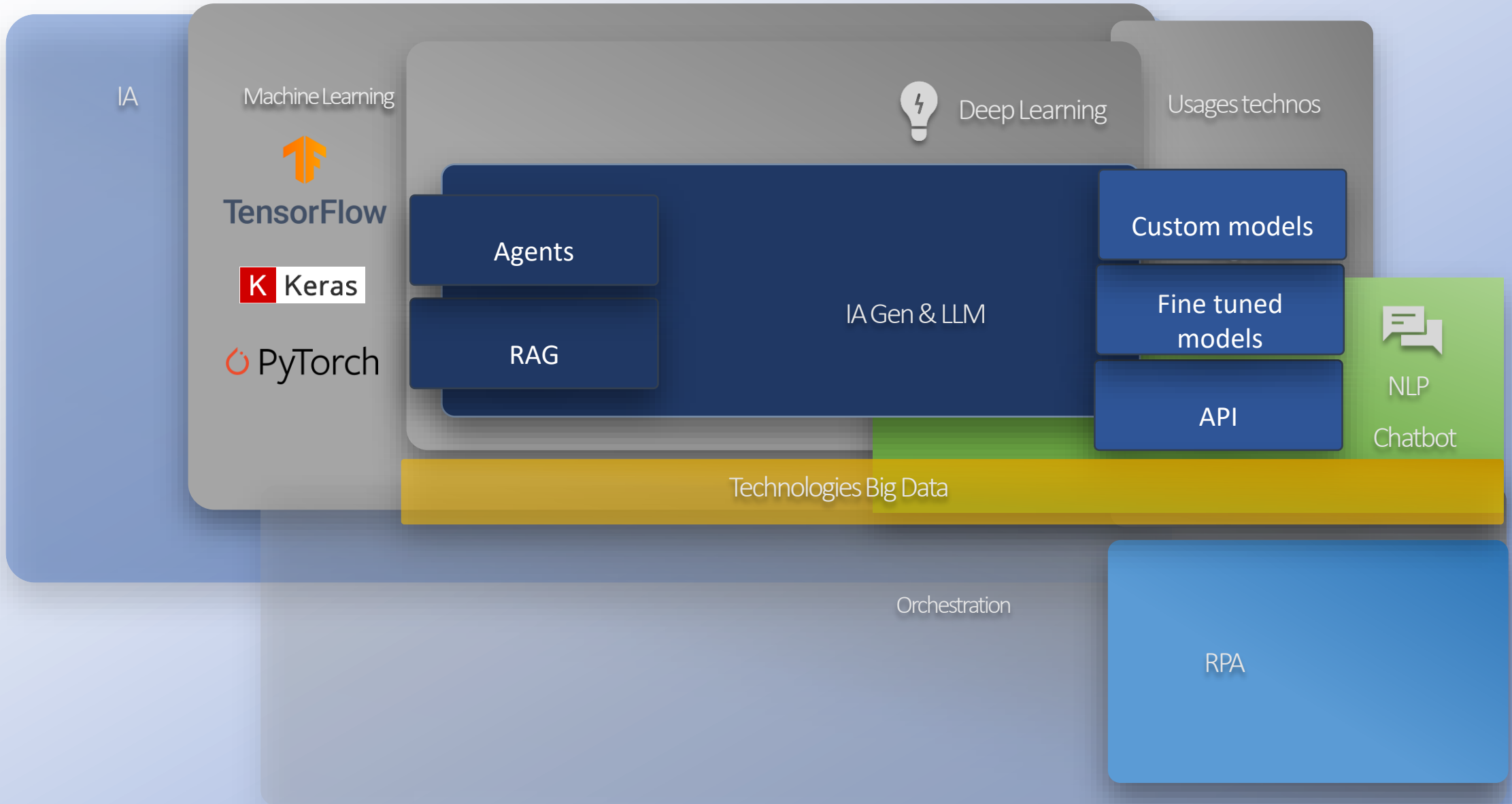
Source : OpenAI<sup>2</sup>

<sup>2</sup> <https://openai.com/research/gpt-4>.

# Technologies de l'IA







# Adoption de l'IA





# Adoption de l'IA

Dès 2023 :

**66%** des dirigeants ont conscience de l'impact de l'IA

**15%\***  
SEULEMENT  
DES DIRIGEANTS  
DE PME UTILISENT  
LES IA GÉNÉRATIVI

*(étude BPI France)*

# Adoption de l'IA

- *66% des dirigeants ont conscience de l'impact de l'IA (BPI France 2023)*

VS

**58 %** des salariés avouent utiliser l'IA,  
(étude Adecco, Sales forces, décidéo 2024)

- Risque de shadow IT identifié



# Adoption de l'IA

**73%** des français déplorent l'existence de freins à l'utilisation de l'IA générative dans leur entreprise.

*(étude Yougov 2 ème trimestre 2023, sur 14 000 employés).*



# Adoption de l'IA

## ÉTUDE 2024

### L'IMPACT DES IA GÉNÉRATIVES SUR LES ÉTUDIANTS

Étude tirée du sondage effectué dans le cadre du Hackathon transversal du Pôle Léonard de Vinci « L'intelligence artificielle, les IA génératives et leurs enjeux sociétaux » qui réunissait 1 600 étudiants de 4<sup>e</sup> année des écoles ESILV, IIM et EMLV en février et mars 2024.

Cette étude s'inscrit dans la dynamique du projet de recherche Hypérion initié par le MBA IA et data innovation de Devinci Executive Education qui vise à étudier l'impact des IA génératives dans la société. Il réunit les écoles du Pôle Léonard de Vinci et le groupe Talan.



des étudiants utilisent les IA génératives

99%

92% des étudiants ont une utilisation régulière des IA génératives



des étudiants estiment que la présence des IA génératives fait partie des principaux critères de choix de leur future entreprise



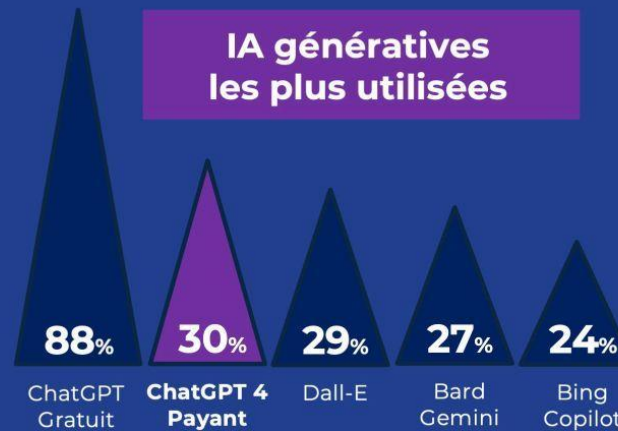
des étudiants ont une vision positive de l'intelligence artificielle



des étudiants indiquent que ChatGPT les influence dans leurs choix



des étudiants constatent qu'ils auraient du mal à se passer de ChatGPT

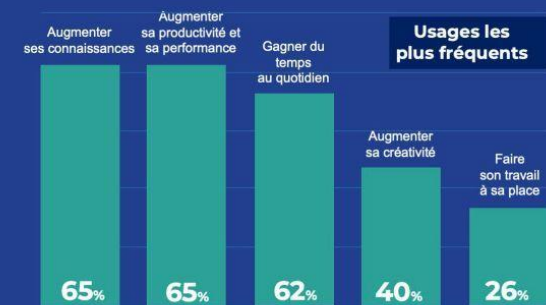


30%

Utilisent les IA génératives quotidiennement

30%

des étudiants payent un abonnement ChatGPT 4 à 20 € par mois



Tous droits réservés – Pour toute citation de cette étude, merci d'indiquer la mention : Étude 2024 « L'impact des IA génératives sur les étudiants » initiée par le Pôle Léonard de Vinci, RM conseil et Talan

*« Chacun commence à comprendre le potentiel transformatif de cette technologie, constate le rythme exponentiel de son développement et ressent le besoin de mieux l'appréhender.*

*L'enjeu est désormais de passer  
à l'action.»*

*Milo Rignell , LightOn / Institut Montaigne  
« Note d'action – pour une autorité française de l'IA »*

# Adoption de l'IA

Freins en entreprise (non exhaustif !)

Infrastructure / espace / performance –  
Ressources (CPU / GPU)

Ressources humaines formées

Complexité du *dataprocessing*

Gouvernance de la donnée

Qualité de la donnée

vs Pistes

Scalabilité / cloud /  
ondemand

Formation...

Framework & offres sur  
étagères

Mise en place *data council*

... dataquality (outils, approche...)

# Adoption de l'IA

Freins en entreprise (non exhaustif !)

Culture de l'entreprise : hétérogène

Résistances au changement

vs Pistes

Acculturation

Succès = confiance

Conduite du changement

Offres sur étagères  
plutôt adaptées aux Quickwin

# Profils, besoins et programmes de formation Data & IA – Ecole Polytechnique Executive Education

Dirigeants / **Managers**,  
Directeurs de Business Units,  
DSI,  
Directeurs de la transformation,  
Consultants.

Accompagnement personnalisé pour  
constituer sa feuille de route stratégique en  
Data et IA.

**18 heures**  
100% en ligne

**- Executive Certificat -  
Diriger avec la Data & l'IA**



Profils techniques :

**DSI**,  
Directeurs de la transformation,  
Chefs de projet SI,  
Consultants.

Maîtriser les concepts clés de la Data  
et de l'IA ainsi que les conditions  
nécessaires pour les implémenter à la  
stratégie de son organisation.

**51 heures**  
13 heures en présentiel  
(campus de l'Ecole polytechnique)  
38 heures en ligne

**AI for Business**



**Profils techniques avec une  
première expérience en science  
des données**, des compétences en  
programmation et connaissances en  
probabilités et statistiques.

Devenir un spécialiste de la Data  
en apprenant à collecter, modéliser,  
stocker et analyser les données.

**77 heures**  
100% en ligne

**Advanced AI for Data analysis**



# Cas d'usages



# Cas d'usages

Cas d'usages Gen AI ...

Chatbot destiné aux prospects (guide produits et services)

Chatbot / assistant technique destiné au client / au consommateur

Assistant destiné aux collaborateurs (*entraîné sur le métier et sur la base  
connaissance de l'entreprise*)

Automatisation de réponses par mail (préparation de réponses par mail)  
destinées au service relation client, au service relation qualité ...

# Cas d'usages

Cas d'usages Gen AI ...

Ciblage campagne marketing / campagnes personnalisées

Génération de campagnes / campagnes personnalisées

# Cas d'usages

Cas d'usages Gen AI & IA (ML...) ....

Forecasting des ventes / machine learning

Reconnaissance audio -> Audio to Text (usage bureautique / comité)

Identification de défauts : chaine de production / produits finis  
Computer vision : Pretrained image analysis



ORACLE

# Why Oracle for AI?

Frédéric Brasseur  
Solution architect  
06/06/2024

# Safe harbor statement

This presentation is intended to outline our general product direction. It is intended for information purposes only, and may not be incorporated into any contract. It is not a commitment to deliver any material, code, or functionality, and should not be relied upon in making purchasing decisions. The development, release, timing, and pricing of any features or functionality described for Oracle's products may change and remains at the sole discretion of Oracle Corporation.

Statements in this presentation relating to Oracle's future plans, expectations, beliefs, intentions, and prospects are "forward-looking statements" and are subject to material risks and uncertainties. A detailed discussion of these factors and other risks that affect our business is contained in Oracle's Securities and Exchange Commission (SEC) filings, including our most recent reports on Form 10-K and Form 10-Q under the heading "Risk Factors." These filings are available on the SEC's website or on Oracle's website at <http://www.oracle.com/investor>. All information in this presentation is current as of January 2024 and Oracle undertakes no duty to update any statement in light of new information or future events.

**“The true potential of AI lies not in replacing humans but in empowering them. It’s about creating a synergy where machines and humans collaborate to achieve unparalleled efficiency and innovation.”**

**Fei-Fei Li, Co-Director of Stanford’s Human-Centered AI Institute**

SaaS Apps

AI Services

Data

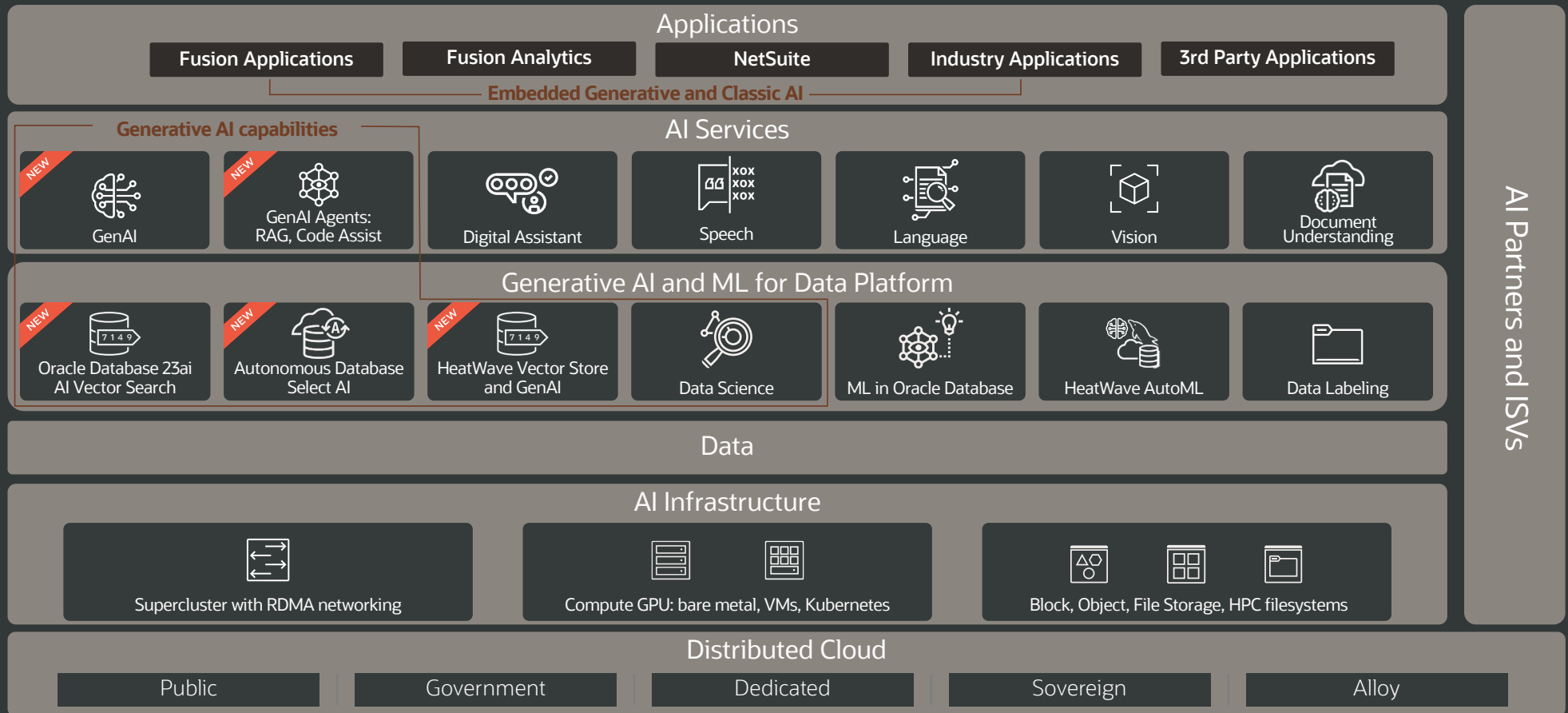
Infrastructure

Partners

Oracle brings AI to  
the enterprise at  
every layer of our  
stack



# Tech innovations across the Oracle AI stack



# Oracle AI Apps

# Currently available Classic AI capabilities across Fusion Apps

## Optimizing outcomes across the enterprise

### Workforce Attraction & Satisfaction

- Best Candidate
- Candidate to Job Matching
- Candidate Tiering
- Stack Rank Applicants
- Smart Candidate Re-Ranking
- Hiring Accelerator: Time-to-Fill
- Predict Employee Attrition
- Advanced HCM Controls
- Intelligent Employee Assistant
- Dynamic Skills

### Financial & Budgetary Alignment

- PPM Digital Assistant
- Next Generation Project Planning Interface
- Increase Project Staffing Efficiency with AI

### Increase Market Share

- Intelligent Switch
- Look-a-like Modeling for Advertising
- Marketing Data Identity Resolution
- Web Real-Time Intelligent Targeting
- Marketing Campaign Performance Prediction

- RFM Scoring
- Lead Enrichment in Eloqua
- Automated Forecast Tuning
- Demand Sensing
- NPI Demand Forecasting
- Identify “At-Risk” Deliveries
- Anomaly Detection
- Predictive Maintenance
- Predict Operations Yield and Throughput
- Predict Product Quality, Scrap, and Returns

### Revenue Growth

- Smart Talking Points
- TAM Expansion
- Account Prioritization
- Account Enrichment
- Account Data Diagnostic
- Signal Alerts
- Ideal Customer Profile Modeling
- Win Probability / Opportunity Scoring
- Next Best Action
- Deal Acceleration
- Digital Sales Assistant
- Virtual Service Assistant
- Next Best Product Recommendations

- Next Best Offer
- Intelligent Search
- Lead Time Insights
- Cycle Time Prediction

### Productivity & Efficiency

- Expenses Digital Assistant
- Intelligent Document Recognition
- Intelligent Code Combination Defaulting
- Procurement Spend Classification
- Smart Supplier Profile
- Supplier Categorization
- Supplier Spend Currency Conversion
- Supplier Spend Advanced Insights
- Procurement Dynamic Discounting
- Automated Expense Approvals
- Automated Expense Audit
- Fraud Detection
- Intelligent Process Automation
- Intelligent Performance Management
- Invoice Factoring Via Blockchain
- Digital Supply Chain Assistant
- Transit Time and ETA Prediction
- Intelligent Market Basket Analysis

# We're moving fast – and responsibly – in Generative AI

2H'22

OpenAI launches ChatGPT 3.5 Conversational AI

2H'23

Oracle launches GenAI in preview

1H'24

Over 50 use cases live in Oracle Fusion Apps  
  
Oracle also announces Extensible GenAI

Planned  
2H'24

Over 2 dozen additional GenAI use cases in HCM and SCM

Planned  
2025

Continued expansion of GenAI use cases with 100s under review

# Currently available Generative AI capabilities across Fusion Apps

## Reimagining the business of business

### Workforce Attraction & Satisfaction

- Employee Recognition
- Goal Creation
- Job Posting
- Job Category Landing Pages
- Job Match Explanations
- Career Summary for Growth
- Survey Questions
- Performance Feedback & Dev Tips
- Performance review summary
- Candidate experience summary
- About Me for Connections

### Financial & Budgetary Alignment

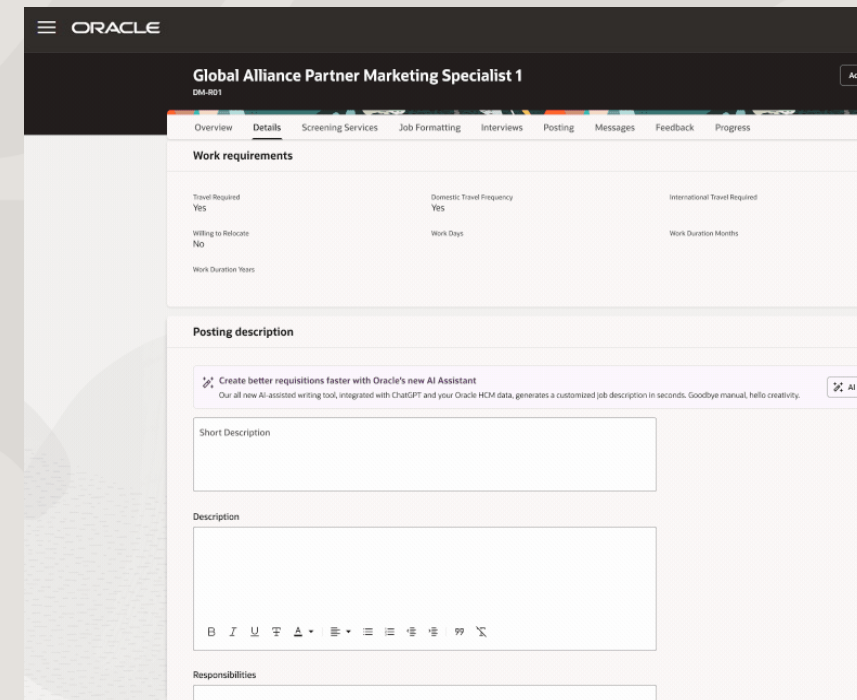
- Financial Reporting Narrative
- Journal entry, Reconciliation Notes
- Financial Data Explanations

### Revenue Growth & Market share

- Goal Creation
- Management Reporting Narrative
- Financial Reporting Narrative
- Chat Agent Assistance
- Sales Meeting Assistant
- Interview Content Creation
- Chat Summarization
- Issue/SR Summarization

### Productivity & Efficiency

- Journal Entry, Reconciliation Notes
- Financial Data Explanations
- Anytime Feedback Assistance
- Generate Item Descriptions
- Supplier Recommendations for Negotiations
- Generate Negotiation Summary
- Knowledge Article from Source Document
- Knowledge article from SR
- SR response from Recommended Article
- Search Excerpts based on Knowledge Article
- SLO and Campaign Text



# How Generative AI works in Fusion Apps



## Base LLM

Cohere or Oracle ecosystem partners train a base model that understands language, using OCI supercluster



## Context

Oracle fine-tunes the Large Language Model with enterprise apps expertise, and makes available as a native OCI service



## Prompts

Oracle iterates to establish the best prompts to achieve the desired result and embeds prompts in Fusion Applications



## Users

A customer's Fusion instance executes prompts embedded in the flow of work; users review & edit results

## 02 Revenue Analysis by Region

In Q3 2023, our sales in Europe was USD 2.1B, which fell short of our initial plan of USD 2.8B. Economic issues resulting from the Ukraine conflict played a role, as consumer confidence dropped. Energy shortages further compounded the challenges, affecting consumer sentiment and willingness to spend.

Our investments in sales channel development in China and the APAC region helped further diversify our revenues and unlock growth opportunities. APAC revenues grew to USD 600M in Q3 and are expected to top USD 1.0B per quarter during the next fiscal year.

## 03 Supply Chain

Our production volume in Q3 was constrained to 125,000 units due to battery supply shortages. This compares to

⚡ Generating...

More Detail

Less Detail

# OCI AI Services

# Generative AI innovation at Oracle



Deliver high-performance generative AI

Embed generative AI across every layer of the tech stack

Prioritize data management, security and governance



# OCI Generative AI

Built from the ground up to meet your enterprise needs

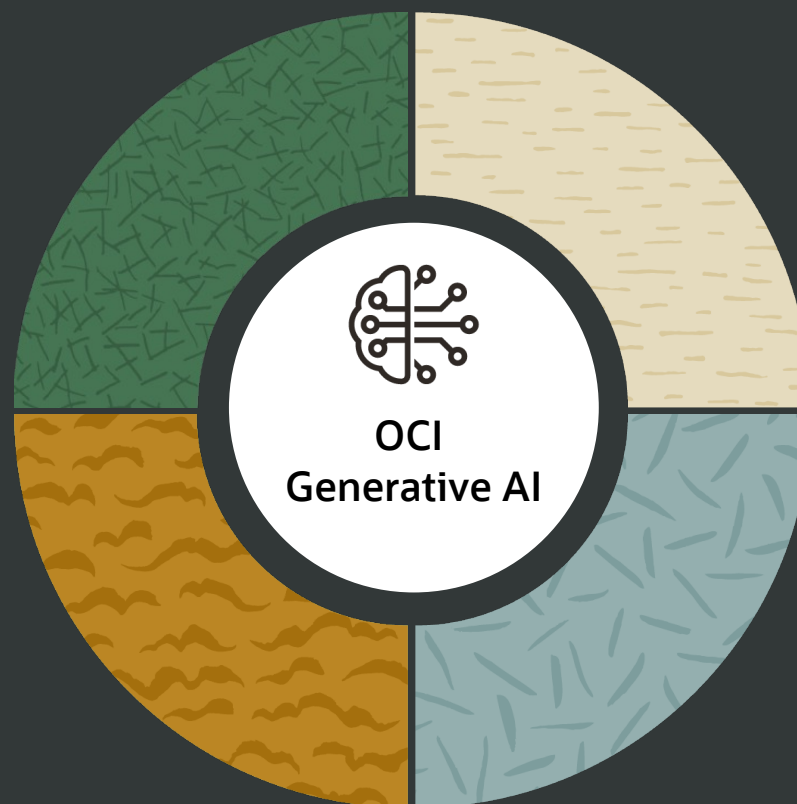
## Dedicated AI Clusters

Peace of mind knowing you have the compute resources you need.

Predictable performance and pricing

## Private custom models

Custom models trained on your data can only be used by you.



## Tailored to your enterprise needs

Fine tune models to meet your enterprise specific needs.

## Bring state-of-the-art AI to your data

Take your data and applications to the next level by incorporating generative AI into existing workflows.

# OCI Generative AI

## High quality pre-built models

Choice of Cohere or Meta models bring SOTA foundational models to both OCI customers and Oracle SaaS customers.

## Fine-tuning support

Tune custom models with your own data to solve specific problems or target specific domains.

## Fully hosted on OCI

All processing and data storage happens inside OCI, no cross-region or cross-cloud communication.

## Respect for customer privacy

Oracle does not send customer data to Cohere or Meta.

## PAYG and single tenant, dedicated hardware

Pay per token or host the models on dedicated hardware for stable performance.

The screenshot displays the Oracle Cloud Generative AI overview page. The page is structured with a left-hand navigation menu and a main content area. The navigation menu includes links for Overview, Playground, Dedicated AI clusters, Custom models, Endpoints, and Scope. The main content area is titled "Generative AI overview" and features a prominent banner: "Power your apps with large language models and generative AI". Below the banner, there are three metrics cards: "Dedicated AI clusters" (7), "Custom models" (3), and "Active endpoints" (12). A "Get started" section includes a "Go to playground" button and a description of the playground. At the bottom, there are logos for Cohere and Meta. The footer contains "Terms of Use and Privacy", "Cookie Preferences", and "Copyright © 2023, Oracle and/or its affiliates. All rights reserved."

# OCI Generative AI Agents

## Retrieval-Augmented Generation (RAG) service

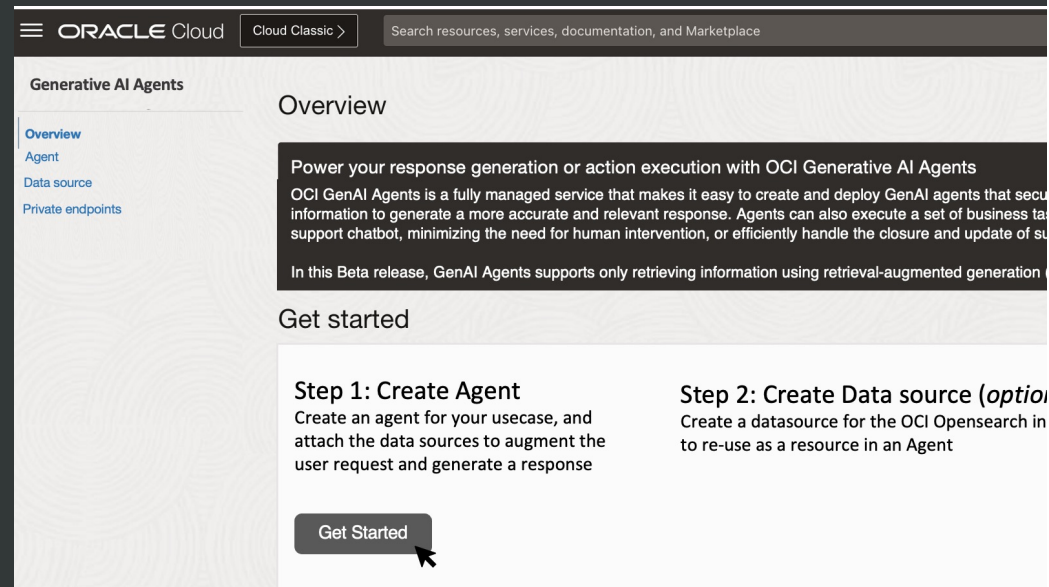
The first in a series of generative AI agents

Combines LLMs and RAG with your enterprise data for contextualized and grounded results

Conversational interface to corporate knowledge bases

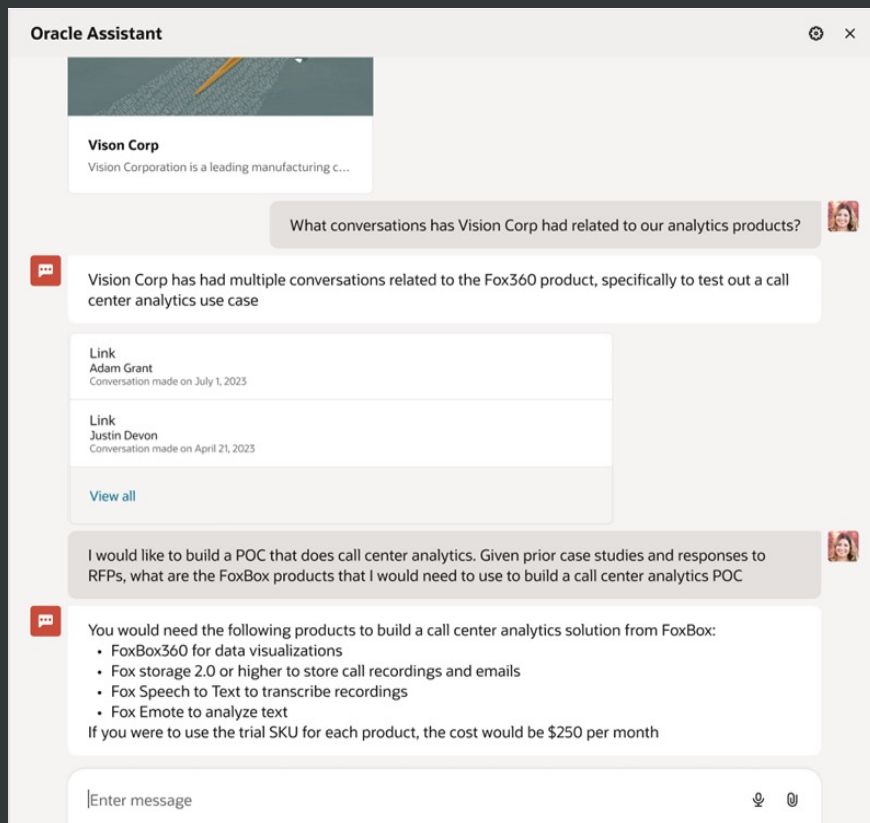
Beta release supports OCI OpenSearch

Coming Soon: Integration with Oracle Database 23c AI Vector Search and MySQL HeatWave Vector Store



The screenshot shows the Oracle Cloud console interface for the OCI Generative AI Agents service. At the top, there is a navigation bar with the Oracle Cloud logo, a 'Cloud Classic' dropdown, and a search bar. The main content area is titled 'Generative AI Agents' and includes a sidebar with navigation links for 'Overview', 'Agent', 'Data source', and 'Private endpoints'. The 'Overview' section features a dark banner with the text: 'Power your response generation or action execution with OCI Generative AI Agents. OCI GenAI Agents is a fully managed service that makes it easy to create and deploy GenAI agents that secure information to generate a more accurate and relevant response. Agents can also execute a set of business tasks, support chatbot, minimizing the need for human intervention, or efficiently handle the closure and update of services. In this Beta release, GenAI Agents supports only retrieving information using retrieval-augmented generation (RAG) on OCI OpenSearch.' Below this, the 'Get started' section is divided into two columns. The left column, 'Step 1: Create Agent', describes creating an agent and attaching data sources. The right column, 'Step 2: Create Data source (optional)', describes creating a data source for OCI OpenSearch. A 'Get Started' button is located at the bottom of the first column, with a mouse cursor pointing to it.

# OCI Generative AI Agents Retrieval-Augmented Generation (RAG) service



OCI Generative AI Agents connected to Vision Corp's knowledge bases

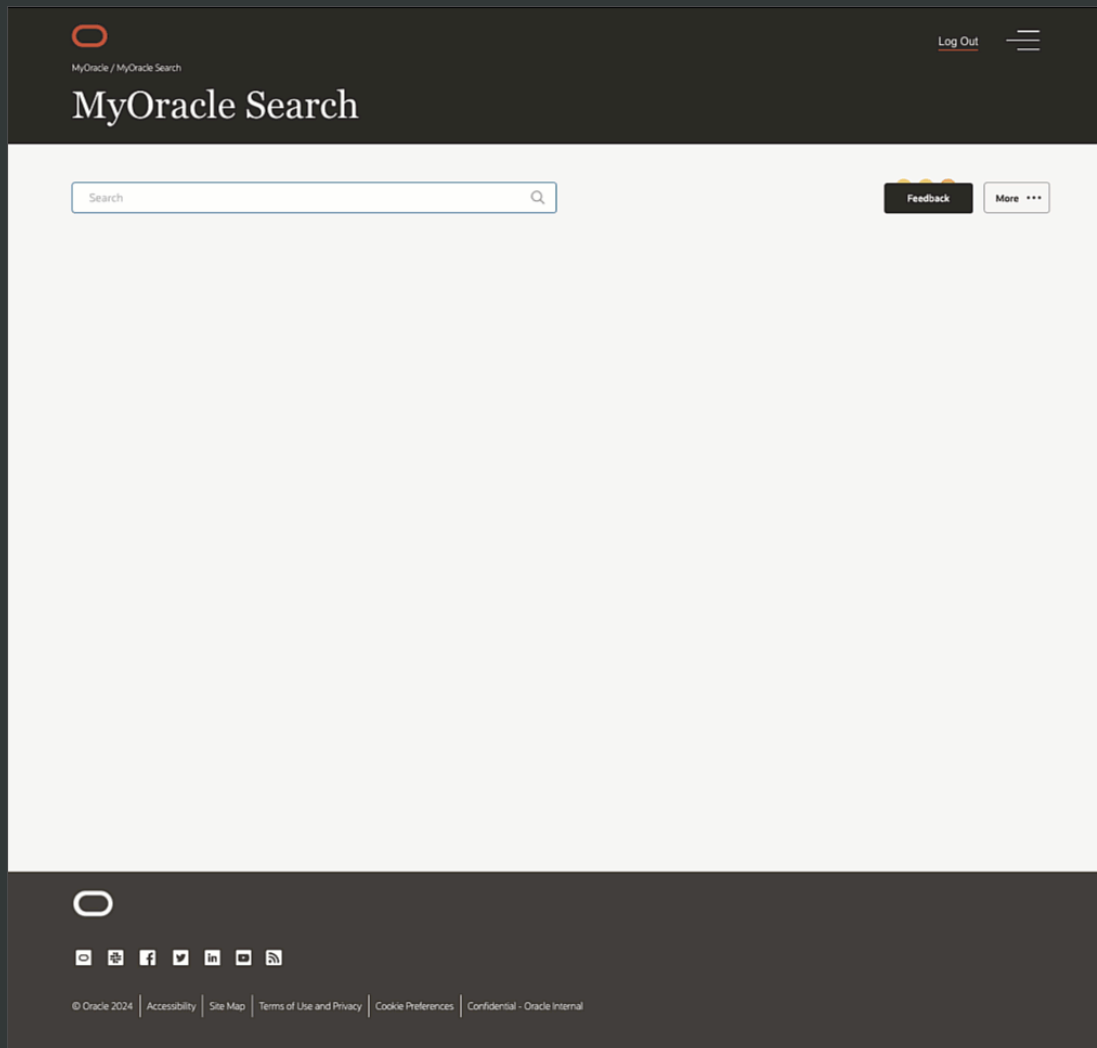
Analyst asks a natural language question

AI Agent responds in humanlike manner and provides links to relevant source documents

Analyst asks a follow up question

AI Agent uses chat history and further information retrieval to respond





# Use cases

## Oracle

### Challenge:

- Employees struggle to find answers within vast amounts of internal Oracle microsites and documents, e.g., IT and HR
- When answers aren't found IT tickets or emails to HR are generated asking for help

### Solution:

- MyOracle Search uses OCI Generative AI plus RAG to enable natural language interactions to find answers fast
- Answers are provided directly inline and are grounded with references to original source materials

### Benefits:

- Employees are more productive and self-sufficient
- 25-30% of common IT requests are answered by generative AI allowing IT agents to focus on complex tickets



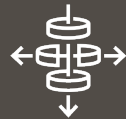
# AI Services Benefits

## AI for everyone



- An AI starting point, even without data science experience
- State-of-the-art LLMs from Meta and Cohere for generative AI use cases

## Prebuilt for enterprise requirements



- Prebuilt models trained on industry-derived data
- Optimized for use cases across finance, manufacturing, and more
- Built-in insight highways into your SaaS applications with Oracle NetSuite, Fusion, and custom apps

## Customizable for your needs



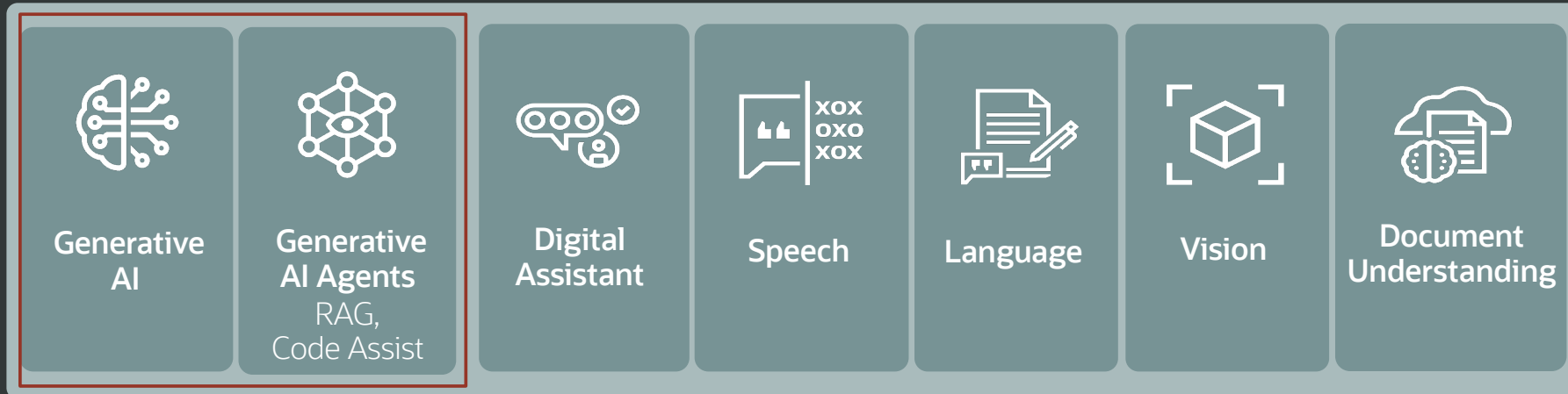
- Tailor your AI models without data science experience
- Save costs by training AI models already on OCI
- Fine tune generative AI models for specialized use cases

## Best-in class support



- White glove treatment
- Data scientists on staff, dedicated to ensuring your organization's success
- Pricing to support AI experimentation

# Prebuilt services for AI



Generative AI

Cognitive AI

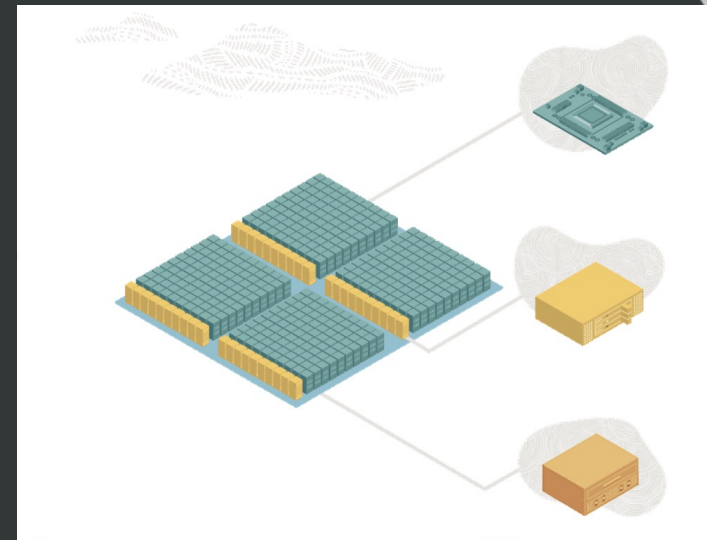
# Oracle AI Infrastructure



# OCI AI Infrastructure

Built on Oracle's unique Supercluster technology

- **Superior supercomputing performance**
  - Dedicated AI Clusters certified by NVIDIA
  - Improves economics of training models
- **Efficient scalability**
  - Scale up to 4096 instances and 32768 GPUs
  - Strong capabilities for varying AI workloads
- **Leading networking technology**
  - Specialized purpose-built RDMA networking
  - Efficient and smooth processing of AI workloads



# Oracle AI in Database

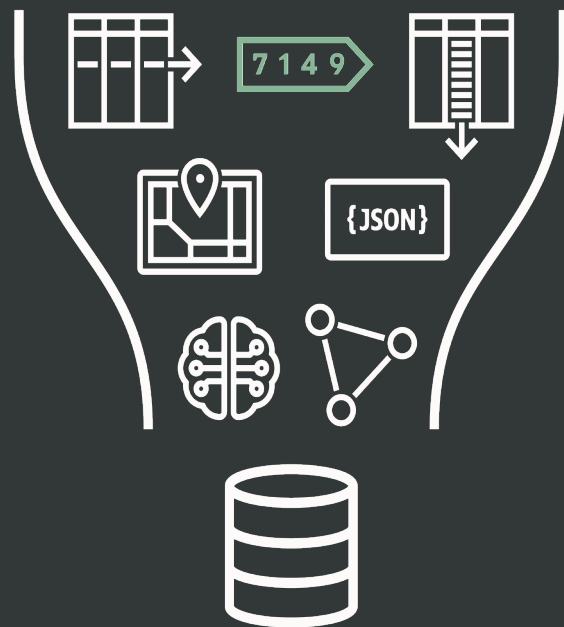
# Oracle Modern Data Platform for AI

- **Prioritized data security and management**
  - Tight control over data security and governance
- **Built for business**
  - Models are tailored with industry-specific insights
  - Fine tune models for superior understanding
- **AI/ML is built-into the data management platform**
  - Oracle Database, Autonomous Database, and MySQL HeatWave
  - Natural language interface to databases with Select AI
  - Built-in Vector Database to support AI workloads



# AI Vector Search/Store

Oracle Database 23c and MySQL HeatWave

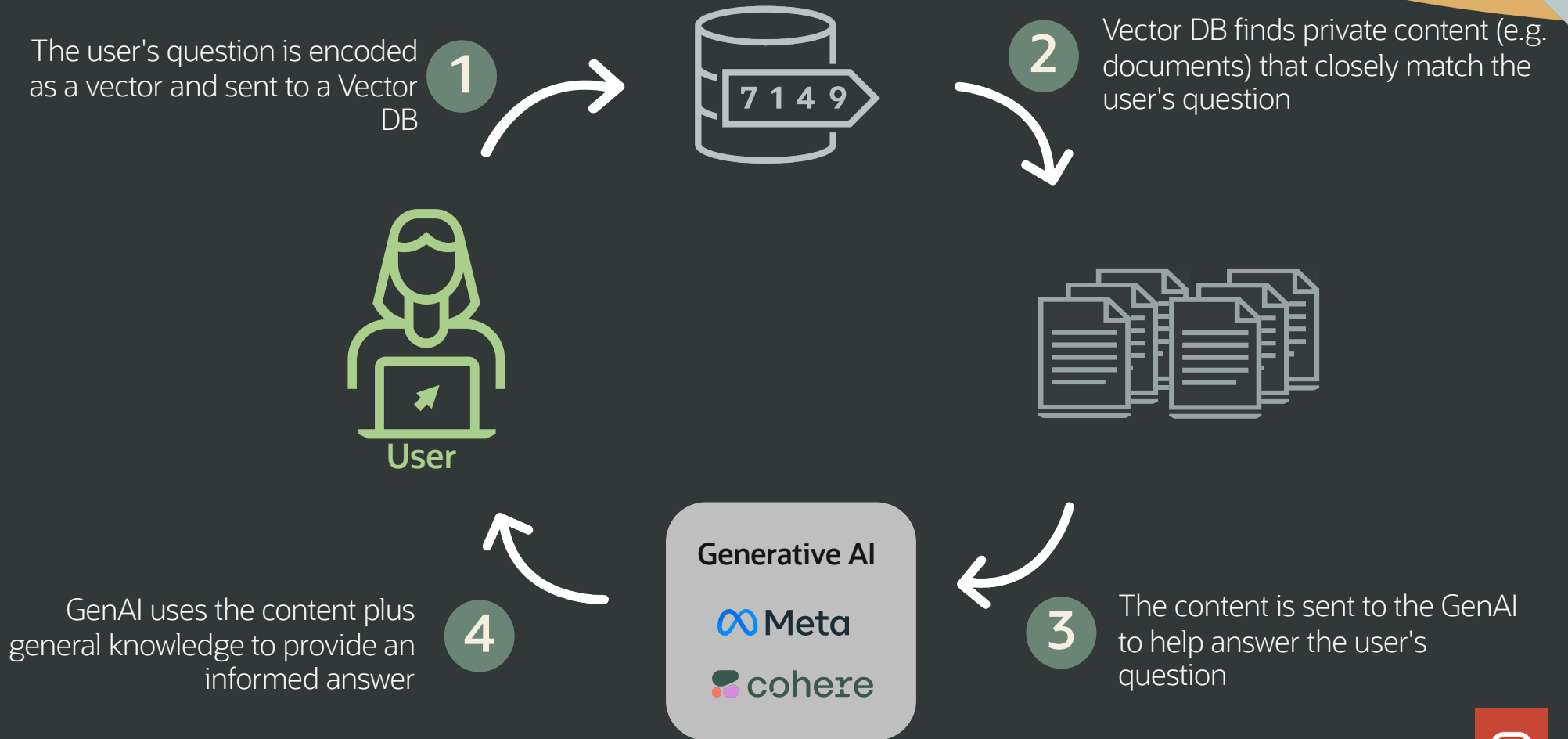


Converged Database

Vectors are used to represent the **semantic content** of images, documents, videos, etc.

- Converged database allows you to use both business data and vectors when answering a question
- No need to move and synchronize data, manage multiple products, etc.

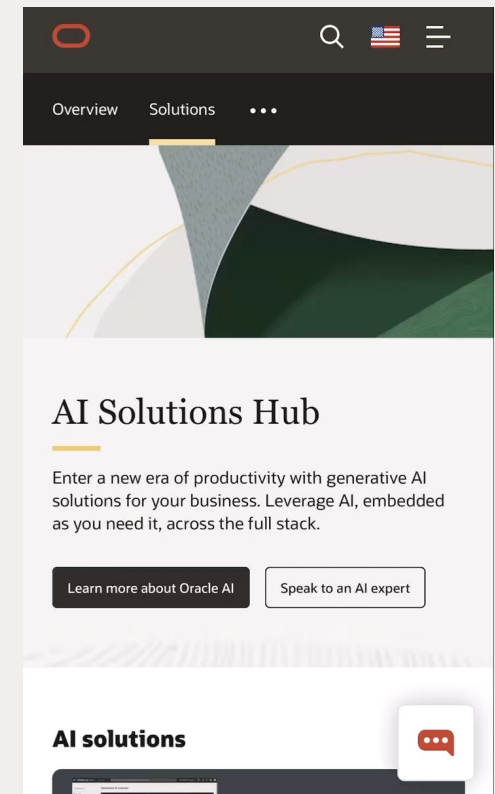
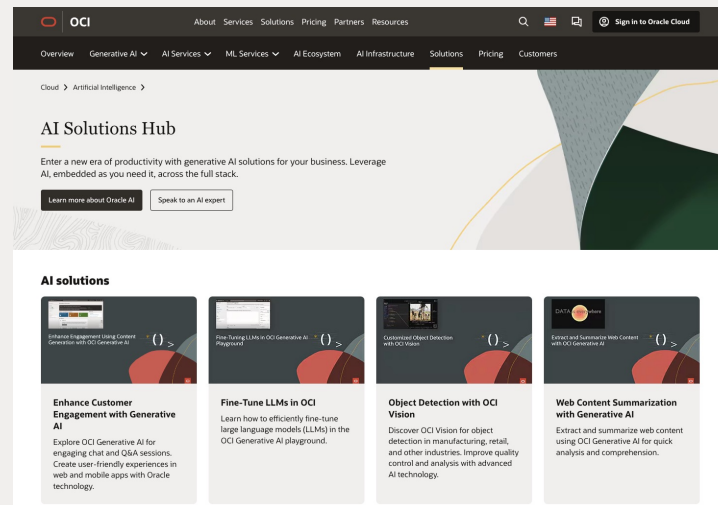
# Vector Database and RAG



AI Solutions hub - <https://www.oracle.com/aisolutions>



- Oracle AI in Action
  - AI Solutions for Real World Scenarios
- Each AI Solution includes:
  - ✓ Scenario brief and Demo Video
  - ✓ Getting Started
  - ✓ Source Code or Hands-on-Lab
  - ✓ Optional Tutorial video
- New solutions continuously added



# Safe harbor statement

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Thank you







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