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Please refer to Alphabet's most recent Form 10-K for a discussion of the risk factors that may affect its results.



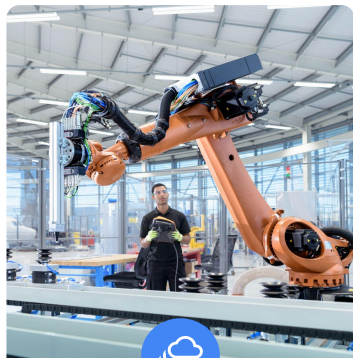
**Thomas Kurian**  
CEO, Google Cloud

# Our Strategy

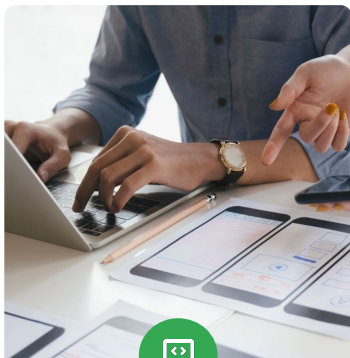
Accelerate every organization's ability to  
**digitally transform** its business and industry



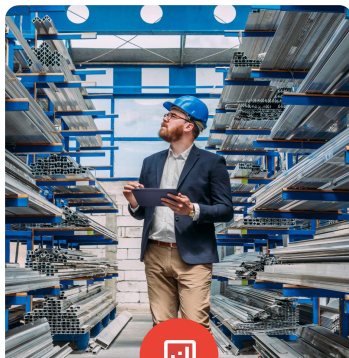
# Google Cloud



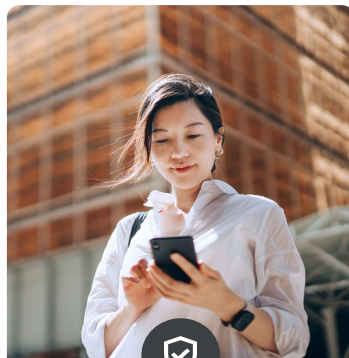
Infrastructure



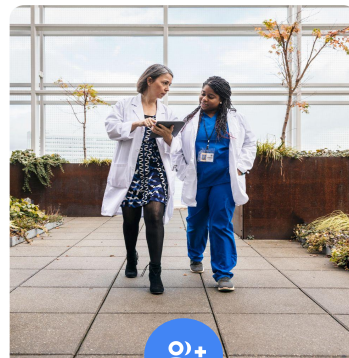
Developer



Data Analytics



Security



Collaboration

 AI Platform & Models

 Global Infrastructure



# Why we lead | Infrastructure

## Best Workload Optimized Infrastructure



Performance &  
Scale



Reliability



Security



Air-Gapped Edge

**10X better Storage IOPS per volume<sup>1</sup>** than a leading cloud alternative

In the 12 month period ending July '23, our two leading competitors had **2-3X total outage hours<sup>2</sup>**





# Why we lead | Infrastructure AI

## Best Infrastructure for Training & Serving AI Models



Performance &  
Scale for Training



Price  
Performance for  
Serving



Data Center,  
System Design &  
Throughput



Best ML Software  
Compilers

**2X better training performance** per dollar<sup>1</sup> compared to a leading cloud alternative

**More than 70% of gen AI unicorns** are Google Cloud customers

**ANTHROPIC**  Character.AI

 cohere

 Lightricks

 runway



# Why we lead | Developer

## Best & Most Mature Platform for Developers



Broadest Open  
Source Tools



Best Cloud Native  
Platform



RDBMS that runs  
on all Clouds



Best Security as  
Code

The number of SMBs that purchased Databases, Analytics or Ops products grew **>50% YoY<sup>1</sup>**  
**Spanner delivers nearly 20X throughput** of the closest leading cloud database provider<sup>2</sup>





# Why we lead | Developer AI

## Vertex AI: Most Mature Platform for AI Developers



Best Family of  
100+ Models



Enterprise AI  
Platform



Complete Suite of  
AI Services



Complete Data, IP  
& Model Security

**50,000+ customers** used Google Cloud's Vertex AI Platform<sup>1</sup> in 2023

**15X growth** in customer adoption of Vertex gen AI QoQ<sup>2</sup>







# Why we lead | Data Analytics

## Only Unified Platform to Analyze Data



Structured &  
Unstructured Data



Data Lake & Data  
Warehouse



SQL, Spark,  
Python, AI - LLMs



Data from Any  
Cloud, SaaS, ISV

**More than 40X data under management** than a leading data cloud provider<sup>1</sup>

BigQuery has **5X more customers** than the next leading data cloud<sup>1</sup>





# Why we lead | Data Analytics AI

## Duet AI: Generative AI for Data Analytics



“Clean, prepare & explore my data”



“Answer my questions and predict trends”



“Find insights that I may not find”



“Visualize and explain the story”

**Costs up to 5X less to analyze data** than comparable cross-cloud architectures<sup>1</sup>  
**300M** prediction and training queries ran in BigQuery ML this year



IHG<sup>®</sup> HOTELS & RESORTS

TIME



<sup>1</sup> - For BigQuery+VertexAI storage and networking. As of August 2023, based on list price.



# Why we lead | Security

## Best Threat Intelligence with the Best SecOps Platform



Collect & Analyze  
Threat Intelligence



Understand  
Security Posture  
& Attack Surface



Detect &  
Remediate  
Incidents



Validate &  
Automate  
Controls

Experts in **30+** language groups, **300** threat groups, **1000** state threat clusters  
Since 2020, **75% fewer** critical & high severity issues than a major cloud provider and  
**60% fewer** than another<sup>1</sup>





# Why we lead | Security AI

## Duet AI: Generative AI for Security Operations



“Collect & synthesize threat intelligence”



“Analyze & understand my security posture”



“Detect & respond to threats faster”



“Automate & document controls”

Google Chronicle can **search for threats 4X faster** than competitor for common searches<sup>1</sup>

Duet AI **reduces time spent writing and refining searches and triaging cases by 7X**



1 - Applies to [indexed searches](#).



# Why we lead | Collaboration

## Secure, Cloud Native, Mobile Native Collaboration



Cloud Native,  
Mobile Native



Secure by Design



Easy for Front Line  
Workers



Easy to Operate

Since 2019, a productivity suite had 205 High & Critical CVEs vs. 1 for Google Workspace<sup>1</sup>  
AI in Google Workspace helps people write >45B times a quarter

**AIRBUS**

*Canva*

**Roche**

**salesforce**

**Whirlpool**



# Why we lead | Collaboration AI

## Duet AI: Generative AI-assisted Communication and Collaboration



“Help me write”



“Help me design & visualize”



“Help me calculate & analyze”



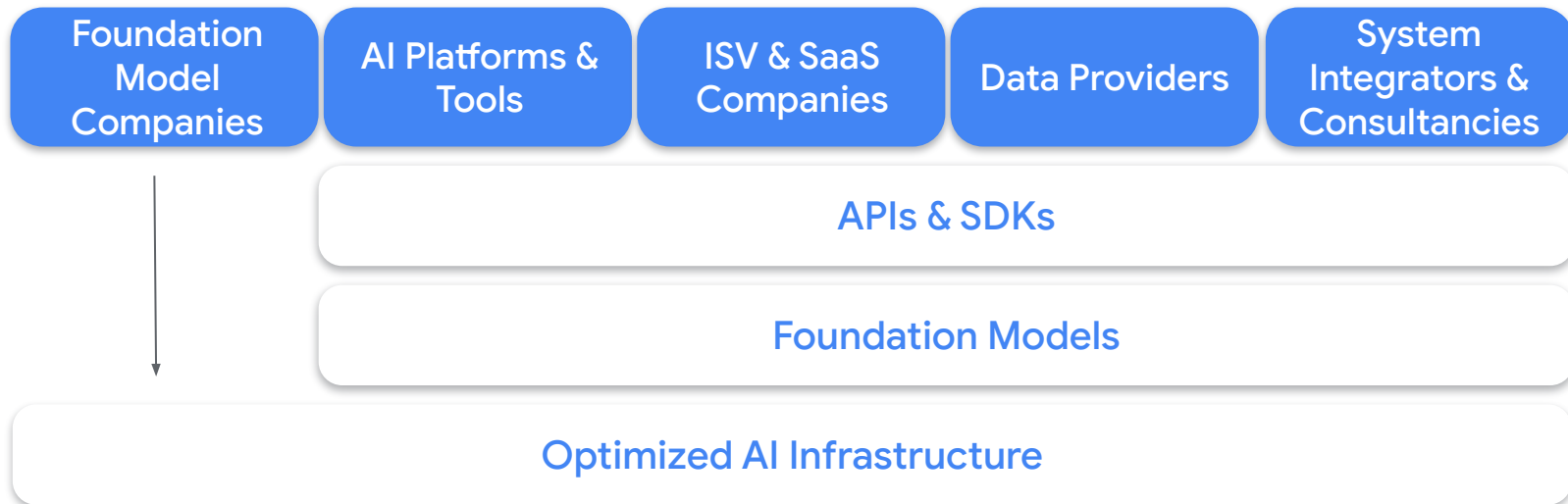
“Help me automate my workflows”

Google Cloud has **1M+ Workspace trusted testers**

On average, Duet users **generate half of their content using gen AI**



# Why we have a **Broad Generative Ecosystem**



Partners have completed **>100K AI courses** in one of the most successful launches in Google history

# Generative AI Opportunity Revenue Growth Drivers



Win  
New Customers



Cross-Sell AI  
Infrastructure & Platform



Upsell Duet Products into  
Installed Base



Expand within Existing IT  
Departments



Expand in other Lines of  
Business



# Strong Business Momentum

**Differentiated Products**

**2X** YoY growth in AI feature releases in H1'23

**50** product leadership categories

**>14** products used per customer on average



**Broad Go to Market Reach**

**>4X** expansion of direct sales org over the last 4 years

**>100K** in Google Cloud Partner Program

**>75%** CAGR for some of the largest system integrators<sup>1</sup>



**Rapid Growth Across New & Existing Customers**

**>2.5X** YoY growth in new customer contract value in Q2'23

**>200%** YoY growth in ISV co-sell bookings in H1'23

**140%** YoY growth in Marketplace transaction value in H1'23

# Focus on Efficiency

## Key Cost Drivers



Engineering  
Efficiency



Sales & Go to Market  
Efficiency



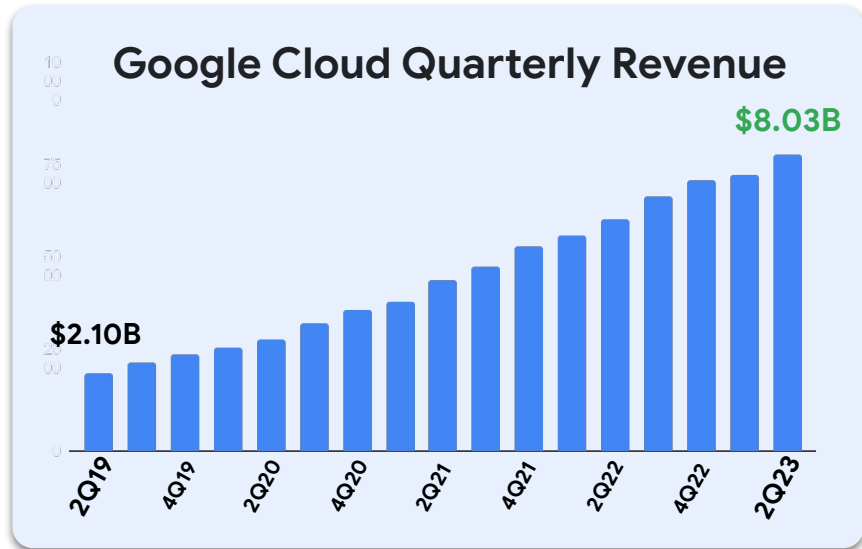
Capital  
Efficiency



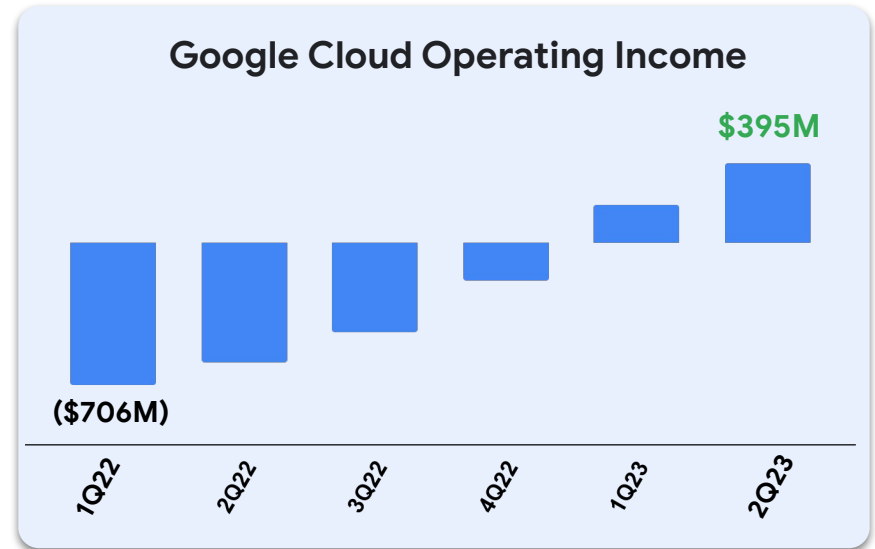
Differentiated, Higher  
Margin Products

# Strong Track Record

Since Q2 2019, Google Cloud has **added nearly \$24B in annualized revenue**



Since the beginning of FY22, our **operating margin has improved even as we grew revenue**



# Summary

Market is in Early  
Stages, with  
Large AI TAM

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Leading &  
Highly-Differentiated  
Generative AI Products

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Disciplined  
Go-to-Market  
Expansion

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Strong Customer  
Momentum

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Strong Partner  
Momentum

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Proven Record of  
Revenue & Operating  
Income Growth

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**Thank you**