# Google Cloud Generative AI

From hype to high-impact business transformation

**Ted Schönbeck**

Nordic CTO &
EMEA Generative AI Ambassador
**Google Cloud**

# LARGE LANGUAGE MODELS

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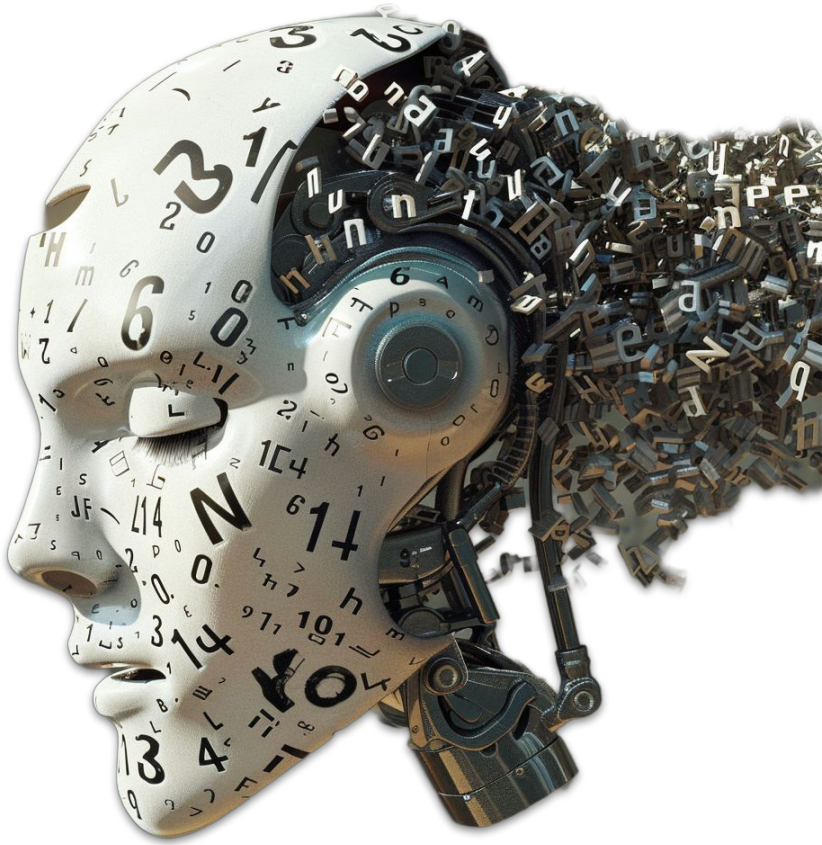

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# How are **Large Language Models** different?

- LLMs are characterized by **emergent abilities**, the ability to perform tasks they were not trained to do
- LLMs contextual understanding of human language **changes how we can interact** with AI
- LLMs are amazing at **finding patterns** and connections in massive, **data sets**

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# The LLM revolution started at Google

Our pioneering AI research has made recent advances possible

**+3000** LLM researchers

## Responsible AI in everything we do

- Explainable & transparent
- Built & Tested for Safety
- Privacy in design
- Upholds high scientific standards
- Accountable to People
- Socially Beneficial
- Avoid creating unfair bias

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**LLMs** will have a **transformative** impact on industries, businesses and societies through

# Generative AI

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*"**Generative AI** is a type of artificial intelligence that can **find complex relationships** in large sets of data and can generalize from that to **create entirely new content**, including text, images, media, videos and code **based on human language prompts.**"*

*gemini.google.com*

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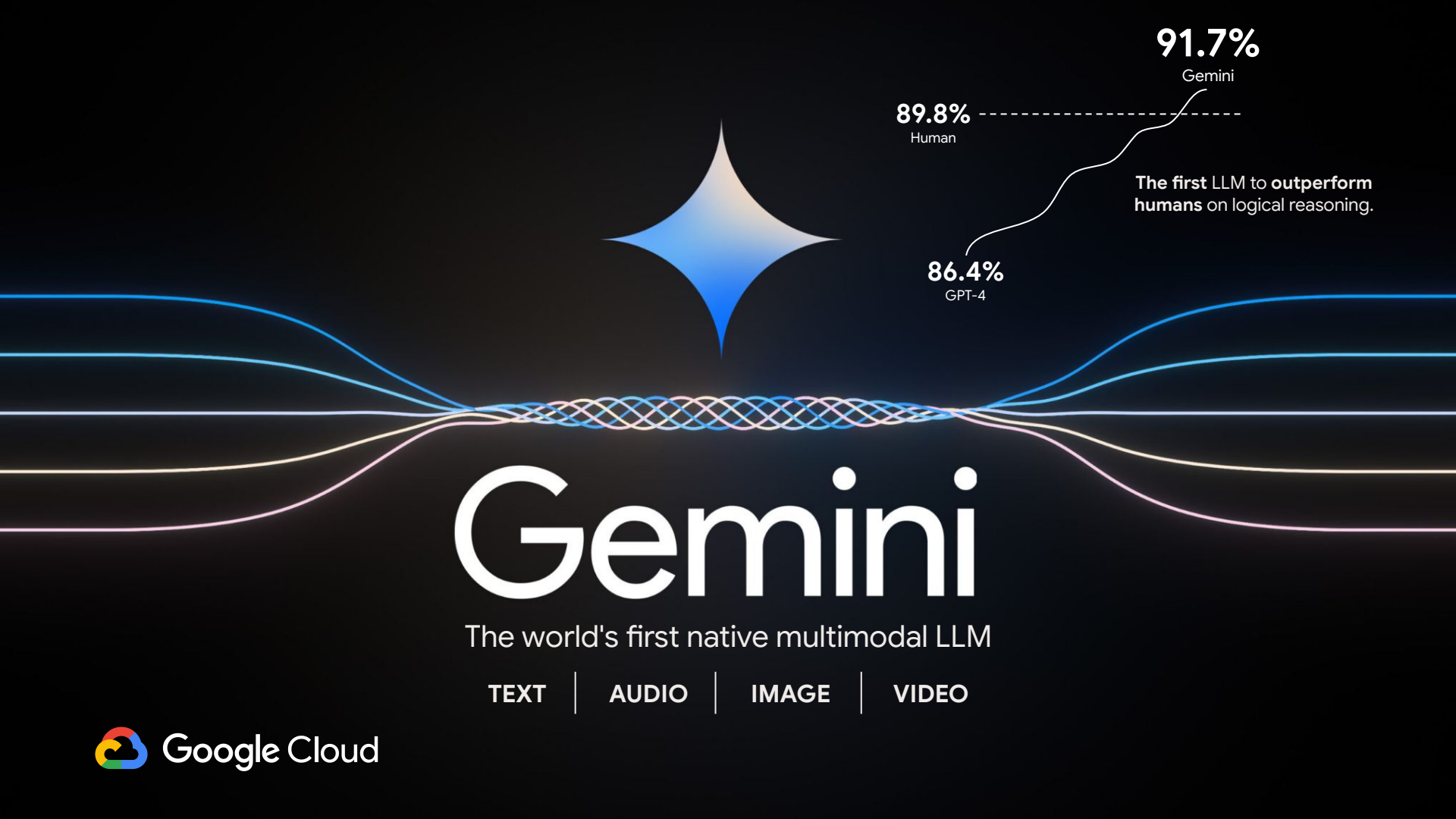

91.7%
Gemini
89.8%
Human
The first LLM to outperform humans on logical reasoning.
86.4%
GPT-4
Gemini
The world's first native multimodal LLM
TEXT
AUDIO
IMAGE
VIDEO
Google Cloud

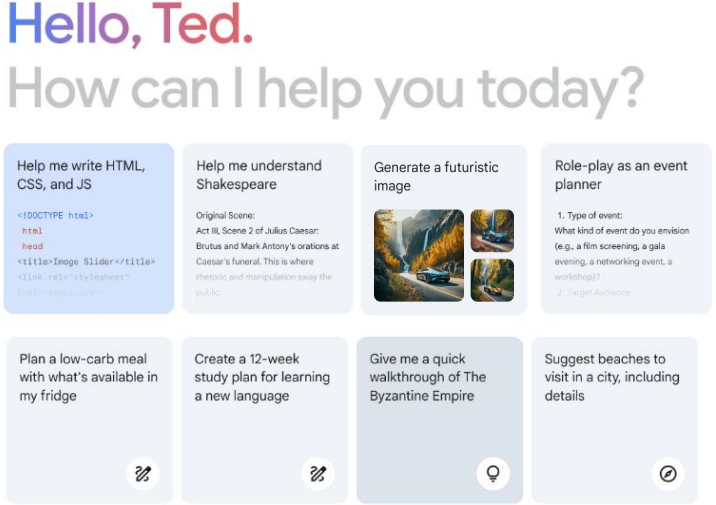
Gemini

# Introducing Google Gemini

## Next generation Generative AI for everyone

gemini.google.com

Available in +40 languages in +220 countries & territories




A **real-time**, fully integrated, **multimodal** and **free-to-use** Generative AI service

Gemini Advanced

Very advanced reasoning, write & run code, long text creation and ability to **create personal agents**

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# Generative AI is amazing

## But consumers & enterprises have **different needs**

### Consumers

- Plan a 3 day trip to New York
- Create a valentine poem.
- How to make GF pancakes?
- A picture of a panda playing yahtzee
- How to help an elder out of bed?
- Create a jazz song for a bday card

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### Enterprises

- How do we **control our data & IP**
- How do we deal with **fraud & security**
- We need to be **accurate & explainable**
- How do we integrate our existing **data & applications**
- How will we **control costs?**
- How do we get **24X7 support?**

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# There is **no one LLM** to rule them all.

Different **LLMs** have different **strengths** and **weaknesses**

Different LLMs have very **different** processing **cost**.

To find **the right model** for the right use-case at the right cost will be a **key to success.**

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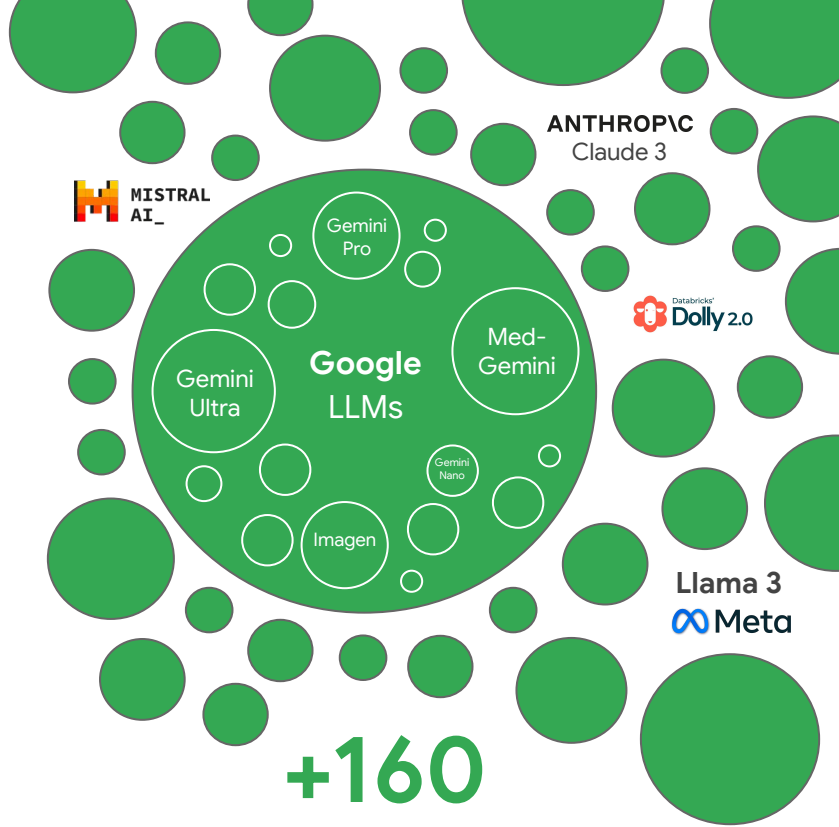


**+160**

Models and sizes **hosted** in **Google Cloud**

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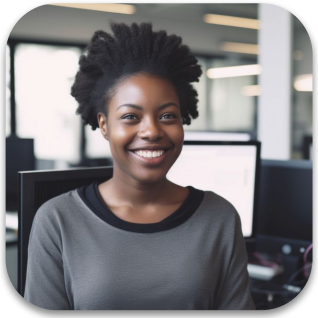
# **Enterprise Generative AI** - Business use-cases

From empowered employees to supercharged customer experiences

**Empower your organization**



**Developer excellence**

**Next generation agents**

Google Cloud

# **Enterprise Generative AI** - Business use-cases

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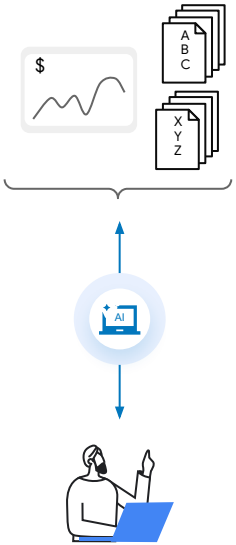
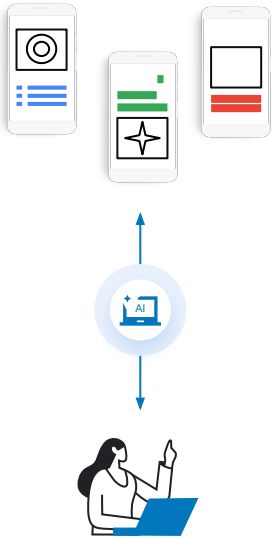
EMPOWER YOUR ORGANIZATION

# Transform content generation and data driven insights

## Business & data insights




## Marketing transformation

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# Google **Imagen 3** - next generation GenAI images

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# Google **Veo** - state of the art GenAI videos

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# Google **Imagen3 + Veo** - transforming media creation

## Imagen 3

**Text-to-image prompt**

*Young couple holding hands visiting an amusement park. Looking at each other - smiling. A man wearing a blue jeans shirt, a woman wearing a beige sweater. In the background an amusement park with a ferris wheel, afternoon light.*

## Veo

**Image-to-video prompt**

*The couple walks towards the camera, the camera moving backwards and to the right tracking the couple. Slow motion, 5 seconds.*

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# Creative Agent DEMO

Powered by
Gemini + Imagen + Veo

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## My Content

New Chat

Brand Images

Ideation

- New product name ideas for m...
- Brainstorm: Surfing ad ideas
- Caption ideas for new social post
- Ideas for new product launch

Recent Campaigns

Mountain Bike

Cooler Box

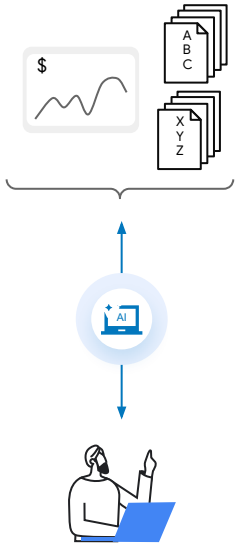
Surf Gear

Daypack

EMPOWER YOUR ORGANIZATION

# Transform content generation and data driven insights

## Business & data insights

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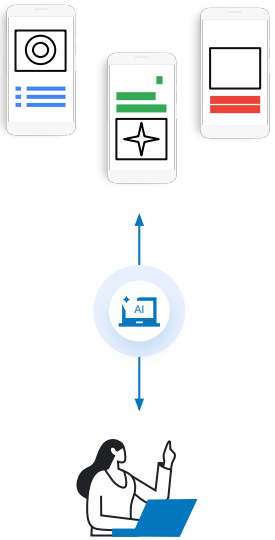
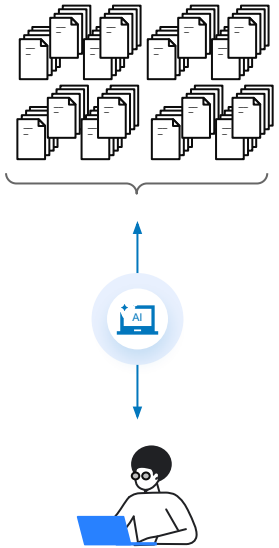



## Search Appliances



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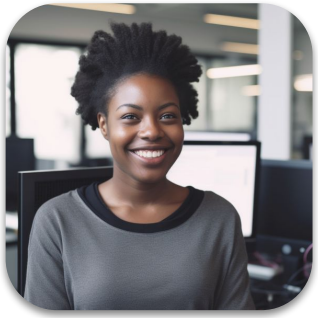
# **Enterprise Generative AI** - Business use-cases

From empowered employees to supercharged customer experiences

Empower your organization



**Developer excellence**

Next generation agents

Google Cloud

# **Enterprise Generative AI** - Business use-cases

From empowered employees to supercharged customer experiences

Empower your organization

Developer excellence

**Next generation agents**

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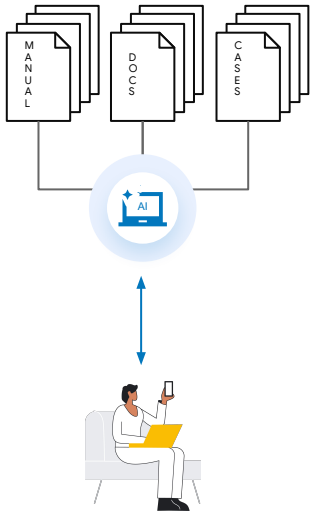
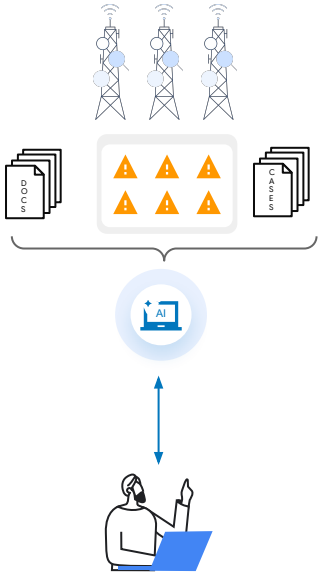
NEXT GENERATION AGENTS

# Transform customer service, support and experiences

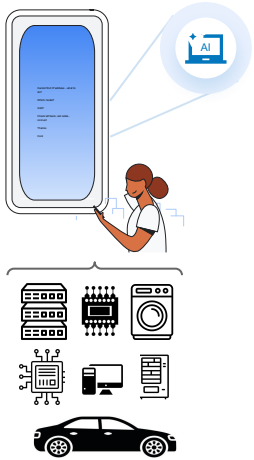
## Customer service & support




## Root cause analysis




## Off-line assistants

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# ARE **BIGGER** LLMs ALWAYS BETTER?

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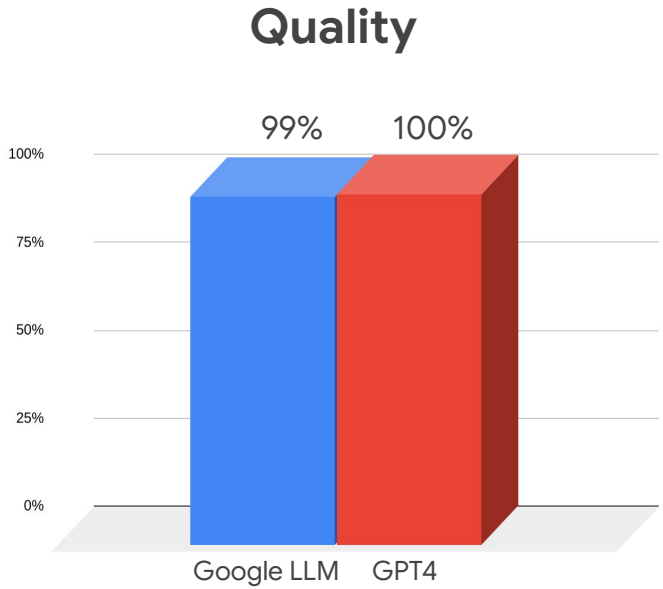
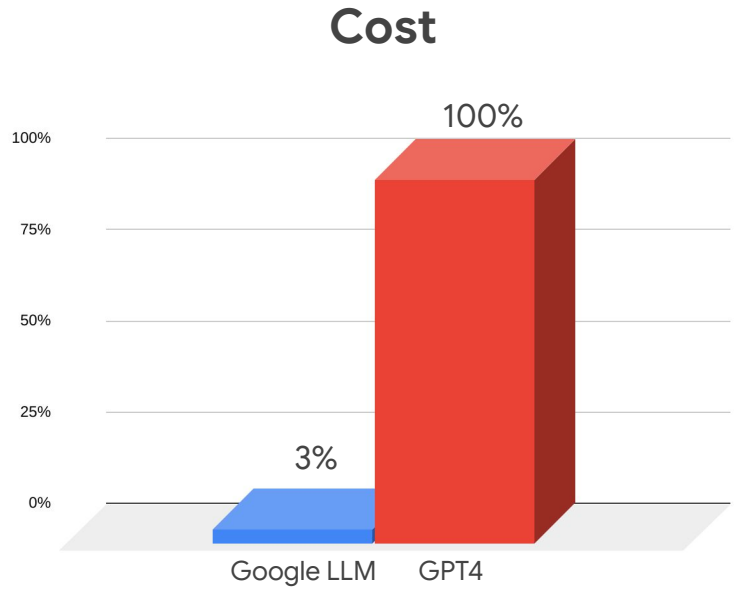
# Comparative test of different size LLMs

Chatbot POC presented at Google GenAI Live in Oslo

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## 2023

Creating really cool demos with GenAI!

vs.

## 2024

Balancing **cost** to business **value** solving **real problems** moving from POC to **production**

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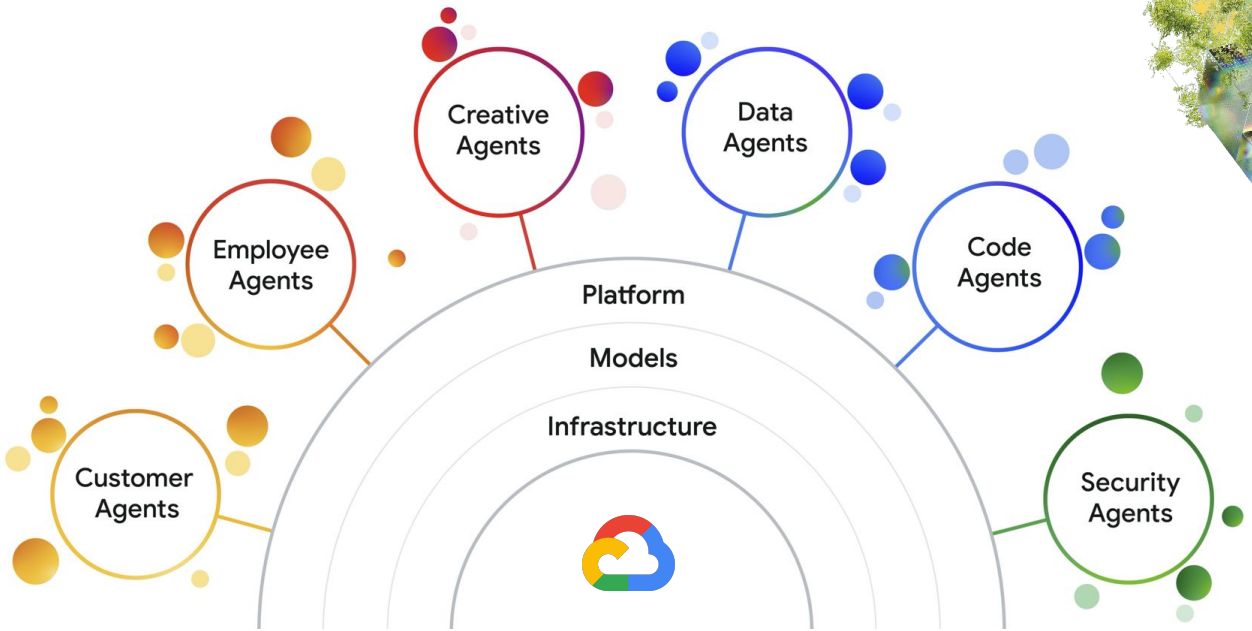
# The era of **AI agents**

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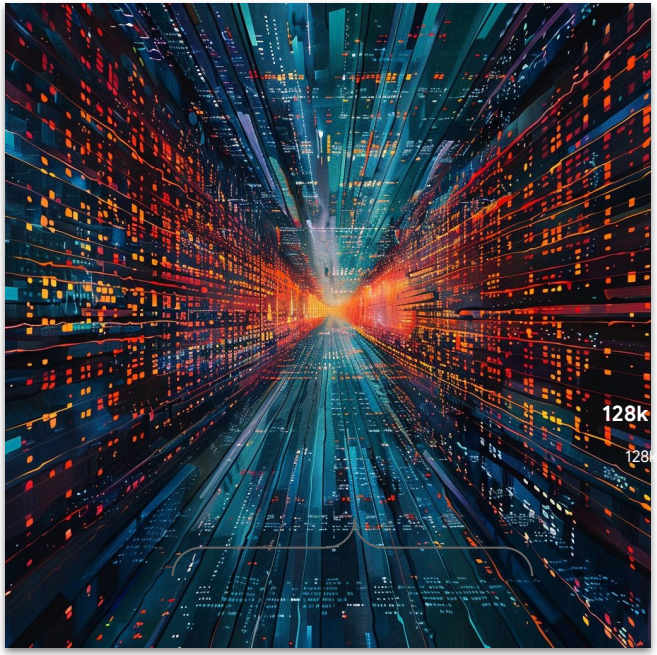
# The next big thing in GenAI...

## Long Context Windows

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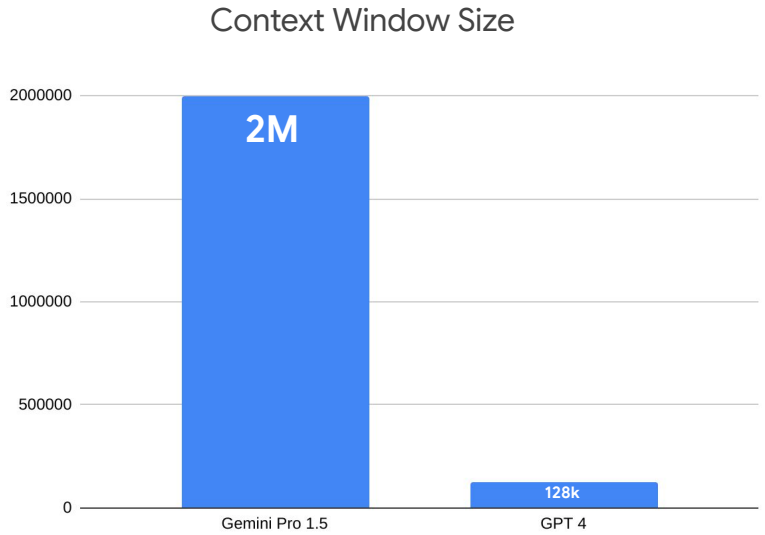
# The next big thing in GenAI...**Gemini 1.5**

## Long Context Windows




**Multimodal:**
Hours of video & audio
Millions of data points
**Realtime AI...**

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Goodbye Stripes.

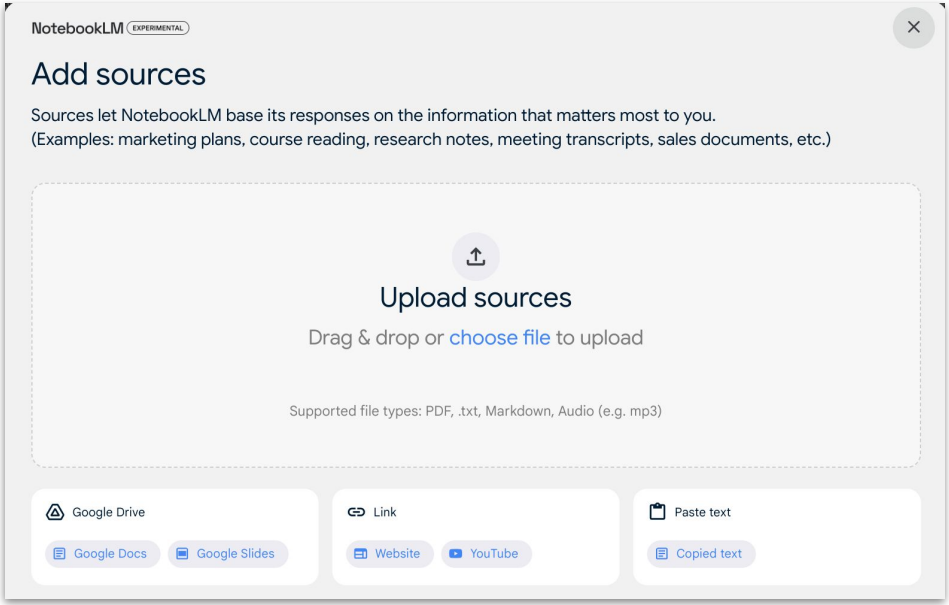
# Google **NotebookLM** next-gen AI interactions

Upload **anything** - from slide decks to pdfs to web pages to Youtube videos - combine up to 100 x sources or documents

Have a **discussion** with the AI about the content

**Generate a dynamic podcast** with two people discussing the content

Powered by very **large context window**




**notebooklm**.google.com

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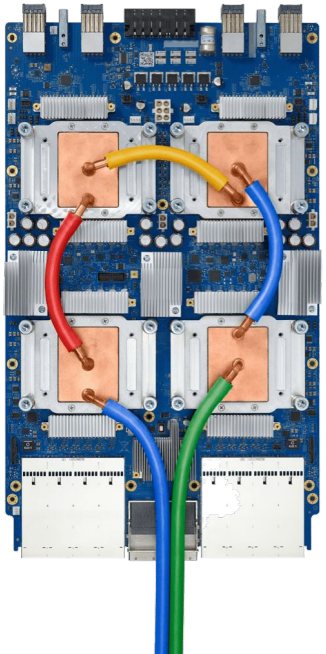
# SUSTAINABILITY

PICK THE **RIGHT SIZED** MODEL

RUN ON **EFFICIENT** HARDWARE



POWERED BY **$CO_2$ FREE** ENERGY

**100%** renewable → **100%** carbon free

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# Get started now and build lighthouse projects!

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100 x things announced at Google I/O 2024
blog.google/technology/ai/google-io-2024-100-announcements/

185 x Real-world GenAI implementations
blog.google/products/google-cloud/gen-ai-business-use-cases

Media Creation with Imagen & Veo
cloud.google.com/blog/products/ai-machine-learning/introducing-veo-and-imagen-3-on-vertex-ai

Try Gemini and Gemini Advanced
gemini.google.com

Portal for all things Generative AI at Google Cloud
cloud.google.com/ai/generative-ai

Get started on Vertex AI
https://cloud.google.com/vertex-ai

Free Generative AI learning (5 modules)
www.cloudskillsboost.google/paths/118

# Thank you!

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**cloud.google.com/ai/generative-ai**