

Alphabet	
Founded	1998
Headquarters	USA
Stock Exchange Ticker	GOOGL (NASDAQ)
2023 Revenues (US\$M)	\$74,604
2023 CAPEX (US\$M)	\$6,888
2023 R&D (US\$M)	\$10,588
Employees (2023)	181,798
Market Cap (US\$B) as of 30 Aug 2023	\$1,703

38

Google Cloud regions (Aug 2023)

115

Google Cloud zones (Aug 2023)

Operational Scale Metrics

187

Network edge locations (Aug 2023)

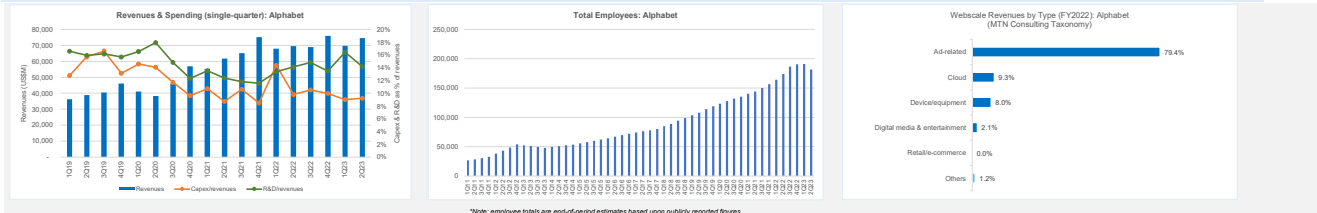
>2 billion

Number of YouTube Shorts watched by logged in users (2023)

Data center footprint

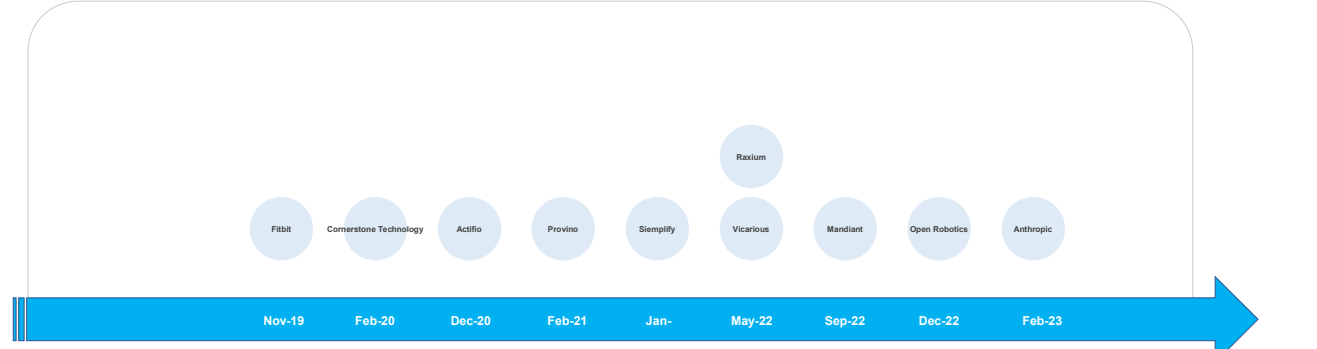
*Note: Metrics without dates are end-of-period estimates based upon publicly reported figures

How have this company's revenues, spending, and headcount evolved over the years? What are this company's primary revenue streams?



Corporate Growth Timeline: Top 10 recent acquisitions and investments

Acquisition Stake Purchase



S.No.	Date*	Target company	Stake	Deal value (\$M)	Segment
1	Nov-19	Fibit	100%	2100	Devices
2	Feb-20	Cornerstone Technology	100%	Undisclosed	Mainframe workloads
3	Dec-20	Actifio	100%	Undisclosed	Data management
4	Feb-21	Provino	n/a	Undisclosed	Network-on-chip systems for machine learning
5	Jan-22	Siemplify	100%	500	Cybersecurity
6	May-22	Raxium	100%	Undisclosed	MicroLED display technologies
7	May-22	Vicarious	100%	Undisclosed	Robots as a service
8	Sep-22	Mandiant	100%	6100	Cybersecurity
9	Dec-22	Open Robotics	100%	Undisclosed	Robotics software
10	Feb-23	Anthropic	10%	400	ChatGPT rival

*Stakes and acquisitions are dated at time of announcement.

Data Center Footprint: ALPHABET

FOOTPRINT STATS	ENERGY-RELATED STATS
<ul style="list-style-type: none"> Webscale network operator centered around online services supported by ads, founded in 1998 Google Cloud is available in 38 regions and 115 zones with 187 network edge locations spread across 200+ countries and territories (as of Aug 2023). Currently expanding to: Damman (KSA), Querétaro (Mexico), Malaysia, Thailand, New Zealand, Greece, Norway, South Africa, Austria and Sweden. Amazon's data center VP Chris Vondehaar joined Google Cloud in July 2023. Generative AI: announced new AI-focused tools and services in Aug 2023, based on the Cloud TPU v4e, and the latest in-house Tensor Processing Unit. Compared to 2021's TPU v4, Google says that the chip has up to two times faster training performance per dollar and up to 2.5 times the inference performance per dollar for large language models and generative AI models. Subsea: new Grace Hopper transatlantic cable went live in Sept 2022, as did the Equiano cable, connecting western Europe to South Africa. 	<ul style="list-style-type: none"> Average PUE of owned data centers (2022): 1.10 (unchanged from 2020 and 2021) Total electric consumption (2022): 22,289 TWh (+20% YoY) Renewable energy as a percent of total consumption (2022): 100% (has been 100% since 2017) Google has an aim of operating on 24/7 carbon-free energy (CFE) at all of its data centers, cloud regions and campuses worldwide by 2030. Five of its data centers around the globe are operating near or above 90% CFE. Already, in 2020, Google achieved 67% round-the-clock carbon free energy across all its data centers, up from 61% in 2019.
RECENT DEVELOPMENTS	
<ul style="list-style-type: none"> Subsea: building Topaz transpacific cable (Canada-Japan), RFS in 2023. In 2023, announced co-sponsorship of a new Taiwan-Philippines-US (TPU) cable; NEC will start building in 2024, RFS in 2025. May 2023: announced plans to build two more data centers in Ohio, US, in Columbus and Lancaster. Feb 2023: company increases assumed life of its servers from 5 to 6 years; FB/Meta also increased assumed life, to 5 years. Big cut in depreciation expenses for both. Feb 2023: plans trial production use for late 2023 of two new ARM CPUs in its servers. AWS launched ARM-based server chips already. Jan 2023: (1) GCP is setting up a new cloud region in Kuwait; (2) Alphabet announced 12,000 job cuts; (3) Google shuts down its Stadia gaming service due to lack of demand (it launched in late 2019); (4) signs long-term land lease for DC development in Navi Mumbai, India; 8 story building to complete in 2025; (5) filed plans to expand an existing data center in Omaha, Nebraska, would take DC space to over 2.2M gross sq ft at the facility. October 2022: confirmed to be leasing 43,100sq meter at Adani Data Center in Noida, India, announces it will open its first owned data center in Japan in 2023, in Inzai City, Chiba; plans first cloud region in South Africa, details not provided; new region in Greece reiterated at event in Athens. August 2022: announced plans to launch three more Google Cloud regions in Asia Pacific, in Malaysia, Thailand, and New Zealand. Google is the first of the big 3 to commit to a Thailand region. July 2022: announced plans for a cloud region in Mexico, to be the third in Latin America after Santiago, Chile, and Sao Paulo, Brazil. June 2022: began construction of its new DC in Columbus, Ohio; cost of 1K sqm facility to be about \$300 million. April 2022: (1) announced new DC in Omaha, Nebraska costing \$250M. Announced a new subsea cable, Topaz, linking Canada with Asia (from Vancouver to Port Aberni then across the Pacific Ocean to Mile and Itaraki in Japan, with RFS date of 2023); 16 fiber pairs, 240Tbps, supporting wavelengths selective switch; (2) acquired MobilEdgeX, an edge computing management specialist. Jan 2022: completed the construction phase in Council Bluffs data center, bringing total investment in this campus to over US\$5B. 	