



Azure OpenAI Project Journey



Creative tech for Better Change



Our goals

The emergence of generative AI: opportunity to rapidly develop high-value use cases



Agenda

- Presentation of Azure OpenAI
- Our support
- Our user case

Creative tech for Better Change





Presentation of Azure OpenAI



Ensure that artificial general intelligence (AGI) benefits humanity.

+

Empower every person and every organization on the planet to achieve more.

GPT

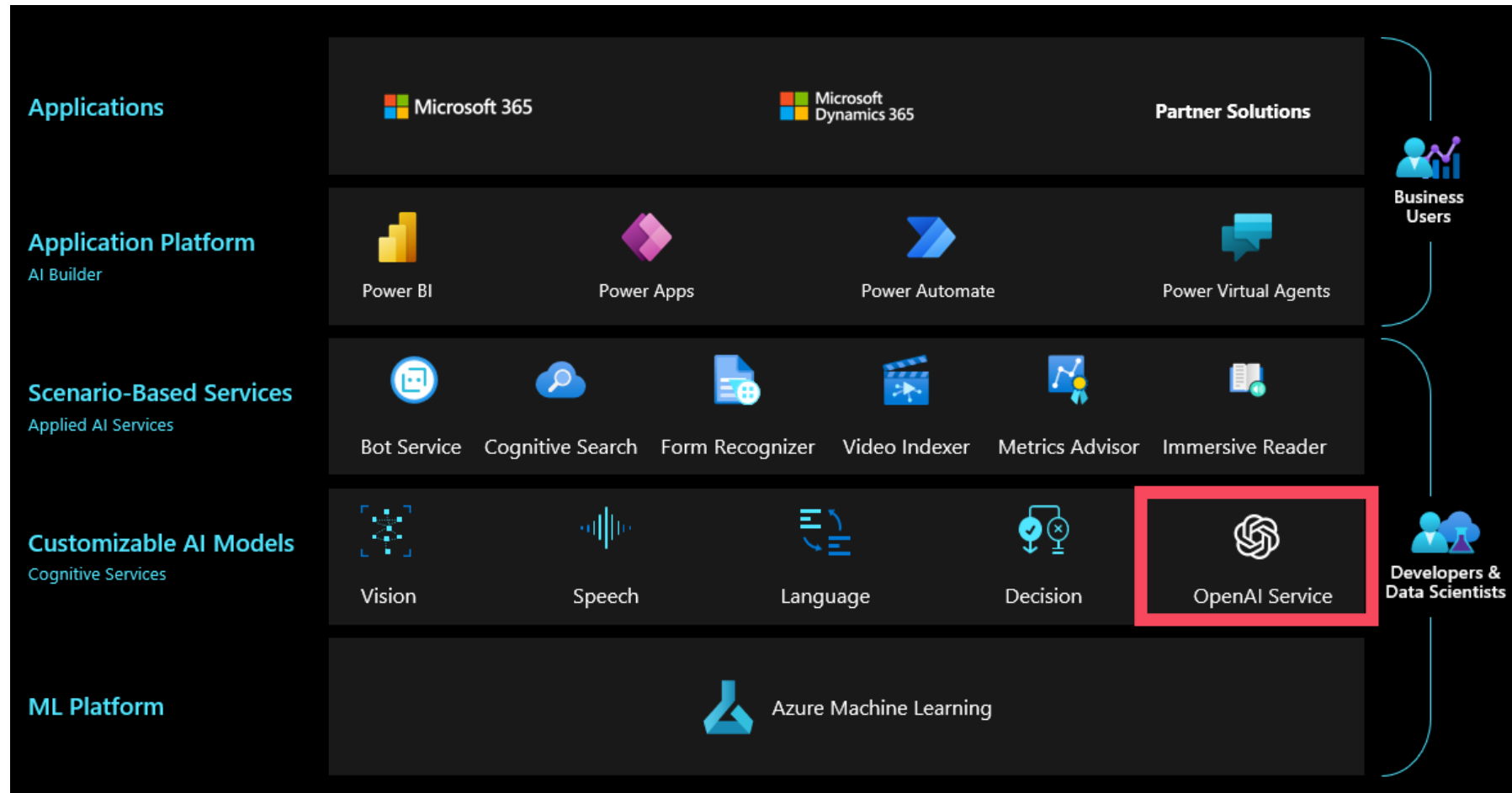
Codex

DALL·E

Generate images from text prompts



Azure OpenAI: a service of the platform AI Azure



What is Azure OpenAI ?



Deploy the service in your Azure subscription, with your internal security policies, accessible only by you and linked to your data and applications.



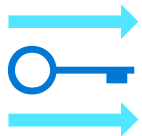
Best of the AI generative and multimodal open AI models to cover all your use cases.



Models that can be customized (fine tuning + hyperparameters) and are continuously improved



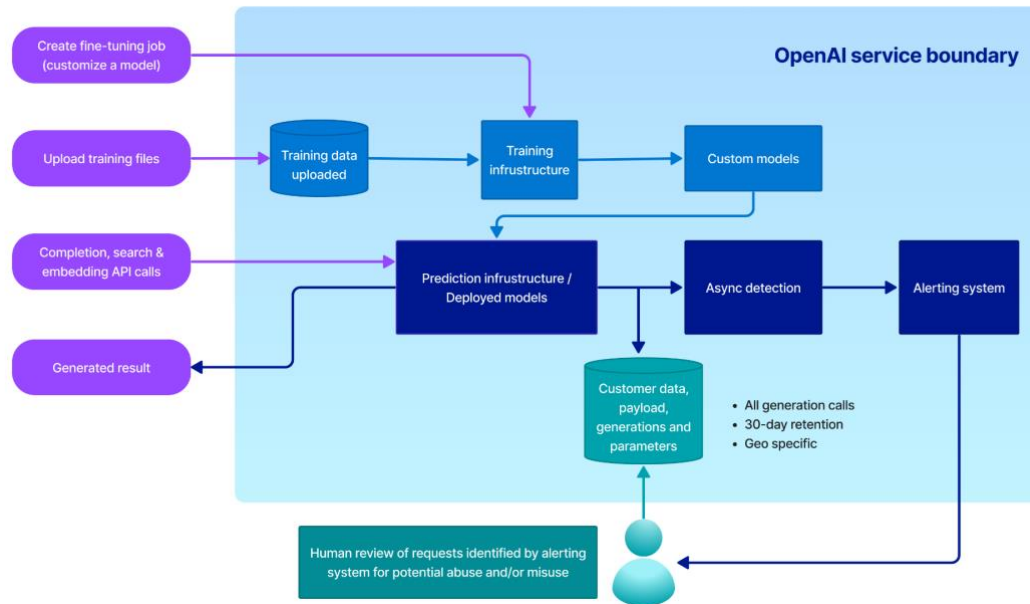
Adaptive AI: detecting and mitigating detrimental uses



Enterprise-level security with role-based access control (RBAC) and private networks.

How Azure OpenAI processes the data ?

Customer action



- Azure OpenAI processes data such as prompts, completions, training and validation data.
- The service creates custom templates, processes text prompts and analyses their contents to prevent abuse or misuse.
- Training data provided by the customer is used only to refine the customer's template, not to enhance Microsoft templates.
- The content management system filters out potentially harmful content using classification models.
- Data is kept in Azure Storage, encrypted and accessible only to authorized Microsoft employees for debugging and abuse investigation.

Possibilities brought by Azure OpenAI

| Group | Occupations with highest exposure | % Exposure |
|---|--|------------|
| Human α | Interpreters and Translators | 76.5 |
| | Survey Researchers | 75.0 |
| | Poets, Lyricists and Creative Writers | 68.8 |
| | Animal Scientists | 66.7 |
| | Public Relations Specialists | 66.7 |
| Human β | Survey Researchers | 84.4 |
| | Writers and Authors | 82.5 |
| | Interpreters and Translators | 82.4 |
| | Public Relations Specialists | 80.6 |
| | Animal Scientists | 77.8 |
| Human ζ | Mathematicians | 100.0 |
| | Tax Preparers | 100.0 |
| | Financial Quantitative Analysts | 100.0 |
| | Writers and Authors | 100.0 |
| | Web and Digital Interface Designers | 100.0 |
| | <i>Humans labeled 15 occupations as "fully exposed."</i> | |
| Model α | Mathematicians | 100.0 |
| | Correspondence Clerks | 95.2 |
| | Blockchain Engineers | 94.1 |
| | Court Reporters and Simultaneous Captioners | 92.9 |
| | Proofreaders and Copy Markers | 90.9 |
| Model β | Mathematicians | 100.0 |
| | Blockchain Engineers | 97.1 |
| | Court Reporters and Simultaneous Captioners | 96.4 |
| | Proofreaders and Copy Markers | 95.5 |
| | Correspondence Clerks | 95.2 |
| Model ζ | Accountants and Auditors | 100.0 |
| | News Analysts, Reporters, and Journalists | 100.0 |
| | Legal Secretaries and Administrative Assistants | 100.0 |
| | Clinical Data Managers | 100.0 |
| | Climate Change Policy Analysts | 100.0 |
| <i>The model labeled 86 occupations as "fully exposed."</i> | | |
| Highest variance | Search Marketing Strategists | 14.5 |
| | Graphic Designers | 13.4 |
| | Investment Fund Managers | 13.0 |
| | Financial Managers | 13.0 |
| | Insurance Appraisers, Auto Damage | 12.6 |

Concept

Content creation

Code generation

Search for vulnerabilities

Information extraction

Emotional analysis

Classification

Chatbot

Image generation

Documentation

Translation

Semantic search

Text summary

Code format

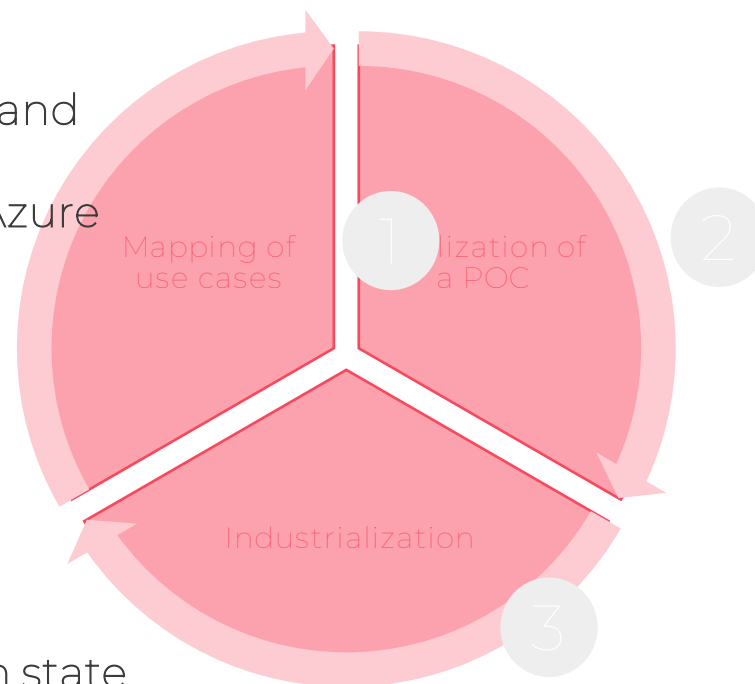
Source: Open AI

2

Our
support

Devoteam M Cloud supports you from start to finish

- Identify possible use cases
- Qualify technical feasibility and value
- Ideation with ChatGPT on Azure



- Explore the opportunities offered by the Azure OpenAI solution
- Test your ideas on your own data
- Estimate the costs of a full-scale deployment

- Implement your service with state of the art
- Create and provide value
- Guarantee optimal service continuity and complete monitoring



1 Map your Azure OpenAI use cases



Objectives

Measure the data maturity of business teams to list and deepen the understanding of:

- Data context of business teams
- Views of the company's data
- Current uses of data
- Use cases for data identified
- Identification of Pain points



Key deliverables

- Use case mapping study

Activities

INTERVIEWS

- Interviews primarily with the project team and business team management (identified in step 1)
- Surveys to gather additional information and an overall level of data maturity of the business lines
- Identification of data producers, users and uses (plant, laboratory and inter-laboratory) as well as existing data initiatives

DOCUMENTATION ANALYSIS

Collection of existing data documentation within the department from the business teams:

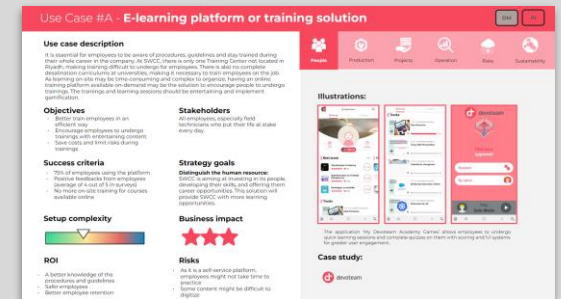
- Roles and responsibilities
- Possible data management rules
- Mapping and management of data flows and databases
- Global view of customer data (if applicable)

DATA MATURITY ASSESSMENT

Producing a data maturity analysis of the business teams based on the previous activities and using the following DAMA dimensions:

- Data quality and relevance to data usage
- Data governance
- Data architecture
- Data security and access management
- Other "non-DAMA" dimensions: data maturity, technical environment review by a data architect, including a focus on the Azure environment

Example of deliverable(s)



Use case mapping study

2 Realization of a Proof of Concept with Azure OpenAI



Objectives

- Qualify the use case
- Identify functional and technical elements needed for the POC
- Implement and test the Azure Open AI service
- Evaluate the industrialization costs



Key deliverables

- Technical architecture document (TAD) & architecture diagram
- Support for the POC restitution

Activities

PROFESSIONAL WORKSHOP

Organize a first workshop with professional to qualify the use case from a functional point of view:

- objectives and key expectations, functional requirements, planning, key users
- Demonstrate the value of the designed use case and the POC

TECHNICAL WORKSHOP

- Understand your technical environment, architecture and security requirements
- Validate the technical scope of the POC, the technical architecture, the configuration of resources and the implementation cost
- Validate data sources, volumes, sampling, format

POC IMPLEMENTATION

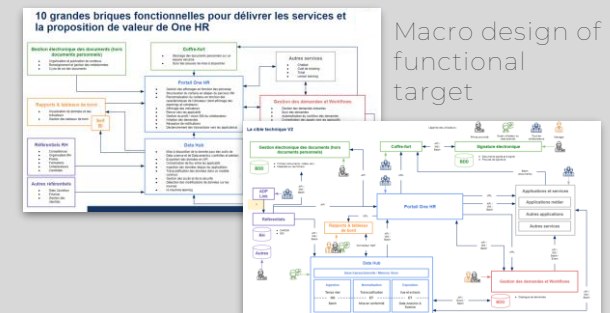
- Deploy the service on your Azure environment as well as all other useful services for the project.
- Train the model to perform the task you want it to perform (fine-tuning)
- Teach it to find the right information in your data (embedding)
- Give it the necessary instructions to answer you correctly (prompt engineering).
- Test the solution to validate the functional and technical requirements detailed during the workshops

FEEDBACK WORKSHOP

- Estimate the cost of scaling and project to industrialize the solution
- Present the conclusions of the POC, the limits encountered

Example of deliverable(s)

Use case definition



Macro design of functional target

Detailed architecture diagram

3 Industrialize your project with Azure OpenAI



Objectives

Quickly industrialize your use case



Key deliverables

- Technical architecture document (TAD) & architecture diagram

Activities

IMPLEMENTATION OF THE USE CASE

Implementation of the designed use case with 3 weeks sprints.

Sprint 0:

- Onboarding session for internal and external resources (required project team, Devoteam developer, etc.)
- Initialize the backlog, write and cut out the user stories
- Set up the data architecture: deploy and configure Azure resources, configure access rights to resources and users
- Deploy and configure DevOps repositories and pipelines (if necessary)
- Connect and analyze data sources and verify data quality

Sprint 1:

- Prototype with a limited data set or reduced scope (to be defined) Transformation (from prototype to MVP)
- Review of results

Sprint 2:

Complete the MVP

The sprint model is adjustable: the number of sprints and their duration must be adapted to the complexity of the use case

Example of deliverable(s)

DESCRIPTION DU DOCUMENT

1. Mise à jour

| Date | Auteur | Version | Description du changement |
|------------|----------------|---------|--|
| 09/03/2020 | Abdalah SIFFER | 0.1 | Initialisation du document |
| 16/03/2020 | Abdalah SIFFER | 0.2 | Apport de précisions |
| 10/06/2020 | Abdalah SIFFER | 0.3 | Maj de la matrice des droits /groupes de ressources |
| 25/11/2020 | Abdalah SIFFER | 0.4 | Maj des composants de l'architecture ARC |
| 03/05/2021 | Abdalah SIFFER | 0.5 | Ajout Conditional Access |
| 15/01/2021 | Abdalah SIFFER | 0.6 | Changement des droits sur SQL Managed Instance |
| 12/04/2021 | Abdalah SIFFER | 0.7 | Ajout éléments projet CRM (VNET, RG, RBAC) |
| 04/05/2021 | Abdalah SIFFER | 0.8 | Ajout éléments projet AIC, DPT (VNET, RG, RBAC), PIM |
| 01/06/2021 | Abdalah SIFFER | 0.9 | Mise à jour du choix des Tags |
| 12/07/2021 | Abdalah SIFFER | 1.0 | Ajout du schéma ARC |
| 07/09/2021 | Abdalah SIFFER | 1.1 | Mise à jour de la convention de nommage |
| 13/09/2021 | Abdalah SIFFER | 1.2 | Maj de la matrice des droits (équipe SRE) |

2. Contributeur

| NOM | Prenom | Exemple |
|----------|---------|--|
| BENMELIS | Ludovic | Architecte / Team Lead Cloud Apps & Infrastructure |

3. Fichier Référence

Ci-dessous le fichier de référence listant l'ensemble des ressources déployées dans AZURE (RG, AD Group, Virtual Network...)

AZURE resources
v0.4.1.1

Page 6 / 72

Technical architecture document

3

Our
use cases

Generating content

Context

Use cases



Generating documentation/specifications/articles/training

ChatGPT can transform the writing of documentation, specifications, articles or training by automating the generation of clear and structured texts, respecting technical formatting conventions, and freeing up valuable time for content verification and validation. This writing aid not only facilitates the process, but also ensures high content quality.



Generating FAQ

ChatGPT can analyze user and support question data to generate relevant, up-to-date, and well-structured FAQs, identifying frequently asked questions and providing clear and accurate answers. This makes it easier to create FAQs and improve the user experience by providing quick answers to common questions.



Generating email and marketing campaigns

To generate personalized, automated emails and campaigns, it is possible to leverage ChatGPT by creating content tailored to recipients' preferences and needs, adjusting the tone and style of communication, and automating the entire process to save time. This approach improves recipient engagement and maximizes campaign effectiveness.

Impacts

- Save time and increase productivity
- Increased customer engagement/service
- Better readability

Code development

Context

Use cases



Code optimization, commenting and formatting

ChatGPT can help optimize, reformat and comment your code directly or by generating a markdown file by analyzing the structure and logic of your Python, JavaScript or other code. It generates relevant comments and ensures consistent formatting to improve readability. This process can be implemented on an Azure DevOps pipeline during a Pull Request for example.



Code migration

Facilitate code migration between languages e.g. PL/SQL to T-SQL or Python 2 to Python 3. The tool can facilitate the migration by suggesting modifications to ensure compatibility. It can also identify obsolete portions of code and suggest modern alternatives. Finally, it offers advice on how to optimize the code while ensuring that functionality and performance are maintained.



Vulnerability detection

ChatGPT can scan code for known vulnerability patterns and propose solutions to address them. This process can also be integrated into an Azure DevOps pipeline.



Natural language queries

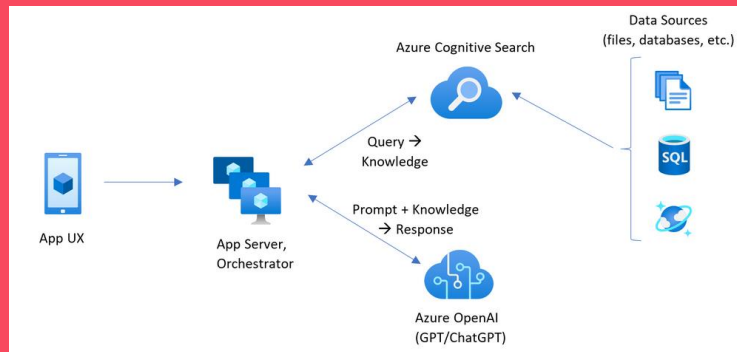
Enable business users and especially data analysts to perform queries on databases without needing to master the underlying language. This can be done via Power Automate, Power BI or even in Teams.

Impacts

- Reinforced security
- Increased productivity

Semantic search and analysis

Context



Use cases



Research and analysis in a documentary database

ChatGPT can help query and analyze knowledge from multiple sources in a centralized and easily searchable database. This use case can be combined with other Azure services to increase the possibilities (Form Recognizer (OCR), Cognitive Search etc). This use case can be particularly interesting for recruitment agencies that need to find the ideal candidate for a position among the hundreds or thousands of resumes received. Also, of interest for legal departments and contract analysis, or for financial trend analysis.



Natural language queries

Enable business users, and in particular data analysts, to perform queries on databases without having to master the underlying language. This can be done via Power Automate, or even within Power BI or other applications.



Analysis of reports/dashboards (coming soon)

With GPT-4's multimodal mode, it will be possible to set up BI report analysis processes to summarize the most significant trends in a few sentences and send an email to the report's consumers, for example.

Impacts

- Productivity gains
- Improve data accessibility



thank you.

