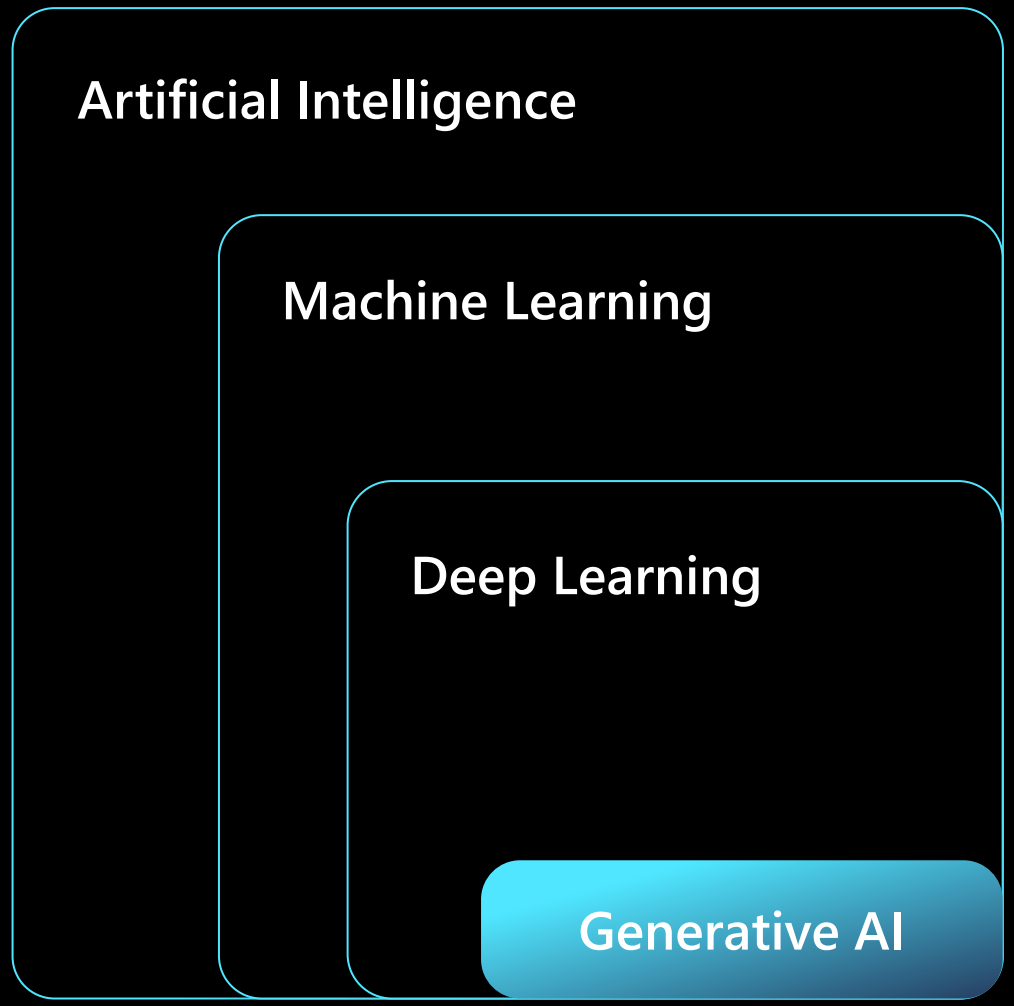
Microsoft

Sector público e IA generativa:

Una adopción imparable – 2024+

Adrian Gonzalez Sanchez – 10 de abril de 2024

Contexto de la Inteligencia Artificial



1950s

Artificial Intelligence

the field of computer science that seeks to create intelligent machines that can replicate or exceed human intelligence.

1959

Machine Learning

subset of AI that enables machines to learn from existing data and improve upon that data to make decisions or predictions.

2017

Deep Learning

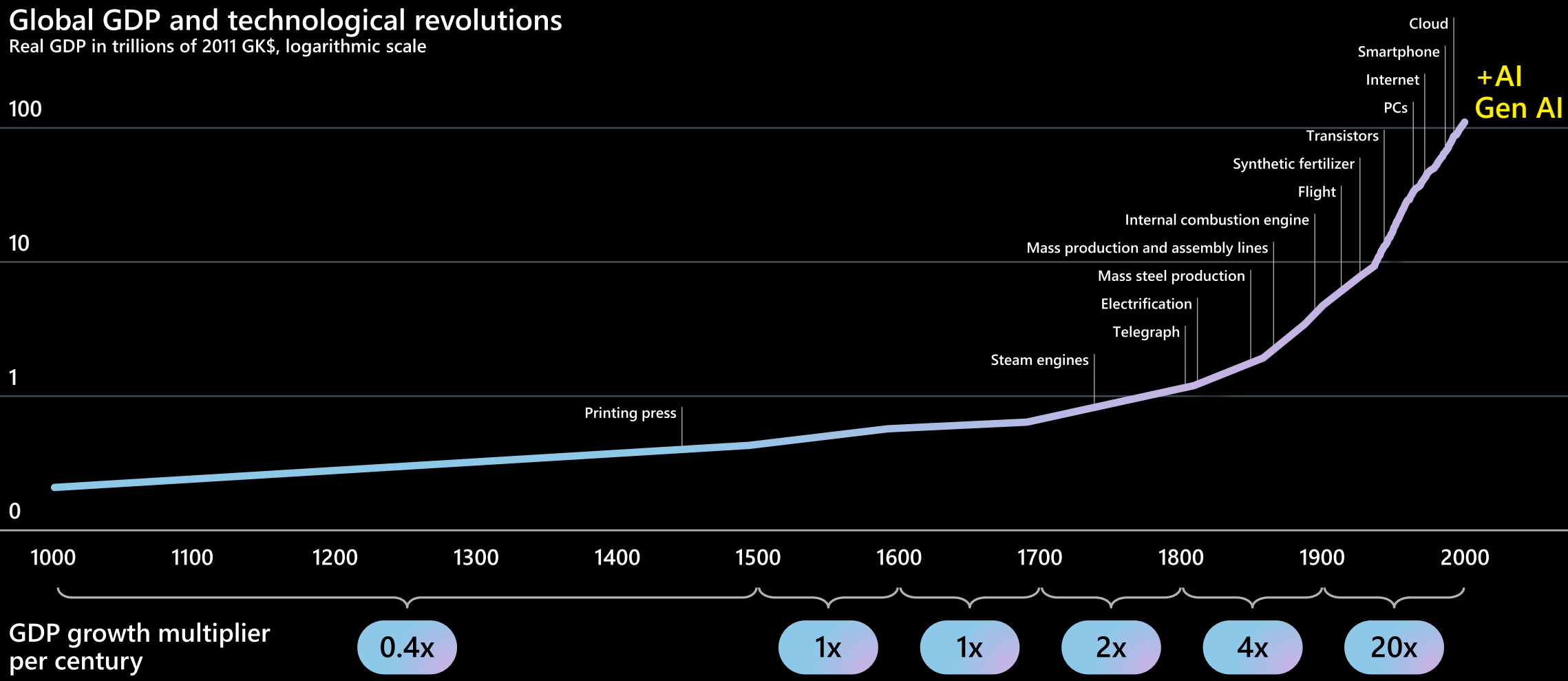
a machine learning technique in which layers of neural networks are used to process data and make decisions.

2021

Generative AI

create new written, visual, and auditory content given prompts or existing data.

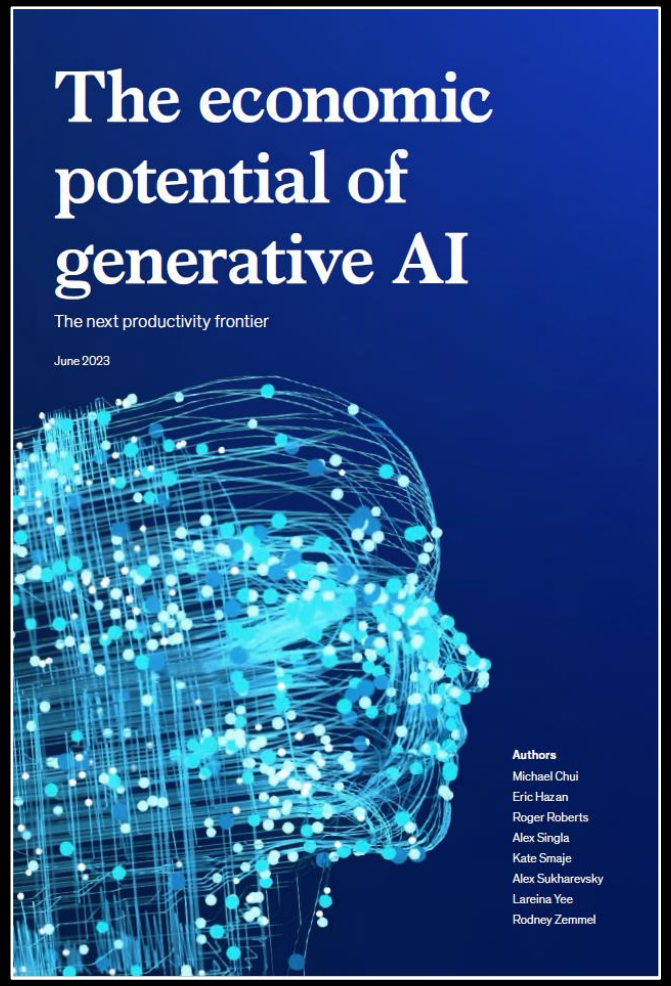
Impacto de la tecnología en el PIB global...



Source: Maddison Project, Ourworldindata

… e informes que indican el valor de la adopción de la IA generativa

McKinsey & Company



- Generative AI's impact on productivity could add up to **$4.4 trillion annually** in value to the global economy.
- About 75% of the value that generative AI use cases could deliver falls across **customer operations, marketing, sales, software engineering**, and **R&D** .
- Generative AI can revolutionize work by automating a significant portion of employees' activities, **up to 60-70% of their current workload**. This augmentation of individual capabilities has the potential to transform the way we work.
- Generative AI is expected to have **$ 250-410 billions economic impact on banking and insurance**, accounting for 1-1.6% of total industry revenue.

Pero… ¿Cómo impacta esto REALMENTE al Sector Público?

Lo que realmente nos importa en contexto público

Microsoft

Mejores servicios a la ciudadanía

Aumento de productividad con copilotos internos

Procesado avanzado de documentación

Optimización de la inversión pública

IA generativa, ¿por qué ahora?

Foundation models

Cloud AI Supercomputers

Massive data

IA generativa

Capabilities for language, code, image, etc.

Prompt

Write a tagline for an ice cream shop.

Response

We serve up smiles with every scoop!

Prompt

Table customers, columns = [CustomerId, FirstName, LastName, Company, Address, City, State, Country, PostalCode]

Create a SQL query for all customers in Texas named Jane
query =

Response

```
SELECT *
FROM customers
WHERE State = 'TX' AND
FirstName = 'Jane'
```

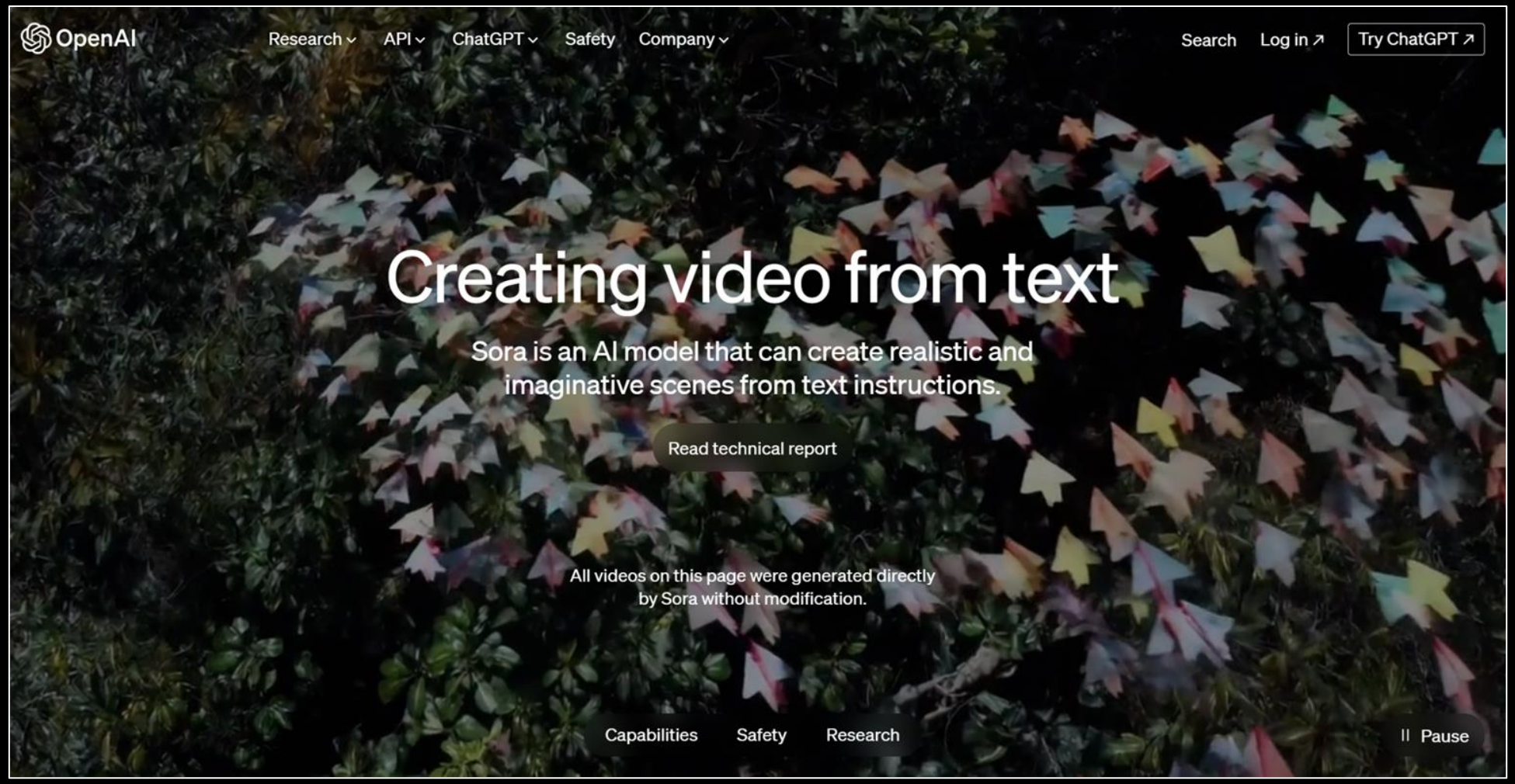
Prompt

A ball of fire with vibrant colors to show the speed of innovation at our media and entertainment company

Response

IA generativa

Capabilities for language, code, image~~, etc.~~ and video!



IA generativa

Top 4 capabilities

Content generation

Personnel support: automatically generate responses to personnel inquiries

Generate personalized UI for your workflow app

Creation of training data sets and synthetic environments

Summarization

Field report analytics: summary of tactical radio logs

Subject matter expert document: summarization (e.g., reporting, analyst articles)

OSINT trends summarization

Code generation

Convert natural language to SQL (or vice versa) for telemetry data

Convert natural language to query proprietary data models

Code documentation

Semantic search

Search reviews for a specific product/service

Information discovery and knowledge mining

Examples of multiple model use cases

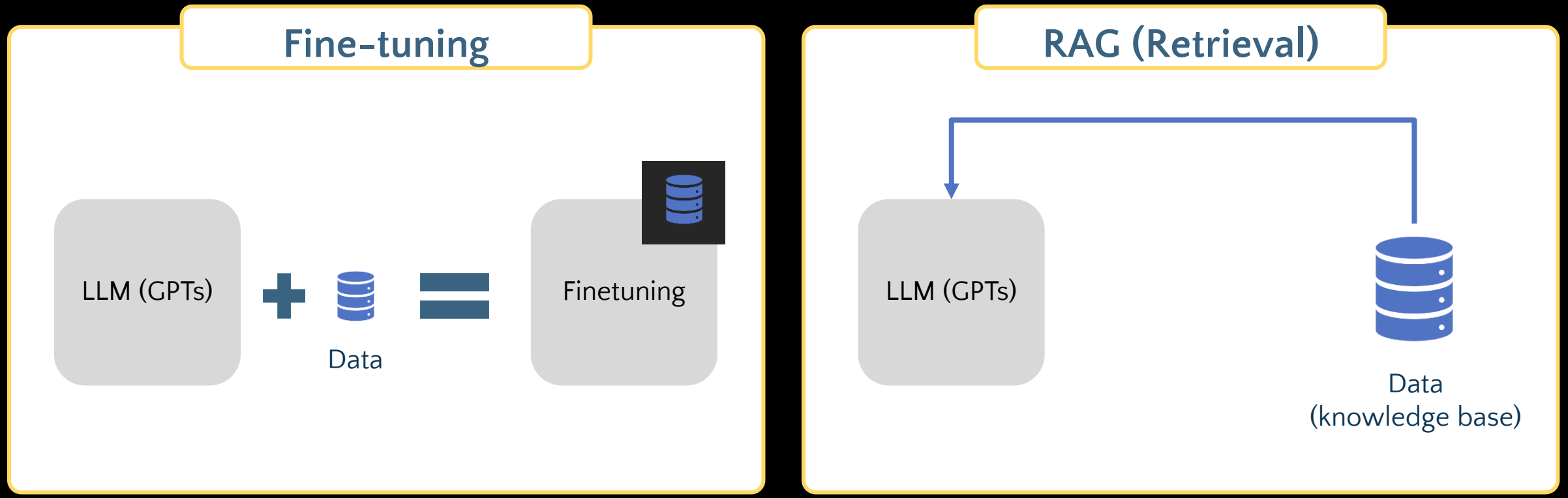
End to end field report analytics: labelling, sentiment, entity extraction, summarization and email generation

Personnel Support : hyper-personalisation using timely summarization of personnel queries & trends, search, and content generation

Business process automation: search through structured & unstructured documentation, generate code to query data models, content generation

IA generativa

Manera de personalizar desarrollos...



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¿Es la IA generativa TAN diferente?

1

Why is Generative AI different?

Microsoft

Traditional Models
(one model per capability)

New Foundation Models
(one single model for everything)

Sentiment
Intent recognition
Entities extraction
Summarization
Questions & Answers
Style transfer
Rewriting
Code generation
...

2

Why is Generative AI different?

Microsoft

Text →
Image →
Audio →
Video →

LLMs
Large Language Model

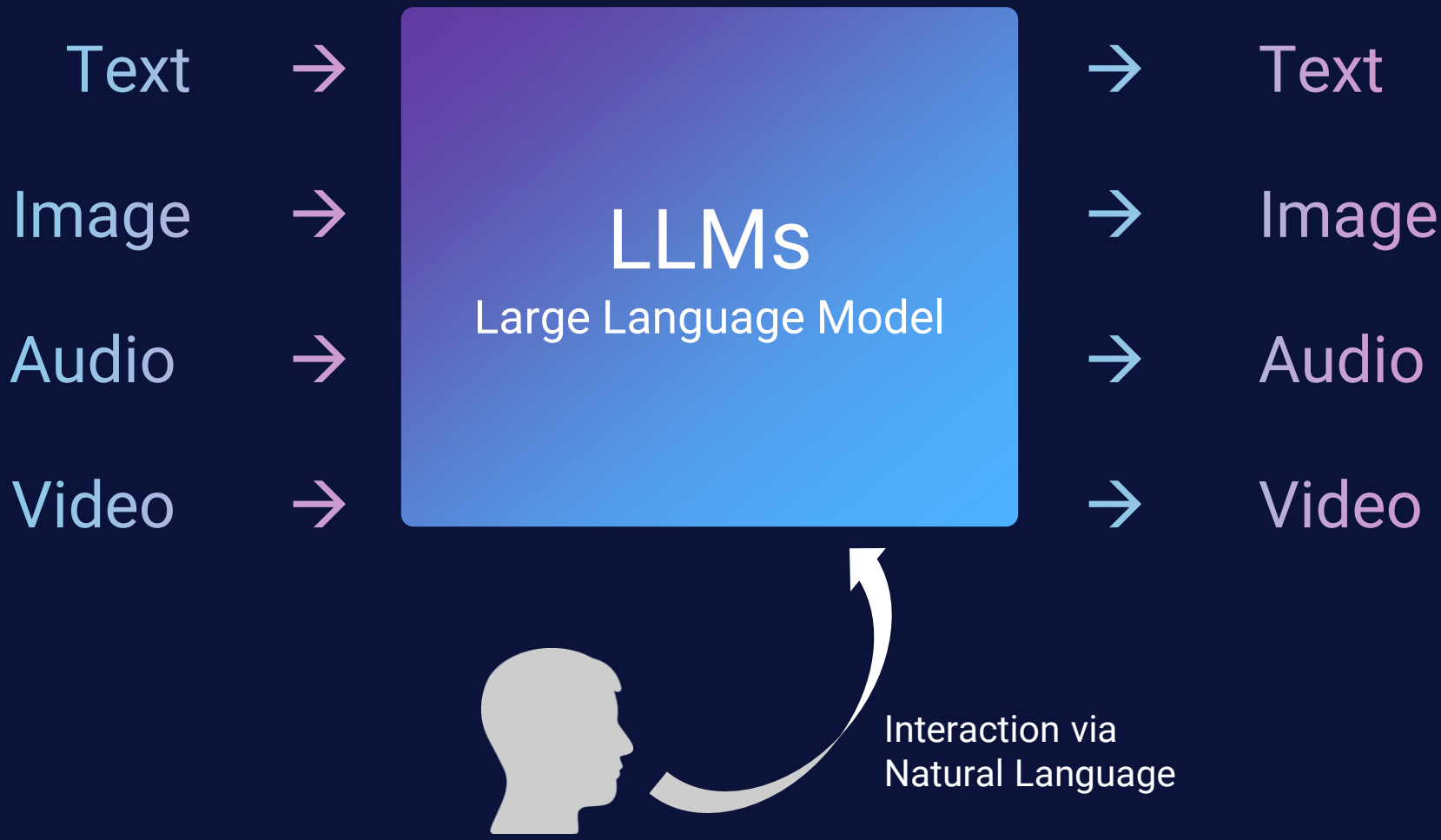
→ Text
→ Image
→ Audio
→ Video

Interaction via
Natural Language

3

Why is Generative AI different?

Microsoft



Microsoft

Y… ¿Cómo usamos la IA generativa aquí?

Typical Use Cases

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Productivity

Reduce tedious tasks in every function to focus on more valuable, satisfying activities.

Automatic reporting
Generate reports automatically to get the most up-to-date information.

Content assistance
Assist in content generation, styling and design

Semantic search
Track knowledge and information, making it easier for employees to find and use information they need.

Reading comprehension
Understand natural language data, making it easier to extract information and summarize large sources of text

Machine Translation
Automatically translate text from one language to another

Code development and understanding
Generate code from natural language, understand existing code, document code and refactor

Augmented cognition

Co-reason interactively with AI on knowledge and information to augment our capabilities.

Knowledge reasoning
Interact with internal and external knowledge to make decisions collaboratively.

Content generation
Automatically generate content based on knowledge or data

Sentiment Analysis
Analyze the sentiment of text data to understand customer sentiment and make better decisions.

Agent assistance
Assist support agents and automate response to inquiries

Security
Protect data and prevent unauthorized access

Predictive Modeling
Predictive models that can be used to make better decisions about the future.

Analytics
Extract insights from raw data that facilitate informed decision making about their business

Accelerated discovery

Understand and simulate nature processes, empowering scientists to advance discovery on any field.

Scientific co-reason
Interact with scientific knowledge to validate hypotheses.

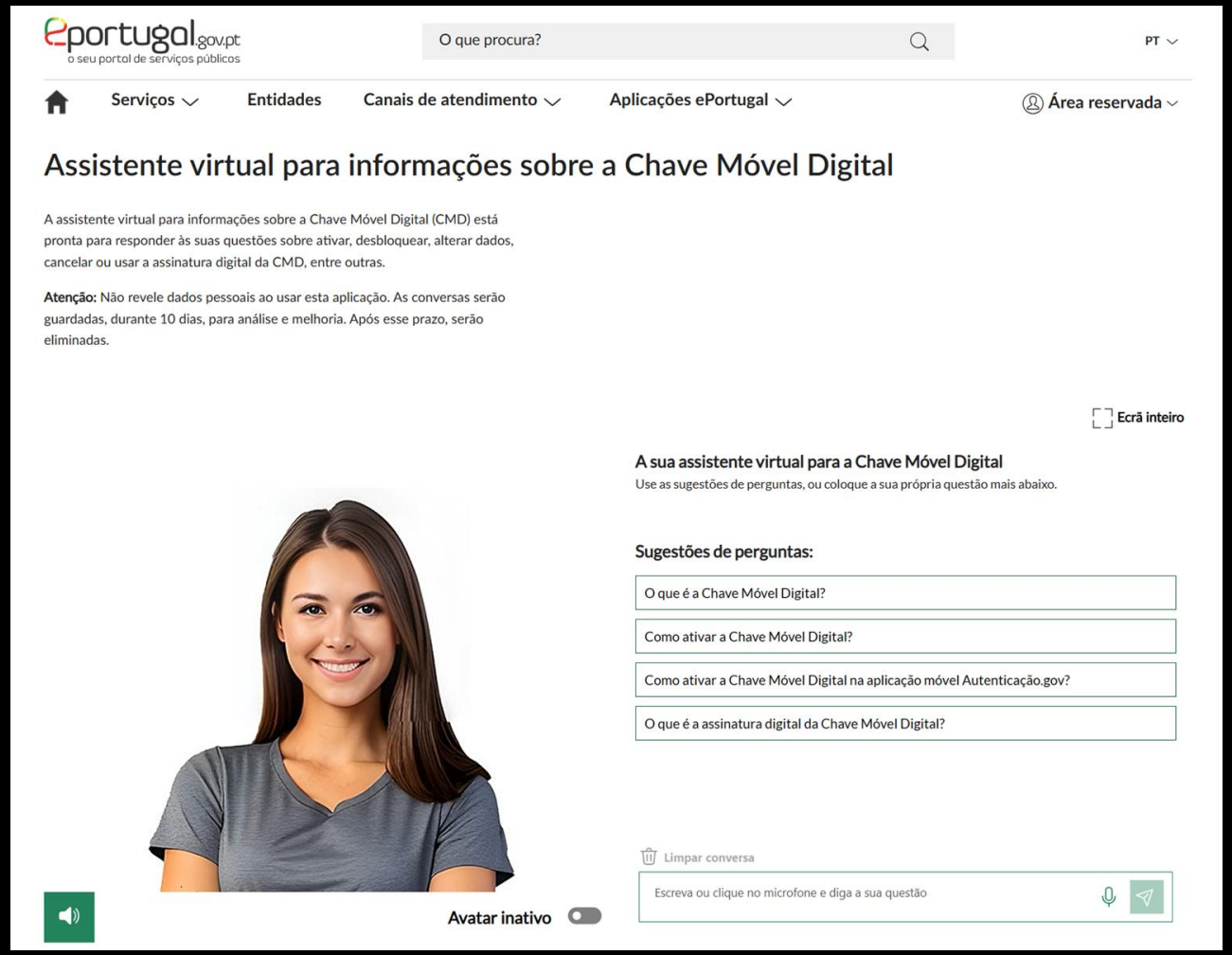
Experimentation
Perform lab experiments on silicon at scale.

Screening
Automatically identify candidates for specific goals

Predictive modeling
Simulate compounds to understand properties and reactions

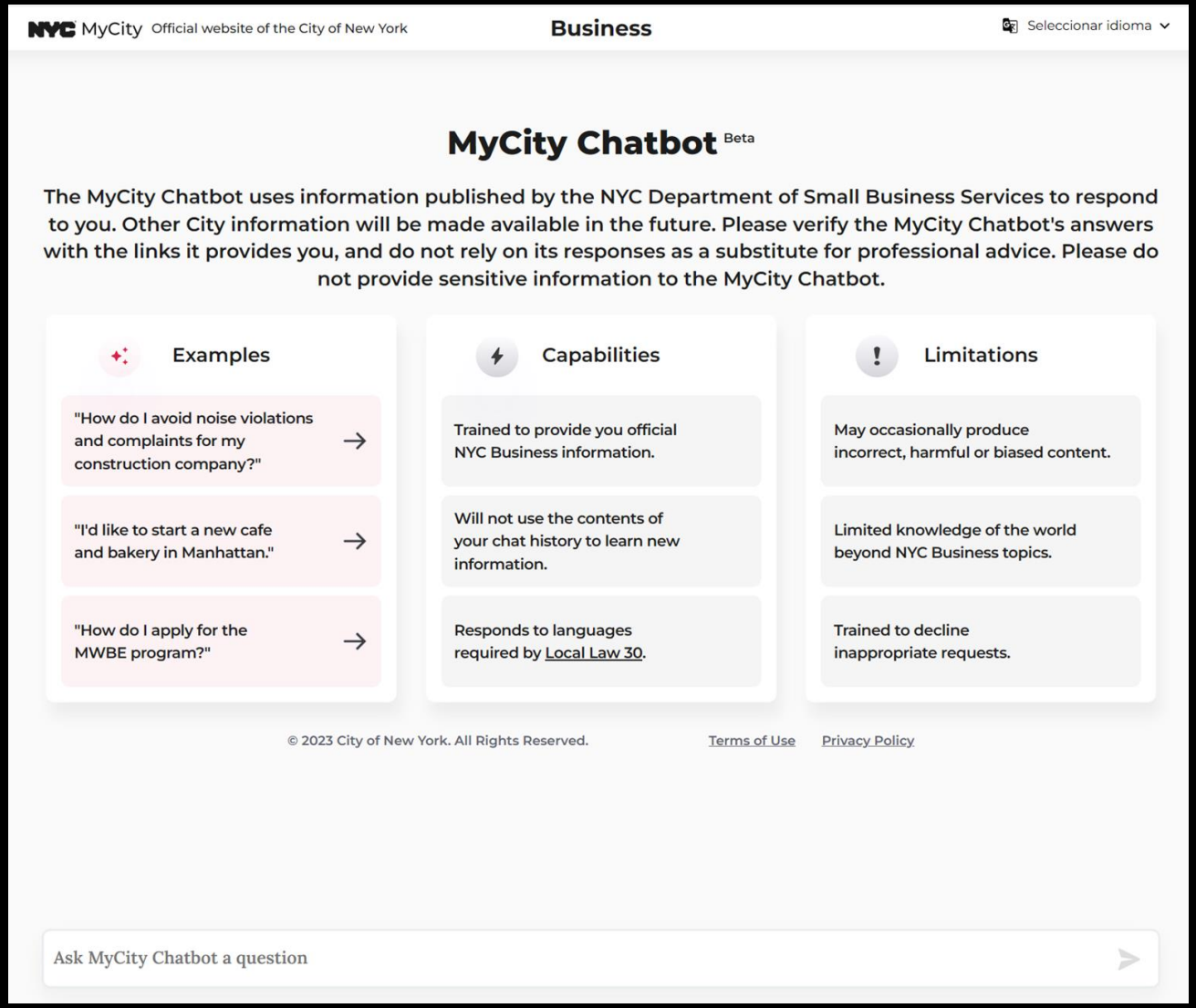
Avatar ePortugal de Gobierno de Portugal

https://eportugal.gov.pt/pt/servicos/assistente-virtual-para-servicos-publicos



Ciudad de New York para empresas

https://chat.nyc.gov



Asistentes y simplificación de lenguaje con EJIE

https://www.contratacion.euskadi.eus/webkpe00-kpeperfi/es/contenidos/anuncio_contratacion/expjaso416428/es_doc/index.html

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Contexto tecnológico

[Microsoft] ha incorporado en su oferta de [Cognitive Services] la posibilidad de utilizar los servicios de [OpenAI] en base a los siguientes [modelos]

GPT-3 y GPT-4	Modelos que pueden entender y generar [lenguaje natural]
Codex	Modelos que pueden entender y generar [código] incluyendo la traducción de [lenguaje natural] a [código]
Embeddings	Los [vector embeddings] son una representación de [parámetros] que puede representar datos de diferentes tipos *(texto, audio e imágenes)* y permiten comparar o establecer relaciones entre los datos Hay tres modelos de este tipo dependiendo de la funcionalidad buscada: • Similitud • Búsqueda de texto • Búsqueda de código

Generación de postales para eventos culturales

Microsoft

Use AI to generate an St. Patrick's Day Card for only €4

You can generate a maximum of 3 images

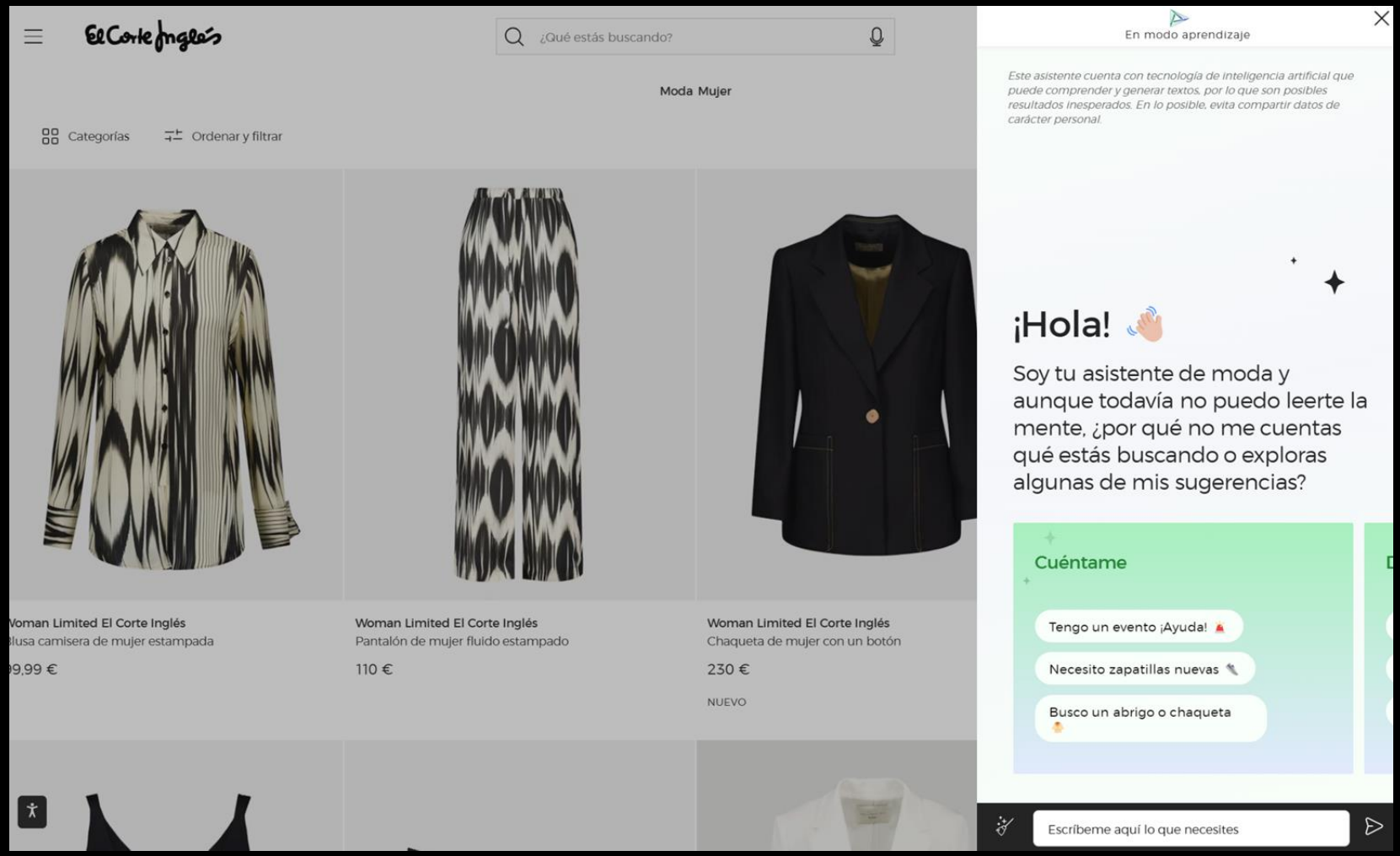
Select keywords below to generate an image for your card.

Aran Islands | Blarney Stone | Book Of Kells | Brian Boru | Castles | Celtic Knot | Children Of Lir | Claddagh | Cliffs Of Moher | Cu Chulainn | Dancing | Druids | Food | Friendly | Giants Causeway | GPO | Green Landscapes | Harp | Irish Flag | Literature | Lighthouses | Molly Malone | St Patrick | Poetry | Shamrock | Socialising | Sport | St. Brigids Cross | Tara Brooch | Tir Na NOg

Generate image

https://www.anpost.com/Post-Parcels/St-Patricks-Day-AI-Card-Creator

Bot Avanzado de cliente



https://www.elcorteingles.e

Microsoft

¿Cuales son los retos actuales?

Microsoft

Dificultad de estimaciones por tokens

Comprensión de la tecnología

Disponibilidad de mecanismos contractuales

Síndrome de análisis-parálisis

Microsoft

Dificultad de estimaciones por tokens	Comprensión de la tecnología	Disponibilidad de mecanismos contractuales	Síndrome de análisis-parálisis
↓	↓	↓	↓
Capacidad dedicada con coste fijo mensual	Acciones formativas de IA generativa	Preparación de pliegos dedicados	Selección de casos de bajo riesgo

Microsoft

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