

# Generative AI for the Aquaculture industry

**Marianne Hønsi**

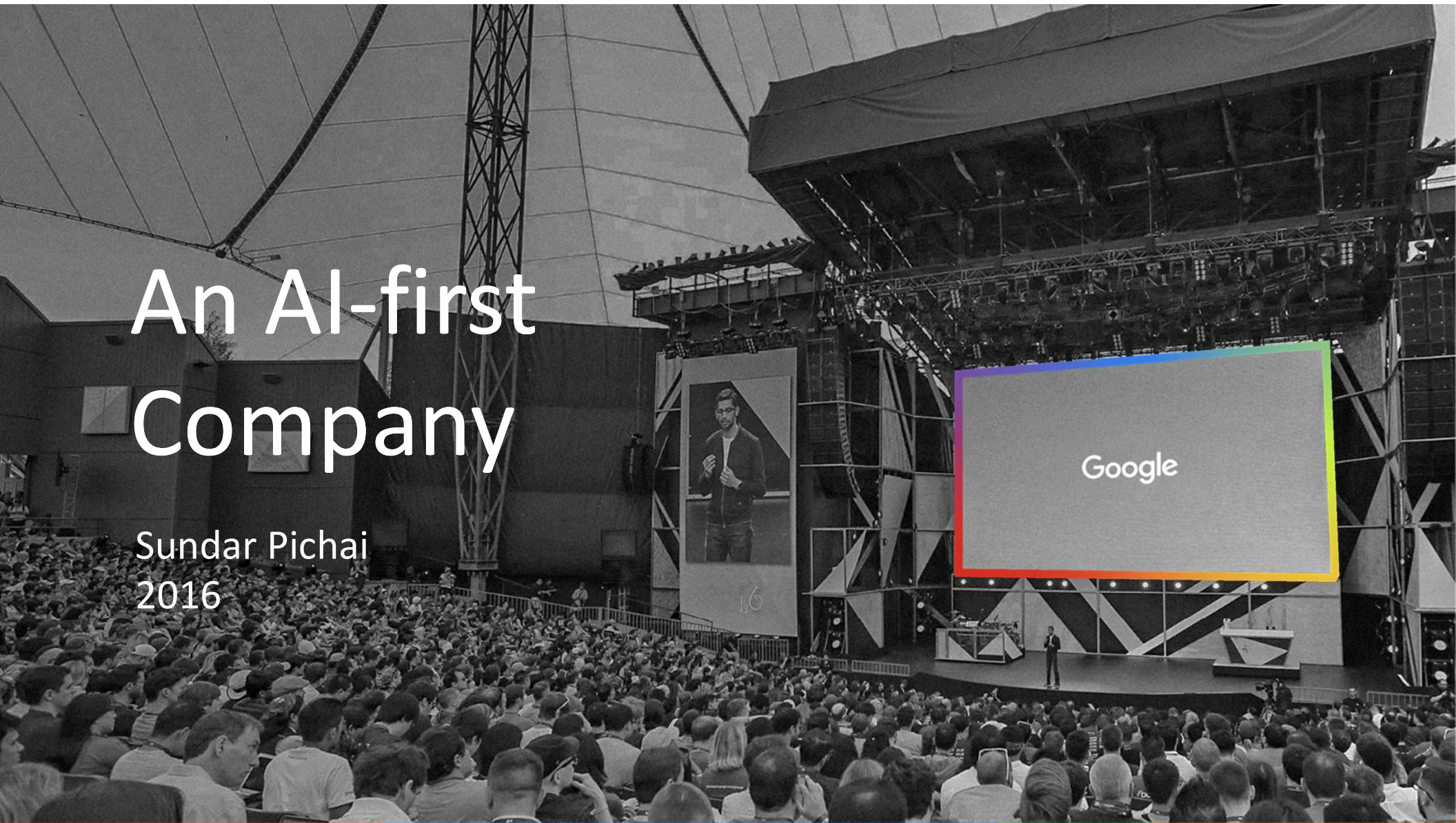
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Google Cloud



# An AI-first Company

Sundar Pichai  
2016



# AI is in our DNA



**Leverage our deep AI expertise** from delivering AI products and experiences to billions of consumers worldwide

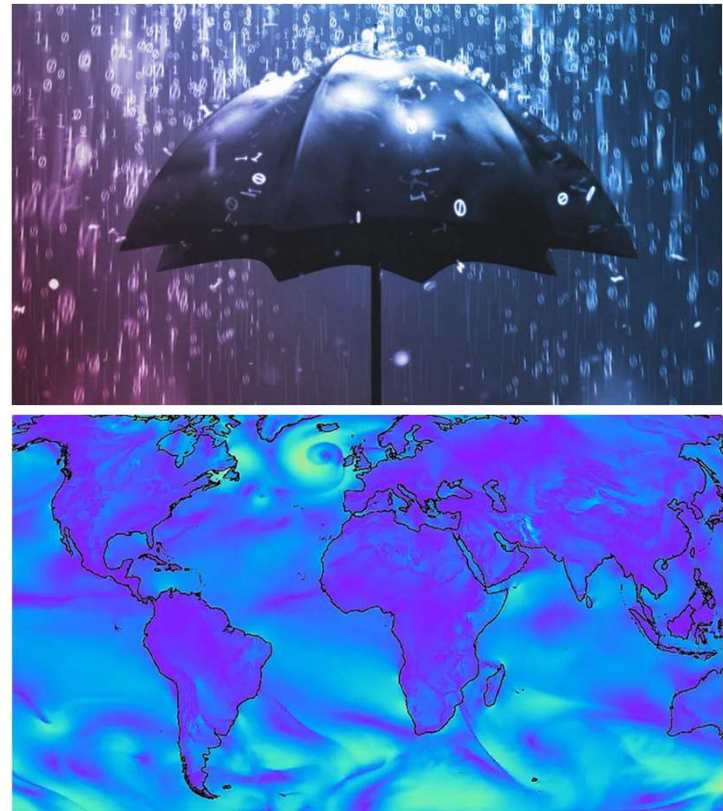


**Stay at the cutting-edge** with access to **Google DeepMind's** rigorously tested AI breakthroughs

*Outperforms traditional models in **99.7%** of use-cases  
in less than a minute vs. hours/days*

## **Google GraphCast AI** next generation model for faster and more accurate global weather forecasting

*Predicts weather conditions up to **10 days in advance**  
with unprecedented accuracy.*





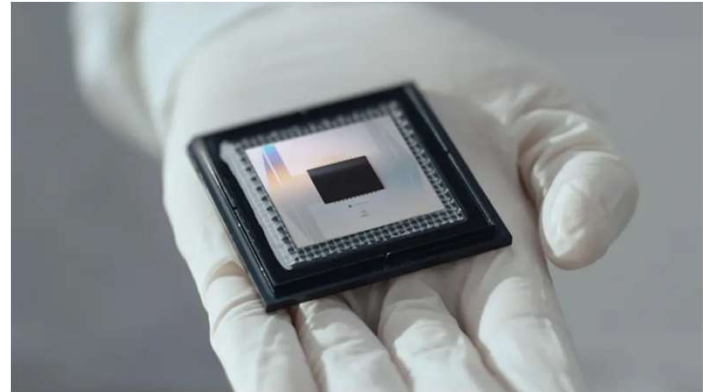
10,000,000,000,000,000,000,000

*"What takes a supercomputer **10 septillion** years - Willow can do in 5 minutes."*

## Google Willow the world's most powerful Quantum Computing Chip

*"It lends credence to the notion that quantum computation occurs in many **parallel universes.**"*

*Hartmut Neven, Quantum Physicist, Google*



# Google AlphaFold

AI uncovers the building blocks of life

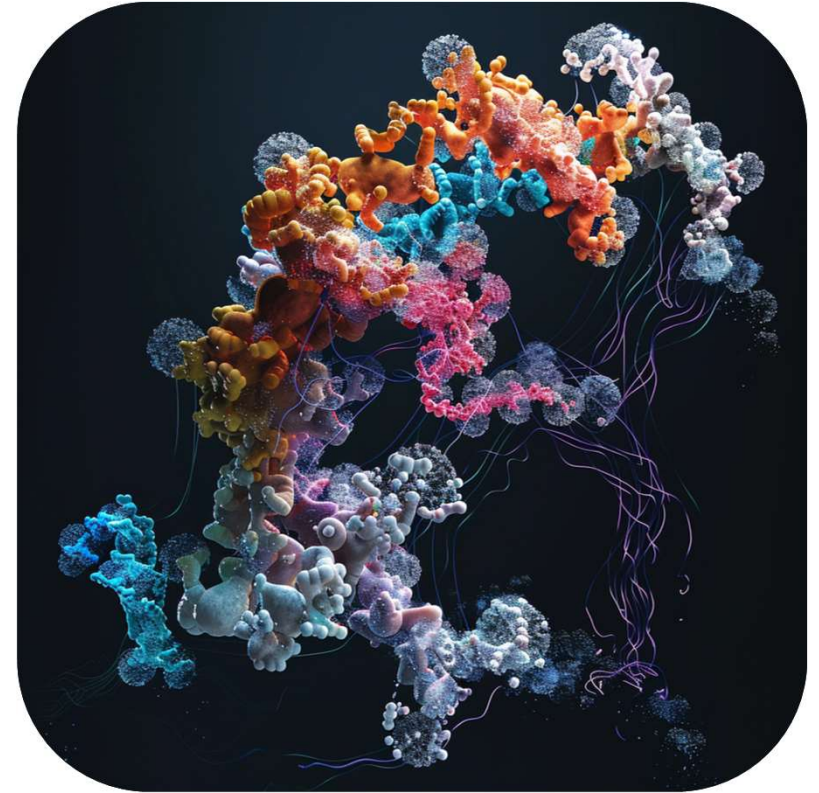
**Folding proteins** play a central function in understanding diseases and in developing medicines

There are **hundreds of millions** of proteins in nature

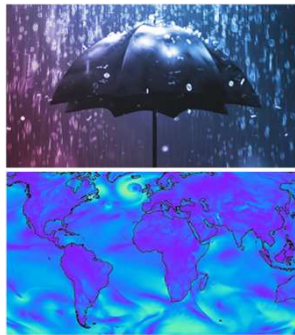
Takes a PhD student **5 years** to fold one

In 2021 Google create **AlphaFold** and has since then folded **+200M** proteins and shared the results openly with the world

This represent **one billion years** of research

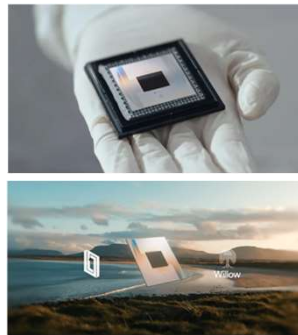


# How does this connect to my business?



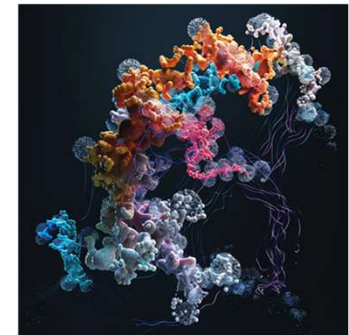
Google GraphCast AI

Integrates into Google Cloud Data Warehouse Platform (BigQuery) for **AI-powered business predictions** (inventory planning, route mapping etc.)



Google Willow

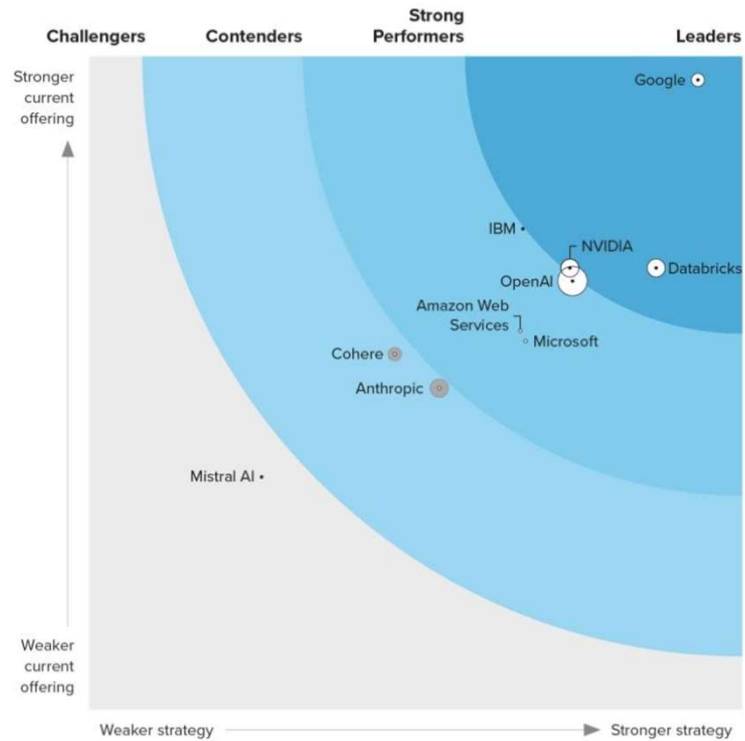
Engineering discoveries propel our own cloud engineering across our purpose built cloud infrastructure incl. our own **custom built AI-chips**



Google AlphaFold

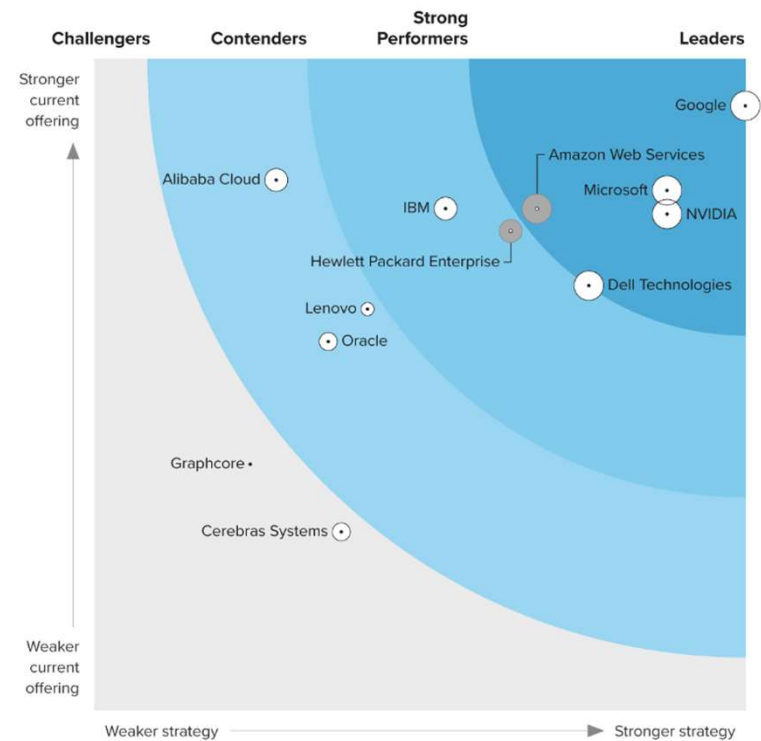
Algorithm discoveries and new technology leaps in large language model understanding became the **foundation for Google Gemini**

# Forrester Wave™ 2024



AI Foundation LLMs  
Q2 2024

+



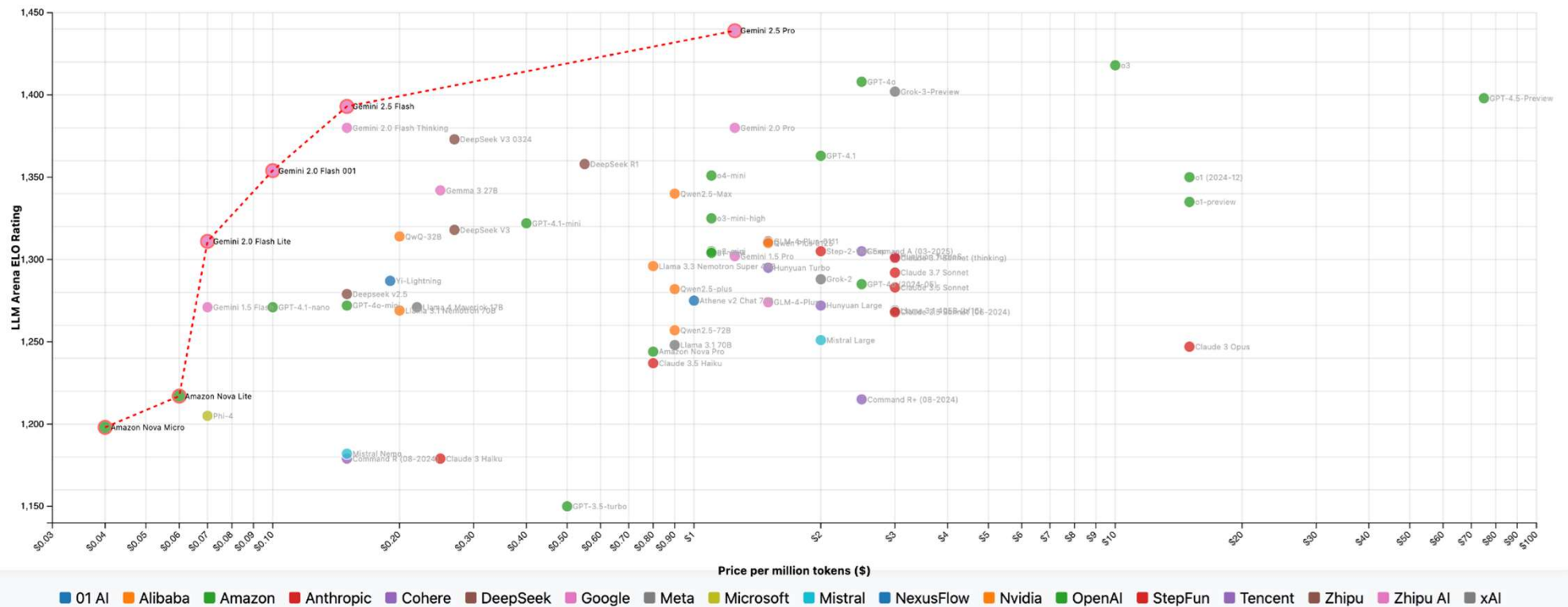
AI Infrastructure Platform  
Q2 2024



<https://winston-bosan.github.io/llm-pareto-frontier/>

## LLM Arena Pareto Frontier: Performance vs Cost (April 2025)

Showing 64 models, including the top 50 from LLM Arena



\* Price shown is per million tokens (input). NOT assuming a 3:1 input-output tokens ratio.

2023



Creating really cool demos &  
POCs with GenAI!



2024



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

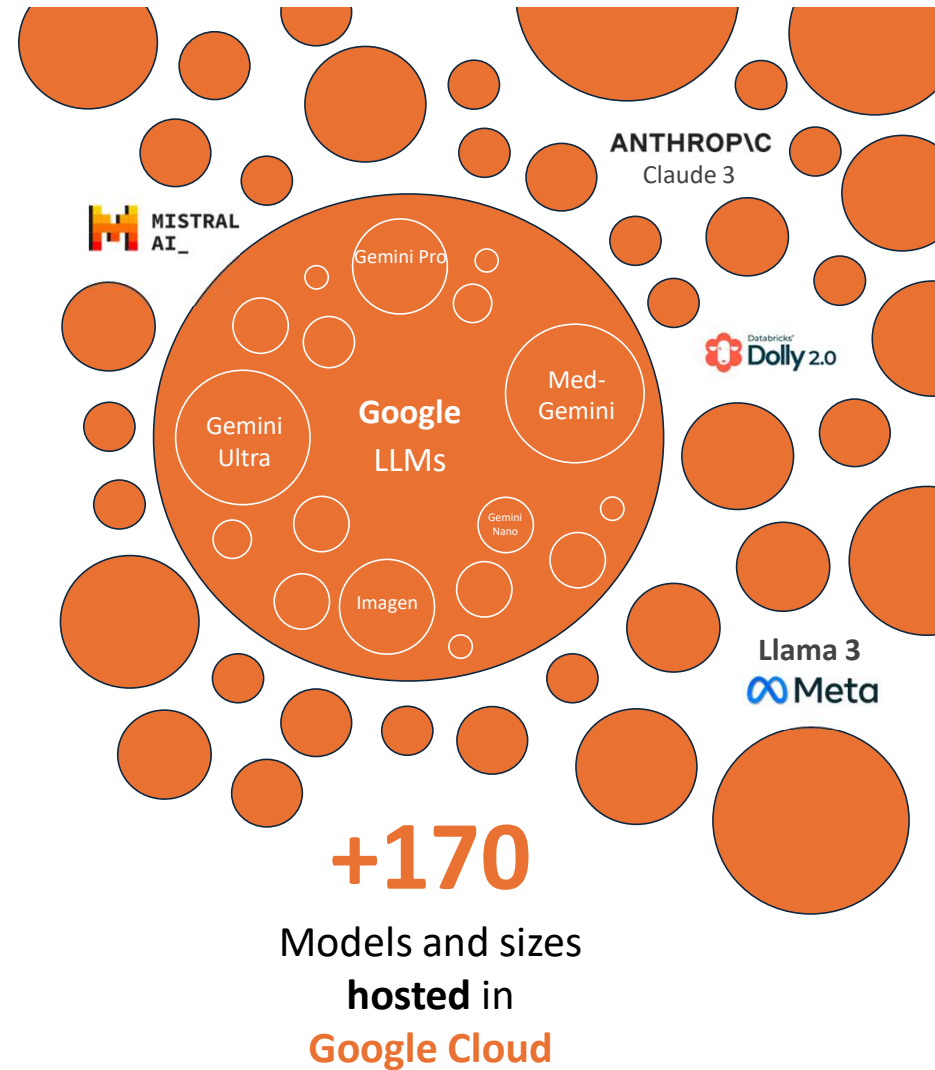
vs.

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**.

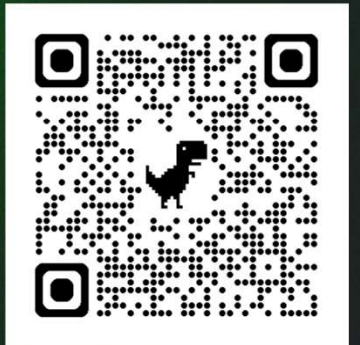






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# AI Business Trends 2025



## Two of the top five trends



**Industry-leading  
multimodal AI**



**Industry-leading  
agent platform**



# Introducing our state-of-the-art Veo 3 model, and new creative capabilities for Veo 2.



## Re-designed for greater realism

Greater realism and fidelity, including 4k output and Veo 3's real world physics and audio



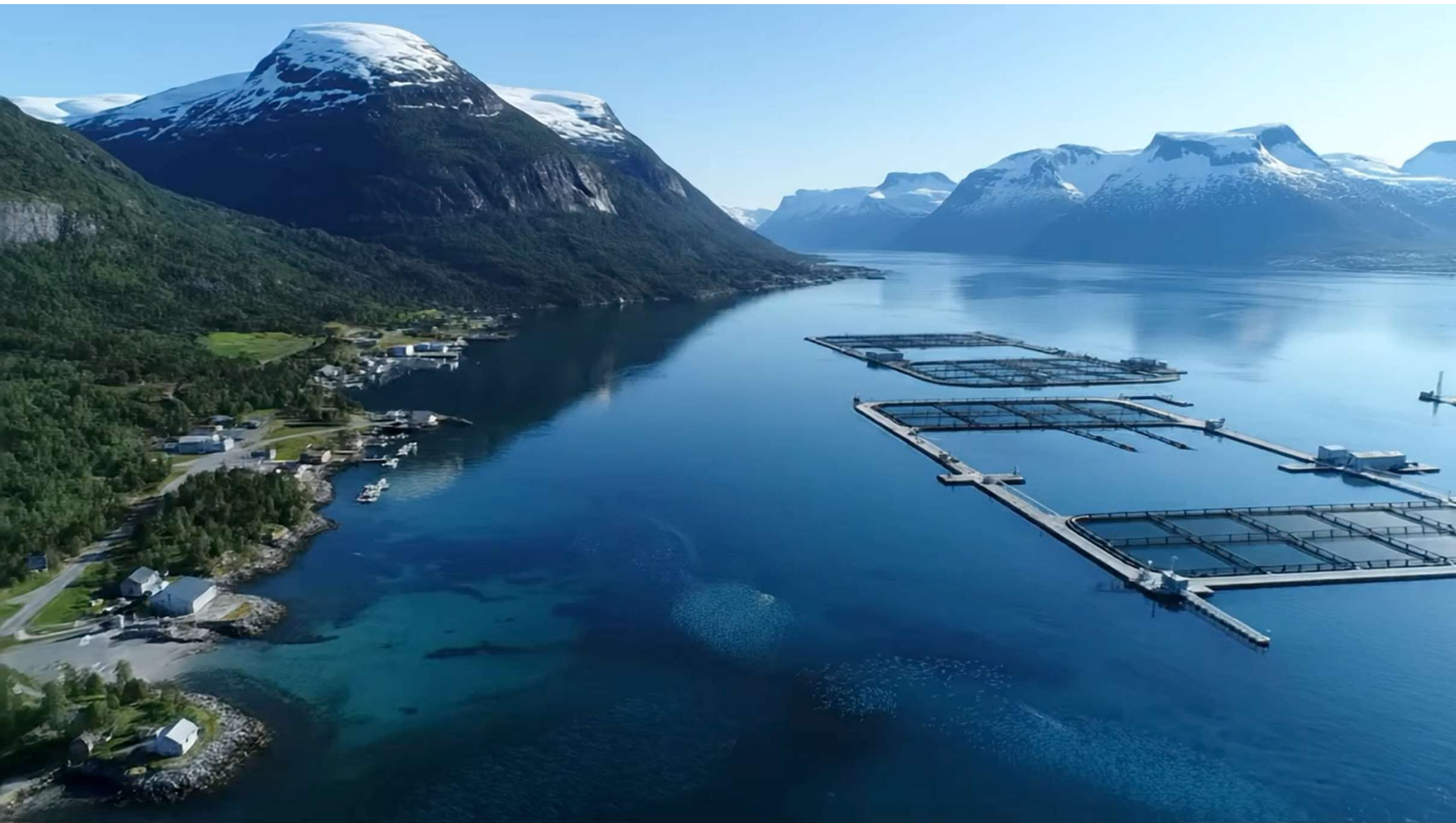
## Follows prompts like never before

Improved prompt adherence, meaning more accurate responses to your instructions.



## Improved creative control

New capabilities to achieve new levels of control, consistency, and creativity.



# Welcome to NotebookLM

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NotebookLM is an AI-powered research and writing assistant that works best with the sources you upload



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Convert complex material into easy-to-understand formats like Audio Overviews, FAQs, or Briefing Docs



### A chatbot grounded in your sources

Upload your documents and NotebookLM will answer detailed questions or surface key insights



### Share your insights

Add key resources to a notebook and share with your org to create a group knowledge base

[Try an example notebook](#)

[+ Create new notebook](#)



## Sources



+ Add

Select all sources ☒

Fish Health Report 2024.pdf ☒

ey-the-norwegian-aquaculture-analysis-2024.pdf ☒

## Chat



## Norwegian Aquaculture Industry Analysis 2024: Trends and Outlook

2 sources

The **Fish Health Report 2024** from the Norwegian Veterinary Institute examines the health status and welfare of farmed fish in Norway, covering salmonids and cleaner fish. It **analyzes mortality rates, diseases, biosecurity measures, and welfare challenges**, emphasizing the impact of sea lice, gill health issues, and handling-related injuries on fish quality. The report **assesses the efficacy of vaccines and treatments**, while also advocating for improved data collection and standardized welfare indicators to reduce mortality and enhance fish well-being. Conversely, the **EY Norwegian Aquaculture Analysis 2024** investigates the financial and strategic aspects of the Norwegian aquaculture industry, discussing revenue trends, production costs, and the impact of factors like the resource rent tax, along with highlighting the rise of land-based farming, the use of AI in the aquaculture field and technology, and merger and acquisition activity in the sector. It **explores financial performance and key industry trends**, and finally analyzes the performance of these pure production companies compared to similar companies that have not undergone a similar structure.

Save to note



Add note

Audio Overview

Mind Map

Start typing...

2 sources



How did fish health, market trends, and taxation shape aquaculture performance in 2024?



## Studio



### Audio Overview



Norwegian Aquaculture Industry Analysis 2024: Trends an...



00:00 / 19:41

Interactive mode **BETA**

### Notes



+ Add note

Study guide

Briefing doc

FAQ

Timeline



**Norwegian Aquaculture: Health, Economy, and Sustainability in 2024**

Okay, here's a briefing document summarizing the key themes and ideas from the provided sources, combining information from the "Fis...



**Fish Health and Aquaculture Report 2024**

Click to open the Mind Map



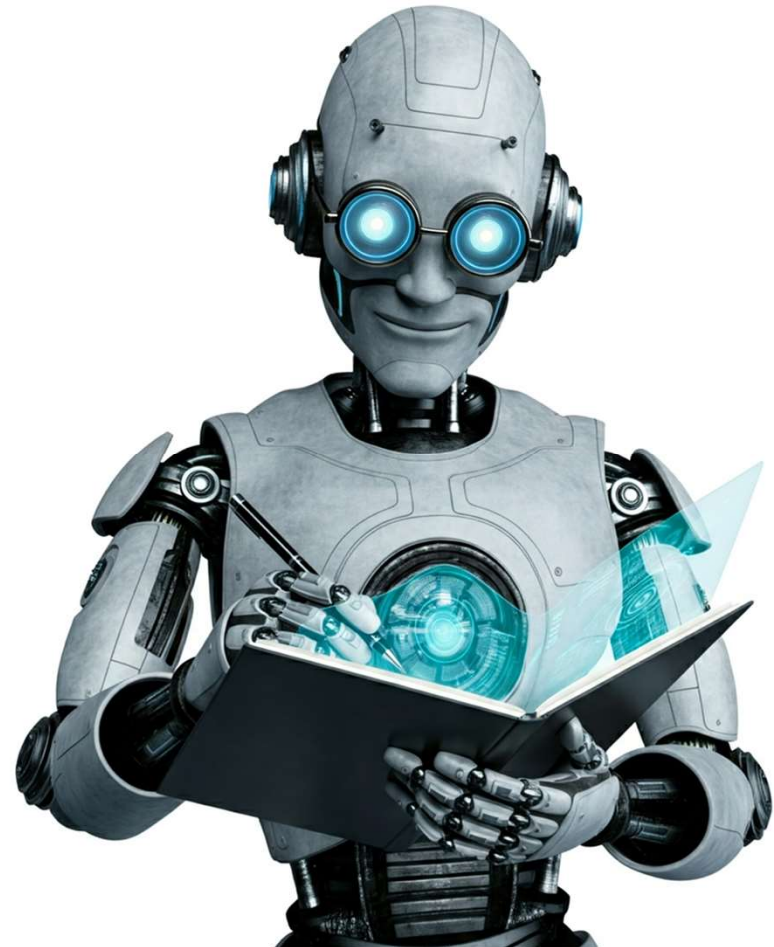
# Gemini **Deep Research** AI powered research

Your **personal** AI research **assistant**

An AI that **explore complex topics** on your behalf and provide you with **findings** in a comprehensive and easy-to-read **report**

True native **multi-turn reasoning**:

1. Collects data
2. Synthesises data
3. Analyzes data
4. Generates findings
5. Creates report







Can you do some research on the salmon trends for South-Korea?



Here's my plan to tackle that topic. Let me know if you need to make changes.

South Korea Salmon Trends Research



Research Websites

- (1) Analyze the overall salmon market in South Korea, including its current size, historical growth rate, and key economic drivers.
- (2) Investigate salmon consumption trends among South Korean consumers, detailing popular preparation methods (e.g., raw, grilled, smoked), dining contexts (restaurants vs. home), and demographic preferences.
- (3) Identify the primary countries exporting salmon to South Korea, and research their respective market shares and product offerings (e.g., fresh vs. frozen).
- (4) Examine the price evolution of salmon in the South Korean market, analyzing factors that influence price fluctuations at both wholesale and retail levels.
- (5) Explore consumer perceptions regarding the health benefits, quality, and sustainability of salmon, and how these factors influence purchasing decisions.



Ask Gemini



Video



Deep Research



Canvas



Search



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Gemini

2.5 Pro (preview) ▾

PRO

M



Start research



OK, starting now. As soon as your report is ready, I'll let you know. In the meantime, feel free to leave this chat.



South Korea Salmon Trends Research

Analyzing results...



Ask Gemini



Video



Deep Research



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South Korea Salmon Trends Research

Show thinking ▾



### Market Dynamics and Consumption Insights

I've gathered more specific details on the South Korean salmon market, confirming its robust growth trajectory with projections of 28.6 million kg of imports by 2026, and an even more optimistic outlook of 100,000 metric tons by 2030 from industry leaders like Dongwon Industries. A key insight is the significant role of e-commerce in driving at-home salmon consumption, with popular dishes like Salmon Bulgogi and Korean Soybean Paste Glazed Salmon indicating how salmon is being integrated into local culinary preferences. While Norway continues to dominate fresh salmon imports, I've noted a recent dip in import volumes and values in late 2024 and early 2025, accompanied by a downward trend in salmon prices.

### Information Gaps and Future Focus

Despite these insights, I've identified several areas that require further investigation to build a comprehensive understanding. I need to uncover more detailed consumer demographics, including age groups and income levels, and understand the split between restaurant and home consumption. I also aim to explore the strategies of other salmon exporters, delve into the specific factors driving salmon price fluctuations beyond general market volatility, and understand consumer perceptions regarding salmon's health benefits, quality, and sustainability. Additionally, I want to analyze the competitive landscape of salmon against other popular seafood in South Korea and gather more expert opinions for a robust future outlook.

### Next Research Actions

My immediate next steps will involve conducting more targeted searches. I'll be using precise keywords to find in-depth reports and articles that can shed light on consumer demographics, the foodservice sector, and the competitive dynamics within the South Korean seafood market. I'll also prioritize information from key industry players, such as the Norwegian Seafood Council, to gain a deeper understanding of long-term trends and future market projections.



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2.5 Pro (preview) ▾



Start research

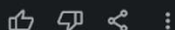


I've completed your research. Feel free to ask me follow-up questions or request changes.



**South Korea Salmon Trends Research**

Jun 3, 10:49 PM



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## The South Korean Salmon Market: Navigating Growth, Recent Disruptions, and Future Trajectories

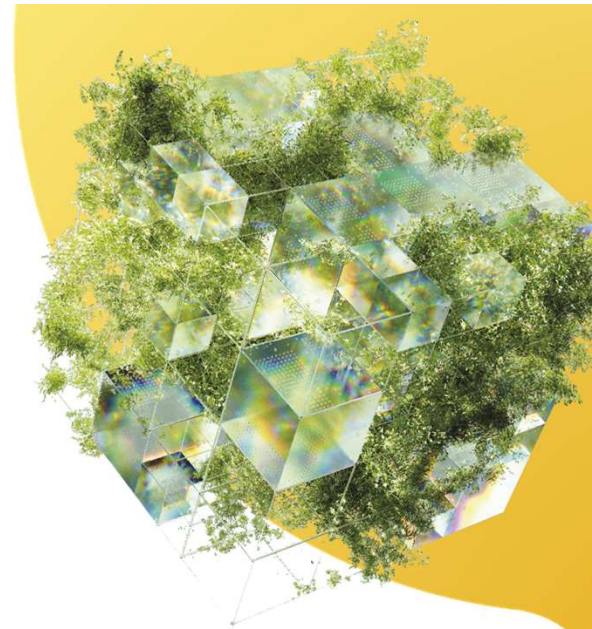
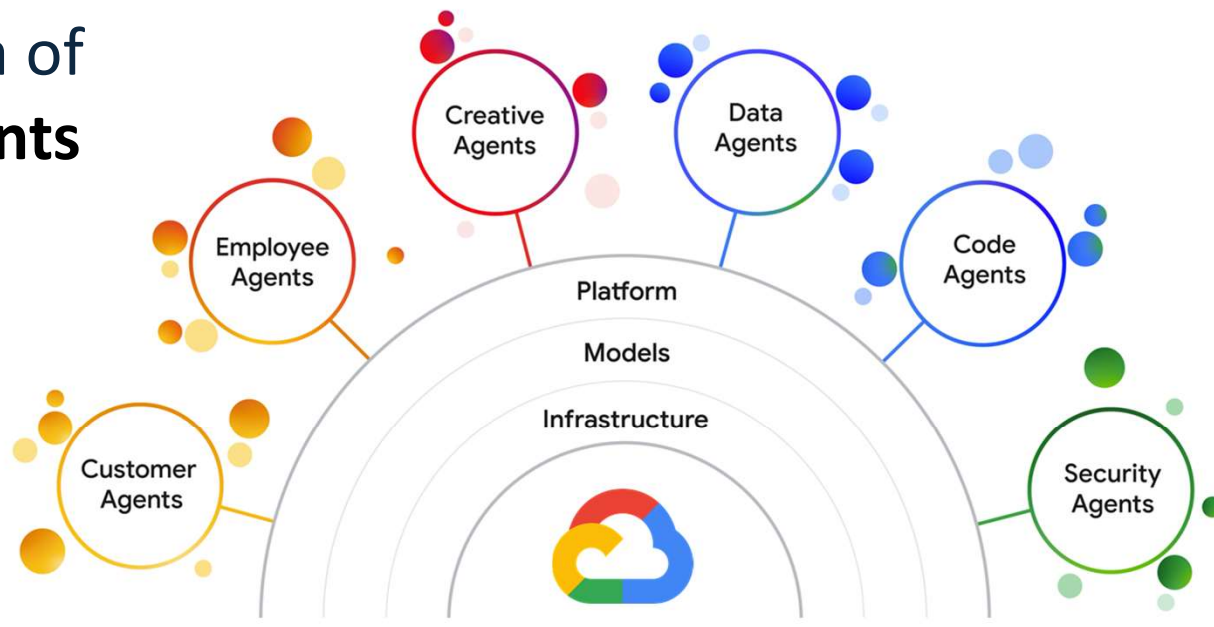
### I. Executive Summary

The South Korean salmon market presents a compelling narrative of robust historical expansion encountering significant contemporary challenges and transformative opportunities. For decades, consumption and import volumes witnessed remarkable growth, establishing salmon as a popular and increasingly mainstream seafood choice. This trajectory was fueled by rising health consciousness, the cultural affinity for seafood, and evolving lifestyle trends favoring convenience and diverse culinary experiences. Norwegian salmon, in particular, achieved overwhelming dominance in the import landscape.

However, recent data from late 2024 and early 2025 reveals a sharp and concerning downturn in salmon imports, with significant declines in both volume and value. This abrupt shift suggests the market may be at an inflection point, where the previously assumed high-growth trajectory is being tested by factors such as global price volatility, heightened consumer price sensitivity, and accumulating anxieties regarding food safety, amplified by events like the Fukushima wastewater release. These developments are compelling a re-evaluation of the market's short-to-medium-term prospects.



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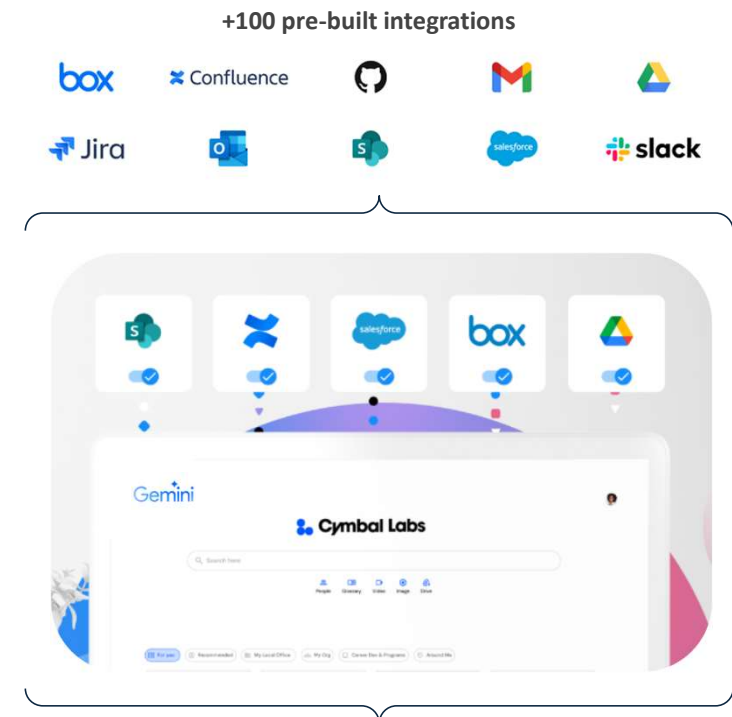
### New ways to engage with your enterprise data using

**NotebookLM** help users make sense of complex information, uncover insights, and enjoy new ways of engaging with data



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# Thank you!

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mahonsi@google.com



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11th

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